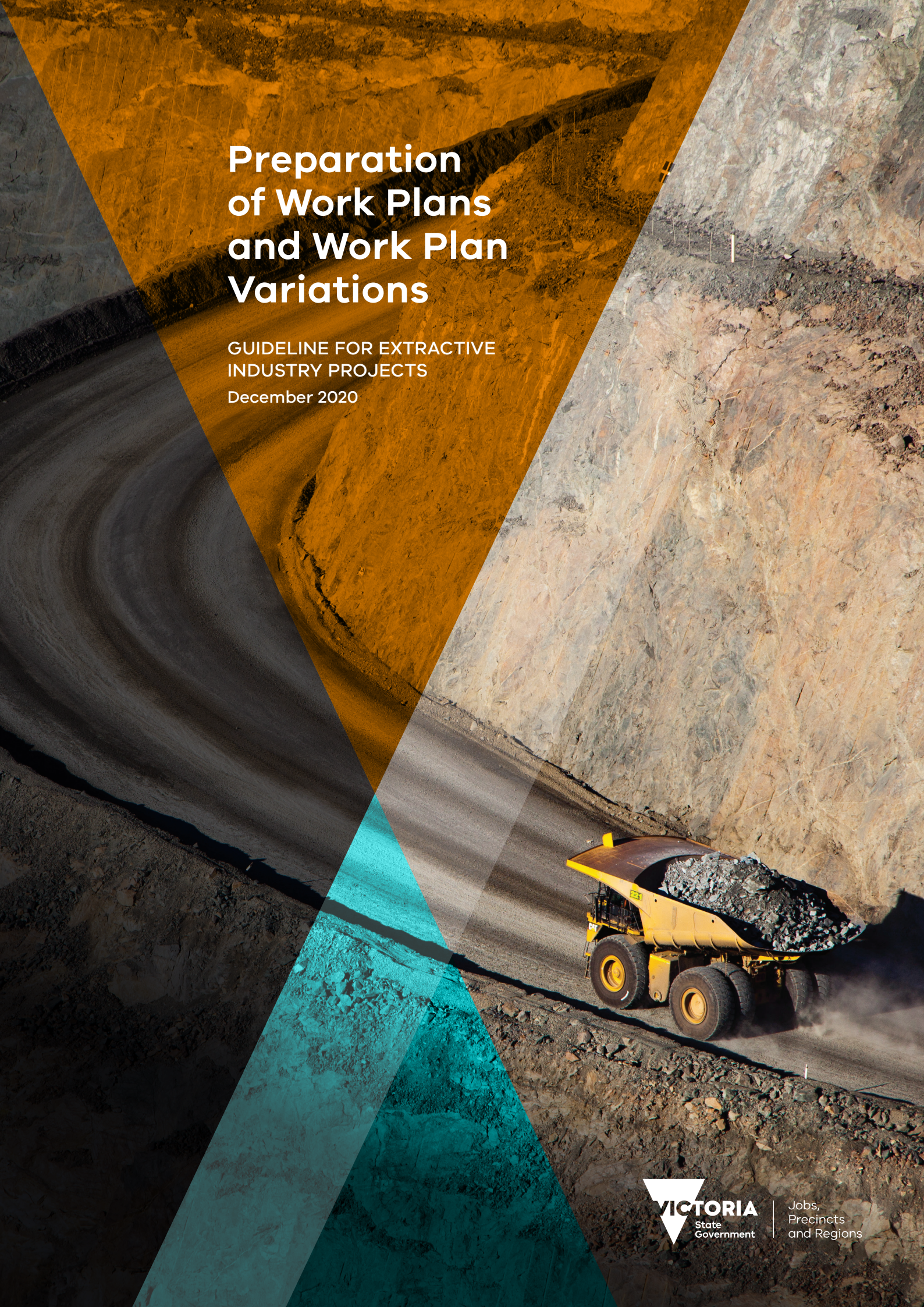
Preparation of Work Plans and Work Plan Variations

GUIDELINE FOR EXTRACTIVE INDUSTRY PROJECTS

December 2020



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Department of Jobs, Precincts and Regions
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Telephone 1300 366 356

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Note:

Feedback or suggestions to improve this guideline may be emailed to Workplan.Approvals@ecodev.vic.gov.au.

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Definitions

Term	Definition
As far as reasonably practicable	'As far as reasonably practicable' under section 77G(3)(c) of the MRSDA and Regulation 10 of the Regulations is based on the approach of precaution-based risk analysis under the Occupational Health and Safety Act 2004. Under section 20(2) of the Occupational Health and Safety Act 2004, reasonably practicable means: that which is, or was at a particular time, reasonably able to be done to ensure health and safety, taking into account and weighing up all relevant matters including: a. the likelihood of the hazard or the risk concerned eventuating b. the degree of harm that would result if the hazard or risk eventuated c. what the person concerned knows, or ought reasonably to know, about the hazard or risk, and any ways of eliminating or reducing the hazard or risk d. the availability and suitability of ways to eliminate or reduce the hazard or risk e. the cost of eliminating or reducing the hazard or risk.
Closure	A life-of-operation process which ultimately can culminate in relinquishment. It broadly includes planning, decommissioning, rehabilitation, monitoring and maintenance.
Community	A broad term used to define groups of people, whether they are stakeholders, interest groups or citizen groups. The community may surround a geographic location (community of place), be a community of similar interest (community of practice) or have a special interest or legal interest in the land (community of standing).
Control measure	A specific measure taken with the objective to reduce either the likelihood of the risk occurring and /or the impact if the risk were to occur.
DJPR	Department of Jobs, Precincts and Regions
Disturbed area	The area or extent of unrehabilitated land within the work authority that has been altered by operations and which has not yet been rehabilitated. The disturbed area will vary with time. The current disturbed area is that which currently exists. The end of quarry life disturbed footprint is the estimated area of disturbance that will exist at the cessation of operations.
ERR	Earth Resources Regulation, the principal regulator of mines and quarries in Victoria.
Existing use rights	Existing use occurs when land is being used in a legal way without a planning permit. This is usually when an activity has been undertaken at a site for more than 15 years without formal planning permission.
Minister	Victorian Minister for Resources
MRSDA	*Mineral Resources (Sustainable Development) Act 1990*
Non-statutory process	Process that Earth Resources Regulation requires that is not prescribed in the MRSDA.
Performance standards	An agreed level of performance against which the success or failure of a control measure can be assessed.
Quarry	As per the definition in the *Mineral Resources (Sustainable Development) Act 1990*.
Quarrying hazard	Any quarrying activity and circumstance that may pose a risk to the environment, to any member of the public or to land, property or infrastructure in the vicinity of work carried out at a quarry.
Quarry life	The point at which production is proposed to cease under the work plan.
Referral authority	A person or body that has been specified in a planning scheme under the *Planning and Environment Act 1987* as a referral authority under that Act.

Term	Definition
Referral agency	A person or body that has been identified as the lead expert agency in relation to legislation, policy and guidelines prescribing requirements necessitating authorisation and approval.
Regulations	Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019
Rehabilitation	The return of disturbed land to a safe, stable and sustainable condition capable of supporting the agreed end use. It broadly involves landform design, construction and shaping; materials characterisation, handling and placement; surface water management and revegetation.
Rehabilitation hazard	Any rehabilitation activity and circumstance that may pose a risk to the environment, to any member of the public, or to land, property or infrastructure in the vicinity of the rehabilitation activity. This is different to a post-rehabilitation risk which is an assessment of the risk posed by the rehabilitated landscape after rehabilitation is complete and the rehabilitation objectives met.
Risk Management Plan	Regulation 7(c) of the Regulations states that a risk management plan is required in a work plan for a quarry. The risk management plan consists of a risk treatment plan for each quarrying or rehabilitation hazard that can be identified and a risk register.
Risk Register	A risk register is a summary table of the risks identified for the hazards and includes the inherent and residual risk ratings. It is a component of the risk management plan.
Risk Treatment Plan	A risk treatment plan addresses the risks associated with one of the quarrying or rehabilitation hazards identified. It specifies: a. the control measures to eliminate or minimise, as far as reasonably practicable, the identified risks associated with the particular hazard b. the objectives, performance standards or acceptance criteria for those control measures c. the management systems, practices and procedures that will be applied to monitor and manage risks and compliance with performance standards.
RRAM	Resource Rights Allocation and Management business portal is the ERR online software application used for the management of tenements and work plans. Registered subscribers can use RRAM to apply for a work authority, submit a work plan or report, track an application status and pay fees.
Secondary Consent	Secondary consent allows for an expeditious means of dealing with changes to Planning Permits, but the extent of changes which can be sought are limited and third parties are prevented in becoming involved in the process. Councils generally only allow a permit holder to use this option for minor changes to the Planning Permit. Secondary consent is made available under the wording of a permit which has already been granted and is permissible under permit conditions.
Sensitive receptor	For the purposes of a work plan the sensitive receptors are described in relation to the environment, any member of the public, or land, property or infrastructure in the vicinity of the proposed work.
Statutory process	Process that is required for the endorsement of a work plan or a variation to an approved work plan under section 77TD of the MRSDA.

Term	Definition
Stone	• Sandstone, freestone or other building stone; or • basalt, granite, limestone or rock of any kind ordinarily used for building, manufacturing or construction purposes; or • quartz (other than quartz crystals); or • slate or gravel; or • clay (other than fine clay, bentonite or kaolin); or • peat; or • sand, earth or soil; or • other similar materials.
Work	Any activity that is connected to or is incidental to the quarry activities permitted under the approved work authority and approved work plan.
Work authority	A work authority relating to an extractive industry granted under section 77I of the MRSDA.
Work plan	The work plan is the primary document describing the permitted activities to be undertaken on a work authority. It is intended to provide guidance to operations staff at the quarry as well as informing other readers such as Council or Government officers in order to facilitate decisions, approvals, compliance, and enforcement functions. It must be clear, concise and contain sufficient detail to enable a reader to understand the activities proposed to be undertaken at the site, their potential risks and impacts, and the control or management actions required. For further information relating to a work plan refer to section 40 of the MRSDA.

1. Background

1.1 What is extractive industry?

Extractive industry is the extraction or removal of stone from land for sale or commercial use in construction, building, road or manufacturing works.

1.2 What do I need to develop an extractive industry project?

Before land can be developed for extractive industry, in most cases:

- a **work plan** must be **statutorily endorsed** under the *Mineral Resources (Sustainable Development) Act 1990* (**MRSDA**);
- a planning permit must be issued under the *Planning and Environment Act 1987*; and
- the final work plan must be approved, and a **work authority** granted, under the **MRSDA**.

Exceptions to these requirements are explained in **Section 2** of this guideline.

Statutory endorsement and approval of work plans and work plan variations under the MRSDA are administered by Earth Resources Regulation **(ERR)** within the Department of Jobs, Precincts and Regions **(DJPR)**. Further information about ERR, work plans, work authorities and other related matters is available on the ERR website at earthresources.vic.gov.au/legislation-and-regulations.

1.3 How to use this guideline

The purpose of this guideline is to provide guidance on the preparation of work plans, work plan variations, and work plan administrative updates for extractive industry projects, to meet Victorian regulatory requirements.

Figure 1 provides a flow chart to determine what type of application is appropriate, and where to find the relevant information in this guideline.

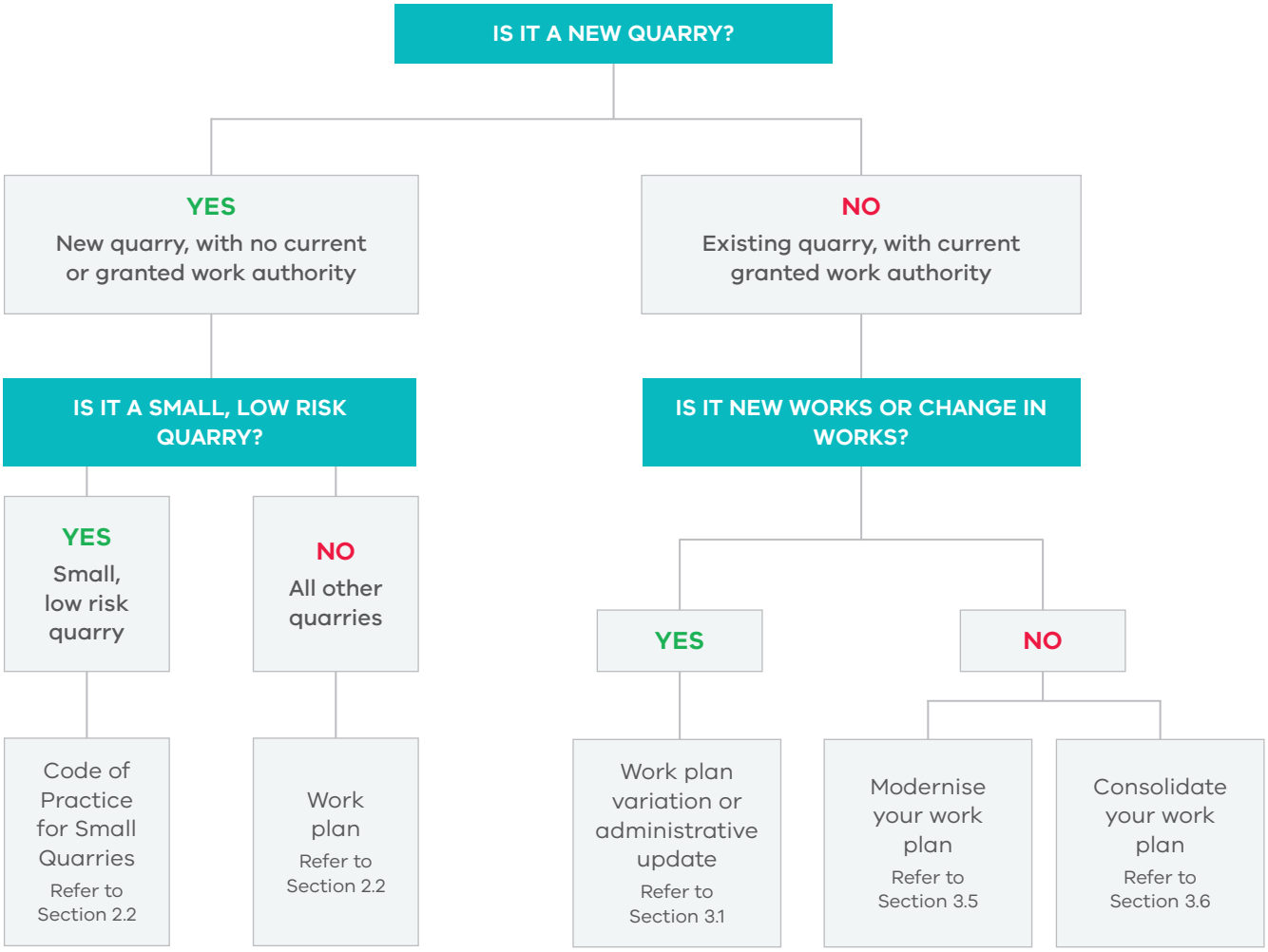
The scope of this guideline does **not** include:

- requirements for declared quarries
- assessment of proposed changes to the boundary of an approved work authority and
- preparation and assessment of rehabilitation bonds

If you are looking for assistance in these matters, please contact the ERR Assessments Team. Up-to-date contact details can be found at earthresources.vic.gov.au/about-us/contact-us.

If you are looking for guidance on the preparation of mining or exploration work plans, please visit earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice.

Figure 1: Flow chart to determine your application type and the relevant section of this guideline



2. Work plan for new extractive industry operation

2.1 What is a work plan?

A work plan is a document that needs to:

- describe the nature and scale of the proposed extractive industry activities
- identify and assess all risks the works may pose to the environment, to any member of the public, or to nearby land, property or infrastructure (known as a 'quarrying hazard')
- identify and assess all risks the rehabilitation works may pose to the environment, to any member of the public or to land, property or infrastructure in the vicinity of the rehabilitation activity (known as a 'rehabilitation hazard')
- include a risk management plan that specifies the control measures the work authority holder will use to eliminate or minimise all identified risks and monitoring to demonstrate compliance with performance standards
- include a community engagement plan
- include a rehabilitation plan.

Section 2.4 of this guideline provides further detail on the content of a work plan.

2.2 When is a work plan required?

Typically, any person who proposes to carry out an extractive industry must have an approved work plan.

However, certain types of low risk extractive operations or activities may be exempt from the requirement to prepare a work plan, these include:

- extractive industry exempted under section 5AA of the MRSDA
- extractive industry that meet the criteria for a Code of Practice for Small Quarries under section 77G(2) of the MRSDA:
  - is on land that has an area not exceeding 5 hectares and a depth not exceeding 5 metres; and
  - does not require blasting or the clearing of native vegetation

If you believe that your proposed extractive industry operation qualifies under the above listed exemptions, you must contact ERR to confirm that you qualify. An initial proposal detailing the works you are proposing is required, and depending on the nature of your proposal, an initial site meeting may be required.

If ERR is satisfied that the work proposed does not trigger the need for a work plan, ERR will acknowledge in writing that you are either exempt under section 5AA or section 77G(2) of the MRSDA.

Note: The above exemptions only relate to the requirement to prepare a work plan, and you will still need to comply with all other parts of the **MRSDA** and other relevant legislation, including requirement for a planning permission under the *Planning and Environment Act 1987*, before you can commence works.

2.3 Process for submitting a work plan

All new work plans require a planning permit unless the proposed work has been subject to an Environment Effects Statement or Existing Use Rights are in effect.

Proposed work that has been subject to an Environment Effects Statement (**EES**) under the *Environment Effects Act 1978* does not require a planning permit. Use this guideline in preparing an application for work plan as an outcome of an EES. You should contact ERR for advice on the approval process for work plans following an EES.

2.3.1 Summary of work plan process

CONTACT ERR	Contact ERR and outline the nature of your extractives project. ERR will outline the process and send you an Initial Proposal Information request.
SUBMIT INITIAL PROPOSAL	ERR will determine which agencies and referral authorities should attend the site meeting and you arrange the site meeting. Ensure all those invited are provided relevant information prior to meeting. Conduct site meeting and ensure all those invited are able to gain an understanding of the project in the site context. Record key points and circulate to all parties after the meeting. Refer to section 2.3.5 for detailed information about site meetings
SITE MEETING	Provide ERR the information requested. Refer to section 2.3.4 for detailed information about initial proposal.
ENGAGE RELEVANT AGENCIES	Engage with relevant referral authorities, agencies and/or council as required to ensure your work plan meets their requirements. Refer to section 2.3.6 for detailed information about engaging relevant agencies.
SUBMIT WORK PLAN APPLICATION	Submit your work plan to ERR via RRAM. Documentation requirements are outlined below in section 2.4.
ERR ASSESSMENT	ERR will complete an assessment of the work plan to determine that all major components of a work plan are included and may request changes if required.
ERR REFER TO OTHER AGENCIES	ERR will refer the work plan to statutory referral authorities and other relevant agencies. Statutory referral authorities have 30 days to provide any comments. Refer to section 4 for the assessment process.
ERR STATUTORY ENDORSEMENT*	ERR will formally assess the work plan. Timeframe for ERR assessment is 28 days. • If planning permission is required, statutory endorsement is needed. • If planning permission is not required, ERR will assess for approval.
OBTAIN PLANNING PERMISSION*	If statutory endorsement is received from ERR, contact the relevant council to obtain planning permission. If planning permission obtained, re-submit your work plan application to ERR for approval.
ERR APPROVAL	If approved, ERR will provide a letter setting out advice of approval and next steps, along with a statement of reasons, conditions and work plan.

**If further planning permission required*

2.3.2 Summary of pre-submission steps

These steps are recommended (only) to avoid unnecessary delays or refusal due to misunderstanding of ERR, council or referral authority requirements by ensuring all required information is addressed in a work plan application.

The MRSDA does not allow referral agencies to request changes to a work plan once it has been referred. Referral agencies can only apply conditions, object or not object to endorsement of the application. If a referral agency objects, the application must be refused.

The work plan pre-submission steps aim to equip you with all the information needed to prepare an application that meets requirements under the statutory or non-statutory pathways.

Figure 2: Recommended pre-submission steps

CONTACT ERR	• Contact ERR and outline the nature of your extractive industries project. • ERR will outline the process and send you an *Initial Proposal Information* request.
SUBMIT INITIAL PROPOSAL	• Provide ERR the information requested (refer to Section 2.3.4).
ARRANGE SITE MEETING	• ERR determines which agencies and referral authorities should attend the site meeting and then you arrange the meeting. • Ensure all those invited are provided relevant information prior to meeting.
CONDUCT SITE MEETING	• Conduct initial site meeting and ensure all those invited are able to gain an understanding of the project in the site context (refer to Section 2.3.5). • Record key points raised and circulate to all parties after the meeting.
ENGAGE RELEVANT AGENCIES	• Engage with relevant referral authorities, agencies and/or council as required to ensure your work plan meets their requirements. • Obtain advice from council regarding requirement for further planning permission.
SUBMIT WORK PLAN	• Submit your work plan to ERR via RRAM

2.3.3 Contact Earth Resources Regulation

Before submitting any documentation, you should contact ERR Assessments to briefly outline the nature of your proposed project. A list of ERR contacts is available at earthresources.vic.gov.au/about-us/contact-us.

ERR will email you relevant information, such as:

- Initial Proposal Information to Commence the Work Plan Process
- copy of this Preparation of Work Plans and Work Plan Variations guideline
- copy of Code of Practice for Small Quarries/Low Risk Mines
- risk register and risk treatment plan templates
- a community engagement plan template and guidance.

2.3.4 Submit initial proposal

You should return the completed initial proposal to ERR by email to Workplan.Approvals@ecodev.vic.gov.au prior to organising the initial site meeting (refer to Section 2.3.5).

When ERR receives the initial proposal an Assessments Officer will be nominated as your primary contact.

The initial proposal information to be submitted may include the following:

Description of the operation

For a new application: a brief description of the proposed operation and its location (including formal address).

The following (where relevant) may be included as part of the description of operations:

- Maximum depth of works
- For pits, include the batter and bench profile detail
- Method of processing
- Annual production estimate (tonnes)
- Containment dams (water/slimes)
- Predicted offsite discharges
- Impact to native vegetation
- Presence of waterways and potential waterway interception
- Groundwater interception
- Blasting

The initial proposal should be a summary of the available information relevant to the proposal. Site investigations specific to the proposal are not a requirement.

Planning

- Planning Property Report – current report for all the properties included in the application/tenement area. All pages of the report must be included. Planning Property Reports can be obtained, free of charge, from www.delwp.vic.gov.au/maps.
- Land Title Documentation – current register statement for the Certificates of Title, with copies of plans, for all titles to be included in the application/tenement area. Most register statements do not include a map, so this may also be obtained. In addition, a confirmation of any depth limitation on the title(s) is required. The land title documentation can be obtained, for a fee, from www.landata.vic.gov.au/

Maps

The applicant may need to provide a map(s) with scale and key showing the location of the following, where applicable:

- the work authority boundary. For a new work plan, the map must also include GDA94 coordinates (easting and northing) for each corner defining the work authority area
- vegetated buffer zones
- the extent of the activity footprint (i.e. the extraction area or the extent of quarrying operations)
- the nearest sensitive offsite receptors
- any relevant landform feature (e.g. river) and/or infrastructure (e.g. high voltage power line, road or freeway).

