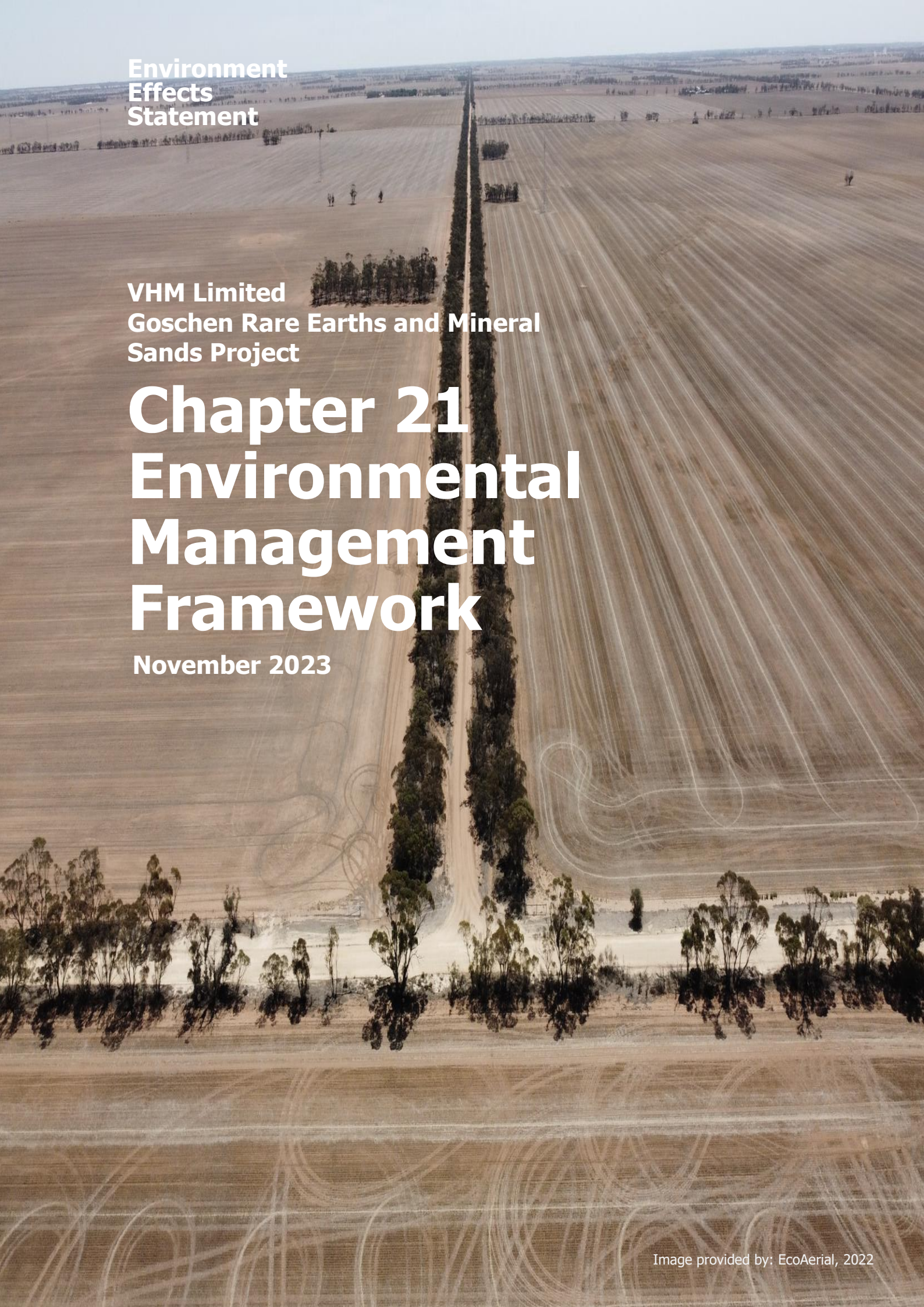
Environment
Effects
Statement

VHM Limited
Goschen Rare Earths and Mineral Sands Project

Chapter 21 Environmental Management Framework

November 2023



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21. Environmental Management Framework

21.1 Introduction

This chapter presents the Environmental Management Framework (EMF) for the Goshen Rare Earths and Mineral Sands Project (the Project) in response to Section 3.8 of the Environment Effects Statement (EES) Scoping requirements.

The purpose of the EMF is to provide a transparent and integrated framework to manage the environmental effects associated with the construction, operation and closure phases of the Project. The EMF outlines the relevant statutory approvals and consents required for the Project and how the mitigation measures will be given effect by the conditions of those approvals and consents or by Environmental Management Plans (EMPs) to be approved pursuant to statutory approvals and consents.

The objectives of the EMF are to:

- Set out the mitigation measures developed to first avoid, as far as reasonably practicable, then minimise and manage potential environmental impacts.
- Identify the relevant statutory approvals, consents and EMPs to be approved pursuant to the statutory approvals and consents that will give effect to the mitigation measures.
- Ensure clear accountabilities are identified for implementing the mitigation measures and monitoring the Project's environmental performance in accordance with relevant legislation and statutory approvals and consents.

Development of this EMF was guided by the EES scoping requirements, relevant legislation, policy and guidelines including the statutory approvals and consents that will be required. The EMF and associated mitigation measures have been informed by the specialist studies undertaken for the EES.

It is important to note that the Ministerial Guidelines and the EES scoping requirements define 'environment' broadly to include physical, biological, heritage, cultural, social, health, safety and economic aspects. References to 'environment' or 'environmental' impacts or management measures in this EMF are intended to reflect the same broad definition.

21.1.1 Scoping Requirements

Section 3.8 of the scoping requirements establishes the requirement for an EMF to be prepared for the Project:

Inadequate management of environmental effects during project construction, operation, rehabilitation and closure will not realise the necessary environmental outcomes, statutory requirements or stakeholder confidence. Hence, the proponent will need to provide an environmental management framework (EMF) for the project within the EES. The EMF will articulate clear accountabilities for managing and monitoring environmental effects and hazards associated with construction, operation, rehabilitation and closure phases of the project.

Table 21-1 outlines the EES scoping requirements for the EMF along with the relevant section within this chapter where these requirements are addressed.

Table 21-1 Scoping requirements

EES scoping requirement	Relevant sections
EMF should describe the baseline environmental conditions to be used to monitor and evaluate the residual environmental effects of the project, as well as the efficacy of applied environmental management and contingency measures.	**Section 21.7**
The framework should include the following: The context of required approvals and consents and the statutory application of these post-EES.	**Section 21.1.2**
Any existing or proposed environmental management system to be adopted.	**Section 21.3**

EES scoping requirement	Relevant sections
Organisational responsibilities and accountabilities for environmental management.	**Section 21.4**
A register of environmental risks associated with the project which is to be maintained during project implementation (including matters identified in preceding sections in these directions as well as other pertinent risks).	**Section 21.5**
The environmental management measures proposed in the EES to address specific issues, including commitments to mitigate adverse effects and enhance environmental outcomes	**Section 21.6**
Arrangements for management of and access to baseline and monitoring data, to ensure the transparency and accountability of environmental management and to contribute to the improvement of environmental knowledge	**Section 21.7**
The proposed objectives, indicators and monitoring requirements for managing (at least): • biodiversity (including MNES) values on and near the project site • biodiversity (including MNES) offsets to be established and managed offsite • noise, vibration, and emissions to air, including dust and greenhouse gases • public health and safety; • potential impacts on downstream surface water and groundwater beneficial uses and sensitive receivers • monitoring of water quality and water table level • ongoing protection of relevant cultural heritage values • groundwater and surface water functions, including behaviour and quality, stormwater runoff • erosion and sediment control, and flood risk • solid and liquid waste, including recycling and handling of potentially hazardous or contaminated waste, potential acid sulfate soils (PASS), radioactive material and other excavated spoil • Aboriginal and cultural heritage values • traffic during construction, including managing temporary disruption and changed accessibility • disruption of and hazard to the existing infrastructure • social impacts • land use • landscape and visual values • landform and slope stability • traffic and road management measures • site rehabilitation, including handling of topsoil, overburden, tailings and mining by-products • emergency management.	**Section 21.3** **Section 21.6** **Section 21.9**
The EMF should outline auditing requirements to review and continuously improve the effectiveness of environmental management and to ensure compliance with statutory conditions.	**Section 21.9.3**
The EMF will set the scope for later environmental management plans for construction, operation and closure phases of the project.	**Section 21.3**
Similarly, the EMF will outline a program for community consultation, stakeholder engagement and communications for the project, including opportunities for local stakeholders to engage with the proponent to seek responses to issues that might arise when the project is undertaken.	**Section 21.10**

21.1.2 Implementation of the Environmental Management Framework

The Project will be delivered within the context of this EMF, in accordance with the obligations and requirements of the statutory approvals and consents required for the Project.

The Minister for Planning will publish an assessment of the EES, which will then inform all decision makers responsible for issuing approvals and consents for the Project.

A range of approvals and consents are required for the Project, as set out in section 21.2 below and described in EES Chapter 5 Legislation and approvals. The key approvals include:

- The mining licence and work plan (and associated management plans), which will regulate mining activities on land subject to the mining licence (Mining Licence Area); and
- The Incorporated Document (and the various plans required under it), which will regulate the use and development of land outside the mining licence that is required for supporting infrastructure, including the water pipeline and road upgrade works (Project Infrastructure Land).

Before the commencement of each Project phase (construction, operation, rehabilitation and closure), it will be the responsibility of VHM Limited (VHM) to obtain the required statutory approvals and consents, together with any secondary consents required under them (i.e. approval of management plans that are required by conditions of the mining licence or Incorporated Document). VHM will prepare, implement and maintain environment plans and EMPs for each relevant phase of the Project to meet the requirements of the statutory approvals and consents.

VHM has made various commitments in the EES regarding the measures it will take to avoid, manage and monitor the potential environmental impacts of the Project. These measures, which have been informed by the impact assessments undertaken for the EES, are presented in section 21.6 below, along with a brief explanation as to how they will be implemented (i.e. the applicable environment plan or EMP in which it will be incorporated).

21.2 Approvals and statutory obligations

VHM is responsible for preparing the EES for the Project under the EE Act. VHM is also responsible for seeking the following key approvals:

- Mining Licence under the *Mineral Resources (Sustainable Development) Act 1990 (Vic).*
- Approval of the Work Plan under the *Mineral Resources (Sustainable Development) Act 1990 (Vic).*
- Approval of the Project under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) for potential impacts on Matters of National Environmental Significance.
- Development licence for sewage treatment and power generation under the *Environment Protection Act 2017 (Vic).*
- Permit for the discharge or deposit of waste to aquifer under the *Environment Protection Act 2017 (Vic)*. Depositing tailings in-pit would trigger the need for an A18 permit for the discharge or deposit of waste to aquifer. This permission is separate to the trigger for a development licence (refer to Section 21.3.3).
- Planning Scheme Amendment (Specific Controls Overlay) to the Gannawarra Planning Scheme and the Swan Hill Planning Scheme under the *Planning and Environment Act 1987* (Vic).
- An approved Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act 2006 (Vic).*
- Road reserves permit, road opening permits, vehicle crossing permits, over-sized vehicle/over dimensional load permits in accordance with the *Road Management Act 2004 (Vic)* and *Road Safety Act 1986 (Vic).*
- A permit under the *Flora and Fauna Guarantee Act 1988 (Vic).*
- Approval from the North Central Catchment Management Authority would be required for any works on, over or under a designated waterway in accordance with the *Water Act 1989 (Vic).*
- An approved radiation management plan, radioactive waste management plan and radiation environment plan would also be required for the project under the *Radiation Act 2005 (Vic).*
- A Groundwater Extraction Licence in accordance with the *Water Act 1989* (Vic) for the dewatering of artificially mounded water which might intersect mining pits. This would be sought from Grampians Wimmera Mallee Water.

It is worth noting that some of the approvals listed above will apply to both the Mining Licence Area and the Project Infrastructure Land, whereas others will relate to just one of those areas (or part of it). **Table 21-2** and **Table 21-3** below outline the relevant area to which each approval will apply, together with the phase of the project it will be required for and the approval authority

Table 21-2 Key approvals

Legislation	Statutory approval	Approval authority	Project phase	Project area
Environment Protection and Biodiversity Conservation Act 1999 (Cth)	Approval of the controlled action	Commonwealth Minister for the Environment	Construction, operation, and closure	Mining Licence Area and the Project Infrastructure Land
Mineral Resources (Sustainable Development) Act 1990	• Mining Licence • Approved Work Plan VHM will require a mining licence and approved Work Plan under the MRSD Act. The company may apply for a mining licence over land for which it has an exploration or	Minister for Resources	Construction, operation, and closure	Mining Licence Area

Legislation	Statutory approval	Approval authority	Project phase	Project area
	retention licence (Section 15 of the MRSD Act). VHM can apply for a mining licence for up to 20 years.			
Environment Protection Act 2017	• Development Licence • Prescribed permits In accordance with Schedule 1 of the *Environment Protection Regulations 2021*, VHM require a development licence for sewage treatment (A03) and for power generation (K01). A permit is also anticipated for in-pit deposition of tailings as it will be a discharge or deposit of waste to aquifer (A18).	Minister for Energy, Environment and Climate Change EPA	Construction, operation, and closure	Mining Licence Area (Area 1 & 3)
Planning and Environment Act 1987 (Vic)	Planning Scheme Amendment to the Gannawarra Planning Scheme and Swan Hill Planning Scheme It is proposed to apply a Specific Controls Overlay with an Incorporated Document	Minister for Planning	Construction, operation and closure	Project Infrastructure Land
Aboriginal Heritage Act 2006 (Vic)	A Cultural Heritage Management Plan is required for the Project	Minister for Aboriginal Affairs / First Peoples–State Relations and relevantRegistered Aboriginal Party	Construction and operation	Mining Licence Area and the Project Infrastructure Land
Radiation Act 2005	An approved radiation management plan, radioactive waste management plan and radiation environment plan would also be required for the project.	Minister for Health	Construction and operation (including transport)	Mining Licence Area, the Project Infrastructure Land, and all transport routes to Port
Local Government Act 1989	Approval may be sought under the Local Government Act 1989 for road closures and discontinuance, where the provisions of the Road Management Act 2004 are not met.	Minister for Local Government	Construction and operation	Mining Licence Area and the Project Infrastructure Land
Road Management Act 2004 and Road Safety Act 1986	Agreement is required between the land manager (Gannawarra Shire Council or Swan Hill Rural City Council) and the beneficiary landowner (VHM) prior to approval of works within the road reserve. Road reserves permit, road opening permits and vehicle crossing permits. Over-size vehicle / Over dimensional load permits	Gannawarra Shire Council Swan Hill Rural City Council VicRoads NHVR	Construction and operation	Mining Licence Area and the Project Infrastructure Land
Flora and Fauna Guarantee Act 1988	Any removal of protected flora, which includes threatened flora species and the plants that make up threatened communities, listed under the FFG Act from public land requires a Protected Flora Licence or Permit under the Act, obtained from DEECA	Minister for Energy, Environment and Climate Change / DEECA	Construction	Mining Licence Area and the Project Infrastructure Land

The water supply arrangements for the Project to draw water from Kangaroo Lake (which is within Goulburn-Murray Water's area of responsibility), to the mine site (which is within Grampians Wimmera Mallee Water's area of responsibility), will be managed through a delivery deed between Goulburn Murray Water and VHM. Notwithstanding, Grampians Wimmera Mallee Water will be consulted during the preparation of any water delivery deed.

