B. Environment Effects Statement Scoping Requirements
Environment Effects Act 1978

SCOPING REQUIREMENTS

BIG HILL ENHANCED DEVELOPMENT PROJECT
ENVIRONMENT EFFECTS STATEMENT

October 2013
## List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>AH Act</td>
<td>Aboriginal Heritage Act 2006</td>
</tr>
<tr>
<td>CGC</td>
<td>Crocodile Gold Corp</td>
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<tr>
<td>CHMP</td>
<td>Cultural Heritage Management Plan</td>
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<tr>
<td>DEPI</td>
<td>Department of Environment and Primary Industries</td>
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<tr>
<td>DNRE</td>
<td>former Department of Natural Resources and Environment</td>
</tr>
<tr>
<td>DPCD</td>
<td>former Department of Planning and Community Development (now DTPLI)</td>
</tr>
<tr>
<td>DPI</td>
<td>former Department of Primary Industries (part now DEPI, part DSDBI)</td>
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<tr>
<td>DSDBI</td>
<td>Department of State Development, Business and Innovation</td>
</tr>
<tr>
<td>DSE</td>
<td>former Department of Sustainability and Environment (now DEPI)</td>
</tr>
<tr>
<td>DTPLI</td>
<td>Department of Transport, Planning and Local Infrastructure</td>
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<tr>
<td>EE Act</td>
<td>Environment Effects Act 1978</td>
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<td>EES</td>
<td>Environment Effects Statement</td>
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<tr>
<td>EMS</td>
<td>Environmental Management System</td>
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<tr>
<td>EPA</td>
<td>Environment Protection Authority</td>
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<tr>
<td>EPBC Act</td>
<td>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</td>
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<tr>
<td>MRSD Act</td>
<td>Mineral Resources (Sustainable Development) Act 1990</td>
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<tr>
<td>Mt</td>
<td>million tonnes</td>
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<tr>
<td>NIRV</td>
<td>Noise from industry in regional Victoria: Recommended maximum noise levels from commerce, industry and trade premises in regional Victoria (EPA publication 1411)</td>
</tr>
<tr>
<td>P&amp;E Act</td>
<td>Planning and Environment Act 1987</td>
</tr>
<tr>
<td>PEM</td>
<td>Protocol for Environmental Management: Mining and extractive industries (EPA publication 1191)</td>
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<tr>
<td>PHW Act</td>
<td>Public Health and Wellbeing Act 2008</td>
</tr>
<tr>
<td>SDW Act</td>
<td>Safe Drinking Water Act 2004</td>
</tr>
<tr>
<td>SEPP</td>
<td>State Environment Protection Policy</td>
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<tr>
<td>SGM</td>
<td>Stawell Gold Mines</td>
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<td>TRG</td>
<td>Technical Reference Group</td>
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<tr>
<td>TSF</td>
<td>Tailings Storage Facility</td>
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<tr>
<td>TWRS</td>
<td>Temporary waste rock stockpile</td>
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1 INTRODUCTION

1.1 Purpose of this document
In light of the potential for significant environmental effects, on 23 April 2013 the Minister for Planning (the Minister) determined under the Environment Effects Act 1978 (EE Act) that an Environment Effects Statement (EES) needs to be prepared by Crocodile Gold Corp (CGC) for the Big Hill Enhanced Development Project (the project). The purpose of the EES is to provide a detailed description of the project and its potential effects on the environment to inform the public and stakeholders and then to enable a Ministerial assessment of the project that will inform decision-makers.
This document is the Scoping Requirements for the Big Hill Enhanced Development Project (Scoping Requirements), which sets out the specific environmental matters to be investigated and documented in the EES for the project. The Scoping Requirements have been finalised following the consideration of public comments on a Draft Scoping Requirements document, which was exhibited from 19 July to 9 August 2013.

1.2 The Project and Setting
CGC proposes to develop a new open-cut gold mine along the Big Hill ridge within the Stawell Gold Mines (SGM) licence area, adjacent to the existing underground mine (refer to Figure 1).
Big Hill is located in the north-east of Stawell township in western Victoria, near the central business area. Residential areas directly abut the project site to the south-west (Fisher Street) and north (Upper Main Street and Crowlands Road). Parts of Big Hill ridge are currently part of a recreational reserve that is accessible to the public.
The project footprint comprises north and south open pits, a temporary waste rock stockpile (TWRS), upgraded haul roads and land to be used for various supporting purposes. Some of the site is cleared. The total area to be subject to works for the project amounts to about 65 hectares.
The project would involve extraction of 2.3 million tonnes (Mt) of gold ore using open-cut mining technology. Ore would be trucked via existing internal roads to the licensed SGM processing plant already on site. Tailings from gold processing would be disposed of to the existing Tailings Storage Facility (TSF). Other SGM infrastructure, including SGM’s water storages, offices and a workshop, would all be utilised to support the project.
Waste rock generated from the project would be temporarily stored on adjacent cleared land, much of which is managed by Grampians Wimmera Mallee Water, and would be used progressively to backfill and re-establish the Big Hill topography upon completion of mining activities.
The estimated life of the project is approximately four and a half years, which includes three and a half years of mining and a further year to complete site rehabilitation works, followed by a period of maintenance and management, especially with respect to revegetation.