In addition to information required by the planning scheme and the general requirements for submitting an application, an application may also be accompanied by a site context plan showing the following information (as relevant):

- site shape, dimensions and size, easements, orientation and slope
- abutting and nearest intersecting roads
- natural and physical features of the site including waterways, drainage lines, areas subject to flooding, wetlands and wildlife corridors, boundaries and easements
- significant views to the site from major roads
- existing land uses the siting and use of existing buildings on adjacent and surrounding
- any other notable features or characteristics of the site and surrounds.

2.3.5 Arrange and conduct site meeting

Aims and objectives

An initial site meeting is considered the most effective way to progress your proposal. The objective of the site meeting is to discuss issues and requirements with the relevant agencies, to help you draft your work plan to successfully gain any required approvals and/or permits.

The initial site meeting aims to bring you together with all the relevant agencies whose areas of responsibility are potentially affected by your proposal, council and ERR staff based on your initial proposal information provided. The agencies fall into two groups:

- Statutory referral authorities[1] with the exception of VicRoads in relation to traffic matters.
- Other relevant non-statutory referral agencies[2] that ERR considers necessary to aid in making its decision.

The purpose of the initial site meeting is to provide an opportunity for the relevant agencies to understand the potential impacts of your proposal on their area of responsibility, and for you to understand the requirements of each agency and council so that you can address these issues during development of your work plan documentation.

Each agency will be invited to point out their requirements regarding the proposed activity (as required by relevant legislation, guidelines or policies). The meeting is often the starting point for ongoing discussions with you and further advice may be provided at a later date. After the meeting, the council must advise you in writing if any planning permission is required, which in turn determines the legislative pathway followed by ERR.

The council needs to make an informed decision on the need, or otherwise, for a planning permit. This decision needs to be made before a work plan is submitted.

If council determines that a planning permit is required for your proposal, the work plan submission will ultimately be referred to referral authorities[3]. Referral authorities may respond in one of three ways:

- they do not object
- they do not object subject to conditions or
- they object.

Note: The Department must not make a decision on the work plan that is inconsistent with advice from a referral authority. As such the work plan must be refused if a referral authority objects.

There is no option for referral authorities to require further changes to a work plan after it is referred. Therefore, it is very important that your work plan addresses all the material concerns of the referral authorities before it is referred to them. This makes the discussions at the initial site meeting very important for the ultimate approval of the work plan.

If *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) listed species are involved, an off-set plan should be discussed with the relevant referral authorities, this may include the Commonwealth and State Authorities.

You are strongly encouraged to undertake an initial site meeting, otherwise you may risk refusal of your work plan due to the objection of a referral authority.

Types of site meetings

Site meetings can be held at the proposed site or virtually, using photos and videos of the site and video conferencing software. In some cases, an initial virtual site meeting may be held which is followed by a visit to the site by one or more regulators to substantiate or collect further information.

ERR will be able to advise the type of site meeting that will be most appropriate. Virtual site meetings can be easier to schedule but may limit the advice that agencies can provide and the observation of important issues (i.e. native vegetation).

Attendance at the initial site meeting

The appointed Assessments Officer will review your initial proposal and provide you with an *Agency Consultation Checklist* with the contact details for all the relevant referral agencies/authorities. The purpose of this checklist is to identify which parties you should invite to an initial site meeting to discuss the proposal.

This process also applies for applications not requiring statutory endorsement, which ERR will refer to relevant agencies for consideration prior to making a decision.

In addition to providing the *Agency Consultation Checklist*, ERR will:

- provide details of ERR staff that are recommended to attend the initial site meeting. Including representatives from:
  - the Assessments Team (who will be overseeing the application)
  - the Compliance Team

1 As referred to under Part 6B of the MRSDA and required under the *Planning and Environment Act 1987*

2 As required under **section 77I(3)(d)** for comment only.

3 Under the *Planning and Environment Act 1987*, as required under **Part 6B** of the MRSDA.

  - Stakeholder Engagement Team, depending on the proposal
  - the Technical Services Team, depending on the issues and complexity of the proposal and
- suggest possible dates for the meeting to be held given ERR staff availability.

Preparing for the initial site meeting

It is your responsibility to organise and conduct the initial site meeting. ERR generally recommends that the meeting is arranged about four weeks in advance to ensure that the various representatives are available.

You should provide the following information to ERR, council, the referral authorities and other agencies prior to the initial site meeting:

- details of the meeting time and place (or conferencing software link if virtual site meeting)
- land tenure/status/allotment number
- plan of extraction or disturbed area
- commodity/resource type
- size/depth/predicted life of proposed activity
- estimated total resource
- brief description of the proposed activity (e.g. pit layout and access, blasting, dams, slimes storage facilities, hazardous waste, native vegetation, etc.)
- an initial site meeting agenda – an example is provided in **Appendix D3**.
- expected hours of operation.

A list of the potential questions that may be discussed at the initial site meeting is provided in **Appendix D4**.

Documentation of initial site meeting outcomes

You should record key outcomes of the initial site meeting and circulate them to all invitees.

The record should include:

- a list of attendees (and those who were an apology)
- a brief summary of the project as described during meeting
- key discussion points and/or issues raised (by each agency)
- key actions and next steps.

2.3.6 Engage with relevant agencies and regulators

Early engagement with ERR, relevant referral authorities, other agencies and council is key to the efficient assessment of your proposal.

At the initial site meeting you should initiate discussions with these stakeholders to clarify their requirements and resolve any potential issues. You should notify your nominated ERR Assessments Officer if any agencies provide further advice regarding their requirements for a work plan after the meeting.

You may be required to undertake additional work (e.g. surveys, investigations, or assessments) as a result of comments provided during the meeting. You are responsible for consulting with the relevant stakeholders to ensure that your additional work meets their specific requirements.

ERR recommends that your work plan is submitted within 12 months of the initial site meeting. Any longer and another site meeting is likely to be required to capture current information.

While preparing your work plan, you should progress applications for any other licences or approvals required prior to seeking approval or statutory endorsement under the MRSDA from ERR.

2.4 What needs to be in a work plan

2.4.1 Work plan objectives

Submission of a work plan serves two objectives:

1. **Assessment:** It enables ERR to assess whether your work plan should be approved and, if so, any conditions that need to be applied.
2. **Compliance:** It sets out the scope of the approved works and any requirements that you must meet, including monitoring obligations. It is important that these requirements are clearly described in your work plan, as any ambiguity could result in you inadvertently breaching the MRSDA.

To achieve these objectives, all work plans must include the following key components.

Table 1: Key components of a work plan

Component	Work plans
Description of the project	A description of all elements of the quarry and its setting within the landscape. A description of the nature and scale of the proposed extractive industry activities.
Quarrying hazards	Identification and assessment of all risks the quarrying activity and circumstance may pose to the environment, to the public, or to nearby land, property or infrastructure.
Rehabilitation hazards	Identification and assessment of all risks the rehabilitation activity and circumstance may pose to the environment, to the public or to nearby land, property or infrastructure
Risk management plan	A risk management plan for the entire quarry during construction, operation and rehabilitation. It needs to specify the control measures the proponent will use to eliminate or reduce as far as reasonably practicable identified risks and monitoring to demonstrate compliance with performance standards. This should include a risk register and a risk treatment plan for each quarrying and/or rehabilitation hazard identified.
Community engagement plan	A community engagement plan is a document that clearly identifies relevant communities, describes how, when and what engagement will occur with those communities during all stages of a proposed operation.
Rehabilitation plan	A plan for rehabilitation that covers the entire work authority.

The information that you need to provide to ERR to meet these requirements is outlined in the following sections.

2.4.2 A description of the project

The aim of the project description is to define the nature and scale of the proposed extractive industry activities in sufficient detail to:

- set the scope of the proposed works
- enable assessment and management of any quarrying or rehabilitation hazard(s).

The project description must include:

- quarry setting or location of works within the work authority boundary
- location of sensitive receptors
- nature of the proposed extractive industry works
- nature of any auxiliary works (e.g. dewatering bores, water treatment plant).

Guidance on how to describe these aspects to comply with Regulation 7 and 8 of the Regulations is provided at **Appendix D1**.

2.4.3 Risks from proposed works

Assessing and controlling risk in a structured way will help you prevent harm to sensitive receptors (the environment, to any member of the public or to land, property or infrastructure). It will also help you comply with your legal obligations and meet community expectations.

Your work plan must identify and assess all risks the proposed extractive or rehabilitation activities may pose to sensitive receptors.

The identified risk(s) must be eliminated or minimised as far as reasonably practicable.

This section provides guidance on the identification, assessment and control of risks associated with proposed extractive industry works.

If the required information is not included, ERR may request changes to your work plan, or refuse it. You must address all the matters identified in the change request, by providing further information, to enable an efficient assessment process.

Figure 3: Summary of the risk assessment process for work plans

Identify hazards and sensitive receptors	Identify all possible quarrying and rehabilitation hazards associated with the project. Identify the sensitive receptors.
Assess inherent risks	For each hazard, list all possible risks. For each risk assess the likelihood and consequence to assign an inherent risk rating.
Develop risk control measures	Identify control measures to eliminate or reduce each risk as far as reasonably practicable. A list of example control measures for each hazard is provided at Appendix C.
Assess residual risks	After applying control measures to mitigate the identified risks, re-assign the likelihood and consequence to determine a residual risk rating.
Prepare risk management plan	Prepare a risk management plan which contains at a minimum: a) risk register; b) risk treatment plan(s). Example templates are provided at Appendix B.

2.4.4 Identifying hazards and sensitive receptors

You must first identify the quarrying and rehabilitation hazards relevant to the proposed activities in accordance with Regulation 9(a) & (b).

Hazards must be identified for each phase of the proposed work, including the construction, operations/production and rehabilitation. Rehabilitation hazards should consider aspects relating to the execution and completion of rehabilitation work.

Then consider how these hazards may harm or damage sensitive receptors (the environment, any member of the public, land, property or infrastructure).

For example, dust may be identified as a hazard and there may be one or many risks associated with dust. A risk associated with the dust hazard could be "unacceptable dust emissions generated at the work authority boundary".

Sensitive receptors may be located either inside (e.g. heritage, artefact) or outside (e.g. waterways, public roads, fauna) the work authority boundary.

The pathway from the source of the risk to the sensitive receptor must be clearly shown. Evidence to support the assessment of the potential harm or damage must also be included. The evidence required will be proportional to the risk. This may range from expert reports and modelling of hazards where there is high risk to nearby residents to maps, photos and observations for low risks.

2.4.5 Assess inherent risks

For each relevant quarrying or rehabilitation hazard, risks to sensitive receptors should be identified and described. Risk is the possibility of harm or damage that could happen during operation or as a result of an event. The level of risk is influenced by two factors, consequence and likelihood.

Inherent risks should be based on the project description in your work plan and should be assessed on the basis that there are no control measures in place.

Consequence

Consequence is the severity of harm the risk could cause if it occurs.

When determining the consequence of a risk, consider the potential impacts to:

- members of the public (public health, safety, amenity and Aboriginal heritage)
- land, property and infrastructure (neighbouring property, land use and nearby infrastructure such as highways, transmission lines, pipelines, schools and hospitals)
- environment (air, water, soil, vegetation, and flora and fauna species).

The descriptions of the consequence criteria that ERR uses to assess the harm caused by a risk are provided in **Appendix A1**.

Likelihood

Likelihood is how likely it is that the risk will occur. Likelihood is based on what is known about the risk and the way circumstances and activities affect the risk.

The descriptions of the likelihood criteria that ERR uses to assess the likelihood of a risk occurring are provided in **Appendix A2**.

Risk Rating

The consequence and likelihood are used together to determine the risk rating. The purpose of rating risk is to guide decision making on risk management to eliminate or reduce the risk as far as reasonably practicable. The risk matrix is provided in **Appendix A3**.

Once the risk rating has been established, some risks will need to have control measures in place to reduce them to an acceptable level. Higher risk levels should take priority.

There may be multiple consequences for a single risk. When this occurs, the highest risk rating (after assessment of consequence and likelihood for each consequence), should be used to categorise the risk rating of the risk. For example, the risk may have a consequence for a member of the public rated as major and with a likelihood of rare; a consequence of moderate for land, property and infrastructure and with a likelihood of likely; and a minor consequence for the environment and with a likelihood of possible. This results in individual risk ratings of medium, high and medium respectively. In this instance the overall rating for the risk is high.

2.4.6 Develop risk control measures

Effective risk management requires that all risks are eliminated or reduced as far as reasonably practicable. Therefore, control measures should be identified and applied to each risk to achieve this.

Appendix C provides example control measures for:

- Dust and particulates
- Noise
- Erosion and sedimentation
- Soil biological activity
- Site access
- Fire
- Non-mineral waste
- Weeds and pests
- Water
- Imported materials
- Vehicle sediment transport

These example control measures have been developed to reflect acceptable industry practice for some hazards, where site-specific investigations and tailored control measures are not required.

You are encouraged to include applicable example control measures in your risk management plan, and to supplement these control measures where necessary to minimise your risk rating as far as reasonably practicable.

If your quarrying or rehabilitation hazards are more complex (e.g. blasting, slope instability), they may require technical investigations to develop site-specific control measures.

2.4.7 Assess residual risks

The risk assessment process should be conducted again, assuming implementation of the identified control measures. The new likelihoods and consequences may result in a lower risk rating.

These are called residual risks and should be based on the project and the listed control measures.

Where residual risks are above medium, additional control measures may need to be identified to eliminate or reduce the risks as far as reasonably practicable.

Both inherent and residual risk ratings should be included in your risk management plan.

If you can eliminate any inherent risks with application of control measures, still record them in the residual risk assessment as eliminated. Eliminated risks are those where control measures have been applied to the inherent risk and result in either:

- reducing to zero the likelihood of the hazard impacting on a sensitive receptor; and/or
- preventing the consequences of the hazard upon the sensitive receptor.

Refer to **Appendix A** for further details about the risk assessment process, including how to assess the likelihood and consequences.

2.4.8 Prepare risk management plan

Your risk management plan consists of a risk register and risk treatment plans and should describe and address each quarrying and rehabilitation hazard relevant to your project and the control measures for all identified risks. The plan should demonstrate that the control measure(s) are able to reduce the likelihood(s) and/or consequence(s) such that the residual risks are minimised as far as reasonably practicable.

A risk register template is provided in **Appendix B1** and a risk treatment plan template is provided in **Appendix B3**. Examples are provided in **Appendices B2** and **B4**, which set out the following key elements:

- the quarrying or rehabilitation hazard
- risk/s
- phase
- causes/background
- details of the sensitive receptors, their location and proximity to the site
- how the hazard may harm or damage the sensitive receptor and evidence to support this assessment
- risk assessment (likelihood, consequence and inherent risk rating)
- control measures
- performance standards (these need to measure the effectiveness of the control measures, not the implementation of the control measures)
- risk assessment after implementing control measures (likelihood, consequence and residual risk rating)
- monitoring and ongoing management (the management systems, practices and procedures that are to be applied to monitor and manage risks and compliance with performance standards).

The risk register template (**Appendix B1**) can be used to record all risks. This provides a summary of all the hazards, risks and control measures across the site. For inherent risks that are rated as low or medium, the level of information provided in the risk register template may be sufficient, and a separate risk treatment plan may not be required.

For high or very high inherent risks, you will also need to complete a risk treatment plan (**Appendix B3**) template to record more detailed information.

To avoid duplication of information, you can record 'see Risk Treatment Plan' in fields of the risk register template where relevant. In some cases, you may wish to use the risk treatment plan template for low or medium risks that cannot be easily summarised in the risk register.

2.4.9 Community engagement

You have a duty to consult with the community under section 77K of the MRSDA throughout the period of your work authority.

The objective of your engagement with the community and stakeholders is to ensure that interested parties are informed of your proposed activities and given the opportunity to express how they may be affected. Community and stakeholder engagement is also considered fundamental in determining agreed environmental outcomes. Early and continuous community and stakeholder engagement also enables you to understand and manage stakeholder expectations and mitigate potential risks which could impact your project.

Your work plan must include a community engagement plan that achieves these objectives. It should be proportionate to the site-specific conditions such as scale, operational activities, and the size and proximity of local communities.

The community engagement plan should include:

- a list of relevant community members and stakeholders
- a description of likely attitudes and expectations
- potential impacts on each of the identified community members/stakeholders
- how community members/stakeholders will be engaged (and at what level)
- a description of your proposed complaint/community feedback handling process, including when and how ERR will be notified
- a timeline for engagement throughout the quarry life.
- For more general information on community engagement, refer to ERR's:
  - Community Engagement Guidelines for Mining and Mineral Exploration in Victoria earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/community-engagement-guidelines-for-mining-and-mineral-exploration
  - Community Engagement Plan Template and Guidance Note earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/community-engagement-plan-template

2.4.10 Rehabilitation

Under section 77J and 78A of the MRSDA, the Minister will typically impose conditions on the work authority to ensure that the land is left in a safe, stable and visually acceptable condition.

Planning for what rehabilitation should be undertaken at what stage, is a critical component of managing an extractive industries project. Nationally and internationally, industry-leading practice requires that rehabilitation planning should start before works commence and should continue throughout the life of the quarry until final closure and relinquishment.

Rehabilitation planning is the objective of Regulation 11, which specifies that a rehabilitation plan must be included in the work plan.

The rehabilitation plan should include:

- concepts for the end utilisation of the proposed quarry site
- proposals for the progressive rehabilitation, stabilisation and revegetation of extraction areas, waste disposal areas, stockpile areas, dams and other land affected by the operations
- proposals for landscaping to minimise the visual impact of the quarry site and
- proposals for the final rehabilitation and closure of the site, including the security of the site and the removal of plant and equipment, taking into account any potential long-term degradation of the environment.

Note that new rehabilitation requirements will commence from 1 July 2021. *Preparation of Rehabilitation Plans: Guideline for Extractive Industry projects* will be available on the Earth Resources website.

2.4.11 Geotechnical information

The geotechnical information that operators of quarries should include in their work plan is contained within the *Geotechnical guideline for terminal and rehabilitated slopes – Extractive Industry Projects*. The guideline also provides information on the level of expertise needed to prepare this information for ERR.

The geotechnical assessment will inform the risk assessment and what control measures are required especially for public safety.

3. Making changes to an existing work plan or operation

3.1 Options for making changes

There are two ways you can make changes to your operation, either through an administrative update or a work plan variation.

Changes in work or new work that triggers a work plan variation are those that involve:

- a significant increase in risk
- the requirement for a new or amended planning permit (excluding secondary consent)
- a change to the community engagement plan as a result of new work or a change in work
- a change to the rehabilitation plan as a result of new work or a change in work.

If the changes result in new or changed residual risks that are low or medium and there are no planning permit changes required, then you may be able to make changes using the administrative update pathway.

'**Work**' is any activity that is connected to or is incidental to the quarry activities permitted under the approved work authority and work plan.

A '**change in work**' is work that is not consistent with an existing work plan.

'**New work**' is work that is not approved under the existing work plan, or work authority.

A 'significant increase in risk' is where the residual risk (assessed under ERR's risk matrix in **Appendix A** of this guideline) is categorised as greater than medium after factoring in the adequacy of existing control measures and the proposed application of additional control measures (example control measures are provided in **Appendix C** of this guideline).

3.2 Administrative update

3.2.1 Background

If you have an approved work plan, an administrative update may be considered for new or changing work where:

- there is no significant increase in risk arising from the new or changing work
- council has been consulted and confirms in writing that the new or changing work does not require further planning permission (a new planning permit or an amendment to the existing planning permit, noting that secondary consent does not constitute further planning permission)
- relevant referral agencies and other relevant agencies have been consulted and confirmed that the new or changing work can be categorised as low or medium risk
- the new or changing work does not necessitate a change to the community engagement plan and
- the new or changing work does not necessitate a change to the rehabilitation plan.

A list of new or changing works that may be suitable for an administrative update is provided at **Appendix D5**.

It is recommended that you seek guidance from ERR before preparing an administrative update to determine whether an administrative update is appropriate. If the new or changing work meets the above criteria, there are some circumstances where a work plan variation may be required.

3.2.2 Process

Contact ERR

- Describe the proposed changes you are looking to make.
- ERR will provide advice on:
  - whether the proposed changes appear appropriate as an administrative update
  - the risks you should consider
  - the potential co-regulators you should consult with.

Assess risk

- Conduct risk assessment for the new or changing work. Refer to section 2.4.5 for guidance.
- Risk register and risk treatment plan templates are provided at **Appendix B**.
- Where all residual risks associated with the new or changing work is assessed as low or medium, then an administrative update may be appropriate.

Consult with council

- Contact council and confirm that an amendment to the planning permit is not required for the new or changing work. Note that a change under secondary consent does not constitute further planning permission.
- A template to consult with council is provided at **Appendix D7**.

Consult with co-regulators

- Consult with other agencies and regulators regarding the new or changing work if it is within their jurisdiction.
- ERR will require confirmation from the relevant agencies and/or regulators that they agree the new or changing work is a low or medium risk.
- A template to consult with co-regulators is provided at **Appendix D7**.

Submit documentation to ERR

- Submit the following documents to ERR:
  - risk management plan
  - correspondence from council
  - correspondence from co-regulators.
- A template to submit an administrative update to ERR is provided at **Appendix D6**.

ERR assessment

- The Assessments team will consult with the Compliance team to understand the broader impact of the proposed change, what the sites key risks are and whether the proposed change will impact on those risks.
- ERR will then assess the administrative update considering the documentation submitted.
- If the matter is clearly administrative, ERR will acknowledge the administrative update.
- For less straightforward matters, the ERR assessment may involve:
  - a site assessment if additional onsite evidence is required to establish how the proposed change impacts the risk profile of the operation
  - contacting other agencies or council for confirmation the change meets their requirements
  - requesting further information from the proponent.
- Timeframes for ERR assessment will vary depending on the standard of the documentation provided, whether the change is less or more complex and whether there is a need to have a site assessment and contact other agencies.

Acknowledgement

- If determined appropriate, ERR will provide a letter acknowledging the administrative update.

Summary of the administrative update process

CONTACT ERR

Describe the proposed changes you are looking to make. ERR will provide advice on:

- whether the proposed changes appear appropriate as an administrative update
- the risks you should consider
- the potential co-regulators you should consult with

ASSESS RISK

Conduct risk assessment for the new or changing work and fill in the risk register and risk treatment plan.

Where all residual risks associated with the new or changing work are assessed as low or medium, then an administrative update may be appropriate.

CONSULT WITH COUNCIL

Contact council and confirm that an amendment to the planning permit is not required for the new or changing work.

A template to consult with council is provided at **Appendix D7**.

CONSULT WITH CO-REGULATORS

Consult with other agencies and regulators regarding the new or changing work if it is within their jurisdiction

ERR will require confirmation from the relevant agencies and/or regulators that they agree the new or changing work is a low or medium risk

A template is provided at **Appendix D7**

SUBMIT DOCUMENTATION TO ERR

Submit the following documents to ERR:

- risk management plan
- correspondence from council
- correspondence from co-regulators.

A template is provided at **Appendix D6**.

ERR ASSESSMENT

If the matter is clearly administrative, ERR will acknowledge the administrative update.

For less straightforward matters, the ERR assessment may involve:

- a site assessment
- contacting other agencies or council for confirmation the change meets their requirements
- requesting further information from the proponent.

