

Draft Environmental Impact
Statement Project Specific
Guidelines
For
Australian Hualong Pty Ltd
Tenth Legion Iron Ore Mine
Near Zeehan

January 2020



ENVIRONMENT PROTECTION AUTHORITY

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General Information for the Proponent

Purpose

The *Environmental Management and Pollution Control Act 1994* (the EMPC Act) requires the Board of the Environment Protection Authority (the Board) to provide guidance to the proponent about what should be included in the case for assessment.

The Board will assess environmental aspects of the proposal. The relevant Planning Authority (Council) will assess planning aspects if the *Land Use Planning and Approvals Act 1993* applies. The Board has authorised EPA Tasmania to undertake administrative tasks and establish the information base to inform decision making on its behalf.

These project specific guidelines have been prepared based on a Notice of Intent for the proposed Tenth Legion Iron Ore Mine submitted to the Board by Australian Hualong Pty Ltd.

Information solely for the purpose of assessment under the relevant Planning Scheme should be supplied to the Planning Authority either:

- as required under s 54 of the *Land Use Planning and Approvals Act 1993* (LUPAA), where the planning application has commenced the environmental assessment process; or
- where it is intended to submit an EIS (draft or final) with the planning application, a combined planning and environmental report can be prepared. However, the information required for the Board's assessment must be distinguished from that supplied for the purposes of LUPAA.

Risk Based Assessment

The EIS should be prepared using a risk based approach. Not all issues nominated in these guidelines will have the same degree of relevance to all proposed activities. Depending on the nature of the proposed activity and its location, some of the issues may be more relevant than others, and some may not be applicable at all. The level of detail provided on each issue should be appropriate to the level of significance of that environmental issue to the proposal.

As well as the issues identified in the guidelines, other significant matters may emerge during preparation of the EIS from environmental studies, public comments or other sources, which will need to be factored into the EIS. The assessment process may also change the understanding of the level of risk associated with some of the issues. This may in turn change the level of detail needed in the EIS to reflect the level of significance of that environmental issue to the proposal.

After the public consultation phase, additional information may be requested from the proponent in response to public and government agency submissions. This generally takes the form of a supplement to the EIS.

Objectives of the EIS

The EIS should provide:

- Information for individuals and groups to gain an understanding of the proposal, the need for the proposal, the alternatives, the environment that it could affect, the positive and negative environmental impacts that may occur and the measures that will be taken to maximise positive outcomes, and minimise any adverse environmental impacts, including specific management measures.
- A basis for public consultation and informed comment on the proposal.
- A framework against which decision makers, particularly the Board, and sometimes the relevant Planning Authority, can consider the proposal and determine the conditions under which any approval might be given.

- A demonstration that the proposal is consistent with the objectives of the relevant laws and policies, including the Tasmanian Resource Management and Planning System (RMPS) and the Environmental Management and Pollution Control System (EMPCS).

How the Board uses the EIS

The EIS is the basis on which the Board makes its assessment. The Board considers the EIS, as well as other relevant information, against the objectives of the RMPS and EMPCS objectives. These objectives focus on the concept of sustainable development, which requires consideration of the economic and social needs of people now and in the future, while sustaining the environment and avoiding or mitigating adverse effects. The Board will consider the objectives and endeavour to make the decision which best furthers them, when considered together. That decision may be to approve the proposal with conditions, or in some cases, the Board may decide the objectives cannot be upheld and the proposal is rejected.

Structure and Formatting of the EIS

The following points should be considered when writing the EIS:

- The title page should include the proponent's name, the activity name (include "expansion" or "upgrade" where appropriate), the proposal address or location, the EIS version number (where relevant) and the month and year of publication.
- The main text of the EIS should be written in a clear and concise style that is easily understood by the general reader.
- Assertions and assumptions should be supported by adequate argument and/or evidence, and evidence relied upon should be referenced.
- Technical terminology should be avoided as far as possible. The detailed technical data and supplementary reports necessary to support the main text should be included in appendices.
- All sources of information should be referenced and the style of referencing should be consistent throughout. An indication should also be given about how current the information is and how its reliability was tested. In particular, the degree of confidence attached to any predictions should be indicated.
- Information should be presented in maps, diagrams and site plans to enhance the level of understanding. All images must be of high quality, with all text readily readable, and should be capable of being readily copied and pasted into other documents such as a permit (e.g. all objects in images should be 'grouped'). All colour images must, when printed or photocopied in monochrome, reproduce such that all important features are readily visible. An exception may be made to the above where historical documents or photographs need to be reproduced in the document. For ease of comparison, all maps, plans and aerial photographs should be oriented in the same direction as far as practicable and a north direction arrow and scale should be included.
- When providing maps or referring to spatial databases, the coordinate reference system being used should be specified (i.e. Australian Geodetic Datum (AGD) or Geocentric Datum of Australia (GDA)).
- Any sensitive information should be provided in a separate, confidential appendix. A comment should be made in the EIS that the information has been provided in this way.
- Specific management measures must be clearly identified in the text and included in the summary table referred to in Section 9 of these guidelines.
- Where appropriate, information provided in other sections should be referenced to minimise duplication.
- The EIS should contain a summary table showing compliance with the project specific guidelines and the relevant sections of these general guidelines.

Submission of draft and final document

Close consultation with EPA Tasmania while preparing the EIS is recommended. It is advisable for the proponent to submit a draft EIS to EPA Tasmania for review before it is finalised. Please note that a draft document may be rejected without detailed review if it is incomplete, contains significant formatting or typographical errors, or does not comply with the Project Specific Guidelines and relevant sections of these general guidelines. More than one draft may be necessary before the document is considered suitable for public release.

The EIS is to be submitted in electronic format for use with a word processor (such as Microsoft Word), and suitable for publishing on the internet (PDF format). Printed copies may also be required at public consultation stage. The proponent will be advised of the number of copies and format required.

Once the proposal is advertised for public comment, copies of the EIS must be made available to the public on request, in either printed or electronic format. The EIS will also be available on the EPA website.

Commonwealth environmental assessment

In addition to Tasmanian requirements, the Commonwealth Government may also have a role in the environmental assessment and approval of the proposal.

Approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is required for an action which has, will have, or is likely to have, a significant impact on a matter of national environmental significance or on Commonwealth land. The matters of national environmental significance are:

- World Heritage properties;
- National Heritage Places;
- wetlands of international importance (RAMSAR wetlands);
- nationally listed threatened species and communities;
- nationally listed migratory species;
- Commonwealth marine areas;
- nuclear actions; and
- large coal mines with water quality impacts.

Information on the EPBC Act can be obtained from the Commonwealth Department of Environment and Energy's website at www.environment.gov.au/epbc/ or by calling 1800 803 772.

The Commonwealth and Tasmanian Governments have signed a bilateral agreement relating to environmental impact assessment under section 45 of the EPBC Act, which effectively accredits the State assessment process. Where the proposal has been determined to be a controlled action under the EPBC Act and is being assessed in accordance with the bilateral agreement, the EIS should specifically describe the implications of the proposal for the relevant EPBC Act controlling provisions.

If the proposal is being assessed under the bilateral agreement, the EIS should contain a summary table showing that it addresses the matters specified in Schedule 4 of the Commonwealth [*Environment Protection and Biodiversity Conservation Regulations 2000*](#).

False or misleading statements

Under section 43A of the EMPC Act, the EIS must not include information that is known to be false or misleading; and nothing should be omitted if it is known that without it the EIS would be false or misleading.

Key Issues to be addressed

While the EIS should evaluate all potential effects of the proposal, it should be principally focused on the key issues identified in the table below. See the relevant sections of the Guidelines for more detail. The level of detail provided on other issues should be appropriate to the level of significance of that issue for the proposal. Variables or assumptions made in the assessment must be clearly stated and discussed. The extent to which the limitations, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

The key issues identified for this proposal, which should be the focus of the EIS, are:

Key Issues	
1.	<i>Waste rock and tailings management at both the Tenth Legion and Comstock sites.</i>
2.	<i>Potential impact on surface and ground water, particularly in regard to potential acid metalliferous drainage (AMD) and hydrogeological impacts.</i>
3.	<i>Potential impact on flora, fauna and vegetation communities from clearing and mining activities.</i>
4.	<i>Decommissioning and rehabilitation of both sites.</i>

Survey and Study Requirements for Key Issues

The following surveys and studies will be required as part of the EIS:

Key Issue	Surveys or Studies Required	Relevant sections of Guidelines
1. Waste management	<ul style="list-style-type: none"> • Geochemical test work, including mineralogy, geochemistry, elemental enrichment, acid-base accounting (ANC, MPA, NAPP), NAG_{ox} (also known as NAG_{pH}) testing, sample classification for differing mineralogical lithologies of ore, waste rock and expected tailings produced, or as provided by pilot beneficiation studies. • Modelling to quantify the net acid generating (and acid consuming) potential of the Tenth Legion Mine waste rock and distribution of potential acid forming rock types / zones within areas to be mined. 	6.1
2. Water quality	<ul style="list-style-type: none"> • Water balance for the activity at both Tenth Legion and Comstock sites, including dewatering of the Tenth Legion pit and water used for processing. • Ambient water quality surveys of the Tenth Legion Mine area and Comstock Mine sites, with comparative sampling upstream and downstream, incorporating existing sources of AMD. 	6.2

	<ul style="list-style-type: none"> • Undertake a hydrogeological study of the Comstock mine site, including development of a conceptual hydrogeological model, with a focus on Allison’s Pit and surrounds, adits and underground workings, and the tailings storage facility. • If plugging of any adit or underground workings on the Comstock Mine site is proposed, hydrogeological modelling must be undertaken to determine the likely impact on groundwater and groundwater/surface water interaction, with a focus on potential for displacement of existing AMD. • Develop a conceptual hydrogeological model for the Tenth Legion mine, including consideration of PAF waste rock placement into the pit and expected post-closure phreatic surface (water table) in the pit. 	
3. Natural values	<ul style="list-style-type: none"> • Flora and fauna survey of all potentially impacted areas. 	6.3
4. Decommissioning	<ul style="list-style-type: none"> • Geochemical test work and modelling to assess the long term acid generating capacity of the Tenth Legion Mine after closure, incorporating those areas of the Comstock Mine site affected by the proposal. 	6.1 and 8.0

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Contents of the EIS

Executive Summary

An executive summary of the EIS should be included to provide a clear and concise overview of the proposal, its environmental implications, the approvals process and the function of the EIS in the context of the approvals process.

For larger EISs, it is recommended that the executive summary be written as a stand-alone document, able to be provided on request to interested parties who may not wish to read or acquire the full EIS.

Table of Contents

A table of the contents of the report with reference to the relevant page numbers. It should also contain a list of figures and tables.

List of Abbreviations

A list of the abbreviations, acronyms and, if relevant, a glossary of terms used in the EIS.

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1. Introduction

Provide information on the following:

- Title of the proposal.
- Proponent details:
 - Name of proponent (legal entity)
 - Name of proponent (trading name)
 - Registered address of proponent
 - Postal address of proponent
 - ABN number
 - ACN number (where relevant)
- Contact person's details:
 - Name
 - Telephone
 - Email address
- Activity operator details (if the operator will be a different entity to the proponent).
- General background information on the proponent, such as relevant development and operational experience.
- General background information on the proposal, including the current status of the proposal, an overview of the principal components of the proposal, the proposal location, anticipated establishment costs, likely markets for the product, and the possibilities for future expansion.
- An examination of how the proposal relates to any other proposals that have been or are being developed, or that have been approved in the region affected by the proposal.
- Environmental legislation, standards and guidelines that will be applicable (such as policies, regulations and industry codes of practice).
- Other relevant Commonwealth, State and Local Government policies, strategies and management plans with which the proposal would be expected to comply.

2. Proposal Description

General note

Where the proposal is to be subject to a permit application under the LUPA Act, the proposal description and specification of the site must be consistent with the intended or current permit application. Any works or activity that are for the purpose of the proposal (e.g. access works) must be included.

Provide a full description of the proposal, including construction, commissioning, operational and decommissioning phases, as well as any infrastructure and off-site ancillary facilities required for the proposal.

A detailed description should be provided of key physical components of the proposal, including their function, composition, size, capacity, operational life, technical and performance requirements, inter-relationships and method of construction, operation and maintenance.

The information listed below should be provided.