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1 The project is to be considered in terms of proposed works that could have a significant effect on the environment, noting that the EE Act is concerned with the effects of works.
2 For the purpose of environmental assessment under the EE Act, the meaning of ‘environment’ includes the physical, biological, cultural, social, health, safety and economic aspects (page 2 of the Ministerial Guidelines).
3 Use of existing mine infrastructure for the project, in accordance with current approvals, will not be reviewed as part of this EES.
Figure 1. Location of project
1.3 Minister’s Requirements for this EES

The Minister’s decision to require an EES outlined the procedures and requirements applying to its preparation, in accordance with section 8B(5) of the EE Act. These requirements included the following key matters that the EES is to primarily focus on:

Investigations of potential environmental effects of the proposed project, including the feasibility of associated environmental mitigation and management measures, in particular for:

a. Potentially significant effects on air quality and related consequences;

b. Potentially significant effects on amenity, including noise, and social well-being during the project construction and operation;

c. Potential safety hazards associated with open cut mining adjacent to residential areas;

d. Effects on cultural heritage values;

e. Effects on landscape values and visual amenity;

f. Other effects on land-uses and the community.

These Scoping Requirements provide further detail on the specific matters to be investigated in the EES in the context of the Ministerial guidelines for assessment of environmental effects under the EE Act 1978 (Ministerial Guidelines).

While the Scoping Requirements are intended to be complete in their coverage of issues and matters, the EES will need to address any pertinent issues that may emerge during the EES or that are otherwise relevant to statutory decisions to be informed by the assessment process under the EE Act.
2 ASSESSMENT PROCESS AND REQUIRED APPROVALS

2.1 The EES Process

CGC is responsible for preparing the EES, including preparing technical studies and undertaking stakeholder consultation, while the Department of Transport, Planning and Local Infrastructure (DTPLI) is responsible for managing the EES process. The EES process concludes with the Minister’s Assessment of the environmental effects of the project, which is issued to relevant statutory decision-makers.

The EES process has the following steps:

- Preparation of a draft Study Program and Schedule by the proponent (completed).
- Preparation and exhibition of the Draft Scoping Requirements by DTPLI on behalf of the Minister for Planning (completed).
- Finalisation and issuing of Scoping Requirements by the Minister.
- Review of the proponent’s EES studies and draft documentation by DTPLI and a Technical Reference Group (TRG)\(^4\).
- Completion of the EES by the proponent.
- Review of the complete EES by DTPLI to establish its adequacy for public exhibition.
- Exhibition of the proponent’s EES and invitation for public comment by DTPLI on behalf of the Minister.
- Appointment of an Inquiry by the Minister to:
  - review the EES and any public submissions;
  - conduct public hearings; and
  - provide a report to the Minister.
- Following receipt of the Inquiry report, provision of the Assessment of the project by the Minister to decision-makers.

Further information on the EES process can be found on DTPLI’s website at www.dpcd.vic.gov.au/planning/ees.

2.2 Technical Reference Group

DTPLI has convened an agency-based TRG to advise it and the proponent, as appropriate, on:

- applicable policies, strategies and statutory provisions;
- the Scoping Requirements for the EES;
- the design and adequacy of technical studies for the EES;
- the proponent’s public information and stakeholder consultation program for the EES;
- the technical adequacy of draft EES documentation; and
- coordination of statutory processes.

The TRG comprises invited representatives of relevant state government agencies and departments, as well as the Northern Grampians Shire Council and Grampians Wimmera Mallee Water.

\(^4\) For critical components of the EES studies, peer review by an external, independent expert may be appropriate.
2.3 Public Consultation

In addition to the formal opportunities for public comment on the Draft Scoping Requirements and then the EES, informal consultation also plays an important role in the preparation of the EES. The proponent is responsible for informing the public and engaging with stakeholders in order to identify and respond to their concerns in conjunction with the EES studies.

Relevant stakeholders include potentially affected parties, the community and interested organisations and individuals, as well as pertinent government agencies.

A stakeholder consultation plan is to be prepared and implemented by the proponent to ensure that the public is familiar with the EES investigations and that key stakeholders are consulted on pertinent issues. The proponent’s ‘EES Consultation Plan’ will be published on the DTPLI website and updated as necessary.

The plan should:

- Identify the relevant stakeholder groups.
- Characterise the stakeholder groups in terms of their interests, concerns and consultation needs and potential to provide local knowledge.
- Describe consultation methods to be used and outline a schedule of consultation activities.
- Outline how inputs from stakeholders will be recorded, considered and/or addressed in the preparation of the EES.

2.4 Required Approvals and Coordination with the EES Process

The project will require a range of approvals under Victorian legislation including:

- An approved Work Plan and Authority to commence works from the Department of State Development, Business and Innovation (DSDBI), under the Mineral Resources (Sustainable Development) Act 1990 (MRSD Act).
- Consents for works within 100 metres of a dwelling under sections 45 and/or 46 of the MRSD Act.
- Approved Cultural Heritage Management Plan (CHMP) under the Aboriginal Heritage Act 2006 (AH Act).
- Permits for works to any place on the Victorian Heritage Register or consents for the damage or disturbance of any Heritage Inventory sites protected under the Heritage Act 1995.
- Authorisation to take and/or disturb flora or wildlife under the Flora and Fauna Guarantee Act 1988 (FFG Act) and Wildlife Act 1975 respectively.