ACKNOWLEDGEMENT

If determined appropriate, ERR will provide a letter acknowledging the administrative update.

3.2.3 Compliance

A copy of the administrative update acknowledgement letter should be included with your approved work plan for any site audits conducted by ERR.

If you are working outside of the administrative update then you are working outside of your work plan, which is an offence under the MRSDA. In such circumstances ERR has the power to stop work on the site and require the submission of a work plan variation.

The information that you need to provide to ERR to meet these requirements is outlined in the following sections.

3.3 Work plan variation

3.3.1 Work plan variation objectives

A work plan variation is a document that seeks approval for changes in work that are not consistent with an existing approved work plan. Refer to **Section 3.1** for criteria.

Submission of a work plan variation serves two objectives:

1. Assessment: It allows ERR to assess whether your work plan variation should be approved and, if so, any conditions that need to be applied.
2. Compliance: It sets out the scope of the approved works and any requirements you must meet, including monitoring obligations. It is important that these requirements are clearly described in your work plan variation, as any ambiguity could result in you inadvertently breaching the MRSDA.

To achieve these objectives, all applications to vary a work plan must include the key components outlined in Section 3.4.1, as required by **Regulation 14** of the Regulations.

If the proposed changes to work require planning permission (new planning permit or a planning permit amendment), the work plan variation must first be statutorily endorsed before you submit the proposal to the planning authority for planning permission.

Extractive Industry Priority Project List

The Extractive Industry Priority Project List (formerly known as the 'Hot List') identifies quarry projects that will be given priority planning consideration, ensuring that the approval processes are monitored and coordinated to avoid unnecessary delays. It does not exempt any quarries from planning or other approvals. If appropriate or there is unreasonable delay in a decision on a planning permit application, the Minister for Planning may 'call in' and decide the application.

Visit earthresources.vic.gov.au/projects/extractive-industry-priority-project-list for more information about the Extractive Industry Project List.

3.3.2 Summary of work plan variation process

CONTACT ERR	Contact ERR and outline the nature of your extractives project. ERR will outline the process and send you an Initial Proposal Information request.
SUBMIT INITIAL PROPOSAL	Provide ERR the information requested. Refer to section 2.3.4 for detailed information about initial proposal information.
SITE MEETING	ERR will determine which agencies and referral authorities should attend the site meeting and you arrange the site meeting. Ensure all those invited are provided relevant information prior to meeting. Conduct site meeting and ensure all those invited are able to gain an understanding of the project in the site context. Record key points and circulate to all parties after the meeting. Refer to section 2.3.5 for detailed information about site meetings
ENGAGE RELEVANT AGENCIES	Engage with relevant referral authorities, agencies and/or council as required to ensure your work plan variation meets their requirements. Refer to section 2.3.6 for detailed information about engaging relevant agencies.
SUBMIT VARIATION	Submit your work plan or variation to ERR via RRAM. Documentation requirements are outlined below in section 3.4.
ERR ASSESSMENT	ERR will complete an assessment of the work plan to determine that all major components of a work plan variation are included and may request changes if required.
ERR REFER TO OTHER AGENCIES	ERR will refer the work plan variation to statutory referral authorities and other relevant agencies. Statutory referral authorities have 30 days to provide any comments. Refer to section 4 for the assessment process.
ERR STATUTORY ENDORSEMENT*	ERR will formally assess the work plan variation Timeframe for ERR assessment is 28 days. Refer to section 4. • If planning permission is required, statutory endorsement is needed. • If planning permission is not required, ERR will assess for approval.
OBTAIN PLANNING PERMISSION*	If statutory endorsement is received from ERR, contact the relevant council to obtain planning permission. If planning permission obtained, re-submit your work plan variation application to ERR for approval.
ERR APPROVAL	If approved, ERR will provide a letter setting out advice of approval and next steps, along with a statement of reasons, conditions and work plan.

**If further planning permission required*

3.3.3 Pre-submission steps

The work plan variation pre-submission steps aim to equip you with all the information needed to prepare an application that meets legislative requirements.

Figure 4: Recommended pre-submission steps

These steps are recommended (only) to avoid unnecessary delays or refusal due to misunderstanding of ERR, council or referral authority requirements by ensuring all required information is addressed in a work plan variation application.

The MRSDA does not allow referral agencies to request changes to a work plan variation once it has been referred. *Referral agencies can only apply conditions, object or not object to endorsement of the application. If a referral agency objects, the application must be refused.*

CONTACT ERR	Contact ERR and outline nature of your extractive industries project. ERR will outline the process and send you an *Initial Proposal Information* request.
SUBMIT INITIAL PROPOSAL	Provide ERR the information requested. *Refer to Section 2.3.4 for detailed information about initial proposal information*
ARRANGE SITE MEETING	ERR will determine which agencies and referral authorities should attend the site meeting and you arrange the site meeting. Ensure all those invited are provided relevant information prior to meeting
CONDUCT SITE MEETING	Conduct site meeting and ensure all those invited are able to gain an understanding of the project in the site context. Record key points raised and circulate to all parties after the meeting. *Refer to Section 2.3.5 for detailed information about site meetings.*
ENGAGE RELEVANT AGENCIES	Engage with relevant referral authorities, agencies and/or council as required to ensure your work plan variation meets their requirements. *Refer to Section 2.3.6 for detailed information about engaging relevant agencies.*
SUBMIT WORK PLAN VARIATION	Submit your work plan variation to ERR via RRAM.

3.4 What needs to be in a work plan variation

3.4.1 Key components of a work plan variation

Table 2: Key components of a work plan variation

Component	Work plan variations
Description of how the proposed variation relates to the current approved work plan.	A description limited to the new or changing works and its setting within your work authority boundary.
Description of new or changed quarrying hazard arising from the proposed changes to the work set out in the work plan that increases the risk to the environment, to any member of the public, to land, property or infrastructure (known as a 'quarrying hazard').	A description of the quarrying hazards arising from the new or changing works during set up/ construction and operations/production.
Description of new or changed rehabilitation hazard arising from the proposed changes to the work set out in the work plan increases the risk to the environment, to any member of the public, to land, property or infrastructure (known as a 'rehabilitation hazard').	A description of the rehabilitation hazards arising from the new or changing works.
Description of the proposed change(s) to the assessment of risk and risk management plan as a result of the new or changing works.	Consideration of the risks associated with the new or changing works. Updates to your risk management plan to cover the new or changing works, which includes new or updated risk register and treatment plan(s) associated with the new or changed risks.
Community engagement plan	A plan that outlines plans for engagement with any community member or stakeholder impacted by the new or change in works.
Rehabilitation plan	Updates to your rehabilitation plan as required by the new or change in works.

The information that you need to provide to ERR to meet these requirements is outlined in the following sections.

3.4.2 A description of the proposed variation

The aim of the description of the proposed variation is to define the nature and scale of the new or changing extractive industry activities in sufficient detail to:

- set the scope of the approved works; and
- enable the assessment and management of any quarrying or rehabilitation hazard(s).

The description of the proposed variation must include:

- the location of the new or changing works within your work authority boundary
- the location of sensitive receptors relevant to the new or changing works
- the nature of the new or changing works proposed and how they relate to the existing approved work plan and
- the nature of any new auxiliary works (e.g. dewatering bores, water treatment plant)
- changes to buffer zones.

Appendix B provides guidance on how you should describe these aspects to comply with Regulation 14 of the Regulations.

If the required information is not included, ERR may request changes to your work plan variation, or refuse it. It is essential that all required information is provided to enable an efficient assessment process.

3.4.3 Risks from proposed works

Your work plan variation must identify and assess all risks that the new or changing works may pose to sensitive receptors (the environment, to the public, or to nearby land, property, infrastructure or rehabilitation).

The identified risks then must be eliminated or minimised as far as reasonably practicable.

This section provides guidance on the identification, assessment and control of risks associated with proposed variations to works. Risk document templates are provided in **Appendix B**.

Figure 5: Risk assessment process for work plan variations

IDENTIFY HAZARDS AND SENSITIVE RECEPTORS	**List all possible quarrying and rehabilitation hazards associated with new or changing works.** **Identify the sensitive receptors.**
ASSESS INHERENT RISKS	**For each hazard, list all possible risks.** **For each risk assess the likelihood and consequence to assign an inherent risk rating.**
DEVELOP RISK CONTROL MEASURES	**Identify control measures to eliminate or reduce each risk as far as reasonably practicable.** **A list of example control measures for each hazard listed at Appendix C.**
ASSESS RESIDUAL RISKS	**After applying control measures to mitigate the identified risks, re-assign the likelihood and consequence to determine a residual risk rating.**
UPDATE RISK MANAGEMENT PLAN	**Update the risk management plan which contains at a minimum: a) risk register; b) risk treatment plan(s).** **Example templates are provided at Appendix B.**

3.4.4 Identifying hazards and sensitive receptors

You must identify the quarrying and rehabilitation hazards that may be relevant to the proposed new or changing extractives activities in accordance Regulation 9(a) & (b).

Hazards must be identified for each phase of the proposed work, including the construction, operations/production and rehabilitation. Rehabilitation hazards should consider aspects relating to the execution and completion of rehabilitation work.

Then consider how these hazards may harm or damage sensitive receptors (the environment, any member of the public, land, property or infrastructure).

For example, dust may be identified as a hazard and there may be one or many risks associated with dust. A risk associated with the dust hazard could be "unacceptable dust emissions generated at the work authority boundary."

Sensitive receptors may be located either inside (e.g. heritage, artefact) or outside (e.g. waterways, public roads, fauna) the work authority boundary.

The pathway from the source of the risk to the sensitive receptor must be clearly shown.

3.4.5 Assess inherent risks

For each relevant quarrying or rehabilitation hazard, risks should be identified and described. Risk is the possibility of harm or damage that could happen during operation or as a result of an event. The level of risk is influenced by two factors, consequence and likelihood.

Consequence

Consequence is the severity of harm the risk could cause if it occurs.

When determining the consequence of a risk to consider the potential impacts to:

- members of the public (public health, safety, amenity and Aboriginal heritage)
- land, property and infrastructure (neighbouring property, land use and nearby infrastructure such as highways, transmission lines, pipelines, schools and hospitals)
- environment (Air, water, soil, vegetation, and flora and fauna species).

The descriptions of the consequence criteria that ERR uses to assess the harm caused by a risk are provided in **Appendix A1**.

Likelihood

The next step is to assess the likelihood of the risk occurring. Likelihood is based on what is known about the risk and the way circumstances and activities affect the risk.

The descriptions of the likelihood criteria that ERR uses to assess the likelihood of a risk occurring are provided in **Appendix A2**.

Risk Rating

The consequences and likelihood are used together to determine the risk rating. The purpose of rating risk is to guide decision making on risk management to eliminate or otherwise reduce the risk as far as reasonably practicable. The risk matrix is provided in Appendix A3.

Once the risk rating has been established, some risks will need to have control measures in place to reduce them to an acceptable level. Higher risk levels should take priority.

There may be multiple consequences for a single risk. When this occurs, the highest risk rating (after assessment of consequence and likelihood for each consequence), should be used to categorise the risk rating of the risk. For example, the risk may have a consequence for a member of the public rated as major and with a likelihood of rare; a consequence of moderate for land, property and infrastructure and with a likelihood of likely; and a minor consequence for the environment and with a likelihood of possible. This results in individual risk ratings of medium, high and medium respectively. In this instance the overall rating for the risk is high.

3.4.6 Develop risk control measures

Effective risk management requires that all risks are eliminated or reduced as far as reasonably practicable. Therefore, control measures should be identified and applied to each risk to achieve this.

For risks which are inherently low, and cannot be eliminated, the explanation of why they are low should be captured.

Appendix C provides example control measures for:

- Dust and particulates
- Noise
- Erosion and sedimentation
- Soil biological activity
- Site access
- Fire
- Non-mineral waste
- Weeds and pests

- Water
- Imported materials
- Vehicle sediment transport.

These example control measures have been developed to reflect acceptable industry practice for some hazards, where site-specific investigations and tailored control measures are not required.

You are encouraged to include applicable example control measures in your risk management plan, and to supplement these control measures where necessary to minimise your risk rating as far as reasonably practicable.

If your quarrying or rehabilitation hazards are more complex (e.g. blasting, slope instability), they may require technical investigations to develop site-specific control measures.

3.4.7 Assess residual risks

The risk assessment process should be conducted again, assuming implementation of the identified control measures. The new likelihoods and consequences may result in a lower risk rating. Where residual risks are above medium, additional control measures may need to be identified to eliminate or reduce the risks as far as reasonably practicable.

Both inherent and residual risk ratings should be included in your risk management plan.

Refer to **Appendix A** for further details about the risk assessment process, including how to set assess the likelihood and consequences.

3.4.8 Update risk management plan

Your risk management plan consists of a risk register and risk treatment plans. Your risk management plan should describe and address each quarrying and rehabilitation hazard relevant to the new or changed works and the control measures for all identified risks. The plan should demonstrate that the control(s) are able to reduce the likelihood(s) and/or consequence(s) such that the residual risk is minimised as far as reasonably practicable.

A risk register template is provided in **Appendix B1** and a risk treatment plan template is provided in **Appendix B3**. Examples are provided in **Appendices B2** and **B4**, which set out the following key elements:

- the quarrying or rehabilitation hazard
- risk/s
- phase
- causes/background
- details of the sensitive receptors and location and proximity to the site
- how the hazard may harm or damage the sensitive receptor and evidence to support this assessment
- risk assessment (likelihood, consequence and inherent risk rating)
- control measures
- performance standards (these need to measure the effectiveness of the control measures, not the implementation of the control measures.)
- risk assessment after implementing control measures (likelihood, consequence and residual risk rating)
- monitoring and management (the management systems, practices and procedures that are to be applied to monitor and manage risks and compliance with performance standards).

The risk register template (**Appendix B1**) can be used to record all risks. This provides a summary of all the hazards, risks and control measures across the site. For inherent risks that are rated as low or medium, the level of information provided in the risk register template should be sufficient, and a separate risk treatment plan is not needed in most circumstances*.

For high or very high inherent risks, you will also need to complete a risk treatment plan (**Appendix B3**) template to record more detailed information. To avoid duplication of information, you can record 'see Risk Treatment Plan' in fields of the risk register template where relevant.

*ERR may request additional information for risks in the form of a risk treatment plan you have assessed as low or medium in some circumstances e.g. if ERR has evidence to suggest that the inherent risks are higher than you have rated them.

3.4.9 Community engagement

You have a duty to consult with the community throughout the period of the work authority under section 77K of the MRSDA.

The objective of your engagement with the community and stakeholders is to ensure that interested parties are informed of the new or changing extractives activities and given the opportunity to express how they may be affected. Community and stakeholder engagement are considered fundamental in determining agreed environmental outcomes. Early and continuous community and stakeholder engagement also enables you to understand and manage community and stakeholder expectations and mitigate potential risks which could impact your project.

Your work plan variation must include an updated community engagement plan that achieves these objectives. It should be specific to the new or changing works and be proportionate to the site-specific conditions such as scale, operational activities, and the size and proximity of local communities.

The updated community engagement plan should include:

- a list of relevant community members and stakeholders
- a description of likely attitudes and expectations
- potential impacts on each of the identified community members/stakeholders
- how community members/stakeholders will be engaged (and at what level) for the new or changing works
- a description of your proposed complaint/community feedback handling process, including when and how ERR will be notified
- a timeline for engagement throughout quarry life.

For more general information on community engagement, refer to ERR's:

- Community Engagement Guidelines for Mining and Mineral Exploration in Victoria earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/community-engagement-guidelines-for-mining-and-mineral-exploration
- Community Engagement Plan Template and Guidance Note - earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/community-engagement-plan-template

3.4.10 Rehabilitation

Under section 77J of the MRSDA, the Minister will typically impose conditions on you to ensure that at closure the site is left in a safe, stable and visually acceptable condition.

Planning for what rehabilitation should be undertaken at what stage, is a critical component of managing an extractive industries project. Nationally and internationally, industry-leading practice requires that planning for rehabilitation should start before works commence and should continue throughout the life of the quarry until final closure and relinquishment.

For a work plan variation, you should consider whether the new or changing works require a modification or addition to your rehabilitation plan.

If required, your work plan variation must include an updated rehabilitation plan which demonstrates any changes to the closure strategy as a result of the new or changing works. The updated rehabilitation plan must meet the requirements of Regulation 14 of the Regulations. Note that new rehabilitation plan requirements will commence from 1 July 2021.

Your updated rehabilitation plan should include:

- concepts for the end utilisation of the proposed quarry site
- proposals for the progressive rehabilitation, stabilisation and revegetation of extraction areas, waste disposal areas, stockpile areas, dams and other land affected by the operations
- proposals for landscaping to minimise the visual impact of the quarry site
- proposals for the final rehabilitation and closure of the site, including the security of the site and the removal of plant and equipment, taking into account any potential long-term degradation of the environment
- if water is used as the final rehabilitated closure (i.e. lake, dam) provide details of how the water is secured.

Note that new rehabilitation requirements will commence from 1 July 2021. Preparation of Rehabilitation Plans: Guideline for Extractive Industry projects will be available on the Earth Resources website.

3.4.11 Geotechnical Information

The geotechnical information that operators of quarries should include in their work plan variation is contained within the *Geotechnical guideline for terminal and rehabilitated slopes – Extractive Industry Projects*. The guideline also provides information on the level of expertise needed to prepare this information for ERR.

The geotechnical assessment will inform the risk assessment and what control measures are required especially for public safety.

3.5 Modernising a work plan

Modernising your work plan will simplify any future applications for variation and streamline the consultation process with referral authorities. In most cases, modernising your work plan is purely an administrative process (i.e. will not trigger a work plan variation) and will not have implications for existing planning approvals or referrals.

A modern work plan is:

- short, clear and written in plain English
- fit for purpose, meeting the current requirements of the MRSDA, its Regulations and the needs of the business
- understandable by all users, including co-regulators
- detailed enough to describe operations and risks
- focussed on how risks will be managed and
- reflects current and planned operational circumstances.

A modern work plan includes:

- an overall description of the site and planned site operation – this is clearly written to accurately describe the key features of the operation, and enable minor on-ground changes that are consistent with the description without further approval
- a risk management plan – this describes the identified quarrying and rehabilitation hazards, your planned control measures and your monitoring program
- a community engagement plan and
- a site rehabilitation plan.

Modernising a work plan involves adding the key parts which would now be required in a new work plan, which are a hazard assessment and a risk management plan.

Modernising a work plan can also involve removing information that is no longer required, such as a lengthy detailed description of proposed work.

Please contact the ERR Assessment Team prior to preparing your modernised work plan. Up-to-date contact details can be found at earthresources.vic.gov.au/about-us/contact-us.

Note – Unless directed by the regulator, there is no requirement to transition a work plan approved prior to 8 December 2015 to a modern one that meets the current requirements of the MRSDA and its Regulations.

3.6 Consolidating a work plan

Many work authority holders have work plans with variations that have not been consolidated into a single work plan.

ERR has an administrative process to simplify work plans by consolidating relevant work plan content and all variations into a single document. Consolidation involves taking a work plan which was approved before 8 December 2015 and identifying the current components that define the scope of the work authority.

This consolidation process will involve consultation with work authority holders as required.

Consolidation will:

- not change any regulatory requirements on operators or cause existing rights to be amended or revoked
- not involve a statutory approval process or consultation with the relevant municipal council or referral authorities and
- incur no fee, where no variation is required.

Once accepted by ERR, the consolidated work plan forms a single document which incorporates all approved works that may be carried out on a site.

ERR will approach selected work authority holders to consolidate work plans that contain information that is no longer required due to multiple changes over time. This will involve creating an index and bringing to the front of the work plan all the current arrangements that apply on site. Any ancillary information will then form attachments to the work plan.

It should be noted that ERR may require you to submit a work plan variation if any new or changed hazards or risks that have not been adequately addressed are identified during the consolidation process.

If you are interested in consolidating your work plan and variations, please contact the ERR Assessment Team. Up-to-date contact details can be found at earthresources.vic.gov.au/about-us/contact-us.

4. Assessment process for work plans and work plan variations

The steps for assessment of work plans and work plan variations are outlined in Table 3 and Table 4.

Table 3 is where extractive industry activities require a new planning permit (or planning permit amendment). Table 4 is where extractive industry activities are compliant with a current planning permission for the site or only need secondary consent under an existing planning permit.

Contact your local council in relation to your planning permit or obtaining secondary consent.

Table 3: Assessment steps for statutory endorsement– New planning permission or amendment required

No.	Assessment Step
1	You submit the work plan or work plan variation to ERR via RRAM for statutory endorsement.
2	A fee is payable for lodging the work plan or work plan variation.
3	ERR has 28 days to assess the work plan or work plan variation and: • ask for changes to the work plan or work plan variation; or • refuse the work plan or work plan variation; or • refer it to referral authorities.
4	If ERR asks for changes to the work plan or work plan variation, you must re-submit for statutory endorsement a work plan or variation to an approved work plan that includes those changes. Step 3 repeats after the changed work plan or work plan variation is received.
5	Once satisfied that the work plan or work plan variation meets statutory requirements, ERR refers the work plan or work plan variation to the relevant referral authorities. The referral authority has 30 days to: • not object to statutory endorsement, or • not object to statutory endorsement if the work plan or work plan variation is made subject to conditions, or • object to statutory endorsement on any specified ground.
Note: *ERR cannot make a decision regarding statutory endorsement of the plan which is inconsistent with the advice of a referral authority. Should a referral authority fail to respond in 30 days it is considered to not object to the statutory endorsement of the plan. ERR may also refer the work plan to other agencies it considers necessary to aid in making its decision.*	
6	ERR decides within 28 days of receiving a referral authority response whether to give the work plan or work plan variation statutory endorsement or refuse the work plan or work plan variation.
7	Once the work plan or work plan variation has statutory endorsement, you apply to the relevant council for a planning permit. The Victoria Planning Provisions require an application for a planning permit to be accompanied by a copy of a work plan that has received statutory endorsement under Part 6B of the MRSDA (Department Head endorsement of work plan).
8	You submit your statutorily work plan or work plan variation including a copy of the planning permit to ERR. ERR then has 28 days to: • approve the work plan or work plan variation with or without conditions; or • require changes; or • refuse the work plan or work plan variation.
9	If ERR has approved the work plan for a new quarry, you apply for a work authority. In the case of approval of a work plan variation that involves a change to the work authority, you then apply for a work authority variation.

Table 4: Assessment steps– No further planning permission required (as advised by relevant council)

No.	Assessment Step
1	You submit the work plan or work plan variation to ERR via RRAM
2	A fee is payable for lodging the work plan or work plan variation.
3	You advise ERR that planning requirements are satisfied. ERR then has 28 days to: • approve the work plan or work plan variation with or without conditions; or • require changes; or • refuse the work plan or work plan variation. This is done in parallel to referral to other agencies and ERR will take their feedback into account.
4	If ERR asks for changes to the work plan or work plan variation, you must re-submit a work plan or variation to an approved work plan that includes those changes. Step 3 repeats after the changed work plan or work plan variation is received.
5	If ERR has approved the work plan for a new quarry, you apply for a work authority. In the case of approval of a work plan variation that involves a change to the work authority, you then apply for a work authority variation.

