SIMEC

MEMBER OF GFG ALLIANCE

REHABILITATION STRATEGY

Tahmoor Coal Pty Ltd

Contents

1 Introduction

1.1 Background

Tahmoor Coal Pty Ltd (Tahmoor Coal) owns and operates Tahmoor Mine, an underground coal mine extracting coking coal which is an ingredient in the production of steel. The mine surface operations are located south of Tahmoor NSW, which is within the greater Sydney Basin - approximately 80 km southwest of Sydney. Tahmoor Mine is within the Wollondilly Shire Council (WSC) Local Government Area (LGA). Underground workings extend north under the town of Tahmoor and Picton with two ventilation shafts being located on the outskirts of town. The location of Tahmoor Mine in the regional context is shown in **Figure 1.**

Tahmoor Mine surface facilities are situated in between the townships of Tahmoor and Bargo, and adjacent to Remembrance Drive on land owned by Tahmoor Coal with mining conducted under both crown and freehold property (see **Figure 1**). Surface facilities at Tahmoor Mine include administration buildings and offices, a materials store, diesel tanks, electrical workshop, mechanical workshop, bathhouse, ventilation fan, Coal Handling Preparation Plant (CHPP), storage areas, run of mine stockpile and product stockpiles. A third party owned power station is also located on-site and utilises methane from the mines' gas drainage system to produce electricity. Extracted coal is processed on site prior to transportation via rail to the Port Kembla Coal Terminal.

An Environmental Impact Statement (EIS) was exhibited in early 2019 seeking approval for the extraction of up to 48 million tonnes (Mt) of ROM coal over a 13-year mine life. Tahmoor Coal subsequently revised the proposed mine design and submitted amended development applications on two occasions (in February and August 2020). In April 2021, Tahmoor Coal received Development Consent SSD 8445 (the Consent) for the Tahmoor South Project, which involves use of the existing surface infrastructure and the extension of underground longwall mining to the south of existing workings. The Project has consent to extract up to 4 Mtpa of ROM coal, with a total of up to 33 Mt of ROM coal extracted until 10 years from commencement of second workings (ie. 18 October 2032).

1.2 Purpose

The purpose of this **Rehabilitation Strategy (Rehab Strategy)** is to provide an overarching strategy for rehabilitation management and mine closure at Tahmoor Coal.

This strategy is to ensure compliance with Development Consent (SSD 8445) (the Consent) Condition B58, Part B.

1.3 Scope

This **Rehab Strategy** includes requirements relating to:

- The Refuse Emplacement Area (REA);
- Final landform;
- Post Mining land use; and
- Water management (within rehabilitation areas).

1.4 Relationships with other Management Plans

The Rehab Strategy is closely integrated with the following documents:

- Tahmoor South Biodiversity Management Plan
- Rehabilitation Management Plan
- Conceptual Mine Closure Plan

1.5 Preparation

This strategy has been prepared by Michelle Grierson, Senior Environmental Scientist with Umwelt (Australia) Pty Ltd. Michelle has been endorsed by the Department of Planning and Environment (DPE) as suitability qualified to prepare this Rehab Strategy (**see Appendix E**).

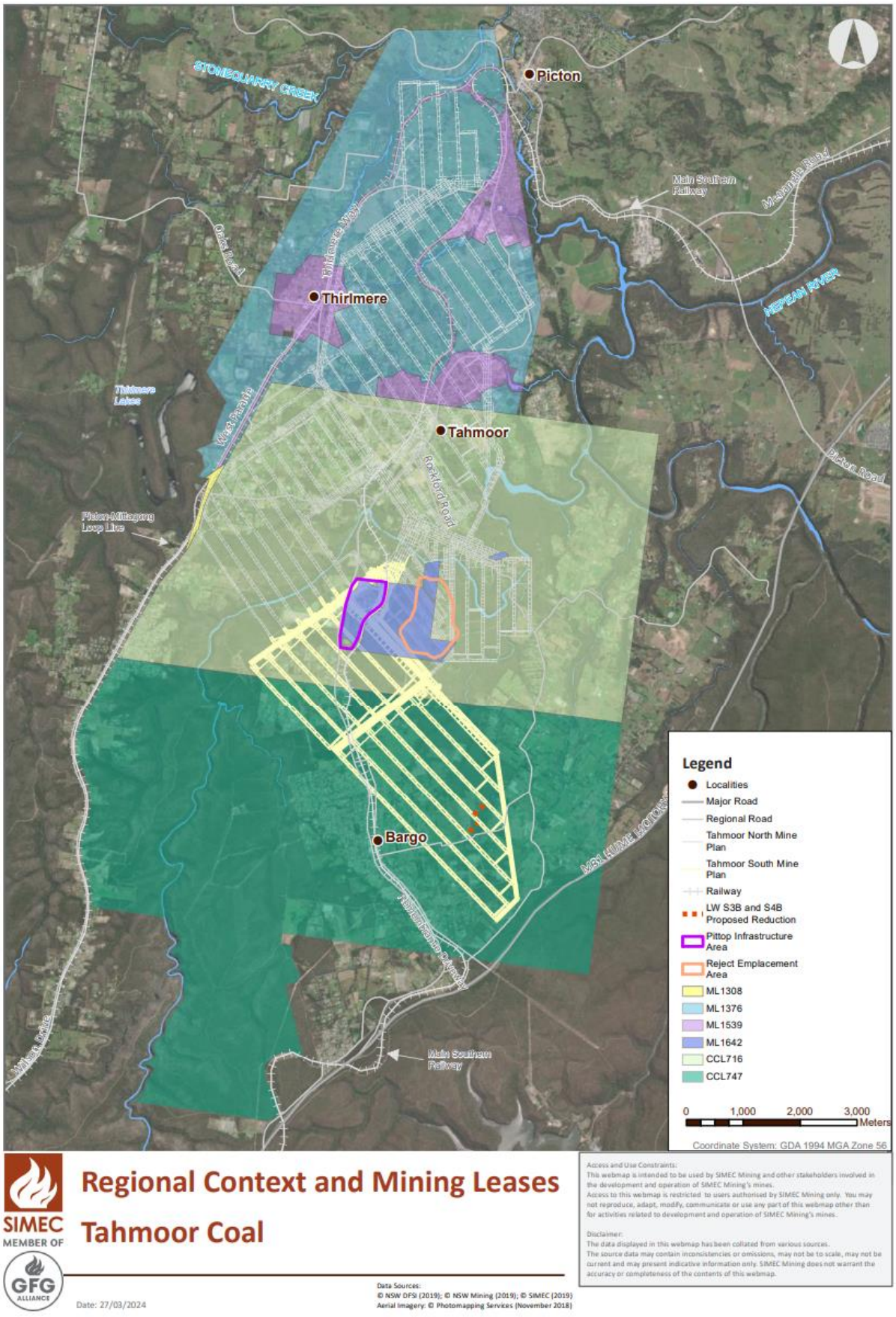


Figure 1 Tahmoor Coal Site Location

2 Planning

2.1 Statutory Requirements and Legislation

2.1.1 Development Consent Conditions

The requirement for this management plan is established by Condition B58 under Part B of the Consent. **Table 1** outlines the requirements relating to this Rehab Strategy and identifies where these requirements have been addressed.

Table 1 Development Consent Conditions

Condition Reference	Condition	Where Addressed
Rehabilitation		
Rehabilitation Objectives		
B56	The Applicant must rehabilitate the site in accordance with the conditions imposed on the mining lease(s) associated with the development under the Mining Act 1992. This rehabilitation must be generally consistent with the proposed rehabilitation activities described in the EIS (and shown conceptually in the Rehabilitation Plan in Appendix 5) and must comply with the objectives in Table 6 (of the Consent).	Section 6
Progressive Rehabilitation		
B57	The Applicant must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable steps must be taken to minimise the total area exposed at any time. Interim stabilisation and temporary vegetation strategies must be employed when areas prone to dust generation, soil erosion and weed incursion cannot be permanently rehabilitated. *Note: It is accepted that some parts of the site that are progressively rehabilitated may be subject to further disturbance at some later stage of the development.*	Section 6.3, Table 7, No. 1
Rehabilitation Strategy		
B58	The Applicant must prepare a Rehabilitation Strategy for the site to the satisfaction of the Planning Secretary. This strategy must:	This strategy
(a)	be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;	Section 1.5
(b)	be prepared in consultation with the Resources Regulator, DPIE Water, BCS and Council;	Section 5.3
(c)	be submitted to the Planning Secretary for approval within six months of the date of commencement of development under this consent;	Noted
(d)	build upon 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, post-mining land use/s and water management;	Section 6.3, Table 7
(e)	align with strategic rehabilitation and mine closure objectives and address the principles of the Strategic Framework for Mine Closure (ANZMEC and MCA, 2000);	Section 3
(f)	describe how the rehabilitation measures would be integrated with the measures in the Biodiversity Management Plan referred to in condition B38;	Section 2.2
(g)	describe how rehabilitation will be integrated with the mine planning process, including a plan to address premature or temporary mine closure;	Section 2.3 and Table 7, No.17
(h)	include details of:	-
(i)	target vegetation communities and species to be established within the proposed revegetation areas, including habitat for threatened fauna eg. Koala;	Section 6.3, Table 7, No. 5 and 8
(ii)	the design of the surface water drainage network on the final landform; and	Section 6.3, Table 7, No. 13 and 15
(iii)	the capping design of the REA as well as the quantity and source of capping material;	Section 6.3, Table 7, No. 3
(i)	investigate opportunities to refine and improve the final landform over time, including the configuration of the REA;	Section 4.1 and Table 7, No. 14

(j)		include a post-mining land use strategy to investigate and facilitate post-mining beneficial land uses for the site, that:	Section 4.1
	(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;	
(k)		include a stakeholder engagement plan to guide rehabilitation and mine closure planning processes and outcomes;	Section 5.5
(l)		investigate ways to minimise adverse socio-economic effects associated with rehabilitation and mine closure; and	Section 5.4
(m)		include a program to report on the outcomes of the investigations required under this condition and review and update this strategy at least every five years.	Section 8.2
B59		The Applicant must implement the Rehabilitation Strategy approved by the Planning Secretary.	Noted – Tahmoor Coal implemented the Rehabilitation Strategy following approval. (refer to Appendix G)

2.1.2 Environment Protection and Biodiversity Conservation Act

Under Section 130(1) and 133(1) of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act), Tahmoor Coal received approval (EPBC 2017/8084) for the Tahmoor South Project on the 1st October 2021.

2.1.3 EIS Commitments

Condition A2 (g) of the Consent states that the development may only be carried out generally in accordance with the Tahmoor South EIS. The relevant Tahmoor South EIS documents include:

- Tahmoor South Project Environmental Impact Statement (EIS), Volumes 1 and 7, dated January 2019;
- Tahmoor South Project Amendment Report (PAR), including Appendices A to R and response to submissions, dated February 2020;
- Tahmoor South Project Second Amendment Report, Appendices A to O and response to submissions, dated August 2020;
- Additional information responses dated 14 September 2020, 23 October 2020 and 4 November 2020;
- Submission to the Independent Planning Commission (IPC) February 2021.

Tahmoor South EIS commitments relevant to this management plan are outlined in **Table 2**.

Table 2 EIS Commitments

Instrument	Reference	Commitment	Where Addressed
Land use and resources			
EIS/ RTS	LUR-4	Potential impact: Impacts of the surface aspects of the Project on land use Management and mitigation measures: Re-establishing agricultural lands following mine closure in accordance with the Conceptual Mine Closure Plan to ensure successful restoration of agricultural land to target Rural Land Capability Classification.	Section 4.1
Mine Closure and Rehabilitation			
EIS/ RTS	MCR-3	Mine Closure and Rehabilitation Potential impact: Process of rehabilitation Management and mitigation measures: A detailed Mine Closure Plan will be prepared at least 5 years before expected mine closure and submitted to the Resource Regulator.	Noted – Tahmoor Coal will prepare a Detailed Mine Closure Plan at least 5 years prior to closure.

Refuse disposal			
EIS/ RTS	RD-1	Potential impact: Impacts associated with improper management of the REA Management and mitigation measures: Update the existing management, rehabilitation and monitoring plan for the REA. Where REA extension works are undertaken within waterfront land, rehabilitation activities would be undertaken consistent with the Guidelines for Working on Waterfront Land.	Updates have occurred recently and will occur on a regular basis.
EIS/ RTS	RD-2	Potential impact: Impacts associated with improper management of the REA Management and mitigation measures: Update the Water Management Plan to include specific monitoring of Acid and Metalliferous Drainage and contaminants of concerns from the REA material and leachate specifying contingency measures if monitoring parameters are exceeded, and how impacts to the environment surrounding the REA will be monitored. It would also include monitoring of groundwater for water quality parameters and contaminant compounds including an ongoing monitoring plan for the site and contingencies if parameters are exceeded.	Section 6.3, Table 7, No. 13

2.1.4 Other Leases and Licences

All development consents, leases, licences, and other relevant approvals are stored in the Cority Compliance Management database (Cority), which is administered by both site and Liberty GFG Corporate and on the Tahmoor Coal website Licences – Tahmoor Colliery. A summary of the relevant mining leases, other leases and licences are provided in **Table 3.**

Table 3 Mining Leases, Other Leases and Licences

Title	Description	Granted	Expires
CCL 716	Original Tahmoor Leases	15/06/1990	13/03/2042
CCL 747	Bargo Mining Lease	23/05/1990	06/11/2025
ML 1376	Tahmoor North Lease	28/08/1995	28/08/2043
ML 1308	Small Western lease to west of CCL716	02/03/1993	02/03/2035
ML 1642	Pit-top and REA surface Mining Lease	27/08/2010	27/08/2031
ML 1539	Tahmoor North Extensions Lease	16/06/2003	16/06/2024 (approval pending)
CCL 716	Original Tahmoor Leases	15/06/1990	13/03/2042
EPL 1389	Environmental Protection Licence	01/05/1994, latest variation 23/08/2022	No Expiry
WAL 36442	Water Access Licence	6/12/2013	No Expiry
WAL 25777	Water Access Licence	27/10/2014	No Expiry
WAL 43572	Water Access Licence	08/09/2021	No Expiry
WAL 43656	Water Access Licence	01/08/2022	No Expiry
WAL 44608	Water Access Licence	08/02/2023	No Expiry
SWC839757	Water Access Licence (Lease)	10/07/2023	01/07/2024
Dangerous Goods Licence XSTR200005	Licence to store explosives	18/01/2012	02/02/2027

2.2 Integration with Biodiversity Management Plan

This Rehab Strategy has been developed in conjunction with the Tahmoor South Biodiversity Management Plan (TAH-HSEC-00378). Key recommendations made within Section 5.6 of the Biodiversity Plan (TAH-HSEC-00378). have been included within **Section 6.3** of this Rehab Strategy.

2.3 Integration with the Mine Planning Process

This Rehab Strategy is designed to act as an overarching strategy for the management of rehabilitation and mine closure at Tahmoor Mine. The Rehab Strategy acts as a guide for the Rehabilitation Management Plan (RMP), Tahmoor Coals Conceptual Mine Closure Plan (CMCP) and Detailed Mine Closure Plans (DMCP).

The CMCP is implemented when an operation has a reserve Life of Mine (LOM) greater than five years. Alternatively, where operations have a LOM of less than five years, a DMCP is to be developed.

The purpose of these documents is to provide an overall framework for the mine closure process. The CMCP includes an assessment of the planned mine closure liability, which is to be utilised as the basis for determining an adequate provision for accrual over the LOM. Subsequent reviews of this plan will consider whether adjustments of the closure accrual are required following any changes to the mining operation. The CMCP also includes provisions in the event of an unplanned or imminent mine closure. This is also a legal requirement stipulated by the Resources Regulator as a condition of the relevant mining leases.

