Heron Resources Limited
Tarago Operations Pty Limited

Woodlawn Mine

SML 20

Vegetation and Rehabilitation Management Plan

August 2017

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1. Introduction

1.1 Purpose

This Vegetation and Rehabilitation Management Plan (VRMP) has been prepared in response to the conditions of Project Approval 07_0413 covering the related issues of vegetation management and rehabilitation as well as specific project commitments contained in the EA. The key commitments in the EA covering vegetation and rehabilitation were:

- Takeover the rehabilitation liability of the old mine site outside the area of control of Veolia and Infigen.
- Rehabilitate the old tailings dams by first removing the recoverable metals prior to covering with available product from Veolia's Alternative Waste Treatment Plant.
- Establish a vegetation offset of least 71 hectares of the Western Tablelands Dry Forest vegetation community within buffer land surrounding the Project.

The Project Approval provided additional requirements for vegetation management in Condition 6 and 20 of Schedule 3 while rehabilitation management is also set out in Condition 6, 20, 21 and 22 of Schedule 3. Given that these issues are interrelated, it was deemed appropriate to combine both the management of vegetation and future rehabilitation initiatives into the one plan. As the vegetation offset consists of rehabilitating and enhancing existing vegetation systems, this aspect is also covered in this VRMP.

1.2 Scope and Objectives

This VRMP covers both the construction and operation of the Woodlawn Project, shown on Plan 1, which consists of:

- Temporary revegetation works associated with erosion controls during construction.
- Permanent rehabilitation activities around the new Processing Plant site on completion of construction.
- Rehabilitation and vegetation enhancement associated with the vegetation offset.
- Preparing and implementing rehabilitation trials on Tailings Dam North (TDN).
- Reprocessing of existing tailings to recover available metals.
- Implementing final rehabilitation activities progressively as each dam is reprocessed.
- Undertaken final closure rehabilitation activities on completion of the operation.

The objectives of the rehabilitation component of the project are specified in Condition 6 of the Project Approval as detailed in Table 1.1 below.

Table 1.1 - Rehabilitation Objectives

Feature	Objectives
Mine site (as a whole)	▪ Safe, stable and non-polluting with no final voids on the surface ▪ Integrated with the rehabilitation of the Woodlawn Landfill ▪ Revegetated with plant species characteristic of Western Tablelands Dry Forest vegetation community
Underground workings	▪ No measurable subsidence effects on the Woodlawn Landfill, evaporation dams and tailings dams on the site
Surface Infrastructure	▪ To be decommissioned and removed, unless otherwise agreed with the Director-General
Waste rock dumps	▪ Any seepage from the waste rock dumps to be contained and treated on the site
Tailings dams	▪ All tailings contained within low permeability structures with no seepage to surrounding areas from tailings dams ▪ Final landform and vegetation cover to be stable, self sustaining, free draining and consistent with surrounding rehabilitated areas
Evaporation dams	▪ Final landform and vegetation cover to be stable, self sustaining, free draining and consistent with surrounding rehabilitated areas
Rehabilitated slopes	▪ All rehabilitated slopes to be less than 10 degrees and free draining (except for the dam walls which are permitted to have a final slope of up to 18 degrees)
Drainage lines	▪ Hydraulically and geomorphologically stable, with vegetation that is in the same condition or better than that which existed prior to mining under this approval
Revegetation area	▪ Establish at least 71 hectares of the Western Tablelands Dry Forest vegetation community in either Area A and/or Area B shown in Appendix 3 of the Project Approval.
Community	▪ Minimise the adverse socio-economic effects associated with mine closure

The objectives of the current Mining Operations Plan (MOP) in relation to vegetation management and rehabilitation initiatives are also incorporated into this VRMP. These objectives are to produce a final landform that will:

- ❒ be undertaken progressively throughout operations;
- ❒ be physically and chemically stable;
- ❒ be suitable for its future intended use;
- ❒ be aesthetically consistent with the pre-existing and surrounding landforms;
- ❒ not pose an ongoing environmental threat or liability;
- ❒ allow drainage systems to remain functional and stable under extreme rainfall events;
- ❒ be in accordance with agency requirements and best management guidelines;
- ❒ be sufficiently flexible to accommodate outcomes from research and changes in project operations; and

- be of a suitable standard such that the final landform is stable and does not pose a pollution risk thus enabling the leases to be relinquished.

1.3 Woodlawn Mine Key Personnel and Responsibilities

Management responsibility for the Woodlawn Mine will be as follows.

Table 1 - Management Responsibilities

Position	Personnel	Company	Responsibility	Contact Details
Managing Director	Wayne Taylor	Heron Resources	Overall responsibility for the construction and operation of the Woodlawn Mine	02 9119 8111
Chief Operating Officer	Andrew Lawry	Heron Resources	Responsible for Project delivery and operations	02 9119 8111
Project Manager	To be appointed	Heron Resources	Construction Project Management and Implementation	02 9119 8111
Manager Mining Engineering	To be appointed	Heron	Mine Planning and Design	02 9119 8111
General Manager	Brian Hearne	Heron Resources	Conduct of Mining Operations	02 9119 8111
Exploration Manager, Chief Geologist	David von Perger	Heron Resources	Resource Evaluation	02 9119 8111
Environmental Manager	Robert Byrnes	IEC	Conduct of environmental management and compliance	02 4878 5502
Woodlawn Mine Environmental Officer	Zoe Reed	Heron	On site environmental management	02 9119 8111

1.3.1 Responsibility

The **Managing Director** has overall responsibility for the implementation of the Environmental Management Strategy (EMS) at Woodlawn Mine as well as to review and approve expenditure and resources necessary to effectively implement the EMS and individual management plans.

The **Chief Operating Officer (COO)** reports to the Managing Director and is responsible for Project delivery and ultimate development and operation of the Project.

The **Project Manager** will ensure that the approved management provisions and requirements of the individual Environmental Management Plans (EMPs) and commitments are implemented. The Project Manager will review and evaluate the performance of the EMS and environmental protection initiatives. This role may be merged with the Mine Manager during the construction period prior to commissioning.

The **Construction Manager** will be responsible for the day to day management of the construction workforce, implementation of the Construction EMP and report directly to the Project Manager.

The **Mine Manager** is responsible for the day to day management of the mine and overview role for environmental management systems on site, which will include:

- ❒ Ensuring compliance with environmental requirements for the site.
- ❒ Represent the on site contact officer under the Environment Protection Licence and other statutes.
- ❒ Report to the COO on a monthly basis on the environmental performance of mine.
- ❒ Liaise with the Environmental Officer on environmental matters as required.

The **Environmental Manager** will provide the following assistance with the EMS:

- ❒ Provide technical assistance on environmental matters to the Mine Manager.
- ❒ Undertake the necessary environmental monitoring program.
- ❒ Organise external environmental experts as required.
- ❒ Organise external environmental audits of the site on an annual basis.
- ❒ Develop corrective action programs in consultation with the Mine Manager and monitor their implementation.
- ❒ Develop and implement an environmental training package for the mine.

1.3.2 Company Structure

The Woodlawn Project, shown on Plan 2, will be developed by Tarago Operations Pty Limited (Tarago Operations), a wholly owned subsidiary of Heron Resources Limited (Heron) which merged with TriAusMin Limited who was the original proponent for the Project.

The Woodlawn Project will be developed as a "Greenfield Project" despite its long history and existing infrastructure. The construction program will be managed by Heron using construction contractors. Once commissioned, the new facility will be operated by Heron through its subsidiary Tarago Operations.

1.4 Legislative Requirements

The primary legislative controls governing the management of vegetation on site and rehabilitation activities are the Mining Act 1992 and the Environmental Planning and Assessment Act 1979, the latter through the conditions imposed on the project under the Project Approval. Of indirect relevance are the Contaminated Land Management Amendment Act and Sydney Drinking Water State Environmental Planning Policy both of which cover land and water quality issues. Relevant legislation is described below.

Mining Act 1992 – This Act covers the exploration and extraction of the State's resources having regard to the need to encourage ecologically sustainable development. It provides a framework for compensation to landholders for loss or damage resulting from such operations and requires the payment of security to provide for the rehabilitation of mine

sites, effective rehabilitation of disturbed land and water, and ensures mineral resources are identified and developed in ways that minimise impacts on the environment

Environmental Planning and Assessment Act 1979 – Provides the primary approval path for mining projects and sets environmental management and reporting conditions as part of the approval. For new mining approvals, it also provides an integrated approach to other mining related approvals. The Woodlawn Project holds Project Approval 07_0143 MOD 1 covering its development and operations.

Contaminated Land Management Amendment Act 2008 – This Act provides regulatory controls to ensure that land is not allowed to be put to an inappropriate use given its land use history and that processes are put in place to identify and investigate any contamination at an early stage in the environmental planning and assessment process. Any necessary remediation can therefore be made an integral part of any redevelopment and rehabilitation activities at the cessation of mining.

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 – this policy replaces the Drinking Water Catchments Regional Environmental Plan No 1 and specifically requires all proposed development in the Sydney drinking water catchment to demonstrate a neutral or beneficial effect on water quality.

1.5 Statutory Approvals

The Woodlawn Project received Project Approval on 4th July 2013 with subsequent modifications received on 22nd April 2016 and 6th July 2017. The approval was obtained under the provisions of Part 3A of the Environmental Assessment Act 1979 and following the public exhibition of an Environmental Assessment (EA) document.

The EA contained a number of environmental commitments while the Project Approval was also subject to conditions. Specifically, the conditions and proponent commitments relating to the vegetation management and rehabilitation requirements as follows:

Table 1.2 - Consent Conditions Relating to Vegetation Management and Rehabilitation

Condition	Details	Where Addressed
Sch 3 Condition 1	Tailings Dams design and performance measures including: Designed accordance with Dam Safety Committee requirements Tailings Dam South Sealing and permeability criteria Stormwater management	Section 4.4.3 Table 4.2
Sch 3 Condition 2	Tailings Rehabilitation Strategy including: Details of capping quantity, quality and availability Methodology and contingencies	Section 4.1 Section 4.2.5 Section 4.2.6
Sch 3 Condition 6	Lists rehabilitation objectives	Table 1.1
Sch 4 Condition 20	The Proponent shall prepare and implement a Vegetation Management Plan for the project to the satisfaction of the Director-General. This plan must:	This Plan

Condition	Details	Where Addressed
	a) be prepared in consultation with OEH and submitted to the Director-General for approval prior to commencing construction;	Pending
	b) describe how the additional 71 hectares of revegetation area (shown in Appendix 3) would be integrated with the overall rehabilitation of the site	Sections 2.3, 3.2 and 3.2.1
	c) describe the short, medium, and long term measures that would be implemented to: • manage the remnant vegetation and habitat on the site and in the revegetated area/s; and • implement revegetation, including detailed performance and completion criteria;	Section 3.5 Section 4.4.3
	d) include a detailed description of the procedures to be implemented for: • minimising the impacts on fauna on site, including pre-clearance surveys; • enhancing the quality of existing vegetation and fauna habitat; • restoring native vegetation and fauna habitat on the revegetated area through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of fauna habitat features, including establishing and maintaining bat habitat for the Eastern Bent-wing Bat and Yellow-bellied Sheathtail-bat; • establishing a revegetation planting density that is consistent with the rehabilitation objectives in Table 2 of Schedule 3; • maximising the salvage of resources within the approved disturbance area – including vegetative and soil resources – for beneficial reuse in the rehabilitation of the site; • collecting and propagating seed; • bushfire management; • controlling weeds, feral pests, erosion and access to the revegetation areas; and	 Section 3.6 Section 3.7 Section 3.3 Section 2.2 Section 3.2.1 Section 3.7 Section 3.4 Section 3.8 Section 3.8 Section 3.9 Section 3.10 Section 3.11
	e) include a seasonally-based program to monitor and report on the effectiveness of these measures, and progress against the detailed performance and completion criteria; and	Section 5.1.1 Section 5.1.2 Section 5.2.3
	f) include details of who would be responsible for monitoring, reviewing and implementing the plan.	Section 1.3

Condition	Details	Where Addressed
Sch 4 Condition 21	The Proponent shall carry out rehabilitation of the site progressively, that is, as soon as reasonably practicable after disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim rehabilitation strategies shall be employed when areas prone to dust generation cannot be permanently rehabilitated until later in the project life. *Note: It is accepted that some parts of the site that are progressively rehabilitated may be subject to further disturbance at some later stage of the project.*	Section 1.2 Section 3.3
Sch 4 Condition 22	The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Director- General. This plan must:	Chapter 4
	a) be prepared in consultation with the DRE, EPA, NOW and Council;	Noted
	b) be submitted to the Director-General for approval prior to carrying out mining operations on the site	Noted
	c) be prepared in accordance with any relevant DRE guideline;	Chapter 4
	d) outline the procedures to be implemented to achieve the rehabilitation objectives in Condition 6 of Schedule 3;	Chapter 4
	e) outline the operational procedures (including testing, monitoring and performance criteria) used to verify the ongoing suitability of the compost material to be used in rehabilitation;	Section 5.1
	f) include detailed designs for the short term and long term rehabilitation of tailings and evaporation dams, including surface water management and capping design which takes into account total predicted settlement;	Section 4.1
	g) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site	Section 4.4.3
	h) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, and address all aspects of rehabilitation including mine closure, final landform, and final land use; and	Chapter 5
	i) include a program to monitor, independently audit and report on the ongoing effectiveness of the measures and progress towards the detailed performance and completion criteria.	Section 5.1 Section 5.2 Section 5.3 Section 5.7
Sch 4 Condition 28	a) establish a vegetation screen along the fence line next to Collector Road within 6 months of commencement of construction;	Section 3.4.3
Sch 6 Condition 4	Describe rehabilitation activities within the Annual Review	Section 5.2
EA Statement of Commitments 1C	Prepare a Mining Operations Plan covering: Flora and Fauna Management and Rehabilitation Measures	This Plan
EA Statement of Commitments 5D	Alternative topdressing material, incorporating mulch and biosolids, would be used where appropriate.	Section 4.1

Condition	Details	Where Addressed
EA Statement of Commitments 5J	At site closure, the tailings dams (TDN, TDS, TDW and TSF4) would be rehabilitated using a multi-layer process described in Chapter 18 - *Rehabilitation and final landform* of the EA.	Section 4.4
EA Statement of Commitments 9A	Flora and Fauna Management Plan or MOP to include the following measures: ❒ delineation of development envelopes ❒ pre-clearing survey protocols ❒ implementation of sediment control measures prior to construction ❒ vegetation clearing protocols, including salvage and relocation of suitable dead logs ❒ protection of waterways, and aquatic and riparian habitats ❒ ongoing monitoring of the operations in regard to the Project Site's retained habitats, including water quality ❒ management of weed invasion ❒ rehabilitation of the Project Site.	 Section 3.5 Section 3.6 Section 3.7 Section 3.8 Section 3.9 Section 4.3
SOC 11E	All facilities and compounds would be removed during the decommissioning and rehabilitation of the Project Site.	Section 4.4

Tarago Operations will undertake the activities described in this management plan and as required by the Project Approval and Statement of Commitments contained in the EA as may be modified.

1.6 Consultation

This Plan has been formulated through a process of consultation with government and non-government organisations. A consultation log is provided in Appendix C which will be updated as required during the construction and ongoing operation of the Woodlawn Mine.

2. Flora and Fauna Resources

2.1 Flora

The Woodlawn site is within the South Eastern Highlands Bioregion, and is within an area that has experienced extensive clearing, disturbance due to previous land uses and is fragmented. No threatened ecological communities were identified in the field survey area.

Given the highly fragmented and disturbed landscape within the project sSite, in conjunction with the isolated construction footprints of the Project, impacts on local flora and fauna will largely be avoided. Only 0.1 ha of natural regrowth community will be cleared for the Project, consisting of Hickory Wattle Low Open Forest.

The remaining clearance comprises highly disturbed Derived Grassland and Mixed Wattle and Planted Open Scrub. Some areas of artificial Grassland/Sedgeland located in existing farm dams and constructed drainage embankments will also be removed for the processing and new tailings storage facility. No significant loss or disturbance of threatened biodiversity habitat is expected.

The original vegetation community that would have existing prior to clearing for agricultural activities would be primarily Western Tablelands Dry Forest. The survey work for the EA identified two regrowth communities referred to as Hickory Wattle Low Open Forest and Black She-oak Low Open Forest. Both these local communities would fall under the broadscale regional mapping units as Western Tablelands Dry Forest.

Hickory Wattle Low Open Forest canopy of is dominated by *Acacia falciformis* (Hickory Wattle) with one or more of the following species: *Eucalyptus mannifera* ssp*. mannifera* (Snappy Gum) and *E. dives* (Broad-leaved Peppermint) occurring as scattered emergents. The understorey is sparse, while the ground layer has an average cover of 50% and is dominated by indigenous grass species.

Black She-oak Low Open Forest is a regrowth community dominated by *Allocasurina littoralis* (Black She-oak) with isolated emergent *Eucalyptus dives*. This community is very similar in understorey composition to the Hickory Wattle Low Open Forest.

There is some evidence that the Tableland Hills Grassy Woodland and Tablelands Grassy Box Gum Woodland may have existed in other areas of SML 20 however there are no remaining intact remnants remaining.

The processing plant site layout has been designed to avoid impact to the regrowth vegetation as far as practicable. This allows for the continued development of this community in areas not required for the mine operation.

2.2 Fauna

Given the level of previous land clearing, there is little remaining natural habitat. Rehabilitation of the waste rock emplacement and some intervening areas has commenced the process of re-establishing fauna habitat. Prior to the original clearing for agricultural activities, the area would have provided fauna habitat for a range of mammal

species. In its present condition, it provides only marginal foraging habitats for transient species such birds and bats. Although not detected on site during the surveys for the EA, there are also nine threatened fauna that may utilise the planted and regenerating vegetation on site:

- Eastern Bentwing-bat – *Miniopterus schreibersii oceanensis*.
- Yellow-bellied Sheathtail-bat – *Saccolaimus flaviventris.*
- Glossy Black-cockatoo – *Calyptorhynchus lathami*.
- Flame Robin – *Petroica phoenicea*.
- Little Eagle – *Hieraaetus morphnoides*.
- Speckled Warbler - *Pyrrholaemus sagittatus.*
- Diamond Firetail - S*tagonopleura guttata.*
- Scarlet Robin - *Petroica boodang.*
- Varied Sittella – *Daphoenositta*.

The construction program will have minimal impact on existing native vegetation and therefore the anticipated impact on fauna and fauna habitat is equally minimal. However, Heron will implement additional management measures that are reasonable and feasible to further minimise the impact on fauna. These include:

- delineation of development envelopes;
- pre-clearing survey protocols;
- implementation of sediment control measures prior to construction;
- vegetation clearing protocols, including salvage and relocation of suitable dead logs;
- protection of waterways, and aquatic and riparian habitats;
- ongoing monitoring of the operations in regard to the Project Site's retained habitats, including water quality, and
- management of weed invasion.

These are discussed in Chapter 3.

2.3 Vegetation Offsets

The reopening of the Woodlawn Mine Project presented an opportunity to assess the project as if it was a greenfield project. Although the site has been previously cleared for agricultural activities and then subsequently disturbed by mining, it was considered appropriate to establish a vegetation offset for the entire historic operation. This is considered current best practice as it brings the original operation in line with current approval conditions.