There are various other consents that will also be required for Project infrastructure. These are included in **Table 21-3** below.

Table 21-3 Other approvals and consents

Project Component & Secondary Consent	Relevant Authority	Details	Project Area
KL Pump station: Works Licence Operation Licence	GMW	A licence application will be needed for the construction of the pump station site. This will require the completion of a Form 29 (Construct) and then a notification of outcome and Operate (another Form 29) once the works have been completed. Engagement with GMW will be necessary for the level of design required for the construction licence, with aspects of design likely to include: • Maintenance of bank stability • Sound proofing specifications • Location/length/anchoring of intake pipes • Intake screen(s) • Security • Safety in design • Construction schedule	Project Infrastructure Land
KL Pump station: Permit for Works on a waterway	North Central CMA	As per S.67 of *Water Act 1989*, any works within the bed and banks of designated waterways in Victoria require a permit from the local Catchment Management Authority. Kangaroo Lake is a designated waterway; thus, construction of pump station pad and intake pipes will require a Works Permit. Likely design requirements (to be confirm with engagement) will be components needed for GMW: • Lake bank stability • Construction schedule	Project Infrastructure Land
Water Pipeline: Private Works Licence Operation Licence	GMW	A licence application will be needed for the construction of the pipeline. This will require the completion of a Private Works Licence (Form 130 - Construct) and then a notification of outcome and Operate (another Form 130) once the works have been completed. https://waterregister.vic.gov.au/about/forms-and-fees/forms-for-licences-registrations Engagement with GMW will be undertaken for the level of design required for the construction licence, but aspects of design will likely include: • Backfill stability/consolidation • Location/design any relief valves • Safety in design • Construction schedule	Project Infrastructure Land Mining Licence area
Water Pipeline (x5 channel crossing): Private Works Licence	GMW	**NOT REQUIRED** Where the water pipeline crosses GMW infrastructure, such as existing water supply channels, the licence to construct is included in the one Water Pipeline construction licence (Form 130) – see above.	-

Project Component & Secondary Consent	Relevant Authority	Details	Project Area
Water Pipeline (Rail crossing): Approval to build within VicTrack land	VicTrack	VicTrack manages applications for any works that occur on their land or adjacent to their infrastructure. In regards the Goschen Project it is proposed that approval will be sought from VicTrack for the water pipeline to cross the rail track and will need to cover works for installation and maintenance. The application will include detailed drawings that must: • show all works occurring within VicTrack land • show underground services and overhead services • be compliant with the Design Requirements and Guidelines and the Overhead Works Guidelines • show all existing services within VicTrack land (once confirmed on-site) in the vicinity of proposed works.	Project Infrastructure Land
Water Pipeline (Creek crossing): Permit for Works on a waterway	North Central CMA	As per S.67 of *Water Act 1989*, any works within the bed and banks of designated waterways in Victoria require a permit from your local Catchment Management Authority. Avoca Outfall is a designated waterway; thus, construction of pipeline beneath creek line will require a Works Permit.	Project Infrastructure Land
60ML Process Water Pond Construction Licence Operation Licence	GWMWater	**NOT REQUIRED** No construction or operating licence is required for the PWP given the 60ML storage that has an embankment <5m in height and thus is not a high consequence water storage, and does not need either a construction or operating licence from the water authority.	-
Groundwater dewatering: Groundwater extraction licence	GWMWater	A Take & Use (Section 51 – *Water Act 1989*) licence is required for interception and extraction of groundwater within the pits, which is predicted to occur due to mounding from deposition of slurry tailings.	Mining Licence area

Information regarding the regulatory framework for the Project is provided in **Chapter 5: Legislative framework**.

21.2.1 Duties under the Environment Protection Act 2017

The *Environment Protection Act 2017* (EP Act) introduced new prevention-based duties to protect human health and the environment. The General Environmental Duty (GED) is the cornerstone of the EP Act. It imposes an ongoing duty on any person or entity who is engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste, to minimise those risks, so far as reasonably practicable.

When determining what is reasonably practicable, the EP Act gives regard to the following:

- The likelihood of those risks eventuating
- The degree of harm that would result if those risks eventuated
- What a person concerned knows, or ought reasonably to know
- The availability and sustainability of ways to eliminate or reduce risks
- The cost of eliminating or reducing risks.

Satisfaction of the GED requires a proactive approach to risk identification, assessment and the implementation of controls to minimise impacts to human health and the environment from pollution or waste so far as is reasonably practicable. The GED is a concurrent separate obligation in relation to the proposed mitigation measures outlined in the EMF. Additional mitigation measures may be required during the life of the mining operations to minimise the risk of harm to human health or the environment so far as reasonably practicable under the GED. These additional measures may evolve overtime as the 'state of knowledge' evolves, and innovation and technology advancement.

Also, under the EP Act, the Environment Reference Standard (ERS) provides the indicators and objectives needed to support environmental values and is a tool that can be used to assess the impacts on human health and the environment that may result from a proposal or activity. This application of the ERS must be seen within the context of the GED and preventing harm from pollution and waste as part of the broader environment protection framework under the EP Act. Because it is preventative in nature, this framework seeks to maintain

environmental values and minimise risks of harm to human health and the environment, rather than setting and authorising acceptable levels of pollution and waste. The focus on prevention allows for continual improvement in managing these risks as knowledge expands and more effective risk- reduction techniques and technologies emerge.

This EMF has been prepared to meet the obligations under the EP Act by requiring steps to be taken to continually seek to eliminate or reduce risks as the 'state of knowledge' evolves. Importantly, the EMF requires controls to be continually evaluated and staff to be adequately trained in compliance with the GED. These obligations will continue during all project phases and will be implemented via the suite of management plans, mitigation measures, and monitoring requirements described in the EMF.

21.3 Environmental management systems and documentation

21.3.1 Environmental management system

The EMF outlines the plans required for delivery of the Project, including among other things, to provide a structure for delivery partners to mitigate, monitor and adaptively manage potential environmental impacts of a project. Environmental management documentation must comply with this EMF and address relevant legislation, approval conditions and contractual requirements.

VHM adopted an Environmental Management System (EMS) that is aligned with AS/NZS ISO 14001:2015 and sets out a framework to conduct all activities with the goal of achieving best practice environmental and health and safety performance, to ensure there is no harm to people and that any potential environmental impacts are managed to be as low as reasonably practicable. The EMS would be based on the principle of continual improvement and the 'plan, do, check, act' cycle in line with ISO14001.

The existing VHM EMS would be used to support the EMF in ensuring best practice environmental and health and safety performances are met.

21.3.2 Environmental and site management plans

The EMF outlines the plans required for delivery of the Project. Environmental management documentation must comply with this EMF and address relevant legislation, approval conditions and contractual requirements. A series of management plans would be prepared for different components and phases of the Project. These management plans would be required to implement and achieve compliance with relevant standards, guidelines and statutory approval obligations for the approvals and consents outlined in **Section 21.1.2** and to reflect the mitigation and monitoring measures as outlined in **Section 21.6** and **Section 21.8**. The management plans and documentation required to be approved are described below.

Work Plan

A Work Plan is required to address information set out in section 40(3) of *Mineral Resources (Sustainable Development) Act 1990* (MRSDA) and regulation 42, regulation 43(2), regulation 44 and regulation 45 and regulation 46 *Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019*.

A Draft Work Plan has been prepared (EES Attachment I) in consideration of the required information requirements outlined above but is not intended to fully comply with the MRSD Act requirements. The aim of the attached draft Work Plan is to be an illustration of a Work Plan and provide an indication of the detail of the project description for mining activities that will fall within the Mining Licence.

The final Work Plan will require approval for assessment by the Earth Resources Regulation (ERR) branch of Department of Energy, Environment and Climate Action (DEECA), and as part of the assessment process may require further changes to meet the requirements of the MRSD Act and would also be subject to comment by relevant agencies.

The final Work Plan would be implemented during the construction, operation, decommission and rehabilitation phases for Activities within the mining licence area and will include the following document package to meet the obligations of the information that must be provided for a mining operation under the MRSD Act 1990 and the associates MRSD(MI)R 2019:

- Risk Management Plan – to provide a document that meets the requirements of section 40(3)(b) *Mineral Resources (Sustainable Development) Act 1990* and Regulation 44 and 45 of *Mineral Resources (Mineral Industries) Regulations 2019* and to provide environmental mitigation and monitoring to meet the obligations

under the *Environment Protection Act 2017*. The plan itself includes risk treatment plans for key areas of activity
- Rehabilitation Plan - to support the Work Plan in accordance with the items prescribed under the *MRSD Act 1990* and regulation 43 of *Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019*
- Community Engagement Plan (CEP) - The CEP would ensure that relevant stakeholders have been consulted regarding the mining program, and potential issues raised by stakeholders are identified at an early stage.

A series of risk treatment plans and sub-plans/procedures would sit under the risk management plan, that will form part of the final Work Plan and onsite systems. The scope and content of these plans is driven by the key environmental risks and impacts of the Project identified through this EES, regulatory requirements and applicable policies and guidelines.

Table 21-4 outlines other key management plans required under the key approvals identified

Additional plans, and any amendments to plans, are expected to be developed throughout the Project in response to the conditions of approval, monitoring results, and review and updates to the environmental risk assessment.

VHM would also develop procedures setting out how activities in the management plans would be implemented. Procedures will apply across key risk mitigation activities and would likely include (but not be limited to):

- Record control: How records will be taken, stored and distributed.
- Complaints: How complaints will be recorded and responded to.
- Monitoring: How monitoring activities will be conducted.
- Spill response: Measures to be implemented to respond to spills, including need for water quality testing and reporting.
- Fire and bushfire management planning: Measures to mitigate risks from bushfires burning onto the mining licence area and from fires igniting on-site and escaping to surrounding areas.

Incorporated document to the Gannawarra and Swan Hill Planning Schemes

An Incorporated document is proposed to facilitate the delivery of infrastructure required to support the Project on land outside the area subject to mining licence (i.e. on the Project Infrastructure Land). The Incorporated document would be introduced by a Specific Controls Overlay (SCO) that is applied to the Project Infrastructure Land via an amendment to the Gannawarra and Swan Hill Planning Schemes. The Incorporated document would set out the requirements for the use and development of Project infrastructure within the SCO area only. This includes:

- A requirement to prepare an Environmental Management Plan (EMP) prior to the commencement of any works – The EMP would be prepared in consultation with Gannawarra Shire Council and Swan Hill Rural City Council, to the satisfaction of the Minister for Planning. The EMP would include, but not be limited to, details for; environmental mitigation measures; the management of construction impacts, performance and monitoring processes, and;
- A requirement to provide details of the proposed removal of native vegetation, including offsets, necessary for the construction and delivery of infrastructure in accordance with the application requirements in the *Guidelines for removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning (**DELWP**), December 2017).

21.3.3 Permit under the Environment Protection Regulations 2021

In accordance with the *Environment Protection Regulations 2021,* depositing tailings in-pit would trigger the need for an A18 permit for the discharge or deposit of waste to aquifer. VHM will comply with a set of standard conditions as part of the A18 permit.

A copy of this permit must be kept at the activity site and be easily accessible to persons who are engaging in an activity conducted at the activity site. Information regarding the requirements of the permit and the Act duties must be included in site induction and training information.

VHM must immediately notify the Authority by calling 1300 EPA VIC (1300 372 842) in the event of:

- A discharge, emission or deposit which gives rise to, or may give rise to, actual or potential harm to human health or the environment.
- A malfunction, breakdown or failure of risk control measures at the site which could reasonably be expected to give rise to actual or potential harm to human health or the environment.