4.1 Post-approval

If your work plan or work plan variation is approved, you will receive:

1. a DJPR letter from ERR advising of the approval and next steps, including:
   - information about the rehabilitation bond assessment process
   - an application for a work authority (for work plans)
2. a statement of reasons attached to the letter which provides details on the reasons for the decision
3. a full list of conditions for approval
4. your approved work plan or work plan variation stamped and signed.

Once the work authority has been granted, the MRSDA requires that a copy of the approved work plan or work plan variation, must be kept on site at all times during operation of the extractive industry.

Appendices

Appendix A – Risk assessment process

A1 Consequences

Table A1: ERR consequence descriptions

	CRITICAL	MAJOR	MODERATE	MINOR	INSIGNIFICANT
Consequence for "any member of the public" – public health, safety, amenity and Aboriginal heritage	**Public health and safety:**				
	Fatalities, life-threatening injuries or illnesses or injuries resulting in permanent disablement. Public exposed to a severely debilitating chronic health impact or life-threatening hazard.	Injuries or illness requiring surgery or resulting in long-term disablement. Public exposed to a hazard that results in hospitalisation for treatment from injury or illness.	Injuries or illness requiring treatment by a physician or hospitalisation. Public exposed to a hazard that results in injuries or health effects requiring treatment by a physician.	Injuries or illness requiring first aid treatment. Public exposed to a hazard that could cause injuries or adverse health effects requiring first aid treatment.	Injury or ailment that does not require medical or first aid treatment.
	Public amenity:				
	Continuously experience significant losses of amenity over periods of weeks or longer	Regularly experience (weekly-monthly basis) significant losses of amenity for multiple days on end.	Regularly experience (weekly-monthly basis) significant loss of amenity.	Infrequently experience (no more than monthly) a small effect on the amenity	Infrequently experience (no more than monthly) a marginal reduction in the amenity.
	Aboriginal heritage:				
	Destruction of place(s) and/or associated cultural values of exceptional value. A place identified by Aboriginal Victoria and/or cultural values identified by Traditional Owners of exceptional value that the destruction would be catastrophic.	Destruction of a rare occurrence place(s) and/or associated cultural values. A place with a large number and diverse range of cultural materials. A place with stratified deposits and/or surface spatial patterning that reflects the way in which the cultural materials were deposited.	Destruction of a common occurrence place(s) and/or associated cultural values. A place with a limited range of cultural heritage materials and a place in fair to good condition with some degree of disturbance evident.	Destruction of a place(s) and/or associated cultural values in a deteriorated condition with a high degree of disturbance evident and some cultural heritage remaining.	No impact on Aboriginal cultural heritage sites.
	Heritage:				
	Irreversible damage, or destruction.	Damage and removal, or relocation or removal of associated elements.	Works to features that will not alter the cultural heritage significance.	Isolated damage to regionally or locally significant features that is readily rectified.	
Consequences for "land, property and infrastructure" *beyond the boundary of the licence or work authority area*	**Land and land uses:**				
	Permanent loss of production from primary production land >10 ha. Loss of annual-seasonal primary production from >100 ha of land. Irreversible or long-term environmental damage (with rehabilitation taking years or longer) to >1 ha of National Park or other conservation reserve.	Permanent loss of production from primary production land <10 ha. Loss of annual-seasonal primary production from 10-100 ha of land. Irreversible or long-term environmental damage to <1 ha of National Park or other conservation reserve or to ≥10 ha of other public land. Reversible damage to ≥1 ha of National Park or other conservation reserve or to ≥10 ha of other public land.	Loss of annual-seasonal primary production from <10 ha of land. Short-term (days-weeks). Disruption to 10-100 ha of primary production land. Reversible damage to <1 ha of National Park or other conservation reserve or to <10 ha of other public land.	Minor damage to agricultural land or public land not requiring active rehabilitation. Temporary and small-scale disruption to agricultural production (days, 1-10 ha)	Total damage to private or public property or infrastructure <$1k.
	Public and private property:				
	Total damage >$10 million. Total loss of value of private property equivalent to >$10 million.	Total damage $1-10 million. Total loss of value of private property equivalent to $1-10 million.	Total damage $50k-$1 million. Total loss of value of private property equivalent to $50k-$1 million.	Total damage $1-50k. Total loss of value of private property equivalent to $1-50k.	Total damage <$1k. Total loss of value of private property equivalent to <$1k.
	Services provided by infrastructure:				
	Services suspended or significantly disrupted for extended period (weeks or longer).	Services suspended or significantly disrupted for days or experiencing minor disruptions for long periods (weeks or longer).	Services suspended or significantly disrupted for up to 1 day or experiencing minor disruptions for weeks.	Services suspended or significantly disrupted for short period (hours).	Services maintained but experiencing minor disruptions or delays.
Consequences for "the environment" – air, water, soil, vegetation, flora and fauna species *other than for planned and approved disturbances within the licence or work authority area*	**Environmental contamination event:**				
	A State-level incident response is required. Incident response, clean-up and rehabilitation expected to run for years and/or cost ≥$10 million.	A regional emergency management incident response required. Clean-up and rehabilitation expected to run for months and/or cost $1-10 million.	Clean-up and rehabilitation expected to run for weeks and cost $10k-$1 million.	Clean-up and rehabilitation may be required but can be completed within days.	Hazard event with minimal environmental impact and no noticeable effect beyond the immediate occurrence or expression of the hazard.
	Native vegetation, flora species or fauna species:				
	Damage leading to bioregional, State or national extinction of listed threatened species of native flora or fauna or vegetation community. Irreversible or long-term (years) damage or environment harm to ≥10 ha of native vegetation (not listed threatened vegetation community) or to ≥1 ha listed threatened native vegetation community. Deaths of hundreds (or more) of listed native flora or fauna species or native mammals. Contamination or other environmental damage leading to deaths of native fauna well beyond (>1 km) the boundaries of the operation.	Damage leading to local extinction of listed threatened species of native flora or fauna or vegetation community. Deaths of up to ~100 listed threatened flora or fauna species or native mammals. Major damage or environment harm to 1-10 ha of native vegetation (not listed threatened vegetation community) or to <1 ha listed threatened native vegetation community that will be irreversible or take years to recover from.	Damage leading to deaths of a small number of listed threatened flora or fauna species or native mammals. Reversible damage or environmental harm to <10 ha of non-listed native vegetation community or <1 ha of listed native vegetation community.	Damage to <1 ha of native vegetation (not listed threatened vegetation community) that can be recovered in weeks to months. Damage that affects native fauna populations but does not kill individuals or disrupt breeding or other important ecological processes.	Hazard event with minimal environmental impact and no noticeable effect beyond the immediate occurrence or expression of the hazard.
	Surface water or groundwater:				
	Contamination leading to disruption of beneficial uses as defined by SEPP (Waters) for more than a year.	Contamination leading to disruption of beneficial uses as defined by SEPP (Waters) for up to one year.	Localised contamination leading to disruption of beneficial uses as defined by SEPP (Waters) for weeks to months.	Contamination of natural waterway or wetland occurs, but water quality remains within applicable EPA or ANZECC guidelines for existing beneficial uses. Water extraction or diversion reduces surface water flows or groundwater available for environmental uses, but with no detectable effect on dependent species or ecosystems and carried out within terms of water licence.	Hazard event with minimal environmental impact and no noticeable effect beyond the immediate occurrence or expression of the hazard.

A2 Likelihood

Table: ERR likelihood descriptions

Likelihood	Description	Probability of event occurring
Almost certain	The risk event is expected to occur in most circumstances	**> 90%**
Likely	The risk event is expected to occur in some common circumstances	**70-90%**
Possible	The risk event might occur in some circumstances	**30-70%**
Unlikely	The risk event could occur in some uncommon circumstances, as this is known to occur at comparable sites	**5-30%**
Rare	Highly unlikely, but the risk event may occur in exceptional circumstances, as may have occurred at comparable sites	**< 5%**

A3 Risk rating

Figure: ERR Risk Matrix

Likelihood	Insignificant	Minor	Moderate	Major	Critical
Almost Certain	Medium	High	Very High	Very High	Very High
Likely	Medium	Medium	High	Very High	Very High
Possible	Low	Medium	Medium	High	Very High
Unlikely	Low	Low	Medium	High	High
Rare	Low	Low	Medium	Medium	High

Consequence

Table: Risk rating acceptability

Risk level	Description
Very High	Totally unacceptable level of risk. Control measures must be put in place to reduce the risk to lower levels.
High	Generally unacceptable level of risk. Control measures must be put in place to reduce the risk to lower levels or seek specific guidance from ERR.
Medium	May be acceptable provided the risk has been minimised as far as reasonably practicable.
Low	Acceptable level of risk provided the risk cannot be eliminated.
Eliminated	The risk is eliminated.

Appendix B – Risk Management Plan Templates

B1 Risk register

Quarrying or Rehabilitation Hazard	Risk No.	Risk event	PHASE			SENSITIVE RECEPTORS				Inherent Risk Assessment			Control Measures	Performance Standards	Residual Risk Assessment			Monitoring and Ongoing Management		
			Set up/Construction	Operations/ Production	Rehabilitation	Details of sensitive receptor	Location and proximity to site	How hazard may harm or damage sensitive receptor	Evidence to support assessment	Likelihood	Consequence	Risk Rating			Likelihood	Consequence	Risk Rating	Aspect to be monitored and managed	Details of monitoring and ongoing management	Detailed Risk Treatment Plan attached?

Personnel accountable

[List Personnel accountable for the implementation, management and review of the Risk Management Plan]

#	Personnel	Roles and Responsibilities
1		
2		
3		

A fillable version of this template can be downloaded from the Earth Resources website earthresources.vic.gov.au

B2 Example risk register

Quarrying or Rehabilitation Hazard	Risk No.	Risk event	PHASE			SENSITIVE RECEPTORS				Inherent Risk Assessment			Control Measures	Performance Standards	Residual Risk Assessment			Monitoring and Ongoing Management		
			Set up/ Construction	Operations/ Production	Rehabilitation	Details of sensitive receptor	Location and proximity to site	How hazard may harm or damage sensitive receptor	Evidence to support assessment	Likelihood	Consequence	Risk Rating			Likelihood	Consequence	Risk Rating	Aspect to be monitored and managed	Details of monitoring and ongoing management	Detailed Risk Treatment Plan attached?
Dust	1	Dust landed on house and garden of neighbours - result in inhalation	Yes	Yes	Yes	Neighbouring residences	400m from site	Health and amenity	Air quality modelling completed by consultant on changes and provided as support	Possible	Moderate	Medium	• Train staff on the measures used to reduce dust generation. • Reduce vehicle speeds to 30km/h maximum. • During dry conditions, use water tanker on internal roads. • Restrict vehicle movements to watered roads where possible. • Treat exposed stockpiles with dust suppressants. • Cease dust producing activities during high winds. • Street sweeping being undertaken on all internal sealed roads	• EPA air quality test (SEPP (AQM) • Speed limits enforced • All heavy vehicles will use sealed roads • Water spray used as required • Street sweeping to be done weekly	Rare	Minor	Low	Emissions of dust and particles will comply with the EPA limits at the nearest sensitive receptors.	• Three-month dust monitoring program undertaken to determine offsite dust impacts. Six months of monitoring to be undertaken subsequent to approval. • Ongoing dust deposition (nuisance dust) monitoring.	No
Noise	2	Excessive noise at any sensitive receptors from processing plant	Yes	Yes	Yes	Neighbouring residences	400m from site	Amenity	Acoustic modelling completed by consultant and provided as support	Likely	Minor	Medium	• Extraction area progresses away from sensitive receptors • Comply with operating hours • When not in use turn off plant, equipment and vehicles • Fit processing plant mufflers and other appropriate noise abatement devices	• EPA SEPP-N1 for noise limits • Only operate during approved hours • Processing plant and equipment is maintained as per manufacture specifications	Unlikely	Minor	Low	Noise at sensitive receptors	• Regular noise compliance monitoring • Document complaints, community engagement activities, and any resulting actions. • Adequacy of control measures will be periodically assessed through routine site inspections and community feedback.	No
Execessive ground vibrations and noise caused by blasting	3	Impact on amenity and damage to sensitive receptors caused by noise and vibration from blast	Yes	Yes	No	Neighbouring residences	400m from site	Unknown ground conditions	Map and modelling of noise and vibration	Likely	Moderate	High	• Shots designed and documented by a licensed shot firer and reviewed by the quarry manager • Blast hole check and pre-shot inspection • Notify nearby residents of the blast, and its date and time (restricted to between 10am and 4pm weekdays) • Clear blast exclusion zone of all equipment and non-essential personnel • Ensure all equipment and non-essential personnel are in designated safe areas • Ensure that the ground vibration equipment is set up and operational	• Complying to consolidated Work Plan, Blast Management Plan and SOPs • Quarry Manager to contact residents and other affected sensitive receptors	Unlikely	Moderate	Medium	Ground vibration	• First five shots are monitored for ground vibration, then at least one annually • Review blast layout for compliance with the Blast Management Plan (by quarry manager and shot firer)	Yes
Flood	4	Flooding or overflow of storm water	Yes	Yes	Yes	Neighbouring residences Vegetation	250-400m from site	• Erosion or sediment • Risk of failure of on-site infrastructure • Turbid water may enter local creek and impact environment	Proximity to site	Unlikely	Major	High	• Roads constructed to have diversion drains and culverts to divert clean stormwater away from roads. • Arrange the drainage of roads to be in a vegetated area through erosion protection structures • All surface water collected on site is retained in storage dams to reuse on site, where possible. • Construct, manage and maintain appropriate drainage and holding dam structures • EPA Discharge Licence for release of water to local creek	• No offsite water release • Maintaining tracks to minimise erosion • Compliance to Workplan and Site Layout Plan	Rare	Moderate	Medium	• Drainage inspection • Inspect effectiveness of erosion control structures • EPA Discharge Licence requirements when discharging water"	• Inspect and maintain the drain, sediment and erosion control features 6-monthly • Check EPA Discharge Licence conditions	Yes

Personnel accountable

[List Personnel accountable for the implementation, management and review of the Risk Management Plan]

#	Personnel	Roles and Responsibilities
1		
2		
3		

A fillable version of this template can be downloaded from the Earth Resources website earthresources.vic.gov.au

B3 Template risk treatment plan

Scope

This risk treatment plan is for the control of:

[Insert Hazard]

A hazard means any quarrying or rehabilitation activity and circumstance that may pose a risk to the environment, to any member of the public or to land, property or infrastructure in the vicinity of work carried out at a quarry.

Sensitive receptors

Sensitive receptors are the environment, any member of the public or land, property or infrastructure in the vicinity of a quarry that may be put at risk by the hazard associated with the quarrying or rehabilitation activity.

The sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment (where available)
1				
2				
3				
4				
5				

[Add or delete rows from the above table as appropriate]

Sensitive receptors that may be put at risk include, but are not limited to:

- Environment: air, water, soil, vegetation, flora and fauna.
- Members of the public – public health, safety, amenity, Aboriginal heritage and other heritage
- Land, property and infrastructure: neighbouring property and land uses, as well as nearby infrastructure such as highways, schools, hospitals, transmission lines and pipelines

Risks

These are the risks posed by the hazard to the sensitive receptors. Include an inherent risk rating and residual risk rating for each event considering the design proposal of the project.

The inherent risk rating is the risk before any control measures have been applied.

The residual risk rating is the risk level after the control measures have been applied.

The project phase options include set up/construction, operations/production and rehabilitation, or a combination. If you feel that the inherent risk for the same risk event will differ by project phase, then list the risk for each project phase.

Inherent risk assessment

[The likelihood and consequence should be assessed using the descriptors provided by Earth Resources Regulation and the risk rating determined using Earth Resources Regulation's risk matrix.]

#	Details of the Risk	Project Phase	Consequence	Likelihood	Inherent Risk Rating
1					
2					
3					
4					
5					

[Add or delete rows from the above table as appropriate]

Control measures to address hazard

The control measures are to be designed to eliminate or minimise, as far as reasonably practicable, the identified inherent risks. The numbers of the risks being managed by each control should be recorded against the control along with how the control measure will be implemented.

[Examples are included in the guidance sheets for managing hazards.]

The control measures for this risk treatment plan are:

#	Details of control measures being used	Risks being managed	How hazard may harm or damage Sensitive Receptor
1	(number from above)	Performance standards	
2			
3			
4			
5			

[Add or delete rows from the above table as appropriate]

Residual risk assessment

Considering the control measures being put in place, assessment of the residual risk associated with the risks identified for this hazard is shown in the table below.

If you can eliminate any inherent risks with the application of control measures record them in the table as eliminated (i.e. no Consequence or Likelihood.)

[The likelihood and consequence should be assessed using the descriptors provided by Earth Resources Regulation and the risk rating determined using Earth Resources Regulation's risk matrix.]

#	Details of the Risk	Project Phase	Consequence	Likelihood	Residual Risk Rating
1					
2					
3					
4					
5					

[Add or delete rows from the above table as appropriate]

Compliance standards

The compliance standards are the key best practice standards or guidelines that will be achieved with the control measures in place. These best practice standards or guidelines may come from the EPA, state environment protection policies or other regulatory agencies.

[Examples are included in the guidance sheets for managing hazards.]

[Insert Compliance Standard]

[Insert Compliance Standard]

[Insert Compliance Standard]

Monitoring and ongoing management

[List the monitoring of the status or effectiveness of the control measures associated with this hazard and the management and/or maintenance of the control measures to ensure compliance with the performance standards. Include the aspect being monitored or managed and the detail of the monitoring or management. This section includes the management systems, practices and procedures that are to be applied to monitor and manage risks and compliance with performance standards.]

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1		
2		
3		

[Add or delete rows from the above table as appropriate]

Relevant industry publications

[List any relevant industry publications that support the management and monitoring of this hazard.]

#	Document	Source (e.g. URL, appendix number)
1		
2		
3		

[Add or delete rows from the above table as appropriate]

Operator's reference documents

[List any relevant manuals, procedures or other documents that support the management and monitoring of this hazard.]

#	Document	Location (e.g. work plan appendix number)
1		
2		
3		

[Add or delete rows from the above table as appropriate]

A fillable version of this template can be downloaded from the Earth Resources website earthresources.vic.gov.au.

B4 Example risk treatment plan

Scope

This risk treatment plan is for the control of: *Dust*

A hazard means any quarrying or rehabilitation activity and circumstance that may pose a risk to the environment, to any member of the public or to land, property or infrastructure in the vicinity of work carried out at a quarry.

Sensitive receptors

Sensitive receptors include the environment, any member of the public or land, property or infrastructure in the vicinity of a quarry that may be impacted or put at risk by the hazard associated with the quarrying or rehabilitation activity.

The sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1	Residential properties	1km to the north west	Health of residents through inhalation of dust, Amenity	Map provided, Air quality modelling
2	Public park and football oval	2km to the east	Amenity, health	Map provided, Air quality modelling
3	Public roads	Adjacent to northern and western boundaries of work authority	Dust depositing on road, safety,	Site map provided
4	Native vegetation	Adjacent to eastern boundary	Dust depositing on vegetation	Site map provided
5				

[Add or delete rows from the above table as appropriate]

To determine the sensitive receptors, consider:

- Environment: air, water, soil, vegetation, flora and fauna
- Members of the public – public health, safety, amenity, Aboriginal heritage and other heritage
- Land, property and infrastructure: neighbouring property and land uses, as well as nearby infrastructure such as highways, schools, hospitals, transmission lines and pipelines

Risks

These are the risks associated with the hazard to the sensitive receptors. Include an inherent risk rating for each event considering the design proposal of the project.

The inherent risk rating is the risk before any control measures have been applied.

The residual risk rating is the risk level after the control measures have been applied.

The project phase options include set up/construction, operations/production and rehabilitation, or a combination. If you feel that the inherent risk for the same risk event will differ in different project phases, then list the risk for each project phase.

[The likelihood and consequence should be assessed using the descriptors provided by Earth Resources Regulation and the risk rating determined using Earth Resources Regulation's risk matrix.]

#	Details of the Risk Event	Phase	Consequence	Likelihood	Inherent Risk Rating
1	Generation of dust from plant and equipment	• Construction • Operation • Rehabilitation	Moderate	Almost Certain	Very High
2	Generation of dust from overburden dumps and stockpiles	• Construction • Rehabilitation	Moderate	Almost Certain	Very High
3	Generation of dust from imported fill material	• Operation	Moderate	Almost Certain	Very High

[Add or delete rows from the above table as appropriate]

Control measures to address hazard

The control measures are to be designed to eliminate or minimise, as far as reasonably practicable, the identified inherent risks. The numbers of the risks being managed by each control should be recorded against the control.

[Examples are included in the guidance sheets for managing hazards.]

The controls for this risk treatment plan are:

#	Details of control measures being used	Risks being managed (number from above)	Performance standards
1	Maintain separation between the activity boundary and the property or activity boundary of the nearest sensitive land uses as per EPA Publication 1518 – of 250m or 500m.	1, 2, 3	Ensure 250m buffer retained between operational areas and sensitive receptors.
2	Enclose dust generating equipment (e.g. crushers, conveyors) or fit them with suppression devices to minimise dust emissions. Maintain enclosures or suppression devices to ensure they are operating effectively.	1	Dust suppression devices fitted to all operating dust-generating plant. High level of plant enclosure.
3	Stop dust generating activities (e.g. crushing) where dust suppression devices are not fitted or not operating correctly during very windy conditions.	1	Dust generating activities not undertaken when wind speeds ≥ 60 km/h.

#	Details of control measures being used	Risks being managed (number from above)	Performance standards
4	Manage onsite roads located within 250m of a sensitive receptor to minimise dust generation, for example, by sealing or gravelling the road or use of water, polymer or other chemical dust suppressants. Polymer or chemical suppressants to be subject to relevant environmental contamination control measures.	1	Onsite roads <100m from a sensitive receptor are sealed. Chemical dust suppressants are used on onsite roads between 100m and 250m from a sensitive receptor.
5	Stabilise soil and overburden stockpiles (e.g. seeded/roughened/mulched) if they will not be disturbed for an extended period. Water or use other dust suppressant agents to prevent dust generation prior to stabilisation.	2	Soil and overburden stockpiles stabilised if not used for 60 days.
6	Cover vehicles carrying dusty materials (soil, sand, rocks etc.) when transferring material to/from the site or treat with water or other dust suppressant to minimise dust generation.	1	Ensure all vehicles have loads covered when exiting site to transfer materials.
7	Install and use wheel wash and/or rumble grids for use by trucks at their main exit points.	1	Wheel wash/rumble grids installed at all site exits.
8	Limit vehicle movements on unsealed or untreated roads/areas to avoid dust generation during windy conditions.	1	Vehicle movements limited to sealed/ watered roads under windy conditions (≥50 km/h)
9	Establish, signpost and enforce speed limits to minimise dust generation from vehicles on roads that are prone to dust generation.	1	Set a 30 km/h speed limit on unsealed roads.

Residual risk assessment

Considering the control measures being put in place the assessment of the residual risk associated with the risk events identified for this hazard is shown in the table below.

[The likelihood and consequence should be assessed using the descriptors provided by Earth Resources Regulation and the risk rating determined using Earth Resources Regulation's risk matrix.]