If the project is determined to be a ‘controlled action’, approval from the Commonwealth will be required under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), in relation to potential impacts on matters of national environmental significance (see section 2.5).

This project is exempt from the permit requirements of the Northern Grampians Planning Scheme as a planning permit is not required to use or develop land for mining if the project is assessed under the EE Act9. However, the EES will not address approvals for specific uses of the rehabilitated land that might be proposed following conclusion of mining.

The EES process is coordinated with other approvals and relevant assessment requirements, such as under the MRSD Act. Therefore DTPLI will coordinate the preparation and exhibition of the EES with relevant information and public notice requirements under applicable legislation.

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9 Section 42(7) of the MRSD Act.
EES Referral submitted to Minister for Planning on need for an EES

EES required under the Environment Effects Act 1978

Draft EES Scoping Requirements prepared by DTPLI & exhibited

Scoping Requirements issued

EES studies undertaken by proponent & reviewed by TRG

Draft EES prepared by proponent & reviewed by DTPLI & TRG

EES exhibited together with relevant approval documentation

EES Inquiry Panel - Public Hearings

Inquiry Panel Report prepared

Minister for Planning’s Assessment

Victorian decision-makers’ consideration of Minister’s Assessment

- Work Plan, s.45 Consents and Work Authority under
  Mineral Resources (Sustainable Development) Act 1990
- Permits/consents under Heritage Act 1995
- CHMP under Aboriginal Heritage Act 2006
- Permit/consent under Flora & Fauna Guarantee Act 1988

Figure 2. Statutory Assessment and Approvals Pathway
To facilitate the integrated consideration of issues and the timely completion of required approval processes, it is recommended that the EES include a draft Work Plan to address requirements under the MRSD Act.

2.5 Accreditation of the EES Process

The proponent has referred the project to the Australian Government under the EPBC Act.

In the event that the project is determined to be a controlled action, with relevant controlling provisions for the project under the EPBC Act (such as listed threatened species and communities (sections 18 and 18A)), the EES process is able to be accredited as the assessment process under the EPBC Act, in accordance with the assessment bilateral agreement between the Commonwealth and Victoria.

In this instance, the Australian Government Minister for the Environment, Heritage and Water would make a decision whether to approve the project under the EPBC Act, following assessment of impacts on relevant matters of national environmental significance undertaken through the EES. Note that what are generally termed ‘effects’ in the EES process correspond to ‘impacts’ under the EPBC Act.
3 MATTERS TO BE ADDRESSED IN THE EES

3.1 General approach

The EES needs to assess relevant environmental effects arising from all components and stages of the project. Where relevant, assessments should address direct and indirect, combined, short and long-term, beneficial and adverse effects. The assessment of environmental effects in the EES, at least in the case of significant risks, should include:

- Potential effects on individual environmental assets, in terms of magnitude, extent and duration of change in the values of each asset, having regard to intended avoidance and mitigation measures.

- The likelihood of adverse effects and associated uncertainty of available predictions or estimates.

- Further management measures that are proposed where avoidance and mitigation measures do not adequately address effects on environmental assets, including specific details of how the measures address relevant policies.

- Likely residual effects assuming proposed measures are implemented.

Further advice on the approach to be adopted in preparing the EES is provided in section 4.1.

3.2 General content of the EES

The content of the EES and related investigations is to be guided by this document (Scoping Requirements) and the Ministerial Guidelines. These Scoping Requirements focus on the information or investigations necessary to address matters set out in the Minister's decision (see section 1.3). The EES should also address any other significant issues that may emerge during the investigations. Ultimately, it is the proponent's responsibility to ensure that adequate studies are undertaken and reported to support the assessment of environmental effects.

To facilitate timely decisions on required approvals, it will be in the proponent's interest to address pertinent aspects of the regulations and guidelines for preparation of a Work Plan under the MRSD Act as part of the EES documentation “package”.

The EES should enable stakeholders and decision-makers to understand the likely environmental effects of the proposed project.

The EES should consist of a main report supported by technical appendices containing relevant data, technical reports and other sources of the EES analysis.

The main EES report should provide a clear, succinct and well-integrated analysis of the potential effects of the proposed project, including proposed mitigation and management measures, as well as relevant alternatives. Overall, the main report should include:

- An executive summary of the potential environmental effects of the project.

- A description of the entire project, including its objectives, key elements, associated requirements for new infrastructure and use of existing infrastructure.

- A description of relevant alternatives capable of substantially meeting the project’s objectives that may also offer environmental or other benefits, including alternatives to use of elements of existing infrastructure where relevant (as well as the basis for the choice where a preferred alternative is nominated).
• An outline of the approvals required for the project to proceed.
• Descriptions of the existing environment, where this is relevant to the assessment of potential effects.
• Appropriately detailed assessments of potential effects of the project (and relevant alternatives) on environmental assets and values, relative to the “no project” scenario.
• Intended measures for avoiding, minimising, managing and monitoring effects, including a statement of commitment to implement these measures.
• Any proposed offset measures where avoidance and mitigation measures will not adequately address effects on environmental values or environmental assets.
• Responses to issues raised through public and stakeholder consultation.
• Evaluation of the implications of the project and relevant alternatives for the implementation of applicable legislation and policy, including the principles and objectives of ecologically sustainable development and environmental protection.
• A description of the environmental performance regime and track record of SGM.