- Any breach of the permit.
- VHM must provide the Authority with a Permission Information and Performance Statement (PIPS) in the form determined by the Authority within 2 months of receiving notification in writing from the Authority. The PIPS may be released to the public (in whole or in part).
- Information and monitoring records used for the preparation of, inclusion in, or support of, any reporting or notification that is required of VHM by the Authority (including data reporting, performance reporting, documents evidencing any risk and monitoring program) must be:
    - Retained for five years.
    - Made available to the Authority on request.
- VHM must develop a risk management and monitoring program for VHM's activities which:
    - Identifies all the risks of harm to human health and the environment which may arise from the activities VHM are engaging in at VHM's activity site.
    - Clearly defines VHM's environmental performance objectives.
    - Clearly defines VHM's risk control performance objectives.
    - Describes how the environmental and risk control performance objectives are being achieved.
    - Identifies and describes how VHM will continue to eliminate or minimise the risks identified so far as reasonably practicable (SFARP).
    - Describes how the information collated in compliance with this clause, is or will be disseminated, used or otherwise considered by VHM or any other entity.
- The risk management and monitoring program must be:
    - Documented in writing.
    - Signed by a duly authorised officer of the licensed entity.
    - Made available to the Authority on request.
- VHM must not discharge waste to aquifer at a rate of more than the permit limit.
- VHM must keep records of:
    - The quantity, quality and type of waste discharged or deposited to aquifer at each point of discharge.
    - The results from all monitoring undertaken in accordance with the groundwater management and monitoring plan.
    - Any exceedances of trigger values.
    - Any implemented contingency measures.
- The records must be kept for five years and made available to the Authority on request.

Cessation of the A18 permit would occur once the activity of tailings deposition cease.

21.4 Roles and responsibilities

Several government authorities have roles and responsibilities relevant to the EMF. In some instances, these roles and responsibilities differ for different aspects of the Project, due to the legislation that applies. The mining licence area would be primarily regulated by Earth Resources Regulation under the MRSD Act. Activities outside of the mining licence area, (i.e. on the Project Infrastructure Land covered by the specific controls overlay as defined in the planning scheme amendment), would be regulated by the responsible authority and local Councils, under the *Planning and Environment Act 1987 (Vic)*.

VHM would be responsible for overseeing the delivery of the Project including stakeholder and community engagement, project approvals, design, construction, operation, and closure.

The roles and responsibilities of the key stakeholders relevant to environmental management of the Project are outlined in **Table 21-4**. Contractor responsibilities would be included as conditions in the Project contracts.

Table 21-4 Roles and responsibilities

Organisation/ position	Responsibility
Government roles and responsibilities	
Victorian Minister for Planning	• Issue Ministerial assessment of the EES. • Approval of the planning scheme amendment. • Approval of plans and information required by the Incorporated Document.
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	• DCCEEW, under delegation from the Commonwealth Minister for Environment, will consider the Victorian Minister for Planning's assessment under the *Environment Effects Act 1978 (Vic)* (EE Act) and decide whether the Project is approved, approved with conditions or refused under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). • Review and approve environmental management plans and offsets as required under the relevant EPBC approvals. • Administer and enforce environmental management plans and strategies approved pursuant to those approvals. • Receive audit or monitoring reports as required.
Earth Resources Regulation (ERR)	• Minister for Resources to grant the mining licence. • Regulation of activities within mining licence area. • Review and approval of work plan. • Referral authority for radiation management plan. • Regulation of compliance with conditions and requirements in work plan.
Environment Protection Authority (EPA)	• Approval of development licence and A18 permit applications. • Referral authority for work plan. • Regulation of compliance with conditions of development licence and A18 permit. • Compliance with requirements of the *Environment Protection Act 2017 (Vic) (EP Act)*
Department of Transport and Planning (DTP)	• Management of the EES process. • Referral authority for work plan. • Referral authority for development licence application.
Department of Energy, Environment and Climate Action (DECCA)	• Referral authority for work plan. • Referral authority for development licence application. • Referral authority for biodiversity risk treatment plan (including offsets), radiation management plan, radioactive waste management plan, radiation environment plan, mine rehabilitation plan and community engagement plan.
Department of Health and Human Services (DHHS)	• Issue of radiation management licence. • Review and approval of radiation management plan, radioactive waste management plan and radiation environment plan. • Regulation of compliance with requirements of radiation. • Referral authority for airborne and deposited dust risk treatment plan, water quality and hydrology risk treatment plan and mine rehabilitation plan.
Goulburn-Murray Water (GMW)	• Administers the Private Works Licence for the construction of the pipeline and pump station at Kangaroo Lake, the Water Use Registration for the water allocation from Kangaroo Lake, including the water delivery deed to be entered into with VHM.
Grampians Wimmera Mallee Water (GWMWater)	• Administers the Groundwater Extraction Licence for the dewatering of artificially mounded groundwater which is predicted to intersect mining pit.
Gannawarra Shire Council and Swan Hill Rural City Council.	• Provide comment on plans and information to meet relevant conditions of the Incorporated Document • Provide comment on development licence. • Provide comment on work plan. • Provide comment on traffic management plan.
Swan Hill Rural City Council.	• Provide comment on plans and information to meet relevant conditions of the Incorporated Document • Provide comment on traffic management plan.

Organisation/ position	Responsibility
Catchment management authorities (North Central Catchment Management Authority).	• Referral authority for work plan. • Referral authority for development licence. • Approval for works on waterways permit(s).
Approval Authorities (All)	• Ensure statutory approval conditions have regard to mitigation measures outlined in the EMF and these are incorporated into relevant management plans. • Administer and enforce statutory approvals, where relevant. • Review and approve, where required, relevant environmental management plans. • Receive and review audit and monitoring reports where required.
VHM roles and responsibilities	
Proponent	• Obtain all relevant statutory approvals for the project • Prepare Earth Resources Regulation Work Plan including Risk Management Plan, Community Engagement Plan and specific management plans including Trigger Action Response Plans that incorporate mitigation measures and monitoring requirements and relevant legislative requirements and approval conditions • Implementation of the various statutory requirements by ensuring appropriate resources are available to implement the management plans and assigns roles and responsibilities to staff, contractors and visitors. • Monitor compliance with approved mitigation measures and approvals conditions, as outlined in the approved Management Plans e.g. Construction Environment Management Plan (CEMP), and take corrective action where required. • Ensures reporting and communication of significant environmental issues with VHM staff and contractors, relevant landowners and government stakeholders • Ensures a site-specific induction is conducted prior to all staff, contractor, sub-contractor or consultant commencing work on site. • Develop contractor specific terms and conditions documentation that reflect Project specific approvals conditions and requirements, and clearly articulate requirements for incorporation of tender responses and engagement of contractor protocols • Review and approve contractor management systems to ensure compliance to VHM systems including relevant statutory approvals. • Prepare audit plan (including a schedule and audit scope).
Contractors and consultants	• All contractors, where appropriate, to prepare management plans in accordance with proponent tender and terms and conditions documents, EMPs/RMPs and CEMP and other relevant legislative requirements, and approval conditions that have been provided by VHM. • Ensure compliance with approved EMPs/RMPs and CEMP during project delivery and take corrective action where required • Contractors and consultants will be responsible for reporting compliance and incidents against the Project approvals conditions.
VHM appointed visitors	• All visitors to the project site would be required to undergo an induction and follow the instructions developed for the works to be undertaken. This includes adhering to site induction instructions regarding health, safety and environment requirements, standards and procedures and any relevant emergency response procedures.
Project Auditor responsibilities	
Project Auditor appointed by VHM	• Must comprise a professional (or body of professionals) with expertise in a range of disciplines for the purpose of auditing all contractors for compliance with the project approvals. • Conduct audits for contractors' construction works and operations, at agreed intervals as set out in any environmental management plans, to assess compliance with statutory approvals as required. • Prepare audit reports where necessary and recommend corrective and preventative actions as required. • Any auditor appointed must be independent, have relevant expertise, based on qualifications and experience to undertake any required audit activities.

21.5 Risk assessment

Environmental[1] risks associated with the Project have been identified and assessed through the specialist investigations.

21.5.1 Within Mine Site area

Within the Mine Site area (proposed MIN boundary) the environmental risks will be captured within an environmental risk register that will be developed to assist in identifying management measures and to measure their ability to produce the desired outcome as part of the final Work Plan (see EES Attachment I: Draft Work Plan). This risk register forms part of the Risk Management Plan (RMP) of the final Work Plan which will list the mining hazards that may arise from work documented in the Work Plan as required by Regulation 43 of MRSDA(MI)R and includes mining hazards arising from:

- set up or construction;
- operations and production; and
- details of rehabilitation hazards arising from rehabilitation work under the work plan.

Where mining hazards associated with the project construction/ project operations and/or closure are identified, associated controls will be implemented to reduce the risk of harm or damage to the environment, any member of the public, to land, property or infrastructure in the vicinity of project works.

The RMP will include the following key components:

a) Summary of risk assessment process;
b) Risk register; and
c) Risk treatment plans – all of which will include (EES Attachment I: Draft Work Plan) as a minimum:

- details of the sensitive receptors, their location and proximity to the site
- control and mitigation measures
- performance standards
- monitoring program and ongoing management

The RMP will be approved by ERR as part of the final Work Plan package and will form the key document where all the management, mitigation and monitoring commitments made as part of the EES (Table 21-5) are held and must be followed by the Mining Licence Holder throughout the phases of mine development.

The environmental risk register would be maintained and reviewed on a regular basis to ensure it remains relevant and adequately considers risks throughout Project implementation.

21.5.2 Outside Mine Site area

Outside the Mine Site area, the environmental risks will be captured within an environmental management plan (EMP) required to be prepared under Section 4.2 of the Incorporated Document to the Gannawarra Planning Scheme and Swan Hill Planning Scheme. The EMP will document the management measures and to measure their ability to produce the desired environmental outcome as part of the Incorporated Document (see EES Attachment II: Planning Scheme Amendment).

The EMP will be approved by the Minister for Planning in consultation with Gannawarra Shire Council and Swan Hill Rural City Council and will form the key document where all the management, mitigation and monitoring commitments relevant to the works outside the proposed Mine Site area made as part of the EES (Table 21-5) are held and must be followed throughout the phases of the Project.

21.6 Mitigation measures

Mitigation measures were recommended by technical specialists in order to avoid or minimise and manage potential environmental impacts of the Project. VHM has reviewed the recommended mitigation measures in the technical studies and have adopted a comprehensive set of measures to manage potential impacts from the Project.

[1] For assessment of environmental effects under the EE Act, the meaning of 'environment' includes physical, biological, heritage, cultural, social, health, safety and economic aspects (Ministerial Guidelines, p. 2)

The proposed mitigation measures for the Project are outlined in **Table 21-5** and sets out the phase of the project that the proposed mitigation measure relates to as well as the approval or plan which will implement it.

The mitigation measures are to provide controls on Project activities that may impact on the following subject areas:

- Flora vegetation.
- Fauna ecology.
- Cultural heritage.
- Landscape and visual.
- Traffic and transport.
- Noise and vibration.
- Air quality.
- Surface water.
- Groundwater.
- Geotechnical.
- Land use planning.
- Agriculture.
- Soils and land resource.
- Radiation.
- Social impacts.
- Rehabilitation and closure.

Table 21-5 Mitigation measures

MMID	Mitigation measure	Project Phase	Implementation document
Biodiversity and habitat (Flora and Fauna Ecology): **Evaluation objective:** ***To avoid or minimise potential adverse effects on biodiversity values within and near the site including native vegetation, listed threatened species and ecological communities, and habitat for these species, as well as address offset requirements for residual environmental effects consistent with state and commonwealth policies.***			
MM-BD01	Minimise impacts to trees Engagement of an Arborist to provide recommendations to avoid or minimise impacts to native vegetation, such as: • micro-siting of pipeline to avoid trees where possible • assessment of trees deemed to be lost in EES to determine whether any additional measures can be taken to avoid adverse impacts to structural root zones and ensure that trees persist in the long term	• Construction	Biodiversity Management Plan within Work Plan EMP under Incorporated Document
MM-BD02	Minimise impacts to native vegetation • Any proposed vegetation removal is not undertaken until applicable approvals and permits have been issued • Vegetation protection zones (aligned with AS 4790) will be established around native vegetation prior to works and will be maintain over the life of the Project • Required vegetation / habitat offsets are sourced in accordance with Commonwealth and / or State legislation or policy. • Impacted FFG-listed species to be included in revegetation in relevant EVCs in the mine site rehabilitation phase.	• All phases	Biodiversity Management Plan within Work Plan EMP under Incorporated Document
MM-BD03	Minimise impacts to remnant native vegetation in vicinity of work areas All construction personnel to be appropriately briefed prior to works, and no machinery or equipment will be placed inside vegetation/tree protection zones	• All phases	Biodiversity Management Plan within Work Plan EMP under Incorporated Document
MM-BD04	Control spread and/or introduction of weeds and/or pathogens - Vehicles • Ensure an appropriately designed clean-down area(s) is established prior to the commencement of works • Ensure vehicles, machinery and plant equipment are clean before entering and leaving the site at the designated clean-down area • Manage waste from clean-down bays by burying the waste below the subsoil	• All phases	Biodiversity Management Plan within Work Plan EMP under Incorporated Document

MMID	Mitigation measure	Project Phase	Implementation document
MM-BD05	Control spread and/or introduction of weeds and/or pathogens - General • Prepare controls to ensure material inspected before entry to and exit from site with rejection of material that contains signs of noxious weeds Control weeds prior to stockpiling of topsoil • Dispose of weed material on site in the designated burn area if possible or seek permission to transport and dispose of the material at a legal place of disposal • High threat weeds, namely Common Heliotrope and African Box-thorn to be treated prior to works commencing • Outbreaks of noxious and/or Weeds or National Environmental Significance (WoNS) within construction and operational areas will be managed. Spread into adjacent land will be prevented • Dispose of material containing declared noxious weeds in accordance with the Catchment and Land Protection Act 1994	• All phases	Biodiversity Management Plan within Work Plan
MM-FE01	Minimise impact to native fauna – fauna salvage • Fauna salvage to be undertaken by suitable qualified specialist where fauna habitat is to be removed • Areas suitable to relocate fauna are identified prior to fauna habitat removal • Habitat enhancement strategies are implemented in areas of fauna habitat to be retained. This may include the translocation of visible hollows from areas where native vegetation is removed.	• Construction • Operation	Biodiversity Management Plan within Work Plan EMP under Incorporated Document
MM-FE02	Minimise impact to native vegetation – Kangaroo Lake • Soil spoil containment areas are identified in consultation with regulatory authorities prior to the commencement of works. • The pump station and works area/s should be designed to have the smallest footprint possible and should be designed to minimise the need for in-lake works. • Install No Go Zone (NGZ) exclusion and sediment fencing to prevent ingress and protect areas of the lake's banks and bed. • Aquatic, emergent and riparian habitat would be reinstated following construction of the pump station. • If possible, works at the pump site on Kangaroo Lake are undertaken during dry ground conditions. Alternatively bog mats are deployed. • Erosion and sediment controls are to be in place to minimise the number of erodible surfaces during construction • A waterproof sealed bund is installed around the pump works area. • Chemicals are not to be stored within 1 km of Kangaroo Lake. • Equipment is checked prior to the commencement of works each morning to check for any chemical leaks. • Any vehicle / equipment leaking chemicals is withdrawn from the works area immediately	• Construction • Operation	EMP under Incorporated Document