#	Details of the Risk Event	Phase	Consequence	Likelihood	Residual Risk Rating
1	Generation of dust from plant and equipment	• Set up/ Construction • Operations/ Production • Rehabilitation	Moderate	Possible	Medium
2	Generation of dust from overburden dumps and stockpiles	• Set up/ Construction • Rehabilitation	Moderate	Possible	Medium
3	Generation of dust from imported fill material	• Operations/ Production	Minor	Unlikely	Low

[Add or delete rows from the table below as appropriate]

Compliance standards

The compliance standards are the key best practice standards or guidelines that will be achieved with the control measures in place. These best practice standards or guidelines may come from the EPA, state environment protection policies or other regulatory agencies.

[Examples are included in the guidance sheets for managing hazards

Reduce or prevent dust generation from onsite activities and materials transport, to the extent practicable.
Minimise offsite dust impacts on nearby sensitive receptors, including members of the public, residential land uses, and other sensitive land uses or environments.
Protect the beneficial uses of the air environment as defined in the SEPP (AQM)

Monitoring and ongoing management

[List the monitoring of the status or effectiveness of the control measures associated with this hazard. Include the aspect being monitored and the detail of the monitoring. Monitoring includes management systems, practices and procedures that are to be applied to monitor and manage risks and compliance with performance standards.]

#	Aspect to be monitored/managed	Details of monitoring and ongoing management
1	Dust deposition at nearest sensitive residential locations	Monitor continuously for 3 months following dust complaint, following applicable EPA guidance.
2	Excessive visible dust being generated on site	Visual observation during windy conditions

[Add or delete rows from the table below as appropriate]

Relevant industry publications

[List any relevant industry publications that support the management and monitoring of this hazard.]

#	Document	Source (e.g. URL, appendix number)
1	CMPA Dust Management Guidelines	www.cmpavic.asn.au/downloads/F-PAS-97.pdf
2		
3		

[Add or delete rows from the above table as appropriate]

Operator's reference documents

[List any relevant manuals, procedures or other documents that support the management and monitoring of this hazard.]

#	Document	Location (e.g. work plan appendix number)
1	Site plan	Work plan figure 1
2		
3		

[Add or delete rows from the above table as appropriate]

Appendix C – Example control measures

Dust

Scope

Guidance to assist applicants to prepare a risk treatment plan for the control of emissions of hazardous and/or nuisance dust or other particulates, particularly beyond the boundary of the work authority area.

Key sensitive receptors

Example control measures primarily address risks posed to members of the public and residential land uses. Some types of agricultural land use (e.g. wine grapes) and environmental features (e.g. protected flora) may also be highly sensitive to dust.

Objectives

- Reduce or prevent dust generation from onsite activities and materials transport, to the extent practicable
- Minimise offsite dust impacts on nearby sensitive receptors, including members of the public, residential land uses, and other sensitive land uses or environments
- Protect the beneficial uses of the air environment as defined in the SEPP (AQM).

Compliance standards

- EPA Protocol for Environmental Management – Mining and Extractive Industries
- State Environment Protection Policy Air Quality Management (SEPP AQM)
- EPA Guideline: Recommended separation distances for industrial residual air emissions.

Acceptance criteria

- No nuisance dust issues experienced by pre-existing, nearby sensitive receptors
- Dust and particulate emissions do not exceed applicable EPA standards.

Example controls to address hazard

These control measures are suggestions for consideration by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the proponent to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Maintain separation between the dust source and the property or activity boundary of the nearest sensitive land uses as per EPA Publication 1518 – of 250m or 500m.	*e.g. Ensure x m buffer retained between operational areas and sensitive receptors.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
2	Enclose dust generating equipment (e.g. crushers, conveyors) or fit them with suppression devices to minimise dust emissions. Maintain enclosures or suppression devices to ensure they are operating effectively.	*e.g. Dust suppression devices fitted to all operating dust-generating plant.*
3	Stop dust generating activities (e.g. crushing) where dust suppression devices are not fitted or not operating correctly during very windy conditions.	*e.g. Dust generating activities not undertaken when wind speeds ≥ x km/h.*
4	Manage onsite roads located within 250m of a sensitive receptor to minimise dust generation, for example, by sealing or gravelling the road or use of water, polymer or other chemical dust suppressants. Polymer or chemical suppressants to be subject to relevant environmental contamination control measures.	*e.g. Onsite roads <x m from a sensitive receptor are sealed. Chemical dust suppressants are used on onsite roads between x m and y m from a sensitive receptor.*
5	Stabilise soil and overburden stockpiles (e.g. seeded/roughened / mulched) if they will not be disturbed for an extended period. Water or use other dust suppressant agents to prevent dust generation prior to stabilisation.	*e.g. Soil and overburden stockpiles stabilised if not used for x days.*
6	Cover vehicles carrying dusty materials (soil, sand, rocks etc.) when transferring material to/ from the site or treat with water or other dust suppressant to minimise dust generation.	*e.g. Ensure all vehicles have loads covered when exiting site to transfer materials.*
7	Install and use wheel wash and/or rumble grids for use by trucks at their main exit points.	*e.g. Wheel wash/rumble grids installed at all site exits.*
8	Limit vehicle movements on unsealed or untreated roads/areas to avoid dust generation during windy conditions.	*e.g. Vehicle movements limited to sealed/watered roads under windy conditions (≥30 km/h)*
9	Establish, signpost and enforce speed limits to minimise dust generation from vehicles on roads that are prone to dust generation.	*e.g. Set a x km/h speed limit on unsealed roads.*

[Note: Values in the performance measure examples are intended to be defined for the site but should take into account any compliance standards or acceptance criteria.]

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Dust deposition at nearest sensitive residential locations*	*e.g. Monitor continuously for 3 months following dust complaint, following applicable EPA guidance.*
2	*e.g. Excessive visible dust being generated on site.*	*e.g. visual observation during windy conditions*

Relevant industry publications

CMPA Dust Management Guidelines – https://cmpavic.asn.au/downloads/F-PAS-97.pdf

Dust, silt and clay on roads

Scope

Guidance to assist applicants to prepare a risk treatment plan for the control of risks associated with the carriage and deposition of dust, silt and clay (mud) by vehicles exiting the work authority area.

Sensitive receptors

Example control measures primarily address risks posed to members of the public, particularly those using or residing near roads used by traffic exiting the quarrying operation.

Objectives

- Avoid carriage of dust, silt and clay (mud) by vehicles leaving the work authority area
- Prevent road safety issues from hazards associated with the deposition of dust, silt and clay (mud) onto external roads by traffic from the Work Authority area.

Compliance standards

- *Planning and Environment Act 1987*
- Planning Permit
- National Air Quality Standards

Acceptance criteria

- Minimise dust, silt and clay (mud) carried by vehicles beyond the boundary of the work authority area.

National Air Quality Standards

- Particles as PM 10 50 µg/m³ averaged over a 24-hour period
- Particles as PM 2.5 Advisory reporting standard: 25 µg/m³ over a one-day period; 8 µg/m³ over a one-year period

Example control measures to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the proponent to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Install and use wheel wash and/or rumble grids for use by trucks at their main exit points.	*e.g. Vehicle wash or rumble grids installed at the main site exits.*
2	Paving or sealing access roads leaving wheel wash or rumble grids.	*e.g. Paving or sealing installed and maintained.*

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Mud deposition on surrounding roads*	*e.g. Daily observation.*
2	*e.g. Visible dust emissions on roads*	*e.g. Daily observation.*

Erosion and sedimentation

Scope

Guidance to assist applicants to prepare a risk treatment plan for the control of erosion and subsequent deposition of sediments. Erosion may take place from stockpiles, constructed embankments, natural slopes and rehabilitated landforms. Sediment deposition may affect the work authority area or neighbouring lands and waterways.

Sensitive receptors

Example control measures primarily address risks posed to on and off-site environmental features, particularly soils and waterways; as well as water and its beneficial consumptive and environmental uses.

Objectives

- Prevent erosion and sediment runoff from onsite activities
- Stop offsite impacts of erosion and sediment run-off on the surrounding environment
- Protect the beneficial uses of water environments as defined in the SEPP (Waters)
- Stop the risk of failure of on-site infrastructure (e.g. tailings or slime storages, water storages etc.) due to erosion.

Compliance standards

- State Environment Protection Policy (Waters) (SEPP Waters)
- EPA Guideline 1287 Risk Assessment of Wastewater Discharge to Waterways
- *Water Act (1989)*
- *Catchment and Land Protection Act (1994).*

Acceptance criteria

- Control of erosion is an important part of keeping waterways clean, therefore sediment loss must be controlled on-site at all times. At no stage should sediment from the site be lost to a waterway
- No delivery of sediment to land or waterways outside the work authority area beyond what is permitted by the applicable SEPP, water discharge licence and/or appropriate water quality guidelines
- No unmanaged areas of active soil erosion within the work authority area or adjacent areas from site discharges.

Example controls to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the proponent to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance measures should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Plan and stage vegetation clearing and earthworks to limit, to the extent practicable given operational requirements, the total surface area of land exposed at one time.	*e.g. < x ha of land disturbed at one time.*
2	Install interception drains upstream and downstream of areas of disturbed ground, including stockpiles and unsealed roads, to minimise surface water flow onto such areas. Contain water carrying sediments from roads or other disturbed areas for suitable treatment.	*e.g. Interception drains constructed and operating effectively.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
3	Design, size and maintain sediment control ponds or other structures to retain water until all sediment from the design storm event has fallen out of suspension.	*e.g. Temporary structures will be designed to accommodate a 1 in x year storm event of y hours. Permanent structures will provide for a 1 in z year storm.*
4	Locate soil and overburden stockpiles away from waterways to minimise the risk of sediment discharge to waterways.	*e.g. Stockpiles located ≥ x m from any waterway.*
5	Stabilise soil and overburden stockpiles (e.g. seeded/roughened/mulched) and other disturbed areas as soon as practicable.	*e.g. Soil and overburden stockpiles and other disturbed areas stabilised if not used for 28 days.*
6	Maintain the angle and height of exposed working faces and/or stockpiles to minimise erosion and sediment generation to the extent practicable.	*e.g. Clay: slope of < x:y (V:H)*
7	Install effective velocity check and/or silt control structures in drainage lines to minimise scouring and sediment generation.	*e.g. Sandbag: drain < x mm deep and ≤ y% slope.* *Rock dam: drain > x mm deep and ≤ y% slope.* *Silt curtains installed.*
8	Plan and construct the final landform to minimise erosion and sediment run-off.	*e.g. Slopes graded to < x:y (V:H).* *Stabilisation measures applied (e.g. mulch, seedlings, geotextiles, etc).* *Sediment control ponds* *Flocculants to control sediment in water*

[Note: Values in the performance measure examples are intended to be defined for the site but should take into account any compliance standards or acceptance criteria.]

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Effectiveness of sediment control structures*	*e.g. Condition and operating effectiveness pre-winter and following each major rainfall effectiveness*
2	*e.g. Compliance with the EPA standard and/or requirements of a discharge licence*	*e.g. As required by SEPP or discharge licence.*

Relevant industry publications

- CMPA Guidance on Water Management Strategies for the Quarrying Industry
- International Erosion Control Association- Best Practice Erosion and Sediment Control

Fire

Scope

Guidance to assist applicants to prepare a risk treatment plan to mitigate risks from bushfires burning onto the work authority area and from fires igniting on-site and escaping to surrounding areas.

Sensitive receptors

Example control measures address risks posed to members of the public, land and property and the environment.

Objectives

- Control potential sources of fire ignition and activities that could lead to fire ignition and escape on days of elevated fire danger
- Minimise environmental and human safety risks associated with fires burning onto a work authority area.

Compliance standards

- *County Fire Authority Act (1958)*
- Country Fire Authority Regulations (2015)
- *Planning and Environment Act (1987)*
- Code of Practice for Bushfire Management on Public Land (2012).

Acceptance criteria

- Any fire ignitions originating within the work authority area are contained within it
- Grass or bushfires burning onto the work authority area do not cause health or safety incidents and result in minimal environmental harm.

Example control measures to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the proponent to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	For sites located on bushfire prone land, develop and implement "hot work" procedures for the con-duct of activities in the open that are a potential source of fire ignition.	*e.g. Written hot work procedures have been developed.*
2	No "hot work" to be undertaken in the open air on days of Total Fire Ban without a permit from the CFA.	*e.g. No ignition sources used on Total Fire ban days.*
3	Provide fire-fighting equipment in all on-site vehicles and mobile plant and maintain the equipment in good working order.	*e.g. Fire-fighting equipment in all vehicles and maintained as per the maintenance schedule.*
4	Relevant personnel working on sites in bushfire prone areas will be provided with information and training regarding the fire hazard conditions in the area, "hot work" procedures, relevant emergency response procedures and use of applicable equipment.	*e.g. x % of relevant personnel trained within Y month of commencement.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
5	Internal-combustion engines will be fitted with exhaust pipes, mufflers and spark arresters (where consistent with manufacturers specifications) and maintained in good working order.	*e.g. Where consistent with manufacturers specifications engines are fitted with spark arresting devices.*
6	Provide fire-fighting equipment in all site buildings and maintain it in good working order. Equip water carts with pressure pumps and fire fighting hose.	*e.g. Fire-fighting equipment in all site buildings.*
7	Flammable and combustible wastes are removed from the site as soon as practicable.	*e.g. No flammable waste is stockpiled onsite.*
8	For sites located on bushfire prone land, check the National Fire Danger Rating for the area of the site each work day during the prescribed fire danger period. Communicate the hazard rating and any specific instructions to site personnel.	*e.g. Fire Danger Rating checked daily and communicated to site personnel.*
9	Establish and maintain fire breaks around site boundaries in high risk fire areas.	*e.g. Fire breaks installed and maintained. Audit before high risk season.*

[Note: Values in the performance measure examples are intended to be defined for the site but should take into account any compliance standards or acceptance criteria.]

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Hot work approvals.*	*e.g. Establish and maintain a register of hot work approvals and hot works undertaken.*
2	*e.g. Training of personnel in high fire risk area.*	*e.g. Numbers of staff trained*

Relevant industry publications

- CFA Bushfire Management Template: Pathway 2 (https://www.cfa.vic.gov.au/plan-prepare/bushfire-management-statement-bms-templates)
- CMPA Hot Work permit

Fuel, lubricants and hazardous materials

Scope

Guidance to assist applicants to prepare a risk treatment plan to manage risks associated with the storage, use and handling of fuel, lubricants and hazardous materials to minimise risks to the environment.

Sensitive receptors

Example control measures primarily address risks posed to the environment.

Objectives

- Minimise the risk of fuels, lubricants and hazardous materials released into the environment through leaks, spills and through stormwater runoff.

Compliance standards

- State Environment Protection Policy (Waters). (SEPP Waters)
- State Environment Protection Policy (Prevention and Management of Contaminated Land)
- (SEPP Contam Land)
- Environment Protection (Scheduled Premises & Exemptions) Regulations (2007)
- Environment Protection (Industrial Waste Resource) Regulations (2009)
- AS1940 – Storage and Handling of Flammable and Combustible Liquids

Acceptance criteria

- Fuels, lubricants and hazardous materials are stored in accordance with AS 1940
- Compliance with relevant SEPPs.

Example controls to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the proponent to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Design and install bunding and surface sealing of storage area sufficient to hold 125% of the total volume of the hazardous material.	*e.g. Bund height, volume of the bunded area in relation to the amount of substances stored, imperviousness of the bunded area i.e. Impervious material used for lining*
2	Locate the storage area away from the waterways or areas prone to flooding.	*e.g. Buffer distance between the storage area and the sensitive receptors*
3	Minimise the amount of fuels, lubricants and hazardous materials stored on site by limiting the volume of hazardous substances stored onsite to the minimum required for the activity.	*e.g. Register established and maintained*
4	Provide spill and leakage protection around areas where fuels, lubricants and hazardous substances are stored and handled. Control measures may include: • locating activities on compacted sealed ground; • use of drip trays; • installation of oil/water interceptors in drainage lines; • sedimentation filters/ponds in drainage lines; • construction of earthen bunds etc	*e.g. All areas protected against spills and leaks*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
5	Underground tanks / sumps for the storage of hazardous substances (such as fuel, waste oils, effluent) are not installed at the site	*e.g. No underground storage structures are present*
6	Inspect and maintain spill control equipment	*e.g. Daily visual inspection and inspection records maintained*
7	Ensure appropriate clean-up equipment and materials are available	*e.g. Equipment and materials are available and accessible to all the sites and all the time*
8	Notify relevant authorities of significant spills or leaks	*Record of all spill reports maintained*
9	Ensure drainage from areas where spills may occur is diverted through a sump or interceptor	*e.g. Sumps/interceptors of adequate capacity are in place*
10	Manage water and stormwater runoff in and surrounding site to reduce the potential for impacts on environment	*e.g. Construction and maintenance of onsite drainage*
11	Provision of fire control equipment and maintained in areas where flammable/ combustible hazardous substances are stored	*e.g. Records of regular maintenance*

[Note: Values in the performance measure examples are intended to be defined for the site, but should take into account any compliance standards or acceptance criteria.]

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Volume of fuels, lubricants and hazardous materials available at the site*	*e.g. Regular periodic stocktake (e.g. monthly)*
2	*e.g. Pollution control devices maintained and serviced*	*e.g. Six-monthly audit*

Imported materials

Scope

Guidance to assist applicants to prepare a risk treatment plan to manage risks associated with the import, storage and/or management of hazardous or non-hazardous solid materials to the work authority area.

A statement in your workplan, rehabilitation of the site will include imported clean fill.

Sensitive receptors

Example control measures primarily address risks posed to the environment, particularly soils, waterways and related terrestrial and aquatic ecosystems.

Objectives

- Prevent contamination of the site by importing hazardous materials or soils carrying seeds of declared weeds or infested with soil-borne plant diseases
- Prevent unlicensed importation and storage of domestic or industrial wastes and hazardous materials.

Compliance standards

- *Environment Protection Act (1970)*
- *Catchment and Land Protection Act (1994)*
- *Planning and Environment Act (1987)*
- *Mineral Resources (Sustainable Development) Act (1990)*
- State Environment Protection Policy (Waters) (SEPP Waters)
- Earth Resources Regulation Imported Materials Management Guidelines for Mine and Quarry Operations
- EPA Publication No. IWRG621 Industrial Waste Resource Guidelines – Soil hazard categorisation and management
- EPA Publication No. IWRG631 Industrial Waste Resource Guidelines – Solid industrial waste hazard categorisation and management
- EPA Publication No. IWRG600.2 Industrial Waste Resource Guidelines – Waste Categorisation
- EPA Publication No. 655.1 Acid Sulfate Soil and Rock.

Acceptance criteria

- The management of imported materials does not detract from beneficial uses of soil, surface water or groundwater within or near the work authority area
- Importation and management of imported materials fully complies with applicable legislative and regulatory requirements.

Example controls to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the applicant to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Obtain any required approvals for the import of materials from local government (via a planning permit) and/or ERR (via a work plan or work plan variation) prior to the commencement of importation of materials.	*e.g. All permits and approvals in place before commencement.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
2	Obtain certification from supplier that imported material meet the requirements for clean fill as defined in the Industrial Waste Resource Regulations (IWRG). Spot check loads to confirm their composition is consistent with their classification.	*e.g. Imported materials meets criteria for clean fill and has appropriate certificates.*
3	Prohibit the import of domestic waste, prescribed industrial wastes and acid sulfate soils or other acid-forming rocks to the site.	*e.g. No domestic or prescribed waste imported to the Work Authority area.*
4	Weigh and visually inspect each load of material imported to site and record tonnage and source. Segregate materials imported from different sources until they are confirmed as clean and suitable for use.	*e.g. Materials receipt records are maintained.* *Imported materials are segregated until confirmation of their suitability for use within the Work Authority area.*
5	Only import soil from sites that are known to be free of pathogens and declared weeds (and their seeds). Maintain a register of this information for any soil, fill or similar material imported onto the work authority area.	*e.g. Imported soil is verified as weed and pathogen free.*

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Composition of loads of imported materials.*	*e.g. Inspect to confirm material composition is consistent with clean fill definition.*
2	*e.g. Obtain relevant certificates for imported materials.*	*e.g. Maintain a register of certificates for imported material.*

Noise

Scope

Guidance to assist applicants to prepare a risk treatment plan for the control of noise, particularly as it has potential to affect sensitive receptors beyond the boundary of the work authority area.

Sensitive receptors

Example control measures primarily address risks posed to members of the public and residential land uses. Some types of agricultural land use (e.g. horses) and environmental features (e.g. migratory bird breeding areas) may also be highly sensitive to noise.

Objectives

- Reduce noise generation from onsite activities and materials handling to the extent practicable
- Minimise offsite noise impacts on nearby sensitive receptors, including members of the public, residential land uses and other sensitive land uses or environments
- Protect the beneficial uses of the air environment as defined in the SEPP N-1
- Noise experienced by nearby sensitive receptors is within specifications of SEPP N-1 or NIRV guideline.

Compliance standards

- EPA Guideline 1411 – Noise from Industry in Regional Victoria (NIRV)
- State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) (SEPP N-1).

Acceptance criteria

- Noises levels at nearby sensitive receptors do not exceed applicable EPA standards.

Example controls to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the applicant to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Locate noise generating plant and equipment away from noise sensitive receptors.	*e.g. Minimum x m buffer distance maintained between operational areas and noise sensitive receptors.*
2	Plan the site layout to screen operational areas from noise sensitive receptors. Where possible: • Locate site access roads away from sensitive receptors; • Use existing features (i.e. topography, vegetation) and/or stockpiles or other constructed features as noise barriers; • Locate noisy equipment away from sensitive receptors; Maintain the minimum buffer/set-back distances specified in the planning permit.	*e.g. Locations with noise generating activities effectively screened from noise sensitive receptors.* *Install vegetated bund walls where required.*
3	To the extent practicable, specify low noise generating equipment when selecting equipment for on-site use.	*e.g. As far as practical all equipment used on site will have a low noise rating*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
4	Maintain (active) site roads in good condition to minimise noise from vehicle traffic over corrugations and potholes.	*e.g. Corrugations and potholes are remedied as soon as possible to minimise their presence.*
5	Where practicable and consistent with manufacturer's specifications, fit (or retain) mobile noise-generating equipment, pneumatic equipment and/fixed internal combustion engines with noise attenuation devices (e.g. enclosures, baffles, silencers, mufflers etc.) and maintain equipment in good repair.	*e.g. Noise abatement devices fitted to all operational noise generating plant.*
6	Limit materials haulage from the work authority area to licensed operating hours and minimise excessive noise levels from dusk to dawn, e.g. drilling.	*e.g. Operating hours:* • *X am – Y pm Mon to Fri.* • *X am till Z pm on Sat.* • *No work on Sun or public holidays.*
7	Extended operating hours are limited to sales and loading.	*e.g. Hours of operation specified for different activities*
8	Turn off plant, equipment and vehicles when not in use for an extended period.	*e.g. No plant, equipment or vehicles remain on when not in use.*
9	Broadcast or loudspeaker system, telephone ringer or other external alarm are not routinely used (except as a warning alarm e.g. for blasting).	*e.g. No external broadcast systems are used.*
10	Fit low frequency reversing noise signals to all applicable mobile plant.	*e.g. All applicable mobile fitted with low frequency reversing noise signals.*

[Note: Values in the performance measure examples are intended to be defined for the site but should take into account any compliance standards or acceptance criteria.]

