NSW Resources
Resources Regulator

Form and way

Rehabilitation management plan for large mines

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Amendment schedule

Date	Version	Amendment
June 2021	1	First published
February 2024	2	Updated the 'Glossary' to include definitions for a 'Final void' and Resources Regulator portal'. Updated the 'Glossary' to amend the 'Form and way' definition to also refer to the online forms on the Resources Regulator Portal.
September 2025	3	Update to *section 6.1 Life of mine rehabilitation schedule* to provide additional guidance. Update to *Explanatory note 10: Rehabilitation quality assurance process* to provide additional guidance. New *Part 12: Supporting Appendices* to enable supporting documents that are specifically relevant to the rehabilitation methodologies identified in Part 6 to be appended.

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Purpose

This document sets out the approved form and way for a rehabilitation management plan, in accordance with Clause 9 of Schedule 8A to the Mining Regulation 2016.

Mandatory requirements

The lease holder must prepare a rehabilitation management plan for the mining area in accordance with the mining lease conditions, in the form and way specified in this document.

In accordance with clause 16(1)(a) of Schedule 8A of the Mining Regulation 2016, the rehabilitation management plan must be made publicly available by publishing it on the title holder's website or, if the holder does not have a website, providing a copy on written request.

Rehabilitation management plan structure

The rehabilitation management plan must include all parts, sections and sub-sections specified in this document.

Each part, section and subsection of the rehabilitation management plan must be identified by the heading of the corresponding part, section and subsection of this document.

Where a part, section or subsection is not relevant or applicable, it must be noted as such and a justification provided. The headings of each part, section or subsection should not be deleted.[1]

Where further detailed information is required to support the content of a specific part, section or subsection of the rehabilitation management plan, this information can be presented in an appendix to the document and referenced within the relevant section.

Rehabilitation management plan content

The information included in each part, section and subsection in the rehabilitation management plan must address all instructions detailed within the relevant part, section or subsection of this document.

Where a part, section or subsection is not relevant or applicable, it must be noted as such and a justification provided. The headings of each part, section or subsection headings should not be deleted.[2]

Summary table

The rehabilitation management plan must include a summary table containing the following:

a. name of mine

[1] The inclusion of all parts, sections or subsections is to ensure consistency in the format of all rehabilitation management plans across NSW and compliance with the requirements of this document. The Resources Regulator recognises that the information in a rehabilitation management plan may be brief or very detailed. The length and complexity of a rehabilitation management plan will depend on the nature and scale of the mining operation, the level of risk to the environment and the rehabilitation outcomes to be achieved.

[2] (as above)

b. rehabilitation management plan commencement date
c. rehabilitation management plan revision dates and version numbers
d. mining leases (lease number(s)) and expiry date(s)
e. name of lease holder(s)
f. date of submission.

The summary table must be on the first or second page of the rehabilitation management plan.

1. Part 1 – Introduction to mining project

1.1. History of operations

This section must provide a brief history of significant surface disturbance activities, including mining operations, ancillary mining activities and exploration, carried out on the mining area to give adequate context to the rehabilitation management plan. This must:

a. identify the mine operator and proprietors (if different to the details of the lease holders identified in the summary table)

b. briefly summarise significant surface disturbing activities, including mining operations, ancillary mining activities and exploration, carried out on the mining area

c. briefly summarise rehabilitation undertaken since commencement of mining operations including decommissioning or demolition of built infrastructure

d. state the approved life of the mine date as per the relevant development consent.

1.2. Current development consents, leases and licences

This section must show (in a table) the date of grant and duration of the following, with respect to the mining area:

a. development consents granted under the *Environmental Planning and Assessment Act 1979*

b. authorisations covering the mining area (including exploration licences, assessment leases and mining leases) granted under the *Mining Act 1992*

c. any other approvals, licences, or authorities issued by Government agencies that are relevant to the progress of mining operation and rehabilitation activities.

1.3. Land ownership and land use

This section must provide an overview (in a table) of the land tenure of the general area (i.e. land tenure of lots within and adjacent to mining leases) as well as a schedule of land ownership, occupancy, and leases over the mining lease area consistent with the land ownership and land use figure (refer to section 1.3.1).

All land tenures must be correctly identified (e.g. freehold, vacant crown land, western lands lease, travelling stock reserves). All private freehold land must be labelled without identifying the individual landowners.

This section must also provide a summary of the known historic land uses, current land uses and proposed final land uses. This section must include information about any stewardship agreement, conservation agreement or other similar agreements specific to mining lease areas.

1.3.1. Land ownership and land use figure

This section must contain a land ownership and land use figure(s). The land ownership and land use figure(s) must contain the following information:

a. land ownership (e.g. private, Crown land, land owned by the mining company)

b. the location of the project in a State-wide context, the main and surrounding Local Government area/s and major towns

c. surface and subsurface authorisations covering the mining area (including exploration licences, assessment leases and mining leases) granted under the *Mining Act 1992*

d. vegetation community boundaries

e. land use boundaries (e.g. cropping, pasture, forest, undisturbed flora/fauna habitat)

f. surface contours at a minimum of five-metre contour intervals

g. areas of environmental, cultural or heritage sensitivity identified for retention or special management, including as required by a development consent (e.g. Aboriginal objects, heritage items, biodiversity offset areas within the mining area)

h. water catchment areas (including special / protected areas around water catchment storage areas)

i. main roads, railways and public infrastructure

j. neighbouring residences and neighbouring operations of significance (e.g. mines and industrial areas within, and adjacent to, the mining lease area).

2. Part 2 – Final land use

2.1. Regulatory requirements for rehabilitation

This section must list, in a table, all the regulatory requirements for rehabilitation that apply to the mining area. This must include, but is not limited to:

a. conditions of development consent(s), including the commitments in the associated environmental assessments (such as the Environmental Impact Statement and accompanying appendices approved as part of the development consent)[3]

b. mining lease conditions (including Schedule 8A in Mining Regulation 2016)

c. other relevant legislation (for example *Biodiversity Conservation Act 2016*, *Heritage Act 1977*)

d. any other relevant government approvals, permits, policies and guidelines.

The table must specify whether each requirement applies to the entire site or to a specific domain (refer to section 2.5) or a defined parcel of land, as well as the timing to meet each requirement and the relevant section of the rehabilitation management plan that addresses each requirement.

Explanatory note 1: Relationship between development consent and mining lease requirements for a rehabilitation management plan

In many cases, particularly State significant developments[4], the condition(s) of the development consent granted under the *Environmental Planning and Assessment Act 1979* require the preparation of a 'rehabilitation management plan'. Lease holders should be aware that the relevant consent authority regulates the implementation of these rehabilitation management plans in accordance with the conditions of the development consent and relevant requirements of the *Environmental Planning and Assessment Act 1979*.

The implementation of the rehabilitation management plan prepared pursuant to the conditions of a mining lease is regulated by the Resources Regulator. It must address and include any specific requirements approved in the development consent under the *Environmental Planning and Assessment Act 1979*, including any approved rehabilitation objectives and final land use(s) (refer to Part 4).

Specific requirements for consistency between the development consent and components of the rehabilitation management plan regulated under the mining lease are discussed further in Explanatory note 4.

2.2. Final land use options assessment

This section only applies when the development consent does not define the final land use.[5]

[3] Lease holders are required to comply with the conditions of the relevant development consent. The conditions of a development consent require the lease holder to comply with all the commitments and mitigation measures outlined in the associated environmental impact statement and supporting documents lodged with the development application. The final land use is usually defined in the development consent (e.g. either explicitly in the list of conditions or in one of the approved documents).

[4] The government has identified certain types of development as State significant development (SSD). Schedules 1 and 2 of *State Environmental Planning Policy (Planning Systems) 2021* provides a full list of SSD types and identified sites. Large mining and extraction operations (including all coal mines) are identified as SSD.

[5] There may be circumstances where a Mining Operations Plan (previously approved by the Resources Regulator under the former conditions of a mining lease) defined the final land use. In these circumstance this section of the rehabilitation management plan should

This lease holder must conduct a final land use options assessment and detail the findings in this section. The final land use options assessment must:

a. consider and be consistent with any applicable conditions of the mining lease

b. consider and be consistent with any applicable conditions of a development consent

c. consider and be consistent with the permissible land uses and land zonings set out in any applicable local, regional or state environmental planning instruments

d. be informed by consultation with relevant stakeholders, including the Resources Regulator, the local council, other government agencies, land holders and local Aboriginal Land Councils

e. include a detailed summary table of the consultation undertaken for the final land use options assessment which must identify:

- each relevant stakeholder
- the consultation activities and method of consultation
- the matters subject to consultation
- the outcomes of consultation in relation to the final land use.

f. consider the proposed final land use options

g. identify and justify the proposed final land use.

The outcomes of the options assessment must support the suitability of the proposed final land use.

2.3. Final land use statement

This section must state the final land use(s) for the mining area. The final land use statement must:

- be consistent with any approved final land use described in the relevant development consent(s)
- reflect the outcomes of a final land use options assessment (section 2.2) (if applicable).

The final land use must be depicted spatially on the final landform and rehabilitation plan (refer to Part 5).

2.4. Final land use and mining domains

2.4.1. Final land use domains

This section must define and list the final land use domain(s) for all areas within the lease as illustrated in the final landform and rehabilitation plan in accordance with Section 5. Example final land use domains are provided in Explanatory note 2.

reference that previously approved final land use and details of the relevant Mining Operations Plan. The lease holder would not be expected to undertake a further land use options assessment.

2.4.2. Mining domains

This section must describe the mining domain(s) for all operational/disturbance areas within the mining area site as illustrated in the final landform and rehabilitation plan in accordance with Section 5. Example mining domains are provided in Explanatory note 2.

Explanatory note 2: Mining and final land use domains

Final land use domains

Mining operations may have one final land use (e.g. return the entire mining lease to native vegetation), or several final land use units (e.g. a mix of pasture areas and native ecosystems).