A DMCP will be developed five years prior to mine closure, and will include:

- Development of a preliminary Options Plan for post-mining land use options for each site associated with Tahmoor Mine;
- Selection of potential land use options;
- Detailed analysis of Tahmoor Coal approved land use options from above;
- Identification of scope and cost of decommissioning works and completion criteria to achieve objectives of the Options plan for each approved land use. This may involve specific investigations (i.e. engineering, geotechnical etc.) to determine the level of remediation required;
- An independent evaluation of the Conceptual Plan for each land use option to calculate likely return on asset; and
- A cost-benefit analysis of Conceptual Plan for each land use option for Tahmoor Coal to determine most feasible land use options.

The outcomes of this study will then influence the design of the final landform for the site and the refinement of completion criteria for the rehabilitation program. The scope of works for the selected final land use will be required to be included in the DMCP. Further details of the final landform plan can be found in the Tahmoor Coal Rehabilitation Management Plan.

Costs associated with the unplanned or imminent closure of Tahmoor Mine is calculated via the Resource Regulator's Rehabilitation Cost Estimate (RCE) Tool. Costs are calculated and reviewed and revised on an as needs basis during the review and revision of the RMP document. As a minimum it is undertaken approximately every 7 years.

Rehabilitation techniques and strategies will be continually developed and refined over the life of Tahmoor Mine throughout the mine planning process outlined above and the risk management process implemented at Tahmoor Coal (**Section 8.6**).

3 Strategic Framework for Mine Closure

The Strategic Framework for Mine Closure (ANZMEC & MCA 2000) provides a framework of issues to be considered as part of a mine closure plan. The framework outlines six key objectives and principles in consideration of mine closure, outlined in **Table 4**. The strategy for rehabilitation mine closure as outlined in this document has been developed in consideration of these six key objectives and **Table 4** outlines where Tahmoor Coal have addressed these within this document.

Table 4 Key Objectives from the Strategic Framework for Mine Closure

Objective and Principles	Where addressed
To enable all stakeholders to have their interests considered during the mine closure process.	Section 5
To ensure the process of closure occurs in an orderly, cost-effective and timely manner.	Section 6.3
To ensure the cost of closure is adequately represented in company accounts and that the community is not left with a liability.	Section 2.3. Rehabilitation Cost Estimates required under Mining Leases are based on assessed rehabilitation liability associated with the approved Mine Operations Plan/Rehabilitation Management Plan.
To ensure there is clear accountability, and adequate resources, for the implementation of the closure plan.	Section 8.7
To establish a set of indicators which will demonstrate the successful completion of the closure process.	Section 6.2
To reach a point where the company has met agreed completion criteria to the satisfaction of the Responsible Authority.	Section 6.4

4 Post Mining Land Use Strategy

Defining post mining land use is an essential component of mine closure planning. There are a number of post mining land use options that may be applicable to the Tahmoor Coal domains including residential, light industrial or a return to native bushland.

The existing land uses of the Tahmoor Coal Mine Site include:

- Rural residential, including agriculture;
- Market gardens;
- Rail corridor;
- Native grazing; and
- Poultry farming.

The potential post mining land uses for the area have been considered as part of the conceptual closure planning process. A preliminary land use options analysis was undertaken within the EIS Tahmoor South Mine Conceptual Closure Plan (SLR, 2018). Key potential land uses included:

- Access to future mining areas (additional reserves, subject to potential future approvals)
- Re-development for industrial use (coal related)
- Re-development of the site for some other industrial use
- Re-development of the site for a commercial use
- Re-development of the site for residential use
- Environmental value (biodiversity)
- Grazing or other agricultural use
- Return to native bushland

The potential post mining land uses have also considered the strategic land use planning outcomes within the Wollondilly Local Environment Plan (LEP) 2011 and the “Wollondilly 2040" Wollondilly Local Strategic Planning Statement 2020. Discussion of the alignment of the rehab strategy with these strategies is outlined below. Further discussion on the indicative post mining land use is detailed in **Section 4.2**.

4.1 Alignment with Regional and Local Strategic Land Use Planning and Supporting a Sustainable Future for the Local Community

4.1.1 Wollondilly Local Environment Plan (LEP) 2011

The Rehab Strategy has been developed in consideration of the objectives of the Wollondilly LEP. Amendments that may occur to the LEP will be evaluated as part of ongoing revisions to the Project’s mine closure plan. The main disturbance area for Tahmoor South is zoned RU2 Rural Landscape. The objectives of the RU2 Zone include:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To maintain the rural landscape character of the land.
- To provide for a range of compatible land uses, including extensive agriculture.
- To provide areas where the density of development is limited in order to maintain a separation between urban areas.
- To support sustainable land management practices and local food production.

The surrounding area is zoned C2 Environmental Conservation. The objectives of this zone include:

- To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.
- To prevent development that could destroy, damage or otherwise have an adverse effect on those values.

- To support the health and well-being of residents, workers and visitors by providing opportunities for people to engage with nature.

The disturbance as a result of Tahmoor Mine will comprise continuation of subsidence effects from underground mining, expansion of the REA, and augmentation of existing surface infrastructure. Returning the site to native bushland would align with the maintenance of the rural landscape character of the land, as well as the restoration of high ecological, scientific and aesthetic value.

Within five years of mine closure the Wollondilly LEP, or equivalent, will be further considered when assessing potential final land use options for the site post closure. This will include determining any beneficial re-use of mining infrastructure.

4.1.2 "Wollondilly 2040" Wollondilly Local Strategic Planning Statement 2020

Wollondilly 2040 provides a vision for land use planning over the next 20 years within the Wollondilly Shire Council area. It provides:

- an overall structure plan;
- planning priorities;
- actions for each planning priority; and
- details on implementation and monitoring.

Eighteen planning priorities will shape how the Wollondilly Shire Council (WSC) achieves Wollondilly's land use vision under four themes. Wollondilly 2040 will inform all land use and development decisions.

Wollondilly 2040 specifically addresses coal mining in the region:

> *"We need to plan for and sequence development in areas that contain significant mineral resources including established operations like SIMEC Coal Tahmoor that have local and State value, support local jobs and the construction industry. Land above the future proposed longwalls and State-significant mineral resources must not be further developed until operations cease. This will protect new homeowners from the effects of subsidence and protect a longstanding industry that provides local jobs"*

Wollondilly 2040 does not specifically target the development of employment generating industries to mitigate the effect of mines reaching the end of their productive lives. However, the area surrounding the disturbed site is zoned as C2 Environmental Conservation and returning the site to native bushland would support Wollondilly 2040's Planning Priority 13 - Protecting biodiversity and koala habitat corridors. This would also align with Rehabilitation objective "Establish local vegetation connectivity and wildlife corridors, as far as is reasonable and feasible" (further outlined in **Section 6.1**).

During mine closure planning, Tahmoor Coal will support the councils aim under Planning Priority 13 to 'collaborate with landowners and other stakeholders to protect biodiversity of value in different landscapes including rural zoned land and land outside national parks and drinking water catchment'.

4.2 Post Mining Land Use

Currently, in alignment with Wollondilly LEP and Wollondilly 2040, it is considered that the likely final land use options for most of the Tahmoor Coal closure domains will be a return to native bushland, with the potential for some to be re-established as agricultural lands. The return to native bushland will aid in re-connecting the surrounding bushland and will avoid disturbing the self-sustaining native ecosystem already present in the surrounding land. The current site rehabilitation programme aims to re-establish the bushland environment as near as possible to its original state on contours which blend with the surrounding terrain.

Conceptual closure domains are outlined within **Figure 2**, and are discussed in detail within the Rehabilitation Management Plan (TAH-HSEC-00402). **Figure 3** displays the conceptual final landform.

In consideration of the proposed operational life of the current Tahmoor South Project to 2032 the potential for other sustainable and economically viable post mining land uses will be investigated in light

of the local and regional land use strategies that may have further evolved towards the end of the mine, including in accordance with the Rural Land Capability Classification.

Further investigation of post mining land uses and opportunities to maximise the value of existing infrastructure on the site will be undertaken as part of the detailed mine closure process and in consultation with relevant stakeholders. A DMCP will be developed five years out from closure, and will include further investigations to:

- 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
- avoid disturbing self-sustaining native ecosystems, where practicable.

Tahmoor Coal will complete rehabilitation on a progressive basis throughout the life of mine, however if any areas are identified during the life of mine or during the detailed mine closure planning as having the potential for alternative land uses, Tahmoor Coal will liaise with the appropriate stakeholders on the appropriate management of these areas.

Outcomes of rehabilitation will be reported through the Annual Review process (**Section 8.2**) and based on the outcomes of the rehabilitation monitoring programs and in consultation with the relevant government agencies, Tahmoor Coal may seek progressive sign-off of rehabilitated areas once the agreed closure and rehabilitation criteria have been satisfied.

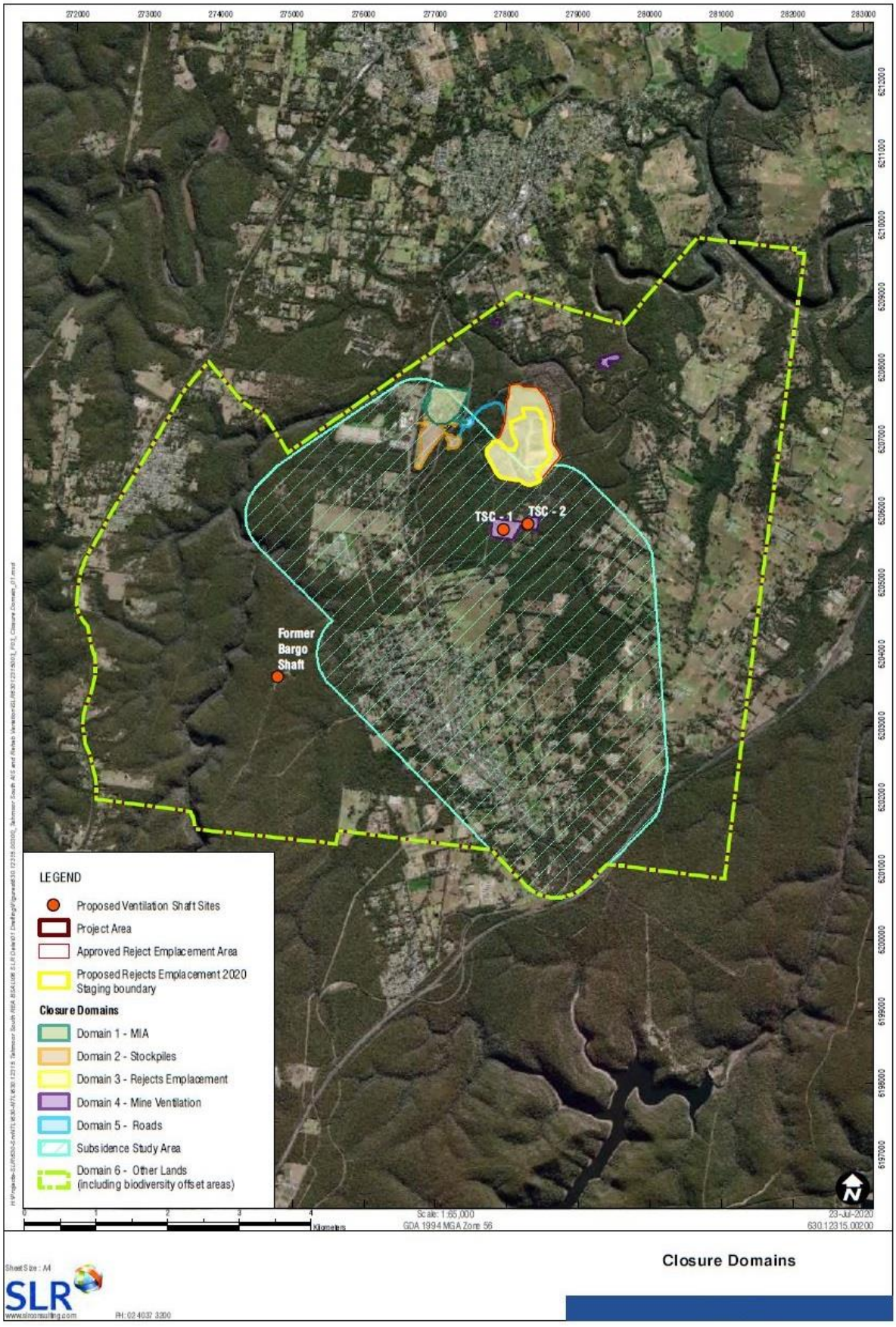


Figure 2 Conceptual Closure Domains

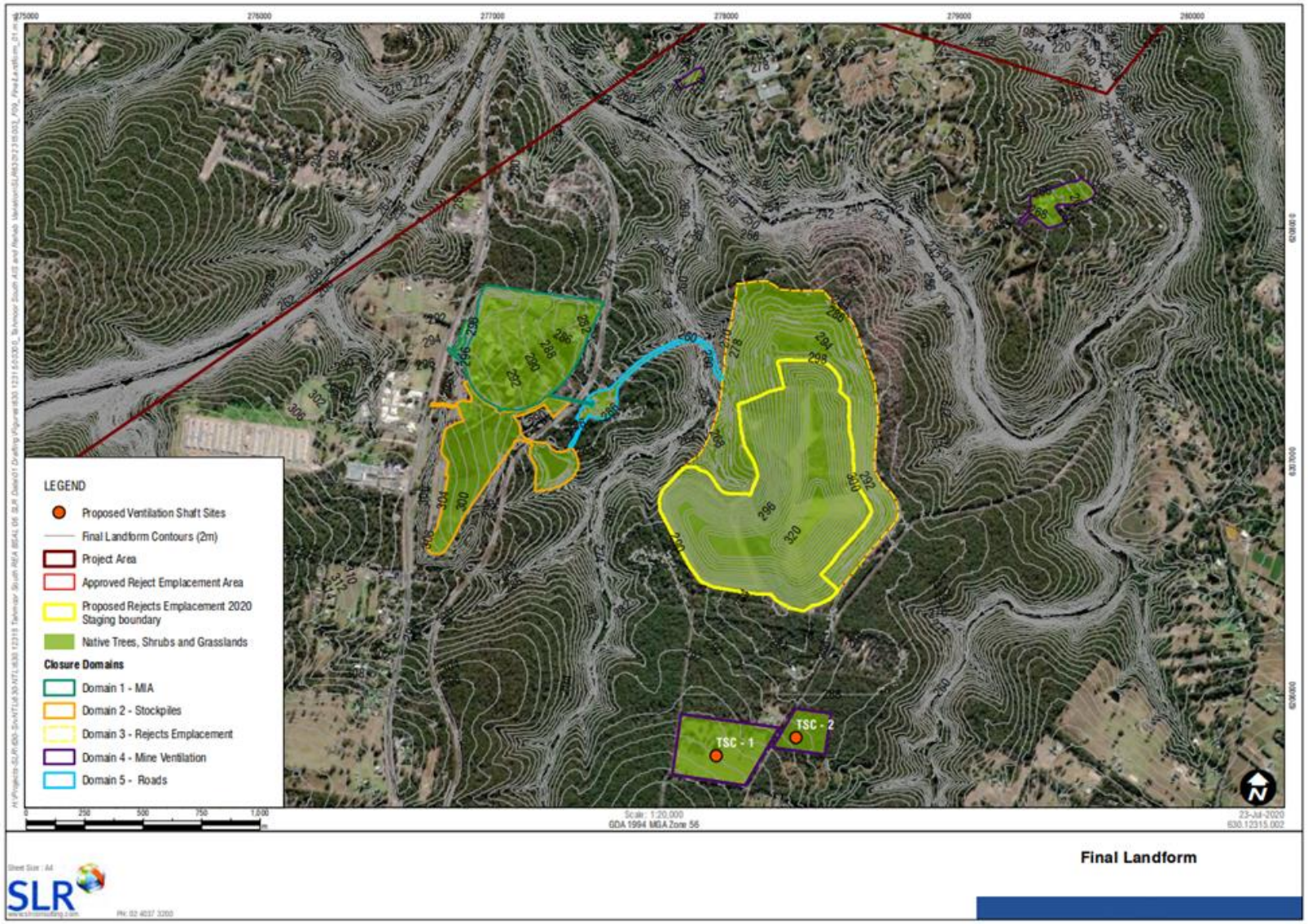


Figure 3: Conceptual Final Landform

5 Stakeholder Consultation

5.1 Internal Stakeholder Communication

Internal stakeholders include employees, contractors and visitors of Tahmoor Coal. Any internal communications relating to rehabilitation will be conducted in accordance with the Stakeholder Engagement Management Plan (TAH-HSEC-00039). This procedure outlines:

(i) Methods of communication between internal stakeholders;

(ii) Types of information that is communicated between internal stakeholders;

(iii) Responsibilities for communication of information to internal stakeholders; and

(iv) Review of communication methods, including the consideration of feedback to / from internal stakeholders.