A concise non-technical summary document (hard copy A4) also needs to be prepared by the proponent for free distribution to interested parties. The EES summary document should include details of the EES exhibition and availability of the EES documentation.

Close consultation with DTPLI and the TRG during the investigations and preparation of the EES will be necessary to minimise the need for revisions prior to authorisation of the EES for public exhibition.

Detail on the required scope and content of the EES is covered in the following sections.

3.3 Project Description

The EES is to describe the project in sufficient detail both to allow an understanding of all relevant components, processes and development stages, and to enable assessment of their likely potential environmental effects.

The EES should describe the following aspects of the project, to the extent relevant and practicable:

• An overview of the proponent, including relevant experience in developing and operating projects as well as its health, safety and environmental policies.
• Contextual information on the project, including its objectives and rationale, its relationship to relevant statutory policies, plans and strategies (if relevant), and implications of the project not proceeding.
• Details of all new project components including:
  • location;
  • footprint and layout;
  • technical specifications and design capacity; and
  • methods of site establishment and operation.
• Other necessary works directly associated with the project, such as road upgrades, infrastructure and services relocation, or augmentation of existing plant and facilities.
• The location and arrangements for sustainable use of existing SGM facilities and infrastructure that this project relies upon.
• Establish requirements for the sustainable performance of the TSF during its use for the project to ensure on-site containment of all waste substances\(^6\).
• Lighting, safety, access and security requirements.
• Information on the project’s operational life, including expected construction timetabling and staging, and decommissioning and rehabilitation arrangements.

Further, the EES should explain how the current project responds to the issues identified in the Minister’s Assessment in 2000 of the previous proposal for development of an open-cut gold mine at Big Hill.

### 3.4 Applicable Legislation, Policies and Strategies

The EES will need to identify relevant State and Commonwealth legislation, policies, guidelines and standards, and assess their specific requirements or implications for the project, particularly in relation to required approvals, including (but not limited to):

- **MRSD Act** and associated guidelines such as:
  - *Ground vibration and airblast limits for blasting in mines and quarries* (DNRE, 2001)
  - *Management of water in mines and quarries* (DPI, 2010)
  - *Extractive industry work plan guideline* (DPI, 2010)
  - *Rehabilitation plans and other environmental aspects of work plans* (DPI, 2004).
- **Planning and Environment Act 1987** (P&E Act), and relevant provisions in the Northern Grampians Planning Scheme\(^7\).
- **Environment Protection Act 1970** (EP Act)\(^8\), the *Environment Protection (Industrial Waste Resource) Regulations 2009*, relevant State Environment Protection Policies (SEPPs) and related documents including:
  - SEPP *(Groundwaters of Victoria)* and SEPP *(Waters of Victoria)*
  - SEPP *(Prevention and Management of Contamination of Land)*
  - SEPP *(Ambient Air Quality)*
  - SEPP *(Air Quality Management)*
  - SEPP N-1 *(Control of Noise from Commerce, Industry and Trade)*
  - *Noise from industry in regional Victoria: Recommended maximum noise levels from commerce, industry and trade premises in regional Victoria* (EPA publication 1411) (NIRV)
- **Water Act 1989**.
- **Safe Drinking Water Act 2004** (SDW Act).
- **Permitted clearing of native vegetation – Biodiversity assessment guidelines** (DEPI, 2013).

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\(^6\) No approval is required for the use or development of the TSF in accordance with the current approved Work Plan.

\(^7\) As noted in section 2.4, the project does not require permits under the Northern Grampians Planning Scheme because of an exemption provided under the MRSD Act. Notwithstanding this, in preparing the EES the proponent should have regard to relevant elements of the planning scheme that relate to the draft evaluation objectives.

\(^8\) No works approval is required under the EP Act if there will be no off-site discharge of wastewater. A site water balance that demonstrates whether contaminated wastewater (i.e. runoff from the TWRS) will be retained on-site should be prepared.
3.5 Relevant Alternatives

The EES should investigate and document the likely environmental effects of relevant alternatives, where these offer a distinct potential for superior environmental outcomes and are capable of meeting the objectives of the project. In the first instance, the discussion of relevant alternatives should include:

- The basis for selecting the two areas proposed to be mined within the broader boundaries of the mining licence, including alternatives for the layout and staging of the open-cut operations;
- The site selection process for the new ancillary activities, including the TWRS and roads; and
- The technical feasibility and environmental implications of alternative construction, mining and site rehabilitation methods.

Where appropriate, the assessment of environmental effects of relevant alternatives is to address the matters set out in the subsequent sections of this document.

The depth of investigation of alternatives should be proportionate to their potential to minimise potential adverse effects.

3.6 Outcomes of Consultation

The proponent is responsible for informing the public and consulting with stakeholders throughout the assessment process in accordance with a suitable ‘EES Consultation Plan’ (refer to section 2.3 of this document).

Further to this, the EES should document the process and results of the consultation undertaken, including:

- Issues raised and suggestions of stakeholders or members of the public and the responses made by the proponent in the context of either the EES studies or any additional mitigation measures; and
- An outline of a program for community consultation, stakeholder engagement and communications during the construction and operation of the project, including opportunities for local stakeholders to engage with the proponent to seek responses to issues that might arise when the project is undertaken.