Each final land use unit represents a separate final land use domain (refer to Glossary) which will require specific rehabilitation objectives.

Below are the examples of final land use domain(s) which can be selected in the mine rehabilitation portal for the mining area when lodging the final landform and rehabilitation plan (refer to Section 5):

- native ecosystem (for some projects this may require further specification and/or identification of Plant Community Types)
- agricultural – grazing
- agricultural – cropping
- rehabilitation biodiversity offset area (including remnant vegetation or rehabilitation areas proposed to be subject to a Biodiversity offset application under the *Biodiversity Conservation Act 2016*)
- industrial
- water management areas (e.g. creek realignments, constructed wetlands, significant final landform drainage features)
- water storage area (includes dams retained for the final land use, but excludes any anticipated permanent water body in the final void)
- heritage area
- infrastructure (includes built infrastructure proposed to be retained for future use)
- final void (including the elevation (AHD) of any anticipated permanent water body)
- other.

Mining domains

Mining domains are defined in the glossary and are the footprint of areas disturbed for discrete mining-related activities. They have discrete geophysical and geochemical characteristics that will require specific rehabilitation treatments to achieve the final land use(s).

Below are the examples of mining domains which can be selected in the mine rehabilitation portal for the mining area when lodging the final landform and rehabilitation plan (refer to Section 5):

Examples of mining domains are:

- infrastructure area (e.g. administration facilities, workshops, access roads, material stockpile areas)
- tailings storage facility

- water management area (includes any operational sediment dams, temporary creek diversions and other significant constructed drainage features)
- overburden emplacement area
- active mining area (open cut void)
- underground mining area (the area to be managed for subsidence impacts, for example subsidence management area in accordance with an extraction plan)
- beneficiation facility
- other ancillary infrastructure areas such as temporary waste rock emplacement areas, topsoil stockpile areas, or on-lease exploration areas.

3. Part 3 – Rehabilitation risk assessment

This part of the rehabilitation management plan must present in a table:

a. a summary of rehabilitation risk assessments conducted by the lease holder

b. a list of the risks to rehabilitation identified in the most recent rehabilitation risk assessment undertaken in accordance with Clause 7 of Schedule 8A, to the Mining Regulation 2016

c. how each identified risk and associated risk controls (refer to definition in the glossary) have been addressed in this rehabilitation management plan.

Explanatory note 3: Managing risks to rehabilitation

Risks to achieving rehabilitation are associated with numerous site-specific risk sources including geophysical and geochemical properties of materials, and the availability of suitable rehabilitation materials.

The rehabilitation management plan must identify how risk controls identified in the most recent rehabilitation risk assessment have been incorporated into rehabilitation practices.

An ongoing assessment of the effectiveness of risk controls, as well as the emergence of any new risks to rehabilitation, must be incorporated into the rehabilitation quality assurance process (refer to Part 7) and rehabilitation monitoring program (refer to Part 8).

If rehabilitation monitoring indicates that risk controls are ineffective, or identifies the emergence of previously unidentified risks, the rehabilitation management plan must identify appropriate management responses (refer to Part 10), including reviewing the rehabilitation risk assessment in accordance with Clause 7 of Schedule 8A, to the Mining Regulation 2016.

Guidelines on the website provide further guidance for carrying out a rehabilitation risk assessment.

A copy of the full risk assessment is not required to be included as part of the rehabilitation management plan, however, the rehabilitation risk assessment must be maintained on site and be available as a record in accordance with Clause 17 of Schedule 8A, to the Mining Regulation 2016.

4. Part 4 – Rehabilitation objectives and rehabilitation completion criteria

Explanatory note 4: Rehabilitation objectives and rehabilitation completion criteria

Overview

Rehabilitation objectives must (as a minimum) demonstrate that each final land use domain will be returned to a condition capable of achieving the final land use.

Rehabilitation completion criteria set the benchmark values for key attributes (indicators) proposed to demonstrate that the rehabilitation objectives have been met.

Rehabilitation objectives, rehabilitation completion criteria and the final landform and rehabilitation plan must be submitted to the Resources Regulator for approval in accordance with Clause 12 of Schedule 8A to the Mining Regulation 2016. Collectively these documents (once approved by the Resources Regulator) define the rehabilitation outcomes that must be achieved.

A copy of the approved, or if not yet approved, rehabilitation objectives and rehabilitation completion criteria applicable to the mining area must be included in the rehabilitation management plan.

Additional guidance and an example format for presenting rehabilitation objectives and rehabilitation completion criteria for a range of final land uses has been provided in guidelines.

Use of analogue sites

Rehabilitation objectives and rehabilitation completion criteria for final land use domains must be based on the defining characteristics of any appropriate analogue sites. Suitable analogue sites are areas that represent the values and characteristics of the final land use. Suitable analogue sites and their key defining characteristics should be identified for each intended final land use.

Where lease holders have limited access to suitable analogue sites, alternative methodologies such as literature reviews, research programs or rehabilitation trials should be adopted to develop scientifically robust rehabilitation completion criteria.

In these circumstances, it is expected lease holders will refine rehabilitation completion criteria through the life of mine based on the outcomes of rehabilitation trials and/or research programs.

Refer to Section 8.1 regarding requirements associated with analogue sites.

Consistency with the development consent

In many cases, particularly State significant developments, the final land use(s) and associated rehabilitation objectives are approved in the development consent granted under the *Environmental Planning and Assessment Act 1979*.

The rehabilitation objectives and rehabilitation completion criteria submitted to the Resources Regulator for approval must be consistent with any final land use(s) and associated rehabilitation objectives approved in the development consent under the *Environmental Planning and Assessment Act 1979*.

If rehabilitation objectives approved in the development consent are broad, non-specific, or non-existent, lease holders must develop specific rehabilitation objectives and rehabilitation completion criteria to demonstrate that each final land use domain will be returned to a condition capable of achieving the final land use. Rehabilitation completion criteria may also be refined as mining operations (including rehabilitation) progress through the life of the mine, however, they must remain consistent with the relevant development consent.

Approval by the Resources Regulator

In accordance with Clause 12 of Schedule 8A, to the Mining Regulation 2016, the rehabilitation objectives, the rehabilitation completion criteria and (for large mines only) the final landform and rehabilitation plan must be submitted to the Resources Regulator for approval.

The Resources Regulator will not approve rehabilitation completion criteria that require further refinement to ensure the benchmark values adequately reflect the final land use. In order to inform the range of rehabilitation methodologies and scope of monitoring and research programs, rehabilitation completion criteria are required to be included in the rehabilitation management plan (whether or not they have been approved by the Resources Regulator).

In accordance with mining lease conditions, the lease holder must demonstrate that the approved rehabilitation objectives, approved rehabilitation completion criteria and approved final landform and rehabilitation plan have been achieved to demonstrate achievement of the final land use(s). However, lease holders should be aware that achieving the final land use does not mean that the rehabilitation requirements of other approvals or legislation (such as the development consent) are satisfied. It is the responsibility of the lease holder to comply with all statutory obligations.

Stakeholder consultation

During the life of mine, if lease holders propose to substitute, add, amend or refine any rehabilitation objectives and rehabilitation completion criteria, lease holders may be required to undertake further consultation with specific stakeholders, such as other regulatory agencies and landholders.

Mandatory requirements for stakeholder consultation are set out in Section 4.2. The Resources Regulator may ask the lease holder to provide evidence of any such stakeholder consultation (e.g. records such as meeting minutes) associated with any substitution, addition, amendment or refinement of rehabilitation objectives and rehabilitation completion criteria in the rehabilitation management plan.

Submission of rehabilitation objectives and rehabilitation completion criteria via online portal

The submission of the rehabilitation objectives and rehabilitation completion criteria table must occur via the Resources Regulator's online portal - https://nswresourcesregulator.service-now.com/regulator

Electronic submission via the portal enables:

- a streamlined submission, assessment and determination processes
- the linking of rehabilitation objectives and rehabilitation completion criteria with spatial data submitted as part of the final landform and rehabilitation plan
- the ability to monitor and track progress of rehabilitation performance against rehabilitation objectives and rehabilitation completion criteria.

Additional information regarding submission via the online portal has been provided in guidelines.

Spatial reference for final land use and mining area domains

Rehabilitation objectives and rehabilitation completion criteria will be linked with spatial data submitted as part of the final landform and rehabilitation plan. This will include an additional field called *spatial reference* within the final land use theme. The spatial reference will be an alphanumeric code given to each polygon within the final land use theme. This unique reference is created in the spatial data to link rehabilitation objectives and rehabilitation completion criteria to the corresponding spatial data. Further details have been provided in guidelines.

4.1. Rehabilitation objectives and rehabilitation completion criteria

This section must list in a table:

a. Specific final land use domain(s) and associated spatial reference.

b. Specific mining domain(s) and associated spatial reference.

c. Specific rehabilitation objectives for each final land use domain and associated mining domain that have been approved by the Resources Regulator. Where rehabilitation objectives have been approved by the Resources Regulator, they are to be listed as “approved rehabilitation objectives”. Where they have not been approved, they are to be listed as “proposed rehabilitation objectives”.

d. The specific indicator(s) (e.g. specific attribute associated with the rehabilitation objective) that will be measured/monitored.

e. Specific rehabilitation completion criteria (benchmark for the indicator(s)) for each rehabilitation objective. Where rehabilitation completion criteria have been approved by the Resources Regulator they are to be listed as “approved rehabilitation completion criteria”. Where they have not been approved (e.g. because they require further refinement), they are to be listed as “proposed rehabilitation completion criteria”.

f. The validation method (e.g. monitoring event or record) to demonstrate that each criterion has been achieved.