Although this places an additional financial burden on Heron well above the actual level of ecological impacts which would arise from the reopening of the mine, it was agreed to as an environmental initiative which would provide long standing benefits to the region.

The initiative involves the rehabilitation of up to 71 ha of previously cleared agricultural land to Western Tablelands Dry Forest vegetation community. By using this vegetation community, biodiversity offsets would be used to recreate the vegetation that would have once occupied the site, as described by Tozer *et al*.

Western Tablelands Dry Forest is a low eucalypt forest with an open understorey of sclerophyll shrubs, grasses and forbs that is widely distributed on dry ridges. This vegetation community would be used not only to establish biodiversity offsets, but also to revegetate sections of the project development footprint and also connecting sections of existing habitat. Integrating future rehabilitation with existing rehabilitation liability would provide for an integrated approach to rehabilitation of the whole site.

Revegetation methods are described in Chapter 3.

3. Vegetation Management

3.1 Overview

The Vegetation Management Plan consists of the following components:

- Identification of the proposed Vegetation Offset Area.
- Establish objectives for the offset area.
- Describe measures to enhance the vegetation within the offset area.
- Describe ongoing management of the offset area.

Vegetation management and rehabilitation activities are integrated within this Plan. The Rehabilitation Management Plan described in Chapter 4 details specific rehabilitation techniques required for tailings dams as well as the final closure rehabilitation program.

3.2 Vegetation Offset

As described in Section 2.3, Heron is required to establish at least 71 ha of vegetation offset as part of the Project Approval. The proposed area is shown on Plan 3. The area indicated is approximately 78 ha. A number of factors have been considered in determining an appropriate offset area including:

- Existing agricultural activities and value of grazing enterprises, particularly the neighbouring Pylara property.
- The quality of the grazing land taking into account agricultural suitability which includes consideration of soil quality, erosion potential and land slope.
- Existing remnant vegetation resources.
- Potential habitat links and corridors.
- Operational requirements.
- Land owner requirements.

The site has in effect been disturbed twice since European settlement. The first involved extensive clearing to produce low to medium quality grazing land while the second involved mining. Naturally poor and quality limiting soils combined with relatively steep slopes limited the value of the original agricultural activities however several surrounding agricultural enterprises including Pylara, Woodlawn and Cowley Hills which were purchased by the original mine owners benefited from significant investment, the results of which have seen an improvement in agricultural productivity and potential. For this reason, the proposed vegetation offset area has sought to avoid improved grazing land.

Areas within the operational footprint but were not directly impacted by mining were allowed to regenerate naturally. This has resulted in some regrowth vegetation of similar composition to the original vegetation community, that is, Western Tablelands Dry Forest. By including components of this remnant community along with agricultural land which is isolated from neighbouring grazing land has enabled a more effective biodiversity outcome to be achieved.

As the establishment of the vegetation offset represents a long term project, some variations will arise over time. These changes will be incorporated into any revisions to this VRMP.

3.2.1 Integration with Rehabilitation Plan

The Rehabilitation Plan described in Chapter 4 specifically deals with areas disturbed by past mining activities. The Vegetation Management Plan covers the ongoing maintenance of existing rehabilitation areas, management of remnant vegetation within the mine site and vegetation enhancements within the ecological offset areas.

The intended outcome will be to:

- Ensure a consistent approach to final vegetation community structure and floristics.
- Ensure that rehabilitation effort is afforded maximum benefits from natural regeneration from surrounding native vegetation.
- Enable fauna habitat to improve and in particular, faunal corridors established where possible.
- Develop specific activities to encourage habitat development for the Eastern Bent-wing Bat and Yellow-bellied Sheathtail-bat.

There are several areas already rehabilitated and in the process of ongoing management. These include the Rehabilitated Waste Rock Dump, various dam walls and batters. The management of these areas are included in this Plan along with the vegetation offset area, landscaping, visual screening for Collector Road and the future rehabilitation program.

3.3 Revegetation Methods

There are four separate revegetation methods to be employed at Woodlawn:

- Spray seeding;
- Direct sowing with cultivation;
- Tubstock planting;
- Brushmatting and natural regeneration.

These methods are described in more detail in the following sections. In accordance with Condition 21 of Schedule 4 of the Project Approval, Heron will carry out rehabilitation of the site progressively, that is, as soon as reasonably practicable after disturbance. All reasonable and feasible measures will be taken to minimise the total area exposed for dust generation at any time. Interim rehabilitation strategies shall be employed when areas prone to dust generation cannot be permanently rehabilitated until later in the project life.

3.3.1 Spray Seeding

This method involves active stabilisation of slopes, and will be achieved by spray seeding with an application of straw, anionic bitumen, seed and fertiliser. This is an active form of revegetation as it provides an instantaneous cover in the form of straw which is effectively bound to the surface by the bitumen. It is only used on batter slopes where active control is required during the construction phase.

The seed mix consists of fast growing, sterile species, such as oats, combined with a fertiliser application. This provides a quick and substantial grass cover which, when combined with the straw enhances erosion control and provides organic matter to the surface topdressing material. Native grass species will also be included in the mix, which will provide a successive cover as the initial coloniser grass dies.

3.3.2 Direct Sowing with Cultivation

This is the most common method used on mine sites or where large areas of disturbance are rehabilitated. It is also used in the agricultural industry to plant crops or for pasture improvement. It involves use of a seed drill and plough which provides minor surface tilling while setting seed at the required depth. The seed mix can include the full range of target trees and shrubs but can also include an initial sterile grass mix to assist with removal of weeds.

When replacing pasture with native forest, it may be necessary to first apply a general herbicide before planting with native species to reduce competition from non-native grasses and weed species. This method is most likely to be used in the vegetation offset area.

3.3.3 Tubestock Planting

Direct planting of tubestock can be used by itself or as an adjunct to direct sowing. The advantages of tubestock planting is that the species being planted and the density of planting can be planned in advance to ensure that the correct species diversity is created. Direct sowing and natural regeneration can result in dominance of species that are not compatible with the target community. Planting tubestock can correct imbalances in the species mix and can include trees, shrubs and even groundcovers.

Each tube stock will be staked and surrounded by tree guards and planted with slow release fertilizer pellets. Depending on final mature size, tube stock can be planted in "woodlot" arrangements or along rip lines. Spacing of rip lines are generally 6 m apart and tubestock planted at 2 m intervals along the rip lines. This is equivalent to approximately 420 stems per hectare which would be in the higher range of the required canopy density as shown in Graph 1.

3.3.4 Brushmatting

This involves cutting down chosen vegetation from nearby existing target vegetation and laying it over prepared areas. The timing of this work is important to ensure that the chosen species contain viable seed. This seed is then deposited into the soil surface for germination, while the cut vegetation provides a cover of mulch and assists in surface stabilisation.

This is a more natural method of encouraging the spread of native vegetation from existing remnants to wider infill areas. It also provides locally provenance seed which assists in preserving the genome of the original vegetation of the region.

3.3.5 Seed Collection and Sources

Although the intention is to use locally derived seed and tubestock grown from locally derived seed, it is recognised that this is not entirely practicable given the general lack of available original native vegetation and that the target species are common to the wider region. Where possible, locally provenance seed will be used in developing the vegetation offset.

Brushmatting using cuttings of flowing target natives within SML 20 will be used as an adjunct to each revegetation method noted above as a means of maximising the use of local seed.

3.4 Species Diversity

The current remnant stands of Western Tablelands Dry Open Forest are of poor condition being highly disturbed and often regrowth in nature. As such they have poor structure and species diversity. The full list of species taken from Tozer et al, 2006 which would represent an original Western Tablelands Dry Open Forest is provided below in Table 3.1.

Table 3.1 - Species List

Species	Species Growth Form
Acacia dealbata	Tree
Acacia decurrens	Tree
Acacia falciformis	Tree
Acacia mearnsii	Tree
Eucalyptus blakelyi	Tree
Eucalyptus bridgesiana	Tree
Eucalyptus cinerea	Tree
Eucalyptus dalrympleana subsp. *dalrympleana*	Tree
Eucalyptus dives	Tree
Eucalyptus goniocalyx	Tree
Eucalyptus macrorhyncha	Tree
Eucalyptus mannifera	Tree
Eucalyptus melliodora	Tree
Eucalyptus polyanthemos subsp. *polyanthemos*	Tree
Eucalyptus praecox	Tree
Eucalyptus rossii	Tree
Allocasuarina littoralis	Tree
Acacia buxifolia subsp. *buxifolia*	Shrub
Acacia dawsonii	Shrub
Acacia genistifolia	Shrub
Acacia gunnii	Shrub
Acacia lanigera	Shrub
Acrotriche serrulata	Shrub
Astrotricha ledifolia	Shrub
Brachyloma daphnoides	Shrub
Cassinia aculeata	Shrub
Cassinia arcuata	Shrub
Cassinia laevis	Shrub
Cassinia longifolia	Shrub
Cassinia uncata	Shrub
Cheiranthera cyanea var. *cyanea*	Shrub
Choretrum pauciflorum	Shrub
Daviesia latifolia	Shrub
Daviesia leptophylla	Shrub
Dillwynia phylicoides	Shrub

Species	Species Growth Form
Dillwynia sericea	Shrub
Gompholobium huegelii	Shrub
Gompholobium minus	Shrub
Hakea decurrens	Shrub
Hibbertia obtusifolia	Shrub
Hibbertia riparia	Shrub
Hovea linearis	Shrub
Leptospermum multicaule	Shrub
Leptospermum myrtifolium	Shrub
Leptospermum obovatum	Shrub
Leucopogon virgatus	Shrub
Lissanthe strigosa	Shrub
Melichrus urceolatus	Shrub
Monotoca scoparia	Shrub
Persoonia chamaepeuce	Shrub
Persoonia mollis subsp. *livens*	Shrub
Persoonia rigida	Shrub
Platylobium formosum	Shrub
Pomaderris angustifolia	Shrub
Pomaderris betulina	Shrub
Pomaderris prunifolia var. *prunifolia*	Shrub
Pultenaea microphylla	Shrub
Pultenaea procumbens	Shrub
Pultenaea subspicata	Shrub
Rhytidosporum procumbens	Shrub
Styphelia triflora	Shrub
Aristida jerichoensis var. *jerichoensis*	Grass
Austrodanthonia fulva	Grass
Austrostipa mollis	Grass
Dichelachne inaequiglumis	Grass
Dichelachne sieberiana	Grass
Joycea pallida	Grass
Poa sieberiana var. *cyanophylla*	Grass
Poa sieberiana var. *sieberiana*	Grass
Lepidosperma gunnii	Sedge
Luzula densiflora	Rush
Daucus glochidiatus	Forb
Dianella revoluta var. *revoluta*	Forb
Galium gaudichaudii	Forb
Gonocarpus tetragynus	Forb
Goodenia hederacea subsp. *hederacea*	Forb
Hydrocotyle laxiflora	Forb
Hypericum gramineum	Forb
Lomandra filiformis subsp. *coriacea*	Forb
Lomandra filiformis subsp. *filiformis*	Forb
Lomandra multiflora subsp. *multiflora*	Forb
Pimelea curviflora var. *gracilis*	Forb
Pimelea curviflora var. *sericea*	Forb
Ranunculus sessiliflorus var. *pilulifer*	Forb
Ranunculus sessiliflorus var. *sessiliflorus*	Forb
Senecio prenanthoides	Forb
Senecio tenuiflorus	Forb
Stylidium graminifolium	Forb
Stypandra glauca	Forb
Tetratheca bauerifolia	Forb
Thysanotus patersonii	Forb
Wahlenbergia luteola	Forb

Species	Species Growth Form
Wahlenbergia stricta subsp. *stricta*	Forb
Wahlenbergia victoriensis	Forb
Hardenbergia violacea	Climber

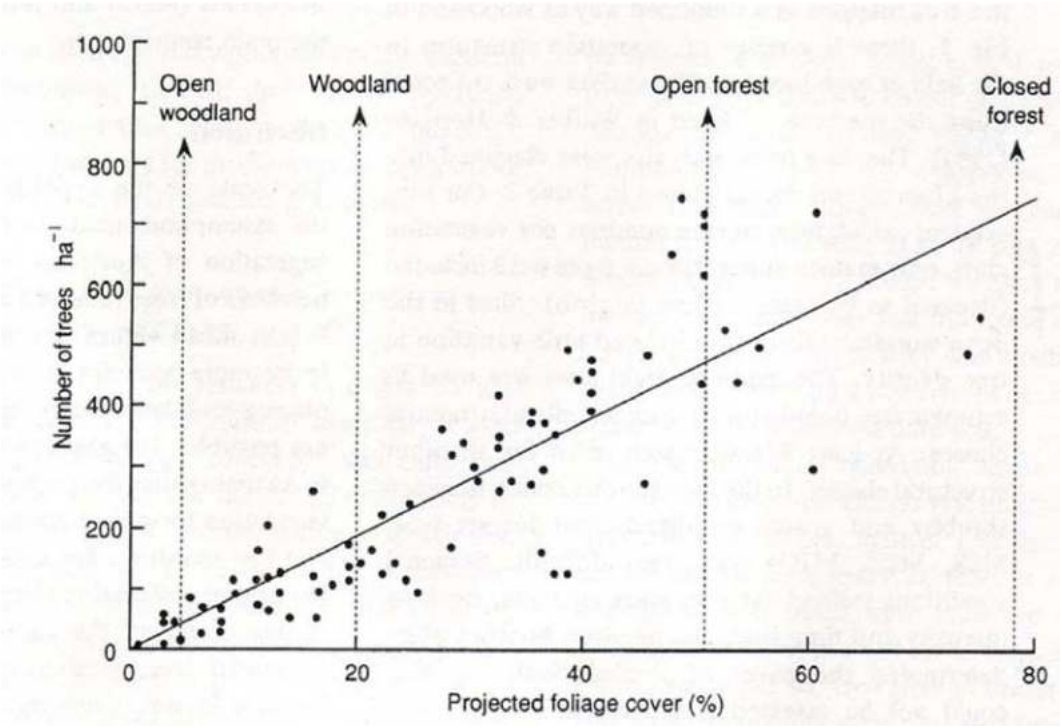
The appropriate species to be used for revegetation on-site are outlined below. These species are suitable for revegetation during the rehabilitation process and in developing biodiversity offsets. A floristic summary of the Western Tablelands Dry Forest vegetation type is as follows (Tozer et al. 2006):

- Trees: *Eucalyptus macrorhyncha, E. mannifera, E. rossii, E. dives E. goniocalyx and Allocasurina littoralis*.
- Shrubs: *Hibbertia obtusifolia, Brachyloma daphnoides, Daviesia leptophylla, Leptospermum obovatum, Cassinia longifolia,* and *Acacia falciformis*.
- Groundcover: *Gonocarpus tetragynus, Lomandra filiformis subsp. coriacea, Poa sieberiana, Goodenia hederacea, Dianella revoluta, Joycea pallida, Hovea linearis*.

Dominant trees are to be included in the seed mix and/or tubestock planting. Native grasses are more difficult to plant and commercially obtain suitable seed. Generally only Wallaby Grass, Kangaroo Grass and Speargrass are available which are also common to the Western Tablelands Dry Forest community. Similarly, the ability to obtain suitable seed stock of forbs (being herbaceous flowering plant that is not a graminoid, that is, not grasses, sedges and rushes) can limit the availability of these species. Grasses and forbs however tend to migrate naturally once grazing pressure is removed.

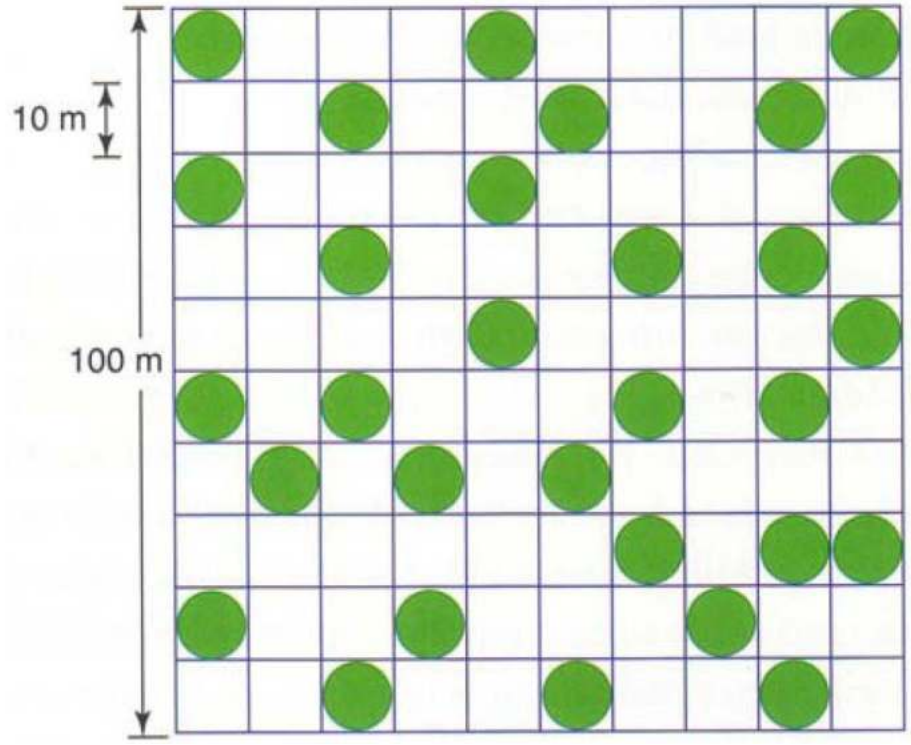
3.4.1 Density and Structure

There is little data available on the original structure Western Tablelands Dry Open Forest, however Graph 1 below shows a general structure of Australian woodlands and forests.



Graph 1 - Trees per ha and Projected Foliage (from Walker et al 1993)

When considering mature trees which contribute to total canopy percentage, a much smaller number of stems per ha generally occurs. Graph 2 below indicates a typical Eucalypt Woodland, what would be considered a grassy woodland. This shows that with a density of only 30 trees/ha. An Open Forest structure would have a medium density, generally between 30-70% of trees with a height of 10 to 30 m.



Graph 2 - Typical Eucalypt Woodland Density 30 trees/ha (McIntyre 2002)

3.4.2 Planting Density

Using a combination of direct sowing and brushmatting, the actual initial density will be higher than the final mature density. With a target density of total stems per hectare in the order of 420 will provide sufficient structure and flouristic diversity to create a stable and self-sustaining open forest community.

When using direct sowing or brushmatting as an initial planting method, some manual thinning may be required and/or tubestock infill planting in order to develop sufficient species diversity. Monitoring of the vegetation offset areas and rehabilitation work will include density calculations as well as species diversity.

3.4.3 Landscaping and Visual Screens

As required by Condition 28, Schedule 4 of the Project Approval, a separate vegetation screen along the fence line next to Collector Road will be planted within 6 months of commencement of the construction program. The tree screen will consist of trees characteristic of the Western Tablelands Dry Forest vegetation community including *Eucalyptus macrorhyncha, E. mannifera, E. rossii, E. dives E. goniocalyx and Allocasurina littoralis*.