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Noise at nearest sensitive residential locations comply with the SEPP requirements.*	*e.g. Monitor regularly for 3 months following noise complaint*
2	*e.g. After-hours noise levels (dusk to dawn)*	*e.g. Assess all after hours noise sources.*
3	*e.g. Extended operating hours noise levels*	*e.g. establish and maintain appropriate monitoring of noise at boundary or sensitive receptors*

Relevant industry publications

CMPA Noise Management Guidelines

Pests, weeds and diseases

Scope

Guidance to assist applicants to prepare a risk treatment plan to control and avoid introducing weeds, pest animals and/or soil-borne disease to the site of a quarry and threatening biodiversity and/or agricultural production values associated with the site and surrounding areas.

Sensitive receptors

Example control measures primarily address risks posed to the environment and primary production land uses.

Objectives

- Protect biodiversity values associated with the work authority area
- Prevent site activities contributing to the proliferation of noxious weeds, plant diseases or pest animals, on or off the work authority area.

Compliance standards

- *Catchment and Land Protection Act (1994)*
- *Planning and Environment Act (1987)*
- *Public Health and Wellbeing Act (2008)*
- *Agricultural and Veterinary Chemicals (Control of Use) Act (1992)*
- Agricultural and Veterinary Chemicals (Control of Use) Regulations (2007).

Acceptance criteria

- Site operator complies with legislative requirements relating to the control and management of declared noxious weeds and pest animals
- The extractives operation does not contribute to the spread or proliferation of soil-borne plant diseases.

Example control measures to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the applicant to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Eradicate or manage any declared noxious weeds or established pest animals present on the Work Authority area.	*e.g. Infestations of declared noxious weeds and established pest animals are eradicated or controlled.*
2	Identify pest species habitats within the work authority boundary and remove refuge areas (burrows, hollow logs) where practicable and consistent with native vegetation protection requirements.	*e.g. Pest animal habitats are removed or destroyed.*
3	Any soil imported to the site is to be from a location that is known to be free of pathogens, disease and noxious weeds (and their seeds).	*e.g. Imported soil is verified as weed and pathogen free.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
4	Disinfect equipment moved from areas known or suspected to contain Phytophthora cinnamomi. Disinfection is to be carried out so that water or other materials from disinfection cannot reach a waterway or contaminate native vegetation habitats.	*e.g. Hygiene procedures are in place and followed in areas with known or suspected Phytophthora cinnamomi presence.*
5	Identify and map areas within the work authority boundary that contain declared noxious weeds (under the CaLP Act) and establish exclusion zones until the weeds are controlled and/or the area is fully disturbed by the activity.	*e.g. Areas containing declared weed species are not disturbed by site activities.*
6	Limit vegetation clearing and surface disturbance activities to the minimum required operationally.	*e.g. Limit clearing to ≤ x m in advance of operational areas.*
7	Engage appropriately licensed personnel to conduct any required pesticide application to control weeds and/or pest animals.	*e.g. Only licensed personnel are permitted to apply pesticides.*
8	Stockpile and manage soils from areas with noxious weed infestations separately to other soils to avoid cross contamination.	
9	Vermin management mitigated by the removal of waste, rubbish, etc. by licensed contractor.	*e.g. Regular waste and rubbish collection services in place.*

[Note: Values in the performance measure examples are intended to be defined for the site but should take into account any compliance standards or acceptance criteria.]

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Site flora and fauna for noxious weeds and pests.*	*e.g. Inspect all areas to assess the health of the vegetation and to check for erosion, pest animal browsing damage and weed infestation.*

Rubbish

Scope

Guidance to assist applicants to prepare a risk treatment plan to manage risks to the environment from the storage and/or management of rubbish or industrial wastes (as defined by the EPA) within a work authority area. These control measures do not apply to prescribed industrial wastes, acid-forming rocks or acid sulphate soils.

Sensitive receptors

Example control measures primarily address risks posed to the environment, but also address amenity for members of the public and nearby residents.

Objectives

- Prevent rubbish and industrial wastes generated by site activities from adversely affecting soil, water or other aspects of the environment.
- Protect the beneficial uses of water and soil environment as defined in relevant State Environment Protection Policies (SEPPs).

Compliance standards

- SEPP (Waters)
- SEPP (Prevention and Management of Contaminated Land)
- Environment Protection (Scheduled Premises & Exemptions) Regulations (2007)
- Environment Protection (Industrial Waste Resource) Regulations (2009).

Acceptance criteria

- Beneficial uses of soil, water and air within and near the work authority area are not detrimentally affected by the storage and/or management of rubbish or industrial wastes.

Example control measures to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the applicant to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	**Performance standards** (specifying how the control is being implemented – examples shown below)
1	Segregate wastes generated on-site (by type and hazard) for recycling or disposal. Recover and re-use site generated wastes where possible (e.g. mulching of green waste for use in rehabilitation).	*e.g. Waste is segregated at source and is re-used on-site where practicable.*
2	No on-site disposal (or burning) of rubbish and/or prescribed wastes generated from site activities. Use appropriately licensed off-site services facilities to recycle or dispose of site generated wastes.	*e.g. No domestic or prescribed industrial wastes disposed on-site.*
3	Assess all rubbish and industrial wastes for potential for contamination and manage/ dispose in accordance with EPA requirements.	*e.g. Licensed contractors are used for the disposal of all rubbish and waste material.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
4	Limit the volume and permitted timeframe for wastes to be stored onsite.	*e.g. Waste materials not held on-site for more than x month.*
5	Protect waste storage areas from rainfall and stormwater or flood ingress.	*e.g. Covered waste storage areas and/or bins.*
6	Locate waste storage away from areas of protected habitat and/or waterways.	*e.g. x m buffer distance maintained between waste storage areas and protected habitat and/or waterways.*
7	Develop and implement appropriate training on waste management measures to limit the generation and accumulation of waste on site.	
8	Provide covered bins for temporary on-site storage of rubbish and domestic wastes.	*e.g. Sealed bins provided.*

[Note: Values in the performance measure examples are intended to be defined for the site but should take into account any compliance standards or acceptance criteria.]

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Wastes stored on site.*	*e.g. Quantities, types and location of prescribed wastes stored on site*
2	*e.g. Approved disposal of wastes.*	*e.g. Register of licensed contractors*

Site access

Scope

Guidance to assist applicants to prepare a risk treatment plan for unauthorised access to the work authority area by members of the public and to provide for safe authorised access.

Sensitive receptors

Example control measures primarily address risks posed to members of the public.

Objectives

- Provide for the safety of members of the public when accessing a work authority area
- Prevent unauthorised access to the work authority area by members of the public.

Compliance standards

- *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019*
- *Safety on Public Land Act (2004)*
- *Earth Resources Regulation's Standard Conditions.*

Acceptance criteria

- Boundary of work authority area is appropriately marked and secured
- Operating area for quarry is secured to minimise chances of unauthorised entry
- Safety signage is clearly visible around the boundary fence and at all access points.

Example controls to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the applicant to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Identify, mark and fence the boundary of the work authority (WA) area in compliance with the MRSD (Extractive Industries) Regulations 2010 or work authority conditions.	*e.g. The site boundary is identified with compliant boundary markers and fully fenced with lockable access gates.*
2	Lock all gates when site is unattended. Control access to site when site is attended.	*e.g. Site gates locked or otherwise secured.*
3	Design and construct onsite roads to safely accommodate the size and type of vehicles accessing and travelling within the site. Separate any general traffic from any internal haul routes.	*e.g. For one-way traffic, the track should be twice the width of the widest vehicle. For two-way traffic, the track should be three times the width of the widest vehicle.*
4	Install site access safety signage around boundary fence and at all access points.	*e.g. Hazard warnings against unauthorised access.*

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Site entry by members of the public.*	*e.g. Register of all visitors to site.*
2	*e.g. Site security breaches (unauthorised access)*	*e.g. Records kept of site security breaches.*

Relevant industry publications

CMPA Traffic Management Guidelines

Soil biological activity

Scope

Guidance to assist applicants to prepare a risk treatment plan to help maintain the biological activity of undisturbed and stockpiled soils within the work authority area. It does not address the storage of contaminated soils or potential acid sulphate soils.

Sensitive receptors

Example control measures primarily address risks posed to on-site soils and the successful rehabilitation of the quarry site.

Objectives

- Protect existing soil structure, nutrient levels and biological activity in onsite soils
- Facilitate the rehabilitation of the quarry site by maintaining biological activity in stockpiled soils.

Compliance standards

- *Catchment and Land Protection Act (1994).*

Acceptance criteria

- The health of biologically active soil is maintained while it is stockpiled and reused in rehabilitation.

Example Controls to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the applicant to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Install and use wheel wash and/or rumble grids for use by trucks at their main exit points.	*e.g. Wheel wash and/or rumble grids are installed for use by trucks at their main exit points.*
2	As applicable to the site, segregate each soil layer/type into individual stockpiles for future reuse. This must include surface organic matter and larger woody debris.	*e.g. Individual soil strata (topsoil, overburden, gravel, humus etc) are retained in separate stockpiles.*
3	If possible do not strip soil when it is very dry or saturated.	*e.g. Condition of soil stockpile maintained.*
4	Maintain soil stockpiles at no more than 2m height.	*e.g. Stockpiles ≤ x m height.*
5	Replace stockpiled soil strata (during rehabilitation) in their original order to maintain the natural soil profile.	*e.g. The soil's original profile is restored during rehabilitation.*
6	Stabilise soil and overburden stockpiles (e.g. seeded / roughened / mulched) if they will not be disturbed for an extended period.	*e.g. Soil and overburden stockpiles are stabilised if not used for x days.*
7	Any soil imported to site must be from a location that is known to be free of pathogens, disease and noxious weeds (and their seeds).	*e.g. Imported soil is verified as weed and pathogen free.*

[Note: Values in the performance measure examples are intended to be defined for the site but should take into account any compliance standards or acceptance criteria.]

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Maintenance of site soil stockpiles.*	*e.g. Quality of stockpile maintained for future re-use on site.*
2	*e.g. Soils imported to the site.*	*e.g. Register of point of origin, location of storage and confirmation of the weed and disease free status of the origin.*

Stormwater

Scope

Guidance to assist applicants to prepare a risk treatment plan to manage risks associated with the stormwater generated within the site to minimise its impacts on environment and infrastructure.

Sensitive receptors

Example control measures primarily address risks posed to environment, particularly waterways and related ecosystems from the stormwater runoff and the site infrastructure such as roads.

Objectives

- Protect the beneficial uses of the local water environment as defined in the SEPP (Waters)
- Minimise the impact to the onsite roads and other infrastructure due to stormwater runoff.

- **Compliance standards**
- *Water Act (1989)*
- *Catchment and Land Protection Act (1994)*
- *Planning and Environment Act (1987)*
- State Environment Protection Policy (Waters) (SEPP Waters)
- EPA Guideline 1287 Risk Assessment of Wastewater Discharge to Waterways.

Acceptance criteria

- Stormwater is managed to meet the SEPP
- No nuisance stormwater flooding/inundation of roads and other infrastructure.

Example control measures to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the applicant to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Construct roads with sufficient diversion drains and culverts to ensure that clean stormwater is diverted away from roads.	*e.g. Survey set out of roads and designs where necessary employ surface treatment to reduce erosion.*
2	Ensure that the gradient and orientation of tracks do not cause runoff to be fast flowing.	*e.g. Maintenance of tracks to minimise erosion.*
3	Arrange drainage of roads to be a vegetated area through erosion protection structures	*e.g. Side and angled drain off collection drains protected against erosion.*
4	Ensure that drainage from an area where fuels/ lubricants/ hazardous material are stored/used is directed to a sump or an interceptor trap.	

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. storm water culverts and discharge points*	*e.g. Inspect outlet area to assess the potential for contaminated stormwater to exit the site.*
2	*e.g. Erosion control structures*	*e.g. Inspect and maintain erosion control structures.*

Water

Scope

Guidance to assist applicants to prepare a risk treatment plan for the management of risks associated with the diversion or disturbance of natural path of flows along waterways or drainage lines. It does not deal with the extraction of water from waterways or groundwater, nor the discharge of process water to the environment.

Sensitive receptors

Example control measures primarily address risks posed to the environment, particularly waterways and related ecosystems.

Objectives

- Prevent site activities from adversely affecting local surface and groundwater sources
- Protect the beneficial uses of the local water environment as defined in the SEPP (Waters).

Compliance standards

- *Water Act (1989)*
- *Catchment and Land Protection Act (1994)*
- *Planning and Environment Act (1987)*
- State Environment Protection Policy (Waters) (SEPP Waters)
- EPA Guideline 1287 Risk Assessment of Wastewater Discharge to Waterways.

Acceptance criteria

- The diversion and return of diverted water to the environment does not detract from beneficial uses of surface water or groundwater.

Example control measures to address hazard

*These control measures are **suggestions for consideration** by applicants. Some or all may be used, with or without additional control measures. Performance standards should be determined by the applicant to specify how the control measure is to be implemented, where this is not implicit in the details of the control measure. Performance standards should include relevant specifics such as buffer distances, vehicle speed, the decibel range or the range of particulate matter as appropriate.*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
1	Where reasonably practicable, locate the quarrying activity outside areas designated as a flood-plain and/or Land Subject to Inundation.	*e.g. Site located outside designated flood zones.*
2	Install diversion drainage structures up-gradient of working areas to prevent clean surface water from entering the site and becoming contaminated.	*e.g. Surface water diversion structures installed and effectively intercepting surface water before it reaches operating areas.*
3	Construct and maintain diversion structures to limit impacts on downstream/offsite surface water flows. (e.g. alteration of drainage pathways, change in flow), including installing scour protection on the outlet of surface water diversion drains	*e.g. Downstream environmental flow is maintained.*
4	Design onsite diversion drains to accommodate the surface water flows for a 1 in 10 year storm event (10% AEP), based on the area of the up-gradient catchment area.	*e.g. Diversion drains designed for 1 in 10 year storm event*

#	Details of control measures being used	Performance standards (specifying how the control is being implemented – examples shown below)
5	If diversions of water activities require: • extraction of water from a waterway or existing dam • construction of a dam on a waterway. Ensure an appropriate 'Take & Use Licence' is obtained from the relevant Rural Water Corporation. A "Works on Waterways" approval must be obtained from a Catchment Management Authority for activities involving works on waterways.	*e.g. Ensure an appropriate 'Take & Use Licence' is obtained from the relevant Rural Water Corporation.* *Ensure A "Works on Waterways" approval is obtained from a Catchment Management Authority for activities involving works on waterways.*

[Note: Values in the performance measure examples are intended to be defined for the site but should take into account any compliance standards or acceptance criteria.]

Monitoring and ongoing management

#	Aspect to be monitored/managed	Details of monitoring/ongoing management
1	*e.g. Condition of waterway at outlet of diversion drain.*	*e.g. Inspect outlet area to assess the potential for erosion and the effectiveness of scour protection features.*
2	*e.g. Effectiveness of upstream diversion drainage structures*	*e.g. Inspected and maintained as required.*

Relevant industry publications

- CMPA Guidance on Water Management Strategies for the Quarrying Industry.

Appendix D

D1 Work plan and work plan variation documentation requirements

Table D1: Work plan requirements

Regulation	Required Items	Guidance
8	**Information required in work plans-description of proposed work**	
8(a)	A description of sensitive receptors in relation to the environment, any member of the public, or land, property or infrastructure in the vicinity of the proposed work	Receptors are considered to be sensitive receptors when they are located in the vicinity of the work. In the vicinity of the work is defined by referring to requirements of separation distances or buffer distances or other quantitative/qualitative references stipulated in legislation, policies, or guidance material relating to those receptors. Describe and specify the location of any residences, public facilities, roads, bridges, pipelines, power lines, easements, parks, reserves, waterways, depth to groundwater, heritage sites, communities or other sensitive receptors in the vicinity of the project area. Sensitive receptors may include (but not limited too): • Residential • Private properties • Community facilities • Waterways • Groundwater bores • Groundwater dependant ecosystems • Areas of cultural heritage sensitivity • Significant landscapes • Public infrastructure – such as bridges, roads, railways • Parks and reserves • Heritage buildings and features
8(b)	A location map of the work plan area and area within 2 km of the work plan area, drawn at an appropriate scale, that shows the following-	Maps need to be provided so that ERR can assess your proposal in the context of the surrounding site setting, including the identification of sensitive receptors. A series of maps can be prepared to best represent the proposal and information to be presented. The location map should be at a scale of 1:25,000 or at an appropriate scale for showing sensitive receptors within 2km of the proposed work authority boundary and should include: • north direction, legend, bar scale, date of and revision date of drawing • boundaries of the proposed work authority area (with distances and bearings, or GPS co-ordinates) • buffer radius (circles or elliptical) (at minimum 500m, 1km and 2km) from the proposed work authority boundary • the proposed area of disturbance and area of extraction.

Regulation	Required Items	Guidance
	i. The location of sensitive receptors identified; and	The identified sensitive receptors in 8(a) must be shown and labelled on the site maps.
	ii. the extent and status of Crown lands and private lands; and	Include the extent of Crown lands, private lands, and private land allotments for the proposed work plan area; noting depth limitations if applicable. For Crown lands, display categories (where applicable) – Unavailable Crown land, Restricted Crown land, Unrestricted Crown land.
	iii. residential, commercial and industrial development; and	This detail can be shown as planning scheme zoning layers, or aerial photography and must be labelled to show the: • location of possibly occupied houses, and community facilities • location of townships, and cadastral boundaries • location of infrastructure, including major and minor roads (with names), bridges, rail lines, pipelines (water, gas, telecommunication), power lines, and easements.
	iv. public facilities and infrastructure; and	This includes parks and reserves. This detail can be shown as aerial photography. All features must be labelled.
	v. rivers and streams; and	The location of all waterways, and their names.
	vi. for private land within the work plan area, any depth limitations on the land titles;	The location of private land within the work plan area.
	A general description of geological information pertaining to the proposed work, including: i. stratigraphy; and ii. any adverse geological structures; and iii. the type of stone to be extracted; and iv. the estimated stone resources and reserves.	• Describe the geology, geological structure (faults, fractures etc.) • Describe current and past land uses which may impact the proposed design (such as contaminated land, old slimes, underground voids) • Specify the resource type (e.g. basalt) • An estimate of total reserves within the work authority boundary.
8(d)	A general description of the quarry operations, including:	• A description of quarry operations is essential to understanding the proposal and identifying the activities that will be undertaken.

Regulation	Required Items	Guidance
8(d)(i)	The method and scale of extraction; and	• Provide a general description of extraction methods, including plant and equipment for extraction and haulage. • Describe the proposed area and depth of extraction, proposed stages of extraction (if applicable), proposed design of extraction pit including number of benches and working and terminal slope configuration (slope, bench height, berm width). Describe depths and slopes for all parts of the extraction area (if variable). • Specify the total proposed area of disturbance (excavation, processing, roads, etc.). • Specify the volume of extraction excluding topsoil. • For work plan variations, describe the current open area and the additional area to be opened. • Specify whether any dewatering activities will be undertaken. • Specify whether vegetation clearing will be undertaken. • Specify whether any blasting activities will be undertaken and, if so, which blasting methods will be applied. Provide detail (days and time) of proposed blasting operations (where applicable). To support the proposal a cross-section of the pit design should be included. The cross-sections are to show geology, and batter design, with proposed bench heights, berm details and both working and terminal batters, for all parts of the extraction area. The cross-section must show elevation relative to sea level (mAHD)
8(d)(ii)	Stone processing methods and facilities	Provide a general description of processing methods, including plant and equipment, and storage of clean water, process water and slimes.
8(d)(iii)	Waste disposal methods and facilities	Describe physical and chemical composition of quarry waste materials, identifying potential hazardous substances, including the presence of sulphides (if acid sulphate soil has been excavated and/or chemicals will be used in processing). This description is to include any added chemical treatments / flocculating agents. Describe how hazardous materials such as fuel and chemicals will be managed.
8(d)(iv)	Stockpiling facilities	Specify general location, volume and height of topsoil, overburden, and product stockpiles. Describe the process for removal and stockpiling of topsoil.

Regulation	Required Items	Guidance
8(d)(v)	Other quarry infrastructure	Provide a general description of operational equipment to be used on site, including (but not limited to) operational equipment for extraction, processing (crushing, screening, pre-coat, concrete, recycle etc.), and haulage. Describe and show on the Site Layout Plan processes or equipment locations (such as processing plants next to an open pit) that may increase the potential for slope instability. Describe equipment to be used for dewatering (if applicable). Describe the number and location of any water bores and pumps. On a plan, show the location of any workshops, storage sheds, lunchroom, amenities block, site office, weighbridge, laboratory testing, training and meeting rooms, access and haul roads, parking, maintenance hardstand and vehicle wash down.