The rehabilitation objectives and rehabilitation completion criteria required by this section must:

a. be consistent with any relevant rehabilitation objectives approved under a development consent

b. be consistent with any final land use(s) approved under a relevant development consent or any final land use statement (refer to Section 2.3).

Refer to Explanatory note 4 and guidelines for further guidance.

4.2. Rehabilitation objectives and rehabilitation completion criteria – stakeholder consultation

This section must include a table summarising all consultation undertaken to develop rehabilitation objectives and rehabilitation completion criteria (including any relevant consultation associated with the development consent).

Stakeholders consulted to develop rehabilitation objectives and rehabilitation completion criteria must include the consent authority, landholders for any part of the mining area, and any other regulatory agency associated with any regulatory requirement for rehabilitation listed in section 2.1.

This summary must identify:

- each relevant stakeholder (e.g. the Resources Regulator, other government agencies - such as Water NSW in drinking catchment areas, landholders, community consultative committees)
- the consultation activities and forms of consultation
- the matters subject to consultation
- actions taken by the lease holder in response to matters raised by any stakeholder in relation to rehabilitation objectives and rehabilitation completion criteria.

5. Part 5 – Final landform and rehabilitation plan

Explanatory note 5: Final landform and rehabilitation plan

The final landform and rehabilitation plan spatially defines the proposed final land use and final landform at the completion of rehabilitation.

In most cases, the final land use and spatial depiction of the final landform are approved in the development consent granted under the *Environmental Planning and Assessment Act 1979*. The final landform and rehabilitation plan submitted to the Resources Regulator must be consistent with any development consent.

In accordance with mining lease conditions, the lease holder must demonstrate that rehabilitation has been carried out on the mining area in accordance with the spatial representation of the final land use(s) and final landform features identified on the final landform and rehabilitation plan submitted to the mine rehabilitation portal (http://minerehabilitationportal.nsw.gov.au/) and approved by the Resources Regulator.

Generation of the final landform and rehabilitation plan

Following submission, lease holders produce an electronic copy (PDF) of the final landform and rehabilitation plan to include in the rehabilitation management plan. Lease holders may use the mine rehabilitation portal map viewer 'print to PDF' function to prepare the final landform and rehabilitation plan soft copy. Guidance for using the mine rehabilitation portal map viewer is provided in the mine rehabilitation portal help library.

5.1. Final landform and rehabilitation plan – electronic copy

This section must include an electronic copy (PDF) of the final landform and rehabilitation plan, which must be prepared using theme data submitted to the mine rehabilitation portal (refer to *Guideline: Form and way for rehabilitation objectives, rehabilitation completion criteria and final landform and rehabilitation plan for large mines*).

The final landform and rehabilitation plan electronic copy (PDF) must reference the mine rehabilitation portal data theme submission ID numbers. Submission ID numbers are unique identifiers generated by the mine rehabilitation portal to identify the current data submission for each data theme uploaded by the lease holder and can be found in the 'Files Submitted' tab following successful submission of data.

The final landform and rehabilitation plan electronic copy must be produced using theme data submitted to the mine rehabilitation portal as per Table 1.

Table 1: Final landform and rehabilitation plan requirements

Plan ID	Mine Rehabilitation Portal Spatial Data Themes	Display Field (Unique Values*)	Symbology Requirements
FLRP Plan 1: Final Landform Features	Final Land Use	FnLndDom	Refer to Table 2
	Final Landform Features	N/A**	
	Project Approval Boundary	N/A	
	Current Authorisations	N/A	
FLRP Plan 2: Final Landform Contours	Final Landform Contours	N/A	Refer to Table 2
	Project Approval Boundary	N/A	
	Current Authorisations	N/A	

*Note – Symbology based on the unique values found in this field.
**Note – Final Landform Features should be appropriately labelled.

The final landform and rehabilitation plan PDF must be presented as at least two sub-plans:

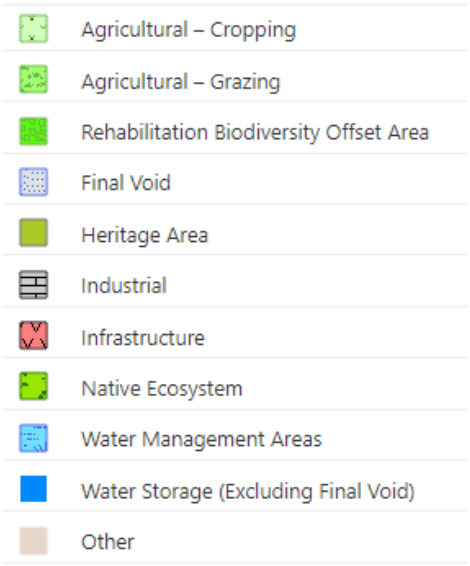
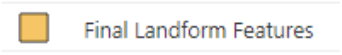
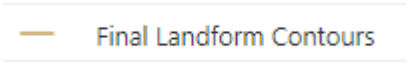
1. Plan 1: Final Landform Features
2. Plan 2: Final Landform Contours.

This section must include a copy of each sub-plan in A3 format and contain the following elements:

- **Title block** including the mine's name, plan name, year (anticipated year for relinquishment), data theme submission ID numbers, and the plan date (date of creation)
- **Legend** identifying all features shown
- **North arrow**
- **Scale bar**
- **Labels** (where appropriate)
- **Basemap –** satellite, NSW basemap or equivalent
- **Spatial data** identified in *Guideline: Form and way for rehabilitation objectives, rehabilitation completion criteria and final landform and rehabilitation plan for large mines*.

Note: For large operations it may be appropriate to prepare multiple sub plans in A3 format (e.g. marked 1A, 1B as necessary) to clearly depict all mandatory requirements.

Table 2: Symbology requirements

Mine rehabilitation portal spatial data themes	Display field (Unique Values)	Symbology requirements
Final Land Use		
Final Landform Features	N/A – Include Labels on features	
Final Landform Contours	N/A	
Project Approval Boundary	N/A	
Current Authorisations	N/A	

6. Part 6 – Rehabilitation implementation

6.1. Life of mine rehabilitation schedule

This section must describe the rehabilitation schedule over the life of the mine, from the commencement of the rehabilitation management plan until lease relinquishment and / or when the final land use is met for the entire mine site.

The summary must include the:

a. estimated timing of the construction and decommissioning of key infrastructure (e.g. mine seals, beneficiation facilities, utility infrastructure, workshops and administration facilities)

b. estimated timing of key final landform establishment activities (e.g. stabilisation of final void highwalls and low walls, shaping of overburden emplacement areas, capping of tailings dams)

c. estimated timing to undertake investigations to address knowledge gaps and / or implement medium to long-term programs of work (refer to section 6.2.5) aimed at improving performance and progress towards achieving the final land use (where issues are identified through monitoring) as set out in the approved rehabilitation outcome documents

d. assumptions and principles that are relied on for the development of the life of mine rehabilitation schedule to ensure that rehabilitation is undertaken progressively and as soon as reasonably practicable, such as:

    - production milestones or anticipated volumes of overburden to be handled
    - the staging of mining activities to promote progressive rehabilitation.

    Justification must be provided where this can't be achieved (e.g. delaying rehabilitation in an area used for stockpiling of material for tailings dam capping).

The life of mine rehabilitation schedule must include a series of plans illustrating the proposed mine layout and sequence of progressive rehabilitation across the leasehold area at a minimum of five-yearly intervals until completion of mining and achievement of the final land use.

For mines where there is limited mine rehabilitation over extended periods of time (e.g. underground mines) these plans can be provided with longer intervals (e.g. for underground mines this could be every 10 years during operations). In this instance, a description must be provided in this section explaining why there are limited opportunities for progressive rehabilitation for these extended periods.

For mines that have ceased operations and where only active rehabilitation and monitoring activities are being undertaken, or where the scale and extent of rehabilitation to be undertaken is significant, (and where rehabilitation is expected to extend beyond the current forward program 3-year period) plans at more regular intervals (e.g. every 1 to 2 years) must show how rehabilitation will progress through the phases (refer to Section 6.2).

The series of plans must be attached to the rehabilitation management plan in A3 format and contain the following elements:

- **Title block** including the mine's name, plan name, year, and the plan date (date of creation)
- **Legend** identifying all features shown
- **North arrow**
- **Scale bar and coordinate system**
- **Labels** illustrating the sequence of mining and rehabilitation activities
- **Basemap** – satellite, NSW basemap or equivalent
- **Mine layout**
- **Progressive rehabilitation schedule** - across the lease area at a minimum of five-yearly intervals (or other relevant timeframes as discussed above) until completion of mining and achievement of the final land use.

Explanatory note 6: Life of mine rehabilitation schedule

The purpose of the life of mine rehabilitation schedule is to demonstrate that the lease holder has:

- considered rehabilitation in the development of the mine plan
- sought to maximise opportunities for progressive rehabilitation throughout the mine planning process
- identified the timing of key decommissioning and final landform construction activities to inform the scheduling of any technical studies, rehabilitation trials or research programs required to achieve the final land use(s) (refer to Part 9).

If all surface facilities are required for the operational life of the mine, the lease holder's progressive rehabilitation activities may be limited to salvaging and maintaining an inventory of rehabilitation resources (e.g. capping materials) and undertaking rehabilitation planning activities such as technical studies and designs.

6.2. Phases of rehabilitation and general methodologies

Explanatory note 7: Phases of rehabilitation and general methodologies

The purpose of Section 6.2 is to demonstrate that:

- risks and opportunities for rehabilitation identified in the rehabilitation risk assessment have been considered in rehabilitation methodologies
- relevant controls nominated in the rehabilitation risk assessment have been incorporated into the relevant activities.

Phases of rehabilitation

The sequence of actions required to rehabilitate disturbed areas to achieve the final land use are classified into conceptual stages referred to as phases of rehabilitation. These phases are:

- active mining
- decommissioning
- landform establishment
- growth medium development

- ecosystem and land use establishment
- ecosystem and land use development
- rehabilitation completion (sign-off).