The site will be prepared by first treating the existing exotic groundcovers and weeds with a general herbicide followed by ripping. Spacing of rip lines will be generally 6 m apart and

tubestock planted at 2 m intervals along the rip lines using alternate species from the nominated list. As the purpose of the planting is to reduce visual access to the site, planting density will be as high as practicable but also offset between rows so as to avoid the appearance of being artificial. The use of intervening shrubs will also be undertaken once the canopy trees are established.

3.5 Managing Remnant Vegetation

Both within and adjacent to areas to be rehabilitated or revegetated are examples of native regrowth. These patches were surveyed as part of the original EA and found to be highly disturbed and not entirely characteristic of the original Western Tablelands Dry Open Forest that would have existed in the region prior to clearing for agricultural activities. Since the mining phase commenced, some of the original cleared agricultural land has allowed to naturally regenerate due largely to the exclusion of stock. This is generally the best method to manage remnant vegetation in that it allows the natural soil seed bank to germinate without the ongoing pressure from grazing and normal agricultural land management practices.

The following management practices will be employed for all existing regrowth vegetation under the control of Heron:

- Maintain exclusion of stock through adequate fencing in the short term. Areas designated for grazing within SML20 will have separately fenced vegetation patches where necessary.
- All areas identified for inclusion in the Vegetation Offset will be fully fenced to exclude stock.
- Remnant vegetation patches will be inspected on an annual basis to determine growth and vigour, species diversity, evidence of seeding and seedling development.
- Weed controls will be employed in all areas not identified for ongoing agricultural activities. Weed controls will include removal of woody weeds by mechanical methods to reduce competition with native vegetation.
- Natural seeding of selected individual plants will be enhanced by brushmatting methods over the medium to long term. This will include removal a portion of seeded branches of identified target species to encourage propagation in bare areas.

The long term goal will be to develop through natural mechanisms the original Western Tablelands Dry Open Forest over areas not required for ongoing uses on site. This includes the operations of Heron, Veolia and Infigen.

3.6 Vegetation Clearing Protocol

Although the Project will require only a minor amount of clearing, the following protocol will be implemented:

- Delineation of development envelopes with all vegetation to be cleared identified on construction plans. This will avoid unnecessary clearing during the construction phase.

- Only vegetation that must be cleared to allow the development to be constructed is to be disturbed. All vegetation to be retained must be identified as such on earthworks plans issued for construction.
- All vegetation to be cleared is to be first inspected by a qualified ecologist.
- All trees with hollows are to be tagged with high visibility tape. These will also be noted on construction drawings as required.
- All hollow bearing trees are to be inspected for evidence of nesting fauna prior to clearing.
- If there is a risk that nesting fauna would be disturbed by clearing, the tree is to be tapped and allowed to stand to observe fauna. When clearance is provided by the ecologist, the tree is to be pushed over and then inspected for fauna.
- Any rescued fauna is to be released into adjacent vegetation.

All vegetation identified for clearing are regrowth and relatively young however it is possible that bird nests would be present. If any bird nests are identified they need to be determined to be non-active prior to clearing. This is to be recorded by the Environmental Manager and detailed on construction drawings as required.

3.7 Habitat Enhancement

The Woodlawn site is frequented by a number of bird and bat species, however previous studies have indicated that given the lack of native vegetation and the highly disturbed nature of the remnant vegetation patches on site that no core or critical habitat exists. The site does however provide opportunistic feeding and transient foraging habitat for several woodland birds, birds of prey and bats.

Preferred habitat consists generally of grassy woodland and proposed enhancement of vegetation towards the original Western Tablelands Dry Open Forest community would be the most ideal habitat. Both the Eastern Bent-wing Bat and Yellow-bellied Sheathtail-bat travel large distances to forage and use forest and grassland communities as a source of insects. Bent-wing bats tend to roost in caves often in small colonies while the Yellow-bellied Sheathtail-bat is more solitary and roosts in tree hollows. Although there are no caves nearby, there are caves within 12 km of the site at Mount Fairy which provide roosting colonies of the Eastern Bent-wing Bat occurs.

As the Vegetation Offset area matures, tree hollows will be created which will provide habitat for the Eastern Bent-wing Bat and Yellow-bellied Sheathtail-bat along with woodland bird species.

3.8 Resource Salvage

All natural resources generated during the construction phase will be salvaged and reused including topsoil and vegetative materials.

3.8.1 Topsoil Reuse

The construction site in the Hickory's Paddock has limited remaining Yellow Duplex soils with thinner darker duplex soils on the southern ridge area. These soils are a texture

contrast between course and sandy A-horizon soils (topsoil) and the finer, clay-like, B-horizon soils (subsoil). Although it is anticipated that these soils may exhibit surface crusting, hard setting, and erodible, they also contain a natural seed bank and are suitable for rehabilitation purposes.

As part of the construction program, all disturbed areas will be stripped of available topsoil which will be stockpiled in low mounds. The mounds will be no higher than 2 m and no wider than 10 m to avoid creating anaerobic conditions. Soil will be reused as soon as practicable on prepared completed surfaces such as dam walls and batter slopes.

Should topsoil need to be stockpiled for periods greater than 6 months they will be sown with a sterile cover crop such as ryegrass (Spring to Summer) or oats (Autumn to Winter). Using a sterile seed will ensure that regeneration of the crop will not occur.

3.8.2 Vegetation Reuse

All cleared vegetation will be windrowed initially but later spread over rehabilitation areas or the Vegetation offset area. This material will gradually decompose to return nutrients to the soil as well as provide habitat for small marsupials.

3.8.3 Bushrock and other Materials

Bushrock consists of naturally weathered loose surface rock which provides habitat for a range of reptiles and insects, protects soil from erosion, assists with soil moisture retention and provides biological activity to assist soil fertility. Should bushrock be found within the construction area it will be collected, stored and then reused on completion of the construction program. Should large quantities be found, it will be relocated to the Vegetation Offset area.

3.8.4 Seed Collection

Given the very small quantity of vegetation to be cleared, it is not a viable proposition to undertaken a separate seed collection program. However, should any cleared vegetation be in the process of seed development at the time of clearing, the vegetation will be quickly respread over prepared areas or within the Vegetation Offset Area as soon as cleared.

3.9 Weed Management

A weed management program will be implemented to manage weed invasion and the occurrence of noxious weeds on site. The Woodlawn site is not heavily weed infested with few woody weeds present. There are approximately 28 weed species identified on site the majority of which are agricultural species or pasture pest species. No species were listed as declared plants under the Noxious Weeds Act 1993.

Weed species of concern include Thistle, Fleabane, Catsear, Serrated Tussock and Radiata Pine. The herb and grasses are currently being controlled by application of selective herbicides while Radiata Pine is cut down and painted with all purpose herbicide. Weed controls will continue on an annual basis in areas under the control of Heron. Radiata Pine will progressively be physically removed and treated in areas identified as under Heron control including the nominated Vegetation Offset Area.

3.10 Feral Animal Control

Veolia current undertake a general feral animal and pest eradication program as part of the Bioreactor operation. Heron will contribute to this program and include areas under its control.

3.11 Bushfire Management

Under the *Rural Fires Act 1997,* there are a number of obligations that must be met with respect to managing the land. In summary, these include:

- ❒ Occupiers of land are to extinguish fires or notify fire fighting authorities immediately.
- ❒ It is the duty of the owner or occupier of land to take practicable steps to prevent the occurrence of bush fires on, and to minimise the danger of the spread of bush fires on or from that land.

The following measures will be employed at the site to ensure that these obligations under the Rural Fires Act are met:

- ❒ Water storages on site will be available for fighting purposes if required. This will include on site dams and water tanks.
- ❒ Firebreaks will be constructed as appropriate.
- ❒ The amount of dead timber on site will be kept to minimum to reduce the fire hazard.
- ❒ Fire fighting equipment will be placed at strategic stationary positions.

4. Rehabilitation Management

This section deals specifically with rehabilitation activities to be undertaken as part of the mining operation. This mainly covers the tailings dams following the retreatment project. Final closure rehabilitation which would include the evaporation dams is also covered.

4.1 Rehabilitation of Disturbed Land and Tailings

Substantial work has been undertaken at Woodlawn to determine appropriate rehabilitation methodologies and techniques. Given the high sulphur content in the tailings and some hard rock material, there is the potential for acid generation to occur. With reduced pH, metals often become soluble and therefore available to plants causing toxicity. The elevated metal concentrations also increase the potential for surface and groundwater contamination.

The following sections outline the rehabilitation methods that have been developed for the site. These were documented in the original EA and subsequent Mining Operations Plan (MOP) for the site. This Rehabilitation Management Plan will require updating if the MOP approved methodologies are varied. A key requirement of both the approval and MOP is the use of organic compost provided by Veolia who have approval to develop a waste compositing operation on site. This facility has yet to be constructed but is planned to be running well before the first tailings dam is ready for rehabilitation.

4.1.1 Alternative Methods for Rehabilitation

A number of rehabilitation methods have been investigated and trialled at Woodlawn including:

- **Wet cover to exclude air**. This method failed in that the supply of water covering the tailings dams was not sufficient and caused beaching of material and periodic exposure. Also, without the necessary supply of water, evaporation will cause continual exposure at some time and therefore oxidation. This method is not considered a viable long term solution.

- **Hardpan Development.** The CSIRO in 1996 examined the possibility of a tailings cover utilising the natural formation of hardpans at the surface to reduce oxygen and water penetration into the tailings. This would have the beneficial effect of reducing acid generation and therefore pore water pollutant loads. Results indicated that if the dams remained dry then hardpans will develop naturally. However, periodic wetting which is known to occur will restrict their sustainability over the long term. This process could be assisted with the addition of cementing agents or even ready mixed concrete.

- **Permanent Rock Cover.** In addition to the hardpan option, it was considered that simply applying a permanent cover such as rock or concrete over the tailings dams will be an effective method of sealing and encapsulation of the material. There will be little risk of failure or long term environmental issues arising from this option. There will be no vegetation cover and the structure will remain essentially as is but environmentally benign. This option however, is considered a last resort as it does

not satisfy the general guidelines from the DRE as the resulting land use will be sterile.

- **Bacteria Inhibitors.** Inhibiting or destroying the Thiobacillus ferrooxidans bacteria may slow the rate of acid production. Anionic surfactants act as bactericides and kill these bacteria by effectively stopping the reactions where pyrite (ferric sulphide) is converted to soluble iron (ferrous sulphate) and where the soluble iron is further converted to ferric sulphate. By halting the production of the ferrous sulphate, further degeneration of the cycle of the pyrite to create sulphuric acid is halted.

Although each of the above options have been considered and in some cases used on site, there are two methods which are considered preferable. These are discussed below.

4.1.2 Proposed Rehabilitation Methods

There are two rehabilitation methods proposed to rehabilitate the main tailings dams once they have been reprocessed. These methods will be trialled on the northern tailings dam (TDN) while the reprocessing operations are underway. Both methods are referred to as a Multi-layer Rehabilitation Process. These methods involve the physical isolation of the hostile material from the growing medium. The main difference is the method of isolation and the material used.

The preferred method will use large quantities of organic compost derived from the Veolia Mechanical Biological Treatment composting facility. The proposed methodology is described below however, it will be initially set up as a trial to be refined progressively in response to monitoring data.

- Establish a drainage point for dewatering prior to any physical work on the tailings dams. Collected water to be pumped into the evaporation dams.

- Prepare the surface to enable equipment to progressively work on the surface of each tailings dam. This may include progressive dumping of clay, crushed rock or other inert material from the working edge of the dam. It is anticipated that the reprocessed tailings will dry sufficiently within 12 months to commence rehabilitation works.

- Lay organic material progressively over the prepared surface at a depth of between 300 to 500 mm. This is a workable depth which can be spread by small dozer.

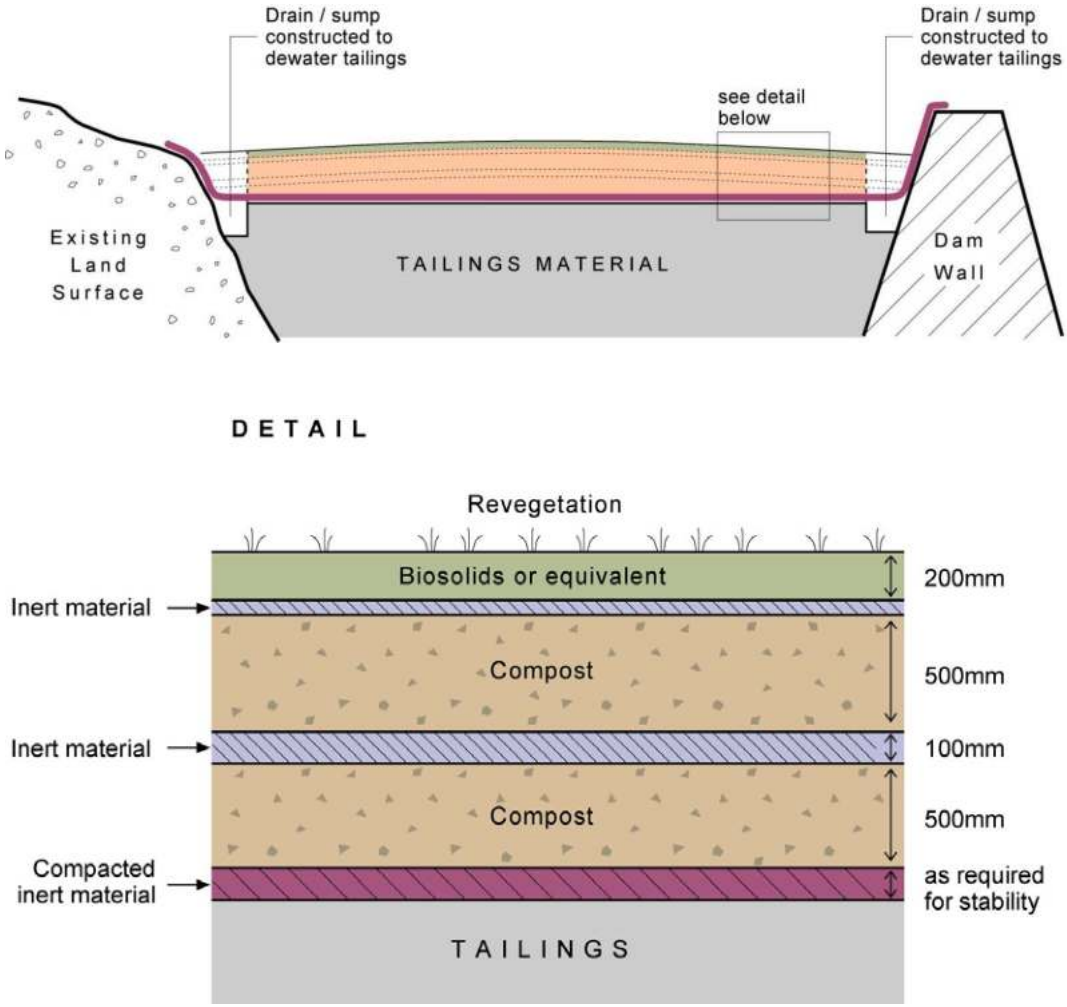
- Cover the organic material with a layer of crushed rock at a depth of not less than approximately 100 mm.

- Repeat the above process until there is a minimum of 2m of organic material over the tailings.

- The final capping should consist of crushed rock or inert material blended with either bio solids or good quality compost to a depth of not less than approximately 200 mm to produce a suitable topdressing material. The final design of the topdressing material will be determined as an outcome of a trial program.

- Revegetation works can then be undertaken.

A schematic of the proposed final rehabilitation profile is shown in the figure below.



Creating an organic-rich substrate provides a reducing environment that removes excess oxygen. The plants growing in this high organic environment gain from the available nutrients and also use any water that might otherwise reach the tailings and produce acid.

Water contained in tailings dams during the rehabilitation process will be removed by pumping to remaining un-rehabilitated tailings dams. However, during the rehabilitation of the final tailings dam, remaining water will be circulated through remaining on site water storages.

Removal of the impounded water provides a number of benefits. It helps consolidate the tailings and provide a stable working foundation for earthmoving equipment. Further, it improves the long-term mass stability of the impoundment. Proper consolidation of the impoundment reduces the impacts of differential settlement, which can cause cover failure and/or changes to surface topography and drainage patterns. An additional advantage is that the potential for seepage from the tailings diminishes as driving hydraulic head is reduced.

In the event that insufficient organic material can be sourced from the Veolia operation, an alternative material is available which can be sourced from existing non-acid forming (NAF) materials stockpiled onsite (such as the proposed waste rock emplacement area) and existing disturbed areas on-site. This option would involve substantial additional onsite land disturbance to source the estimated 2,000,000 m^3 of material required for the tailings dam rehabilitation. This option would also result in the need for additional rehabilitation and stabilisation of the excavated 'borrow' pits.

The alternative to using organic compost is described below. Although this will be trialled, its primary draw back is the high volume of clean material needed as a replacement to the organic compost. This method will only be used if there is insufficient compost available.

- Compacting the rehabilitation surface as far as practical.
- Treating the surface with lime at a rate of up to 100 tonnes per hectare. This provides a buffer between the acid producing material and the successive upper rehabilitation layers.
- Constructing a capillary break consisting of 50 cm of loose rock. This porous layer will prevent the capillary rise of acidic solutions from the Acid Mine Drainage (AMD) materials below.
- Seal with a clay layer.
- Covering with clean material for plant growth. This material can be sourced from site but must be free of AMD materials.

A variation of this method was used for the waste rock dump. Although the capillary break was not constructed, the surface was clay sealed and limed prior to topdressing. Biosolids was also used for the organic layer.

4.2 Rehabilitation Status

Over recent years, Heron (and its predecessors Tri Origin and TriAusMin) have assisted Veolia with both rehabilitation and general environmental monitoring and management activities within SML20.

There has been progressive clean-up around the plant area, office and workshop area, cleanout of dams, removal of lead tailings in readiness for reprocessing and general removal of buildings and disused plant. The status of rehabilitation works is described below.

4.2.1 Waste Rock Dam Clean Catchment Diversion

This area consisted of approximately 3 ha of badly scarred and eroded creek area above the Waste Rock Dam, which was allowing clean runoff to enter the dirty water catchment.

Earthworks were undertaken and approximately 38,000 tonnes of rock was placed along the channel feeding the Waste Rock Dam to allow seepage from the Waste Rock Dump to filter through to the dam. Geotextile material was laid down to restrict mud and silt clogging the pore spaces in the rock. The area was then seeded in spring to provide vegetative cover, thus providing slow flow minimising the potential for erosion.

4.2.2 Rehabilitated Waste Rock Dump

The Rehabilitated Waste Rock Dump (RWRD) covers an area of approximately 92 ha and contains 70 Mt of waste rock mined from the pit. Rehabilitation of the RWRD began in 1987 and was constructed in 15 m lifts with relatively broad, flat benches separating steep batters.

The rehabilitation objectives for the RWRD were to eliminate the potential for oxidation of the sulphide material, and to convert and area of dirty catchment into a clean water catchment. Features of the rehabilitation work included:

- ❒ Shaping the dump to reduce the angle of the batters to between 20% and 25%;
- ❒ Compacting the surface to reduce water permeability and the potential for oxidation resulting in acid mine drainage;
- ❒ Providing for controlled drainage;
- ❒ Covering the dump with available growing medium; and
- ❒ Revegetation with a mixture of grasses, native trees and shrubs.