3.7 Draft Evaluation Objectives

The following draft evaluation objectives identify desired outcomes in the context of potential project effects. They provide a framework to guide an integrated assessment of environmental effects, in accordance with the Ministerial Guidelines. The objectives, together with specific assessment criteria, may be refined by the proponent as the EES is prepared.
The framing of the draft objectives reflects the key matters to be investigated for the EES (refer to section 1.3), relevant legislation and policies (section 3.4), the objectives and principles of ecologically sustainable development and environmental protection, as well as environmental issues identified by the proponent in preliminary documentation.

<table>
<thead>
<tr>
<th>Draft Evaluation Objective</th>
<th>Key legislation</th>
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<tr>
<td>Resource Development - To enable an economically viable mining project that makes the best use of available gold resources.</td>
<td>MRSD Act</td>
</tr>
<tr>
<td>Biodiversity - To avoid or minimise adverse effects on native vegetation and listed flora and fauna species and ecological communities, including any relevant species listed under the EPBC Act, and address opportunities for offsetting potential losses consistent with relevant policy.</td>
<td>MRSD Act, FFG Act, Wildlife Act, EPBC Act</td>
</tr>
<tr>
<td>Landscape, Visual and Recreational Values - To minimise adverse effects on landscape, visual amenity and recreational values associated with Big Hill and environs.</td>
<td>P&amp;E Act</td>
</tr>
<tr>
<td>Health and Social - To protect the health, safety and wellbeing of residents and the social fabric of the community in the area, in the context of project hazards.</td>
<td>MRSD Act, EP Act, SEPPs and PEM, PHW Act, P&amp;E Act</td>
</tr>
<tr>
<td>Amenity - To minimise adverse noise, vibration and other amenity effects on nearby residents and local communities, to the extent practicable.</td>
<td>EP Act and SEPPs, PHW Act, P&amp;E Act, MRSD Act</td>
</tr>
<tr>
<td>Water - To ensure that surface water and groundwater quality and potable water supply are adequately protected from adverse impacts arising from the project.</td>
<td>MRSD Act, EP Act &amp; SEPPs, SDW Act, PHW Act</td>
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<tr>
<td>Cultural Heritage - To avoid or minimise adverse effects on Aboriginal and historic cultural heritage values, sites and places.</td>
<td>AH Act, Heritage Act</td>
</tr>
<tr>
<td>Environmental Management Framework - To provide a transparent framework with clear accountabilities for managing environmental effects and hazards associated with construction, operation, decommissioning and rehabilitation phases of the project, in order to achieve acceptable environmental outcomes.</td>
<td>MRSD Act, EP Act, EE Act, EPBC Act</td>
</tr>
<tr>
<td>Sustainable Development - Overall, to demonstrate that the project would achieve a balance of economic, social and environmental outcomes that contribute to ecologically sustainable development and provide a net community benefit.</td>
<td>MRSD Act, EE Act, PHW Act, EPBC Act, P&amp;E Act</td>
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4 ASSESSMENT OF SPECIFIC ENVIRONMENTAL EFFECTS

4.1 Approach to Assessment

Preparation of the EES document and the necessary investigation of effects should be consistent with the principles of a systems approach and risk-based approach, as outlined in the Ministerial Guidelines.\(^9\)

The following sections set out specific requirements for the assessment of effects, using the following structure for each evaluation objective:

- **Key issues for objective**, in terms of significant issues or risks that the project poses to the achievement of the draft evaluation objective. In addition to addressing the highlighted issues, the proponent might undertake an appropriate environmental risk assessment to identify other significant risks.

- **Priorities for characterising the existing environment**, which are needed to underpin predictive impact assessments having regard to the level of risk. Any risk assessment by the proponent could guide the necessary data gathering.

- **Design and mitigation measures**, in terms of design or other available measures that could substantially reduce and/or mitigate the risk of significant effects.

- **Assessment of likely effects**, in terms of predictive studies or estimates of effects that are reasonably likely, as well as evaluation of their significance, having regard to their likelihood.

- **Approach to manage performance**, in terms of further measures that are proposed to manage risks of effects, assuming that identified design and mitigation measures are applied, to achieve appropriate outcomes. This should inform the assessment of likely residual effects (assuming proposed measures are implemented).

4.2 Resource Development

Draft Evaluation Objective

*To enable an economically viable mining project that makes the best use of available gold resources.*

**Key issues**

- Opportunity for development of a known gold resource.

- Efficient and environmentally sustainable mining of available resources.

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\(^9\)Page 14 of the Ministerial Guidelines:

“A systems approach involves the consideration of potentially affected environmental systems and interacting environmental elements and processes. This will enable potential interdependencies to be identified, helping to focus relevant investigations and identify opportunities to avoid, mitigate or manage adverse effects. An inter-disciplinary approach should be adopted where appropriate.

A risk-based approach should be adopted in the assessment of environmental effects so that suitable, intensive, best practice methods can be applied to accurately assess those matters that involve relatively high levels of risk of significant adverse effects and guide the design of strategies to manage these risks. Simpler or less comprehensive methods of investigation may be applied to matters that can be shown to involve lower levels of risk.

Implementation of a risk-based approach means that a staged study design may be appropriate. The initial phase of investigation should characterise environmental assets that may be affected, potential threats arising from a project, and the potential environmental consequences. This phase should enable the design of any necessary further studies proportionate to the risk to analyse the consequences and likelihood of adverse effects.”
Priorities for characterising the existing environment

- Identify opportunities for workers and suppliers of goods and services that could support the project.
- Identify accessible gold reserves at Big Hill using different mining methods.