The phases of rehabilitation comprise the stages and sequences of actions required to achieve the approved rehabilitation outcomes, including the final land use(s).

Early phases of rehabilitation (decommissioning, landform establishment, and growth medium development phases) are largely associated with engineering activities to construct the final landform, and therefore have a high degree of certainty regarding scheduling and timing of completion.

For vegetated outcomes, the Resources Regulator recognises there is a degree of uncertainty regarding the timeframes to complete the latter phases of rehabilitation. Typically, rehabilitation areas would be in the ecosystem and land use establishment phase for at least two years (and potentially more) before rehabilitation can be classified as being in the ecosystem and land use development phase.

Rehabilitation areas may be in the ecosystem and land use development phase for many years before achieving all rehabilitation completion criteria.

General methodologies

Guidelines have been prepared which provide a checklist of the type of controls/actions/processes for each rehabilitation phase. This checklist provides a range of industry recognised rehabilitation controls and techniques that may be considered and used as guidance by lease holders for achieving sustainable rehabilitation.

The expectation is that rehabilitation techniques will be further developed and refined over the life of an operation through a continual process of research, trialling, monitoring and improvement. As such, the information provided in this section should not constrain an operation in adopting alternative practices to achieve the nominated outcomes.

Relationship to the forward program

The rehabilitation management plan provides a detailed description of the proposed rehabilitation actions, methods and controls to rehabilitate each mining domain through each phase of rehabilitation. The forward program component of the annual rehabilitation report and forward program summarises the rehabilitation activities proposed in the three-year rehabilitation forecast, and spatially defines the areas subject to progressive rehabilitation.

6.2.1. Active mining phase

This subsection must summarise the risks and opportunities for rehabilitation associated with the active mining phase across the mining domains. As a minimum, the rehabilitation management plan must address the matters listed below.

a. Soils and materials

This subsection must describe the general processes to identify, quantify, characterise and assess the suitability for rehabilitation of topsoil, subsoil and material resources (e.g. inert capping material). Information in this subsection must demonstrate that the lease holder has taken steps to:

- develop the optimal approach to stripping and salvaging (including timing) suitable topsoils and/or subsoils
- maximise the integrity of the topsoil and material resources for future use in rehabilitation

- ensuring soil and material resources are available to meet the needs of the final land use.

This subsection must summarise the results of any topsoil, subsoil and material characterisation that has been undertaken to date, and the key constraints or opportunities for the use of these resources in rehabilitation.

This subsection must also include a statement indicating whether a soil and/or material resource deficit is anticipated for life of mine rehabilitation and propose actions to address any deficit.

b. Flora

This subsection must describe the management of resources required to establish any specific flora species in rehabilitation, including (but not limited to) threatened species, seed collection, propagation in a nursery, translocated plants, revegetation techniques, and weed and pest management.

c. Fauna

This subsection must describe the management of fauna, including habitat management (during clearing and progressive rehabilitation), threatened species, habitat augmentation (rock piles, frog ponds, log piles and translocated stag trees), and pest control designed to achieve specific fauna outcomes that may be specified in the approved rehabilitation objectives and rehabilitation completion criteria.

d. Rock/overburden emplacement

This subsection must describe the areas identified for emplacements and/ or capping, the sequencing of emplacements/capping, construction and management to facilitate sustainable landform design and rehabilitation outcomes.

This subsection must also include a statement indicating whether a materials deficit for life of mine rehabilitation is anticipated and propose actions to address any deficit.

e. Waste management

This subsection must outline waste disposal and materials handling practices, including the disposal of putrescible wastes, hydrocarbons and management of contaminated soils to minimise or mitigate adverse impacts to rehabilitation.

f. Geology and geochemistry

This subsection must describe the geophysical and geochemical risks related to waste emplacements (e.g. sodic spoils) and ore beneficiation (if any) and outline the management/mitigation measures relevant to rehabilitation (e.g. selective handling and emplacement of materials hostile to plant growth).

g. Material prone to spontaneous combustion

This subsection must describe the potential for spontaneous combustion, including:

- a summary of previous spontaneous combustion occurrences (if any)
- the risk of spontaneous combustion occurrence / propensity for combustion of ores and waste materials
- key management measures relevant to rehabilitation of areas where there is material prone to spontaneous combustion.

h. Material prone to generating acid mine drainage

This subsection must identify the presence of any potential acid forming (PAF) materials, acid rock drainage issues and other geochemical issues of concern. If relevant, this section must describe the management of these materials to minimise or mitigate adverse impacts to rehabilitation (e.g. acid rock drainage impacts). This site must summarise the history of any instances (if relevant).

i. Ore beneficiation waste management (reject and tailings disposal)

This subsection must describe:

- the geochemical and geophysical characteristics of the beneficiation waste stream and how it is managed, as well as how the process, including disposal methods (e.g. emplacement facilities), will be designed and managed to reduce risks to rehabilitation (e.g. geotechnical instability, geochemical constraints)
- stability issues and associated management/treatment strategies that may relate to tailings dams.

j. Erosion and sediment control

This subsection must describe the potential for erosion and sedimentation impacts to rehabilitation (e.g. sheet erosion and subsequent loss of fine material from shaped emplacement areas awaiting revegetation). It must describe how rehabilitation areas will be managed to minimise and/or mitigate adverse impacts to rehabilitation. It must include any interim rehabilitation measures (e.g. interim stabilisation or temporary vegetation measures) that are proposed prior to final rehabilitation measures being undertaken at disturbed areas (e.g. interim rehabilitation to prevent erosion, weed incursion and/or dust generation in areas which may be mined at a later stage).

k. Ongoing management of biological resources for use in rehabilitation

This subsection must describe:

- how biological resources (e.g. topsoil stockpile seedbanks) will be effectively managed during the mining and production phase to maintain their integrity for later use in rehabilitation
- topsoil stockpile management measures to maintain the viability of the topsoil seedbank (e.g. maximum stockpiling period) and minimise adverse impacts to the seedbank from unwanted species (e.g. weed management)
- required topsoil depths for optimal germination, growth and survival of emerging vegetation
- methods for propagating native seeds and other propagules, and translocation of species (if applicable)
- salvage and storage of habitat structures including tree stags and or hollow bearing timber/logs for later use in rehabilitation.

l. Mine subsidence

For underground mining operations, this subsection must:

- include a brief history of any previous occurrences of subsidence events that resulted in impacts to natural features that required rehabilitation
- outline the potential subsidence related impacts to natural features which may subsequently require rehabilitation, which may include, but is not limited to impacts to swamps, wetlands,

watercourses, native ecosystems, agricultural land, water catchment areas and surface and groundwater resources

- outline the proposed management measures that may be implemented including subsidence monitoring and any trigger action response plans to remediate impacts.

Information must be included that clearly states the likely rehabilitation liabilities that may be incurred. Additional detail regarding rehabilitation methodologies is to be included in Section 6.3.

To avoid duplication for underground coal mining operations, where the above information may be contained as part of an extraction plan or subsidence management plan approved under the relevant development consent or mining lease(s) respectively, a reference to the relevant sections must be included.

m. Management of potential cultural and heritage issues

Explanatory note 8: Management of cultural and heritage issues

This subsection must address any heritage management obligations under any relevant statutory approvals (e.g. *National Parks and Wildlife Act 1974*, *Environmental Planning and Assessment Act 1979*, *Heritage Act 1977*), regarding any places, objects, items, or infrastructure on the lease land that are required to be managed/retained in the final landform.

Any cultural and heritage features required to be managed/retained in the final landform must be shown in the final landform and rehabilitation plan (unless any cultural heritage object or place is subject to confidentiality obligations under another approval or agreement) (refer to Part 5). Regulatory requirements for any heritage features required to be managed/retained in the final landform must be listed in Section 2.1.

This subsection must:

- outline any relevant approved management plans or strategies based on the outcomes of any cultural and/or heritage assessments relevant to the mining lease, which must include an outline of any scope of works and conservation actions, which may include, but are not necessarily limited to, the following:
  - protection, removal, relocation and/or salvage of heritage items, Aboriginal places and objects
  - archival recordings
  - demolition or part demolition
  - dilapidation and integrity surveys
  - engineering works to make safe where infrastructure is to be retained for heritage management purposes.
- identify responsibility for implementing and managing heritage including agreement and/or funding arrangements to be in place for their ongoing management after lease relinquishment where objects, places, items, structures are to be retained for cultural/heritage management purposes (subject to any confidentiality obligations under any other approval or agreement)
- if the future cultural and heritage management obligations are uncertain, provide an outline of the investigations that the lease holder will be undertaking to confirm the strategy. (Note: The progress towards completing any cultural and heritage assessments/investigations may be

required to be provided in the annual rehabilitation report and forward program submitted to the Resources Regulator).

n. Exploration activities

This subsection must describe the scope of works that may be required to rehabilitate any exploration activities that may continue to be undertaken on a mining lease.

6.2.2. Decommissioning

Explanatory note 9: Decommissioning and demolition activities

The rehabilitation management plan must outline the key processes and activities required to decommission and demolish built infrastructure to achieve the final land use, including any assessments or designs. This may occur following either the cessation of mining or progressively over the life of an operation. It is recognised that this information may be conceptual during the initial stages of an operation.

Where relevant, this subsection must reference any regulatory requirements or agency approvals required for decommissioning and/or demolishing infrastructure. The range of activities that must be described include, but are not necessarily limited to:

- the demolition, dismantling or removal of:
  - buildings (workshop, offices, bathhouse, small buildings)
  - coal/mineral handling and processing plants
  - ore and product stockpiling and transport infrastructure (e.g. bins, conveyors, reclaim tunnels, product and ore stockpile pads, rail and loading infrastructure)
  - all tailings management infrastructure
  - utilities, services and fuel infrastructure (including pipelines – underground and surface, powerlines, fuel tanks and hazardous material storage tanks)
  - remote infrastructure (e.g. ventilation buildings, ballast borehole facilities, services borehole facilities, gas wells, gas flares)
  - concrete foundations and footings
  - hardstand and bitumen sealed areas, haul roads and access tracks.
- the management, including removal, of any hazardous items (e.g. radioactive density gauges) or materials (e.g. asbestos)
- decommissioning, removal and/or augmentation of the mine water management system including any dams prescribed by the *Dams Safety Act 2015*.