Biosolids were applied to the upper levels of the RWRD resulting in a much improved groundcover. This application has had the effect of maximising the water holding capacity of the vegetative cover and minimising water infiltration in the dump and erosion. Additional earthworks were subsequently undertaken to reduce the catchment flow entering the waste rock dam. This Vegetation Management Plan covers the continual maintenance of this area.

4.2.3 Hickory's Paddock (New Processing Plant Area)

This area has been identified as the future facilities site to support the reopening of the Woodlawn Mine. Previous rehabilitation work has failed in sections due to drought and the area is still considered highly disturbed. There was however no evidence to suggest that the previous poor growth was attributed to hostile elements but rather the lack of rainfall since completion.

This area will be subject to the majority of the construction activities including the new processing plant infrastructure, stockpiling areas and the new tailings storage facility. Only small components of this area will be rehabilitated following the construction program, principally in the form of stabilisation of batter slopes, dam walls and intervening areas between roads and hardstand.

Some additional general landscaping will be undertaken including a separate tree screen along Collector Road in accordance with Condition 28 of Schedule 4 of the Project Approval. No further rehabilitation will be undertaken until closure of the mine and removal of infrastructure.

4.2.4 Evaporation Dams

Only Evaporation Dams 1 and 2 (ED and ED3) form part of the Project since Evaporation Dam 3 (ED3) will be utilised as an ongoing water management structure to support Veolia's Bioreactor facility. These dams will be used by the Project until final closure of the mine.

The same rehabilitation methodology as outlined for the tailings dams, would apply to the evaporation dams with the exception of the initial compacted layer. Surface stability is not a major consideration in accessing the surface of the evaporation dams for the purposes of rehabilitation.

As with the tailings dams, the existing drainage provisions of the evaporation dams will not be altered at this stage. Developing a free draining site in the future will solely depend on the ability for the rehabilitation work to ensure that water quality leaving the site meets the requirements of the EPA.

4.2.5 Tailings Dams

No substantive work has been done on tailings dams at the time of this Plan. The three tailings dams on site (TDN, TDS, TDW), contain a combined 11.65 Mt of tailings, and cover an area of approximately 92 ha.

Woodlawn tailings as currently exist are reactive and oxidise producing an acid environment. In an acid environment, the high metal content of the tailings is released resulting in a hostile environment for plant growth. Although the tailings remain fully contained within purpose built impoundments designed for long term storage, oxidation reactions will continue while the tailings surface is exposed to the atmosphere.

Although the re-treatment process will greatly reduce the concentration of sulphide and metals, it has been assumed that the resulting tailings material will still have sufficient residual available sulphidic materials to generate an acidic environment which will be hostile to revegetation. The proposed rehabilitation methods are discussed in Section 4.1.2.

The profile of the tailings dams following retreatment will be largely the same as present however the height of the TDN will be lower to allow sufficient space for the organic cover. At present the TDS has additional space available while the TDW is at its completed level. This imbalance in the finished levels of TDS will be corrected during the reprocessing operation. There will be little requirement for regrading the surface prior to rehabilitation works. Although the surface of the tailings dams will increase slightly with the addition of the compost and growing media, they will not be graded to allow free drainage offsite. The water holding capacity will increase with the addition of a surface growing medium and all runoff will be contained with the dam structures.

Whether or not the site will remain nil discharge in the future will depend ultimately on the quality of runoff. For the tailings dams, the runoff is unlikely to be suitable for discharge for several years after the completion of the reprocessing phase. The tailings dams will therefore remain as nil discharge for the foreseeable future.

It is anticipated that at some time in the future it should be feasible to make the site free draining, that is, release runoff from the site. At this time, the surface drainage system will be modified to allow this to occur. Although the concept of a free draining final landform for the tailings dams is a Project Approval requirement, approval to discharge water from the site will need to be obtained from the EPA.

4.2.6 Volume of Materials Required

The total area of the tailings dams, including internal walls and access roads, is 110ha. This will require approximately 2.42 million cubic metres (Mm^3) of surface and subsurface organic material and additional 0.44 Mm^3 of inert material to rehabilitate the tailings dams. The expected volumes of materials required per ha is as follows:

- ❒ Organic material 20,000 m^3
- ❒ Inert material 4,000 m^3
- ❒ Topdressing 2,000 m^3

The actual quantities will vary depending on the results of the trials. An important component of the trials will be to determine the necessary depth of organic material needed to produce a suitable reducing environment to protect the vegetation from the hostile metalliferous tailings.

The organic material will reduce in volume over time as further breakdown occurs. This is a necessary component of the process but may require additional material being added prior to the final topdressing being applied. The additional material required is also an important outcome of the trials.

There is also a need for organic material to satisfy the rehabilitation program for the remainder of the Heron site. The main area will be the two evaporation dams. On final closure, these areas would require less than 0.8 Mm^3 of organic material given the lower depth necessary compared with the tailings dams. The remainder of the site including the plant area, access roads and stockpiles will require approximately 200 mm of topdressing on completion of shaping. This will be provided by either compost or biosolids blended with crushed non-acid producing rock.

4.3 Rehabilitation Program

The following Table provides a proposed schedule of works for the rehabilitation of the site. However, it is important to note that the rehabilitation schedule for the tailings dams will be governed by the rate of retreatment.

The progress of the rehabilitation program will be reported annually in the Annual Review, at which point revisions to the schedule can also be made, and details of the rehabilitation in the coming year will be provided.

Table 4.1 – Indicative Rehabilitation Program

Project Year	Details
Year 5	TSF4, non-operable project site areas, western ridge rock dump (if not used for rehabilitation purposes)
Years 5-10	Tailings Dam South
Years 10-15	Tailings Dam West
Years 15 onwards	TDN, ED1, ED2, Hickory's Paddock, mine box cut and portal, waste rock emplacement area

4.4 Final Closure Rehabilitation

Final Closure rehabilitation will occur in accordance with an approved Final Closure Mining Operations Plan. This is required to be lodged within 12 months of the completion of mining activities. The Goulburn Mulwaree Council and the Community Consultation Committee will be involved in the preparation of the Final Closure Plan. The current approved rehabilitation concept is provided on Plan 4.

4.4.1 Post Mining Land Use Goal

Any future land use will need to be in accordance with the zoning of the project site under the Goulburn Mulwaree Local Environmental Plan 2009 and Mulwaree Local Environmental Plan 1995, or equivalent legislation, at the end of the Project. At this stage, it is envisaged that the final land capability and land use will be agricultural lands (suitable for grazing) and areas of native revegetation that are compatible with surrounding vegetation systems. The Vegetation Offset area will remain as permanent and self sustaining native vegetation. Several mechanisms exist to enable the vegetation offset to be protected in perpetuity however these need further investigation prior to implementing. the final option will be determined in consultation with DPE and OEH.

The Woodlawn property is surrounded by viable agricultural land however it is recognised that the final use of the mine facilities areas will be best returned to a Western Tablelands Dry Forest vegetation community rather than agriculture. There are contiguous land with neighbouring agricultural properties and would likely be incorporated into those areas. The Veolia Bioreactor has a much longer life than the Woodlawn mining operation and therefore some infrastructure facilities may be incorporated into this operation or an allied operation or industrial facility. Further options for alternative post-project land uses will be investigated as the project operations progress. Any changes however will need to be determined in consultation with DPE, DRE and OEH and confirmed in the MOP.

4.4.2 Summary of Final Rehabilitation Activities

In order to achieve the final land use goal, the following final rehabilitation activities will be undertaken:

- ❒ Removal of all mining plant and infrastructure.
- ❒ Filling of drifts and shafts.
- ❒ Installation of final seals in accordance with NSW Department of Industry Resources and Energy Mine Safety guidelines.
- ❒ Completion of final site rehabilitation.
- ❒ Approval sought for allowing final rehabilitated landforms to be free draining.
- ❒ Implementation of final water management systems.
- ❒ Verification of final rehabilitation to be self sustaining.

4.4.3 Completion Criteria

Completion criteria are used as a basis of determining the success of each commitment made in the original EA, Project Approval conditions, Project Statement of Commitments and any subsequent management plans. Data used to assess compliance with the

completion criteria will be provided in the Annual Review. The completion criteria, provided in Table 4.2 may be altered over the life of the project in response to any variation in the Project itself or alternative final land uses being determined.

The current list of completion criteria are the same as found in the 2015 Woodlawn Mining Operations Plan (MOP). The MOP is updated on an as needs basis but in any event no less than every 7 years. The current MOP has been approved for the period ending 30th November 2021. Should the MOP require amendment prior to this date, the provisions of this Vegetation and Rehabilitation Management Plan may be included in the new MOP or at least the following criteria updated to be in line with any new completion criteria.

Table 4.2 - Woodlawn Rehabilitation Completion Criteria

Objective	Performance Indicator	Completion Criteria	Justification
Phase: Construction – Infrastructure			
Construct processing plant, office, workshop, stockpiles and access road	Provision of pollution control dams Nil discharge Visual screening established	Layout to conform to EA plans Design in accordance with building codes Landscaping completed	EA documentation and Project Approval
Phase: Construction – Tailings Storage Facility 4			
Construct new tailings storage facility	No detectable leakage	Lining provided to achieve $1x10^{-9}$ m/s to a depth of at least 900 mm of clay or equivalent.	EA documentation and Project Approval
Phase: Landform Establishment – Tailings Dam South			
Fix leakage	No detectable leakage	Existing seepages stopped or significantly minimised	EA documentation and Project Approval EPA Environmental Guidelines for Solid Waste Landfills
Establish landform Effective drainage controls	Minimise erosive water flow Contain surface drainage	Slopes less than 1 in 4 Maintain free board no less than 600 mm	EA design EA design
Phase: Landform Establishment Tailings Storage Facility 4			
Minimise future leakage	No detectable leakage	Lining provided to achieve $1x10^{-9}$ m/s to a depth of at least 900 mm of clay or equivalent.	EA documentation and Project Approval EPA Environmental Guidelines for Solid Waste Landfills
Establish Landform Effective drainage controls	Minimise erosive water flow Contain surface drainage	Slopes less than 1 in 4 Maintain free board no less than 600 mm	EA design EA design
Phase: Rehabilitation of Tailings Dam South			
Establish trials	Determination of rehabilitation methods	Satisfy DRE that selected method is suitable	Tailings Rehabilitation Strategy Project Approval

Objective	Performance Indicator	Completion Criteria	Justification
	Confirm suitability of capping materials	Satisfy DRE and Department of Planning and Environment (DPE) that materials used in rehabilitation are suitable	Tailings Rehabilitation Strategy Project Approval
Establish capping layer	Capped to sufficient depth to ensure topdressing media remains suitable for vegetation	Surface to 500 mm depth chemically stable and conducive to plant growth. Criteria to be established following trials	EA commitment
Establish vegetation	Vegetation growth is self-sustaining	Monitoring program demonstrates vegetation viability	EA commitment
Phase: Rehabilitation of other Domain Areas			
Maintain Viability of vegetation on Waste Rock Dump	Vegetation growth is self-sustaining	Monitoring program demonstrates vegetation viability	EA commitment
Establish 71 ha of Western Tablelands Dry Forest	Determine boundaries of offset area	Boundaries confirmed in biodiversity offset plan approved by DPE	Project Approval
	Determine appropriate soil conditions, structure and fertility	Soil conditions in revegetation areas comparable with reference sites	
	Establish a representative number of species and at similar density to a reference ecological community	Rehabilitation Monitoring demonstrates that vegetation community is self-sustaining and long term viable	Project Approval
Maintain drainage line stability	Evidence of erosion	Drainage lines carrying greater than 2.5 m/s peak flow to be protected	MOP
Any seepage from Waste Rock Dump to be contained	Maintain collection dam	Water quality contained in dam suitable for discharge or recycling	MOP
No measurable subsidence effects on Woodlawn Landfill, Evaporation or Tailings Dams	No ore extraction within 200 m of Landfill void Use past fill or equivalent to support extracted areas	Subsidence monitoring results show less than 20 mm of movement	Project Approval
Rehabilitate Evaporation Dams to be stable, non-polluting, free draining with self-sustaining vegetation community	Determination of rehabilitation methods	Satisfy DRE that selected method is suitable	Tailings Rehabilitation Strategy Project Approval

Objective	Performance Indicator	Completion Criteria	Justification
	Confirm suitability of capping materials	Satisfy DRE and DPE that materials used in rehabilitation are suitable	Tailings Rehabilitation Strategy Project Approval
	Establish surface drainage system	Nil discharge	Project Approval
	Vegetation growth is self-sustaining	Monitoring program demonstrates vegetation viability	EA commitment
Phase: Decommissioning and Final Closure			
Remove infrastructure at site to be safe	Services not required by other users to be removed	Remove services specific to Heron Project	Project Approval
	Remove buildings	Complete removal of buildings unless otherwise agreed with DPE	Project Approval
	Remove hazardous materials	Compliance verified by contamination auditor	EPA Criteria
Create final land form that is stable and non-polluting	Surfaces to be free draining but without elevated erosion risk	Final landforms to be less than 18 degrees	MOP
	Dam walls to be permanently stable	Geotechnical consultant verification, signoff from Dam Safety Committee if relevant	MOP
Establish final self-sustaining vegetation community	Establish a representative number of species and at similar density to a reference ecological community	Rehabilitation monitoring demonstrates that vegetation community is self-sustaining and long term viable	Project Approval

4.4.4 Lease Relinquishment

The process of lease relinquishment revolves around the satisfactory achievement of the Completion Criteria identified in Table 4.2. Application to the NSW Department of Industry Resources and Energy for full or partial lease relinquishment will likely occur within the final two years of production. Applications for the progressive reduction in the Rehabilitation Bond will occur on an annual basis following the completion of the first tailings dam. The reduction in bond value will arise on satisfactory achievement of progressive rehabilitation criteria.

5. Verification and Adaptive Management

An essential component of the overall Woodlawn Project Environmental Management System is verification and implementation of corrective actions as required to achieve the requirements of the Project Approval, Mining Operations Plan and Environment Protection Licence. This section outlines specific verification and corrective action requirements in relation to vegetation and rehabilitation management.

5.1 Rehabilitation and Vegetation Monitoring

A rehabilitation monitoring program involving Landscape Function Analysis (LFA) or similar will be developed for the Woodlawn Mine. This method was developed by the CSIRO and is based on the Ecosystem Function Analysis (EFA) tool (Tongway & Hindley, 2004). The EFA methodology created indices based on simple field indicators that reflect the measured variables of stability, water infiltration and nutrient cycling in turn monitoring the functional status of the landscape. The methodology used does not replace the traditional methods of monitoring vegetation and fauna, but adds a functional interpretation to link vegetation structure and organisation more closely with soil function and the development of habitat for native fauna.

Utilising the EFA method or similar, scientifically robust data is provided on the rehabilitation sites, which when compared to the data collected from background sites, accurately reflects if the site is on a trajectory towards a sustainable ecosystem. The interpretation of this data enables the development of land management recommendations to address those sites having lower EFA rankings.

Permanent transects and associated photo reference sites will be established around the Woodlawn site corresponding to key landscape units. These will include the main waste emplacement and tailings dams representing rehabilitation units while a third will be developed in an undisturbed area within the lease representing the analogue or background site. The analogue site will provide data on the long-term goal for the revegetation areas.

5.1.1 Monitoring Methodology

The rehabilitation monitoring methodology will comprise of the following three modules:

- ❒ Landscape function.
- ❒ Vegetation and structure composition.
- ❒ Habitat complexity.

The method will be based on visually assessed indicators of soil surface processes that gauge how effectively a land unit is operating in a biophysical system. The methodology will be based mainly on processes involved in surface hydrology, rainfall, infiltration, runoff, erosion, plant growth and nutrient cycling, under four components:

- ❒ A conceptual framework.
- ❒ Field data acquisition.
- ❒ Data reduction and tabulation.
- ❒ An interpretational framework.

The landscape function is a continuum, conceptually ranging from "fully functional" to "totally dysfunctional". Function refers to how well the landscape is performing as a biophysical system, and is free of social and economic values. In this case, the Project will remove a primary source of heavy metal contamination which will improve environmental values but the cost of this may be a final vegetation system which is unlike the surrounding ecosystems. This environmental benefit will be included in the completion criteria and assessment methodology.

The three principal steps in the monitoring process are:

- Describing the geographic setting of the site.
- Characterising landscape organisation, the spatial distribution of the fertile–patches and inter-patches.
- The soil surface assessment of each of the patch/inter-patch types.
- Describing vegetation dynamics.
- Assessing habitat complexity.
- Assessing disturbance.
- Providing a photographic record.

The spatial pattern of soil surface analysis, vegetation dynamics and habitat complexity will be undertaken in general accordance with the methods developed by CSIRO and described in detail in Tongway and Hindley (2004).

The monitoring program will be run annually but will include alternating seasons in order to obtain natural season variability over the course of the project life.

5.1.2 Visual Assessment

The basis of this monitoring method is the visual assessment of a range of attributes which are then compared over time in order to determine changes over time. This data can then be graphed and compared with reference site data. As the graphed data show a progression towards the reference sites, an assessment can be made of ultimate success in the final rehabilitation. The following data will be collected:

- The dominant species present.
- Evidence of natural regeneration.
- Presence/absence of feral animals.
- Any observable impacts of the reprocessing operations.
- General health and sustainability of vegetation as indicated by presence/absence of flowering/fruiting adult plants.
- Data relating to site disturbance including fire, weed invasion, stock presence, unauthorised vehicle access and impact and rubbish.
- An estimate of weed cover and the principal species present, especially declared noxious weeds.
- An estimate of the percentage of bare ground present.
- The presence of micro habitat such as fallen timber, rocks and mistletoe.
- The type and extent of any erosion present.

To provide a rapid assessment tool the data is weighted according to condition criteria. This process allows for a prompt feedback system whereby disturbed revegetated areas

that require maintenance works can be efficiently and objectively prioritised for remedial works.

5.1.3 Reference Sites

An important component in the monitoring program is to establish the base case for the final revegetation. Although the target Western Tablelands Dry Forest is a relatively wide spread community, there are no actual remaining examples on site. The difficulty in this situation is that the natural soils and landform at Woodlawn is unique as it has developed on a volcanic intrusion with sulphide mineralisation resulting in naturally elevated metals and acidic soils. It is assumed that the vegetation community would not necessarily be of the same form and structure as typical Western Tablelands Dry Forest that has developed in the same area but on different geology.

It is considered preferable to establish a local analogue site in the first instance in order to best reflect the pre-existing variations. Assessing the analogue sites is generally considered an integral part of monitoring rehabilitation and is used to generate a "band" of values depending on seasonal effects as well as stochastic events like storms, droughts and fire. In addition, data recording the response and recovery dynamics to stochastic disturbances of the analogue site (e.g. fire, storm) would provide a test of the resilience of a rehabilitated site (rate of recovery of function after specified disturbance).

The selection of the analogue sites will be discussed and presented in the Annual Reviews.

5.2 Reporting Procedures

All environmental monitoring requirements specified in Project Approval, EPA licences and this management plan will be kept on site. Copies will be provided to the Mine Manager, who in consultation with the site Environmental Officer, reviews the data on a monthly basis or when obtained. A summary of the data is provided to regulatory authorities as required by statutory approvals. Other data collected as part of projects or auditing procedures are reported internally in accordance with the EMS verification procedures.