2.1 General

- History of the project, including exploration work undertaken to date to identify the resource and remedial work undertaken to date at the Comstock site.
- In regard to the Comstock site, describe any current approvals or regulatory conditions.
- Types and quantities of materials to be extracted and processed (e.g. hematite ore, magnetite ore, waste rock, overburden) on a monthly / annual basis (expressed in cubic metres and loose bulk tonnes), tied into the staged mine plan. Include maximum proposed production rates, daily average rates and annual production rates.
- Characterisation of the areas of the Comstock site to be disturbed for the purpose of the activity.
- An estimate of the projected life of the operation, and expected long-term prospects based on the results of exploration work.
- A description of the mineral resource as currently understood.
- Description of proposed mining methods, direction of works, bench heights, ramping and haulage. Extraction plans should demonstrate the resource will be extracted in a systematic manner that will minimise the area of disturbance and allow for progressive rehabilitation of the site as appropriate.
- Description of proposed beneficiation process, described in a step-by-step manner using explanatory diagrams and flow charts, where appropriate, to complement the text.
- A staged mine plan with approximate dates/timeframes for proposed works and areas of disturbance, including development of the mine pit, waste rock dump(s) and tailings storage facility. Please note, EPA Tasmania's view is that all waste rock should be returned to the mine pit on completion of mining, with no permanent waste rock dump maintained.
- The hours of operation for the proposal (hours per day and specific days per week) including any seasonal variations.
- Description of the mine elements and infrastructure, including mine pit, waste rock storage, processing plant and run of mine (ROM) pad, tailings storage facility, water storage facility(s) and water management network, and on-site mine infrastructure (e.g. offices, car parks, maintenance and re-fuelling facilities etc.). Include a description of the areas and facilities of the Comstock mine site (as located within proposed mining lease 2068 P/M) that will be utilised as a part of the proposal.
- List the major items of equipment (including pollution control equipment) and on-site facilities to be employed. Detailed technical information on major items of equipment may be included in appendices.
- A description of the method of plugging any adit or underground workings on the Comstock mine site, and any other remediation works within the Comstock site needed for the purpose of the proposal. Include reference to existing regulatory instruments and other activities being undertaken on the Comstock site.
- Raw materials required for the proposal (including water), including details of quantities and characteristics.
- Energy requirements for the proposal and the means of meeting this demand.

- The volume, composition, origin, destination and route for vehicle movements (including road, rail, shipping and air) likely to be generated during the each phase of the proposal, including a break-down for over-dimension and heavy road vehicles.
- Planned land use of the site when mining is complete.

2.2 Construction

- A step-by-step description and timetable for significant activities during the site set-up phase of the proposal. Indicative timeframes for the completion of major steps, and the likely sequencing of steps (there may be some overlap with Section 2.1).
- Measures to prevent or mitigate impacts from erosion and transport of sediment during construction and site preparation works, including resulting from creek diversion, removal of vegetation and other works.
- Measures designed to prevent the introduction or spread of introduced plant species, weeds, pests and diseases (such as *Phytophthora cinnamomi*) during construction works.
- Details of any forest harvesting management arrangements to recover timber.

2.3 Commissioning

- A step-by-step description of major commissioning activities (if any) following installation of equipment. Indicative timeframes for the completion of major steps, and the likely sequencing of steps. The point at which commissioning will be considered completed should be described.
- Description of the main activities associated with the commissioning of the Comstock mine site, including defined points/timetable at which commissioning of the mine site will be considered complete.

2.4 General location map

A general location map (e.g. 1:25,000 scale or better as appropriate) which identifies the following is required:

- The location of the proposal site
- Topographical features, aspect and direction of drainage
- Road access to and from the site
- Location of waterways and drains (including ephemeral)
- The distance(s) to any nearby sensitive uses (such as residences)
- Electricity transmission lines
- Boundaries of the property on which the proposal is located
- Surrounding land tenure
- Surrounding land use (identify areas of conservation or recreational significance)
- Surrounding land zoning in the local government planning scheme

2.5 Site plan

Site plans are required which identify the proposal site and which include the following (where relevant):

- The location of the Tenth Legion site, Comstock site, connecting routes, land title boundaries and mining lease boundaries in relation to one another.
- Definition of the land on which the activity will take place (including both Tenth Legion and Comstock, and connecting routes) and its boundary, by means of land title information, mining lease boundaries, map coordinates or other means. This must be consistent with any intended or current permit application under the LUPA Act. Coordinates of the land should be provided.
- All major elements of the proposed activity, including any proposed extension to the Comstock tailings dam. Show with reference to a map of all historical workings associated with the Comstock mine site which may affect the mine plan, development and or management.
- The full extent of any proposed vegetation clearing or disturbance.
- The position of buildings and significant structures on the site (existing and proposed).
- The location of all major items of equipment and facilities and their position relative to mining lease boundaries.
- The route of any pipelines, tracks, roads, conveyors or similar means of transporting on-site materials.
- The location of raw materials storage areas, and loading/unloading areas.
- Details of any screening vegetation or bund walls.
- A plan of the processing plant showing the location of all major items of equipment and facilities.

2.6 Off-site infrastructure

Any new infrastructure or off-site ancillary facilities required to allow the proposal to proceed should be described (for example water supply, electricity supply, roads or other transport infrastructure).

3. Project Alternatives

The rationale for the particular project proposed should be described.

Describe the site selection process, including site selection criteria, alternative sites considered and an assessment of those alternatives. The assessment should compare alternatives according to clearly defined environmental, social, economic and technical considerations, and provide a justification for the preferred site. The effect that any community consultation undertaken had on the selection process should be detailed.

A critique of other available technologies and the reason for the selection of the preferred technology, including from an environmental perspective, should be included where relevant. Transparency around alternatives and the criteria on which decisions have been based is encouraged as it can lead to better outcomes.

For any part of the proposal where alternative technologies, materials, design options or management practices with different environmental consequences may exist, the alternatives should

be identified, their environmental performance evaluated and the reason for the proposed choice justified. This needs to include discussion of:

- haulage road(s), particularly if a new road is proposed to be constructed;
- waste management measures during extractive, processing and rehabilitative stages (also see section 6.1);
- use of the Comstock site, particularly in regard to interaction with existing environmental issues at that site.

Alternatives should have regard to best practice environmental management, including those measures listed under section 4(2) of the EMPC Act.

4. Public Consultation

Details of the nature and results of public consultation undertaken (if any) by the proponent during project planning and preparation of the EIS, as well as any proposals for further public consultation during and beyond project implementation.