Design and mitigation measures

- Describe alternative mine configurations or strategies to access gold reserves.

Assessment of likely effects

- Assess the ability to recover gold reserves by alternative mine configurations or strategies.
- Assess the positive and negative economic effects from construction and operation of the project, including income to the State and regional economies, employment and opportunities for local suppliers.

Approach to manage performance

- Describe key elements of the proposed mine work plan to enable efficient resource recovery.

4.3 Biodiversity

Draft Evaluation Objective

To avoid or minimise adverse effects on native vegetation and listed flora and fauna species and ecological communities, including any relevant species listed under the EPBC Act, and address opportunities for offsetting potential losses consistent with relevant policy.

Key issues

- Direct loss of native vegetation and associated listed flora, including threatened orchid species.
- Direct habitat loss for listed fauna including Brown Treecreeper and Bearded Dragon, and disturbance and/or degradation of adjoining available habitat that may support Swift Parrot.

Priorities for characterising the existing environment

- Describe\(^{10}\) the biodiversity values that could be affected by the project, including:
  - remnant native vegetation and any ecological communities listed under the FFG Act
  - presence of, or suitable habitats for, flora and fauna species listed under the FFG Act or the EPBC Act
  - use of habitat corridors by wildlife.
- Describe hazards that the project could present to biodiversity values, including:
  - direct removal or destruction of habitat
  - disturbance or alteration of habitat conditions or other sources of increased habitat threat

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\(^{10}\) The EES will need to demonstrate that appropriate and adequate information (e.g. desktop database and literature searches, seasonally-appropriate targeted surveys and/or modelling) has been compiled on the potential and actual presence of threatened species and ecological communities, having regard to the likelihood and consequence of impact. Where preliminary field studies have not identified a species but past records and/or habitat analysis suggest that it may occur locally, the proponent will need to justify why further investigations or further mitigation measures have not been applied on a precautionary basis.
- the presence of any declared weeds or pathogens in the project area that could be dispersed.

**Design and mitigation measures**

- Describe the measures both considered and proposed to avoid and minimise the potential for significant effects on native vegetation, listed flora and fauna species and ecological communities.

**Assessment of likely effects**

- Assess the direct and indirect effects of the project and relevant alternatives on native vegetation, and listed ecological communities and flora species, in particular any relevant species listed under the FFG Act or EPBC Act.
- Assess the direct and indirect effects of the project and relevant alternatives on indigenous fauna, including listed threatened and migratory species.

**Approach to manage performance**

- Describe and evaluate proposed measures to manage residual effects of the project on biodiversity values, including an outline of an offset strategy that sets out the offsets that have been secured or are proposed to satisfy offset policy requirements.

4.4 Landscape, Visual and Recreational Values

**Draft Evaluation Objective**

*To minimise adverse effects on landscape, visual amenity and recreational values associated with Big Hill and environs.*

**Key issues**

- Changes to the visual amenity and character of Stawell township as Big Hill is progressively removed, mined and backfilled and rehabilitated.
- Short-term and potentially permanent effects on the landscape values and associated recreational values of Big Hill, including if reinstatement of topography post-mining is not successful.

**Priorities for characterising the existing environment**

- Characterise the visual character and associated landscape, amenity and recreational values of Big Hill.
- Describe recreational values and use of Big Hill.
- Identify the viewshed to and from Big Hill, including from adjoining residential areas, public lookouts, and key vantage points within the township.

**Design and mitigation measures**

- Outline and evaluate potential and proposed mine design and staging options that could mitigate effects on landscape and visual amenity during mining, from adjoining residential areas, public lookouts, and other vantage points within the township.
- Describe and evaluate potential and proposed measures to restore and rehabilitate the landscape, visual amenity and recreational values of Big Hill after mining.
Assessment of likely effects

- Assess the effects of the project and relevant alternatives on:
  - landscape and visual amenity values of Big Hill, with respect to both general views from within the Stawell township and environs as well as the immediate residential surrounds, having regard to both visual changes and viewer perceptions; and
  - recreational opportunities (including for tourists) of loss of access to Big Hill during mining and rehabilitation, in the context of the current extent of use and the availability of alternative recreational opportunities.

Approach to manage performance

- Describe and evaluate any proposed additional measures to mitigate or manage effects on landscape, visual amenity and recreational values, including in relation to:
  - the configuration and staging of works; and
  - reinstatement and rehabilitation activities, including back-filling of mine voids and restoration of Big Hill's topography to achieve a stable profile and sustainable after-use (with representative cross-sections and a concept plan for after use).

4.5 Health and Social Impacts

Draft Evaluation Objective

To protect the health, safety and wellbeing of residents and the social fabric of the community in the area in the context of project hazards.

4.5.1 Public Health and Safety

Key issues

- Potential for nearby residents and other sensitive receptors to be exposed to hazardous dust levels during open-cut mining construction, operation and rehabilitation.
- Public safety hazards during mine construction, operation, rehabilitation and post-closure, including in relation to the presence of deep pits in close proximity to existing residential areas and the geotechnical stability of the mine and rehabilitated landform.