MMID	Mitigation measure	Project Phase	Implementation document
MM-FE03	Minimise impact to native fauna • Commonwealth Light Pollution Guidelines (2020) are used as guidance for light installation • Nearest veterinary clinic and / or wildlife carer contact details are included in any relevant management plans • Buffers in the form of vegetation and bunds are considered around the mine operations area • Speed restrictions are established within the proposed transport routes and all employees and contractors' drivers are informed of the speed limits at the site induction • Vehicles exhaust systems are maintained to limit noise impacts to fauna • Days of high winds, a water cart is deployed to minimise dust / gravel displacement onto fauna habitat / roadside vegetation • Processing pond will have wires strung across at 10 metre intervals with bird deterrent discs hung below the wire. • Chain mesh fencing will be erected around the perimeter of mining Area 1 and Area 3 minimising access to terrestrial fauna.	• All phases	Risk Management Plan within Work Plan EMP under Incorporated Document
MM-FE04	Minimise impact to native fauna - Pipeline • Native fauna specialist provides input to CEMP in regards strategies to minimise impact and development of a fauna recovery protocol, with periodic review for the duration of the pipeline construction • 30 cm high fauna fence, (constructed from damp course material), is erected adjacent to both sides of open trenches • Inspection of angled fish screen within 2 years of operation to assess fit-for-purpose in minimising risk of entrapment/drowning of aquatic fauna	• Construction	EMP under Incorporated Document
MM-FE05	Minimise impact to native fauna - Kangaroo Lake • Angled fish screen on the inlet that is designed to Australian best practice standards and is able to effectively protect smaller fish and other aquatic fauna from entrainment and impingement • Undertake a pre-works aquatic fauna / targeted SPSG survey of the area in the vicinity of the pump station to ascertain the actual SPSG and other aquatic fauna usage at that time. Survey to occur in summer to align with SPSG breeding / larvae.	• Construction	EMP under Incorporated Document

MMID	Mitigation measure	Project Phase	Implementation document
Cultural Heritage: **Scoping objective:** ***To avoid or minimise adverse effects on Aboriginal and historic cultural heritage values.***			
MM-CH01	Protection of cultural heritage values The project to be delivered in accordance with the approved CHMP which will include (but not be limited to): • The requirement for all personnel involved in ground disturbing activities to participate in an Aboriginal cultural heritage induction. • The need for the proponent to regularly review their compliance with the management conditions contained in the CHMP. • Strategies to be implemented if any suspected human remains are found within the Project's disturbance footprint. • Process to follow if unexpected Aboriginal places or objects other than human remains are found during the activity. • Custody and management of Aboriginal cultural heritage recovered. • Reviewing compliance with the management plan. • Dispute resolution. • Delays and other obstacles. • Authorised Project Delegates and the handling of sensitive information.	• All phases	Cultural Heritage Management Plan
MM-HH01	Protection of historic heritage values An Unexpected Finds Protocol will be prepared to reduce harm to unknown historical heritage values that may be present within the Project area. If historical heritage sites are discovered during the construction, operation or closure of the Project, the following steps will be applied: • The person who identified the find will immediately notify the person in charge of the activity. • The person in charge of the activity will then suspend any relevant works at this location of the discovery and to a distance within 50 metres of the relevant site extent and isolate the find via the installation of safety webbing, or other suitable barrier and the material to remain in situ. • Works for the activity may continue outside of the exclusion zone, although if additional heritage is identified this must also be protected following the steps outlined above. • The person in charge of works will notify a suitably qualified archaeologist of the find within 24 hours of discovery. • Relevant management actions will be determined by the suitably qualified archaeologist in relation to the Heritage Act 2017 (Vic) and in consultation with Heritage Victoria. • Site cards for identified historic archaeological sites required to be submitted to Heritage Victoria (HV) within 30 days of discovery. • Approvals must be granted by HV (Heritage Victoria) for works to continue. All historical archaeological sites are protected under the Heritage Act 2017 and cannot be harmed without approval	• All phases	EMP under Incorporated Document

MMID	Mitigation measure	Project Phase	Implementation document
Landscape and Visual **Evaluation objective:** ***To minimise adverse effects on landscape and visual amenity associated with the environs of the project site.***			
MM-LV01	Minimise adverse effects on landscape and visual amenity • Early establishment of vegetation screening along the perimeter of the mine site where appropriate, including as a minimum along the western boundary of the processing facility, with planting of suitable fast growing screen species where appropriate. • Ongoing management and maintenance of vegetation and screen planting. • Soil restoration strategies in line with the recommendation of the Soil and Land Resource Technical Report and the Rehabilitation and Closure Technical Report. • The establishment of plant growth medium to support revegetation that will help restore landscape values. • Monitoring of the rehabilitation measures by providing direction of documentation procedures, data collection, record-keeping, and performance tracker for plant establishment	• All phases	Risk Management Plan within Work Plan
MM-LV02	Minimise adverse effects of visual amenity - lighting • All lighting fixtures installed on-site should be in accordance with the AS4282-1997 Australian Standard • Wherever possible, lighting should face downwards and be shielded to reduce the likelihood of a light spill and glow effect.	• Construction • Operation	Risk Management Plan within Work Plan
MM-LV03	Minimise adverse effects on visual amenity • The building materials and finishes should be sandy/earthy colour tones, where possible, and should utilise non-reflective materials. • Low contrast textures and materials should be used to the extent practicable	• Construction	Risk Management Plan within Work Plan
Traffic and Transport: **Evaluation objective:** ***To minimise potential adverse social and land use effects, including on agriculture and transport infrastructure*****.**			
MM-TP01	Minimise adverse social effects • A community stakeholder and communications plan will be developed with regard to transport with ongoing stakeholder consultation to be undertaken during the lifecycle of the Project. Key notifications to include as a minimum: – Pre-construction stage – Construction, operation and decommission, with: TMP measures and controls; Construction traffic monitoring; and road network monitoring, remediation protocols and maintenance requirements – Operation, with construction close-out meeting, infrastructure hand-back criteria • Stakeholder consultation would involve, but not be limited to: DTP, NVHR, Swan Hill Rural City Council, Gannawarra Shire Council and land owners affected by road closures.	• All phases	Stakeholder Engagement Plan as part of Traffic Management Plan – part of EMP under Incorporated Document.

MMID	Mitigation measure	Project Phase	Implementation document
MM-TP02	Minimise adverse social effects Prior to the commencement of construction (excluding preparatory works), a TMP must be developed and implemented to minimise disruption to the extent practicable to affected local land uses, traffic, car parking, on-road public transport, pedestrian and bicycle movements and existing public facilities during all stages of the Project. The TMP should be developed in consultation with the relevant road management authorities and be informed and supported by an appropriate level of transport analysis. The TMP should include, as a minimum those items recommended in (TIA, AECOM), including the movement of ore/product which would occur during daylight hours. The TMP would be an overarching document to inform subsequent specific work site TMPs developed by works contractors. In addition, as previously discussed there may be a need for other specific TMPs (see MM-TP07).	• All phases	Traffic Management Plan – part of EMP under Incorporated Document
MM-TP03	Minimise adverse land use effects from transport infrastructure Conduct Road safety audits (RSA), at various stages of project development, indicatively suggested at: • All the access points onto minor and major roads. • Functional design stage (and/or concept stage). • Detailed design stage. The audits shall include consideration of emergency vehicle access and if road surface upgrades are required.	• All phases	Traffic Management Plan part of EMP under Incorporated Document
MM-TP04	Minimise adverse social effects from transport infrastructure TMP will be developed in consideration to VHM's emergency evacuation protocols and must not conflict with any other local emergency plans in place with local businesses and emergency services.	• All phases	Traffic Management Plan part of EMP under Incorporated Document
MM-TP05	Site access strategy: A site access strategy will be developed and finalised in consultation with all stakeholders, notably near landowners and relevant road authorities to verify final site access strategy, including access points. The locations and arrangements of the site access point used to access the project areas and the water supply pipeline during construction and operations should be investigated further to ensure that safe entry and egress of construction vehicles including heavy vehicles. This includes road section upgrade and provision of appropriate design for all access points intersecting with the public road network. During the design process the speed of major access roads to site access points needs to be reviewed and verified. Once designs have been completed, they should be subjected to RSAs as highlighted in MM-TP03.	• All phases	Traffic Management Plan part of EMP under Incorporated Document
MM-TP06	Heavy vehicle transport route assessments: High Productivity Freight Vehicles (HPFVS) and Over Size/Over Mass (OSOM) transport route assessments should be completed by a nominated transport contractor from the nominated bulk material locations along with all necessary mitigation measures and stakeholder approvals. Following this assessment final route options would be verified, and any impacts identified along with relevant stakeholders who may need to be contacted to facilitate the safe delivery of materials to the Project sites. Potential impacts include clearance to potential obstructions, such as wires, structures (bridges and culverts), trees, and rail crossing infrastructure for HPFVS and OSOM vehicles.	• All phases	Traffic Management Plan part of EMP under Incorporated Document

MMID	Mitigation measure	Project Phase	Implementation document
MM-TP07	Sub-TMPs: Sub TMPs would be completed by the relevant contractors, including for specific work activities (Worksite Traffic Management Plans). These would all need to consider and reference back to the overarching project TMP (MM-TP02).	• All phases	Traffic Management Plan part of EMP under Incorporated Document
Noise and Vibration: **Evaluation objective:** ***To protect the health and wellbeing of residents and local communities, and minimise effects on air quality, noise and the social amenity of the area, having regard to relevant limits, targets or standards.***			
MM-NV01	Minimise noise emissions as much as practicable Use of mining fleet and fixed-plant that includes requirement that: • Noise emissions do not exceeded the SWL used in the noise model, and that the risk of high sound energy in the low frequency range be minimised so far as reasonably practicable • Noise checks on mining equipment is undertaken during commissioning and at regular intervals as part of the maintenance program to ensure it is consistent with the above.	• All phases	Noise Management Plan within Work Plan Traffic Management Plan part of EMP under Incorporated Document
MM-NV02	Minimise noise emissions as much as practicable – Hours of Operation Limiting the hours of construction to normal working hours (Mon-Fri 7 am to 6 pm, Sat 7 am to 1 pm, EPA publication 1834) with the provision that some low noise impact works (which are inherently quiet and unobtrusive, and will be consistent with EPA Publication 1834) may occur during evening or night periods provided that the necessary approvals are sought from the relevant authority. These will be specified as part of a CEMP incorporating a Noise Management Plan. All works to be carried out under a Noise Management Plan.	• Construction	Noise Management Plan within Work Plan EMP under Incorporated Document
MM-NV03	Minimise noise emissions as much as practicable All staff/contractors to receive a site induction including details of the ways potentially impacting noise is generated, methods to minimise noise impacts both on-site and on public roads particularly for road trucks. Inspections and/or audits as part of the noise monitoring program will ensure adherence of these methods.	• All phases	Noise Management Plan within Work Plan
MM-NV04	Minimise noise emissions as much as practicable Those roads VHM is responsible for maintenance: ensure in good condition to minimise noise from vehicle traffic over corrugations and potholes.	• All phases	Traffic Management Plan part of EMP under Incorporated Document

MMID	Mitigation measure	Project Phase	Implementation document
MM-NV05	Minimise noise emissions as much as practicable – General Practice Employ best practice across all aspects to minimise noise emissions as much as practicable, such as: • turning off plant, equipment and vehicles when not in use for an extended period • fitting broadband reversing noise signals to all applicable mobile plant to avoid tonal noise emissions • ensuring all plant, equipment and vehicles are fitted with appropriate noise attenuation devices as per manufacturer specification (e.g. enclosures, baffles, silencers, mufflers etc.) and all equipment is maintained in good repair • provision of suitable site access routes to allow for all third-party trucks to avoid reversing if control over their reversing alarms is limited • Restrict the use of engine brake to ensure it is used only when justified for safety reason (long downhill slopes).	• All phases	Noise Management Plan within Work Plan
MM-NV06	Minimise noise emissions as much as practicable – Mine Planning Mining operations limited to day times for specified mining blocks close to sensitive receptors as identified by noise modelling and noise monitoring. The placement and configuration of overburden stockpiles will be designed so as to provide additional noise screening to nearby receptors from noisier activities Noise bunds will be constructed as early as possible, taking into consideration mine pit sequencing and the onset of impact(s) to receptors. Before the bunds are constructed, noise works that impact on receivers that will be eventually protected by the bunds should be avoided (or their intensity reduced).	• Operation	Noise Management Plan within Work Plan
MM-NV07	Minimise noise emissions as much as practicable – Power Plant The Project shall incorporate the highest levels of noise control for the power station including, placing all gensets in acoustic enclosures and containing all gensets within a generator building, use of high-performance exhaust mufflers and low noise cooling radiators Risk of low frequency noise impacts from the power plant will be controlled by the highest levels of noise control including, placing all gensets in acoustic enclosures within a generator building, use of high performance mufflers and low noise cooling radiators.	• Operation	Noise Management Plan within Work Plan
MM-NV08	Minimise noise emissions as far as reasonably practicable – Pumpstation (Kangaroo Lake) Low frequency noise impacts from the Kangaroo Lake pumping station will be minimised by the generator performance and engineered acoustic enclosure specified during the detailed design stage.	• Operation	EMP under Incorporated Document