Early community engagement often leads to better outcomes for all and is strongly encouraged. The Board has produced a guide to community engagement which is available on the EPA website at: <http://epa.tas.gov.au/assessment/assessment-process/guidance-documents>

5. The Existing Environment

Describe the proposed site location and provide an overview of the existing environment, which may be affected by construction, and operation of the proposal, including areas associated with any ancillary activities.

Include details of salient features of the existing environment and, where appropriate, include maps, plans, photographs, diagrams or other descriptive detail.

The following details should be included.

5.1 Planning aspects

- If a permit is required for the proposal under the LUPA Act provide:
 - Use Class of the proposed activity under the applicable Planning Scheme.
 - Permissibility of the activity under the applicable Planning Scheme.
- Information on land tenure and property boundaries of the proposed site, with certificate of title details. Please note the following additional comment from State Growth:
 - The subject land is Future Potential Production Forest land (FPPF) and therefore the land manager is PWS Property Services, rather than Sustainable Timber Tasmania (STT). The Tasmanian Forest Agreement is no longer in force.
- Land zonings for the proposed site and surrounding areas.
- Any rights of way, easements and covenants affecting the site.
- Land use and planning history of the site, including the potential for site contamination¹, present use and any existing buildings and significant structures.

¹ Information on potentially contaminating activities and contaminated site assessment can be found online at <http://epa.tas.gov.au/regulation/contaminated-sites>.

- A description of land use and ownership in the vicinity of the site and those areas which may be affected by the proposal, including:
 - The location and nature of industrial facilities.
 - Any sensitive uses² or residential zones within applicable attenuation distances including the location of individual residences, schools, hospitals, caravan parks and similar sensitive uses, and the location of any tourist or recreation facilities or routes (such as camping areas, picnic areas, walking tracks, historic routes).
 - Any proposed or potentially sensitive uses within this distance of the proposal site, which have been or are likely to be granted approval under the local planning scheme, should also be considered.

5.2 Environmental aspects

- A description of the general physical characteristics of the site and surrounding area, including topography, local climate, geology, geomorphology, soils (including erodibility and acid sulphate soils), vegetation, fauna, groundwater and surface drainage (including waterways, lakes, wetlands, coastal areas etc).
- Information on vegetation communities, species, sites or areas of landscape, aesthetic, wilderness, scientific or otherwise special conservation significance which may be affected by the proposal, including the results of any surveys. Relevant information resources include the LIST (www.thelist.tas.gov.au) and the Natural Values Atlas (<https://www.naturalvaluesatlas.tas.gov.au>).
- Any existing conservation reserves located on or within 500 metres of the site.
- Any high quality wilderness areas identified in the Tasmanian Regional Forest Agreement in the vicinity of the site.
- Identification of all Protected Environmental Values (PEVs) of waterways on and near the proposed activity site(s).
- A description of natural processes of particular importance for the maintenance of the existing environment (e.g. fire, flooding, etc).
- An assessment of the vulnerability of the site to natural hazards (e.g. flooding, seismic activity, fire, landslips or strong winds).
- Description of the Comstock mine site and historical mining activities.
- Information on current regulatory approvals and licences for the Comstock site.
- Description of rehabilitation activities on the Comstock mine site undertaken to date, and any proposed prior to commencement of extraction at the Tenth Legion site.
- Results of water quality surveys of the Tenth Legion and Comstock sites, including quantification of acid and metal concentrations and loads from existing acid and metalliferous drainage (AMD). Any other available ambient monitoring results for the vicinity of the proposed development (in tabular or graphical form). The results may be summarised (e.g. as annual averages) if the summary will provide adequate information.
- Results of a hydrogeological study of the Comstock mine site.

² Defined in the State Planning Provisions as ‘a residential use or a use involving the presence of people for extended periods except in the course of their employment such as a caravan park, childcare centre, dwelling, hospital or school.’

- Description of the geochemical characteristics of the existing tailings within the Comstock tailings dam and any waste materials on the Comstock site which may be disturbed as a result of the proposal.
- Quantify the acid and metal concentrations and loads (dissolved and particulate) from existing AMD on the Comstock mine site that may be captured by, or directed to, the tailings dam, the polishing pond, Allison's Pit, or any other Comstock mine feature that will be used as part of the Tenth Legion mine proposal.

5.3 Socio-economic aspects

Briefly describe the existing social and economic environment that may be affected by the proposal, which may include information on the following:

- A summary of the social or demographic characteristics of the population living in the vicinity of the proposal site, identifying any special characteristics which may make people more sensitive to impacts from the proposal than might otherwise be expected.
- A summary of the characteristics of the local and regional economy.

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6. Potential Impacts and their Management

Guide to preparing this section

While some details of the proposal may not be finalised at the time the EIS is submitted, the information in the document should be as up to date as possible. Where information is unavailable or details have not yet been finalised, estimates and the range of alternative options should be provided. However, sufficient technical detail must be provided to enable an appropriate level of assessment. For each potential impact the following should be discussed.

Existing conditions

Outline the existing conditions relevant to the impact. In the case of a proposal which involves expansion or redevelopment of an existing activity, a summary of public complaints received in recent years and a discussion of the operator's response and how this may affect the current proposal.

Performance requirements

Identify the environmental performance requirements to be achieved for each environmental impact and provide evidence to demonstrate that these can be complied with. These may be standards or requirements specified in legislation, codes of practice, state policies, national guidelines or as determined by agreement with the assessing agencies. Industry best practice standards should be referred to where appropriate. **Unsupported assertions that performance requirements will be achieved will not be considered adequate.**

Potential impacts

Outline the potential environmental, social and economic impacts of the proposal (positive and negative) through all stages, including construction, operation and closure, in the absence of special control measures. Any foreseeable variations in impacts during the start-up and operational phases should be identified.

The level of detail provided on each issue should be appropriate to the level of significance of that environmental issue to the proposal.

The evaluation of potential impacts should identify **plausible worst case consequences**, the vulnerability of the affected environment to the potential impacts, and the reversibility of the impacts. Potential cumulative impacts of this proposal in light of other activities underway or approved also need to be addressed. Interactions between biophysical, socio-economic and cultural impacts should be identified.