The discussion must nominate the potential timing of decommissioning and demolition activities, and all potential risks or opportunities for rehabilitation associated with decommissioning and demolition activities.

Further detail regarding decommissioning and demolition activities will be required in the annual rehabilitation report and forward program if any plant and/or infrastructure is proposed to be decommissioned in the three-year forward program or has been in the past year.

The expectation is that the information in this section will become more detailed as an operation nears the cessation of mining or production.

a. Site security

This subsection must detail the security measures to be implemented during and following the decommissioning process to prevent access by members of the public (e.g. during shaft filling operations) and secure rehabilitation areas, including any heritage places or objects and any retained infrastructure items.

b. Infrastructure to be removed or demolished

This subsection must identify and describe those site features (e.g. sediment dams), site services (e.g. electricity, water, telecommunications, sewerage, security) and structures to be decommissioned and demolished to achieve the final land use.

It must identify the key actions, assessments, studies, detailed designs, and regulatory approvals required to decommission and/or demolish built infrastructure in accordance with the development consent granted under the *Environmental Planning and Assessment Act 1979*, mining lease conditions and any approvals or licences issued by other regulatory agencies.

c. Buildings, structures and fixed plant to be retained

This subsection must identify and describe those areas and structures (including infrastructure) to be retained for future use as part of the final land use, including the regulatory approvals obtained and/or required to enable retention. It must describe the process that will be implemented to:

- determine the structural integrity of the building/structure/infrastructure to be retained
- identify the associated short-term and long-term risks to public safety and the environment from the structures remaining in place, which should identify potential modes of failure
- address any potential residual risks such as potential for structures to fail
- engage (where required) a suitably qualified engineer to verify that any risks have been satisfactorily addressed.

d. Management of carbonaceous/contaminated material

This subsection must detail the process that will be implemented to identify and appropriately manage any risks associated with the potential occurrence of carbonaceous and or contaminated material. The information must include, but is not limited to, the following:

- removal and management of carbonaceous/contaminated material from the footprint of surface infrastructure including stockpiles, access roads and haul roads
- the scope of contamination studies required
- an overview of potential remediation strategies that will be adopted (e.g. on-site bioremediation or disposal off site)
- the engagement of a suitably qualified contamination expert (where required) to verify that any contamination has been adequately managed in accordance with any standards associated with the approved final land use.

This subsection must identify and describe the potential timing of contamination remediation activities and how this may impact upon the overall timing of completing rehabilitation activities on site.

e. Hazardous materials management

This subsection must detail the process that will be implemented to identify and appropriately manage, including any treatment or removal, of any hazardous materials (e.g. hydrocarbons and chemicals) that exist following the cessation of an operation.

f. Underground infrastructure

This subsection must identify and describe how underground mining infrastructure will be decommissioned to achieve the final land use. Activities that must be described include, but are not limited to, the following:

- the sealing of any portals, decline entries, shafts and how the process will be designed, supervised and subsequently validated by a suitably qualified engineer that any risks associated with achieving the final land use outcome have been adequately addressed
- salvage of underground mining equipment and materials
- the sealing and decommissioning of any remaining boreholes including services, gas wells, dewatering
- investigation of the integrity of any former underground mine entries that may have been previously sealed but may require further work to ensure long-term stability
- security measures that will be implemented for public safety purposes whilst sealing and decommissioning works are undertaken on shafts, adits and drifts
- implementation of any specific measures required for the future management of groundwater accumulation in the underground workings, which may include measures to be implemented to minimise any environmental or community impacts associated with potential future discharges from the underground workings
- details of any consultation with government agencies and any subsequent approvals that may be required to allow for any ongoing discharges
- the removal of any remaining subsidence monitoring pegs (pending approval under the *Surveying and Spatial Information Act 2002*) that pose a risk to the public, wildlife and stock when subsidence monitoring has ceased, and subsidence related impacts have met relevant approvals.

This subsection must describe the potential timing of underground decommissioning works and how this may impact upon the overall timing of completing rehabilitation activities on site.

6.2.3. Landform establishment

This subsection must provide an overview of the key characteristics of the final landform as shown in the final landform and rehabilitation plan (refer to Part 5). This subsection must detail any modelling undertaken (or to be undertaken – refer to Section 9) to achieve the final landform (e.g. Landform Evolution Modelling to address any long-term erosion and stability risks).

The key items that must be addressed are as follows:

a. Water management infrastructure

This subsection must detail the location, treatment and or rehabilitation of water management infrastructure.

Where it is proposed to retain infrastructure for future use, this subsection must detail the measures that will be implemented in the landform establishment phase (e.g. spillway augmentation) to ensure that it is fit-for-purpose and appropriately licensed for the approved final land use(s).

b. Final landform construction: general requirements

This subsection must, as a minimum, detail how the final landform design will be constructed to address the following issues:

- potential geotechnical/geochemical and erosional issues
- incorporating characteristics of surrounding landforms into the final landform design (e.g. macro and micro-relief) and general considerations for the visual amenity of the final landform
- surface water management to optimise landform stability and integration with surrounding catchments.

c. Final landform construction: reject emplacement areas and tailings dams

This subsection must detail:

- methods to construct the final landform over reject emplacement areas and tailings dams to a condition/capability that supports the final land use
- how the rehabilitation design and management measures (e.g. capping design and dewatering strategies) will be implemented (and their associated timeframes) to address potential geotechnical/geochemical/erosional risks of achieving a sustainable rehabilitation outcome.

d. Final landform construction: final voids, highwalls and low walls

This subsection must identify the key design features (e.g. size, depth, orientation and location) and processes associated with any final void(s) approved in the development consent, and how the design minimises impacts to public safety and reduces the sterilisation of land available for future final land uses. This subsection must also describe any additional strategies or requirements prescribed in the development consent that relate to final voids.

Where details regarding the rehabilitation of the final void(s) are conceptual in nature, details must be provided in this subsection as to what processes will be implemented over the life of the operation to develop a final void management strategy. The information must include the following:

- details of the process for investigating final land use options for the final void(s)
- the scope and timing of required studies including (but not limited to):
  - final void water balance including groundwater modelling to determine the likely final void water level
  - water quality assessments including geochemical studies required to inform management of potential pollution impacts
  - geotechnical studies required to determine what stabilisation and public safety measures will need to be incorporated into the final design.
- details regarding future water licensing requirements for water retained within the final void(s) following mine closure.

e. Construction of creek/river diversion works

This subsection must describe studies required for the detailed design including (but not limited to) geomorphological and hydraulic modelling and aquatic ecological assessments.

This subsection must detail the construction of any creek or river diversion works that will form part of the final landform, including relevant approvals from government agencies required for the construction/diversion. This is to include, but not be limited to, describing the re-creation of aquatic habitat features (e.g. woody debris, snags, gravel beds, cobbles, rocks, boulders, or rock bars), establishment of aquatic vegetation species and assessing ecological processes (e.g. fish passage and aquatic life cycles).

6.2.4. Growth medium development

This subsection must outline how rehabilitation areas will be prepared with growth media (e.g. vegetation substrate) suitable for establishing vegetation in accordance with the approved final land use (e.g. agriculture, native ecosystems). Based on the nature, scale and risks associated with a site, the information provided must include, but is not limited to, the following:

- the process that will be undertaken to characterise the geochemical nature of the substrate and associated materials (e.g. subsoils, topsoils, organic additives, overburden surface)
- an overview of the type of ameliorants and or strategies that may be implemented to address any potential constraints and or enhance the substrate (based on the outcomes of the characterisation analysis)
- the type of erosion and sediment controls that will be installed to protect the substrate from surface water runoff and wind exposure whilst a vegetative cover is established
- the type of mechanical treatments that may be required (e.g. deep ripping, harrowing) to maximise water infiltration into the substrate and to provide for an adequate seed bed
- topsoil and subsoil management as well as other substitutes (e.g. organic material) and how these will be applied
- weed control techniques
- potential seasonal considerations that will need to be factored into the process to maximise the viability of the substrate
- management of rehabilitation areas to minimise degradation of the substrate, dust generation and erosion should adverse conditions delay vegetation establishment
- where required to meet the approved rehabilitation objectives, measures that will be implemented to augment habitat value (e.g. structures such as tree hollows, logs and other woody debris, ponds).

6.2.5. Ecosystem and land use establishment

This subsection must describe how the target vegetation associated with the final land use will be established and subsequently managed to progress to the ecosystem and land use development phase (refer to Subsection 6.2.6). The information provided must include, but is not limited to, the following:

- potential seasonal considerations (e.g. drought conditions; excessive heat) that will need to be factored into the process to optimise conditions to support the initial establishment of the target vegetation
- an overview of the methodologies that may be applied as part of the revegetation process (e.g. direct seeding, tree plantings, use of a seed drill)
- the type and range of species that will be planted, including short-lived pioneer species, to achieve the intended revegetation outcome
- how seed will be sourced, handled, treated and applied to maximise viability
- the use of cover crops (where required) to protect the substrate whilst the target revegetation cover is established
- where required, the type of initial measures that may be adopted (e.g. watering) to promote vegetative establishment and growth
- weed management and pest animal control to protect juvenile vegetation
- an outline of the scope of works and management actions that will be implemented where risks to achieving the approved final land use have been identified in the monitoring program[6] (e.g. significant weed infestations, unstable landforms, etc) and identified in the annual rehabilitation report.