5.2 External Stakeholder Communication

External stakeholders include neighbours and the local / regional community, local council, state and federal government agencies and regulators, and press / media. Any external communications relating to rehabilitation will be conducted in accordance with Tahmoor Coals standard communications procedures. External stakeholders are identified in accordance with the following:

- Community Development Plan (TAH-HSEC-00031); and
- Stakeholder Engagement Management Plan (TAH-HSEC-00039).

External stakeholder communication is undertaken in accordance with:

- Stakeholder Engagement Management Plan (TAH-HSEC-00039)

These documents include information on the following topics:

a) Methods of communication to external stakeholders.

(v) Types of information that is communicated between external stakeholders.

(vi) Responsibilities for communication of information to external stakeholders.

(vii) Review of communication methods, including the consideration of feedback to / from external stakeholders.

A key objective of Stakeholder Engagement Management Plan (TAH-HSEC-00039) is to maintain positive relationships established with the local community and other external stakeholders.

5.3 Consultation to Date

The following stakeholders were consulted in the development of this Rehab Strategy:

- Wollondilly Council
- Biodiversity, Conservation and Science Directorate within the Department (BCD)
- Resources Regulator
- Department of Planning and Environment (DPE)

The feedback provided by stakeholders is summarised within **Table 5** below.

Table 5 Consultation to Date

Consulted Parties	Consultation	Outcomes of Consultation
BCD	Draft plan provided for comment on 31/10/2021. Feedback on draft plan received on 18/11/2021. Further feedback received 12/09/2022 and responded to on the 30/09/2022.	Comments reviewed and addressed in Appendix F. Further comments addressed in Section 6.4, Section 7.3.2, Table 6, Table 7
Wollondilly Council	Draft plan provided for comment on 31/10/2021. Feedback on draft plan received on 19/11/2021.	No comments required to be addressed.
Resource Regulator	Draft plan provided for comment on 31/10/2021, the Resources Regulator reviewed the plan and had no feedback requiring actions (letter dated 03/12/2021).	No comments required to be addressed.
DCCEEWWater	Draft plan provided for comment on 31/10/2021, no feedback received.	No comments required to be addressed.
DPHI Planning	BCD comments included and sent to DPE for approval on the 30/09/2022.	Approval received 12/12/2022.

5.4 Socio-Economic Effects

The eventual closure of Tahmoor Mine will inevitably result in a negative impact on employment in the region, with some people having to move out of the area to seek alternate employment. The Tahmoor Coal Social Involvement Policy requires a social impact assessment to be conducted, as part of the mine closure planning, at least five years prior to the end of the mine's life. This planning would involve consultation with local and regional stakeholders to explore the potential future land uses of the surface facilities area which may have future employment generation potential.

Items that will be included as part of the scope of the social impact assessment include information on Tahmoor Coal's expenditure patterns in the local area, community contributions, location of the residence of employees as well as potentially affected local businesses and suppliers. The aim being to identify the dependence of the local community on the mine, including:

a) The level of dependence between employees/contractors, and local/regional community such as their use of local infrastructure (e.g., where do employees send their children to school, what health facilities do they use etc.);
b) The proportion of local business provided by Tahmoor Coal to local businesses/suppliers;
c) Potential impacts on service providers as a result of eventual closure and potential relocation of staff (e.g., employed families move away and local schools lose students);
d) Community/stakeholder views on closure options to be investigated; and
e) Identification of growth industries within Wollondilly Shire Council and other possible industries of future employment for employees following closure.

The outcomes of the social impact assessment will be utilised by Tahmoor Coal to determine whether there may be feasible opportunities to minimise adverse socio-economic effects associated with rehabilitation and mine closure.

The social impact assessment may also identify opportunities where Tahmoor Coal can provide a positive social legacy following closure. Examples may include the implementation of a sustainable final land use that will provide ongoing employment opportunities. However, any final land use options will be the subject of the approval from relevant government agencies.

A detailed public safety risk assessment will also be completed to identify all potential impacts to public safety. Examples of measures Tahmoor Coal will implement to reduce any socio-economic impacts include but is not limited to:

- Removal of all hazardous and dangerous materials from site including hydrocarbons, chemicals, lead paints, asbestos containing materials, explosive products, synthetic mineral fibres and polychlorinated biphenyls (PCBs).
- Adequate security fencing will be constructed, and access will be restricted through the construction of an appropriate barrier to prevent access.
- Where required, stock may be excluded from subsided and rehabilitated areas, including riparian areas, to prevent injury to animals and to increase grass cover and seed store. This will be achieved through the erection of fences in consultation with the relevant landholder(s). Where required, people may also be excluded and appropriate signage warning of the potential hazards due to subsidence will be erected.

5.5 Stakeholder Engagement Management Plan

Tahmoor Coal will conduct stakeholder engagement in accordance with the Stakeholder Engagement Management Plan (TAH-HSEC-00039). Tahmoor Coal will engage with key stakeholders during the rehabilitation and mine closure process to ensure all interests are considered. Ongoing consultation with the community regarding progressive rehabilitation and potential mine closure will be undertaken as needed utilising the following engagement strategies:

- Ongoing consultation with the Tahmoor Community Consultative Committee (TCCC);
- Community meetings and information days;
- Community newsletters;
- One-on-one meetings with stakeholders;
- Consultation with key stakeholders in the review and update of the Mine Operations Plan/Rehabilitation Management Plan for Tahmoor Coal;
- Consultation with key stakeholders in the development of a detailed mine closure plan; and
- Submission of annual reviews and conducting associated meetings with government regulators to seek feedback in relation to the progress with rehabilitation activities.

It is anticipated that the majority of stakeholder engagement related to mine closure will be undertaken during the detailed closure planning process within the social impact assessment. The outcomes of the social impact study and associated engagement with key stakeholders such as residents, local businesses and Wollondilly Shire Council, will be used to assess feasible post mining beneficial land use options to minimise negative social impacts associated with mine closure.

6 Rehabilitation

Tahmoor Coal will rehabilitate the site in accordance with the conditions imposed on the relevant mining lease(s) associated with the development under the Mining Act 1992. This rehabilitation will be generally consistent with the proposed rehabilitation activities described in the EIS (and shown in **Figure 3**) and will comply with the objectives outlined within **Table 6**.

6.1 Rehabilitation Objectives and Outcomes

Table 6 outlines all relevant rehabilitation objectives for this Rehab Strategy. More detailed rehabilitation objectives will be included in the Detailed Mine Closure Plan (DMCP).

The ultimate goal of achieving these project rehabilitation objectives is to create a post-mining landform that is safe, stable and non-polluting to satisfy regulatory requirements for closure and successfully relinquish mining tenements and return the associated securities.

Tahmoor Coal have also provided additional rehabilitation outcomes to align with the rehabilitation objectives. These outcomes will be used to guide the implementation of performance indicators and completion criteria, further discussed in **Section 6.2**.

Table 6 Rehabilitation Objectives and Outcomes

Feature	Objective	Outcomes
All areas of the site affected by the development	• Safe, stable and non-polluting • Fit for the intended post-mining land use/s • Achieve the final landform and post-mining land use/s as soon as practicable after cessation of mining operations • Minimise post-mining environmental impacts	Site affected by the development is to be returned to a condition suitable for a range of sustainable future land uses. The future land use will be considered closer to Mine Closure in consultation with relevant stakeholders. Currently the final land use is to be returned to a self-sustaining native woodland ecosystem (PCT 3619 – Sydney Hinterland Enriched Sandstone Bloodwood Forest).
Areas proposed for native ecosystem re-establishment	• Establish/restore self-sustaining native woodland ecosystems, with a focus on establishing local plant community types, as described in the EIS and in Table 5 (of the Consent). • Establish: - habitat, feed and foraging resources for threatened fauna species; - local vegetation connectivity and wildlife corridors, as far as is reasonable and feasible	Site affected by the development restored to a self-sustaining native woodland ecosystem (PCT 3619 – Sydney Hinterland Enriched Sandstone Bloodwood Forest).
Final Landform	• Stable and sustainable for the intended post-mining land use/s • Consistent with surrounding topography to minimise visual impacts • Incorporate relief patterns and design principles consistent with natural drainage that mimic natural topography and mitigate erosion to the greatest extent practicable	The final landform is stable and sustainable for future land use and does not present a risk of environmental harm.
Surface infrastructure of the development	• To be decommissioned and removed, unless the Resource Regulator agrees otherwise	All infrastructure that is not to be approved as part of the final land use is removed and rehabilitated.

Feature	Objective	Outcomes
	• All surface infrastructure sites are to be revegetated with suitable local native plant species to a landform consistent with the surrounding environment	
Portals and vent shafts of the development	• To be decommissioned and made safe and stable.	All portals and vent shafts are safe and stable.
Watercourses subject to mine water discharges	• Hydraulically and geomorphologically stable • Aquatic ecology and riparian vegetation that is similar to pre-mining conditions, as far as practicable, taking into account natural variability and environmental factors.	Watercourses are stable and ecological values are similar to pre-mining conditions, as far as practicable, taking into account natural variability and environmental factors.
Watercourses damaged by subsidence impacts	• Restore stream health and pool holding capacity to pre-mining conditions, as far as practicable and as soon as reasonably practicable (refer to Water Management Plan for LW S1A-S6A Extraction Plan) This is assessed through extensive monitoring of pools and features within the study area before, during and after active longwall mining. Trigger Action Response Plans (TARP) for water level, water quality, physical features, natural behaviour, channel stability, sedimentation and erosion have been prepared for LW S1A-S6A extraction. As per the TARPs, if watercourses are damaged by subsidence impacts, rehabilitation measures will be developed as required and detailed in the Watercourse Corrective Action Management Plan (C12 of the SSD 8445) to the satisfaction of the Planning Secretary and in consultation with relevant stakeholders. The primary objective of the WCAMP would be develop and manage a remediation program to restore stream health, pool holding capacity and water quality to pre-mining conditions, as far as practicable, taking into account natural variability and environmental factors. Performance indicators will be described in the WCAMP to reflect the objective and to demonstrate achievement of the performance measures. • Hydraulically and geomorphologically stable, with riparian vegetation and aquatic ecology that is similar to pre-mining conditions, as far as practicable, taking into account natural variability and environmental factors. (refer to LWS1A-S6A Extraction Plan TARPs).	Watercourses are stable and ecological values are similar to pre-mining conditions, as far as practicable, taking into account natural variability and environmental factors.

Feature	Objective	Outcomes
Water quality	• Water retained on the site is fit for the intended post-mining land use/s • Water discharges are consistent with the regional catchment management water quality objectives	Water quality onsite and discharged is consistent with post mining land uses and the surrounding catchments.
Built features damaged by mining operations	• Repair to pre-mining condition or equivalent unless the: - owner agrees otherwise; or - damage is fully restored, repaired or compensated for under the Coal Mine Subsidence Compensation Act 2017	Built features impacted by mining are fully restored, repaired, or compensated.
Cliffs and steep slopes	• No additional risk to public safety compared to prior to mining	Landscape features pose no additional risk to public safety compared to prior to mining.

6.2 Rehabilitation Performance Indicators and Completion Criteria

Preliminary performance indicators and completion criteria to meet the rehabilitation objectives within **Table 6** are included in detail within the Rehabilitation Management Plan (TAH-HSEC-00402). The indicators/criteria have been developed to meet the domain rehabilitation objectives and outcomes.

All indicators/criteria will continue to be refined throughout the Rehabilitation Management Plan terms, following the implementation of rehabilitation and biodiversity monitoring programs, as part of the site's continue improvement process. Closure criteria will be refined for each specific rehabilitation domain in accordance with the Rehabilitation Monitoring Procedure (TAH-HSEC-00012) and within 5 years of mine closure.

The completion criteria will be finalised as part of the DCMP Process and presented for approval by the relevant government agencies.

The achievement of the completion criteria (and progression towards completion criteria) will be monitored and reported within the Annual Environmental Management Report (AEMR) and submitted to relevant government agencies as required. Completion of rehabilitation to reaching a 'self-sustaining native woodland ecosystem' will be determined based on reference benchmark sites located in adjacent Sydney Hinterland Enriched Sandstone Bloodwood Forest (PCT 3619, no longer PCT 1081 -Red Bloodwood – Grey Gum woodland on the edges of the Cumberland Plain, Sydney Basin).

6.3 Rehabilitation Approach

Rehabilitation of the disturbed land associated with mining will proceed as soon as practicable after the areas becoming available for rehabilitation. The rehabilitation of disturbed land at the mine site will be conducted so that:

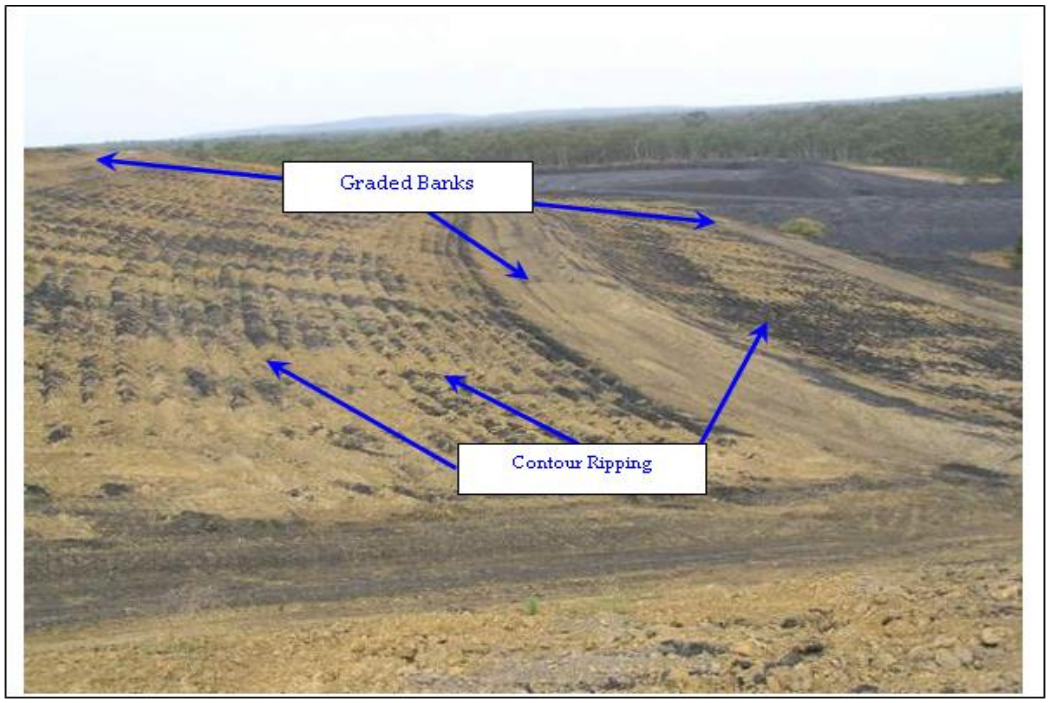
- suitable vegetation species are used to achieve the nominated post-mine land uses;
- the potential for water and wind induced erosion is minimised, including the likelihood of environmental impacts being caused by the release of dust;
- the quality of surface water released from the site is such that releases of contaminants are not likely to cause environmental harm;
- the water quality of any residual water bodies is suitable for the nominated use and does not have the potential to cause environmental harm; and
- the final landform is stable and not subject to slumping or erosion which would result in the agreed post mining landform not being achieved.