Predictions and evaluations of impacts should be based on scientifically supportable data (for existing operations this should include the results of monitoring of current emissions). The methodologies used or relied on should be referenced, together with the relevant research and investigations supporting them. Assumptions, simplifications and scientific judgements should be stated clearly, and the nature and magnitude of uncertainties should be clearly defined. Where relevant, the choice of a particular methodology over alternative methodologies should be explained. Where impacts are not quantifiable, they should be adequately described.

Where positive benefits are claimed it will generally be appropriate to explain what measures are to be taken to ensure that those positive outcomes are realised and sustained.

Avoidance and mitigation measures

Describe the measures proposed to avoid or mitigate potential adverse impacts (having regard to best practice environmental management as defined in EMPCA) in order to achieve the environmental performance requirements (such as through pollution control technology or management practices). The extent to which they will overcome the anticipated impacts should be specified. Where there are clear, alternative avoidance or mitigation measures for a particular adverse environmental impact, the alternatives should be reviewed and the preferred option justified.

Where pollution control equipment and/or treatment processes are key factors in achieving satisfactory environmental performance, contingencies in the event of breakdown or malfunction of the equipment or processes should be discussed. It should be demonstrated that the maintenance of pollution control equipment can be provided for without causing performance requirements to be exceeded.

Where measures to control environmental impacts are necessary, but will not be undertaken by the proponent, the means by which the proponent will ensure that the necessary measures are implemented should be identified (e.g. lease conditions, trade waste agreement, contractual arrangement or other binding third party commitment). **Mitigation measures over which the proponent has no control will generally not be considered adequate.**

Assessment of net impacts

An assessment of the overall impacts of the development on the environment after allowing for the implementation of proposed avoidance and mitigation measures. This should include an evaluation of the significance of impacts, the potential for emissions to cause environmental and health impacts and comparison with current environmental conditions (for existing activities) and with state, national and international regulations and standards. Any net benefits likely to result from the proposal should be identified.

Discuss the impacts of the proposal in terms of the constraints or benefits it may place on the current or future use of land within the proposal site and surrounding area as a result of environmental impacts or emissions, including impacts on other uses, particularly sensitive uses.

Offsetting unavoidable adverse impacts

If adverse residual environmental impacts from the proposal are considered unavoidable despite the adoption of best practice environmental management avoidance and mitigation measures, then proposals to offset such impacts should be detailed. For example, if the loss of conservation values, community assets or amenities is considered unavoidable, measures to compensate for those losses should be proposed in proportion to the loss. Any offset actions proposed must be demonstrated to be 'real' actions. That is, **the offset actions must have a measurable and relevant benefit which would otherwise not have occurred.**

6.1 Waste Management (waste rock and tailings)

This section specifically addresses characterisation and management of waste rock and tailings generated by the activity. General waste management associated with the activity is addressed in section 6.7.

Waste geochemical characteristics

- Description of the drilling program used to determine waste rock characteristics, including a map showing drilling locations, drill numbers, depth and sample distribution. All exploration drilling should examine lithologies, mineralogies, geochemistry especially sulphur for all waste rock likely to be encountered.
- Description of tailings mineralogy, waste rock types and waste rock mineralogy. Description of the metals and other chemical elements of environmental concern associated with the waste rock, tailings and ore, including an assessment of the extent of enrichment and potential for leaching.
- Results of the waste rock, tailings and ore geochemical test work (acid-base accounting, NAG testing, AMD sample classification), incorporating a detailed assessment of the acid generating (or neutralising) potential of the waste rock, tailings and ore.
- Sufficient testing must be undertaken to provide a reliable estimate of the quantity, production rate and geochemical characteristics of potentially acid forming (PAF), non-acid forming (NAF) and acid consuming (ACM) waste rock and tailings over the life of the mine.
- Results of the PAF waste rock and PAF tailings kinetic test work, including an assessment of the lag time for acid generation.

Waste rock management

- Description of waste rock disposal practices, including Best Practice Environmental Management measures to prevent or mitigate the formation of acid and metalliferous drainage, including segregation and management of potentially acid forming rock types to prevent oxidation of sulphidic minerals. Please note, all waste rock should be returned to the mine pit on completion of mining, with no permanent waste rock dump maintained above ground. In addition, any temporary storage facility for waste rock must be adequately designed and managed.
- Definition of clay resource on site and the proposed storage and reuse of non-acid forming waste rock types, including clay, for civil construction or other purposes.

Tailings management

- Description of the proposed tailings storage facility (TSF), including dam design, construction and requirement for lifts over the life of the mine. This must include:
 - a description of the design and construction of the existing Comstock tailings dam and polishing pond (may cross-reference with section 5.2 – Environmental aspects);
 - characterisation of existing tailings and sludges;
 - details of the modifications required (design and construction) to enable future tailings storage;
 - proposed source of materials for any additional required dam construction; and
 - a description of the measures undertaken to avoid disturbance of any metal sludges stored within the existing Comstock mine tailings dam.

- Geotechnical assessment of the existing Comstock tailings dam, incorporating an assessment of the suitability and stability of the dam to accept tailings, and its potential to sustain the required lift(s).
- Tailings storage capacity of the existing Comstock mine tailings dam, existing volume stored and quantification of likely additional storage needed (if any).
- Method of tailings delivery, storage, and tailings filling rates over the life of the mine.
- Description of how the TSF will be managed, during and after active mining, to mitigate the potential for acid generation, including:
 - the minimum pH level for water held within and discharged from the TSF and any other water treatment and settling ponds that might be utilised for the activity;
 - the chemical and physical mechanisms used to maintain these facilities, including control of pH;
 - TSF closure: proposed cover system and ongoing dam surveillance requirements (see also section 8.0).

6.2 Water – flow and quality

Discuss potential impacts of the proposal on water flow and quality, including:

Hydrogeological impact

- A conceptual groundwater model for regional and local aquifer flows, including how groundwater is likely to interact with waste rock returned to the Tenth Legion pit or sequestered in Allison's pit.
- Discussion of the potential change to the hydrology and groundwater flow on the Comstock mine site as a result of the proposal, and the potential environmental impacts this may have. Please note, this issue may affect the discussion in regard to AMD (below).
- A map showing the location of any groundwater³ monitoring bores, with description of how and at what depth the bores are to be screened.