6.2.6. Ecosystem and land use development

This subsection must detail how rehabilitated lands will be actively managed to achieve the approved final land use. Based on the outcomes of the rehabilitation monitoring program (refer to Part 8), this subsection must provide an overview of the management and maintenance program and monitoring that will be implemented to achieve the approved, or if not yet approved, the proposed rehabilitation objectives and rehabilitation completion criteria and demonstrate that rehabilitation is likely to be sustainable in the long-term. The information provided must include, but is not limited to, the following:

- weed and feral animal control of rehabilitation areas
- erosion and drainage controls
- unstable landforms
- environmental monitoring and management of surface water, groundwater, ecology, land capability
- re-seeding/planting of rehabilitation areas that may have failed or where key species are under-represented (e.g. lack of germination, high plant mortality rate)
- maintenance fertilising
- repair of fence lines, access tracks and other general related land management activities.

[6] The process to identify risks to achieving the approved final land use and the identification of proposed corrective actions, must be documented in section 8.3 of the rehabilitation management plan. The outcomes of which must be reported in the annual rehabilitation report and forward program.

For agricultural final land use(s), this subsection must outline how these areas will be managed to demonstrate agricultural productivity (e.g. grazing trials).

6.3. Rehabilitation of areas affected by subsidence

This section must describe subsidence remediation processes that may be required to rehabilitate subsidence impacts. This section must describe:

- the range of subsidence mitigation and remediation techniques that may be implemented
- the process of validating whether subsidence mitigation and remediation techniques have been effective.

To avoid duplication for underground coal mining operations, where the above information may be contained as part of an extraction plan or subsidence management plan approved under the relevant development consent or mining lease(s) respectively, a reference to the relevant sections must be included in this subsection.

7. Part 7 – Rehabilitation quality assurance process

This section must include a description of the rehabilitation quality assurance process that will be implemented throughout the life of an operation across the following phases of rehabilitation:

a. active mining
b. decommissioning
c. landform establishment
d. growth medium development
e. ecosystem and land use establishment
f. ecosystem and land use development.

This section must describe the key deliverables and activities to be undertaken and recorded for each phase of rehabilitation including:

- the specifications/criteria/standards for each phase of rehabilitation that will be achieved (see Explanatory note 10).
- the method of monitoring and evaluating rehabilitation, and the proactive and reactive management approach, that ensures rehabilitation is being implemented in accordance with the nominated methodologies
- the identified risks to rehabilitation and how they will be addressed before proceeding to the next phase of rehabilitation.

This section must describe how the rehabilitation quality assurance process will be formally integrated into the day-to-day mine planning process, including:

a. the responsibilities for implementation
b. how the processes will be formally documented and recorded (e.g. inspection test plans)
c. how the processes will be reviewed and refined over time to promote continuous improvement.

Explanatory note 10: Rehabilitation quality assurance process

The rehabilitation quality assurance process must address the key actions and/or processes for each rehabilitation phase, where a validation process is required to ensure that identified risk controls have been implemented before proceeding to the next phase of an operation. This will require the development and maintenance of records to validate that these actions/processes have been completed in accordance with nominated specifications/criteria/standards for each phase of rehabilitation.

Nominated specifications/criteria/standards for each phase of rehabilitation may vary across the mine and for each rehabilitation campaign as they are dependent upon the type of mining domain, associated risks/constraints (e.g. substrate geochemical and or physical/structural constraints, level of erosion, extent of weed cover, etc) as well as type of final land use that must be achieved.

The rehabilitation quality assurance process must address how these nominated specifications/criteria/standards are developed and measured against for each phase of rehabilitation.

Examples of what must be considered in developing specifications/criteria/standards for the phases of rehabilitation may include, but not be limited to the following:

- decommissioning (refer to Part 6.2.2 of RMP) – meeting all rehabilitation completion criteria under the rehabilitation categories ‘removal of infrastructure’, ‘retention of infrastructure’ and ‘land contamination’.
- landform establishment (refer to Part 6.2.3 of RMP) – surveys that demonstrates that landform has been constructed in accordance with the design approved in final landform and rehabilitation plan; erosion modelling or geotechnical assessments (for landforms with higher risk of instability) that indicate risks to long term landform instability are low; encapsulation techniques implemented in accordance with the design for tailings dams.
- growth medium development (refer to Part 6.2.4 of RMP) – ameliorants/additives applied and incorporated into substrate as per recommendations from characterisation analysis, soil or organic material added at appropriate rate/depth associated with target final land use.
- ecosystem and land use establishment – target vegetation species mix applied, revegetation implemented as per methodologies in Part 6.2.5 of RMP; revegetation maturity indicators associated with composition, structure and ecological function which are aligned to rehabilitation completion criteria under the rehabilitation category native revegetation; and / or maturity indicators associated with land use capability and sustainability and which are aligned to rehabilitation completion criteria under the rehabilitation category agricultural revegetation.
- ecosystem and land use development – revegetation maturity indicators associated with composition, structure and ecological function which are aligned to rehabilitation completion criteria under the rehabilitation category native revegetation; and / or maturity indicators associated with land use capability and sustainability and which are aligned to rehabilitation completion criteria under the rehabilitation category agricultural revegetation; indicators aligned to rehabilitation completion criteria under rehabilitation categories landform stability, surface water and groundwater.

The quality assurance process must cover all phases of rehabilitation. Separate quality assurance programs are not required for each phase.

The Resources Regulator may require lease holders to provide copies of any records to be made available to an inspector as evidence that quality assurance processes demonstrate that the conditions of relevant development consents and mining leases regarding rehabilitation are being met.

8. Part 8 – Rehabilitation monitoring program

Explanatory note 11: Rehabilitation monitoring program

A rehabilitation monitoring program is required to be developed and implemented to evaluate the progress of rehabilitation towards fulfilling rehabilitation objectives and rehabilitation completion criteria (including any baseline monitoring at analogue sites).

The scope of the monitoring program should reflect the:

- identified risks to rehabilitation associated with the operation
- final land use obligations
- development consent conditions and commitments.

The complexity of a rehabilitation monitoring program will depend on the nature and scale of the mining operation, the level of risk to the environment and the rehabilitation outcomes to be achieved.

When developing a rehabilitation monitoring program, lease holders should select the most appropriate indicators and monitoring methods that:

- align the monitoring program with the rehabilitation objectives and rehabilitation completion criteria
- are relatively simple to measure and are reproducible
- are effective for tracking rehabilitation progress, or regression and potential risks.

The design of the monitoring program should be flexible enough to:

- incorporate industry accepted techniques and/or expert recommendations to address any emerging issues
- assess any new or refined rehabilitation completion criteria that are proposed as a result of rehabilitation and/or analogue site monitoring.

The frequency of monitoring will depend on site-specific circumstances and the selected monitoring methodology. As a guide, the frequency of monitoring will be more intense immediately following rehabilitation until such time that there is adequate ground cover or adequate species establishment.

8.1. Analogue site baseline monitoring

This section must:

- document the baseline monitoring that has and/ or will be carried out to develop rehabilitation completion criteria for approval by the Secretary
- include justification for the analogue site(s) selection with respect to the final land use(s) for rehabilitation areas.

This section must describe any baseline assessments that have been conducted (if any) to define rehabilitation objectives and rehabilitation completion criteria and identify any further assessments required to adequately characterise final land use domains and develop specific rehabilitation completion criteria.

Where lease holders propose rehabilitation objectives and rehabilitation completion criteria that are not developed on baseline assessments of analogue sites, this section must outline the methods (e.g. studies, desktop literature reviews) that have been used to identify the defining characteristics and associated ‘benchmark values’ for each final land use domain.

8.2. Rehabilitation establishment monitoring

This section must document the inspection regime that will be implemented at commencement of the ecosystem establishment phase. This section must describe the appropriate monitoring parameters and methods that will:

- enable early identification of actual or emerging issues that have the potential to delay revegetation establishment
- identify if triggers have been met for preventative or mitigation controls to minimise the impacts of emerging issues in accordance with the trigger action response plan (refer to Part 10)
- provide data that may inform continuous improvement of rehabilitation methods.

Explanatory note 12: Rehabilitation establishment monitoring

Verification tools included in the rehabilitation quality assurance program demonstrate that rehabilitation has been implemented in accordance with the nominated rehabilitation methodologies. The purpose of rehabilitation establishment monitoring, at commencement of the ecosystem establishment phase, is to develop records that will facilitate assessment of the effectiveness of rehabilitation methodologies.

The Resources Regulator expects that rehabilitation establishment monitoring results will be assessed to determine if there are any emerging risks including a risk of rehabilitation failure requiring early intervention. In addition, the Resources Regulator may require lease holders to provide copies of any records to be made available to an inspector as evidence that monitoring is being undertaken in accordance with the rehabilitation management plan.

Further guidance will be provided in guidelines.

8.3. Measuring performance against rehabilitation objectives and rehabilitation completion criteria

This section must document the monitoring activities to assess performance against the approved, or if not yet approved, the proposed rehabilitation objectives and rehabilitation completion criteria, and ultimately demonstrate that rehabilitation objectives and rehabilitation completion criteria have been met. Monitoring parameters in the rehabilitation monitoring program must be aligned to the rehabilitation completion criteria, specifically the performance indices.

This section must also detail the monitoring activities (e.g. inspections) undertaken following the completion of key rehabilitation processes in accordance with the quality assurance program, and at the completion of each phase of rehabilitation.

This section must describe the processes to be implemented to:

- assess rehabilitation monitoring data to identify developing trends on rehabilitation areas
- determine if rehabilitation is on a trajectory to achieving the final land use
- identify any emerging risks of failing to achieve the final land use. This includes assessment of whether rehabilitation monitoring data has exceeded any identified thresholds that trigger intervention or management actions (refer to Part 10).