Specific approaches for each aspect of rehabilitation are outlined within **Table 7.**

Table 7 Rehabilitation Approach

No.	Rehabilitation Requirement	Approach
Revegetated Areas		
1	Progressive Rehabilitation	Tahmoor Coal will progressively rehabilitate disturbed land throughout the life of mine. Progressive rehabilitation will be completed in accordance with the following procedures and plans: • TAH-HSEC-00053 Rehabilitation and Topsoil Management Procedure (Appendix A) • TAH-CHPP-00002 Reject Disposal Procedure (Appendix B) • TAH-HSEC-00012 Rehabilitation Monitoring Procedure (Appendix C) • TAH-HSEC-00374 Erosion and Sediment Control Plan (Appendix D) Progressive rehabilitation of post-mining areas will be completed as soon as practicable after areas become available. Opportunities for progressive rehabilitation and reducing the disturbance footprint will be maximised. Potential delays to progressive rehabilitation may include: • changes or delays in the mining schedule; and • postponement of rehabilitation activities to avoid seeding and planting in conditions, which may lead to poor quality rehabilitation or failure. Where rehabilitation is delayed due to the above scenarios, areas will be shaped as close as reasonably practicable to final landform. Suitable cover crops (typically grasses) will be applied on exposed areas to minimise dust generation and erosion. Temporary revegetation will be undertaken on other disturbed areas that are planned to be inactive for two years. Temporary revegetation of these areas will improve both visual amenity and the control of dust emissions. Temporary vegetation will typically be fast growing grass species however in some areas, other species, including target species, may be utilised for improved visual amenity.
2	Disturbance Minimisation	Land disturbance will be minimised in accordance with the Erosion and Sediment Control Plan (Appendix D), approaches to minimise land disturbance include the following: • Clearance of the smallest practical area of land for the shortest possible time. This will be achieved by limiting the cleared width to that required to accommodate excavation and areas required for overburden emplacement and topsoil stockpiling. • Prior to clearing commencing, the limits of clearing shall be marked by pegs or other markers to clearly define the disturbance boundaries. All operations will be planned to ensure that there is no disturbance outside these limits. • Planning works so that only the areas which are under active excavation are cleared. • Clearing will not be undertaken until earthwork operations are ready to commence with the correct equipment approvals/checks completed for site use, Work Authorisation and Ground Disturbance Permit completed to the satisfaction of the Project Supervisor. • If required, interim stabilisation and temporary vegetation strategies will be employed when areas prone to dust generation, soil erosion and weed incursion cannot be permanently rehabilitated.
3	Topsoil and Capping of REA	Tahmoor Coal will complete capping of the REA and any other applicable disturbed land in accordance with the TAH-HSEC-00053 Rehabilitation and Topsoil Management Procedure (**Appendix A**). Capping material from the stripped topsoil/subsoil material onsite will be utilised in the first instance. As the extent of the REA reaches its approved disturbance footprint, it is considered that there will be a capping and topsoil shortage to rehabilitate the remaining site that is active at the time of closure. Tahmoor Coal will need to source an alternative for local topsoil as part of the DMCP. Provision has been included in the RCE to source topsoil or a suitable alternative from an external source given the predicted topsoil deficit on-site. Depending on the

		volumes and/or type of material, a modification to Tahmoor Coal's Environmental Protection Licence may be required. The NSW EPA should be consulted with regards to the required variation. For further information on this refer to the Protection of the Environmental Operations (POEO) Act 1997. The type of material accepted for rehabilitation use should be ideally free of pathogens and propagules to maximise the protection of site against the following (in reference to Schedule 4 – *Key threatening processes* of the Biodiversity Conservation Act 2016): • Invasion and establishment of exotic vines and scramblers; • Invasion and establishment of Scotch Broom (Cytisus scoparius); • Invasion, establishment and spread of Lantana camara; and • Invasion of native plant communities by African Olive (Olea europaea subsp.cuspidata), Chrysanthemoides monilifera and/or exotic perennial grasses. By avoiding the above, this will further reduce the demand on future weed management services. The basis of design for capping has been revised by SMEC within the 'REA Filling Sequencing Report' (Dec, 2021) and includes the following approach: • Any vegetated areas will need to have vegetation and topsoil removed prior to the placement of refuse material. For areas where emplaced refuse material has been rehabilitated, 300mm of topsoil will exist as highlighted in Tahmoor Coal: Reject Disposal (SIMEC, 2021). Best practice in these areas is to remove topsoil until the final refuse landform level is reached. • Removed topsoil is to be either utilised for immediate cover of completed refuse emplacement areas or stockpiled along the proposed toe of the active emplacement phase (where feasible). As per Tahmoor Coal: Rehabilitation and Topsoil Management Procedure (SIMEC, 2021), topsoil stockpiles should be as low as possible with a large surface area, constructed with gentle batters, and be less than 3m in height for stability. • Once an area is cleared for refuse material emplacement, a 1m thick layer of reject material shall be placed to form a stable all-weather wearing working surface before being used as the active emplacement area. • When the emplaced reject reaches its design shape it will be covered with a minimum of 300mm of soil. • The internal batters (between Emplacement Stages) will be covered with a minimum of 300mm of uncompacted topsoil. • Capping material will be sourced from site until such a time that material is depleted. At that time, Tahmoor Coal will import suitable capping material to cap the remaining REA with at least 300 millimetres of cover (refer to above).
4	Contour and Ripping	Tahmoor Coal will complete contouring and ripping of the REA and any other applicable disturbed land in accordance with the TAH-HSEC-00053 Rehabilitation and Topsoil Management Procedure (Appendix A). Generally, the following approach will be implemented to reduce impacts from disturbed land: • The area is to be contoured and ripped prior to seeding. The top (flat) section of the completed Emplacement Area and down to the first graded bank will be ripped to between 400 and 500mm in preparation for the direct seeding of tree seed. • The contour batters from the first graded bank to the base of the Emplacement will be ripped to between 200 and 300m in preparation for grass seeding.

		 Example of contour ripping and graded banks of area under rehabilitation.
5	Target Vegetation Communities and Species	Tahmoor Coal will rehabilitate the REA and any other applicable disturbed land via direct seeding or planting with tubestock, depending on the rehabilitation objectives for the area, in accordance with the TAH-HSEC-00053 Rehabilitation and Topsoil Management Procedure (**Appendix A**). Native tree and shrub seed are appropriately pre-treated to break innate dormancy mechanisms and mixed with a cover crop of oats. Species chosen for rehabilitation are comprised of a large portion of diagnostic species of the plant community types recorded in undisturbed adjacent habitat. Areas of revegetation will aim to mimic the species composition of Shale Sandstone Transition Forest - PCT 3619 – Sydney Hinterland Enriched Sandstone Bloodwood Forest. The list below was originally derived from AECOM's 2011 Reject Emplacement Area Permanent Rehabilitation Monitoring – Establishment and First Phase Monitoring Plan. Species likely to be utilised to achieve final rehabilitation outcomes include: • Acacia decurrens • A. longifolia • A. falcata • A. suaveolens • A. terminalis • Eucalyptus globoidea

		• E. punctata • E. scerophylla • E. tereticornis • Angophora floribunda • Allocasuarina littoralis^ • Banksia spinulosa • Hakea dactyloides • Hakea sericea • Kunzea ambiqua • Hardenbergia violaceae • Kennedia rubicunda • Lomandra obliqua • Dianella revoluta • Syncarpia glomulifera • Brachychiton populneus This list will be revised as required in line with Section 9.2 and during the DMCP process. A more detailed list of appropriate species for revegetation around the Tahmoor Mine will be consulted if required and is provided in Appendix D of the TAH-HSEC-00378 Biodiversity Management Plan. Pasture seeding is aimed at producing ground cover to stabilise the batters and reduce erosion on topsoil stockpiles only (for further information refer to Section 9.2.2 in the Rehabilitation and Topsoil Management Procedure – **Appendix A**). Techniques will be continually developed and refined through a continual process of research, trialling, monitoring and improvement associated with the update and review of the relevant plans and procedures (in line with Section 9.2) ^Allocasuarina littoralis is to be considered to be planted in stands to maximise the visitation of threatened species i.e 'Glossy Black-Cockatoo' (also consider distributing through-out the area).
6	Collection and Propagation of Seed	Tahmoor Coal will employ the services of a qualified third party to collect and propagate local seed from the Tahmoor area, where possible. Replication of local seed will be prioritised if collection in the area is not possible. Any local seed collection would be conducted in accordance with the following: • Appropriately qualified bush regenerators/direct seeding business/rehabilitation specialist would prepare and implement a Native Seed Collection Strategy, which adheres to the Australian benchmark guidelines developed by Florabank for native seed collection; • Seed harvesting and propagation from surrounding areas (and threatened species) should begin at least two years before rehabilitation of the REA commences, this will ensure the tubestock is well established prior to planting. This will be further discussed and implemented by the third party contractor appropriately qualified; • Appropriately qualified, experienced, and licenced contractors must be used for native seed collection and must adopt the Model Code of Practice. • Appropriately qualified bush regenerators/direct seeding business/rehabilitation specialist must undertake the salvage, transplanting and propagation of threatened flora species, and collection and propagation of seed from the local area. • Utilise locally sourced seed to propagate tubestock to be used for revegetation.

7	Threatened Species – Flora	Disturbance within the Tahmoor Mine Site typically avoids threatened species locations. Where possible, Tahmoor Coal will salvage, transplant and/or propagate threatened flora species using the following approach: • Threatened species salvaged from the disturbance area may be planted in the rehabilitation of the REA provided that the soil represents a suitable medium for their establishment. Alternatively, salvaged threatened flora individuals may be planted amongst other members of their species nearby, which would enrich the genetic diversity of the population. • Appropriately qualified bush regenerators would undertake the salvage, transplanting and propagation of threatened flora species, as well as the rehabilitation planting, infill planting and maintenance including weed control. • Any salvage and transplanting would be undertaken in accordance with the Guidelines for the Translocation of Threatened Plants in Australia (Commander et al., 2018), where feasible.
8	Threatened Species - Fauna	Tahmoor Coal will implement the following recommendations in accordance with the TAH-HSEC-00378 Biodiversity Management Plan: • Habitat planting will be located to minimise the likelihood of vehicle strike. • Avoid placing obstacles such as roads and fencing between habitat patches. • Avoid planting feed trees around fences. Specific recommendations for Koala's which will be implemented where feasible include: • Minimum 30% of total canopy trees as preferred food trees for Koalas. • The use of a mix of non-eucalypt trees and shrubs for shelter and other behavioural purposes, as dense foliage species help koalas stay cool in summer. For example, Acacia species, turpentine (Syncarpia glomulifera), and kurrajong (Brachychiton populneus). • Maintain pre-existing clean water storages nearby to increase higher leaf moisture and water to drink. • Maintain good connectivity between habitat patches • Use a diverse planting palette but include plenty of koala feed trees from the list of koala use trees as defined by Schedule 2 of the State Environmental Planning Policy (Koala Habitat Protection) 2020 and DPIE (2021). Listed Koala feed trees that can be found in the neighbouring PCT's and are known to be preferred by local koalas are: o Grey Gum (Eucalyptus punctata); o Forest red gum (E. tereticornis); and o Blue-leaved Stringy Bark (Eucalyptus agglomerata).
9	Threatened Ecological Communities	Tahmoor Coal will minimise impacts to threatened ecological communities listed under the BC Act and EPBC Act, and contribute to conservation strategies for these communities through the following approach: • Species chosen for rehabilitation will be comprised of a large portion of diagnostic species of the plant community types recorded in undisturbed adjacent habitat. • Areas of revegetation will aim to mimic the species composition of Shale Sandstone Transition Forest.
10	Enhancement of Vegetation and Connectivity	Areas of revegetation will aim to mimic predominately Shale Sandstone Transition Forest, which recreates and enhances local and regional habitat connectivity. Tahmoor Coal will also implement the following approach in relation to revegetation: • Good site preparation and follow-up maintenance of plantings. • In-fill replacement planting to replace unsuccessful tubestock will be undertaken each year in autumn for at least two years per stage.

		• Large areas of unsuccessful tubestock will be recorded as they may indicate the requirement for soil improvement prior to replacement planting to ensure greater establishment success. • Watering will be applied for 4-6 weeks post planting and in the summer of the first year if required, to ensure survival and establishment.
11	Use of Salvaged Resources	Tahmoor Coal will salvage resources in accordance with the TAH-HSEC-00053 Rehabilitation and Topsoil Management Procedure (Appendix A). Generally, the following measures will be implemented: • Topsoil suitable for reuse in rehabilitation of the REA will be salvaged and stored in piles for reuse in rehabilitating the REA. If feasible, fresh donor topsoil may be sourced from newly cleared areas supporting any of the plant community types that occur within and adjacent to the disturbance area. The use of fresh donor soil would promote establishment of native species from the soil seedbank. • Salvaged habitat features that have been stockpiled since clearing was undertaken will be evenly placed throughout the rehabilitation area after the topsoil is placed and graded banks and ripping complete, under the supervision of a qualified ecologist. Placement of these features will prioritise the following: • Use of salvaged tree hollows for fauna habitat within revegetated areas. Planted saplings will not be large enough to support hollow logs however If required, the installation of nest boxes will be investigated. Nest boxes would be used to provide shelter and breeding habitat for bird and mammal species. If adopted, nest box selection would target the range of threatened fauna recorded or considered to have a moderate to high likelihood of occurrence. Nest boxes would be placed in trees by climbing arborists under the supervision of a qualified ecologist. • Establishing shelters or perches in the form of logs and log piles. • Creating reptile habitat through the limited distribution of surface boulders (if available) • Distributing salvaged woody course debris evenly around the rehabilitated area if possible. This will provide shelters for many smaller reptile and invertebrate species. • Placement of coarse woody debris in the rehabilitation areas will not exceed benchmark values as specified in BioNet Vegetation Classification (or equivalent) at the time of commencement of the relevant stage of rehabilitation. • The cleared timber will be distributed using a long-reach excavator (or similar) to create microhabitats for native plants and animals and to assist in erosion control. • Tahmoor Coal will prioritise the use of salvaged tree hollows for fauna habitat. Where this is not possible, the installation of nest boxes will be investigated. • Appropriately qualified bush regenerators will undertake the salvage, transplanting and propagation of threatened flora species, as well as the rehabilitation planting, infill planting and maintenance including weed control. • No monitoring will be undertaken following placement of coarse woody debris habitat features, as the surrounding habitat will consist of planted tubestock or seedlings and will take a substantial period of time to recover to a point where it is conducive to regular use by local native fauna.
12	Weed Management	Tahmoor Coal will implement the following weed approach: • Appropriately qualified bush regenerators will undertake the revegetation maintenance including weed control. • Undertake maintenance weeding in the disturbance footprint and adjacent natural bushland where weed incursion has been identified. The weed density and the age of the revegetated area will dictate the frequency of weed maintenance after completion of the stages. • Spot spraying as required to control weeds on steep slopes at risk of erosion. •