Regulation	Required Items	Guidance
8(e)	A site map, drawn at an appropriate scale, that shows the general layout of the quarry and associated facilities and infrastructure.	Maps need to be provided so ERR can assess the proposal in the context of the surrounding site setting, including the identification of sensitive receptors. A series of maps can be prepared to best represent the proposal and information to be presented. The site map should include: • a scale of 1:1,000, 1:2,500 or other appropriate scale for showing sensitive receptors within the vicinity of the work authority area, with northing, legend, bar scale, and drawing & revision dates • work authority boundaries, extraction boundaries • cadastral boundaries and any depth limitations • existing surface contours, topographical features, drainage patterns, water courses (including drainage diversion, levee location and design) and vegetation to be removed/retained • plant and equipment (e.g. buildings & surface facilities, location of power generation and/or reticulation, offices & toilets) • extent of open cut extraction, with proposed bench heights, berm details and working batters. • sequence / staging / direction of pit extraction • representative cross-sections showing geology and working and terminal batter designs with proposed bench heights, berm details and batter slopes • proposals for landscaping of the work authority area, including buffer zones and retained areas of native vegetation • adjoining public road(s), with names • a survey benchmark with a reduced level (if applicable) • access roads • location of water dams, in-pit sumps, slimes dams and pipe lines • location of onsite power lines, gas lines and any other easements • general location of stockpiles for topsoil, overburden and product • general location of any removed vegetation material (such as that to be used for rehabilitation) • location of fuel storage areas, including both above-ground and underground storage tanks • explosives, additives or hazardous waste storage areas • water bores and pumps (if any).
9	**Information required in work plans – identification of hazards and risks**	
9(a)	Details of quarrying hazards that may arise from work under the work plan, including quarrying hazards arising from- i. set up or construction; and ii. operations or production;	*For requirements, refer to the guidance in Section 2.4 of the document above.*

Regulation	Required Items	Guidance
9(b)	Details of rehabilitation hazards that may arise from rehabilitation under the work plan;	*For requirements, refer to the guidance in Section 2.4 of the document above.*
9(c)	An explanation of how the identified hazards may harm or damage the sensitive receptors described in the work plan, including evidence to support the assessment of the potential for harm or damage to be caused;	*For requirements, refer to the guidance in Section 2.4 of the document above.*
9(d)	An assessment of the risks that the identified hazards may pose to identified sensitive receptors, having regard to i. the nature of the hazard; and ii. the likelihood of the hazard causing, or contributing to, any harm or damage; and iii. the severity or consequence of the harm or damage that may be caused.	*For requirements, refer to the guidance in Section 2.4 of the document above.*
10	**Information required in work plans – risk management plan**	
10(a)	Measures to be applied to eliminate or minimise the risks as far as reasonably practicable.	*For requirements, refer to the guidance in Section 2.4 of the document above.*
10(b)	The performance standards to be achieved by either individual measures or some combination of measures.	*For requirements, refer to the guidance in Section 2.4 of the document above.*
10(c)	Management systems, practices and procedures that are to be applied to monitor and manage risks and compliance with performance standards.	*For requirements, refer to the guidance in Section 2.4 of the document above.*
10(d)	An outline of the roles and responsibilities of personnel accountable for the implementation, management and review of the risk management plan.	*For requirements, refer to the guidance in Section 2.4 of the document above.*
11	**Information required in work plans – rehabilitation plans**	

Regulation	Required Items	Guidance
11(4)(a)	Concepts for the end utilisation of the proposed quarry site; and	The concept plan should establish expected end use(s) of the site and its general characteristics at the completion of rehabilitation. It may consider: • future land uses that do not depend on the need to obtain a planning permit for its use; if the proponent is proposing uses that require a planning permit, such as a land fill, a letter from the relevant waste management group should accompany the proposal (refer to ERR guidelines Imported Materials Management – include reference). • the capability/suitability of the land; describe the land's inherent features, to help demonstrate that the proposed end use is suitable. • the possible end land use(s); provide a conceptual statement on final landform based on all available geological, geochemical and biological information. • conceptual slope configuration • conceptual rehabilitation of waste dumps, stockpiles, water storages and slimes dam facilities • surface water management for runoff control and erosion prevention • the nature of soils and overburden/waste rock to be used in rehabilitation • evidence that there is sufficient suitable material available to complete the proposed final landform – such as materials balance • any constraints on final land use (e.g. regulatory, physical, agreements with private landowners) • overview of proposed action to confirm rehabilitation strategy with relevant stakeholders
11(4)(b)	Proposals for the progressive rehabilitation, stabilisation and revegetation of extracted areas, waste disposal areas, stockpile areas, dams and other land affected by the operations;	The progressive rehabilitation strategy should set out in some detail: • how a progressive rehabilitation strategy will deliver the final landform/land use outcomes • how progressive landscaping will be undertaken so that visual impact is minimised • the timeframe between establishing terminal slope and commencing progressive rehabilitation • the constraints that may limit progressive rehabilitation works • the approach to undertaking progressive rehabilitation (e.g. the availability of suitable material, landscaping, revegetation, the depth of soil stripping, the approximate depth of respread soil, proposed seedbed treatments and the reasons for their selection, proposed revegetation method and the general mix of species, stockpile dimensions) • monitoring arrangements for assessing and managing the effectiveness of progressive rehabilitation • process for review and improvement of the Rehabilitation Plan, appropriate to the remaining life of the quarrying operation.
11(4)(c)	Proposals for landscaping to minimise the visual impact of the quarry site;	The rehabilitation plan should include proposals to minimise impacts to visual amenity as far as reasonably practicable during both progressive rehabilitation and final rehabilitation and closure.

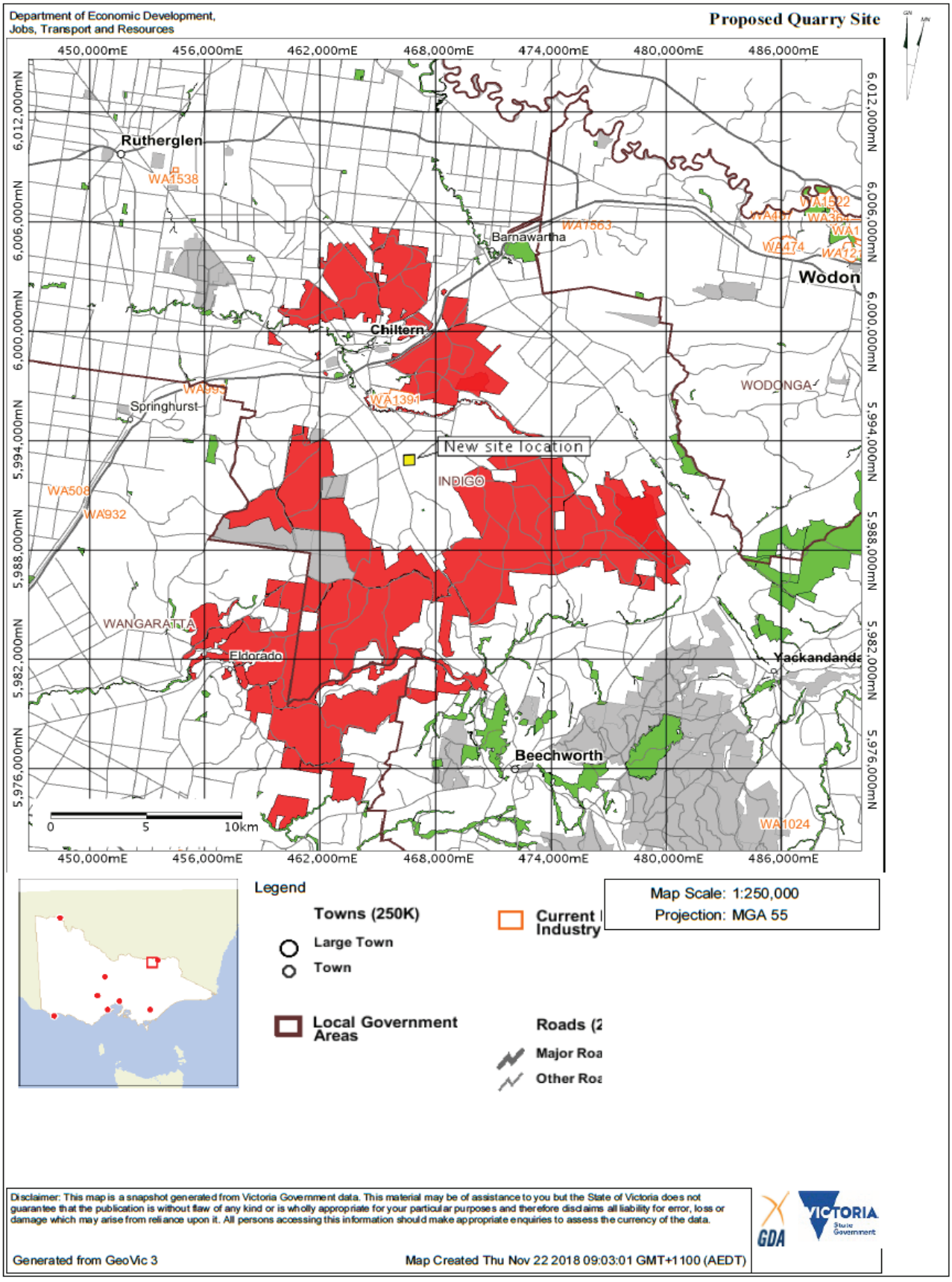
Regulation	Required Items	Guidance
11(4)(d)	proposals for the final rehabilitation and closure of the site, including the security of the site and the removal of plant and equipment, taking into account any potential long-term degradation of the environment.	The proposal for final rehabilitation plan should include: • the timeframe for completing final rehabilitation and closure of the site • whether the proposed final land use is sympathetic to the surrounding landscape (e.g. analysis of the visual impact from critical views) • how proposed final landform may impact on the long-term surface water/groundwater regime • how final security of the work authority area (e.g. water dams/slimes dams etc.) is to be achieved • the proposed rehabilitation method of any quarry features (e.g. slimes dams etc.) to ensure the long term physical and chemical integrity of these, including the management of erosion, seepage and potential exposure to contamination • the proposed general plans for the removal of plant and equipment including: – demobilisation of mobile plant, railways, conveyors and temporary facilities – decommissioning of fixed plant, including the removal and disposal of hazardous materials – demolition, refurbishment or reutilisation of buildings or facilities, including description of expected waste and disposal methods • whether permits or approvals from other agencies will be required for the final land use or rehabilitation design • objectives and acceptance criteria to demonstrate achievement of proposed final land use over an appropriate time-frame • proposal for short and long-term monitoring to be undertaken to demonstrate achievement of final land use.
12	**Information required in work plans – community engagement plan**	
12(a)	Identifies the community likely to be affected by the quarry operations;	Include a list of the community and any other stakeholders likely to be affected by the proposed operations, and/or interested in the proposed operations, including landholders, landowners, local government, community groups and Crown land managers

Regulation	Required Items	Guidance
12(b)	Sets out how the extractive industry authority holder will – i. identify community attitudes and expectations; ii. share information with the community iii. receive feedback from the community iv. analyse community feedback and consider community concerns or expectations v. register, document and respond to complaints and other communications from members of the community in relation to the quarry operations.	A community engagement plan is to include: • a description of how community attitudes and expectations have been and/or will be identified and documented • a description of likely community and stakeholder attitudes and expectations related to the proposed operations • the potential impacts on each of the identified community members/stakeholders • how each of the identified community members/ stakeholders will be engaged (and at what level) • proposed information channels/types for the community (newsletters, meetings, facilitated events, web content, social media, dedicated contact person etc.) • Include proposals for mechanisms to receive and collect feedback about the operations from the community (online, meetings, phone calls etc.) • Include how community feedback will be captured, registered, assessed and responded to (a register or similar that demonstrates how this will be managed) (provide an example) • Include a description of the proposed complaint/ community feedback handling and response process, including when and how ERR will be notified.
14	**Information to be contained in application for variation of work plan**	
14(a)	If changes to the work or rehabilitation set out in the work plan are proposed, a description of any new or changed quarrying hazard or rehabilitation hazard arising from the proposed changes that significantly increases the risks posed to: i. the environment; or ii. any member of the public; or iii. land, property or infrastructure in the vicinity of the work or rehabilitation relating to the new or changes hazard.	Describe the proposed change to the work plan, and any new or changing hazard. This may include such changes a change in direction of extraction moving closer to sensitive receptors, or removal of native vegetation not previously approved.
14(b)	If any new or changed hazard is described under regulation 14(a), the information specified in regulation 9 and 10 that relate to the new or changed hazard, including the resulting proposed changes to the work plan.	The hazard assessment and risk management plan must meet the requirements set out in Regulations 9 and 10. Refer to requirements for work plans in Table B1 above, and details provided in Section 3.3 of this guideline.

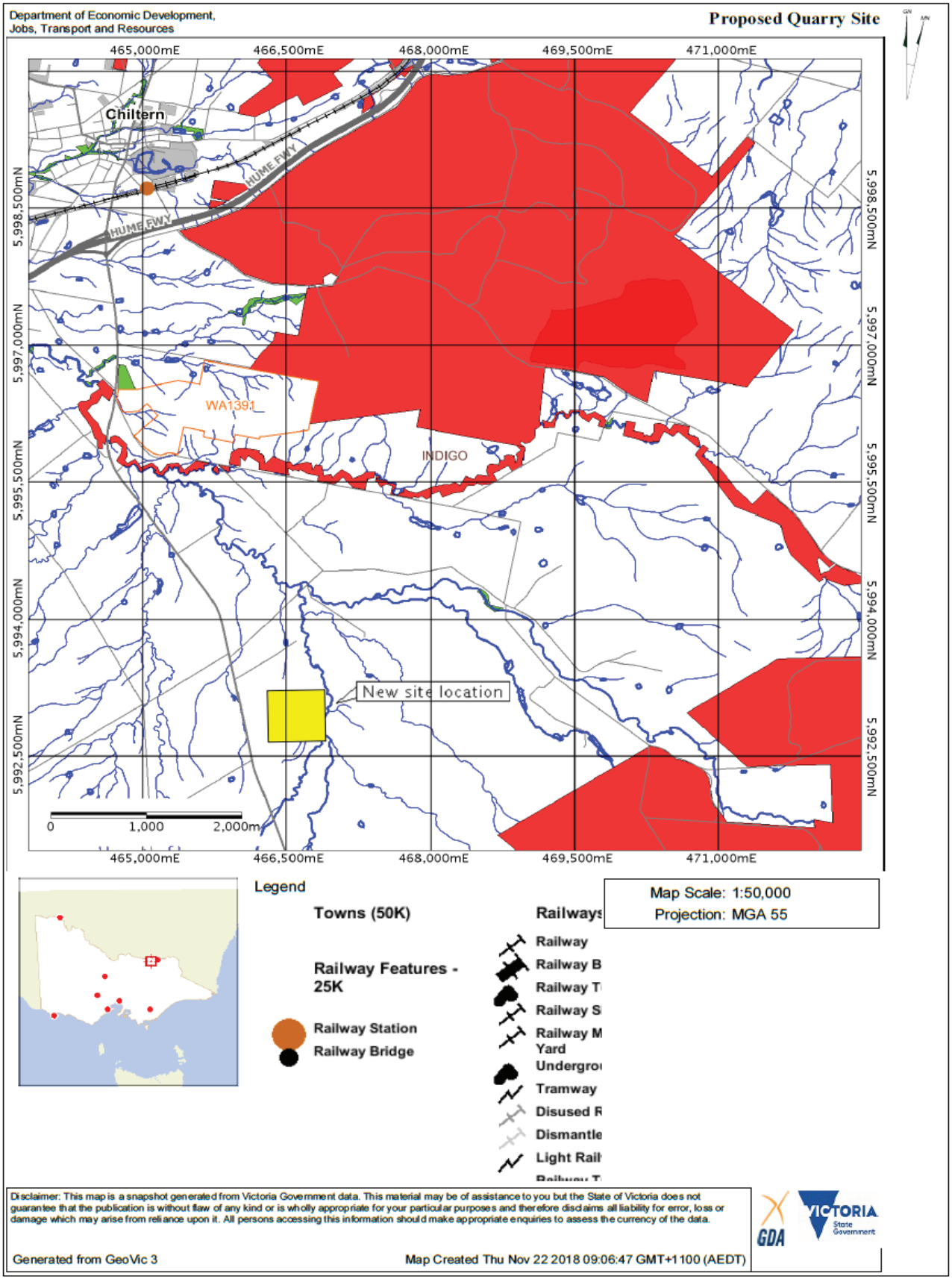
Regulation	Required Items	Guidance
14(d)	If the application for the proposed variation is lodged on or after 1 July 2020 but before 1 July 2021 and includes new or changed rehabilitation of land, the information specified in regulation 11(4) that relates to the new or changed rehabilitation, including the resulting proposed changes to the rehabilitation plan in the work plan.	The plan must describe the proposed changes to the rehabilitation plan and describe the planned rehabilitation for the whole site, including on maps and cross sections.
14(f)	If the proposed variation includes or gives rise to any changes relating to community consultation, the proposed changes to the community engagement plan in the work plan in relation to the information specified in regulation 12.	The community engagement plan must include a description of engagement for the planned changes, i.e. how the proposed changes will be communicated.
14(g)	If the proposed variation includes any new or changed work to be carried out at a declared quarry, the information that relates to, and is applicable to, the proposed changes to the work plan in relation to the requirements and processes set out in Schedule 5.	Declared Quarries Only
14(h)	A description of how the proposed variation to the work plan relates to the current approved work plan.	Provide summary of reason for plan, including reason for work plan variation, clear details of changes (e.g. change in lateral and vertical extent etc.) from the approved plan and relationship to the approved plan, in both the plan description and on supporting maps.

D2 Example maps and diagrams

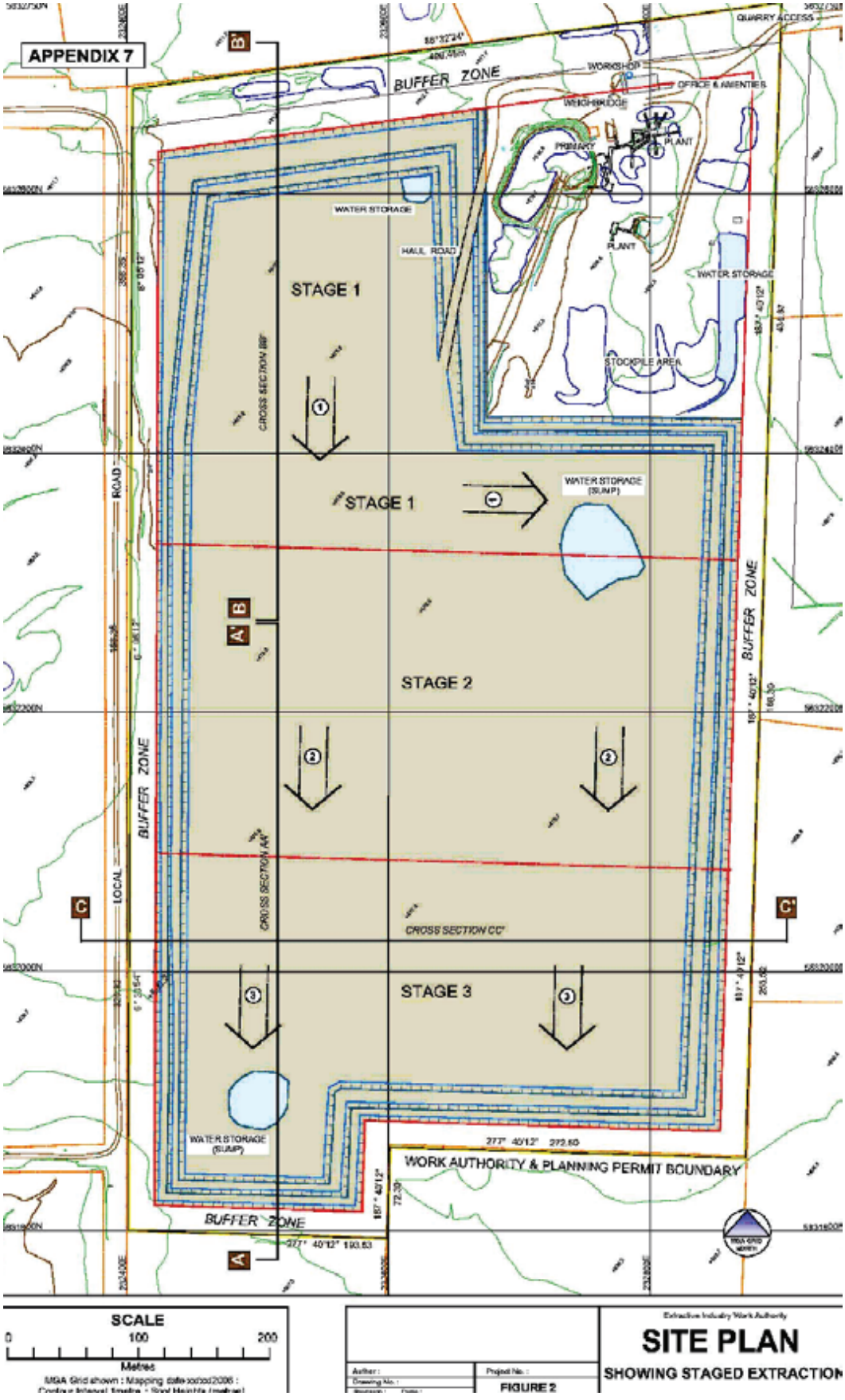
D2.1 – Example of a Location Map



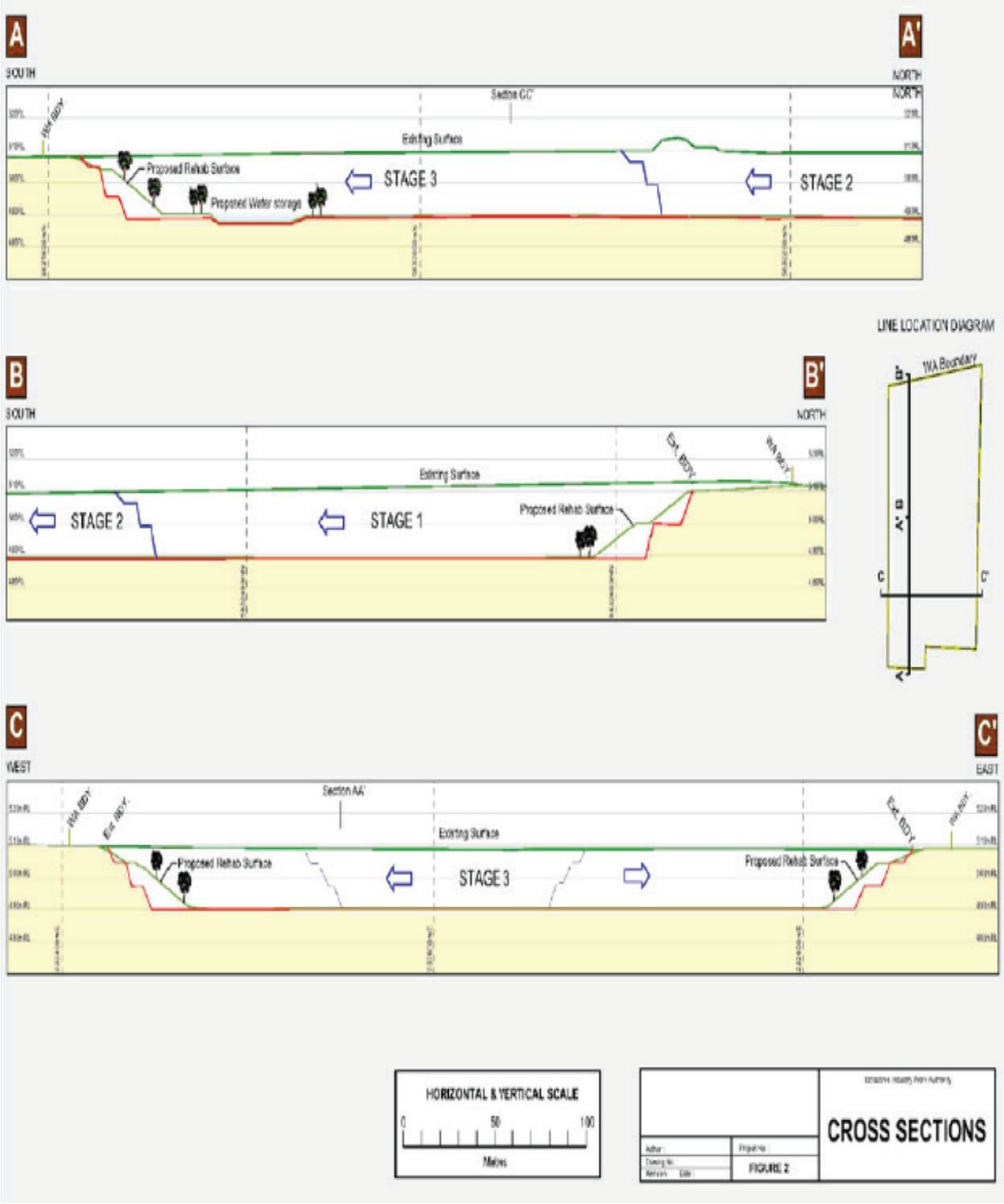
D2.2 – Example of a Regional Plan



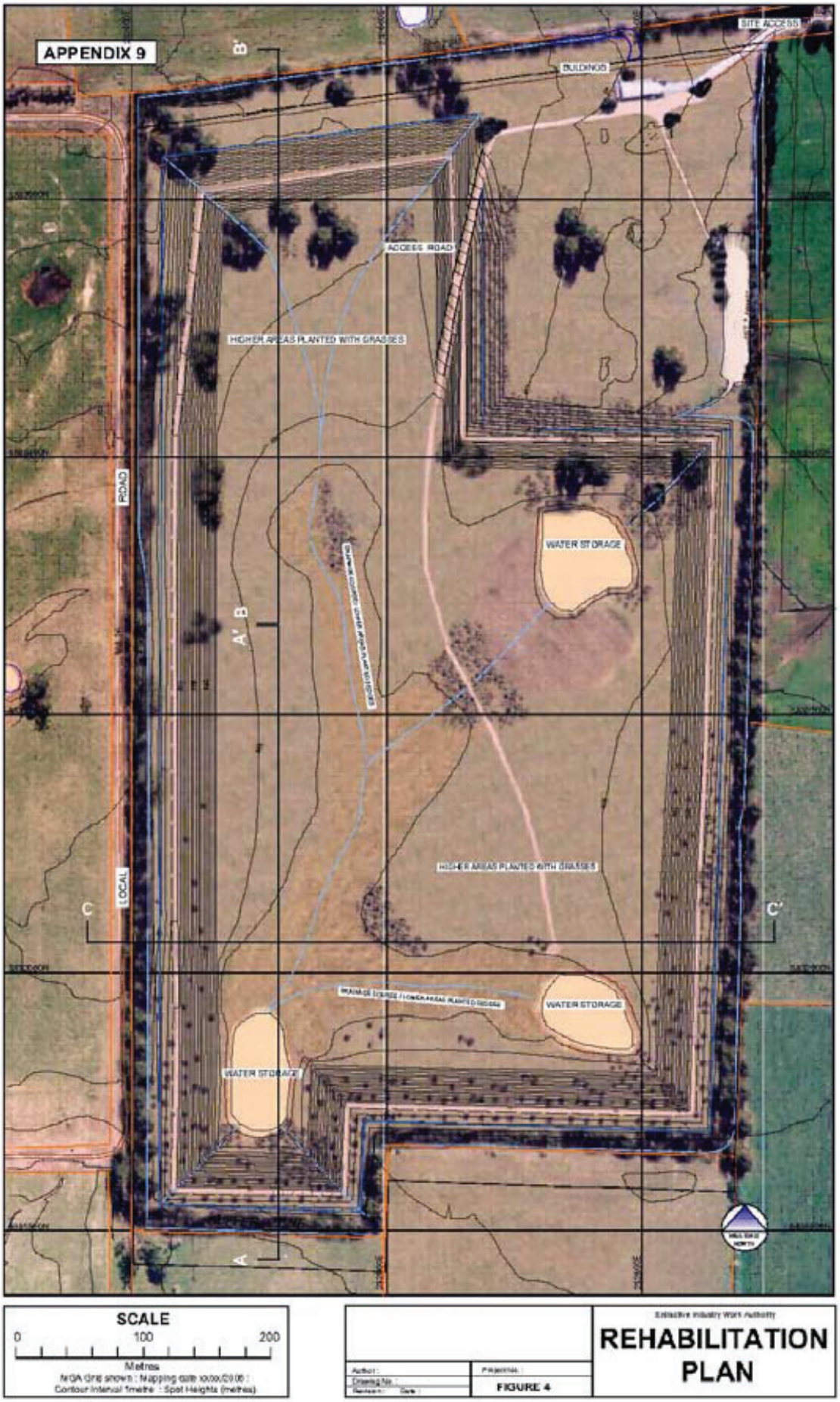
D2.3 – Example of a Site Map



D2.4 – Example of Cross Sections



D2.5 – Example Map for the Rehabilitation Plan



D3 Example site meeting agenda

Site:	
Location (Address):	
Date:	
Time:	