9. Part 9 – Rehabilitation research, modelling and trials

Explanatory note 13: Rehabilitation research, modelling and trials

Rehabilitation research, modelling and trials

Lease holders should proactively seek to improve rehabilitation methodologies using a range of resources including, but not limited to:

- rehabilitation trials at existing rehabilitation areas
- undertaking literature reviews to assess the suitability of various rehabilitation techniques and identify industry best practices
- partnering with research institutions to undertake research programs that address specific knowledge gaps
- undertaking modelling to improve rehabilitation methodologies (e.g. landform evolution modelling to address any long-term erosion and stability risks).

Lease holders should develop rehabilitation research programs, modelling and trials to ensure that any knowledge gaps do not remain unaddressed and adversely impact the implementation of the life of mine rehabilitation schedule.

Rehabilitation research, modelling and trials may not be required at all mines, for example where rehabilitation methods are well established and on a trajectory to achieving the approved rehabilitation outcomes.

9.1. Current rehabilitation research, modelling and trials

This section must summarise the status of any current and ongoing rehabilitation research, modelling and trials carried out by the lease holder (as required) to address any knowledge gaps (as relevant) in relation to:

- the control or management of risks identified in the rehabilitation risk assessment
- the development and further refinement of rehabilitation completion criteria and
- the achievement of rehabilitation objectives and rehabilitation completion criteria.

Information in this section must:

a. describe the status of all current trials, modelling and research programs

b. summarise the outcomes of any completed research programs, modelling and rehabilitation trials such as any review or further development of rehabilitation methodologies

c. describe how results have been used to inform the development of future research programs, modelling and rehabilitation trials required to address remaining knowledge gaps.

9.2. Future rehabilitation research, modelling and trials

This section must outline future rehabilitation research, modelling or trials proposed to be carried out by the lease holder to address any risks identified in the rehabilitation risk assessment and any knowledge gaps to meet the rehabilitation objectives and rehabilitation completion criteria (if applicable).

This section must:

- outline the purpose and scope of each proposed research program, modelling or rehabilitation trial, referencing the knowledge gap or rehabilitation risk to which the program, model or trial relates (e.g. tailings storage facility capping trials to develop capping strategies, landform evolution modelling to address any long-term erosion and stability risks)
- identify the objectives of each proposed research program, modelling or rehabilitation trial with respect to rehabilitation methodologies and achievement of the final land use
- nominate the timing of each proposed research program, modelling or rehabilitation trial to achieve the program or trial objectives to facilitate the lease holder achieving the life of mine rehabilitation schedule and the rehabilitation objectives and rehabilitation completion criteria.

10. Part 10 – Intervention and adaptive management

This part must outline the rehabilitation trigger action response plans (TARPs) and other contingency strategies that will be implemented when rehabilitation monitoring indicates that there are emerging threats to rehabilitation or rehabilitation is not on a trajectory to achieving the final land use. In addition, this part must outline how the results of rehabilitation research and trials will be integrated to continually improve rehabilitation practices.

Explanatory note 14: Trigger action response plans (TARP)

Adaptive management is based on evaluating the probability of an event occurring, evaluating the likely consequence(s), and using a risk-based approach to determine circumstances where response or action is required.

Intervention and adaptive management tools such as a TARP can be used to clearly identify the circumstances where management response is required to deal with unexpected events (e.g. drought or bushfire) or to emerging risks to rehabilitation revealed by monitoring results.

To help lease holders implement a timely response to emerging threats to rehabilitation, the outcomes of the rehabilitation risk assessment (refer to Part 3) should be used to form the basis of a TARP that is maintained by the lease holder.

The TARP should include (but is not limited to):

- the major identified threats to rehabilitation success
- the trigger levels/ thresholds at which response actions are required if monitoring indicates there is a risk to rehabilitation progress or success
- a summary of the response actions to be implemented if monitoring results exceed trigger levels, which may include investigations, specialist assessments, review of the rehabilitation risk assessment, and activities to mitigate, remediate, and/or compensate any identified impacts
- scientific and/or quantifiable evidence that each planned response action is suitable for managing a situation before threats to rehabilitation success become unacceptable, unmanageable or irreversible.

A key benefit of developing a rehabilitation TARP is that it documents the considered and planned early responses if monitoring indicates that a trend towards unacceptable levels of risk is emerging. To be effective, triggers should be aligned with rehabilitation completion criteria where possible. Performance against all triggers should be verified in the monitoring program.

Upper and lower trigger limits should be nominated to provide an escalation process if early intervention (such as rehabilitation maintenance activities) following exceedances of lower limits are not effective and further intervention is required, if the threat to rehabilitation escalates and upper trigger limits are exceeded.

Rehabilitation TARP do not need to be reproduced in full in the rehabilitation management plan since Clause 7 of Schedule 8A to the Mining Regulation 2016 requires lease holders to regularly review all aspects of risk management to continuously improve rehabilitation practices.

The Resources Regulator may require the lease holder to provide records, including the rehabilitation TARP, to an inspector appointed under the *Mining Act 1992*.

Further guidance regarding records has been provided in guidelines on the website.

11. Part 11 – Review, revision and implementation

This section must describe the triggers for reviewing and revising the rehabilitation management plan and the process for document management. This section must include (in a table):

- all statutory triggers for reviewing the rehabilitation management plan in accordance with the development consent conditions, mining lease conditions and other regulatory requirements and statutory approvals
- the process for ensuring that mining and rehabilitation activities are being conducted in accordance with the rehabilitation management plan.

Explanatory note 15: Reviewing and revising the rehabilitation management plan)

In accordance with Clause 11 of Schedule 8A to the Mining Regulation 2016, the lease holder must amend the prepared rehabilitation management plan in the following circumstances:

- as a consequence of an amendment made to the rehabilitation objectives, rehabilitation completion criteria or final landform and rehabilitation plan
- to reflect any changes to the risk control measures in the rehabilitation management plan that are identified in a rehabilitation risk assessment
- whenever directed in writing to do so by the Secretary.

The lease holder must ensure that the rehabilitation management plan remains current and relevant to ensure it defines the rehabilitation outcomes to be achieved in relation to the mining area and sets out the strategy to achieve those outcomes. This is partly informed by ensuring that the effectiveness of the rehabilitation risk assessment and controls adopted in the life of mine progressive rehabilitation schedule and rehabilitation phases are routinely evaluated throughout the life cycle of a project. Whenever any foreseeable hazard is identified that presents a risk to achieving the rehabilitation objectives, the rehabilitation completion criteria and the final landform and rehabilitation plan, the lease holder is required to update the rehabilitation risk assessment and the rehabilitation management plan.

The rehabilitation management plan may also require updating to include more detailed mine closure activities as rehabilitation progresses.

The review and updating of the rehabilitation management plan should include and be informed by (as relevant) additional stakeholder consultation (refer to Section 4.2).

12. Part 12 – Supporting Appendices

This section may include, as appendices, supporting documents that are specifically relevant to the rehabilitation methodologies identified in Part 6. This could include other approved management plans under other regulatory provisions that will be, or are being, implemented.

Explanatory note 16: Supporting documents

In some cases there may be other supporting documents and management plans, specifically relating to rehabilitation methodologies, that are required to be implemented at a mine. This could include management plans approved under a development consent and/ or specific intervention strategies. Examples include:

- sealing methodologies for underground workings
- groundwater management strategies
- final void management plans
- creek remediation plans
- subsidence impacts remediation plans.

In such instances it may be appropriate for these documents to be attached to the rehabilitation management plan with a relevant summary provided in Part 6.

Lease holders are reminded that Clause 10 of Schedule 8A to the Mining Regulation 2016 requires all matters set out in the rehabilitation management plan (including supporting documents) to be implemented. It is therefore important that these supporting documents are consistent with the rehabilitation methodologies outlined in the rehabilitation management plan.

Glossary

Term	Definition
Active	In the context of rehabilitation, land associated with mining domains is considered 'active' for the period following disturbance until the commencement of rehabilitation.
Active mining phase of rehabilitation	In the context of rehabilitation, the active mining phase of rehabilitation constitutes the rehabilitation activities undertaken during mining operations such as land clearing, salvaging and managing soil resources, salvaging habitat resources, and native seed collection. This phase also includes management actions taken during operations to manage risks to rehabilitation and enhance rehabilitation outcomes such as selective handling of waste rock and management of tailings emplacements.
Analogue site	An area of land and/or water that is a 'reference site' that represents an example of the defining values and characteristics (such as vegetation composition and structure or agricultural productivity) of the final land use. An analogue site is a selected location surrounding or within a proposed/existing mine site. The location is usually an undisturbed area or a self-sustaining vegetation community that demonstrates the existing environment without any impact of disturbance (i.e. acts as a baseline for the surrounding undisturbed environment). Characteristics of analogue sites can be assessed to develop the rehabilitation objectives and rehabilitation completion criteria for final land use domains.
Annual rehabilitation report	As defined in the Mining Regulation 2016.
Annual reporting period	As defined in the Mining Regulation 2016.
Biodiversity offset	Land secured and managed for the protection and enhancement of biodiversity values. The biodiversity offsets scheme is set out in the *Biodiversity Conservation Act 2016*.
Biological resources	In biology and ecology, a substance that is required by an organism for normal growth, maintenance or reproduction. In the context of rehabilitation, biological resources are those materials salvaged from the land, or sourced externally, that are used to enhance the biological and ecological functioning of a rehabilitated site. This includes topsoil and subsoils, woody or vegetative materials, rocks and nesting structures.
Conservation agreement	An agreement made under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth).
Decommissioning	The process of removing mining infrastructure and removing contaminants and hazardous materials.
Decommissioning phase of rehabilitation	Activities associated with the removal of mining infrastructure and removal and/or remediation of contaminants and hazardous materials. In the context of the rehabilitation management plan (for large mines only) this phase of rehabilitation may also include studies and assessments associated with decommissioning and demolition of infrastructure or works carried out to make