Water Management		
13	Surface Water Drainage	Tahmoor Coal will design surface water drainage in accordance with the following: • TAH-HSEC-00369 Tahmoor South Water Management Plan • TAH-HSEC-00371 Tahmoor South Surface Water Management Plan • TAH-HSEC-00373 Tahmoor South Groundwater Management Plan • TAH-HSEC-00374 Tahmoor South Erosion and Sediment Control Plan (Appendix D) • Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book (Landcom, 2004) and Volume 2E: Mines and Quarries (DECC, 2008) Generally, the following approach will be undertaken within the REA and other applicable disturbed land: • Graded banks and contour drains will be utilised throughout the REA to minimise erosion, divert run-off water around the disturbed areas and re-direct contaminated runoff into sediment control dams. • Clean water diversion banks will be constructed to separate clean run-on water from contaminated catchments, thus minimising the extent of dirty water catchments. • Graded banks will be constructed at intervals down the slope of the emplacement rehabilitation area to control surface flow velocities and minimise erosion on the emplacement batters. As the slope angle increases, the banks will be spaced closer together, stopping before the point is reached where they are no longer effective. • Engineered waterways using rip rap will be constructed to safely dispose of runoff down slope. Monitoring of Acid and Metalliferous Drainage and contaminants of concerns along with groundwater quality from the REA material and leachate is conducted as part of the Tahmoor South Groundwater Management Plan (under development).
Final Landform		
14	Final Landform Design	The conceptual final landform, as shown in **Figure 3** has been designed to maintain consistency with the local area. Final landform profile is predicted to be a battered refuse emplacement, with a maximum height of 320RL and external batters ranging from 1:4 to 1:8 (maximum design slope is 1:4). Tahmoor Coal will implement the final landform and post-mining land use/s as soon as practicable after cessation of mining operations. Tahmoor Coal will investigate opportunities to refine and improve the final landform over time, including the configuration of the REA. These investigations will be completed during the LOM process and during updates to the CMCP, RMP and RCE. Investigations will include ensuring the final landform design is: • Stable and sustainable for the intended post-mining land use/s. • Consistent with surrounding topography to minimise visual impacts. • Incorporates relief patterns and design principles consistent with natural drainage that mimic natural topography and mitigate erosion to the greatest extent practicable.
15	Surface Water Management (Final Landform)	The design of the surface water drainage network on the final landform is currently in the process of being refined, generally the final landform design will include: • Reshaping of the remaining active area to be free draining; • Constructing suitable contour banks and waterways such that runoff is conveyed in a manner that will cause minimal erosion and prevent excess sediment being transported off site.

		The final landform design will maximise surface water drainage to the natural environment. Tahmoor Coal will investigate opportunities to refine and improve the final landform water management over time. Investigations will include ensuring the final landform surface water design is: • Stable and sustainable for the intended post-mining land use/s. • Incorporates relief patterns and design principles consistent with natural drainage that mimic natural topography and mitigate erosion to the greatest extent practicable.
Mine Closure		
16	Operational Mine	At the time of closure of Tahmoor Mine, Tahmoor Coal propose to decommission all on site infrastructure and associated facilities not required for any post-mining land uses as part of the mine closure process. Closure monitoring and maintenance works would continue after mine closure activities are complete until such a time that it can be demonstrated that the relevant completion criteria have been met. A DMCP will be developed and submitted to the Secretary for approval at least five years prior to mine closure date. Development of the Mine Closure Plan will involve consultation with a range of stakeholders including: • DPIE; • Resources Regulator; • Biodiversity Conservation Division of DPIE; • Wollondilly Shire Council • other relevant government agencies; and • local community This DMCP will address all aspects of decommissioning and rehabilitation and will define the care and maintenance requirements developed to achieve these criteria.
17	Unplanned or Imminent Closure	There is a legal requirement as a condition of the relevant mining leases that costs associated with the unplanned or imminent closure are calculated via the Resource Regulator's Rehabilitation Cost Estimate (RCE) Tool. Costs are also calculated as part of the Rehabilitation Management Plan and are reviewed and revised regularly. As a minimum this process is undertaken approximately every 7 years.
18	REA	At the time of closure, the rehabilitation activities that will be required for the REA will include the following: • Conduct reshaping of the remaining active area to achieve the final landform design, which is to be free-draining; • Construct suitable contour banks and waterways such that runoff is conveyed in a manner that will cause minimal erosion and prevent excess sediment being transported off site; • Import suitable capping material to cap the remaining REA with at least 300 millimetres of cover; • Import topsoil material or suitable alternative and spread over the area. Conduct soil amelioration works as required (e.g. gypsum, lime etc.); • Where practical, use salvaged or imported suitable vegetative debris and spread over the REA to create suitable habitat for native fauna species; and • Direct seed and plant native species mix.

Subsidence		
19	Subsidence Area	Where surface cracks as a result of subsidence are small, it is not anticipated that intervention will be required, as these cracks tend to self-seal after a few rainfall events as fine sediments wash into and seal up the cracks. Where cracks are large, or are not self-sealing, further remediation works will then be undertaken where required behind the advancing face of the longwall as soon as practical post-subsidence. • Rehabilitation of subsidence cracks will be undertaken as soon as practical post-subsidence. This will include as appropriate: • Carrying out inspections over subsided areas and locating surface cracking. • Undertaking minimal clearing, if required, of areas around cracks to allow for ripping and seeding. • Ripping and seeding of areas where required. Following initial ripping and seeding, if trees are to be planted, they will not be planted until sufficient rain has fallen. This will enable the soil to consolidate, and finer particles to fill underground air pockets. Otherwise if not done, air pockets can cause roots to dry out which will result in poor growth rates or seedling deaths. • Seeding and/or planting appropriate species of vegetation to achieve a post-subsidence land use the same as that pre-subsidence (i.e. low intensity cattle grazing). • Subsided areas to be regraded and some may be backfilled with mine spoil to control surface water flow and minimise erosion and sedimentation. Drainage works such as graded banks and diversion drains may be used to partially drain the larger subsidence voids and direct water into stable areas or sediment control dams. For areas where ripping is not feasible due to the width of cracks: • Topsoil will be stripped and stockpiled; • Clay material will be imported to fill and seal cracks; • Topsoil will be respread once cracks have sealed; and • The area will be seeded with appropriate plant species Where required, stock will be excluded from subsided and rehabilitated areas, including riparian areas, to prevent injury to animals and to increase grass cover and seed store. This will be achieved through the erection of fences in consultation with the relevant landholder(s). Where required, people will also be excluded and appropriate signage warning of the potential hazards due to subsidence will be erected. The rehabilitation undertaken on subsided areas will be monitored annually. Where the regeneration of dominant species disturbed by remediation works does not occur within one year, additional vegetation will be seeded or planted as required. Further information will be available in the relevant Extraction Plan.

6.4 Rehabilitation Monitoring

Qualified ecologists carry out detailed annual rehabilitation monitoring of the REA in accordance with the Tahmoor Coal Rehabilitation Monitoring Procedure (Appendix C). The purpose of the annual inspection is to provide an assessment of all existing areas across the operation and to evaluate progress of rehabilitation towards fulfilling long-term land use objectives, such as the development towards a self-sustaining ecosystem i.e. (PCT 3619 – Sydney Hinterland Enriched Sandstone Bloodwood Forest).

Permanent monitoring sites have been established throughout the REA and are also monitored within each mine closure domain. Within the REA (closure Domain 3), permanent plots have been monitored since 2010 in each development stage to assess revegetation progress. These monitoring plots within the REA profile are compared with two (2) reference plots off site in adjacent undisturbed native bushland for comparison as a benchmark for completion criteria.

Monitoring provides information regarding changes in both vegetation growth, senescence, colonisation and species diversity. An indication of the success of the rehabilitation is gained through comparison of both vegetation structure and species composition with the reference benchmark sites monitored in nearby bushland. Annual monitoring of permanent sites within the rehabilitation areas in the REA provide information regarding improvements, changes in both vegetation growth and colonisation from secondary seed germination. In reference to existing benchmark permanent plots outside and comparison plots within the REA profile, an indication of rehabilitation success is acquired through the comparison of both vegetation structure and composition.

Further to plot-based monitoring, soil stability, biological nutrient cycling, refuse material on the surface and fauna habitat are also considered during the annual monitoring assessment. Monitoring plots consist of 2x2m nested quadrants in a 20x10m permanent plot and act as a fixed area comparison basis from year to year with other monitoring sites within the REA profile and the two (2) offsite reference sites.

Monitoring methods include photographic monitoring as well as detailed species counts and cover.

The following monitoring procedures and measurements are recorded during the annual monitoring assessment:

General description:	• GPS location
	• Describe the vegetation in general terms
Reproductive potential:	• Assessment of reproductive potential of the existing vegetation and soils
2 m x 2 m quadrats:	• Count the number of plants of all species, excluding grass
	• Measure live vegetation cover for understorey and grasses (separately) using a line intercept method.
	• Record details of ground cover (litter, logs, rocks etc.).
20 m x 10 m plots	• Count, by species, all trees >1.6 m tall.
	• Tag and measure DBH of trees >1.6 m tall, to a maximum of 10 for any one species.
	• Record canopy cover over 20 m centreline when trees are tall enough.
	• Subjectively describe tree health, by species if relevant, noting signs of drought stress, nutrient deficiencies, disease and severe insect attack. Where health problems are noted, record the percentage of unhealthy trees.
	• Record any new plant species not present in the smaller plots, including all weeds

50 m erosion transect:	• Record the location, number and dimension of all gullies >30 cm wide and/or 30 cm deep. Record rill and slope-wash features.
Rehabilitation in general:	• When traversing between monitoring plots, note the presence of species of interest not previously recorded (e.g., key functional or structural species, protected species, noxious/priority weeds), as well as obvious problems including any extensive bare areas (e.g., those greater than 0.1 hectare).
Photographic record:	• For each plot, a photograph was taken at each end of the plot, along the centreline looking in. • A star picket with identifier is installed as a permanent photo monitoring point.

Native grass species have been trialled in areas where the existing vegetation within established revegetation areas was sparse. These grass planting trials were monitored to review the survival and growth of planted species. In addition to the rehabilitation monitoring program, the following is also conducted:

- All rehabilitation activities undergo an 'as constructed' survey to ensure construction to design;
- All rehabilitation campaigns are recorded on the internal REA Rehabilitation Log and Annual Rehabilitation and Land Management Plan; and
- An annual walkover inspection and Rehabilitation Monitoring report is completed in line with the Annual Rehabilitation Inspection Form. This includes an annual assessment of rehabilitation success is conducted by a contractor and recommendations for further improvements suggested.

The walkover inspection records details across each stage of the REA and includes:

- evidence of soil profile development and visual assessment of surface materials
- evidence of erosion and stability, and function of erosion and sediment control structures
- growth rates and evidence of plant mortality or dieback
- species diversity including identification of target species
- presence of over-storey, mid-storey and understorey species
- evidence of reproductive potential
- evidence of biological nutrient cycling
- occurrence of potholing or slumping and evidence of spontaneous combustion
- evidence of contamination or other limitations to vegetative establishment.

A Trigger Action Response Plan has been developed to classify the status of rehabilitation progress towards completion and to provide further actions recommended to improve areas needing further attention. This TARP is further incorporated into the annual walkover monitoring.

In future and in accordance with monitoring guidelines, additional permanent plots within the REA will be installed as each area of revegetation reaches an age of 5 years from planting. Currently there are 16 stages within the REA and 18 monitoring plots (excluding two (2) reference sites). Further to this annual monitoring, NSW Biodiversity Assessment Method (BAM) will be conducted every five (5) years to evaluate progression towards a self-sustaining native woodland ecosystem (PCT 3619 - Sydney Hinterland Enriched Sandstone Bloodwood Forest). This will help relate vegetation integrity directly to benchmarks for completion criteria evaluation.

Outcomes and the success of rehabilitation monitoring will be reported through the Annual Review process (**Section 8.2**) and based on the outcomes of the rehabilitation monitoring programs and in consultation with the relevant government agencies. Improvement actions that are identified as part of the walkover assessment are tracked in Tahmoor Coals compliance system Cority for implementation. Improvement actions include care and maintenance activities, (i.e. additional seeding, fertilizer application, weed management and erosion repair) to improve the quality of rehabilitation areas where deficiencies are identified. Improvement actions may also trigger changes to rehabilitation procedures, so

rehabilitation methods and standards can be continually improved. Tahmoor Coal may seek progressive sign-off of rehabilitated areas once the agreed closure and rehabilitation criteria have been satisfied.

Figure 4. Annual Rehabilitation Walkover assessment stages and plots.

6.5 Proposed Rehabilitation Sign-Off Process

Based on the outcomes of the rehabilitation monitoring programs and in consultation with the relevant government agencies, Tahmoor Coal intend to seek progressive sign-off of rehabilitated areas once the agreed closure and rehabilitation criteria have been satisfied. The aim will be to achieve consensus on the quality of rehabilitation required as a benchmark for sign-off.

Where ongoing monitoring indicates a high degree of confidence that revegetated areas meeting certain benchmarks will continue to transition towards fully functioning communities, rehabilitation sign-off criteria may be revised to enable sign-off at an earlier stage in the succession process.

Any such application of revised criteria would be based on the monitoring of early successional phases and evidence to provide a high degree of confidence that appropriate ecosystem function processes were occurring in the areas to be signed-off.

6.6 Potential Risks to Rehabilitation

A Rehabilitation Risk Assessment was conducted by Tahmoor Mine on the 7th of March 2022 in accordance with the Resource Regulators 'Guidelines: Rehabilitation Risk Assessment'.

In brief, Tahmoor Coal assessed 52 risks, with 33 classified as low, and 15 classified as medium. 3 high risks were identified.

Key risks noted as medium to high risk ratings for Tahmoor Mine were:

- Insufficient funding for or prioritisation of rehabilitation activities.
- Insufficient Biological resource salvage and maintenance (e.g. subsoil, topsoil, vegetative material, seedbank, rocks, habitat resources) through clearing, salvage and handling practices.
- Limited pre-existing biological resources for salvage (e.g. topsoil, weeds).
- Adverse geochemical/chemical composition of materials such as overburden, interburden, processing wastes, subsoils and topsoils and imported cover materials.
- Impacts on heritage items.
- Weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change).
- Availability of areas for revegetation in optimal seasonal conditions.
- Weather and climatic influences (e.g. drought; intense rainfall events; bushfire and climate change).
- Long term water quality and quantity issues (e.g. acid-drainage, high salinity).
- Damage to rehabilitation (e.g. fauna, domestic stock, vandalism, vehicular interactions, bushfire, insects and plant disease).
- Insufficient establishment of target species and limited species diversity.
- Limited vegetation structural development and habitat for targeted fauna species.
- Erosion and failure of landform, drainage and water management/storage structures.
- Subsidence cracking to natural landforms.
- Impacts to aquifers and groundwater loss of water to water users including the environment.
- Re-disturbance of established rehabilitation areas.
- Redirection of creek and river flows.
- Subsidence cracking to structures.

The Rehabilitation Risk Register provides the controls (and additional controls where necessary) to manage the associated risks and also reduce those further where possible. The controls can vary as per the 'hierarchy of control' model, from elimination such as not selecting incorrect rehabilitation material, to administrative such as materials being placed in accordance with site procedures.

7 Adaptive Management/Continuous Improvement

Tahmoor Coal have adopted the "Plan-Do-Check-Act" model as shown in **Figure 5.** This model will be applied to all aspects of Tahmoor Coal's environmental management including rehabilitation and is utilised to embed the continuous improvement process in all system documents. Any update to this strategy will be communicated to the appropriate stakeholders and approved in accordance with the Consent.