MMID	Mitigation measure	Project Phase	Implementation document
Air Quality: **Evaluation objective:** ***To protect the health and wellbeing of residents and local communities, and minimise effects on air quality, noise and the social amenity of the area, having regard to relevant limits, targets or standards.***			
MM-AQ01	Minimise air emissions as far as reasonably practicable – General practice All staff to receive a site induction including details of the various ways dust can be generated, methods to minimise dust generation, requirement for speed restrictions across the site and on public unsealed roads particularly for road truck (below the posted speed limit) and their responsibility to minimise and report observed dust generation. A Dust Environmental Management and Monitoring Plan (DEMMP) will be prepared ahead of Project construction. The DEMMP would capture high risk activities, controls, management practices and would detail a dust monitoring program. The DEMMP would be prepared in accordance with: • EPA Publication 1961 Guideline for assessing and minimising air pollution. • EPA Publication 1823.1 Mining and quarrying - guide to preventing harm to people and the environment • EPA Victoria website How to control dust from your business	• All phases	Air Quality Management Plan within Work Plan
MM-AQ02	Minimise air emissions as far as reasonably practicable – Mine planning Employ best practice across all aspects of mining operations to minimise air emissions as much as practicable, that will include as a minimum: • Consideration of weather conditions into weekly and daily mine plans • Utilising water spray and misting systems to supress dust emissions in live active working areas • Water spray systems will be utilised where dust from mobile plant material movements and stockpiles cannot otherwise be practically contained • Excavator and loader operators will minimise the height from which material is dropped into trucks • Trucks carrying uncovered loads of dry material on internal roads, if cannot be avoided, to be loaded below 300 mm of the freeboard • Ensuring mobile fleet reduce speed as much as practical when and where necessary to aid in reducing dust generation and specifically during the following: – during hot and dry conditions; and – where/when excessive wheel generated dust is observed; and – when mine haulage roads are within 500m of a sensitive receptor • Preparing and maintaining level and well finished haul road surfaces to minimise dust emission from rolling wheeled vehicles • Regular grading and gravelling of heavy traffic areas such as intersections as required with regular resurfacing of high traffic areas such as intersections to reduce silt build up • Attentive monitoring and application of suppressants as surface dries out to avoid and minimise emissions as far as reasonably practicable	• Construction • Operation	Air Quality Management Plan within Work Plan

MMID	Mitigation measure	Project Phase	Implementation document
	• Progressive consolidation of and/or re-vegetation of exposed areas • Compaction of stockpile batters (where viability of top-soils for rehabilitation is not impacted) will reduce the amount of loose material that can be eroded by wind • Sustainable mulches or emulsions and polymers applied to stockpile surface on a periodic (nominally yearly) basis to reduce wind erosion		
MM-AQ03	Minimise air emissions as far as reasonably practicable – Process plant • All trafficable areas within the process plant footprint will be sealed and would be kept clean through sweeping • Product stockpiles to be located within roofed and three-sided shelters to minimise wind erosion	• Operation	Air Quality Management Plan within Work Plan
MM-AQ04	Minimise air emissions as far as reasonably practicable – Public roads Regardless of posted speed limits, road trucks travelling to and from the Project site on unsealed public roads, will be advised to travel at reduced speed to reduce wheel generated dust, through contractual obligations, training and monitoring.	• All phases	Traffic Management Plan part of EMP under Incorporated Document
MM-AQ05	Minimise air emissions as far as reasonably practicable – General Practice Employ best practice across all aspects to minimise air emissions as much as practicable, such as: • turning off plant, equipment and vehicles when not in use for an extended period • all equipment/vehicles to be operated and maintained to manufacturer's specifications in order to minimise exhaust emissions • Requirement under VHM polies to use low emission or solar powered equipment as much as possible to reduce air emissions	• All phases	Air Quality Management Plan within Work Plan
MM-AQ06	Minimise air emissions as far as reasonably practicable - Equipment and Plant Exhaust Emissions: Select diesel generators employing emission reduction technology such as selective catalytic reduction (SCR; e.g. AdBlue) or use LNG/LPG. Use low emission or solar powered equipment as much as possible to reduce air emissions.	• Operation	Air Quality Management Plan within Work Plan

MMID	Mitigation measure	Project Phase	Implementation document
Surface Water (including Mine Site Surface Water): **Evaluation objective:** ***To minimise effects on water resources and on beneficial and licensed uses of surface water, groundwater and related catchment values (including the Kerang Wetlands Ramsar site) over the short and long-term.***			
MM-SW01	Development of a Surface Water Management Plan for construction, operation and closure activities. Plans should be updated during the life of the project to reflect changes to site layout and risk profile. Any SWMP will include as a minimum the following: • Spill containment and treatment measures, such as: - Minimising chemical and fuel storage on-site where possible and storing hazardous materials and dangerous good in accordance with AS1940 Storage of flammable and combustible liquids and EPA Publication 1698 Liquid storage and handling guidelines. - Avoiding the storage of liquid material within 50 m of waterways. - The design of first flush systems or gross pollutant traps. - Response procedures in the event of a spill, including the availability of spill kits. • Spill management/responses part of wider Trigger Action Response Plan (TARP) • Erosion and sediment controls, including in regard to geotechnical stability The construction environmental management plan would be developed in accordance with EPA Victoria Publication 1834 – *Civil construction, building and demolition guide*. The sediment, erosion and water quality management plan would address the requirements of the Environment Reference Standard and EPA Victoria Publication 275: Construction Techniques for Sediment Pollution Control. Erosion and Sediment Control Plans (ESCP) to be designed in accordance with IECA best practice guidelines and comply with local and state requirements. A survey of the mine site will be undertaken prior to construction works commencing, which will identify key topographical features to ensure that any decommissioned channels do not become a conduit for runoff or contamination from the site.	• All phases	Surface Water Management Plan within Work Plan EMP under Incorporated Document
MM-SW02	Final design of mine site water storages and drainage infrastructure to ensure they can accommodate nominated storm events. This includes mitigation of overtopping/losses risk from following: - Wave action - Incident rainfall - Seepage (liner specification) The on-site process water pond (PWP) would be lined with a low permeability high density polyethylene (HDPE) liner, or with other comparable materials, in accordance with EPA Publication 1588.1 (Section 6.1.1). Internal drainage infrastructure should be designed with capacity to prevent overflow. Bunds of sufficient height should be designed to prevent surface water intrusion from disturbed catchments.	• Construction	Work Plan

MMID	Mitigation measure	Project Phase	Implementation document
MM-SW03	Revegetate disturbed areas as quickly as practicable on completion of construction and/or mining as part of progressive rehabilitation to minimise erosion and impacts to surface water quality and restoration of surface water flows to pre-development levels.	• All phases	Surface Water Management Plan within Work Plan EMP under Incorporated Document
MM-SW04	Implement appropriate spill control and bunding measures to control and contain spills. All hydrocarbons and hazardous substances are to be stored in facilities designed in accordance with EPA Victoria Publication 1698 – Liquid storage and handling guidelines and AS 1940:2004 – The storage and handling of flammable and combustible liquids.	• All phases	Surface Water Management Plan within Work Plan EMP under Incorporated Document
MM-SW05	Include appropriately sized culverts on drainage lines crossed by access roads with the capacity to accommodate surface water run-off, as stipulated in works on waterways permits.	• Construction	EMP under Incorporated Document
MM-SW06	Ensure that any surface water diversions, that are implemented, discharge into the natural downstream discharge point or the same discharge point as prior to works commencement.	• Construction	Surface Water Management Plan within Work Plan EMP under Incorporated Document
MM-SW07	Ensure any Project installed infrastructure within the 1% AEP storm extent (e.g Pipeline) is to be designed to withstand potential flooding and would be subject to compliance with the specific requirements of the North Central and Mallee CMAs' floodplain works approval process.	• Construction	Surface Water Management Plan within Work Plan EMP under Incorporated Document
Groundwater: **Evaluation objective:** ***To minimise effects on water resources and on beneficial and licensed uses of surface water, groundwater and related catchment values (including the Kerang Wetlands Ramsar site) over the short and long-term.***			
MM-GW01	Tailings water recovery will be optimised as much as practicable to minimise seepage to underlying Loxton Parilla Sand (LPS) aquifer and documented in the Tailings Management Plan. The tailings Management Plan will link to Groundwater Management Plan (MM-GW04), and as a minimum specify the following: • Initial Spigot design • Initial Flocculant application rates • Embankment under drain design • Trigger Action Response Plan (TARP) A thickener and a flocculant dosing system will be used in the primary stage of dewatering to allow the fines to be thickened. Fines will report to the thickener underflow and will be combined (homogenised) with sand tailings and pumped back to the mine void. Clean water overflow from the thickener will be transferred to a process water pond (PWP).	• All Phases	Groundwater Management Plan within Work Plan Tailings Management Plan within Work Plan

MMID	Mitigation measure	Project Phase	Implementation document
	The use of flocculants will be optimised to ensure maximum clean water recovery whilst minimising the amount used, so far as reasonably practicable. The flocculants will be used in the process at very low concentrations in line with standard practice within the mineral sands industry. Secondary dewatering will occur at the mine void tails discharge outlet. This will involve adding further polymer flocculant to the slurry exiting the pipe head. The clean water will separate from the tailings beach and will report to a decant sump. The recovered water will be recycled to the process water pond (PWP). This process will be periodically reviewed and enhanced to maximise water recovery, so far as reasonably practicable.		
MM-GW02	Obtain the necessary permits and licences that relate to groundwater activities prior to commencement of operations. As a minimum this will include: • Take and Use Licence from GWMWater - Groundwater will be extracted from the mounded LPS aquifer in line with the conditions, timings, and limits detailed in a licence issued by GWMWater. • A18 Permit from EPA – depositing tailings in-pit triggers the need for an A18 permit for the discharge or deposit of waste to aquifer	• Operation	Groundwater Extraction Licence from GWMWater and A18 Permit from EPA
MM-GW03	Risks to groundwater will be minimised as much as practicable with specification as minimum of the following: • Hazardous waste (as defined by EPA) will be removed from site as soon as practicable by a licensed contractor for treatment or disposal in an approved facility in accordance with licence and regulatory requirements to minimise risk to groundwater • Any hazardous materials, such as laboratory chemicals, will be stored in designated areas in accordance with their safety data sheets. Spills of fuels or chemicals would be managed in accordance with Part 3.4 of the EP Act 2017 and requirements set out in the Spill Management Plan. This may include restoration of the affected area (soil and groundwater) to its pre-spill state so far as reasonably practicable	• All phases	Risk Management Plan within Work Plan
MM-GW04	A Groundwater Management Plan (GMP) would be prepared to manage and further mitigate potential risks (if required) to groundwater and establish a framework for the management and monitoring of groundwater. The GMP would capture high risk activities, present relevant controls and management measures, detail contaminants of concern (indicators), the objectives for the appropriate assessment of groundwater, and would detail the groundwater monitoring to be undertaken throughout the life of the Project and would provide trigger levels and contingency actions in the event of trigger exceedances. The exact scope of the contingency action will depend on the nature and extent of any unacceptable impact and risk if was to occur. However, as a minimum the type of contingencies to be considered would be targeted interception and/or pumping of groundwater via a network of bores to stop and draw back groundwater where the quality or elevation has been assessed through the development of a trigger to pose an unacceptable risk in either the short or long term. The GWMP would be developed in consultation with relevant stakeholders and must be subject to approval by the relevant Authority.	• All phases	Groundwater Management Plan within Work Plan

MMID	Mitigation measure	Project Phase	Implementation document
Soils and land resource **Evaluation objective:** ***Effects on land stability, erosion and soil productivity associated with the construction and operation of the project, including progressive rehabilitation works.***			
MM-SLR01	Minimise effects on native soils – Mine Site The following management and mitigation strategies should be implemented to reduce degradation during stockpiling operations: • Prior to stripping disturbance areas, the soil surface would have 5 to 10 tonnes per hectare of natural gypsum applied • Soil would be stripped in a slightly moist to moist condition wherever possible. This occurs when soil is pliable while hand texturing (15-30% soil moisture). Material would not be stripped in either excessively dry, powdery or very friable conditions (i.e . <15% moisture, or >30% moisture). • Overburden stockpile areas to be stripped of topsoil and subsoil to a minimum of 1m prior to placement of stockpiled material. • Subsoil stockpiles to be stripped of topsoil to a minimum depth of 200 mm prior to placement of stockpiled material. • Preference given to using equipment which can scrape, grade or push soil into windrows. • Topsoil and subsoil stockpiles would be stored separately and clearly signposted. The location of stockpiles would be recorded using GPS, along with data relating to the soil type and volume. An inventory of available soil would be maintained and updated regularly to ensure adequate topsoil and subsoil materials are available for planned activities • Maximum stockpile height of two metres would be maintained • The surface of soil stockpiles would be left in as coarsely structured condition as possible, to promote rainfall infiltration and minimise erosion, prior to cover vegetation becoming established. • Stockpile storage time would be minimised, where possible. If long-term stockpiling is planned (greater than three months), such as those stockpiles which will be formed during the initial pit and infrastructure development, stockpiles would be seeded with an annual cover crop species. • Where possible, freshly stripped subsoil and topsoil would be re-spread directly onto rehabilitation areas and to depths according to target requirements. Topsoil would be spread, treated with fertiliser and seeded in one consecutive operation. • Stockpiles would not be disturbed until required for rehabilitation, weed management, erosion control or for seeding and fertilising purposes. • The surface of all stockpiles would be treated with ameliorants such as gypsum and Granulock 15 to create the most suitable growth medium for chosen rehabilitation crop species. • Appropriate erosion and sediment control measures would also be applied, as per a site-specific Erosion & Sediment Control Plan, particularly when the timing of stockpiling is not conducive to cover crop germination. • Gypsum rates of 10 tonnes per hectare are recommended where exchangeable sodium percentage (ESP) is greater than 14 (i.e. strongly sodic). The gypsum sourced would have a minimum 19% calcium and 15% sulfur.	• Construction • Operation • Closure	Risk Management Plan within Work Plan and Rehabilitation Plan under Work Plan