Annual Review will be provided to relevant government departments and will report on the environmental management of the site, provide results of monitoring data, the rate and success of rehabilitation during the reporting period, and planned works for the coming year. The Annual Review is an important tool for measuring and documenting the success and implementation of the commitments and planning made in this Vegetation and Rehabilitation Management Plan, the Mining Operations Plan, the original Environmental Assessment and Project Approval (including any subsequent modifications).

The Annual Review will be provided to the following agencies:

- ❒ NSW Department of Industry, Division of Resources and Energy;
- ❒ NSW Department of Planning and Environment;
- ❒ Water NSW;
- ❒ Goulburn Mulwaree and Palerang Councils;
- ❒ Department of Primary Industries - Water;

- Office of Environment and Heritage;
- NSW Environment Protection Authority; and
- NSW Roads and Maritime Services.

The Annual review will provide a summary of all environmental monitoring data collected during the reporting period and compare these with the stated objectives and targets. The Annual Review will also provide a discussion on the monitoring results including an assessment against performance criteria and rehabilitation objectives.

The main activities to be addressed in detail for the first two Annual Reviews will be the development and advancement of the rehabilitation trials. The main development activities would relate to the construction program, tailings reprocessing and advancement of the underground exploration and feasibility assessments.

5.3 Adaptive Management

Rehabilitation work is by its very nature, dependent on a range of variables including rainfall and other climatic conditions, changes in soil chemistry, bushfire, pests and vegetative diseases. There are also general risks when developing methods to deal with hostile growing media such as found at Woodlawn.

In response to these issues, Heron will first identify the appropriate revegetation method through trials and research on site and then continue to monitor the results to verify that the resulting vegetation community is sustainable. There are several specific risks to the success of the tailings rehabilitation program, including:

- The quality of the compost material made available by Veolia.
- Sufficient volume of compost made available by Veolia.
- Sufficient clay, none acid material and topdressing compost availability.

Heron will continue to work closely with Veolia in regard to the delivery of the compost, including quality specifications and required quantity. During the trials to be conducted on the northern tailings dam while the southern tailings dam is being reprocessed, data will be gathered on the response to different treatments, depth of organic material, water holding capacity and physical and chemical properties.

The primary outcome of the trials will be the confirmation of the final rehabilitation method and program. An equally important outcome will be the refinement of specific triggers for future adaptive management. These would include triggers for soil physical and chemical properties to ensure adequate vegetation growth and vigour.

5.4 Record Keeping

Records will be kept of all vegetation management activities including soil treatments, revegetation activities, ecological function monitoring and climatic conditions. The results of the revegetation trials will also be kept in logical, scientifically robust and verifiable form that is identifiable and traceable to the activity. Data will be stored and maintained so that they are readily retrievable and protected against damage, deterioration or loss.

5.5 Management Review

The purpose of management review of the component management plans, including this Vegetation and Rehabilitation Management Plan, is to identify any areas of improvement particularly in response to the monitoring program. The aim is to maintain the management initiatives outlined in this Plan in line with current industry and Australian standards and changes to environmental and community expectations.

Heron management will review this Plan on an annual basis. The management review process will ensure that the necessary information is collected to allow management to carry out this evaluation and the review document.

The management review will address the possible need for changes to policy, rehabilitation objectives, methods, controls and other elements in light of rehabilitation performance and the commitment to continual improvement.

5.6 Continuous Improvements

A key component of the management of vegetation and rehabilitation initiatives is the commitment to continuous improvement. This will be measured by formal and informal criteria as outlined in Section 5.1. The EFA monitoring tool will be used to establish trends in vegetation growth and trajectory towards sustainability. The monitoring of rehabilitation activities will continue throughout the life of the project and will be used in the final lease relinquishment process.

The key outcome of the vegetation and rehabilitation monitoring program is to verify that the stated completion criteria are being met. Over time, these criteria may change which will require modifications to be made to rehabilitation methods. The ability to adapt to change is a measure of continuous improvement. Heron will also keep abreast of any changes in environmental or rehabilitation methods and new technology which may further enhance environmental outcomes.

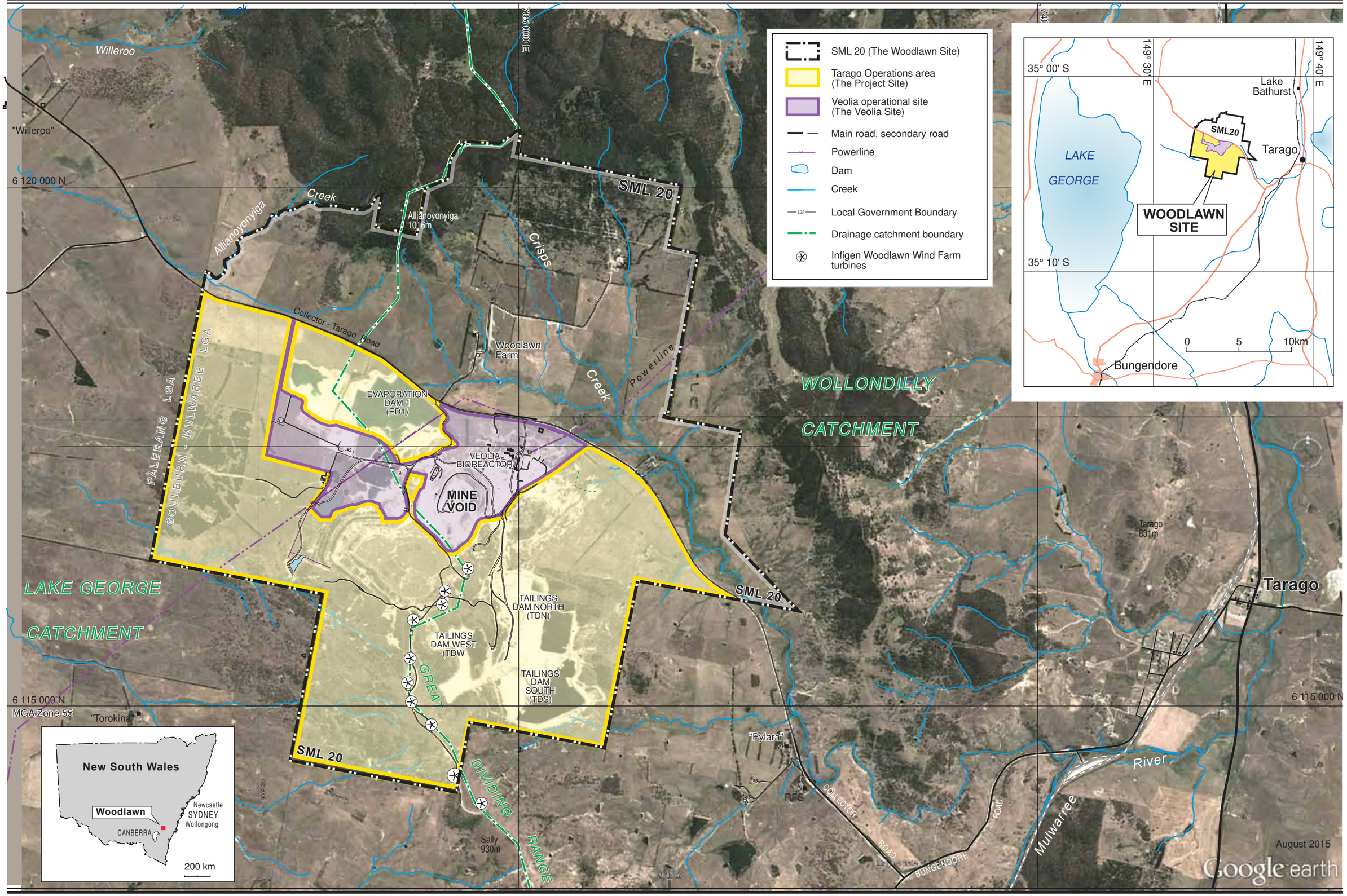
5.7 Trigger Action Response Plan

A key element in the Environmental Management Strategy is the development of an effective Trigger Action Response Plan (TARP). An initial set of TARPs have been developed but will be expanded and refined during the operation and rehabilitation trials.

Criteria	Trigger	Action
Leakage from tailings dams	Measured flow Water quality indicates dam contents leaking	Determine point of leakage Reseal or treat until leakage stops
Surface erosion	Bank or bed cutting, sediment movement and build-up	Widen channel to achieve less than 2.5 m/s peak flow Install channel protection such as rock rubble Reduce slope
Nil discharge from tailings dams	Overtopping of dams during storm events	Raise dam to maintain 600mm of freeboard Separate run-on water from

		dams
Confirm cover depth	Capillary rise of acid or metals	Increase depth of cover Seal tailings surface Increase depth of capillary break Use of clay capping
Confirm quality of surface growing media	pH fails below 5	Use lime amendment biosolids or equivalent Provide greater aeration
	Metal concentration becomes growth inhibiting	Increase depth of growing media Determine path of metals and source
Vegetation dieback	Greater than 10% death rate	Establish soil chemistry Apply soil ameliorants Retest soil to confirm suitability
Sustained growth	Lack of self seeding	Monitor growth stages to determine limitations Improve soil structure and fertility, reduce physical limitations
Community establishment	Vegetation monitoring shows sustainability curve not being achieved after 3 years Bare patches greater than 10% of transects	Targeted plantings using tubestock or seed Test soil to determine any limiting factors Apply soil ameliorants

Appendix A - Plans

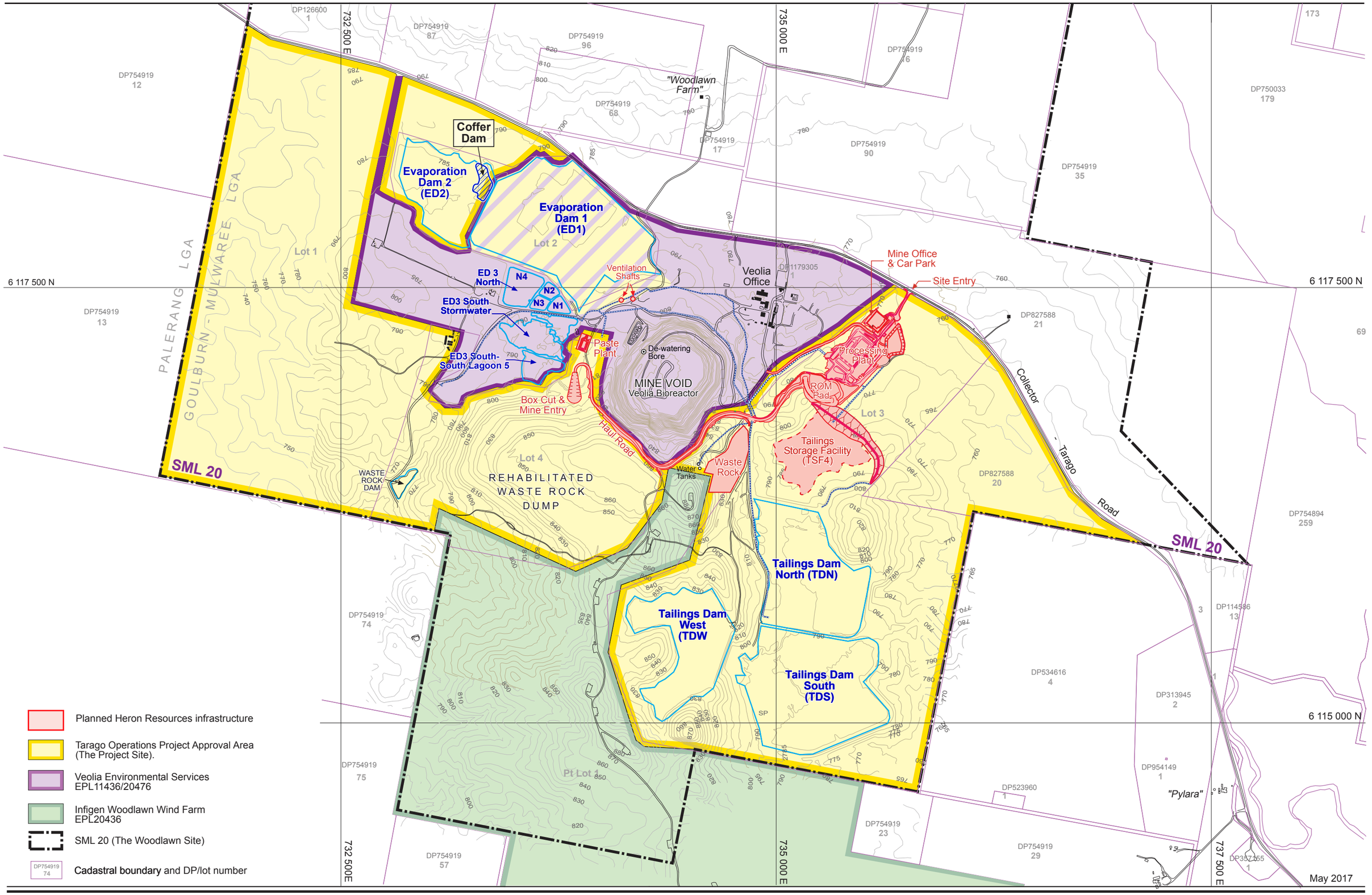


Topographic map source : Lake Bathurst 8827-4-N

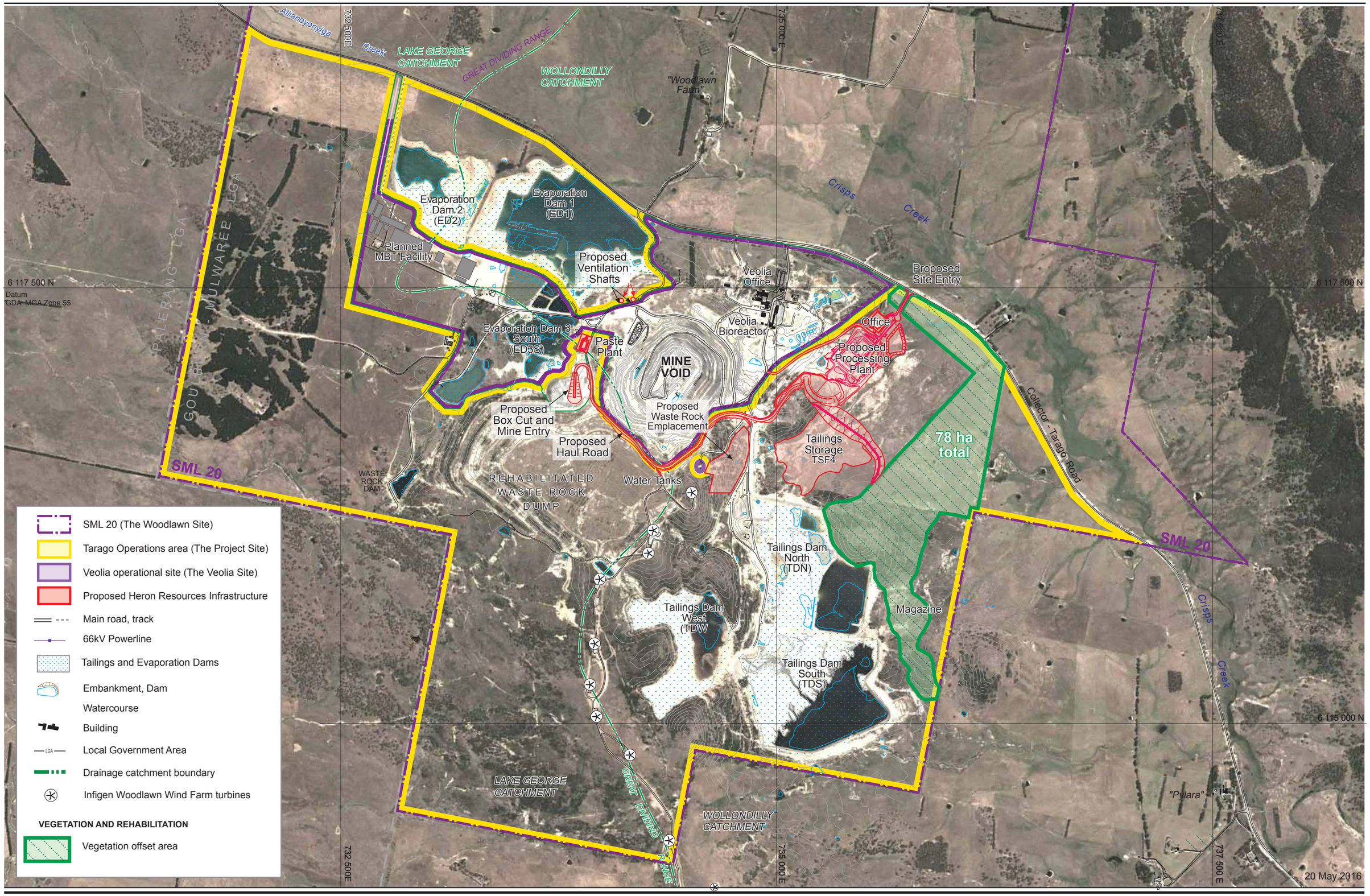
0 500 1000 1500 2000 metres

N

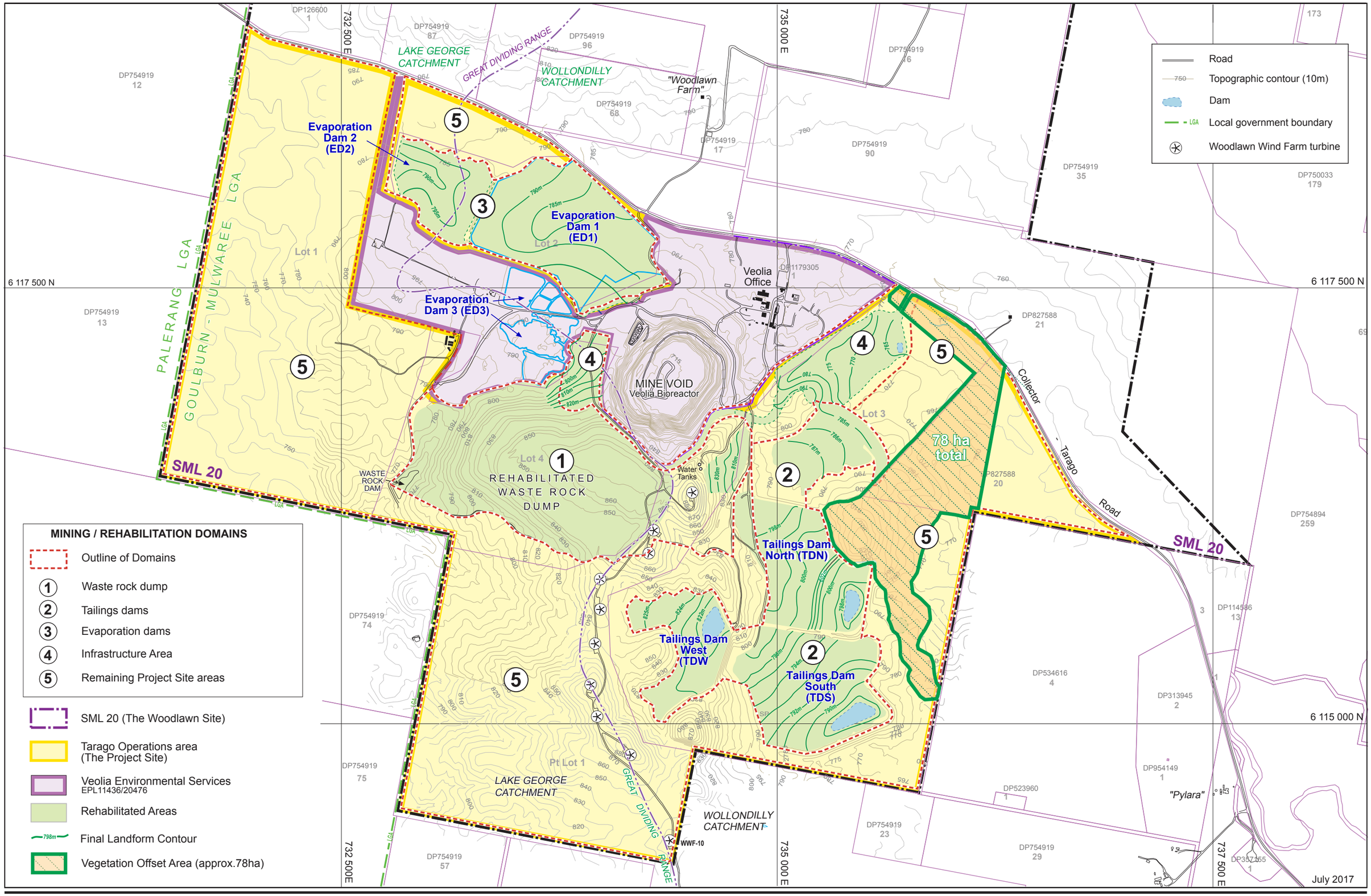
Plan 1
Woodlawn Site - Locality Plan



PLAN 2
Woodlawn Mine - Site Details



PLAN 3
Woodlawn Project
Vegetation and Rehabilitation Management Plan



Datum : GDA MGA Zone 55

0 500 1000 m

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PLAN 4
Woodlawn Site - Final Rehabilitation