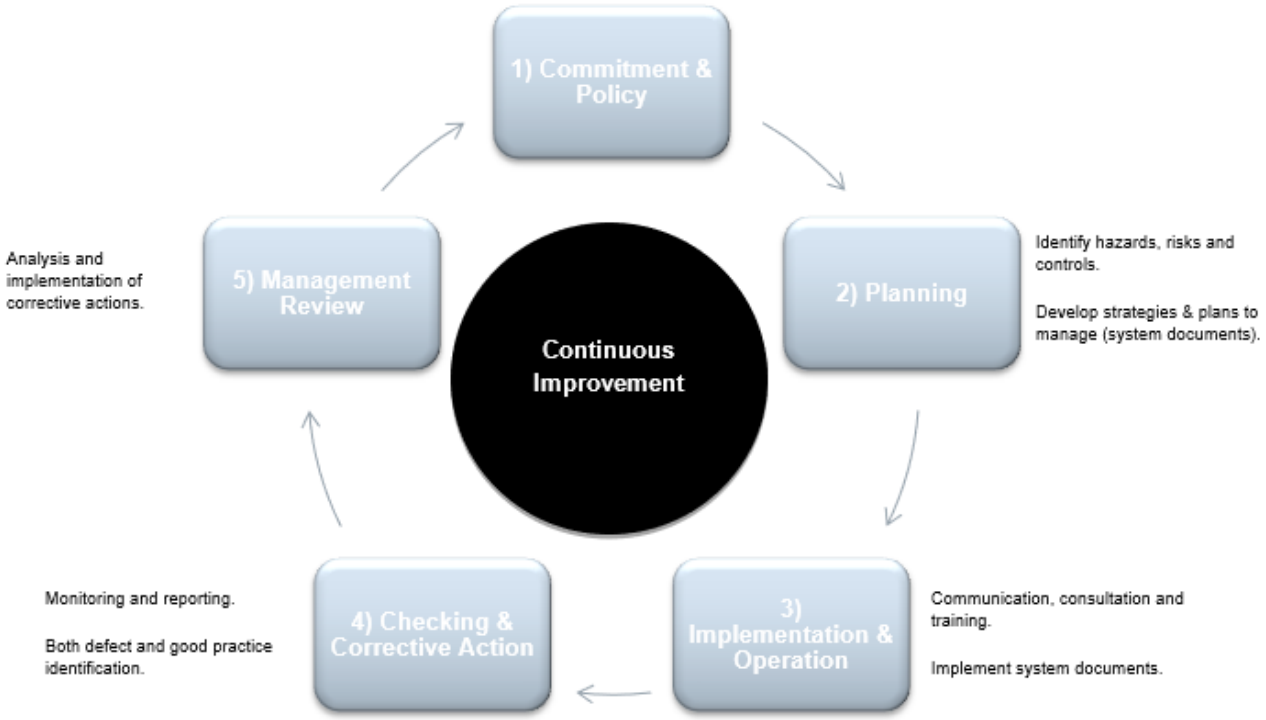


Figure 5: Continuous Improvement Model

8 Implementation and Reporting

8.1 Tahmoor Environmental Management Strategy (EMS)

The Tahmoor Coal Environmental Management Strategy (EMS) (TAH-HSEC-00375) Framework Document provides the strategic context for the environmental management of Tahmoor Coal and forms part of the broader Health, Safety, Environment and Community (HSEC) management systems at Tahmoor Coal. The EMS outlines how Tahmoor Coal manages environment and community (E&C) aspects, impacts and performance. It provides a framework for the standards, plans and procedures implemented to ensure operations are managed in accordance with the ISO:14001 principles.

The objectives of the EMS are:

(i) To provide an overall framework for environmental management at Tahmoor utilising the principles of ISO:14001;

(ii) To ensure compliance with all development consent, licences and approvals at Tahmoor Coal;

(iii) To detail the relationship and interactions between various operational and environmental components at Tahmoor Coal;

(iv) To provide effective mechanisms for external communications, maintaining a relationship with the local community; and

(v) To assist Tahmoor Coal employees and contractors in administering their responsibilities regarding environmental management.

This strategy will be implemented in conjunction with the EMS framework.

8.2 Reporting

Tahmoor Coals reporting requirements are outlined in **Table 8.** Tahmoor Coal will record the details of the rehabilitation operation using the Annual Rehabilitation Inspection Form and will include them in the Tahmoor Coal AEMR/Annual Review. These records will be maintained in the sites record system so that they are available for later interpretation of rehabilitation monitoring results with the aim to continually improve rehabilitation standards on site.

Table 8 Tahmoor Coal Reporting Requirements

Instrument	Report	Details	Submitted/Uploaded
Consent Condition E13 and E14	Annual Review	Tahmoor Coal submit an Annual Review by the end of March each year. The Annual Review: • describes 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; • includes a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the relevant statutory requirements, limits or performance measures/criteria; requirements of any plan or program required under this consent;	Copies of the Annual Review are submitted to DPIE, Council and relevant agencies and made available to the CCC and any interested person upon request. Copies are also available on the Tahmoor Coal website Tahmoor Colliery – Tahmoor Coking (metallurgical) Mine

Instrument	Report	Details	Submitted/Uploaded
		monitoring results of previous years; and relevant predictions in the EIS. • identifies any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence; evaluates and reports on the effectiveness of management systems; and compliance with the performance measures, criteria and operating conditions of this consent; • identifies any trends in the monitoring data over the life of the development and provide any raw monitoring data as requested by the Planning Secretary; • identifies any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and • describes what measures will be implemented over the next calendar year to improve the environmental performance of the development. • The Annual Review will also include details on any outcomes of investigations completed in the reporting period and required under condition B58 of the Consent.	

8.3 Incidents

The Consent defines an incident 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*'.

Material Harm is defined within the Consent as 'harm to the environment that:

- involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or results in actual or potential loss or property damage of an amount, or
- amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)

Tahmoor Coal manages and responds to incidents in accordance with the following plans:

- Emergency and Incident Manual (TAH-HSEC-00232);
- Pollution Incident Response Management Plan (TAH-HSEC-00155); and
- Notification of Environmental Pollution Incidents (TAH-HSEC-00224).

These plans have been developed to manage preparation, incident response and reporting requirements under the *POEO Act 1997*. The management plans provide roles and responsibilities, management strategies, action and response plans and record management protocols for incidents and emergencies.

A Written Incident Notification will be submitted to the Planning Secretary via the Major Projects website within seven days after Tahmoor Coal becomes aware of an incident.

Written Incident Notifications will include:

a) the development and application number;
b) details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
c) how the incident was detected;
d) when Tahmoor Coal became aware of the incident;
e) any actual or potential non-compliance with conditions of consent;
f) describe what immediate steps were taken in relation to the incident;
g) identify further action(s) that will be taken in relation to the incident; and
h) identify a project contact for further communication regarding the incident.

Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, Tahmoor Coal will provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a Detailed Incident Report.

Detailed Incident Reports will include:

(i) a summary of the incident;
(ii) outcomes of an incident investigation, including identification of the cause of the incident;
(iii) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
(iv) details of any communication with other stakeholders regarding the incident.

8.4 Non-Compliances

The Consent defines a non-compliance as 'an occurrence, set of circumstances or development that is in breach of the consent'. Non-compliances or system defects detected during monitoring, inspections and audits will be managed in accordance with the Tahmoor Coal EMS Framework Document (TAH-HSEC-00375), with corrective action plans developed and implemented to rectify any issues.

The Planning Secretary will be notified in writing via the Major Projects website within seven days after Tahmoor Colliery becomes aware of any non-compliance. If a non-compliance is detected, the following steps will be followed:

i) Identify and confirm the non-compliance (i.e. review against approval criteria or condition and confirm that a non-compliance has occurred);
j) Complete internal environmental incident reporting documentation including an investigation to capture all relevant information;
k) In accordance with the relevant approval, determine what action (i.e. external reporting) is required. Specifically, determine if immediate reporting is required and to which stakeholders, or ensure that the event is captured for future reporting;
l) Following the incident investigation, develop a corrective action plan aimed at preventing future re-occurrence; and
m) Complete all required reporting and consult with relevant agencies on the corrective action plan to be implemented.

A non-compliance notification will identify the following:

- the development and the application number,
- the condition of consent that the development is non-compliant with
- the way in which it does not comply and the reasons for the non-compliance (if known); and
- any actions which have been, or will be, undertaken to address the non-compliance.

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

8.5 Complaints and Disputes

Community Complaints at Tahmoor Coal are managed in accordance with:

- Stakeholder Engagement Management Plan (TAH-HSEC-00039).
- Community Complaints & Enquiry Procedure (TAH-HSEC-00120).

Tahmoor Coal operates a 24-hour complaints line (1800 154 415) for receiving community complaints and other stakeholder communications. The general process detailed in Community Complaints & Enquiry Procedure (TAH-HSEC-00120) for responding to complaints is:

- Acknowledging all complaints and responding to the complainant within 24 hours where practicable;
- Registering all complaint details in Cority;
- Investigating complaints impartially considering the facts and the circumstances prevailing at the time;
- Implementing corrective actions if required; and
- Reporting to relevant stakeholders of investigation outcomes and corrective actions taken.

A record of all community complaints in relation to activities undertaken by the licensee must be kept in a legible form and be in accordance with EPL 1389. The following information will also be kept in the event of a community complaint; as required by Section M4 in EPL1389:

- The date and time of the complaint;
- The method by which the complaint was made;
- Any personal details of the complainant which were provided by the complainant or a note to that effect;
- The nature of the complaint;
- The action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- If no action was taken by the licensee, the reasons why no action was taken.

These records must be kept for at least 4 years after the complaint was made and be able to be produced to any authorised officer who asks to see them. In the event of a dispute or conflict between Tahmoor Coal personnel and a member of the community, the Tahmoor Coal E&C Manager will facilitate communication between both parties to reach a resolution, which may include a meeting with the complainant to discuss the issue.

Where relevant, negotiations will be initiated in accordance with any relevant Consent conditions. This general process is documented in Stakeholder Engagement Management Plan (TAH-HSEC-00039). If a dispute cannot be resolved, the matter will be escalated to involve the site Operations Manager or General Manager as required and may involve consultation with the relevant government agency to assist in reaching a determination on the matter.

8.6 Risk and Change Management

Aspects and impacts of environmental matters at Tahmoor Coal are considered for operational activities, legislative requirements and internal and external stakeholder views, in accordance with Condition E4 of the Consent. Key aspects and impacts, including noise management, are identified during the annual review of the Tahmoor Coal Environment and Community (E&C) Broad Brush Risk Assessment (BBRA) and the operational Life of Mine (LOM) Risk Assessment.

The purpose of the E&C BBRA is to identify significant E&C aspects and impacts across the site, the risk they pose and the controls necessary to effectively manage them. Management of potential impacts is prioritised according to the level of risk each aspect is assigned. Once all identified aspects, impacts, risks and management controls have been identified within the Annual E&C Risk Assessment, associated plans are updated accordingly.

The LOM Risk Assessment considers aspects and impacts of business activities at a strategic level. These risk assessments cover the life of mine risks associated with each operation. The outcomes of the LOM Risk Assessment are used in conjunction with the Tahmoor Coal E&C BBRA to develop the annual capital and operational budget and the associated work schedule. Existing or proposed management controls are identified to reduce the risk of impacts on the environment and community. The need for any new (or modifications to existing) approvals is also identified during this process.

In accordance with Tahmoor Coal's Health & Safety Management System, project and activity specific risk assessments are completed as required and include assessment of E&C risks.

8.7 Roles, Responsibilities and Resources

Management of impacts to the environment or community is regarded as part of the responsibilities of all employees and contractors at Tahmoor Coal. Specific information pertaining to the role, responsibility, authority and accountability of key personnel involved in environmental management at Tahmoor Coal is provided in **Table 9** below.

Table 9 Roles, Responsibilities and Resources

Resource Type	Resource	Comment/Role
Key Personnel to be involved in closure process	Manager of Mining Engineering or Operations Manager	Approved Mine Manager to be appointed whilst mining lease is current (assume 2 years from commencement of closure).
	Environment and Community Manager	To facilitate that closure is undertaken in accordance with the MOP/RMP; provide that environmental statutory obligations are met; undertake stakeholder consultation; undertake the necessary environmental reporting etc. (5 years from commencement of closure). To ensure that closure activities are undertaken in a safe manner. Determine adequate resources and funds are available to ensure the effectiveness of this strategy; and certify compliance and adherence to this strategy.
	Environmental Specialist	To coordinate environmental compliance on-site including timely completion of monitoring and reporting in accordance with internal and external requirements. Sign off on the accuracy of reports and the suitability of recommendations. To develop, implement, review and maintain this strategy and system documents. Implement process for self-assessment audits. Assign persons responsible for completion of audit actions and set a due by date. Monitor that planned actions arising out of audits are implemented. Ensure all community complaints are addressed, investigated and appropriately managed as per site procedures, and reported internally as per internal requirements.
	Electrical Engineer	To undertake statutory responsibilities whilst industrial power is operated at the site (assume from commencement of closure).

Resource Type	Resource	Comment/Role
	Mechanical Engineer	To undertake statutory responsibilities whilst equipment is operated at the site (assume 6 to 12 months from commencement of closure).
	Commercial Manager/Accountant	Manage ongoing accounts, disposal of assets, taxation, wages, invoices etc (assume up to 12 months from commencement of closure).
	Storeman	Manage and account for the remaining inventory on site (assume 6 months from commencement of closure).
	Closure Project Manager (closure activities)	To oversee closure activities on the ground and ensure that machinery and equipment are operated cost effectively (e.g. assigning the appropriate number of personnel to keep machinery working) - assume up to 1.5 years from commencement of closure.
	Operators	Approximately 15 operators for approximately three months to salvage equipment from underground.
	Project Manager – Care and Maintenance Activities	It is envisaged that an employee will be required to project manage the care and maintenance phase post-closure to ensure that lease relinquishment is achieved in a timely and cost-effective manner. Assume 2 years and max 10 years following completion of closure activities.
Key Personnel – Knowledge Retention	Long term operator(s) Long term staff	Identification and retention operators/staff that have a long history of the site is critical in that they have a thorough understanding of site issues. These operators may be maintained on a retainer and brought in as required (e.g. risk assessments).
Documentation to be maintained	Leases	Mining leases and other authorisations.
	Licences	EPL, Radiation gauges, groundwater, etc.
	Annual Environmental Management Reports/Annual Reviews	Provides details on the environmental management of the site, as well as information regarding leases, licenses and consents.
	Mining Operations Plans	Provides details on previously approved rehabilitation strategies.
	Environmental Monitoring Data	Water, air quality, noise, groundwater and meteorological.
	Annual Returns	EPL Annual Returns are to be kept on site for a minimum of four (4) years after submission to EPA.
	Environmental Assessments / Environmental Impact Statements	Important to establish baseline/pre-mining environmental status for benchmarking against post-mining conditions.