Acid and metalliferous drainage

- Discussion of the potential for AMD formation, including sources (e.g. Tenth Legion waste rock dump, tailings dam, and mine pit), pathways off site (e.g. seepage, decant water, pumping discharge, groundwater flow, stormwater), and expected mass-loads and concentrations of acidity, metal, metalloids and other contaminants such as sulphate, calcium, magnesium and sodium.
- An assessment of the potential for existing AMD to interact with tailings and or waste rock, leading to subsequent acid production and dissolution of metals. The assessment must take into account, as appropriate, the chemical characteristics of the existing AMD and the potential reaction pathways, including the acceleration of sulfate and acid generation in the presence of ferric ions (Fe^{3+}).
- Consideration of the potential displacement of existing AMD to undetermined conduits as a result of the proposed changes to the Comstock mine site, including blocking of the adits that drain Allison's Pit and or converting the pit to a waste rock dump or other mine feature.

³ Information on groundwater in Tasmania is available at: <http://wrt.tas.gov.au/groundwater-info>

- Description of AMD best practice environmental management measures, which may include segregation of existing AMD at the Comstock site from the proposed tailings storage facility, waste rock dump(s), clean water drains etc., and the collection and treatment of AMD which cannot be prevented from occurring, including existing AMD from the Comstock site. The management and planning of the proposal should be demonstrated to be consistent with the GARDGuide (www.gardguide.com) and the Global Cover System Design Technical Guidance Document as published and updated by the International Network for Acid Protection (INAP).
- An assessment of the potential impact of any AMD emissions on the receiving environment.

Stormwater

- Assessment of the potential for sediment to enter and impact on water courses through storm water run-off. Include details of mitigation measures to prevent the sourcing and mobilisation of sediment (e.g. erosion control measures), and transport of sediment off-site (e.g. detention basins).
- Assessment of the potential impact of hardstand stormwater run-off (e.g. car park, workshop, mill site, etc.) on receiving waters, including a description of mitigation measures to prevent, mitigate or reduce pollution potential from these sources.
- Details of stormwater management (including during reasonably foreseeable flood events), including a map of the location of stormwater collection systems and details of drainage control measures such as cut-off drains and sediment settling ponds.
- A map showing the location of any groundwater⁴ monitoring bores, with description of how and at what depth the bores are to be screened.

Other emissions

- Where not already addressed above, any other potential mine-related aqueous emissions or emissions which may impact water quality must be identified and discussed. Potential impact on the receiving environment must be considered, with justification for any proposed discharge provided, including demonstration that environmental impact is avoided and mitigated.

Survey / Modelling Requirements

- Description and quantitative analysis of the mine site water balance, including details of water requirements and input source(s), water storage facilities, water transfer and drainage routes, discharge/decant points (storm related or otherwise). The analysis should consider groundwater recharge into mine pits and variations in precipitation and natural flow. It must also take into account the effect of plugging any adit or underground workings on the Comstock Mine site.
- Ambient water quality surveys of the Tenth Legion Mine area and Comstock Mine sites, with comparative sampling upstream and downstream, incorporating existing sources of AMD.
- Hydrogeological study of the Comstock mine site, including development of a conceptual hydrogeological model, with focus on Allison's Pit and surrounds, adits and underground workings, and the tailings storage facility.
- If plugging any adit or underground workings on the Comstock Mine site is proposed, hydrogeological modelling must be undertaken to determine the likely impact on groundwater and groundwater/surface water interaction, with a focus on potential for displacement of existing AMD.

⁴ Information on groundwater in Tasmania is available at: <http://wrt.tas.gov.au/groundwater-info>

- Conceptual hydrogeological model for the Tenth Legion mine, including consideration of PAF waste rock placement into the pit and expected post-closure phreatic surface (water table) in the pit.

Legislative and policy requirements

It must be demonstrated that the proposal is consistent with the objectives and requirements of relevant water management policies and legislation including the *Water Management Act 1999*, the *State Policy on Water Quality Management 1997*, and the *Tasmanian State Coastal Policy 1996*.

In particular, it must be demonstrated that the proposal will not prejudice the achievement of any water quality objectives set for water bodies under the *State Policy on Water Quality Management 1997* (see <http://epa.tas.gov.au/policy-site/Pages/Water-Quality-Policy.aspx>). Where water quality objectives have not yet been set, EPA Tasmania should be consulted to identify the baseline water quality data required to enable the water quality objectives to be determined.

6.3 Biodiversity and Natural Values

Discuss impacts of the proposal on biodiversity and nature conservation values (terrestrial and aquatic) including:

- A map of existing vegetation communities and records of threatened flora and fauna species, including survey results.
- Information must be provided regarding the re-evaluation of the species previously identified as northwest heath (*Epacris curtisiae*) to *E. heteronema*, specifically how the re-evaluation was undertaken, and by whom.
- No nests for wedge-tailed eagles have been noted within the surveyed area. However there are areas within 1km southwest of the proposal with moderate-high likelihood of containing eagle habitat, and these do not appear to have been surveyed. Unless already surveyed, a survey must be undertaken by a suitably qualified and experienced person to check for nests within 1 kilometre of the proposal, taking particular consideration of the red areas below. Searches for the presence of nests should be undertaken outside of the breeding season (July to January inclusive).



- There are a high number of hollow-bearing trees identified within the development footprint which could be potential nesting habitat for masked owls. Please note that a lack of audio records is not considered proof of absence. A nest hollow management protocol should be developed to provide further evidence of presence/absence of masked owl and their nests and how impacts to this species will be managed.

- Impacts on flora, vegetation communities and habitat, with particular reference to rare and threatened species, communities and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian *Threatened Species Protection Act 1995*.
- Impacts on fauna, including impacts on species, communities and habitats, with particular reference to rare and threatened species, migratory species, communities and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian *Threatened Species Protection Act 1995*. Assessment of impacts should not be limited to clearing or disturbance and may include noise, lights, vehicle movements etc. Key species requiring discussion include:

Common name	Scientific name	TSPA status	EPBC status
Tasmanian devil	<i>Sarcophilus harrisii</i>	Endangered	Endangered
Spotted-tail quoll	<i>Dasyurus maculatus maculatus</i>	Rare	Vulnerable
Wedge-tailed eagle	<i>Aquila audax fleayi</i>	Endangered	Endangered
Grey goshawk	<i>Accipiter novaehollandiae</i>	Endangered	-
Masked owl	<i>Tyto novaehollandiae castanops</i>	Endangered	Vulnerable