Appendix B – Project Approval

Project Approval

Section 75J of the *Environmental Planning & Assessment Act 1979*

As delegate for the Minister for Planning and Infrastructure, I approve the project application referred to in Schedule 1, subject to the Conditions in Schedules 2 to 6.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Chris Wilson
Executive Director
Development Assessment Systems and Approvals

Sydney 2013

SCHEDULE 1

Application Number:	07_0143
Proponent:	TriAusMin Limited
Approval Authority:	Minister for Planning and Infrastructure
Land:	See Appendix 1
Project:	Woodlawn Mine Project

Blue type represents the April 2016 modification
Green type represents the July 2017 modification

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DEFINITIONS

AWT	Alternative Waste Technology
Annual Review	The review required by Condition 4 of Schedule 6
Approval	This project approval
ARI	Annual Recurrence Interval
BCA	Building Code of Australia
CCC	Community Consultative Committee
Conditions of this approval	Conditions contained in Schedules 2 to 6 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this approval
Council	Goulburn Mulwaree Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
DPI – Water	Division of Water within the Department of Primary Industries
DRG	Division of Resources and Geoscience within the Department of Planning and Environment
DSC	Dam Safety Committee
EA	Environmental Assessment titled '*Environmental Assessment: TriAusMin Woodlawn Project*' dated April 2012 and associated response to submissions titled '*Submissions Report: TriAusMin Woodlawn Project*', dated September 2012, as amended by: • modification application and supporting Environmental Assessment titled 'Woodlawn Mine Environmental Assessment: Proposed Modification to Project Approval 07_0143 for the Relocation of the Underground Mine Entry' dated January 2016 and associated response to submissions titled 'Woodlawn Mine Project Application 07_0143 MOD1 Response to Submissions', dated March 2016; and • modification application and supporting Environmental Assessment titled 'Application to Amend PA 07_0143MOD1 - Woodlawn Mine' dated 9 June 2017
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPA	Environment Protection Authority
EPL	Environment Protection Licence issued under the POEO Act
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build or to implement
Incident	A set of circumstances that: • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this approval
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in Schedules 5 and 6 of this approval where it is defined to mean the whole of a lot, or contiguous lots, owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Mining operations	Includes the removal of waste rock and the extraction, processing, handling storage and transportation of ore material from the WRP and WUP
Minister	Minister for Planning, or delegate
Minor	Small in quantity, size and degree given the relative context
Mitigation	Activities associated with reducing the impacts of the project prior to or during those impacts occurring
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
OEH	Office of Environment and Heritage
POEO Act	*Protection of the Environment Operations Act 1997*
Privately-owned land	Land that is not owned by a public agency or a mining company (or its subsidiary)
Project	The project described in the EA
Proponent	TriAusMin Limited, or any other person or persons who rely on this approval to carry out the development that is subject to this approval
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The treatment or management of land disturbed by the project for the purpose of establishing a safe, stable and non-polluting environment
RMP	Rehabilitation Management Plan
RMS	Roads and Maritime Services
Secretary	The Secretary of the Department, or nominee and/or delegate
Site	The land within the project boundary defined in Appendix 1

Veolia	Veolia Environmental Services Pty Ltd which operates the *Woodlawn Waste Facility* (06_0239) and the *Woodlawn Bioreactor and Crisps Creek Intermodal Facility* (10_0012)
WRP	Woodlawn Reprocessing Project
WUP	Woodlawn Underground Project

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

TERMS OF APPROVAL

1. The Proponent shall carry out the project generally in accordance with the:
   (a) EA; and
   (b) conditions of this approval.

2. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.

3. The Proponent shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:
   (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval; and
   (b) the implementation of any actions or measures contained in these documents.

4. In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.

LIMITS ON APPROVAL

Mining Operations

5. The Proponent may carry out mining operations on the site until 31 December 2034.

   Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of both the Secretary and the Department of Resources and Energy. Consequently, this approval will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.

Ore Extraction and Processing

6. The Proponent shall not:
   (a) process more than 1.5 million tonnes of tailings and/or ore on the site in a calendar year; or
   (b) transport more than 150,000 tonnes of concentrate from the site in a calendar year.

Transportation

7. The Proponent shall transport all concentrate from the site via Collector Road (east of the site), the Tarago-Bungendore Road (north of Collector Road), Braidwood Road and the Hume Highway.

Hours of Operation

8. The Proponent shall comply with the operating hours in Table 1.

Table 1: Operating Hours

Activity	***Operating Hours***
Construction and rehabilitation	7am to 7pm, 7 days per week
Mining, maintenance and processing operations	24 hours, 7 days per week
Transportation of ore concentrate from the site	7am to 10pm, 7 days per week

STRUCTURAL ADEQUACY

9. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA and the DSC.

   Notes:
   - *Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works. Part 8 of the EP&A Regulation sets out the requirements for the certification of the project; and*
   - *Under the Dams Safety Act 1978, the Proponent will require a further approval for the project's new tailings storage facility (TSF4).*

DEMOLITION

10. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures,* or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

11. Unless the Proponent and the applicable authority agree otherwise, the Proponent shall:
    (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and
    (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

OPERATION OF PLANT AND EQUIPMENT

12. The Proponent shall ensure that all the plant and equipment used at the site, or to transport materials from the site, is:
    (a) maintained in a proper and efficient condition; and
    (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF ANY STRATEGY, PLAN OR PROGRAM

13. With the approval of the Secretary, the Proponent may:
    (a) submit any strategy, plan or program required by this approval on a progressive basis; and
    (b) combine any strategy, plan or program required by this approval with any similar strategy, plan or program required for the project.

    Notes:
    - *While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the operations on site are covered by suitable strategies, plans or programs at all times; and*
    - *If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*

DEVELOPER CONTRIBUTIONS

14. Prior to the commencement of operations on the site, and during the operational life of the project, unless otherwise agreed by the Secretary, the Proponent shall pay Council:
    (a) a minimum annual road maintenance payment of $0.043 per kilometre per tonne for product transported along Council maintained roads in accordance with Council's *Section 94 Development Contributions Plan 2009 Amendment No. 2* (indexed to inflation); and
    (b) a community enhancement payment of $1.26 million over the life of the project in accordance with Council's *Section 94A Development Contributions Plan 2009 Amendment No. 2*,

    to the satisfaction of Council.

SCHEDULE 3
ENVIRONMENTAL PERFORMANCE CONDITIONS

TAILINGS DAMS

Performance Measures

1. The Proponent shall ensure that the:
   (a) design of all tailings dams on the site is in accordance with the requirements of the Dam Safety Committee under the *Dams Safety Act 1978*;
   (b) lining of the floor and walls of Tailings Storage Facility 4 achieves a permeability of no less than 1 x 10^{-9} m/s to a depth of at least 900 millimetres of clay (or equivalent) in accordance with the *EPA's Environmental Guidelines for Solid Waste Landfills*;
   (c) material used to repair the facilities achieves a permeability of no less than 1 x 10^{-9} m/s to a depth of at least 900 millimetres of clay (or equivalent) if the floor and walls of Tailings Dams North, South and West require repairing;
   (d) capping of the tailings dams is generally consistent with the site capping requirements contained in the *EPA's Environmental Guidelines for Solid Waste Landfills*, and achieves a final landform that is safe, long term stable, and suitable for achieving the rehabilitation objectives in Table 2 below;
   (e) tailings and evaporation dams are maintained with a minimum freeboard of 600 mm or a minimum freeboard sufficient to accommodate a 1 in 100-year ARI, 72-hour rainfall event without overtopping at all times, whichever is greater;
   (f) the clean water diversion around Tailings Storage Facility 4 shall be designed, constructed and maintained to prevent the flood waters (up to the probable maximum flood level) from entering the facility;
   (g) source of seepage from Tailings Dam South is indentified and repaired within 3 years of commencing tailings reprocessing operations on the site; and
   (h) existing seepage collection area is lined with a low permeability geotextile membrane within 1 year of completing the repair work on Tailings Dams South,

   to the satisfaction of the Secretary.

   Alternative permeability and thickness standards for the lining and capping of tailings dams may be acceptable following completion of an appropriate risk assessment undertaken in accordance with the *Environmental Guidelines – Management of Tailings Storage Facilities* (VIC DPI, 2004) - or equivalent, with the written agreement of the Dam Safety Committee, EPA and the Secretary.

Tailings Rehabilitation Strategy

2. The Proponent shall prepare and implement a Tailings Rehabilitation Strategy for the project to the satisfaction of the Secretary. The strategy must:
   (a) be prepared in consultation with DRG;
   (b) be submitted to the Secretary for approval prior to commencement of construction on the site;
   (c) confirm there would be sufficient capping material to rehabilitate the tailings and evaporation dams;
   (d) confirm this material would be available in time for the progressive rehabilitation of the tailings and evaporation dams;
   (e) confirm that the physical characteristics of the capping material would be able to achieve the rehabilitation objectives for the tailings dams and the evaporation dams;
   (f) confirm the capping material would not result in any additional adverse environmental consequences;
   (g) confirm that manner in which the compost from the Veolia AWT is proposed to be used on the site is covered by a valid exemption issued by the EPA; and
   (h) include contingency measures to be implemented if the organic material proves to be unsuitable, including detailed plans of the location, nature and quantity of alternative rehabilitation material to be sourced from the site.

UNDERGROUND MINING

Performance Measures

3. The Proponent shall ensure that:
   (a) there is *no measurable subsidence* caused by underground mining beneath the Woodlawn Landfill, tailings dams, and evaporations dams on the site;
   (b) apart from the access decline, no underground mining is undertaken within 200 m of the perimeter of the Woodlawn Landfill;
   (c) remnant underground voids are long term stable to prevent subsidence; and
   (d) material used to backfill underground voids is physically and chemically stable and non-polluting.

Extraction Plan

4. The Proponent shall prepare and implement an Extraction Plan for all underground mining at the Woodlawn Mine, to the satisfaction of the Secretary. Each Extraction Plan must:
   (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
   (b) be approved by the Secretary before the Proponent carries out any underground mining (excluding construction of the underground access decline) at the Woodlawn Mine that is covered by the Extraction Plan;
   (c) include detailed plans of existing and proposed underground workings and any associated surface development;
   (d) describe in detail the performance indicators and the actions that would be undertaken to ensure compliance with the performance measures in Condition 3 above, and manage or remediate any impacts and/or environmental consequences to meet the rehabilitation objectives in Condition 6 below; and
   (e) include a Subsidence Monitoring Program to assist with the management of the risks associated with subsidence, which validates the subsidence predictions, analyses the relationship between the predicted and resulting subsidence effects, and informs contingency planning and the adaptive management process in the underground workings.

   The Proponent shall pay all reasonable costs incurred by the Department to engage suitably qualified, experienced and independent experts to review the adequacy of any aspect of an Extraction Plan.

   Notes: In accordance with Condition 13 of Schedule 2, the preparation and implementation of Extraction Plans may be staged, with each plan covering a defined area of underground workings. In addition, these plans are only required to contain management plans that are relevant to the specific underground workings that are being carried out.

Paste Fill

5. The Proponent shall commission a suitably qualified expert, whose appointment has been endorsed by the Secretary to:
   (a) carry out trials and testing to clarify the physical and leaching characteristics of the paste fill;
   (b) prepare a program for the ongoing testing of the paste fill to ensure it meets the performance measures in Condition 3 above; and
   (c) prepare a report on the findings of trials and testing, and submit the report to the Secretary for approval prior to the commencement of underground mining operations on the site (excluding construction of the underground access decline).

REHABILITATION OBJECTIVES

6. The Proponent shall rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must be generally consistent with the proposed rehabilitation plan described in the EA (and reproduced in Appendix 4), and comply with the rehabilitation objectives in Table 2.

Table 2: Rehabilitation Objectives

Feature	***Objectives***
Mine site (as a whole)	• **Safe, stable and non-polluting with no final voids on the surface** • **Integrated with the rehabilitation of the Woodlawn Landfill** • **Revegetated with plant species characteristic of Western Tablelands Dry Forest vegetation community**
Underground workings	• No measurable subsidence effects on the Woodlawn Landfill, evaporation dams and tailings dams on the site
Surface infrastructure	• To be decommissioned and removed, unless otherwise agreed with the Secretary
Waste rock dumps	• Any seepage from the waste rock dumps to be contained and treated on the site
Tailings dams	• All tailings contained within low permeability structures with no seepage to surrounding areas from tailings dams • Final landform and vegetation cover to be stable, self sustaining, free draining and consistent with surrounding rehabilitated areas
Evaporation dams	• Final landform and vegetation cover to be stable, self sustaining, free draining and consistent with surrounding rehabilitated areas
Rehabilitated slopes	• All rehabilitated slopes to be less than 10 degrees and free draining (except for the dam walls which are permitted to have a final slope of up to 18 degrees)
Drainage lines	• Hydraulically and geomorphologically stable, with vegetation that is in the same condition or better than that which existed prior to mining under this approval
Revegetation area	• Establish at least 71 hectares of the Western Tablelands Dry Forest vegetation community shown in Appendix 3.
Community	• Minimise the adverse socio-economic effects associated with mine closure

SCHEDULE 4
ENVIRONMENTAL MANAGEMENT CONDITIONS

WATER RESOURCES

Under the Water Act 1912 and/or the Water Management Act 2000, the Proponent is required to obtain all necessary water licences for the project.

Water Supply

1. The Proponent shall ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of mining operations to match its available water supply, to the satisfaction of the Secretary.

Water Discharges

2. Except as may be expressly provided by an EPL, the Proponent shall comply with Section 120 of the POEO Act during the carrying out of the project.

Existing Acid Drainage

3. Within 5 years of the date of this approval, the Proponent shall identify the passive system to treat seepage from the existing Waste Rock Dump in consultation with DRG, and implement the preferred system to the satisfaction of the Secretary.

Water Management Plan

4. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared in consultation with EPA, DPI – Water, WaterNSW, Infigen Energy and Veolia, by suitably qualified and experienced persons whose appointment has been approved by the Secretary, and submitted to the Secretary for approval prior to the commencement of mining operations under this approval. This plan must include:
   (a) a Site Water Balance that includes details of:
      - sources of water supply;
      - water use on site, including any potable water use;
      - water transfers to/from the site; and
      - any off-site water discharges;
   (b) a Surface Water Management Plan, which includes:
      - baseline data on surface water flow and quality in natural waterbodies that could be affected by the project;
      - a detailed description of the surface water management system on the site, including the:
         - clean water diversions;
         - erosion and sediment controls;
         - water storage structures; and
         - tailings and evaporation dams;
   (c) design objectives and performance criteria for the following:
         - the surface water management system;
         - tailings and evaporation dams; and
         - waterbodies that could be affected by the project;
      - a program to monitor:
         - the effectiveness of the water management system;
         - surface water flows, quality, and impacts on other water users;
         - potential acid rock drainage from the waste rock dumps;
         - potential seepage from tailings and evaporation dams; and
         - post-closure water quality;
   (d) a Groundwater Management Plan, which includes:
      - baseline data of all groundwater levels, yield and quality of any privately-owned groundwater bores that could be affected by the project;
      - groundwater assessment criteria;
      - definition of areas of existing groundwater contamination;
      - a program to monitor:
         - existing groundwater contamination indentified on the site;
         - impacts on the groundwater supply of potentially affected landowners;
         - the volume of groundwater inflow into the underground workings;
         - regional groundwater levels and quality in potentially affected aquifers;
         - potential groundwater quality impacts from paste fill operations;
         - potential acid rock drainage;
         - potential seepage from tailings and evaporation dams; and
         - the effectiveness of the seepage collection, treatment and storage system associated with the tailings dams, waste rock dumps, evaporation dams and all other water storages that receive contaminated or salt-laden water;

- reporting procedures for the results of the monitoring program;

(e) a Surface and Ground Water Response Plan that includes:
- trigger levels for investigating any potential adverse surface water and groundwater impacts of the project, including but not limited to seepage of contaminated water from the tailings dams, waste rock dumps, evaporation dams and the Woodlawn Landfill;
- a protocol for the investigation, notification and mitigation of existing groundwater contamination on the site and any exceedances of the surface water and groundwater assessment criteria;
- measures to mitigate and/or compensate potentially affected landowners (including compensatory water supply if required);
- the procedures that would be followed to determine any appropriate action to be taken to mitigate or offset any surface or groundwater impacts caused by the project that constitute material harm to the environment.

Note: The effectiveness of the Water Management Plan is to be reviewed and audited in accordance with the requirements in Schedule 6. Following this review and audit the plan is to be revised to ensure it remains up to date (see Condition 5 of Schedule 6).

Water Management Performance Measures

4A The Proponent shall comply with the performance measures in Table 3 to the satisfaction of the Secretary.

Table 3: Water Management Performance Measures

Feature	***Performance Measure***
Erosion and Sediment - General	• Design, install and maintain erosion and sediment controls generally in accordance with the series *Managing Urban Stormwater: Soils and Construction – Volume 1 and Volume 2E Mines and Quarries*
Paste Fill Plant	• Design, install and maintain the paste fill plant to minimise potential for uncontrolled flows of tailings, materials, chemicals or waters (including but not limited to bunding of the tailings storage tanks) in accordance with the relevant Australian Standards.