Resource Type	Resource	Comment/Role
	Rehabilitation Monitoring Records	• Annual Rehabilitation Inspections; • Long term rehabilitation monitoring reports.
Specialist Consultants / Contractors	Land Contamination Consultant	To facilitate that potential contamination is identified and appropriately treated.
	Legal Adviser	Lease relinquishment; termination of stakeholder agreements; ongoing biodiversity offset agreements etc.
	Demolition Contractor	To hold appropriate permits for building demolition works.
	Specialist rehabilitation earthmoving contractor	For final trim, rock rake, deep rip, drainage construction and revegetation.
	Environmental Consultant	To provide environmental advice throughout the closure process, including preparation of statutory reports etc.
	Rehabilitation specialist	To oversee that rehabilitation program meets closure criteria and to undertake ongoing annual rehabilitation inspections.
	Ecological consultant	To undertake ecological monitoring on rehabilitation areas to verify that closure criteria has been met. Further, where trees may be required to be cleared as a result of closure activities, an ecological consultant may be required to undertake a pre-clearance survey.
	Security Firm	To continue with existing security patrols until all assets and infrastructure have been removed from the site. During demolition works, there may be periods where security guards may be required to prevent after hours public access to partially demolished structures and mine openings.

Training and awareness should be provided to mine personnel with responsibilities or duties under the plan as required (i.e. responsibilities outside of normal duties).

8.8 Internal Audits & Reviews

In accordance with internal company requirements, Tahmoor Coal has implemented a system for the monitoring and review of E&C performance at the site. Tahmoor Coal is to provide ongoing monitoring and regular management review of E&C performance to:

a) Confirm the adequacy and effectiveness of management plans, procedures and standards;

b) Address any identified weaknesses;

c) Share good performance and lessons learnt with other sites; and

d) Ensure ongoing compliance with all leases, licences and approvals.

Process or area specific internal audits/reviews are also conducted periodically, generally administered by the Environmental Specialist, focussing on the following areas:

a) Air Quality;

b) Water Management;

c) Noise Management;

d) Erosion and sediment control; and

e) Statutory approvals.

These audits may be conducted by consultants on behalf of Tahmoor Coal, by GFG employees or self-assessments conducted by Tahmoor Coal personnel. Audit results and corrective actions are recorded in Cority and assigned to responsible personnel for completion within appropriate timeframes.

8.9 Independent Environmental Audit

In accordance with Conditions E15 – E20 of the Consent, Tahmoor Coal will complete Independent Environmental Audits of the development at the frequencies determined within DPHI's *Independent Audit Post Approval Requirements (2020),* and outlined below in **Table 10**.

Tahmoor Coal will complete independent audits in accordance with the following Consent Conditions and in accordance with the requirements of the DPHI's *Independent Audit Post Approval Requirements (2020)*:

a) E15: Independent Audits of the development must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements (2020).
b) E16: Proposed independent auditors must be agreed to in writing by the Planning Secretary prior to the commencement of an Independent Audit.
c) E17: Planning Secretary may require the initial and subsequent Independent Audits to be undertaken at different times to those specified in the Compliance Reporting Post Approval Requirements (2020), upon giving at least 4 weeks' notice (or timing) to Tahmoor Coal of the date upon which the audit must be commenced.
d) E18: In accordance with the specific requirements in the Independent Audit Post Approval Requirements (2020), Tahmoor Coal will:
    i. review and respond to each Independent Audit Report prepared under Condition C5 of the Development Consent, or Condition C6 where notice is given by the Planning Secretary;
    ii. submit the response to the Planning Secretary; and
    iii. make each Independent Audit Report, and response to it, publicly available within 60 days of submission to the Planning Secretary. unless otherwise agreed by the Planning Secretary.
e) E19: Independent Audit Reports and Tahmoor Coal's response to audit findings must be submitted to the Planning Secretary within 2 months of undertaking the independent audit site inspection as outlined in the Independent Audit Post Approvals Requirements (2020) unless otherwise agreed by the Planning Secretary.
f) E20: Notwithstanding the requirements of the Independent Audit Post Approvals Requirements (2020), the Planning Secretary may approve a request for ongoing independent operational audits to be ceased, where it has been demonstrated to the Planning Secretary's satisfaction that independent operational audits have demonstrated operational compliance.

Table 10 Independent Audit Frequencies

Phase	Initial Independent Audit	Ongoing Independent Audit Intervals
Construction	Within 12 weeks of the commencement of construction	At intervals, no greater than 26 weeks from the date of the initial Independent Audit or as otherwise agreed by the Secretary.
Operation	Within 26 weeks of the commencement of operation	At intervals, no greater than 3 years or as otherwise agreed by the Secretary.
Closure /Rehabilitation	Within 52 weeks from notifying of suspension/ceasing of operations	At intervals no greater than 1 year or as otherwise agreed by the Secretary.

The audits will assess:

The audit will recommend appropriate measures and corrective actions to improve environmental performance at Tahmoor Coal. Audit results and corrective actions are recorded in Cority and assigned to responsible personnel for completion within appropriate timeframes.

8.10 Employee & Contractor Training

General environmental awareness training is provided to all employees and contractors annually through a generic visitor induction and the SafeCoal training session scheduled by the Tahmoor Coal Health, Safety & Training Department.

9 Review and Improvement

9.1 Plan Audit

Audits of the Rehabilitation Strategy will be conducted in consultation with the Plan owner and nominated individuals and shall focus on the content and implementation. Audits on the implementation shall consist of reviews of the safe working procedures and risk assessments developed to ensure safe operation of this Rehabilitation Strategy, they may also involve discussions with personnel involved in the management plan to determine understanding and compliance.

Should an audit of this Rehabilitation Strategy determine that a deficiency is evident in the content or implementation; a corrective action must be developed and implemented. Actions will be assigned to a nominated individual and tracked in Cority.

The Environment and Community Manager is responsible to verify that the nominated corrective action has been implemented by way of a follow up audit. Any changes to the strategy are to be managed and communicated to all personnel in line with the Change Management Process.

9.2 Plan Review

This Rehabilitation Strategy will be reviewed every five years in accordance with Condition B58 (m). The Strategy will also be reviewed at the following timeframes if triggered:

Event based: in accordance with Condition E7 (a) of the Consent, a review will be required within 3 months of any incident, event or finding that identifies an inadequacy in the Rehabilitation Strategy, risk assessment or associated documents to continue to effectively manage the identified hazard; a change to the workplace itself or any aspect of the work environment, a change to a system of work, a process or a procedure; or

If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under the development consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document will be submitted to the Planning Secretary for approval within six weeks of the review; or

Time based: in the absence of regular event-based reviews and in accordance with Condition E7 (b-e) of the Consent, this strategy will be reviewed within three months of:

- the submission of an Annual Review under Condition E13;
- the submission of an Independent Environmental Audit under Condition E15;
- the approval of any modification of the conditions of this consent (unless the conditions require otherwise); or
- notification of a change in development phase under Condition A19;

If deemed appropriate, external service providers may be included in the review process. All reviews are to be documented.

10 Document Information

Relevant legislation, standards and other reference information will be regularly reviewed and monitored for updates and will be included in the site management system. Related documents and reference information in this section provides the linkage and source to develop and maintain site compliance information.

10.1 Access to Information

Information pertaining to Tahmoor Coal's general environmental performance against internal targets and external approvals criteria is reported to the community via the mine website and Tahmoor Coal's Community Consultative Committee (TCCCC). In accordance with Consent Condition E23 (a), Tahmoor Coal will upload the following details to the Tahmoor Coal website and keep such information up to date:

- the EIS;
- all current statutory approvals for the development;
- all approved strategies, plans and programs required under the conditions of SSD 8445;
- the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged;
- minutes of CCC meetings;
- regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of SSD 8445;
- a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
- a summary of the current phase and progress of the development;
- contact details to enquire about the development or to make a complaint;
- a complaints register, updated monthly;
- a register of incidents and non-compliance notifications made to the Planning Secretary, updated monthly;
- the Annual Reviews of the development;
- audit reports prepared as part of any Independent Environmental Audit of the development and the Tahmoor Coal's response to the recommendations in any audit report;
- annual returns made under the National Greenhouse and Energy Reporting legislation; and
- any other matter required by the Planning Secretary.

10.2 Related Documents

Related documents, listed in the below table, are internal documents directly related to or referenced from this document.

Table 11 Related Documents

Number	Title
TAH-HSEC-00375	Environmental Management Strategy Management Plan
TAH-HSEC-00120	Community Complaints & Enquiry Procedure
TAH-HSEC-00221	Tahmoor Website Procedure
TAH-HSEC-00031	Community Development Plan
TAH-HSEC-00039	Stakeholder Engagement Management Plan
TAH-HSEC-00232	Emergency and Incident Manual
TAH-HSEC-00155	Pollution Incident Response Management Plan
TAH-HSEC-00224	Notification of Environmental Pollution Incidents

TAH-HSEC-00053	Rehabilitation and Topsoil Management Procedure (Appendix A)
TAH-CHPP-00002	Reject Disposal Procedure (Appendix B)
TAH-HSEC-00012	Rehabilitation Monitoring Procedure (Appendix C)
TAH-HSEC-00374	Tahmoor South Erosion and Sediment Control Plan (Appendix D)

10.3 Reference Information

Reference information, listed in the below table (**Table 18**), contains information that is directly related to the development of this document or referenced from within this document.

Table 12 Reference Information

References
AECOM 2018, Tahmoor South Project – Environmental Impact Statement, prepared for Tahmoor Coal Pty Ltd by AECOM Australia Pty Ltd.
AECOM 2020a, Tahmoor South Project – Response to Submissions, prepared for Tahmoor Coal Pty Ltd by AECOM Australia Pty Ltd
AECOM 2020b, Tahmoor South Project – Project Amendment Report, prepared for Tahmoor Coal Pty Ltd by AECOM Australia Pty Ltd.
AECOM 2011, Reject Emplacement Area Permanent Rehabilitation Monitoring – Establishment and First Phase Monitoring Plan.
ANZMEC and MCA 2000, Strategic Framework for Mine Closure
DECC 2008, Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book (Landcom, 2004) and Volume 2E: Mines and Quarries
SMEC 2021, REA Filling Sequence Report

11 Change Information

Table 13 Document History

Version	Date Reviewed	Review team (Consultation)	Change Summary
0.1	15/12/2021	Zina Ainsworth, Charlie Wheatley	Final Draft review
1.0	06/04/2022	Zina Ainsworth	Revision following DPIE comments
2.0	28/09/2022, 12/12/2022	Natalie Brumby, Nick Le Baut, April Hudson, Charlie Wheatley	Revision following BCD comments. Review following DPE approval.
3.0	16/06/2023	Natalie Brumby	Reviewed in accordance with Condition E7(b) following the submission of an Annual Review (31st March 2023), Condition E7(c) following the submission of an Independent Environmental Audit (2nd June 2023) and Condition E7 (d) following the approval of any modification (MOD 2 - 13th June 2023) of the Consent SSD 8445.
4.0	28/06/2024	Tom O'Brien, Natalie Brumby	Reviewed in accordance with Condition E7(b) following the submission of an Annual Review (28st March 2024)

APPENDIX A – Rehabilitation and Topsoil Management Procedure (TAH-HSEC-00053)

APPENDIX B - Reject Disposal Procedure (TAH-CHPP-00002)

APPENDIX C – Rehabilitation Monitoring Procedure (TAH-HSEC-00012)

APPENDIX D – Erosion and Sediment Control Plan (TAH-HSEC-00374)

APPENDIX E – Letter of Endorsement

Planning, Industry & Environment

Ms Zina Ainsworth
Manager Environment and Community
SIMEC Mining
2975 Remembrance Drive
Tahmoor NSW 2573

16/08/2021

Dear Ms. Ainsworth

Tahmoor South Coal (SSD-8445)
Management Plan Experts Endorsement

I refer to your request (SSD-8445-PA-2) for the Secretary's approval of suitably qualified persons to prepare the Management Plans for the Tahmoor South Coal (SSD-8445).

The Department has reviewed the nominations and information you have provided and is satisfied that these experts are suitably qualified and experienced. Consequently, I can advise that the Secretary approves the appointment of the following experts to prepare the following Management Plans:

Management Plan	Suitably Qualified Person
Noise Management Plan	Michelle Grierson – Senior Environmental Scientist Umwelt Australia Pty Ltd Katie Teyhan (Technical Reviewer) - Associate Acoustics Manager Newcastle EMM
Spontaneous Combustion Management Plan	Michelle Grierson – Senior Environmental Scientist Umwelt Australia Pty Ltd
Water Management Plan	Camilla West - Senior Water Resources Scientist Tony Marszalek - Director and Principal Water Resources Engineer Hydro Engineering & Consulting Pty Ltd
Groundwater Management Plan	Will Minchin – Hydrogeologist Maxime Philibert - Hydrogeologist SLR Consulting
Biodiversity Management Plan	Luke Baker - Team Leader Ecology Niche Environment and Heritage
Rehabilitation Strategy	Michelle Grierson – Senior Environmental Scientist Umwelt Australia Pty Ltd
Traffic Management Plan	Michelle Grierson – Senior Environmental Scientist Umwelt Australia Pty Ltd
Social Impact Management Plan	Amanda Bateman – Community Liaison Specialist Tahmoor Coal Pty Ltd

It is noted that it was proposed that Michelle Grierson – Senior Environmental Scientist Umwelt Australia Pty Ltd was proposed to prepare the Air Quality and Greenhouse Gas Management Plan. Given the significance of the technical aspects associated with air quality and greenhouse gas emissions at the project, the Department requests that a technical specialist be proposed to work with Ms Grierson to prepare this Air Quality and Greenhouse Gas Management Plan. Please provide further details of the proposed air quality expert by lodging further details via the portal.

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 Secretary

APPENDIX F – Initial Consultation

Agency	Date response received	Comments	Response
BCD	18/11/2021	Section 1.3 Scope BCD comments predominantly relate to CoA B58(h)(i) which requires details of target vegetation communities and species to be established within the proposed revegetation areas, including habitat for threatened fauna e.g. koala. The Rehabilitation Strategy briefly addresses matters relating to subsidence. The information provided is minimal and possibly out of scope. We note that further detail on subsidence matters will be included in other Plans and BCD will provide detailed comment in our review of these Plans. As a preliminary comment, it is difficult to address rehabilitation of subsidence impacts without first understanding the detailed assessment and monitoring framework, however this has not been provided.	In accordance with Consent Condition C8 (g) (iv), a Biodiversity Management Plan which is consistent with this Biodiversity Management Plan will be prepared for the Extraction Plan Area including subsidence related impacts. The Extraction Plan Biodiversity Management Plan will provide for the adaptive management of potential impacts and environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats, EECs/CEECs and water dependent ecosystems. Remediation of watercourses will also be addressed in accordance with Consent Condition C12, which requires the implementation of a Watercourse Corrective Action Management Plan(s). Both of these plans require consultation with BCD prior to implementation.
		Section 6.3 Table 7, Row 5 “Target Vegetation Communities and Species” It is not clear where the species list is derived from. The species list should reflect the PCT that is most likely to occur in that area (based on seedbank in topsoil to be used in rehabilitation process, location in the landscape etc.). This should be done in consultation with an ecologist with expertise in vegetation in the area. It is unclear whether the rehabilitation of Shale Sandstone Transition Forest over the whole REA is achievable or appropriate and further consideration should be given to what vegetation outcomes can be achieved.	The list was derived from AECOM’s 2011 Rehab Emplacement Area Permanent Rehabilitation Monitoring – Establishment and First Phase Monitoring Plan. The species list reflects the PCT that is most likely to occur in that area. This list will be revised as required. A more detailed list of appropriate species for revegetation around the Tahmoor Mine will be consulted if required and is provided in Appendix D of the Tahmoor South Biodiversity Management Plan. The current intent is to rehabilitate the entire REA with species from the surrounding area which is Shale Sandstone Transition Forest.