Priorities for characterising the existing environment

- Describe the physical and chemical characteristics of overburden, ore and waste rock to be removed during mine development and operations, following mechanical extraction, including specific aspects relevant to human health.
- Assess background levels of airborne particulates (dust) in the vicinity of Big Hill during potential weather conditions at different times of the year, with due regard to data requirements under the PEM for background air quality monitoring, or alternative data sets to the satisfaction of the Environment Protection Authority (EPA).

Design and mitigation measures

- Describe and evaluate potential and proposed design and mitigation measures that could:

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11 Assessment should be completed to a level commensurate with the detailed hazard and risk assessment required for the Work Plan under MRSD Act.
• avoid or minimise the exposure of people to hazardous levels of airborne particulate matter; and
• ensure public safety during mine development, operation and rehabilitation, that is prior to the completion of the restoration and rehabilitation of Big Hill.

Assessment of likely effects

• Predict likely atmospheric concentrations of particulate matter and other relevant Class 1, 2 or 3 indicators in surrounding areas during mine construction, operation and rehabilitation. Modelling of the dispersal of relevant emissions is to be provided for varying weather conditions, including evaluation of predicted levels relative to criteria specified in the PEM or design criteria in Schedule A of SEPP (Air Quality Management). Satisfactory evidence of quality assurance of predictive studies is to be provided.
• Assess potential safety hazards to the public arising from the project.

Approach to manage performance

• Outline proposed measures to ensure that the public is not exposed to levels of airborne particulate matter exceeding PEM or SEPP criteria, including measures to monitor and control exposure to such hazards.
• Describe and evaluate any proposed measures to mitigate or manage public safety hazards.

4.5.2 Social and Land-Use

Key issues

• Displacement of residents due to either a voluntary property acquisition or a self-initiated relocation decision because of diminished environmental quality.
• Adverse changes to community wellbeing due to displacement of residents, reduced amenity and/or other concerns over the project.
• Beneficial social effects of extended employment of local workers at Stawell gold mine and related business services.
• Changes to existing and future land-uses due to the project.

Priorities for characterising the existing environment

• Characterise the residential population in the vicinity of the project area, and the wider Stawell community, in terms of population distribution and demographic, socio-economic and cultural aspects of the population.
• Profile of the Stawell gold mine workforce, including the number of local and incoming workers.
• Outline of attitudes within the local residential population and the wider Stawell community to:
  • the existing environment and sense of place
  • sources of community identity and cohesion
  • underground and open-cut gold mining in Stawell.

Design and mitigation measures

• Outline and evaluate both potential and proposed design and mitigation measures that could:
  • avoid or minimise the need or incentive for adjoining or nearby residents to relocate during the project’s life
  • otherwise mitigate the potential for adverse social effects.
Assessment of likely effects

- Assess potential effects on the local community during the project and relevant alternatives, in terms of the extent, duration, likelihood and implications of effects, including:
  - Displacement of residents, in the context of the need to avoid exposure to both unacceptable levels of airborne particulate matter and unacceptable reductions in amenity (especially due to noise or vibration).
  - The attitudes of potentially affected people towards the project and the potential options of ‘staying or going’, including in the context of the need for consent under the MRSD Act to mine within 100 metres of dwellings.

Approach to manage performance

- Outline and evaluate any additional proposed measures to mitigate, offset or manage adverse social effects or enhance beneficial social effects during the project’s life and subsequently, as relevant.
- Provide a framework for managing social effects during the project’s life, including identifying and responding to any emerging social effects or issues.

4.6 Amenity

Draft Evaluation Objective

*To minimise adverse noise, vibration and other amenity effects on nearby residents and local communities, to the extent practicable.*

Key issues

- Nearby residents potentially exposed to excessive noise or vibration.

Priorities for characterising the existing environment

- Identify dwellings and any other potentially sensitive receptors that could be exposed to project-related noise or vibration.
- Establish the existing noise setting via baseline monitoring.
- Characterise noise and vibration generation by proposed mine activities.

Design and mitigation measures

- Describe and evaluate both potential and proposed design responses and/or other mitigation measures (construction and mining equipment and methods, staging and scheduling of works), which could minimise noise and vibration and effects on sensitive receptors.

Assessment of likely effects

- Predictions of likely noise levels at dwellings adjacent to the project area, and at any other sensitive receptors within the vicinity, including for relevant alternatives, during different stages of mine development and operation and different weather conditions, describing sources of uncertainty associated with the noise modelling.
- Predictions of likely vibration levels at dwellings adjacent to project area, describing any sources of uncertainty associated with vibration modelling.
Approach to manage performance

- Outline and evaluate proposed additional measures to monitor and manage noise and vibration levels to minimise residual effects and ensure compliance with relevant standards.

4.7 Water

Draft Evaluation Objective

To ensure that surface water and groundwater quality and potable water supply are adequately protected from adverse impacts arising from the project.

Key issues

- Potential impacts on the potable water supply, particularly in Reservoir No. 7 due to run-off from the proposed temporary waste rock storage, and any downstream impacts on provision of potable water supply.
- Potential impacts on beneficial uses of groundwater, due to interception of flows or discharges to groundwater.
- Potential impacts on surface water quality arising from polluted run-off from operational areas or other areas disturbed by project works.