Term	Definition
	safe or 'fit for purpose' built infrastructure to be retained for future use(s) following lease relinquishment.
Department	Department of Primary Industries and Regional Development.
Disturbance	See 'Surface disturbance'.
Disturbance area	An area that has been disturbed and that requires rehabilitation. This may include areas such as exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped), and areas requiring rehabilitation that are temporarily stabilised (e.g. managed to minimise dust generation and/or erosion).
Domain	An area (or areas) of the land that has been disturbed by mining and has a specific operational use (mining domain) or specific final land use (final land use domain). Land within a domain typically has similar geochemical and/or geophysical characteristics and therefore requires specific rehabilitation activities to achieve the associated final land use.
Ecosystem and land use development	This phase of rehabilitation consists of the activities to manage maturing rehabilitation areas on a trajectory to achieving the approved or, if not yet approved, the proposed: • rehabilitation objectives, and • rehabilitation completion criteria, and • for large mines – final landform and rehabilitation plan. For vegetated land uses, this phase may include processes to develop characteristics of functional self-sustaining ecosystems, such as nutrient recycling, vegetation flowering and reproduction, increasing habitat complexity, and the development of a productive, self-sustaining soil profile. This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management.
Ecosystem and land use establishment	This phase of rehabilitation consists of the processes to establish the approved final land use following construction of the final landform (as per the approved final landform and rehabilitation plan for large mines). For vegetated land uses, this rehabilitation phase includes establishing the desired vegetation community and implementing land management activities such as weed control. This phase of rehabilitation may also include habitat augmentation such as installation of nest boxes.
Exploration	Has the same meaning as that term under the *State Environmental Planning Policy (Resources and Energy) 2021*.
Fauna	Has the same meaning as that term under the *National Parks and Wildlife Act 1974*.

Term	Definition
Final landform and rehabilitation plan	As defined in the Mining Regulation 2016.
Final land use	As defined in the Mining Regulation 2016.
Final land use domain	A land management unit with a final land use. A mining lease may have one final land use (e.g. returning the entire mining lease to native vegetation) or several final land use units (e.g. a mix of pasture areas and native ecosystems). Each final land use unit represents a separate final land use domain.
Final void	A final void is demarcated by the extent of an area that does not free drain to the surrounding surface environment. In other words the void's planar extent is defined by the lowest point of the voids crest, often referred to as the spill point level (or spill level). The spill level is the elevation in the void, which if filled with water, water would spill into the surrounding landscape. A final void typically comprises the following: • an area whereby material was extracted as a result of mining and a void remains after mining is complete; and / or • highwalls; and / or • low walls; and / or • ramps.
Form and way	Means the form and way approved by the Secretary pursuant to clause 9 in Schedule 8A in the Mining Regulation 2016. The approved 'Form and way: Rehabilitation management plan for large mines' is available on the Department's website. The Secretary has approved the online form on the Resources Regulator Portal (accessible at https://nswresourcesregulator.service-now.com/regulator) as the prescribed form and way for the rehabilitation objectives and rehabilitation completion criteria statements for large mines. The Secretary has approved the Mine Rehabilitation Portal (accessible at http://www.minerehabilitationportal.nsw.gov.au/) as the prescribed form and way for the final landform and rehabilitation plan for large mines.
Forward program	As defined in the Mining Regulation 2016.
Growth medium development	This phase of rehabilitation consists of activities required to establish the physical, chemical and biological components of the substrate required to establish the desired vegetation community (including short-lived pioneer species) to ensure achievement of the approved or, if not yet approved, the proposed: • rehabilitation objectives • rehabilitation completion criteria • for large mines – final landform and rehabilitation plan. This phase may include spreading the prepared landform with topsoil and/or subsoil and/or soil substitutes, applying soil ameliorants to enhance the physical,

Term	Definition
	chemical and biological characteristics of the growth media, and actions to minimise loss of growth media due to erosion.
Habitat	Has the same meaning as that term under the *Biodiversity Conservation Act 2016* and the *Fisheries Management Act 1994* (as relevant).
Indicator	An attribute of the biophysical environment (e.g. pH, topsoil depth, biomass) that can be used to approximate the progression of a biophysical process. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion (defined end point). It may be aligned to an established protocol and used to evaluate changes in a system.
Inspector	As defined in the *Mining Act 1992.*
Land	As defined in the *Mining Act 1992.*
Landform establishment	This phase of rehabilitation consists of the processes and activities required to construct the approved final landform (as per the development consent and, for large mines, the approved final landform and rehabilitation plan). In addition to profiling the surface of rehabilitation areas to the approved final landform profile, this phase may include works to construct surface water drainage features, encapsulate problematic materials such as tailings, and prepare a substrate with the desired physical and chemical characteristics (e.g. rock raking or ameliorating sodic materials).
Large mine	As defined in the Mining Regulation 2016.
Lease holder	The holder of a mining lease.
Life of mine	The timeframe of how long a mine is approved to mine, from commencement to closure.
Mine rehabilitation portal	Means the Resources Regulator's online portal that lease holders must use (via a registered account) to: • upload rehabilitation geographical information system (GIS) spatial data • develop rehabilitation GIS spatial data (using online tracing functions) • generate rehabilitation plans and rehabilitation statistics using the map viewer and rehabilitation key performance indicator functionalities. Data submitted to the mine rehabilitation portal is collated in a centralised geodatabase for use by the Resources Regulator to regulate rehabilitation performance of lease holders.
Mining area	As defined in the *Mining Act 1992*.
Mining domain	A land management unit with a discrete operational function (e.g. overburden emplacement), and therefore similar geophysical characteristics, that will require specific rehabilitation treatments to achieve the final land use(s).
Mining lease	As defined in the *Mining Act 1992*.
Native vegetation	Has the same meaning as that term under the *Local Land Services Act 2013.*
Overburden	Material overlying coal or a mineral deposit.

Term	Definition
Performance indicator	An attribute of the biophysical environment (e.g. pH, slope, topsoil depth, biomass) that can be used to demonstrate achievement of a rehabilitation objective. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion, that is, a defined end point. It may be aligned to an established protocol and used to evaluate changes in a system.
Phases of rehabilitation	The stages and sequences of actions required to rehabilitate disturbed land to achieve the final land use. The phases of rehabilitation are: • active mining • decommissioning • landform establishment • growth medium development • ecosystem and land use establishment • ecosystem and land use development • rehabilitation completion (sign-off).
Progressive rehabilitation	The progress of rehabilitation towards achieving the approved or, if not yet approved, the proposed: • rehabilitation objectives • rehabilitation completion criteria • for large mines – final landform and rehabilitation plan. This may be described in terms of domains, phases, performance indicators and rehabilitation completion criteria.
Rehabilitation	As defined in the *Mining Act 1992*.
Rehabilitation completion	The final phase of rehabilitation when a rehabilitation area has achieved the final land use for the mining area: • as stated in the approved rehabilitation objectives and the approved rehabilitation completion criteria • for large mines – as spatially depicted in the approved final landform and rehabilitation plan. Rehabilitation areas may be classified as complete when the Resources Regulator has determined, in writing, that rehabilitation has achieved the final land use following submission of the relevant application by the lease holder.
Rehabilitation completion criteria	Rehabilitation completion criteria set out the criteria the achievement of which will demonstrate the achievement of the rehabilitation objectives.
Rehabilitation cost estimate	As defined in the Mining Regulation 2016.
Rehabilitation management plan	As defined in the Mining Regulation 2016.

Term	Definition
Rehabilitation objectives	Means the rehabilitation objectives required to achieve the final land use for the mining area.
Rehabilitation outcomes	Means the final land use for the mining area as stated in the approved rehabilitation objectives, the approved rehabilitation completion criteria and (for large mines) the approved final landform and rehabilitation plan.
Rehabilitation risk assessment	As defined in the Mining Regulation 2016.
Rehabilitation schedule	The defined timeframes for progressive rehabilitation set out in the forward program.
Relevant stakeholders	Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes: a. the relevant development consent authority b. the local council c. the relevant landholder(s) d. community consultative committee (if required under the development consent) or equivalent consultative group e. affected landholder(s) f. government agencies relevant to the final land use g. affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities) h. local Aboriginal communities i. any other person or body determined by the Minister to be a relevant stakeholder in relation to a mining lease.
Resources Regulator portal	Means the Resources Regulator's online portal that lease holders must use (via a registered account) to submit the rehabilitation objectives and rehabilitation completion criteria for approval.
Risk	The effect of uncertainty on objectives. It is measured in terms of consequences and likelihood (AS/NZS ISO 31000:2018).
Risk control	A measure (process, device practice or action) that modifies (eliminates, minimizes or mitigates) a risk.
River	Has the same meaning as that term under the *Water Management Act 2000*.
Secretary	The Secretary of the Department.
State significant development (SSD)	Has the same meaning as that term under the *Environmental Planning and Assessment Act 1979*. Note: Schedules 1 and 2 of *State Environmental Planning Policy (Planning Systems) 2021* provide a full list of SSD types and identified sites. Large mining and extraction operations (including all coal mines) are identified as SSD.

Term	Definition
Surface disturbance	Includes activities that disturb the surface of the mining area, including mining operations, ancillary mining activities and exploration.
Tailings	A combination of the fine-grained (typically silt-sized, in the range from 0.001 to 0.6 mm) solid materials remaining after the recoverable metals and minerals have been extracted from mined ore, together with the water used in the recovery process.[7]
Waste	Has the same meaning as that term under the *Protection of the Environment Operations Act 1997*.
Watercourse	A river, estuary or lake, as those terms are defined under the *Water Management Act 2000*.
Wetland	Has the same meaning as that term under the *Water Management Act 2000*.

[7] Tailings Management: Leading Practice Sustainable Development Program for the Mining Industry, Commonwealth of Australia (2016).