MMID	Mitigation measure	Project Phase	Implementation document
MM-SLR02	Minimise effects on native soils – Pipeline Topsoil will be stripped to a depth of 20 cm prior to any trenching activities. The trench would be progressively backfilled to minimise the duration of time that the more dispersive subsoil is exposed to rainfall. The subsoil would be backfilled first, followed by topsoil and ameliorant application (including gypsum application to the surface of in-filled material).	• Construction	EMP under Incorporated document
MM-SLR03	Minimise effects on land resource Mine pit faces would be as steep as recommended in the geotechnical assessment (a maximum of 32 degrees for pits up to 42 m deep and 31 degrees for pits up to 47 m deep), in order to minimise the surface area of exposed subsoil layers during the mining process. Progressive rehabilitation would be undertaken as the mine advances to minimise the duration of time that subsoils are exposed to potential rainfall events.	• Construction • Operation	Risk Management Plan within Work Plan and Rehabilitation Plan under Work Plan
MM-SLR04	Minimise effects on native soils During closure, if rehabilitation is delayed, the exposed subsoil would be treated with gypsum and the appropriate erosion and sediment control measures would be applied.	• Operation • Closure	Risk Management Plan within Work Plan
MM-SLR05	Minimise effects on native soils Weed control would be undertaken in areas yet to be mined in order to prevent seed set prior to topsoil stripping. During stockpiling, weeds would be controlled biannually and stockpiles would be seeded with cover crop to provide competition for weed species.	• Operation	Risk Management Plan within Work Plan
MM-SLR06	Spills and Leaks Spills and leaks would be managed in accordance with MM-SW01 and MM-GW03.	• All phases	Risk Management Plan within Work Plan
Agriculture **Evaluation objective:** ***To minimise potential adverse social and land use effects, including on agriculture and transport infrastructure***			
MM-AG01	Minimise potential adverse land rehabilitation effects Reinstatement of a soil profile to a depth of 1 metre, comprising 20 centimetres of topsoil and 80 centimetres of subsoil. Topsoil and subsoil will be ameliorated as required during stripping and stockpiling activities to ensure pre-disturbance agricultural productivity is attained or improved. Wherever possible topsoil and subsoil will be respread directly onto active rehabilitation areas rather than stockpiling to minimise handling and possible structure decline.	• Closure	Rehabilitation Plan under Work Plan
MM-AG02	Minimise potential adverse land use effects Adjacent landholders must be consulted prior to, and during the development of each mining stage as to the requirement for alternative entry points and additional fencing, gates or grids. Development of a Traffic Management Plan to allow continued access during temporary road closures and diversion.	• All phases	Community Engagement Plan (CEP) under Work Plan EMP under Incorporated document

MMID	Mitigation measure	Project Phase	Implementation document
MM-AG03	Minimise potential adverse biosecurity effects Weed control will be continued on areas which are not under current agricultural production. Disturbance areas, soil stockpiles and rehabilitation areas will be monitored for weed growth, with control measures undertaken as necessary. Control of weeds must be undertaken biannually (both summer and winter weed species control) on stockpiles during autumn/winter and spring/summer. Any import of equipment or machinery from interstate or overseas will follow the standard procurement safeguards and quarantine procedures as per Victorian and Australian requirements from the *Biosecurity Act 2015*.	• All phases	Risk Management Plan within Work Plan
Radiation **Evaluation objective:** ***To protect the health and wellbeing of residents and local communities, and minimise effects on air quality, noise and the social amenity of the area, having regard to relevant limits, targets or standards.***			
R-ENG01	Project to be operated in accordance with a management licence addressing radiation safety in accordance with the provisions of the Radiation Regulations, including likely conditions such as compliance with the Radiation Protection Series No. 9 and preparation of a radiation sub-plan for all operations. The plan would account for any special conditions or exemptions from specific provisions of the Radiation Regulations that might apply to the project.	• All phases	Radiation Management Plan
R-ENG02	Minimise radiation effects: Engineering design • A wheel wash and vehicle washdown bay would be established to minimise the spread of potential contamination around the site and off the site • The processing facility will be constructed with spillage containment. This includes all tanks having concrete bunds, as secondary containment, to store at least the volume of the tank [Vic EPA 2018]. • Provision for hose down facilities and sumps, access ways and sufficient room for bobcats for clean up under conveyors • Tailings pipelines will be fitted with a leak detection system that will turn off pumps if a pipe failure is detected– with a schedule of preventative maintenance and inspection to be established for pipelines carrying radioactive process materials • Dust minimisation and suppression system within process plant - with a schedule of preventative maintenance and inspection to be established for areas with radioactive process materials	• Construction • Operation	Risk Management Plan within Work Plan and Radiation Management Plan
R-ENG03	Minimise radiation effects: Product packing All product packing will occur within building, including the use of a packing booth for REMC.	• Operation	Radiation Management Plan

MMID	Mitigation measure	Project Phase	Implementation document
R-ADM01	Minimise radiation effects: Administrative Safe operating procedures outlined in RMP to ensure the safe and environmentally responsible operation of the Project RMP to specify that all employees and contractors would receive training in the radiological aspects of the Project and be provided instruction on prevention of contamination release from the Project. A qualified and experienced Radiation Safety Officer will be available to undertake radiation monitoring, advise management on measures to reduce radiation, exposures and regulatory reporting. Site access controls would be implemented to ensure that: • unauthorised access is restricted • intentional or inadvertent removal of radioactive material from the operation is prevented	• Construction • Operation	Radiation Management Plan
R-ADM02	Minimise radiation effects: Rehabilitation Radiological input to the Rehabilitation/Closure Plan will occur, based on approved radiological closure criteria of return to pre-operational radiological conditions, with monitoring to confirm compliance.	• Closure	Radiation Environment Management Plan and Rehabilitation Plan under Work Plan
Social and land use **Evaluation objective:** ***To minimise potential adverse social and land use effects, including on agriculture and transport infrastructure***			
MM-SC01	Workforce Accommodation Strategy: A draft strategy has been developed and will be refined in consultation with relevant stakeholders, including local Gannawarra Shire Council and Swan Hill Rural City Council, prior to commencement of construction. The Draft Workforce Accommodation Strategy does not focus on measures to manage the influx of permanent employees, but rather on accommodating the temporary construction workforce. In this context: the strategy will be updated to include: A commitment to agree with local authorities on a maximum influx of permanent workers who would be able to seek to accommodate in the local housing market (rental and/or for purchase) in Years 1 to 3, by location, with any residual housing demands being met through the use of the short stay accommodation developed and enhanced as part of the Workforce Accommodation Strategy.	• All phases	Workforce Accommodation Strategy
MM-SC02	Neighbour Agreement. Rural residents living within 3.5 kilometres of the proposed MIN will be given the option to enter into a Neighbour Agreement with VHM for the duration of the Project. The agreement will recognise that the rural amenity within this area would be altered by the project, and that this may affect residential satisfaction among those affected. The location of each zone and the associated financial offer will be publicly available and thus disclosed to all participants, to ensure transparency.	• All phases	Individual Agreements with landowners

MMID	Mitigation measure	Project Phase	Implementation document
MM-LU01	Bushfire Management Plan A Bushfire Management Plan must be prepared to ensure that construction outside of the mining licence area is undertaken and any infrastructure maintained in consultation with the relevant authorities such as the Country Fire Authority and relevant asset owners.	• All phases	EMP under Incorporated document
Geotechnical stability **Evaluation objective:** ***Manage landform and slope stability***			
MM-GS01	Mining activities to be operated in accordance with a Ground Control Management Plan that covers construction, operation and closure activities within the proposed MIN. The CGMP will be updated during the life of the project to reflect changes to site layout and risk profile, and cover as a minimum the following: • pit slopes • stockpiles • in-pit tailings embankments. The GCMP would be an overarching document to inform subsequent specific operating procedures.	• All phases	Ground Control Management Plan within Work Plan
Rehabilitation and closure **Evaluation objective:** ***The description of rehabilitation and closure should canvass changes in topography, groundwater conditions, drainage and vegetation cover during mining operations and at the end of the mine life. Rehabilitation and closure planning in the EES should be informed by the outcomes and adopted recommendations of the specialist studies within the EES (e.g. water, soils, landscape and visual, social, biodiversity, cultural heritage, etc.).***			
MM-RH01	Project to be rehabilitated and closed in accordance with the finalised Rehabilitation Plan and in accordance with the provisions of the MRSD Regulations, including likely conditions such as compliance with the specific provisions of the Radiation Regulations that might apply to the project. The Rehabilitation Plan must include a monitoring and review process to monitor rehabilitation performance, identify emerging risks and enable early intervention in accordance with monitoring and contingency measures outlined in Table 21-7 of the EMF.	• Closure	Rehabilitation Plan under Work Plan
MM-RH02	Unplanned closure – Staged and progressive rehabilitation and backfilling of pits to be undertaken, which limits the amount of land needing rehabilitation at any given time and will limit any legacy rehabilitation issues in the event of unplanned closure.	• Operation • Closure	Rehabilitation Plan under Work Plan
MM-RH03	Unplanned closure – Rehabilitation bond to be adequate to address safety risks and site restoration in the event of default by miner.	• Closure	Rehabilitation Plan under Work Plan

21.7 Baseline environmental conditions

The baseline environmental conditions that are summarised in the EES Chapters and technical report, with key references shown in **Table 21-6**, will be incorporated into relevant risk treatment plans and/or management plans and used to evaluate any residual environmental effects of the project.

Table 21-6 Baseline conditions

Environmental Aspect	EES Chapter and Technical Report
Biodiversity	• EES Chapter 07 Terrestrial ecology. • Technical Report A: Flora ecology. • Technical Report B: Fauna ecology.
Heritage	• EES Chapter 08 Cultural Heritage. • Technical Report C: Cultural Heritage.
Landscape and Visual	• EES Chapter 09 Landscape and Visual. • Technical Report D: Landscape and Visual.
Traffic and transport	• EES Chapter 10 Traffic and transport. • Technical Report E: Traffic and transport.
Noise and vibration	• EES Chapter 11 Noise and vibration. • Technical Report F: Noise and vibration.
Air quality	• EES Chapter 12 Air quality. • Technical Report G: Air quality.
Surface water	• EES Chapter 13 Surface water. • Technical Report H1 Regional Surface water. • Technical Report H2 Mine site surface water.
Groundwater	• EES Chapter 14 Groundwater. • Technical Report I Groundwater.
Geotechnical	• Technical Report J Geotechnical.
Land use planning	• EES Chapter 15 – Land use planning. • Technical Report K: Land use planning.
Agriculture and soils	• EES Chapter 16 – Agriculture and soils. • Technical Report L: Agriculture. • Technical Report M: Soils and land resource.
Radiation	• EES Chapter 17 – Radiation. • Technical Report N: Radiation.
Socio-economic	• EES Chapter 18 – Socio-economics. • Technical Report O: Social impacts. • EES Attachment IV Economics.
Rehabilitation	• EES Chapter 19 – Rehabilitation and closure. • Technical Report P: Rehabilitation and closure.

21.8 Monitoring

Monitoring would be conducted to measure project performance during construction, operations and closure (including rehabilitation and post-closure). **Table 21-7** describes the monitoring programs proposed to be implemented for the project for each environmental aspect.

Monitoring programs would be refined and implemented as part of the management plans as identified in **Section 21.3.** Compliance with the EMF and all environmental plans would be monitored by VHM and each of

the contractors (as appropriate for each contractor's Project activities). Monitoring frequency and monitoring parameters would be informed by regulatory requirements and scale of environmental risk. Monitoring may include periodic inspections of construction work areas and the operation of Project elements constructed.

Contractors would be required to implement monitoring programs in accordance with environmental documentation to verify that:

- The monitoring frequency is sufficient to identify non-conformance(s) with the mitigation measures, statutory approvals conditions, management documents and applicable legislation.
- The range of parameters being monitored is adequate.
- Changes to approved construction and operational activities are adequately covered by the monitoring programs.

Any proposed changes to a monitoring program would be subject to assessment and approval from the relevant authority before implementation.