- Impacts on identified areas or habitats of conservation significance, including designated conservation areas, areas relating to the requirements of international treaties (e.g. Japan-Australia and China-Australia Migratory Bird Agreements (JAMBA/CAMBA) and Ramsar (wetlands) Convention), or wetlands listed in A Directory of Important Wetlands in Australia.
- Identify any freshwater ecosystems of high conservation management priority using the Conservation of Freshwater Ecosystem Values (CFEV) database (accessible on the internet under <https://wrt.tas.gov.au/cfev>). The scope of investigation should encompass the vicinity of the proposed development where there is likelihood of alteration to the existing environment. The specific CFEV information used for EISs should be Conservation Management Priority Potential which is appropriate for development proposals.
- Impacts on sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database. Please note that there is a listed geoconservation site (Western Tasmania Blanket Bogs, Id 2527) near the proposed development area. Blanket bogs are sensitive to track formation, excessive trampling and vehicular passage. If there is potential for any impact to this geoconservation site, provide details of appropriate avoidance and mitigation measures.
- Impacts on existing conservation reserves which may be affected by the proposal, with reference to the management objectives of the reserve(s) and the reserve management plan(s) (if any).
- Impacts on any high quality wilderness areas identified in the Tasmanian Regional Forest Agreement (Tasmanian RFA) which may be affected by the proposal.
- Impacts on other species, sites or areas of special conservation significance, including areas of wilderness, scientific, or geodiversity value.
- Clearing of native vegetation and habitat associated with the construction and maintenance of the proposal and the impact of any clearing on sites, species or ecological communities of special conservation significance, including any impact on the:
 - comprehensive, adequate and representative reserve system identified as part of the Tasmanian RFA;

- maintenance of forest communities under the [Permanent Native Forest Estate Policy](#);
 - wildlife habitat strips under the *Tasmanian Forest Practices Code 2015* (<http://www.fpa.tas.gov.au>); and
 - non-forest communities.
- The potential for migration and/or introduction of pests, weeds and plant and animal diseases as a result of the proposal.
 - Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented, including:
 - A devil and quoll management plan to mitigate the risk of impact through habitat disturbance and roadkill, including the implementation of a den decommissioning protocol. Preparation of such a plan should include consideration of mitigation measures contained in the Tasmanian Devil Survey Guidelines and Management Advice for Development Proposals (the Devil Guidelines) available at <http://dpiwve.tas.gov.au/conservation/development-planning-conservation-assessment/survey-guidelines-for-development-assessmentsRoadkill>. Note that any Tasmanian devil dens that cannot be avoided will require a permit to take under the Nature Conservation Act 2002.
 - A weed management and hygiene plan to cover the construction and operation phases. As appropriate, this should align with weed and hygiene management arrangements at the existing Comstock site. Further information about preparing weed and disease management plans can be found in the DPIWVE (2015) Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania which can be found at: <http://dpiwve.tas.gov.au/invasive-species/weeds/weed-hygiene/weed-and-disease-planning-and-hygiene-guidelines>.
 - Rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity, including any proposed seed collection and progressive rehabilitation programme (see also section 8).

Survey requirements

Flora and fauna survey of all potentially impacted areas. Any flora and fauna surveys must, as a minimum, comply with the requirements of the document [Guidelines for Natural Values Assessments](#) published by the Department of Primary Industries, Parks, Water and Environment (DPIWVE). The methodology for surveys should be developed in consultation with the Department.

6.4 Air Quality

Discuss potential impacts of the proposal on the local and regional air environment, including:

- Identification and characterisation (composition, amount and frequency) of any new potential sources of emissions including dust that may arise from activities like crushing, screening, loading, unloading and transport.
- A map showing the location of all potential sources of atmospheric emissions.

Legislative and policy requirements

Consideration should be given to the requirements of the *Tasmanian Environment Protection Policy (Air Quality)* (see <http://epa.tas.gov.au/policy-site/Pages/Air-Quality-EPP.aspx>).

6.5 Noise emissions

Discuss impacts of the proposal on ambient (surrounding) noise levels (during both the construction and operational phases), including:

- Identifying and describing all major sources of noise.
- A map of the location of all major sources of noise.
- Consideration of the potential for noise emissions (during both the construction and operational phases) to cause nuisance for nearby land users, based on a desktop calculation of the noise levels at the nearest noise sensitive premises.⁵
- The potential for noise emissions to affect terrestrial wildlife.

Legislative and policy requirements

Consideration should be given to the requirements of the Tasmanian *Environment Protection Policy (Noise) 2009* (see <https://epa.tas.gov.au/policy/statutory-policies/state-policies-and-environment-protection-policies/environment-protection-policy-%28noise%29-2009>).

6.6 General waste management

Discuss the impacts of waste generated by the proposal, including:

- Identify the source, nature and quantities of all wastes other than waste rock, tailings, sediment-laden stormwater and AMD, including general refuse and by-products from the various stages of the process likely to be generated.
- Methods and facilities proposed to collect, store, reuse, treat or dispose of each waste stream should be identified. Maintenance requirements should be included.
- If any discharge of wastes to the receiving environment is proposed, identify principle discharge points from the activity to the receiving environment. The location and nature of any outfall(s) should be specified and mapped. Justification for proposed discharge must be provided. Please note, any potential discharge to water must be considered in regard to water quality as per section 6.2.
- If the proposal anticipates discharge to a municipal sewerage system (including tankered waste), a suitably detailed agreement with the operator of the municipal sewerage system should be negotiated.
- If the activity produces any controlled waste, describe the source, nature, quantity, and method of treatment, storage and disposal for each such waste. Note: controlled waste is defined in the EMPC Act and associated regulations. A non-exhaustive listing of categories of controlled waste can be found on the internet at <http://epa.tas.gov.au/regulation/waste-management/controlled-waste>.

Legislative and policy requirements

Waste management measures must be in accordance with the following hierarchy of waste management, arranged in decreasing order of desirability:

⁵ 'noise sensitive premise' is defined as: residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individual people for extended periods, except in the course of their employment or for recreation.