Priorities for characterising the existing environment

- Describe the current town water supply in terms of the role of local storage reservoirs.
- Describe the existing groundwater environment in the vicinity of works proposed to be developed or used for project purposes, as known or inferred from available information.
- Describe the local surface water environment in the context of the catchment within which the project site is located.

Design and mitigation measures

- Identify the elements of the town water supply infrastructure to be decommissioned during the course of the project, and proposed measures to ensure the continued provision of a water supply of required quality over that period.
- Describe the process for reinstatement or recommissioning of water supply infrastructure following the completion of mining activities.
- Describe the measures to be taken to ensure protection of surface water and groundwater during mining construction, operations, rehabilitation and post-closure.

Assessment of likely effects

- Assess the risks of the project for the town water supply, including with respect to airborne matter and run-off as well as maintaining the structural integrity of infrastructure.
- Assess the risks to surface water and groundwater quality resulting from the conduct of the project, and including risks which may continue after project works have been completed.

Approach to manage performance

- Describe plans to deal with residual impacts or contingencies such as interruption of alternative sources of town water supply.
• Describe monitoring programs to be implemented to ensure prompt detection of water supply or water quality issues with respect to potable water, surface water and groundwater.

4.8 Cultural Heritage

Draft Evaluation Objective
To avoid or minimise adverse effects on Aboriginal and historic cultural heritage values, sites and places.

Key issues
• Destruction or disturbance of sites or places of Aboriginal or historic cultural heritage significance.

Priorities for characterising the existing environment
• Provide contextual information on past and contemporary activities in the project area by Aboriginal people.
• Identify and document any Aboriginal cultural heritage sites or areas of sensitivity within the project area, supported by appropriate consultation and investigations.
• Identify and document known and previously unidentified places and sites of historic cultural heritage significance within and adjoining the project area, including any necessary investigations to supplement past studies, having regard to the heritage overlay of the Northern Grampians Planning Scheme and Heritage Victoria guidelines.

Design and mitigation measures
• Describe and evaluate proposed design, construction method or site protection measures which could avoid or minimise direct impacts on Aboriginal and historic cultural heritage values.

Assessment of likely effects
• Assess potential effects of the project and relevant alternatives on:
  • identified sites or places of Aboriginal cultural heritage significance; and
  • sites and places of historic cultural heritage significance, having regard to the Heritage Council’s Guidelines for Investigating Historical Archaeological Artefacts and Sites (2012).

Approach to manage performance
• Outline and evaluate any proposed additional measures to mitigate and manage residual effects on:
  • sites and places of Aboriginal cultural heritage significance, within the framework of a draft CHMP12; and
  • sites and places of historic heritage significance, including site investigation and recording procedures.

12 Refer to EES Advisory Note: Aboriginal Cultural Heritage and the Environment Effects Process for further advice.
4.9 Environmental Management Framework

Draft Evaluation Objective

To provide a transparent framework with clear accountabilities for managing environmental effects and hazards associated with construction, operation, decommissioning and rehabilitation phases of the project, in order to achieve acceptable environmental outcomes.

Key issues

- Weak management of environmental effects during project construction and operation could result in failure to meet statutory requirements and sustain stakeholder confidence.

Priorities for characterising the existing environment

- Outline the means by which a register of environmental risks associated with the project will be developed and maintained during project implementation (including matters identified in preceding sections in these directions as well as other pertinent risks).

Design and mitigation measures

- Provide a proposed framework for managing the risks of adverse environmental effects, including:
  - the context of required approvals and consents, in particular requirements for the mine work plan;
  - the environmental management system which will apply, including organisational responsibilities and accountabilities;
  - objectives and measures or procedures for managing environmental performance with respect to:
    - community engagement
    - traffic
    - waste rock, tailings and other waste including contaminated materials
    - geotechnical stability
    - surface runoff and groundwater discharges
    - water sources and use
    - biodiversity issues, including offsets if required
    - air emissions
    - noise and vibration
    - disruption of and hazards to infrastructure including town water storages
    - restoration of topography, soil profiles and drainage
    - establishment of sustainable vegetation covers
    - reconstruction of roads
    - relocation of heritage and recreational elements;
  - complaints recording and resolution procedures; and
  - procedures for auditing and reporting of performance including compliance with relevant statutory conditions and standards.
**Assessment of likely effects**

- Evaluate the likely effectiveness of the proposed environmental management framework in controlling adverse effects.

**Approach to manage performance**

- Procedures for:
  - verifying or monitoring compliance with performance requirements; and
  - review of the effectiveness of the environmental management framework for continuous improvement.
- Arrangements for management of and access to baseline and monitoring data, to ensure the transparency and accountability of environmental management as well as to contribute to the improvement of environmental knowledge.

**4.10 Sustainable Development**

**Draft Evaluation Objective**

*Overall, to demonstrate that the project would achieve a balance of economic, social and environmental outcomes that contribute to ecologically sustainable development and provide a net community benefit.*

**Key issues**

- The balance of economic, social and environmental outcomes from the project needs to be beneficial.

**Assessment of likely effects**

- Provide an integrated assessment of the economic, social and environmental performance of the project either proceeding or not, drawing on the findings of the specific assessments set out above, including the proposed approaches to avoiding, minimising, mitigating, managing and offsetting potential adverse effects.
- Evaluate the overall implications of the project in the context of key aspects of legislation and statutory policy as well as the principles and objectives of ecologically sustainable development and environment protection.