Agency	Date response received	Comments	Response
		Section 6.3 Table 7, Row 6 Collection and Propagation of Seed Wording in this action is vague and unlikely to achieve rehabilitation requirement. It relies on preparation of an additional strategy – "Native Seed Collection Strategy" which is not referenced in the Conditions of Approval. This Strategy should be included as an Appendix to the Rehabilitation Plan.	Appropriately qualified bush regenerators will prepare and implement a Native Seed Collection Strategy, which adheres to the Australian benchmark guidelines developed by Florabank for native seed collection. This Native Seed Collection Strategy will be prepared by appropriately qualified contractors and implemented as part of the Rehabilitation Strategy prior to secondary workings commencing.
		Section 6.3 Table 7, Threatened species – Flora, Threatened species – fauna, use of salvaged resources, weed management etc. See comments in the BMP (Biodiversity Management Plan). Comment from BMP: "Tahmoor Coal will prioritise the use of salvaged tree hollows for fauna habitat within revegetated areas". Further details are required. Where will these be placed? Will these be in trees or on ground? If in trees, how will they be secured? What monitoring will be done?	Further information provided in Section 6.3 Table 7. It is difficult to state specifically where these salvaged items will be place however further clarity on the types of resources and their use has been provided. Response provided in BMP in regard to monitoring: Planted saplings will not be large enough to support hollow logs. No monitoring will be undertaken following placement of coarse woody debris habitat features, as the surrounding habitat will consist of planted tube stock and take a substantial amount of time to recover to a point where it is conducive to regular use of introduced coarse woody debris by local native fauna.
		Section 6.4 Rehabilitation Monitoring The Rehabilitation Plan needs to provide more detail on rehabilitation monitoring to meet the intended outcomes of Condition of Approval B58(h)(i) - "target vegetation communities and species will be established within the proposed revegetation areas). A vegetation monitoring program should be detailed which involves undertaking vegetation plots/transects at defined intervals over a set period (e.g. 20 years) to monitor regeneration progress to target vegetation communities. Adaptive management strategies should be included in this program to ensure vegetation targets are achieved.	Further information on monitoring added in Section 6.4.
		Appendices Appendices have not been provided; therefore BCD cannot comment.	Appendices can be provided for comment if requested.

Agency	Date response received	Comments	Response
Wollondilly Shire Council	19/11/2021	The review and provision of comments on the Strategy is viewed as being a matter for applicable Government Agencies. Consequently, no comments on it are being provided by Wollondilly Shire Council.	No action required
DPIE Water	NA	No response received	No action required
Resource Regulator	03/12/2021	The Resources Regulator has reviewed the request and has no objection to the content of the Strategy prepared for Consultation. The commitments provided in this plan are generally consistent with Consent SSD-8445.	No action required

Planning, Industry & Environment

Sender ref: PAE-30481728 & PAE-30453679
Our ref: DOC21/1002718

Zina Ainsworth
Manager Environment and Community
SIMEC Mining
2975 Remembrance Drive
Tahmoor, NSW 2573

Dear Ms Ainsworth

Subject: Tahmoor South (SSD-8445) – Rehabilitation Strategy and Biodiversity Management Plan

I write in response to your request for comments on the Rehabilitation Strategy and the Biodiversity Management Plan (BMP) for Tahmoor South mine provided by SIMEC.

With regards to the BMP we make the following general comments:

- The BMP states that ongoing monitoring of potential flora and fauna impacts, including amphibian monitoring, is to be addressed in the relevant extraction plan. All biodiversity monitoring should be included in the BMP to ensure biodiversity issues are addressed holistically. If biodiversity monitoring is to be addressed in a different plan, this BMP should refer to that plan and provide a broad framework of how the monitoring will be undertaken to ensure consistency between plans.
- Whilst Section 5.2.5.2 of the BMP considers translocation, this should be addressed in more detail. Translocation is a complex matter and a Translocation Plan should be prepared and included as an appendix to this Plan. The Translocation Plan should be prepared in consultation with the Guidelines for the Translocation of Threatened Plants in Australia (Commander et al.) and also the NSW Translocation Policy: https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Threatened-species/translocation-operational-policy-190552.pdf
- The BMP states that other plans may be required to achieve biodiversity outcomes. These plans should be incorporated into this BMP rather than left to an unspecified time in the future. These plans include:
  - Nest box management and monitoring plan
  - Translocation plan for threatened flora (to be prepared by bush regeneration subcontractor engaged to undertake works)
  - Revegetation and weed management plan (to be prepared by bush regeneration subcontractor engaged to undertake the works)
  - Native seed collection and propagation strategy

Refer to Attachment A for our detailed comments on the BMP.

With regards to the Rehabilitation Strategy, we note the Strategy briefly addresses matters relating to subsidence, however the information provided is minimal and possibly out of scope. We note that further detail on subsidence matters will be included in other plans and we will provide detailed comment following the review of these plans once received. As a preliminary comment, it is difficult

to address rehabilitation of subsidence impacts without first understanding the detailed assessment and monitoring framework.

The Rehabilitation Strategy should provide more detail on rehabilitation monitoring to meet the intended outcomes of Condition of Approval B58(h)(i) - "target vegetation communities and species will be established within the proposed revegetation areas". Detail should be provided on the vegetation monitoring program, which involves undertaking vegetation plots/transects at defined intervals over a set period (eg. 20 years) to monitor regeneration progress to target vegetation communities. Adaptive management strategies should be included in this program to ensure vegetation targets are achieved.

Refer to Attachment B for our comments on the Rehabilitation Strategy.

If you have any questions about this advice, please do not hesitate to contact Haley Rich, Senior Conservation Planning Officer, via haley.rich@environment.nsw.gov.au or 4224 4166.

Yours sincerely

Chris Page 18/11/2021
Senior Team Leader, Planning (Illawarra)
Biodiversity & Conservation Division
Environment, Energy and Science

Attachment A:

Table 1: Biodiversity Management Plan comments

Issue no.	Document reference	Comment	Condition of Approval reference
1	Table 7 EIS commitments - EIS Reference TE-3 Section 1.6 Relationships with other Management Plans	The BMP states that ongoing monitoring of potential flora and fauna impacts, including amphibian monitoring, is addressed in the relevant extraction plan. Details of monitoring should be included in the BMP to ensure biodiversity issues are addressed holistically. It is also noted that Section 1.6 of the BMP states this BMP is a part of the broader "Extraction Plan" required in CoA C8. The Biodiversity Management Plan referred to in CoA C8 has the following requirements: • **Establishes baseline data** for existing habitat within the subsidence area, including water table depth, vegetation condition, stream morphology, key fish habitat and threatened species habitat; and • **Provides for the adaptive management** of potential impacts and environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats, EEC/CEECs and water dependent ecosystems. If biodiversity monitoring is to be addressed in a different Plan, this BMP should refer to that Plan and provide a broad framework of how the monitoring will be addressed to ensure that overlapping Plans containing similar issues are linked.	CoA C8
2	Section 4.4, Table 11 Threatened Flora	Text states that *Grevillea parviflora subsp. parviflora* and *Persoonia bargoensis* will be subject to unavoidable direct impacts within the surface infrastructure area. Table 11 states that 0 plants will be impacted "based on revised ventilation shaft layout". Please clarify.	
3	Section 5.2.1 Micro-siting	Text states that micro-siting is to be done in consultation with DPIE. Please clarify if this has been finalised and, if not, what is proposed to happen?	
4	Section 5.2.5.2 Translocation	Text states that translocation will be done in accordance with *Guidelines for the Translocation of Threatened Plants in Australia* (Commander et al.). Translocation should also consider the NSW Translocation Policy: https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Threatened-species/translocation-operational-policy-190552.pdf Translocation is a complex matter and a Translocation Plan should be prepared and included as an appendix to this Biodiversity Management Plan. Further information on financial commitments to research and on-ground objectives should be included. Furthermore, • The proposal needs to provide a clear objective, desired outcomes, monitoring framework and risk mitigation measures for the translocation. • The translocation needs to be appropriately resourced. • Proteaceae including grevilleas and persoonias generally do not like having their roots disturbed. Translocation can be difficult and should be done in consultation with appropriate experts. • Where possible, collect seed and cuttings for propagation as well as attempting to translocate individuals. Seedlings might be more successful than adult plants.	CoA B38(e) (iii)

		• Translocation/propagation should be informed by a genetic assessment and representative sampling of genetic diversity to be lost and replicated at rehabilitation site. • If recipient site is within the area covered by conditions of approval then a license under the *Biodiversity Conservation Act* is not required however if outside of the area of approval, a licence will be required. This will need to consider the impact of translocation on the recipient site including any threatened ecological communities. • Soil testing at donor and recipient sites should be done to ensure capability/suitability. • The translocation program should be managed and implemented by suitably qualified company with experience in threatened species translocation. • We can provide a translocation template (developed by the Australian Botanic Garden Mount Annan) that could be used for planning and implementation if required.	
5	Sections 5.3, 5.4 Weed control	Provide detailed maps to clearly show where weed control, regeneration and landscaping, erosion and sediment management are to occur.	
6	Section 5.4.2 Regeneration and Landscaping	Provide a list of suitable species from PCTs in adjacent habitat.	
7	Section 5.4.4.2 Feral pest animal control	The BMP states that monitoring will be established, but proposes no timeframe (ie, immediately following clearing?). Proposed camera trap locations should be marked on a map.	CoA B38 (f)(ix), (g)
8	Section 5.6, Table 13 Biodiversity Measures for REA Rehabilitation	"Tahmoor Coal will prioritise the use of salvaged tree hollows for fauna habitat within revegetated areas". Further details are required. Where will these be placed? Will these be in trees or on ground? If in trees, how will they be secured? What monitoring will be done?	
9	Section 5.6, Table 13 Re-establish habitat for the Koala as well as other threatened fauna	Further detail is required including an expanded species list for planting. The *Koala Habitat Protection SEPP 21* includes a longer list of Koala use tree species.	CoA B38 (v)
10	Section 6.3 Risks to the successful implementation of the BMP	Risks are noted as "drought, excessive rain, bushfire". The BMP needs to suggest prevention/response measures to protect rehabilitation areas from these factors.	B38 (h)
11	Section 6.4.1 Recommended Monitoring Plan for REA Rehabilitation	BMP states that other plans may be required to achieve biodiversity outcomes. These should be incorporated into this BMP rather than left to an unspecified time in the future. These Plans include: • Nest box management and monitoring plan • Translocation plan for threatened flora (to be prepared by bush regeneration subcontractor engaged to undertake works) • Revegetation and weed management plan (to be prepared by bush regeneration subcontractor engaged to undertake the works) • Native seed collection and propagation strategy.	CoA B38

Attachment B:

Table 2: Rehabilitation Strategy comments

Issue no.	Document reference	Comment	Condition of Approval reference
12	Section 1.3 Scope	BCD comments predominantly relate to CoA B58(h)(i) which requires details of target vegetation communities and species to be established within the proposed revegetation areas, including habitat for threatened fauna eg. koala. The Rehabilitation Strategy briefly addresses matters relating to subsidence. The information provided is minimal and possibly out of scope. We note that further detail on subsidence matters will be included in other Plans and BCD will provide detailed comment in our review of these Plans. As a preliminary comment, it is difficult to address rehabilitation of subsidence impacts without first understanding the detailed assessment and monitoring framework, however this has not been provided.	CoA B58
13	Section 6.3 Table 7, Row 5 "Target Vegetation Communities and Species"	It is not clear where the species list is derived from. The species list should reflect the PCT that is most likely to occur in that area (based on seedbank in topsoil to be used in rehabilitation process, location in the landscape etc.). This should be done in consultation with an ecologist with expertise in vegetation in the area. It is unclear whether the rehabilitation of Shale Sandstone Transition Forest over the whole REA is achievable or appropriate and further consideration should be given to what vegetation outcomes can be achieved.	B58 (h)(i)
14	Section 6.3 Table 7, Row 6 Collection and Propagation of Seed	Wording in this action is vague and unlikely to achieve rehabilitation requirement. It relies on preparation of an additional strategy – "Native Seed Collection Strategy" which is not referenced in the Conditions of Approval. This Strategy should be included as an Appendix to the Rehabilitation Plan.	B58 (h)(i)
15	Section 6.3 Table 7, Threatened species – Flora, Threatened species – fauna, use of salvaged resources, weed management etc.	See comments in the BMP.	B58 (h)(i)
16	Section 6.4 Rehabilitation Monitoring	The Rehabilitation Plan needs to provide more detail on rehabilitation monitoring to meet the intended outcomes of Condition of Approval B58(h)(i) - "*target vegetation communities and species will be established within the proposed revegetation areas*). A vegetation monitoring program should be detailed which involves undertaking vegetation plots/transects at defined intervals over a set period (eg. 20 years) to monitor regeneration progress to target vegetation communities. Adaptive management strategies should be included in this program to ensure vegetation targets are achieved.	B58 (h)(i)
17	Appendices	Appendices have not been provided, therefore BCD cannot comment.	

From: no-reply@majorprojects.planning.nsw.gov.au <no-reply@majorprojects.planning.nsw.gov.au>
Sent: Friday, 19 November 2021 10:49 AM
To: Zina Ainsworth <Zina.Ainsworth@simecgfg.com>
Subject: Tahmoor South Coal Project Tahmoor South Rehabilitation Strategy - Response from Wollondilly Shire Council

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Wollondilly Shire Council has responded to your request for advice in relation to the Tahmoor South Coal Project Tahmoor South Rehabilitation Strategy . The response is below and/or attached. Record of this consultation has been automatically saved to the portal.

When you are ready, login to your profile to submit the final document to the Department.

Public Authority Response
Hi Thanks for forwarding documentation
The review and provision of comments on the Strategy is viewed as being a matter for applicable Government Agencies. Consequently no comments on it are being provided by Wollondilly Shire Council

Thanks

David

To sign in to your account click here or visit the Major Projects Website.
Please do not reply to this email.

Kind regards

The Department of Planning, Industry and Environment

The linked image cannot be displayed. The file may have been moved, renamed, or deleted. Verify that the link points to the correct file and loca...

Subscribe to our newsletter

Regional NSW

DOC SF21/148445
MAAG0012616

Ms Zina Ainsworth
Tahmoor South Coal

Via: Major Project Portal / Email

Dear Ms Ainsworth

Re. Tahmoor South Rehabilitation Strategy

I refer to your request of 19 November 2021 for advice regarding the Tahmoor South Rehabilitation Strategy. The Resources Regulator has reviewed the request and has no objection to the content of the Strategy prepared for Consultation. The commitments provided in this plan are generally consistent with Consent SSD-8445.

Regulatory requirements if approved
The proponent will be required to comply with rehabilitation requirements under the mining authorisation(s) when undertaking 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 Office of the Executive Director (ED.ResourcesRegulator@planning.nsw.gov.au)

Yours sincerely,

Garvin Burns
Executive Director
Resources Regulator

1 December 2020

516 High Street MAITLAND NSW 2320 Australia | PO Box 344 HRMC NSW 2310 Australia |Tel: +612 4931 6666

APPENDIX G – Letter of Approval

Department of Planning and Environment

NSW GOVERNMENT

Our ref: SSD-8445-PA-7

Zina Ainsworth
Environment & Community Manager
Tahmoor Coal Pty Ltd
2975 Remembrance Drive
Tahmoor, NSW, 2573

07/12/2022

Subject: Tahmoor South Coal (SSD-8445) Rehabilitation Strategy

Dear Ms. Ainsworth,

I refer to the Rehabilitation Strategy submitted in accordance with Schedule 2, Condition B58, of the Development Consent for the Tahmoor South Coal Project (SSD-8445). I also acknowledge your response to the Department's review comments and requests for additional information.

The Department has carefully reviewed the document and is satisfied that it meets the requirements of the relevant conditions of consent.

Accordingly, as nominee of the Planning Secretary, I approve the Rehabilitation Strategy (Version 2.0 dated 29 September 2022).

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

JEvans

Jessie Evans
Director, Resource Assessments
Resource Assessments

As nominee of the Planning Secretary