Table 21-7 Monitoring and contingency measures relevant to the Project

Environmental aspect (as detailed in the respective Technical Report)	Monitoring program / measure	Project Phase
Biodiversity and habitat		
Impacts to roadside vegetation	• Daily monitoring during construction to ensure vegetation / fauna habitat removal is within the approved areas. • During construction weekly audits to ensure no damage along transport route, construction vehicles confined to road surface, no vehicles parking in tree protection zone, TPZ barriers in place and maintained. • During operations monthly audits of onsite and remanent roadside vegetation / fauna habitat for dust and damage by vehicles • Monitoring every 2nd year by an arborist of trees identified as 'assumed lost' due impacts to the Tree Protection Zone. • Monitoring of understorey / ground layer if trees 'assumed lost' senesce at higher rate than expected.	Construction Operation
Changes to the Ecological Character of Kangaroo Lake as an artefact of water extraction	Water extraction rates and lake water levels to be monitored as per licence requirements and reported monthly as part of VHM Ltd water extractions licence.	Construction Operation
Fauna salvage (water pipeline intake)	• Inspection of angled fish screen within 2 years of commencement of operation to determine fit-for-purpose: specifically, to assess risk of trapping/drowning freshwater turtles.	Operation
Vehicle / wildlife collisions	• Vehicle speeds –random monitoring of mine vehicle speeds within the transport routes. • Process for vehicle / wildlife collision occurs included in inductions and toolbox meetings at least annually. • Monitoring of vehicle / wildlife collisions – collisions are recorded in incident register and rate collisions monitored annually.	All phases of mine life
Fauna salvage (pipeline)	• Bunting erected in no-go zones. • Salvage permits are obtained. • Installation of 30cm damp course plastic fauna exclusion fence sealed at ground level for trenching of pipeline. • Project personnel check trench each morning and at completion of days' work and reports to environmental supervisor to implement fauna recovery protocol.	Construction
Noise from vehicles and mine operations impacting on behaviour of wildlife	• Noise levels are monitored as part of mobilisation of new mobile plant and equipment. • Regular noise audits as per Noise Management Plan.	All phases
Indirect impact: Fuel and oil spillages egresses into fauna habitat / roadside native vegetation	• Daily pre-starts of vehicles for visible leaks. • Audits of fuel and chemical storage areas.	All phases

Environmental aspect (as detailed in the respective Technical Report)	Monitoring program / measure	Project Phase
Indirect impact: Lights from vehicles and mine operations impacting on behaviour of wildlife	• Monthly lighting checks	Construction Operation
Indirect impact: Dust degrading fauna habitat	• Dust monitoring as per Dust Environmental Management and Monitoring Plan (DEMMP)	All phases
Indirect impact: Fauna accessing processed water pond and in pit tailings	• Site induction will include the protocols for recording fauna interactions / observations and the relevant contact person. • Any fauna fatalities will be reported in the company's incident database and reported as part of regulatory requirements. • The surface decant water in the tailing pits and process pond will be monitored to ensure it is within expected range and will review against appropriate standards to minimise the risk to staff and the environment.	Operation
Cultural Heritage		
Aboriginal Cultural Heritage	Aboriginal Heritage: • Preparation and delivery of a CHMP induction, including cultural awareness induction. • Use of a compliance checklist throughout the construction phase. • The requirement for appropriate contractor induction to communicate the protections, requirements, and the Unexpected Finds Protocol.	All phases
Non-Aboriginal Heritage	Non-Aboriginal Heritage: • Maintain records of appropriate contractor induction to communicate the protections, requirements, and the Unexpected Finds Protocol.	All phases of mine life
Traffic and transport		
Dilapidation surveys	Dilapidation surveys of the road network would be completed as part of the pre-construction phase and at regular intervals during the operation phase are proposed to monitor the transport impacts associated with the project. These surveys are specified in **Table 21-5** and are outlined in the following measures • MM-T01 Stakeholder Engagement Plan. • MM-T02 Traffic Management Plan.	All phases
Noise and vibration		
Noise Management Plan	A Noise Management Plan will be proactively developed, which formally documents all of the monitoring, managerial and engineering measures to be implemented to control noise within and from the site. The NMP will be based on an updated and validated noise model based on the results of the proposed noise monitoring surveys and commissioning measurements. The Noise Management Plan will provide a framework for updating the noise model during Project operation to assess noise emissions from the Project, the effectiveness of mitigation measures and the need for further controls, where required. The Noise Management Plan will ensure that the risk of harm from noise is minimised so far as reasonably practicable throughout all stages of the Project, including the detailing of inspection, maintenance and continual improvement of equipment, plant and their noise mitigation measures to prevent increased noise emissions due to defective operation, ageing, or other preventable deterioration. In developing the NMP consideration shall be given to frequency spectrum as a prescribed factor and specifically the potential risk of problematic low frequency noise. Commissioning noise surveys will be completed for all major fixed plant components e.g. power station, processing plant, pumping station etc. to ensure they achieve their respective noise emission	All phases

Environmental aspect (as detailed in the respective Technical Report)	Monitoring program / measure	Project Phase
	requirements. If any non-conformance or unanticipated additional noise sources are identified, they will be evaluated and options for amelioration considered. As the mine cells and operations will change through the duration of the Project a program of annual noise monitoring surveys will be developed and implemented. Monitoring will be completed at the nearest affected receptors as well as an appropriately located reference location. Annual noise monitoring data will inform the periodic update of the noise model to allow for continuous improvement. Monitors will be used that hold NATA accredited calibration and are compliant with the relevant Australian Standards and EPA guidelines (e.g. publications 1996 and 1997). Monitoring will be conducted by a suitably qualified person in accordance with EPA guidelines (e.g. publications 1996 and 1997). The Noise Management Plan will be proactively prepared and implemented within the Work Plan.	
Procurement of mining fleet	The Procurement of subcontracted mining fleet will include a requirement to provide equipment which does not exceed the SWL used in the noise model. Noise checks on mining equipment will be conducted during commissioning and at regular intervals as part of the maintenance program to ensure it continues to be compliant.	Construction Operation
Procurement of fixed plant equipment	Procurement of noise generating fixed-plant will include a noise emission requirement to ensure that all fixed plant meet or better that which has been assumed in the noise model. During commissioning a programme of noise commissioning checks will be undertaken to determine if fixed plant comply with the sound power level specification and do not present an unexpected risk of tonal, impulsive or intermittent character or of excessive sound energy in the low frequency range.	Construction Operation
Noise survey	Workplace OH&S noise surveys will be undertaken in noisy areas frequently accessed by personnel. It is anticipated that this will include areas such as the power station and the processing plant.	Construction Operation
Mobile mining plant noise suppression	After market noise suppression options will be investigated for mining equipment to further reduce noise emissions where practicable. The addition of noise suppression kits to typical mobile plant such as excavators, scrapers, haul trucks and dozers would typically result in an overall reduction of approximately 5 dBA from the standard model.	All phases
Air Quality		
Project specific air quality monitoring plan	A Project specific Air Quality Monitoring Plan will be prepared to: • Set out monitoring responsibilities of staff and contractors. • Identify air quality indicators to be monitored. • Establish monitoring criteria for the air quality indicators. • Set out appropriate air quality monitoring methods, schedules and reporting requirements. (See below).	All phases
Continuous air quality monitoring	Compliance continuous PM_{10} and $PM_{2.5}$ monitoring will be conducted in accordance with relevant Australian Standards at a location representative of where a sensitive receptor(s) is likely to experience the highest particulate concentrations during the operational stage of the Project to demonstrate that dust emissions are being controlled adequately to meet relevant Air Pollution Assessment Criteria (APACs). Monitors will be used that are compliant with the relevant Australian Standards. Monitoring will be conducted by a suitably qualified person and reported on a quarterly frequency (or less if results necessitate more frequent reporting).	All phases

Environmental aspect (as detailed in the respective Technical Report)	Monitoring program / measure	Project Phase
	The data will be reported to the regulators. The information from the data will be communicated to community members and other stakeholders during the construction, operation and closure (including rehabilitation and post-closure) phases of the project in accordance with the Community Engagement Plan.	
Compliance monitoring of RCS	Compliance monitoring of RCS (as $PM_{2.5}$) and heavy metals (as PM_{10}) will be conducted monthly in accordance with relevant Australian Standards at a location representative of where a sensitive receptor(s) is likely to experience the highest particulate concentrations during the operational stage of the Project to demonstrate that dust emissions are being controlled adequately to meet relevant APACs. Monitors will be used that are compliant with the relevant Australian Standards. Monitoring will be conducted by a suitably qualified person and reported on a quarterly frequency (or less if results necessitate more frequent reporting). The data will be reported to the regulators. The information from the data will be communicated to community members and other stakeholders during the construction, operation and closure (including rehabilitation and post-closure) phases of the project in accordance with the Community Engagement Plan.	All phases
Monitoring of PM_{10}	Indicative continuous PM_{10} monitoring will be conducted to provide near real-time feedback to site management with regard to potential dust emission across the site boundaries. Short-term average concentration trigger levels will be used so that site management are alerted (e.g. via SMS) to elevated concentrations such that additional management controls can be actioned to reduce dust levels to below the trigger level as defined by the applicable Trigger Action Response Plan (TARP).	All phases
Fugitive dust generation monitoring	A Dust Environmental Management and Monitoring Plan (DEMMP) will be prepared. Visual assessment of both fugitive dust generation, especially that leaving the site boundary, and dust deposition on the vegetation surrounding the site would be detailed as part of the DEMMP. All site personnel will have the responsibility to report observations of any excessive dust generation resulting from their own, or others work. The site manager will implement appropriate mitigation measures (e.g. increased haul road watering and/or further reduced speed limits for road trucks on unsealed site and public roads).	All phases
Surface Water		
Clean up of spills	Implement contingency plan(s) to clean up and manage spills.	All phases
Water quality monitoring plan	Develop and maintain a water quality monitoring program that will comply with applicable legislation and guidelines. The SWMP will define the exact monitoring locations, frequency and parameters. Water quality sampling external to the mine site will be undertaken in conjunction with the internal mine site water quality monitoring program, noting that the external sampling will be event-based, given the lack of permanent streams or flow paths impacted by the Project. The potential water sampling locations are shown in Figure 8-5 of Technical Report H1 Surface Water Impact Assessment. The water quality indicators to be included in the monitoring corresponds to the environmental quality indicators and objectives for rivers and streams as outlined in the ERS 2021.	All phases
Surface water monitoring	Ecological and water quantity monitoring of any surface water diversions to ensure they have no impact on downstream ecosystems. If change is detected, remedial actions will be implemented to rectify the problem immediately to avoid irreversible damage to downstream ecosystems.	All phases

Environmental aspect (as detailed in the respective Technical Report)	Monitoring program / measure	Project Phase
Mine site surface water		
CEMP	Construction Environmental Management Plan, including a Sediment, Erosion and Water Quality Management Plan.	All phases
EMP	Environmental Management Plan, including an adequate monitoring program to ensure vegetation coverage is established as quickly as possible and maintained.	All phases
Overflow and Run-Off monitoring	Overland Flow and Run-Off Monitoring and Management Plans.	All phases
Groundwater monitoring	Ground Water Monitoring and Management Plans.	All phases
Spill Management Plan	Spill Management Plan.	All phases
Groundwater		
Baseline groundwater monitoring	Purpose: Further inform baseline conditions to develop a baseline groundwater level and quality database against which changes to groundwater can be monitored. Minimise risk of harm to groundwater during construction. Indicators and objectives: Groundwater quality and levels as set out in the GMP (MM-GW04) and in accordance with the ERS. Groundwater monitoring conducted prior to construction and during construction would further inform baseline conditions. Parameters: Groundwater parameters and chemicals of concern to include, as a minimum, the suite listed in Table 8-11, 8-12 and 8-13 of Groundwater Impact Assessment (CDMSmith, 2023). Locations: As a minimum, the groundwater bores listed in Table 8-10 of Groundwater Impact Assessment (CDMSmith, 2023). Frequency: Groundwater monitoring would be conducted biannually (in accordance with EPA Publication 669.1) for a period of two years prior to commencement of construction.	Construction
Operational phase groundwater monitoring	Purpose: Minimise risk of harm to groundwater during mine operation. Within 6 months of 2 years continuous operation update groundwater modelling predictions undertaken in the Groundwater Impact Assessment based on site monitoring with the aim to: • refine predictions on potential extent of groundwater quality and levels changes during and post operations. • review (and potentially update) groundwater monitoring regime. • establish the nature and extent of natural attenuation process and provide prediction on groundwater quality changes during and post operations. Indicators and objectives: Groundwater quality and levels as set out in the GMP (MM-GW04) and in accordance with the ERS. Parameters: Groundwater parameters and chemicals of concern as set out in the GMP (MM-GW04). Locations: Groundwater monitoring locations would be specified in the GMP (MM-GW04). Frequency: Groundwater monitoring would be conducted biannually (in accordance with EPA Publication 669.1) and in accordance with the GMP (MM-GW04) and based on an ability to determine trends and changes prior to causing an impact on sensitive receptors. Trigger levels and contingency actions: If water level or water quality change is detected or reveals unplanned impacts over the life of operations undertake review of groundwater data and mining practices that have occurred to determine the nature and cause of the impact. Review modelling results with observed data to update and inform a revaluation of impact assessment. Detailed trigger levels and contingency actions would be specified in the GMP (MM-GW04).	Operation

Environmental aspect (as detailed in the respective Technical Report)	Monitoring program / measure	Project Phase
Rehabilitation / closure phase groundwater monitoring	Purpose: Minimise risk of harm to groundwater following mine closure and rehabilitation. Indicators and objectives: Groundwater quality and levels as set out in the GMP (MM-GW04) and in accordance with the ERS. Parameters: Groundwater parameters and chemicals of concern as set out in the GMP (MM-GW04). Locations: Groundwater monitoring locations would be specified in the GMP (MM-GW04). Frequency: Groundwater monitoring would be conducted biannually (in accordance with EPA Publication 669.1) and in accordance with the GMP (MM-GW04). Trigger levels and contingency actions: If water level or water quality change is detected or reveals unplanned impacts over the life of operations undertake review of groundwater data and mining practices that have occurred to determine the nature and cause of the impact. Review modelling results with observed data to update and inform a revaluation of impact assessment. Detailed trigger levels and contingency actions would be specified in the GMP (MM-GW04).	Closure
Land use planning		
There are no specific land use planning monitoring measures proposed to mitigate potential land use planning impacts. Relevant monitoring measures are set out in other specialist technical studies. It is anticipated that these measures would be implemented through the regulatory documents and management plans such as the Work Plan, Incorporated Document, CEMP, TMP, BMP, and REMP.		
Agriculture and soils		
Agriculture and soils and land resource	Visual monitoring of stockpiles would be undertaken regularly, particularly after significant rainfall events. The following characteristics would form part of the checklist in both a site-specific Soil Stockpile Management Plan and an Erosion & Sediment Control Plan, which will include action triggers and contingency actions to be implemented: • Integrity of sediment control. • Effectiveness of drainage. • Integrity of erosion and sediment control measures. • Pasture growth. • Weed infestation. Samples would also be collected down slope or next to stockpiles to detect whether any mobilisation of solutes or solids is occurring. Sampling of topsoil stockpiles should occur prior to respreading with testing undertaken for agricultural nutrients.	All phases
Radiation		
Direct (external) gamma	Handheld environmental gamma monitor, OSLD Annual survey and passive detectors at environmental monitoring locations.	All phases
Rn-220 and Rn-222 Concentrations	Long term passive monitors Placed at the environmental monitoring locations and changed quarterly	All phases
Dispersion of dust containing long-lived, alpha-emitting radionuclides	Dust deposition gauges sampling at off-site environmental monitoring locations. Samples composited for one year then analysed for radionuclides	All phases
	HiVol sampling Analysis of routine air quality samples for radionuclides as part of the Air Quality Management Plan	All phases
Seepage of contaminated water	Groundwater sampling from monitoring bores. Sampling from monitoring bores and analyses for radionuclides.	All phases
Run off contaminated water	Surface water sampling. Opportunistic surface water sampling will occur following significant rainfall events	All phases
Radionuclides in potable water supplies	Sampling and radiometric analysis annually	All phases