Attendees:

Organisation	Name	Position Title
Applicant		
Consultant		
ERR		
Council		
DELWP		
EPA		
CMA		
AV		
Heritage Vic		
Water Authority		
Other		

Note: the applicant/consultant will record key site meeting outcomes and circulate them to all invitees after the meeting.

Agenda:

#	Item	Who
1	Welcome and introduction of attendees	Applicant/Consultant/All
2	Roles and responsibilities • Legislative process under the MRSDA • Relationship of process with Planning and Environment Act 1987	ERR Representative
3	Proposal overview	Applicant/Consultant
4	Site description • Current use • Geology • Reserves • Sensitive receptors	Applicant/Consultant
5	Current approvals or licences in place	Applicant/Consultant
6	Proposed extraction method • Locations of equipment, dumps and dams (slimes/tailings) • Blasting requirements • Batter angles	Applicant/Consultant
7	Proposed rehabilitation and end use	Applicant/Consultant

#	Item	Who
8	Earth Resources Regulation (ERR) comments and requirements • Work plan requirements • Potential hazards and risks – Member of the public – Land, property and infrastructure – Environment • Surface water and groundwater • Other management plans – Blast management – Ground control management – Community engagement – Rehabilitation • Final landform and end use • Other	ERR Representative
9	Council comments and requirements • Planning permit requirements • Road access and traffic management • Community consultation	Council Representative
10	Department of Environment, Land, Water and Planning comments (DELWP) and requirements • Planning overlays? • Flora and fauna reports? • *Environment Protection and Biodiversity Conservation Act 1999*?	DELWP Representative
11	Other regulator/agency comments and requirements • EPA • Local Catchment Management Authority • Aboriginal Victoria • Heritage Victoria – Heritage overlay • Other	Agency Representatives
12	Work plan assessment process • Submitting the work plan • Fees • Assessment of work plan • Further information • Reassessment • Statutory referral to Referral Authority and agency comment sought from other relevant agencies • Statutory endorsement of work plan • Planning permit • Approval • Application for work authority & rehabilitation bond • Grant of work authority • Start work	ERR Representative
13	Next steps	Applicant/Consultant

D4 Potential site meeting questions

The following questions or issues may be discussed at the initial site meeting. This checklist will help the Tenement holder identify the information to provide in the work plan.

Discussion Topic	Details
Extraction proposal	• What is the estimated life of the activity? • What is the estimated/anticipated volume of resource per annum (output in tonnes or cubic metres)? • What is the estimated volume of soils and overburden to be disturbed? • What are the operating hours?
General location information	• What road(s) are proposed to be used for entering/exiting the activity area? • Are there any known inherited issues as a result of past or current land use?
Blasting	• Will blasting take place? If so, is it possible that blasting related activity could cause vibrations/noise/fly rock at the boundary of (or beyond) the activity area impacting sensitive receptors or infrastructure, including pipelines?
Noise	• Is it likely that activity area-based noise will be heard at any sensitive receptor?
Dust	• Is it likely the operations will generate dust or spray that will be deposited or emitted outside of the activity area boundary? • Is it likely the operations will generate any other substances listed as Class 1, 2 or 3 indicators under Protocol for Environmental Management (2007) that will be emitted outside of the activity area boundary?
Community facility/private and public infrastructure	• Are there known above and below ground infrastructure (electricity networks, water mains, designated waters etc.) located near the activity area? • Are there known public roads, bridges or train lines located near the activity area?
Aboriginal heritage	• Are there any areas of cultural heritage sensitivity or other protected areas in the proposed activity area? • Are any caves or dunes identified in the activity area? • Is a CHMP is required?
Historic heritage	• Does the activity area contain places, sites or objects on the: – Heritage overlay of the relevant planning scheme – Victorian Heritage Register – Victorian Heritage Inventory? • Are there historical heritage sites, structures or artefacts that must be retained as part of the post closure landform?
Flora and fauna	• Is any flora or fauna, including native vegetation, within the activity area to be removed or impacted? • Are there weeds, pests or feral animals within the activity area, or from surrounding areas, that could impact rehabilitation activities and/or potential land uses after closure?

Discussion Topic	Details
Ground water	• What is the depth to groundwater and water quality objectives as defined in the SEPP Groundwaters of Victoria? • Where are nearest groundwater users or groundwater sensitive ecosystems? • Will de-watering be required (e.g. lowering the groundwater levels), or will the activity pit intersect the water table? • Will there be any potential effects on existing groundwater quality, and are there third-party users of groundwater surrounding the activity? • Are there groundwater-dependent ecosystems located within the specified distances surrounding the activity area? • Is the activity within a Groundwater Restricted Quality Usage Zone, a Water Supply Protection area, or a Groundwater Management Area?
Surface water	• What are the water quality objectives for the area defined in the SEPP Waters of Victoria? • Where are nearest water users or water sensitive ecosystems? • Are alterations to surface drainage required (e.g. waterway diversion) and if so, are they going to increase the potential for flooding of adjacent land? • Are soil, overburden or proposed extracted materials (e.g. soils etc.) susceptible to erosion (e.g. caused by clearing of vegetation, problem soils)? • Is there potential for soil and overburden stockpile to cause sedimentation outside of the activity boundary? • Is the activity area located within a potable water catchment?
Dams	• Will there be water storages (e.g. settlement pond, water storage, evaporation pond, bio-retention basin, etc.) or slimes dams on the activity area? • If yes, what is the type, area and embankment height of water storages or slimes dams? • Will the storage or dam be located on a waterway? • Will the dam receive runoff from a catchment upslope of the storage or dam? • Will any of the above storages hold water that is unlikely to meet the SEPP guidelines for surface water or groundwater (or the ANZECC guidelines where a constituent is not specified)? • Will any of the storages meet the criteria of a large dam in accordance with ANCOLD Guidelines? If yes, what is the type, area and embankment height of water storages or slimes dams and its possible consequence category? • What impact could failure of a water storage or slimes dam have on public safety, infrastructure or the environment?

Discussion Topic	Details
Geotechnical	• How will slope instability affect public safety, public infrastructure or environmental elements? • How can the site's lithology/geology and structural geology impact on slope stability? E.g. are there any active faults, dykes or shear zones (including adverse jointing) which may affect slope stability? • Is the overburden dispersive which may lead to long term erosion problems around the site? • What influence may seismic activity in the area have on slope stability? • Can elevated water levels in the batters have an impact on slope stability? • Are there areas where a perched water table may exist? • Could the proposed activity operation and excavation methods heighten the potential for slope instability, and would such instability have any impact outside the activity area? • Are there any historical voids (old mine underground workings, shafts, etc.) within the activity area? • Are there other adjacent land uses or features that could create triggers for land instability (e.g. neighbouring property performing blasting, surface water drainage near batter crest etc.)? • Will there be any crest loading, which may affect slope stability, such as an overburden dump or plant equipment situated near the crest of the open pit? • The geotechnical information that operators of quarries should include in their work plan is contained within the Geotechnical guideline for terminal and rehabilitated slopes – Extractive Industry Projects.
Environment – Visual Amenity (re overburden/ waste rock)	• Will stockpiles and overburden dump be located within the activity area? • If yes, what is the volume of material and what is the proposed height of the largest stockpile/overburden dump?
Waste	• Will process wastewater be stored and treated within the activity area? • Will the operations (extraction and processing) generate hazardous wastes (e.g. grease, oils, putrescible waste, and batteries)?
Fuel	• Will fuel (e.g. petrol, diesel) or other chemicals/additives be stored within the activity area? • Will refuelling, fuel storage and maintenance of machinery and equipment occur within activity area.
Acid Mine Drainage	• Will acid sulphate soils be exposed/oxygenated during the proposed activities? • Is there potential for sulphide minerals to be present or exposed during the proposed activity (such as from overburden, waste and remnant pit shells surfaces)?
Radiation	• Is any part of the operation (extracted or processed material) going to be legally radioactive in accordance with the *Radiation Act 2005*?
Site Rehabilitation	• What is proposed for site rehabilitation and closure, and subsequent land use? • What is proposed for pit batter rehabilitation? • How will water storages and slimes dam facilities be rehabilitated? • What is proposed for surface water drainage and discharge from the activity area? • What land management or maintenance activities will be required after closure?

D5 Example works and case study for an administrative update

Example works

Below are some examples where no variation to a work plan is triggered and therefore a change can be submitted using the administrative update pathway.

a. Relocation of a haul road

A quarry owner proposed to relocate a haul road within the work authority area. There is no change to risk based on the location of nearby sensitive receptors. The owner of this quarry notified Earth Resources Regulation of the change and updates its work plan to note the new location of the haul road. Where a haul road is moved further away from receptors, this relocation would act as a mitigation measure to reduce risk.

b. Relocation of a crushing plant

A crushing plant may be located on the boundary of the work plan area. A proponent may wish to relocate the plant to the centre of the quarry where it is further away from receptors as a mitigation measure to control dust, noise and vibrations. This action would not trigger a work plan variation.

c. Changes to the staging of the quarry

In some circumstances changing the staging of the development of a quarry may not result in a significant increase in risk. Where there are no changes to the rehabilitation plan and any changes to the native vegetation offset plan can be accommodated it is unlikely that a work plan variation would be needed.

d. Change in a work authority boundary

Where a work authority boundary is required to change to accommodate cultural heritage sensitivity areas prior to the grant of the work authority the change can be processed as an administrative update. Amended plans and drawings need to be provided post the approval of the work plan and prior to the grant of the work authority. These drawings will be read in conjunction with the approved work plan.

e. Increase in extraction rate

A quarry owner may wish to increase the extraction rate of the quarry. If no significant increase in risk to the sensitive receptors can be demonstrated through recent dust and noise modelling and alterations to traffic management are acceptable to Council a work plan variation may not be triggered.

f. Change in use of quarried material

The onsite use of the quarried material may need to be changed to another use, e.g. the original use of the material was for the construction of a wind farm but it is now required for the construction of a solar farm and battery storage. In this instance the change could be accepted as an administrative change. However, if the use of the extracted material was detailed in the planning permit then planning consent would be required for the change to be acknowledged as an administrative update.

g. Increase in extraction area for a quarry within the existing work authority area

A quarry may wish to increase their extraction area using the same method as detailed in their work plan. Provided there is no significant increase in risk with vegetation clearance or geotechnical risks to infrastructure and council consents to this under the planning permit it may not trigger a work plan variation. An example would be a quarry undertaking shallow extraction with flat batters and with no fixed plant involved. Revised drawings will need to be provided and will be read in conjunction with the work plan.

h. Drilling and construction of one or more bore holes within the existing disturbance footprint

If a quarry owner needs to drill and construct one or more bore holes within the existing area of disturbance and provides a risk assessment demonstrating that the risks associated with this work remain low, this may be considered as an administrative change. The risk assessment would need to demonstrate that the existing control measures were adequate to manage the risks.

Case study

Case Study: Installation of fixed crushing plant

1. **Contact ERR**

a. The quarry operator first contacts ERR to explain the changes they want to make.

b. ERR then advise the quarry operator what information will be required.

2. **Assess risk**

a. The quarry operator assesses the noise and dust risks associated with the changes and identifies they only present as low.

3. **Consult with council**

a. The quarry operator consults with council who review the proposed change in relation to its amenity. Provided the operator can keep within noise and dust limits, council grant the secondary permission.

4. **Consult with other agencies**

a. The changes pose changed risks to the operator's noise emissions, so they engage with the EPA to seek their advice.

b. They provide revised noise modelling to demonstrate to the EPA that they can meet the evening noise limits outlined in the Noise in Regional Victoria (NIRV) guidelines.

5. **Submit administrative update**

a. The quarry operator now has all the information to submit their work plan application to ERR.

b. Since ERR needs to understand the context and consultation undertaken as part of the process, the quarry submits a high-level outline of why and what they would like to change, their risk assessment and copies of the written advice from EPA.

6. **ERR assessment**

a. The change is acknowledged by ERR provided the operator continues to meet its noise and dust limit requirements.

D6 Administrative update submission template

Work Authority Number:	**Work Authority Holder:**
WA number	The organisation that is submitting the administrative update

Contact Name:	The person submitting the administrative update on behalf of the Work Authority Holder	
Email:		
Phone Number:		
Site Address:		
	Suburb	Postcode

Background:
Describe the site, the operations on the site and details of approvals to work on the site. The background section should set the context for describing the proposed change, for example, if the proposed change relates to replacing equipment, details of existing equipment should be provided.

Proposed Change or Amendment:
Describe the proposed change and any reasoning for the proposed change. Include any relevant information on location/ equipment/ timing etc.

Reference to current work plan:
What part of the work plan does this change correspond to? Sections, Page numbers. Does it make some sections no longer relevant? Be specific about what sections this change affects and how.

Risk Assessment:
Identify and assess the risk (likelihood and consequence) associated with the new (or changing) work. Include details of: • inherent risk (the risk before control measures applied) • control measures to reduce risks • residual risk (the risk after control measures applied). The residual risk is required to be low or medium for the proposed new (or changing) work to be submitted as an administrative update. Each administrative update is unique and requires careful consideration by ERR of risks presented.
Reference to current risk assessment (if applicable):
How does this change or alter the current risk assessment? Be specific about hazards, inherent risk and residual risk and control measures.
Agency Correspondence:
Include written confirmation from council that they support the change, or it is in keeping with planning permit requirements. Include written confirmation from relevant co-regulators that they support the change.

Attachments:	

D7 Administrative update co-regulator contact template

This template is to be used when Earth Resources Regulation requests that an administrative update submission process includes co-regulator advice. Please contact Earth Resources Regulation before completing this form to ensure it is required.

Regulator:	**Work Authority Holder:**
State the name of the regulator you are contacting.	The organisation that is submitting the administrative update

Contact Name:	The person submitting the administrative update on behalf of the Work Authority Holder
Email:	
Phone Number:	

Work Authority Number:	**Planning Permit Number** (if applicable)**:**

EPA Licence Number/s (if applicable)**:**	**Other Relevant Licences or Permits** (if applicable)**:**

Site Address:		
	Suburb	Postcode

Background:
Describe the site, the operations on the site and details of approvals to work on the site. The background section should set the context for describing the proposed change, for example, if the proposed change relates to replacing equipment, details of existing equipment should be provided.

Proposed Changes or Amendments:
Describe the proposed change and any reasoning for the proposed change. Include any relevant information on location/ equipment/ timing etc.

Reason it is being referred:

Describe the reason it is referred to this agency, for example possible changes to air quality.

Risk Assessment:

Identify and assess the risk (likelihood and consequence) associated with the new (or changing) work. Include details of:

- inherent risk (the risk before control measures applied)
- control measures to reduce risks
- residual risk (the risk after control measures applied).
- any advice from suitability qualified experts regarding sensitive matters e.g. dust, noise, blasting etc.

Community Consultation/ Engagement (if any)**:**

Outline any efforts made to engage with immediate/surrounding community if applicable.

Confirmation (regulator to complete):

Date: / /

Agency name:

Officer name:

Does your agency have any concerns or objections about the change/s detailed above? (please tick)

☐ No ☐ Yes

☐ No (subject to conditions) ☐ Other (further information/clarification required)

Please provide an explanation:

D8 Description of other regulatory agencies

There are other government regulators involved in the operation of a quarry and have the power to impose conditions on a quarry that may impact operations and rehabilitation. Applicants should be aware of the following agencies and their regulatory roles. Earth Resources Regulation will have regard to the advice of, and any standards or other regulatory requirements developed by these other regulators.

WorkSafe

WorkSafe Victoria (WorkSafe) administers and enforces the Occupational Health and Safety Act 2004 (OHS Act) and the Occupational Health and Safety Regulations 2007. This legislation places obligations on all Victorian workplaces to secure and eliminate risks to the health, safety and welfare of employees and other persons at work.
It also aims to ensure that the health and safety of members of the public is not placed at risk by the conduct of undertakings by employers and self-employed persons. How WorkSafe and the Regulator work together is set out in a memorandum of understanding between the two organisations.

Environment Protection Authority

The Environment Protection Authority (EPA) administers the Environment Protection Act 1970 (EP Act) which creates a legislative framework for environmental protection in Victoria. The EPA can also issue works approvals, licences and permits. Earth Resources Regulation and the EPA have a memorandum of understanding that sets out a commitment to work together to enable the development of the earth resources industries (mines and quarries) while minimising adverse impacts on the environment and communities.

The EPA is a statutory referral agency for quarry work plans and also regulates quarry sites that need an EPA works approval and work authority as their quarrying activities are likely to generate 'offsite discharges'. The EPA has published several guidelines relevant to quarries.

Department of Environment, Land, Water and Planning

A memorandum of understanding between the Department of Environment, Land, Water and Planning (DELWP) and Earth Resources Regulation sets out how the two agencies will work together during the regulatory assessment process.
DELWP has several functions relevant to quarry rehabilitation. These include:

- **Native vegetation management** – the removal of native vegetation is regulated by under the Victorian Planning Provisions. Applications should have regard to the DELWP publication: Guidelines for the removal, destruction or lopping of native vegetation. *The Flora and Fauna Guarantee Act 1988* and *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) may also be triggered in certain instances.
- **Heritage Victoria** – Heritage Victoria administers the Heritage Act 2017 and makes recommendations to the Heritage Council on what places and objects should be placed on the Heritage Register. Heritage overlays are administered by local government under the *Planning and Environment Act 1987*.
- **Ground and surface water management** – applicants may need to get a licence from Catchment Management Authorities and Rural Water Corporations if the proposed operation is in the vicinity of specific supply water catchment areas. Licences will also be required for water use during quarry operations or for rehabilitation purposes.
- **Crown land** – Victoria's Crown land is managed by several entities including the Crown Land Manager, Parks Victoria, and Catchment Management Authorities. Depending on the location and nature of the proposed quarry, these entities may have a regulatory role.
- **Planning approvals** – for quarrying activity to be approved, a planning permit or an environment effects statement (EES) is required. The Minister for Planning determines whether an EES is required. The Ministerial Guideline for assessment of environmental effects under the Environment Effects Act 1978 sets out the EES process. If an EES process is conducted a planning permit is not required.

Aboriginal Victoria

Aboriginal Victoria administers the Aboriginal Heritage Act 2006. This Act requires quarry work authority holders to prepare a Cultural Heritage Management Plan for any areas of cultural heritage sensitivity that may be impacted by quarrying. Rehabilitation specific requirements may relate to how artefacts discovered during quarry development are managed.

Local government

Local government is the responsible authority for issuing planning permits under the Planning and Environment Act 1987. Planning permits usually contain rehabilitation related requirements and are required in the absence of an EES.

Strategic land use planning

Applicants should have regard to the Regional Growth Plans developed by DELWP. The Victorian Planning Authority and Councils may also publish material relevant to strategic land use planning.

Co-regulators consider those risks that fall within the scope of their regulatory responsibilities. The relevant regulators and the key risks for which they have interest are provided below.

Key co-regulators and areas of interest

Co-Regulator	Hazards of interest
WorkSafe	• Worker safety
Environment Protection Authority	• Dust • Dust, silt and clay on roads • Erosion and Sedimentation • Fuel, lubricants and hazardous materials • Imported Materials • Noise • Rubbish • Stormwater • Encroachment • Water discharge and groundwater impacts
Department of Environment, Land, Water and Planning	• Fire • Native Vegetation • Crown Land
- Catchment Management Authority/ Water Board or Water Supply Author	• Erosion and Sedimentation • Stormwater • Changes in footprint • Reduction in setbacks from a waterway • Site operation (stockpiling)
- Heritage Victoria	• Heritage
- Native Vegetation	• Pests, weeds and diseases • Native Vegetation
- Planning approvals	• Planning
Aboriginal Victoria	• Aboriginal Heritage
Local Government	• Amenity • Dust • Dust, silt and clay on roads • Noise • Planning permissions • Local-specific protection policies • Rehabilitation processes • Traffic management and truck movements

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