NOISE

Noise Criteria

5. The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 4 at any residence on privately-owned land.

Table 4: Noise Criteria dB(A)

Receivers	***Day/Evening /Night*** ($L_{Aeq(15\text{-}minute)}$)	***Night*** ($L_{A1(max)}$)
All residential receivers	35	45

Note: After the first review of any EPL granted for this project under Section 78 of the POEO Act, nothing in this approval prevents the EPA from imposing stricter noise limits on the mining operations on site under the EPL.

Appendix 6 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Proponent has an agreement with the relevant owner(s) to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.

Operating Conditions

6. The Proponent shall implement best management practice, including all reasonable and feasible noise mitigation measures, to minimise the construction, operational, low frequency and road noise from the project, to the satisfaction of the Secretary.

Noise Management Plan

7. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. The plan must:
(a) be prepared in consultation with the EPA, and submitted to the Secretary for approval prior to commencing construction on the site;
(b) describe the measures that would be implemented to minimise noise generated by the project, including road noise at the St Andrews Anglican Church;
(c) include a monitoring program that:
- uses attended monitoring to evaluate the performance of the project;

- includes a protocol for determining exceedances of the criteria identified in Table 3;
- evaluates and reports on the effectiveness of the noise management system on site; and

(d) describe how noise management and monitoring on the site would be integrated with the Woodlawn Landfill.

BLASTING

Blasting Criteria

8. The Proponent shall ensure that blasting on the site does not cause exceedances of the criteria in Table 5.

Table 5: Blasting Criteria

Location	***Time of Blasting***	***Airblast overpressure ($dB_{(Lin\ Peak)}$)***	***Ground vibration (mm/s)***	***Allowable exceedance***
Residence on privately-owned land	Any time	120	10	0%
	Day	115	5	5% of the total number of blasts over a period of 12 months
	Evening	-	2	
	Night, and all day on Sundays and public holidays	-	1	0%

Note: All blasts are to be designed by a suitably qualified and experienced blasting engineer.

Blasting Hours

9. The Proponent shall comply with the blasting hours in Table 6.

Table 6: Blasting Hours

Activity	***Blasting Hours***
Surface blasting	9am – 5pm Monday to Friday, excluding public holidays
Underground blasting	Anytime

Blasting Frequency

10. In relation to above ground blasting, the Proponent may carry out a maximum of 1 blast per day, unless an additional blast is required following a blast misfire.

This condition does not apply to blasts required to ensure the safety of the site or its workers, and to minor additional blasts required during the construction of the box cut to access the underground workings.

Note: For the purpose of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the site.

Operating Conditions

11. During operation of the project, the Proponent shall implement best management practice to:
(a) protect the safety of people and livestock in the surrounding area;
(b) protect public or private infrastructure/property in the surrounding area from any damage; and
(c) minimise the dust and fume emissions from any blasting; and
to the satisfaction of the Secretary.

Blast Management Plan

12. The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:
(a) be prepared in consultation with the Veolia and Infigen Energy, and submitted to the Secretary for approval prior to commencing blasting on the site;
(b) describe the process for incrementally developing and monitoring blasting design;
(c) describe the blast mitigation measures that would be implemented to ensure compliance with the blasting criteria in Table 4; and
(d) include a blast monitoring program to evaluate the performance of the project.

AIR QUALITY

Odour

13. The Proponent shall ensure that no offensive odours generated by the project are emitted from the site, as defined under the POEO Act.

Greenhouse Gas Emissions

14. The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the Secretary.

Air Quality Criteria

15. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not exceed the criteria listed in Tables 7, 8 and 9 at any residence on privately-owned land.

Table 7: Long term impact assessment criteria for particulate matter

Pollutant	***Averaging Period***	***[d] Criterion***
Total suspended particulate (TSP) matter	Annual	[a] 90 µg/m^3
Particulate matter < 10 µm (PM_{10})	Annual	[a] 30 µg/m^3

Table 8: Short term impact assessment criterion for particulate matter

Pollutant	***Averaging Period***	***[d] Criterion***
Particulate matter < 10 µm (PM_{10})	24 hour	[a] 50 µg/m^3

Table 9: Long term impact assessment criteria for deposited dust

Pollutant	***Averaging Period***	***Maximum increase in deposited dust level***	***Maximum total deposited dust level***
[c] Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

However, the criteria listed in Tables 6, 7 and 8 do not apply if the Proponent has an agreement with the relevant owner(s) to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.

Notes to Tables 6, 7 and 8:

- *[a] Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);*
- *[b] Incremental impact (i.e. incremental increase in concentrations due to the project on its own);*
- *[c] Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and*
- *[d] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fog, fire incidents or any other activity agreed by the Secretary.*

Operating Conditions

16. The Proponent shall:
    (a) implement best practice air quality management on site, including all reasonable and feasible measures to minimise the off-site odour, fume and dust emissions generated by the project; and
    (b) minimise any visible air pollution generated by the project;
    to the satisfaction of the Secretary.

Air Quality Management Plan

17. The Proponent shall prepare and implement an Air Quality Management Plan for the project to the satisfaction of the Secretary. This plan must:
    (a) be prepared in consultation with the EPA, and be submitted to the Secretary for approval prior to commencing construction on the site;
    (b) describe the measures that would be implemented to ensure compliance with Conditions 13 to 16 above;
    (c) include an air quality monitoring program that:
        - uses a combination of high volumes samplers and dust deposition gauges to evaluate the performance of the project; and

- includes a protocol for determining exceedances of the relevant conditions of this approval; and

(d) describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the site.

Meteorological Monitoring

18. For the life of the project, the Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants* in New South Wales guideline.

LAND MANAGEMENT

Waste Rock Management Plan

19. The Proponent shall prepare and implement a Waste Rock Management Plan to the satisfaction of the Secretary. The plan must:
    (a) be developed in consultation with DRG, EPA and DPI – Water;
    (b) be submitted for the approval of the Secretary prior to commencing underground mining operations;
    (c) include a detailed description of the procedures to be implemented to monitor and manage potential acid forming material, including:
        - testing for potentially acid forming waste rock prior to it being brought to the surface;
        - prioritising the relocation of potential acid forming material to suitable underground locations prior to oxidation;
        - using all reasonable and feasible measures to prevent waste rock emplaced underground from further oxidising or causing impacts on groundwater;
        - trigger levels for any material that has oxidised to the extent that it cannot be placed underground without impacting groundwater quality, and procedures for adequate capping and sealing of such material at the surface;
        - effective isolation and/or neutralisation of potential acid forming material in waste rock dumps; and
    (d) reflect the groundwater and surface water monitoring programs to monitor potentially acid forming waste rock and any leachate generated, including appropriately designed detection and response systems for acid generation (covering monitoring methods, trigger levels and proposed management and/or treatment actions).

Vegetation Management Plan

20. The Proponent shall prepare and implement a Vegetation Management Plan for the project to the satisfaction of the Secretary. This plan must:
    (a) be prepared in consultation with OEH and submitted to the Secretary for approval prior to commencing construction;
    (b) describe how the additional 71 hectares of revegetation area (shown in Appendix 3) would be integrated with the overall rehabilitation of the site;
    (c) describe the short, medium, and long term measures that would be implemented to:
        - manage the remnant vegetation and habitat on the site and in the revegetated area/s; and
        - implement revegetation, including detailed performance and completion criteria;
    (d) include a detailed description of the procedures to be implemented for:
        - minimising the impacts on fauna on site, including pre-clearance surveys;
        - enhancing the quality of existing vegetation and fauna habitat;
        - restoring native vegetation and fauna habitat on the revegetated area through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of fauna habitat features, including establishing and maintaining bat habitat for the Eastern Bent-wing Bat and Yellow-bellied Sheathtail-bat;
        - establishing a revegetation planting density that is consistent with the rehabilitation objectives in Table 2 of Schedule 3;
        - maximising the salvage of resources within the approved disturbance area – including vegetative and soil resources – for beneficial reuse in the rehabilitation of the site;
        - collecting and propagating seed;
        - bushfire management;
        - controlling weeds, feral pests, erosion and access to the revegetation areas; and
    (e) include a seasonally-based program to monitor and report on the effectiveness of these measures, and progress against the detailed performance and completion criteria; and
    (f) include details of who would be responsible for monitoring, reviewing and implementing the plan.

Progressive Rehabilitation

21. The Proponent shall carry out rehabilitation of the site progressively, that is, as soon as reasonably practicable after disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim rehabilitation strategies shall be employed when areas prone to dust generation cannot be permanently rehabilitated until later in the project life.

Note: It is accepted that some parts of the site that are progressively rehabilitated may be subject to further disturbance at some later stage of the project.

Rehabilitation Management Plan

22. The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Director- General. This plan must:
    (a) be prepared in consultation with the DRG, EPA, DPI – Water, WaterNSW and Council;
    (b) be submitted to the Secretary for approval prior to carrying out mining operations on the site;
    (c) be prepared in accordance with any relevant DRG guideline;
    (d) outline the procedures to be implemented to achieve the rehabilitation objectives in Condition 6 of Schedule 3;
    (e) outline the operational procedures (including testing, monitoring and performance criteria) used to verify the ongoing suitability of the compost material to be used in rehabilitation;
    (f) include detailed designs for the short term and long term rehabilitation of tailings and evaporation dams, including surface water management and capping design which takes into account total predicted settlement;
    (g) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site;
    (h) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, and address all aspects of rehabilitation including mine closure, final landform, and final land use; and
    (i) include a program to monitor, independently audit and report on the ongoing effectiveness of the measures and progress towards the detailed performance and completion criteria.

TRANSPORT

Dangerous Goods

23. Transportation of all dangerous goods to or from the site shall be undertaken in strict accordance with *Australian Code for the Transport of Dangerous Goods by Road and Rail.*

Access Road and Intersection Construction

24. The Proponent shall construct the site access road for heavy vehicles, and associated intersection of this access road, prior to commencing construction of other components of the project on the site. The intersection shall be designed and constructed to the satisfaction of Council and in accordance with the applicable AUSTROADS standards.

Monitoring of Concentrate Transport

25. The Proponent shall:
    (a) keep accurate records of the:
        - amount of copper, lead and zinc concentrate transported from the site (on a monthly basis); and
        - the date and time of loaded heavy vehicle movements from the site; and
    (b) provide the Secretary with a summary of these heavy vehicle movements in the Annual Review.

Road Transport Protocol

26. The Proponent shall prepare and implement a Road Transport Protocol for the project, to the satisfaction of the Secretary. The protocol shall:
    (a) be prepared in consultation with the RMS and Council;
    (b) be submitted to the Secretary for approval prior to carrying out any development on the site;
    (c) include a detailed Transport Code of Conduct that addresses:
        - measures to ensure that heavy vehicles adhere to the designated haulage route in Condition 7 of Schedule 2;
        - staggering of heavy vehicle departures in consultation with Veolia to minimise impacts on the road network;
        - driver behaviour including adherence to speed limits, safe overtaking, and maintaining appropriate distances between vehicles;
        - contingency plans when the designated haulage route is disrupted; and
        - procedures for ensuring compliance with and enforcement of the Code.

HERITAGE

27. The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Secretary. The Plan must:
    (a) be prepared in consultation with OEH and the Aboriginal stakeholders (in relation to the management of Aboriginal heritage values);
    (b) be submitted to the Secretary for approval prior to commencing construction on site;
    (c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site;
    (d) include programs/procedures and management measures for appropriate identification, management, conservation and protection of both Aboriginal and non-Aboriginal heritage items identified on the site.

VISUAL

28. The Proponent shall:
    (a) establish a vegetation screen along the fence line next to Collector Road within 6 months of commencement of construction;
    (b) implement all reasonable and feasible measures to minimise the visual impacts of the project; and
    (c) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*,

    to the satisfaction of the Secretary.

WASTE

29. The Proponent shall:
    (a) minimise the waste generated by the project;
    (b) ensure that the waste generated by the project is appropriately characterised, stored, handled and disposed of in accordance with the *Waste Classification Guidelines* (EPA, 2009), or its latest version; and
    (c) manage on-site sewage treatment and disposal in accordance with the requirements of Council,

    to the satisfaction of the Secretary

BUSHFIRE MANAGEMENT

30. The Proponent shall:
    (a) ensure that the project is suitably equipped to respond to any fires on site; and
    (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.

SCHEDULE 5
ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. Within two weeks of obtaining monitoring results showing:
   (a) an exceedence of any relevant noise criteria in Schedule 4, the Proponent shall notify affected landowners and/ or tenants in writing of the exceedence, and provide regular monitoring results to each of these affected parties until the project is again complying with the relevant criteria; and
   (b) an exceedence of any relevant air quality criteria in Schedule 4, the Proponent shall send the affected landowners and/ or tenants a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time).

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 4, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land.

   If the Secretary is satisfied that an independent review is warranted, then within two months of the Secretary's decision the Proponent shall:
   (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
      - consult with the landowner to determine his/ her concerns;
      - conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 4; and
      - if the project is not complying with these criteria then identify measures that could be implemented to ensure compliance with the relevant criteria.
   (b) give the Secretary and landowner a copy of the independent review.

3. If the independent review determines that the project is complying with the relevant criteria in Schedule 4, then the Proponent may discontinue the independent review with the approval of the Secretary.

4. If the independent review determines that the project is not complying with the relevant criteria in Schedule 4, then the Proponent shall:
   (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the project complies with the relevant criteria; or
   (b) secure a written agreement with the landowner to allow exceedences of the relevant criteria,
   to the satisfaction of the Secretary.

SCHEDULE 6
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:
   (a) be submitted for approval to the Secretary within 12 months of this approval;
   (b) provide the strategic framework for the environmental management of the project;
   (c) identify the statutory approvals that apply to the project;
   (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
   (e) describe the procedures that would be implemented to:
      - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
      - receive, handle, respond to, and record complaints;
      - resolve any disputes that may arise during the course of the project;
      - respond to any non-compliance;
      - respond to emergencies; and
   (f) include:
      - copies of any strategies, plans and programs approved under the conditions of this approval; and
      - a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.

Adaptive Management

2. The Proponent shall assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedules 3 and 4. Any exceedance of these criteria and/or performance measures constitutes a breach of this approval and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

   Where any exceedance of these criteria and/or performance measures has occurred, the Proponent shall, at the earliest opportunity:
   (a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
   (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
   (c) implement remediation measures as directed by the Secretary,
   to the satisfaction of the Secretary.

Management Plan Requirements

3. The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:
   (a) a description of:
      - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
      - any relevant limits or performance measures/criteria;
      - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;
   (b) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
   (c) a program to monitor and report on the:
      - impacts and environmental performance of the project;
      - effectiveness of any management measures (see b above);
   (d) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
   (e) a protocol for managing and reporting any:
      - incidents and complaints;
      - non-compliances with statutory requirements and exceedances of the impact assessment criteria and/or performance criteria; and
   (f) a protocol for periodic review of the plan.

   Note: The Secretary may waive some of these requirements if they are unnecessary for particular management plans.

Annual Review

4. By the end of December each year (or other such timing as agreed by the Secretary), the Proponent shall review the environmental performance of the project to the satisfaction of the Secretary. This review must:
   (a) describe the development (including any rehabilitation) that was carried out in the past year, and the development that is proposed to be carried out over the next year;
   (b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against the:
      - the relevant statutory requirements, limits or performance measures/criteria;
      - requirements of any plan or program required under this approval;
      - the monitoring results of previous years; and
      - the relevant predictions in the EA;
   (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance;
   (d) identify any trends in the monitoring data over the life of the project;
   (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
   (f) describe what measures will be implemented over the next year to improve the environmental performance of the project.

Revision of Strategies, Plans and Programs

5. Within three months of:
   (a) the submission of an annual review under Condition 4 above;
   (b) the submission of an incident report under Condition 7 below;
   (c) the submission of an audit under Condition 9 below; or
   (d) any modification to the conditions of this approval (unless the conditions require otherwise),
   the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary.

   Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.

Community Consultative Committee

6. The Proponent shall establish and operate a CCC for the project in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects* (Department of Planning, 2007, or its latest version), and to the satisfaction of the Secretary. This CCC must be operating prior to commencing construction of the project.

   Notes:
   - *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval; and*
   - *In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community.*

REPORTING

Incident Reporting

7. The Proponent shall notify the Secretary and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within seven days of the date of the incident, the Proponent shall provide the Secretary and any relevant agencies with a detailed report on the incident.

Regular Reporting

8. The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any approved plans of the conditions of this approval.

INDEPENDENT ENVIRONMENTAL AUDIT

9. Within one year of commencing construction of the project, and every three years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. The audit must:
   (a) be conducted by a suitably qualified, experienced and independent team of experts (including a mine site rehabilitation and water quality expert) whose appointment has been endorsed by the Secretary;
   (b) include consultation with the relevant agencies;
   (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);
   (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
   (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/ or any assessment, plant or program required under the abovementioned approvals.

   Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

10. Within six weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

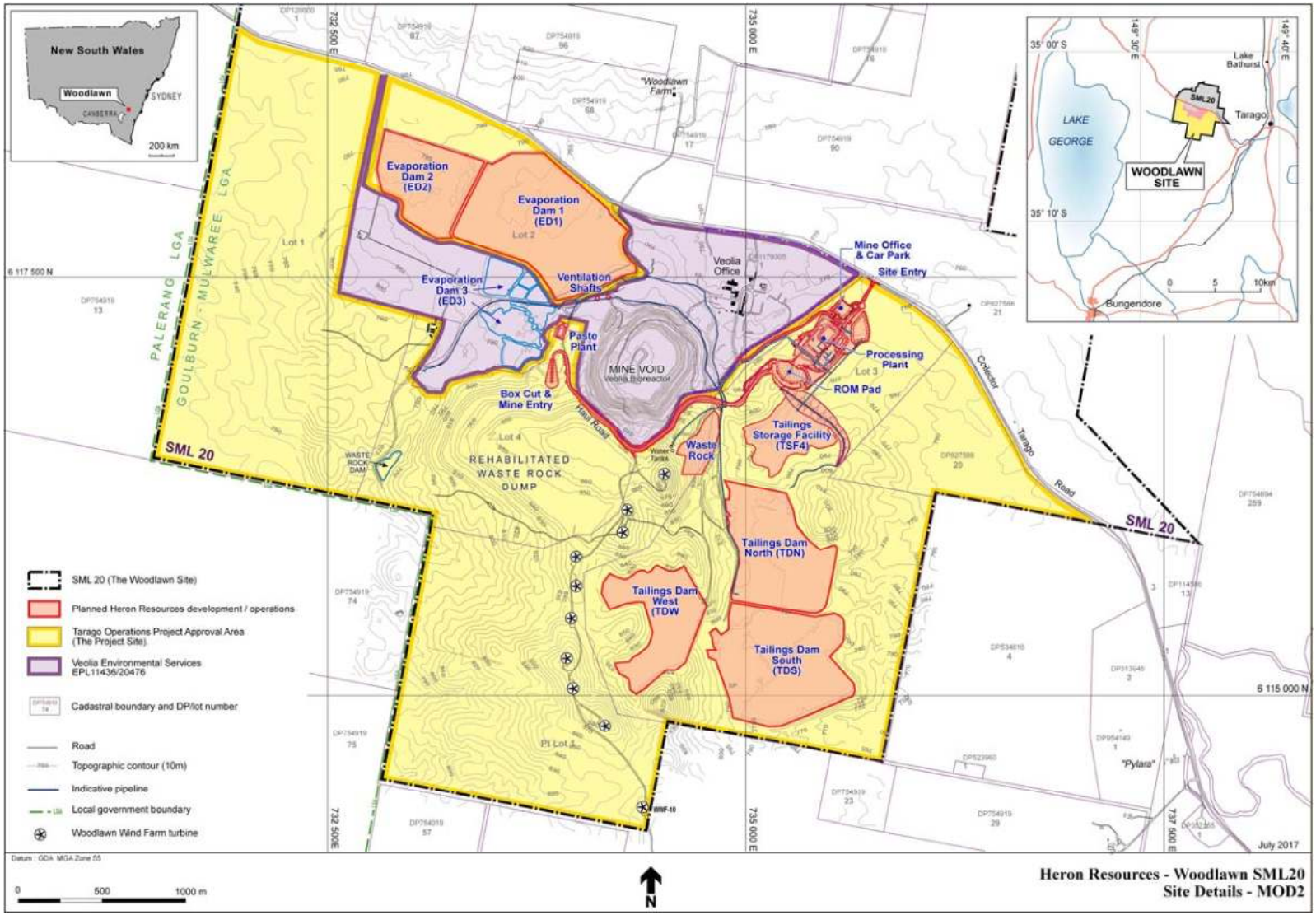
11. Prior to the commencement of construction on the site, the Proponent shall:
   (a) make copies of the following publicly available on its website:
      - the documents referred to in Condition 1 of Schedule 2;
      - all relevant statutory approvals for the project;
      - all approved strategies, plans and programs required under the conditions of this approval;
      - a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any approved plans or programs required under the conditions of this or any other approval;
      - a complaints register, which is to be updated on a monthly basis;
      - minutes of CCC meetings;
      - the annual reviews required under this approval;
      - any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit;
      - any other matter required by the Secretary; and
   (b) keep this information up-to-date,

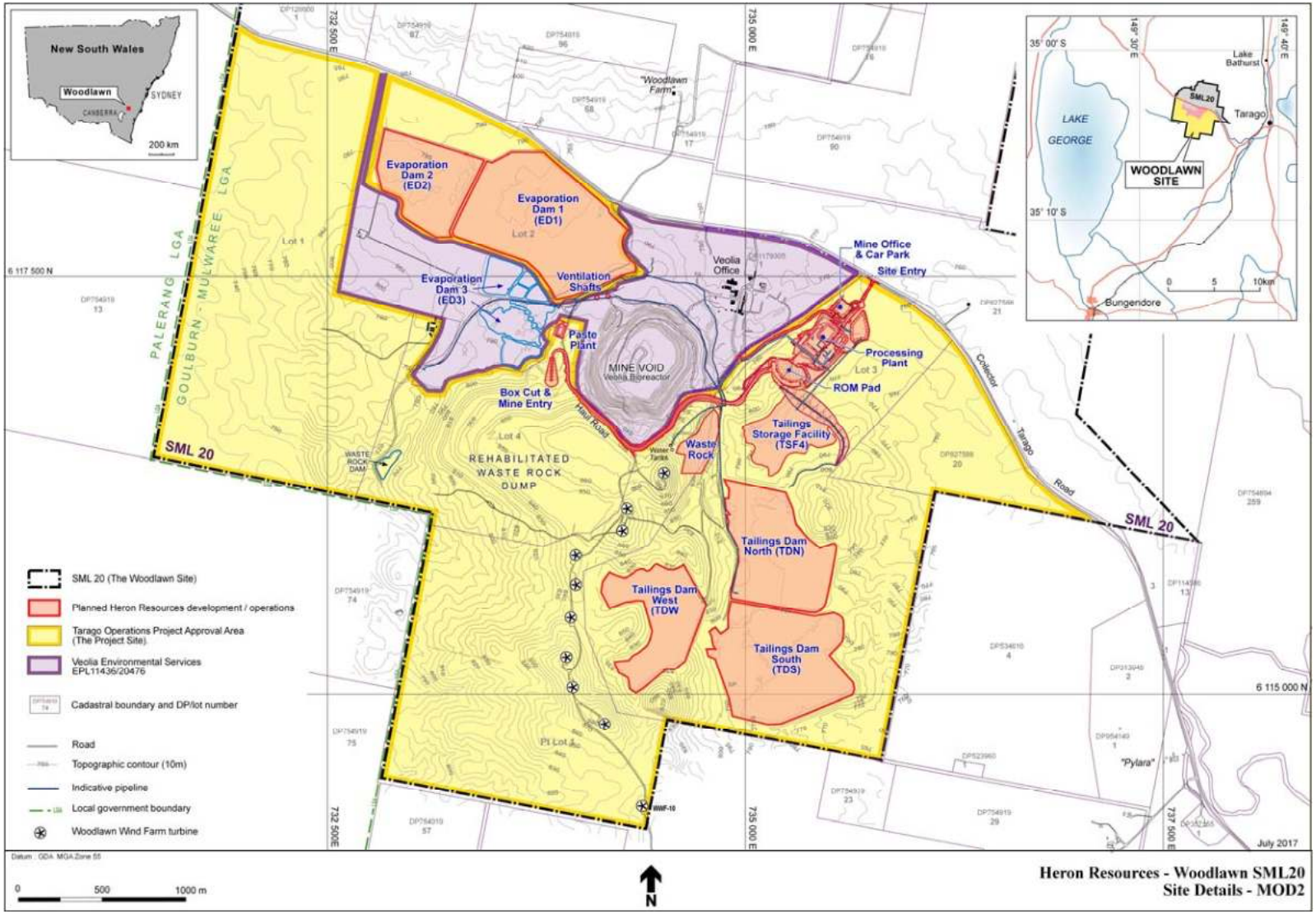
   to the satisfaction of the Secretary.

APPENDIX 1
SCHEDULE OF LAND

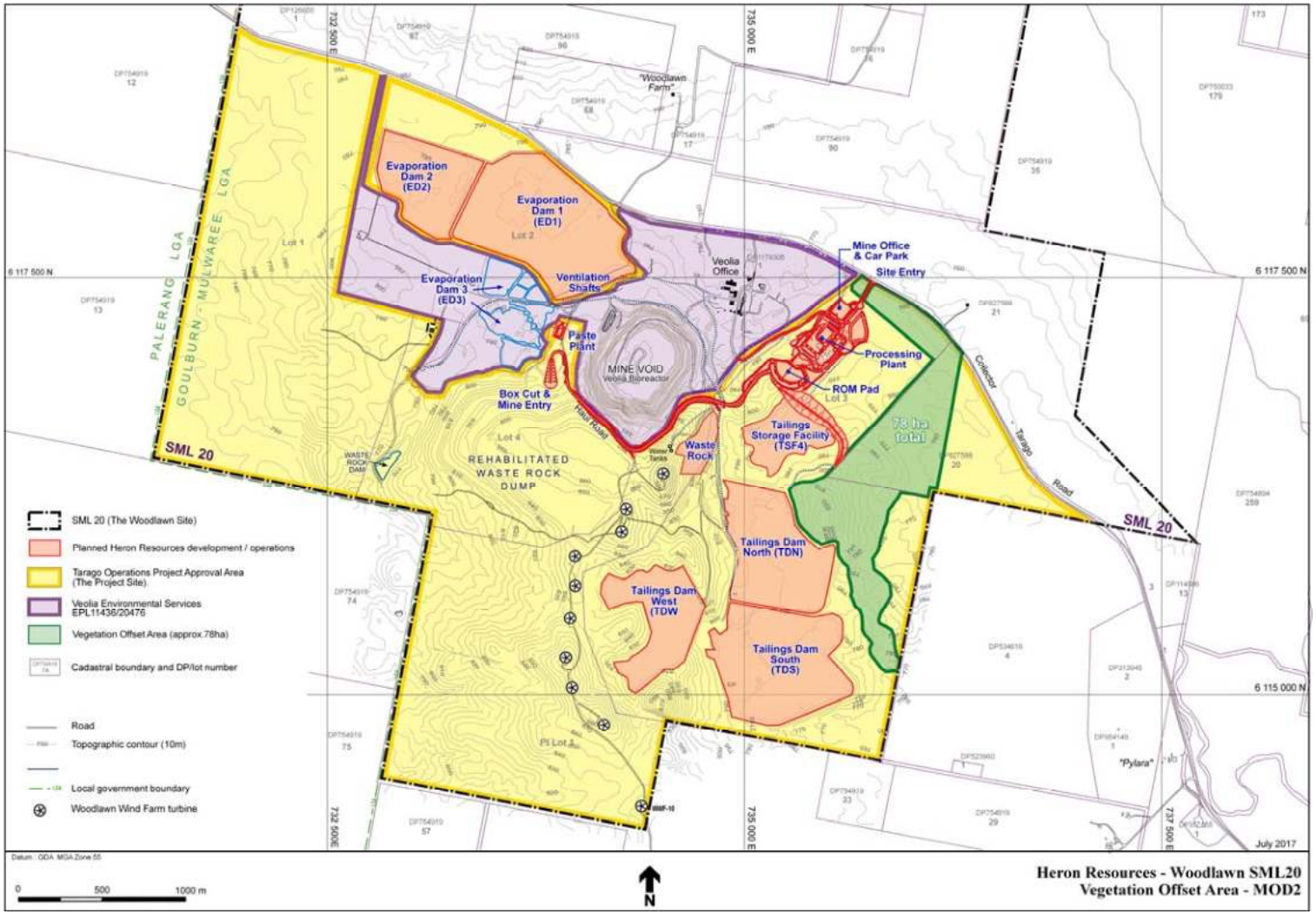
Mine Site (SML 20)	
Lot	***DP***
19	827588
21	
20	
70	754919
88	
92	
25	
14	
30	
86	
91	

APPENDIX 2
PROJECT LAYOUT

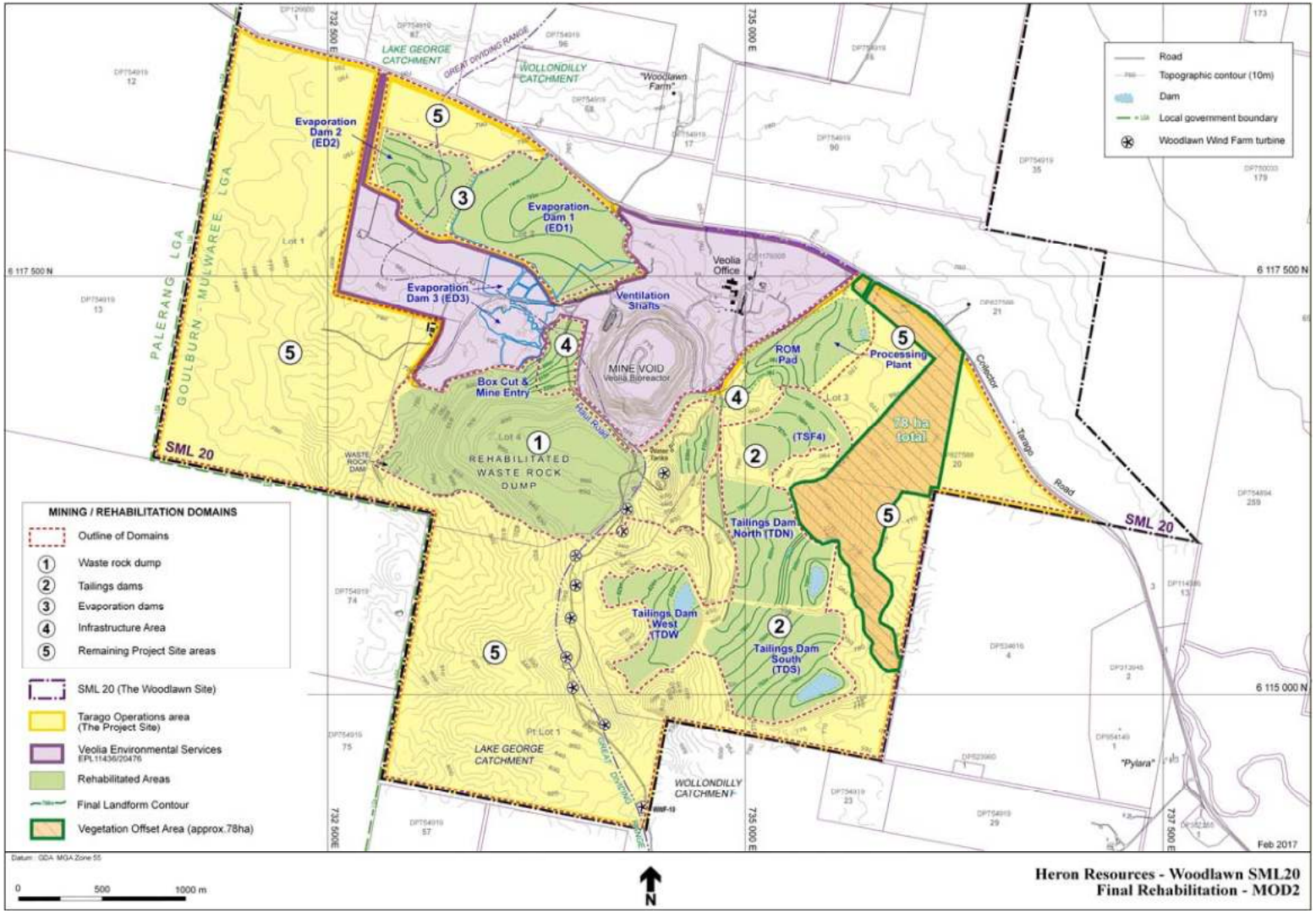



New South Wales
Woodlawn
SYDNEY
CANBERRA
200 km
Evaporation Dam 2 (ED2)
Evaporation Dam 1 (ED1)
Evaporation Dam 3 (ED3)
Ventilation Shafts
Veolia Office
Mine Office & Car Park
Site Entry
Paste Plant
MINE VOID
Veolia Bioreactor
Box Cut & Mine Entry
Haul Road
Processing Plant
ROM Pad
Tailings Storage Facility (TSF4)
Waste Rock
REHABILITATED WASTE ROCK DUMP
WASTE ROCK DAM
Water Tanks
Tailings Dam North (TDN)
Tailings Dam West (TDW
Tailings Dam South (TDS)
SML 20
PALERANG LGA
GOULBURN - MULWAREE LGA
"Woodlawn Farm"
Collector - Tarago Road
"Pylara"
6 117 500 N
6 115 000 N
732 500 E
735 000 E
737 500 E
Lot 1
Lot 2
Lot 3
Lot 4
Pt Lot 2
BWF-10
SML 20 (The Woodlawn Site)
Planned Heron Resources development / operations
Tarago Operations Project Approval Area (The Project Site).
Veolia Environmental Services EPL11436/20476
Cadastral boundary and DP/lot number
Road
Topographic contour (10m)
Indicative pipeline
Local government boundary
Woodlawn Wind Farm turbine
Datum : GDA MGA Zone 55
0
500
1000 m
N
July 2017
LAKE GEORGE
Lake Bathurst
Tarago
Bungendore
WOODLAWN SITE
35° 00' S
35° 10' S
149° 30' E
149° 40' E
0
5
10km
Heron Resources - Woodlawn SML20
Site Details - MOD2

APPENDIX 3
REVEGETATION AREAS



APPENDIX 4
REHABILITATION PLAN



APPENDIX 5
NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 3 of the conditions are to apply under all meteorological conditions except the following:
   (a) during periods of rain or hail;
   (b) average wind speed at microphone height exceeds 5 m/s;
   (c) wind speeds greater than 3 m/s measured at 10 m above ground level; or
   (d) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station located on the site.

Compliance Monitoring

3. Unless otherwise agreed with the Secretary, monthly attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.
4. Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
   (a) monitoring locations for the collection of representative noise data;
   (b) meteorological conditions during which collection of noise data is not appropriate;
   (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
   (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

Appendix C – Consultation Log

Consultation Log - Vegetation and Rehabilitation Management Plan

Date	Form/Agency	Comments and Outcomes	Response/how addressed
3/7/2014	Initial consultation letter to: NSW Trade and Investment Environment Protection Authority NSW Office of Water Sydney Catchment Authority Office of Environment and Heritage Department of Planning and Environment	These letters were the initial consultation and sought specific advice from each agency according to the respective relevant management plan.	
21/4/2014	Letter from OEH	Acknowledging consultation and provision of contact details covering vegetation management and heritage issues.	Noted
9/10/14	Email to Sandie Jones OEH	Copy of Planning Approval and plans of development area	Noted
10/10/14	Email from Sandie Johns OEH	Advising new contact with OEH is Jackie Taylor	Noted
13/10/14	Meeting with EPA and OEH Queanbeyan Office	General project briefing, need for EPL separation with Veolia EPL, monitoring conditions, lack of archaeology sites and impact, need to define vegetation offset area and outcomes	Ongoing negotiation with EPA in relation to licensing requirements
27/5/2016	Email to Allison Treweek OEH seeking comments on Vegetation Management Plan. Email also sent to EPA, DPI, Goulburn Council and WaterNSW	Copy required for review and comment. Copy provided to other agencies as this plan includes the Tailings Rehabilitation Strategy, Vegetation Management Plan and Rehabilitation Management Plan	Noted
12/10/2016	Letter from Alison Treweek OEH	Comments provided on Vegetation and Rehabilitation Management Plan: **Vegetation Offsets** OEH supports the initiative to provide an offset of 78 hectares of Western Tablelands Dry Forest vegetation community within the buffer land surrounding the project, and recognise that as the site is highly disturbed this vegetation community will need to be recreated. I note that section 4.4.1 of the Plan states that "the offset area will remain as permanent and self sustaining native vegetation", however it is unclear what mechanism will be used to ensure the offset area is protected in perpetuity and ensure that the long term management objectives are achieved. **Eastern Bent-wing bat** In Section 3.7 Habitat Enhancement - it says that "there are no known caves	Noted Section 4.4.1 This matter requires further consultation with OEH and DPE prior to confirming the appropriate permanent protection method.

Date	Form/Agency	Comments and Outcomes	Response/how addressed
		nearby", however there are caves within 12 kms of the Woodlawn mine site at Mount Fairy. This cave system is likely to provide foraging and shelter for these bats. As such OEH recommends that the Plan be amended to reflect this. Schedule 4 Condition 20 (d) requires "restoring native vegetation and fauna habitat on the revegetated area through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of fauna habitat features, including establishing and maintaining bat habitat for the Eastern Bent-wing bat and Yellow-bellied Sheathtail-bat. However the Plan doesn't provide much detail on how these two species will have specific activities to encourage habitat development for these two bats. **Vegetation clearing protocol** Section 3.6 states that "all vegetation to be retained must be identified as such", but it is unclear where and how this would be identified in the Plan. **Annual Environmental Management Report** OEH understands that Heron will report annually through the Annual Environmental Management Reports (AEMR) and that this report will help inform the adaptive management of the revegetation and rehabilitation of the site over time.	Comments in included in Section 3.7 Comments in included in Section 3.7 Section 3.6 includes identification of areas to be protected on construction plans Noted, OEH are on the Annual Review distribution list and invited to the on site Annual Review meeting.