Environmental aspect (as detailed in the respective Technical Report)	Monitoring program / measure	Project Phase
Social		
A comprehensive environmental monitoring regime and complaints process would be established for the Project. The complaints management process for the Project would be established in-line with that required by ERR. The complaints management process, would include the following: • Provision of a visible and user-friendly system for providing feedback. • Information on how and where to provide feedback would be published on the VHM website and discussed during community engagement activities. • Detailed feedback register. • Clear accountabilities and procedures for staff to investigate and respond to community feedback. • Commitment to respond promptly, fairly and confidentially to feedback received. VHM will target a response timeframe of less than 48 hours. • An internal monitoring and auditing system to ensure effectiveness of the complaint management process, and to identify recurrent themes and appropriate management responses • VHM undertakes direct contact with the complainant to determine the nature and extent of any impact. All complaints are to be recorded in the company communication database and reported to the appropriate regulators. Community will be provided quarterly summaries of the any reportable incidents. VHM will continue to liaise with the complainant to assist in alleviating any concerns or potential ongoing issues. In addition, the proposed Workforce Accommodation Strategy would include monitoring and contingency measures. As such, no further monitoring and contingency measures are recommended.		
Rehabilitation and closure		
Rehabilitation monitoring	VHM would implement a formalised rehabilitation monitoring and review process to monitor rehabilitation performance, identify emerging risks and enable early intervention. Rehabilitation monitoring would include surveys to be undertaken routinely within each discrete rehabilitation area. The recommended frequency of survey would vary depending on the stage of rehabilitation and progress towards completion, but also depending on the presence or otherwise of active rehabilitation threats. A typical monitoring frequency might include: • Monthly for the first three months during initial vegetation establishment, then. • Quarterly for the first year following commencement of rehabilitation, then. • Annually until completion and achievement of closure criteria. Rehabilitation monitoring would continue until the rehabilitation objectives have been met and are substantially trending towards the completion criteria such that active intervention is no longer required and the area is assessed as stable. Rehabilitation surveys would record key details of rehabilitation progress, including identification of any emerging risks, activation of triggers for mitigation controls, and noting any corrective actions that may be required. Any identified deficiencies or failures shall be noted and follow-up actions identified. Success factors would be noted for future reference and to assist in continuing improvement.	Operation Closure

21.9 Environmental incidents and emergencies

All environmental incidents and 'near misses' would be recorded in an incident database. The database would be maintained and reviewed regularly by VHM to identify any trends and assess the effectiveness of preventative measures.

Reportable incidents as defined by the Earth Resources Regulation Guidance Note on Reportable Events for Mineral and Extractive Operations, would be reported to the appropriate regulator at the time of the incident (refer to **Section 21.9.5**). Pollution events that cause or threaten to cause material harm to the environment or human health and any other emergencies would be reported to relevant agencies as required, including to EPA under Section 40 of the EP Act ("Duty to Notify"), if required. All incidents would be investigated to facilitate efficient and effective responses. A notifiable incident includes an incident:

- Resulting in actual adverse effect on human health or the environment, that is not negligible, or.
- Resulting in an actual adverse effect to an area of high conservation value or of special importance, or.

- Where the costs of preventing or minimising the harm, or restoring the environment, is likely to be more than $10,000.

21.9.1 Inspections

Site inspections would be conducted on a regular basis to verify that management commitments and mitigation actions are being implemented, and to evaluate environmental performance of the Project. Site inspections would include but not be limited to:

- Regular inspections to review the actual area of vegetation cleared against the area approved to be cleared.
- Visual inspections around stockpiles and areas of ground disturbance and vegetation clearing to detect erosion and any new weed infestations including pests, pathogens and feral animals.
- Routine inspections of on-site water management infrastructure systems to determine maintenance requirements, so that they remain effective.
- Inspection of mining areas and surrounds for evidence of slope instability, ground subsidence or deformation following an earthquake event.
- Inspection for leaks and spills as part of regular maintenance of mobile plant and vehicles in accordance with manufacturers specifications.

21.9.2 Non-conformance and corrective actions

Incidents would be recorded by the person who causes, or identifies, the incident as soon as practicable. Incidents and 'near misses' would be investigated and appropriate measures implemented to prevent reoccurrence. Where applicable, environmental incidents reoccurrence will be reported to the relevant government agency. VHM will be responsible for determining the cause of the incident and implementation of appropriate remedial and/or preventative actions.

In the event of an incident, or if inspections or monitoring results indicate that performance requirements are not being achieved, corrective actions would be enacted and may include any or all of the following:

- Immediately stop work where required.
- Complete incident report and investigations.
- Report to regulatory authorities as required (with notice of proposed corrective actions where relevant).
- Investigate cause of exceedance or issue, including review of relevant monitoring data and effectiveness of implemented corrective actions (if any).
- Implement corrective actions as appropriate to prevent recurrence.
- Undertake maintenance as required.
- Notify regulatory authorities and community of corrective actions implemented and outcome, as applicable.

VHM is required to clean up any spill or correct any environmental impact as soon as practicable, to restore the affected area to the state it was before the incident occurred.

VHM will be responsible for investigating non-conformances with environmental procedures and will be responsible for reporting environmental incidents to the appropriate regulator(s). The actions required for initiating and completing corrective and preventative actions would be established in the relevant management plans and sub-plans. Corrective actions to prevent reoccurrence of an incident, reduce risk and improve the effectiveness of environmental procedure would be recorded in a register and reported to community, as applicable. Corrective actions may result from:

- Continuous improvement initiatives.
- Management compliance audits.
- Environmental audit non-conformances and observations.
- Incident investigations.
- Near-miss incidents.
- Breaches of the compliance schedule.
- Information distributed at meetings.
- Results of regulatory audits.
- Hazard identification.

Monitoring results would be reviewed at an appropriate temporal scale and collated at least monthly by VHM as per existing site procedures. This would enable early detection of potential non-conformances associated with environmental management. This regular internal review of monitoring results informs an adaptive management approach to help identify whether corrective actions are required. This may include additional or modified monitoring activities to address environmental risks.

21.9.3 Auditing

Auditing would be completed in accordance with the EMP, TMP, REMP, Development licence and any specific auditing requirements included in this EMF.

VHM will establish an audit process. An audit schedule would be developed for each calendar year, prioritising areas of highest environmental risk.

Internal audits would be scheduled upon appointment of Project Auditor during construction to ensure works are complying with the relevant management plans. The audit would also review site material, assess the knowledge of staff undertaking work and review the construction phase weekly checklists. The first internal audit would be scheduled within 6 months of the start of a new phase of construction.

A suitably qualified and independent professional (Project Auditor) would conduct audits to monitor compliance with the mitigation measures, management system obligations, statutory approvals conditions and relevant legislation and guidelines throughout all phases of the Project. Specific details of the audit schedule would be included in the relevant project management plans. Audit regimes would be informed by the regulatory approval requirements applying to the Project. Audits would assess:

- Compliance with all relevant mitigation measures contained in management plans.
- Compliance with statutory approvals conditions issued for the Project.
- Conformance with any other relevant environmental management documentation.
- Responses to non-conformances, complaints, and incidents.
- Compliance with safety requirements.
- Implementation of monitoring programs.

21.9.4 Environmental Reporting

VHM will be responsible for reporting compliance with mitigation measures and statutory approvals conditions to regulators. Reporting and external notification requirements would be outlined in detail within the relevant management plans, including which matters require reporting, to which party and the timeframe within which the reporting should occur. Reporting would depend upon the terms of the statutory approvals but may include but not be limited to:

- Monitoring results.
- Compliance with requirements.
- Non-conformances and corrective actions.
- Stakeholder engagement including complaints
- Notifications if a potential Aboriginal site or heritage artefact is discovered.
- Incident notifications.

21.9.5 Mandatory ERR Reporting

All Reportable incidents, as defined by the Earth Resources Regulation Guidance Note on Reportable Events for Mineral and Extractive Operations, and subsequent investigations are reported to the appropriate regulators at the time of the incident. All reportable incidents, subsequent investigations and outlier results (for example, water quality results outside of historical results for that monitoring point) are reported in the Operations Monthly report that is distributed within VHM.

The monthly data will be compiled into the Environment Report prior to distribution to the appropriate regulators (EPA, and Goulburn Murray Water). The report is then reviewed by the regulators, Council representatives, community representatives and VHM personnel at the quarterly company ERC meetings.

21.9.6 Record control

Records of compliance and inspection forms will be maintained digitally, with observations recorded spatially where relevant. Project activities would be also incorporated into the site's existing auding, reporting and recording procedures.

21.10 Community Engagement Plan and complaints management

VHM is committed to maintaining open communication with community members and other stakeholders and to providing up to date and transparent information on the Project. Community engagement during the construction, operations and closure (including rehabilitation and post-closure) phases of the project would be conducted in accordance with the Community Engagement Plan (CEP) as outlined in EES Attachment I: Draft Work Plan. The CEP would ensure that relevant stakeholders have been consulted regarding the mining program, and potential issues raised by stakeholders are identified at an early stage. VHM is committed to establishing long-term stakeholder and community relationships. VHM values input from the community and is keen to identify and address any concerns a member of the public may have regarding the implementation of the Goschen Project.

Throughout the Project, engagement monitoring would be carried out to ensure that engagement activities are meeting the goals of this plan. Engagement outcomes monitoring would include the establishment of performance measures. Monitoring would include:

- Regular review of the engagement log to ensure stakeholders are being provided with appropriate and timely responses.
- Stakeholder surveys and feedback on effectiveness and timeliness of engagement activities.
- Community surveys to gauge awareness of the Project, community issues and the suitability of consultation methods and information publicly provided.

As a significant partner within the regional community, VHM recognises the potential to support, enable or generate diverse and sustainable opportunities across the community including business development, skills development, direct and indirect employment, contracting, and the supply of goods, materials, and services. VHM would:

- Invite local/regional businesses to tender and ensure equal opportunity for participation in our business under consistent terms, standards, and conditions for all tenderers.
- Work with local government, industry advocates (ICN) and businesses to provide commercial or other feedback to assist the development of local businesses.
- Provide transparent information to local businesses as early as possible about potential procurement, supply or service opportunities, and tendering requirements.
- Promote and support opportunities for the participation of indigenous workers, indigenous businesses, and indigenous community groups.
- Consider the capability of local businesses in the development of procurement strategies and contract work scopes to identify and support opportunities to increase local content.
- Give preference to tenderers who are able to demonstrate the capacity to develop local capability and increase local content in labour or materials, where comparative bids may be determined as acceptable based on safety, commercial, and technical requirements.

Any community concerns or complaints are currently responded to according to the VHM Community Engagement Plan (CEP). VHM would implement a complaint management process, which includes the following:

- Provision of a visible and user-friendly system for providing feedback.
- Information on how and where to provide feedback would be published on the VHM website and discussed during community engagement activities.
- Detailed feedback register.
- Clear accountabilities and procedures for staff to investigate and respond to community feedback.
- Commitment to respond promptly, fairly and confidentially to feedback received. VHM will aim to target a response timeframe of less than 48 hours.
- An internal monitoring and auditing system to ensure effectiveness of the complaint management process, and to identify recurrent themes and appropriate management responses.

VHM undertakes direct contact with the complainant to determine the nature and extent of any impact. All complaints are recorded into the company communication database and reported to the appropriate regulator(s) and community at the time of the incident. VHM continues to liaise with the complainant to assist in alleviating any concerns or potential ongoing issues.

The Project would also provide a dedicated 24-hour a day, 7 day a week 1800 free call number and target a 48hr response.

21.11 Competence, training and awareness

All personnel, including VHM employees and contractors, would be required to complete induction training prior to commencing work on the Mine site, including detailed training on any specific mitigation measures.

Specific management sub-plans may include requirements for further induction/training. The site-specific induction would include information on potential environmental impacts and hazards, and the monitoring activities employees may be required to undertake. Proof of induction completion would be recorded, and such records maintained throughout the project life.

21.11.1 Toolbox meetings

There will be a requirement for 'Tool-box' meetings to be conducted at the start of each shift to provide up to date information to personnel including any environmental issues, environmental awareness topics or complaints encountered during the previous shift.

21.11.2 Operator Training

VHM will ensure all operators of all machinery/equipment are appropriately trained and certified/competent to use the particular piece of machinery and are informed of the location and protection requirements for any environmentally or heritage significant sites located in the vicinity of their work area.

VHM will ensure training for relevant personnel in statutory requirements and procedures for the safe handling, transport, storage and disposal of hazardous materials and follow through and ensure contractors implement appropriate procedures for the safe handling, transport, storage and disposal of hazardous materials.

Personnel would also be trained in spill prevention and response procedures, and contractors would be trained to ensure they understand appropriate spill prevention and response procedures.

21.11.3 Environmental Monitoring Training

Personnel required to undertake monitoring of rehabilitation or vegetation would be provided with appropriate training from a person experienced in identifying flora and rehabilitation/vegetation monitoring methodologies.