- avoidance
- recycling/reclamation
- re-use
- treatment to reduce potentially adverse impacts

6.7 Dangerous goods and environmentally hazardous materials

Discuss impacts of the proposal in relation to dangerous goods and environmentally hazardous materials (any substance or mixture of substances of a nature or held in quantities which present a reasonably foreseeable risk of causing serious or material environmental harm if released to the environment and includes fuels, oils, waste and chemicals), including:

- The nature, quantity and storage location of all environmentally hazardous materials including Dangerous Goods (as defined in the Australian Code for the Transport of Dangerous Goods by Road and Rail) that will be used during the construction and operation of the proposal.
- A map showing the location of temporary and permanent storage areas for fuels, oils, and other dangerous goods or chemicals.
- The measures (such as bunded areas or spill trays) to be adopted to prevent or control any accidental releases of dangerous goods and environmentally hazardous materials.
- Contingency plans for when control measures, equipment breakdowns or accidental releases to the environment occur, including proposed emergency and clean-up measures and notification procedures.
- Identification of any safety management requirements for the protection of human health and safety affecting the community.

6.8 Greenhouse gases and ozone depleting substances

For proposals with the potential for significant release of greenhouse gas emissions or the release of ozone depleting substances, discuss impacts of the proposal in relation to Greenhouse Gases and ozone depleting substances including:

- A description of the direct and indirect effects of the proposal on greenhouse gas production and ozone depleting substances and any greenhouse benefits of the proposal discussed.
- Demonstration that the development will implement cost-effective greenhouse best practice measures to achieve on going minimisation of greenhouse gas emissions.
- Provision of a competent estimate for 'whole of life' greenhouse gas emissions for the proposed development. Details should also be provided of proposed measures to minimise emissions and the anticipated effectiveness of these measures. Where less emissions-intensive options are not adopted, justification should be provided and/or mechanisms to offset greenhouse gas emissions identified.

Legislative and policy requirements

Discuss impacts of the proposal in terms of the evolving national response to climate change and greenhouse gas emissions and the targets set in the Climate Change Action Plan 2017 – 2021. Proponents will need to

determine whether they are required to report to the Commonwealth under the *National Greenhouse and Energy Reporting Act 2007*.

6.9 Socio-economic issues

Discuss the social and economic impacts of the proposal. Details may include the following:

- An estimate of total capital investment for the proposal and where that capital will be expended (particularly in relation to the source of large capital items of processing equipment).
- Operational expenditures and revenues.
- The impacts on local and State labour markets for both the construction and operational phases of the proposal. The number and nature of direct and indirect jobs arising from the proposal must be detailed. Skills and training opportunities should also be discussed.
- The impacts on upstream/downstream industries, both locally and for the State.
- The extent to which raw materials, equipment, goods and services will be sourced locally.
- A qualitative assessment of impacts on local social amenity and community infrastructure, including recreational, cultural, health and sporting facilities and services. Any proposals to enhance or provide additional community services or facilities should be described.
- Community demographic impacts (changes to cultural background, occupation, incomes).
- Impacts on land values, and demand for land and housing.
- Impacts on local, regional, state and national economies.
- Any publicly funded subsidies or services to be relied on for construction or operation of the proposal.
- Any impacts on local, state and federal government rate, taxation and royalty revenues.

6.10 Hazard analysis and risk assessment

If applicable, provide a preliminary analysis appropriate to the scale of the project of the potential for a major hazard event (such as an explosion) that may cause impacts to the environment to occur and proposed safeguards to prevent such an occurrence. The preliminary analysis should systematically identify all potential major environmental hazards (internal and external) to people and the environment associated with the construction, operation, maintenance and decommissioning of the proposal.

6.11 Fire risk

Discuss the potential fire risk associated with the proposal, including:

- Consideration of fire within the site, fire escaping from the site and the impact of wildfire originating outside the development and the environmental impacts that could result from such an event.
- The objectives and management principles to be adopted to prevent and respond to potential fire events.
- Where a fire response plan is appropriate, it should be fully integrated with other relevant documents, such as a Tasmania Fire Service Local Area Fire Management Plan, a Forestry

Tasmania Fire Management Plan and a Parks and Wildlife Service Fire Action Plan for relevant districts.

6.12 Infrastructure and off-site ancillary facilities

Discuss potential environmental impacts of the proposal on any significant off site or infrastructure facilities (including increased use of existing infrastructure, such as roads, ports and quarries), identify measures to avoid and mitigate any possible adverse impacts and assess the overall impacts following implementation of the proposed avoidance and mitigation measures.

Identify roads and other infrastructure to be used by vehicles for the proposal (during both construction and operation). Potential environmental impacts associated with construction and use of such infrastructure should be assessed.

6.13 Environmental Management Systems

This section should provide information on strategic matters relating to environmental management of the proposal, including a description of the following:

- Any environmental management systems or environmental policies implemented or proposed by the proponent, which are relevant to the environmental management of the proposal.
- Organisational structure and environmental responsibility within that structure for the proposal.
- Procedures and instructions to employees (including contractors) on minimising adverse environmental impacts of activities, as well as employee induction and education programs to ensure an appropriate response to operational environmental concerns should be included in relevant sections.

6.14 Cumulative and interactive impacts

Where relevant, this section should contain an assessment of the potential cumulative impacts of the proposal in the context of existing and approved developments in the region, if such impacts have not been addressed in previous sections.

Other proposals which have been formally proposed, and for which there is sufficient information available to the proponent to allow a meaningful assessment of their impacts, should also be considered in that assessment. Uncertainties about potential impacts in such cases should be identified.

Interactions between biophysical, socio-economic and cultural impacts of the proposal should be discussed.

6.15 Environmental Impacts of Traffic

This section should identify the traffic routes for the proposal (both during construction and operation) and the likely volume and nature of traffic and timing of traffic flows, including details of the current usage of these roads. Environmental impacts associated with current and altered traffic flows and usage should be discussed (such as noise and dust impacts on other roads users and residences adjacent to roads). The assessment should focus on roads within the land defined by the proposal but also indirect impacts on public roads.

7. Monitoring and Review

This section should provide an outline of any monitoring, review and reporting programmes for the proposal. The programme should be designed to meet the following objectives:

- Monitoring of compliance with emission standards and other performance requirements identified in the EIS.
- Assessing the effectiveness of the performance requirements and environmental safeguards in achieving environmental quality objectives.
- Assessing the extent to which the predictions of environmental impacts in the EIS have eventuated.
- Assessing compliance with management measures defined in the EIS.
- A monitoring programme for surface water and groundwater containing the following:
 - Details of any pre-commissioning monitoring/studies.
 - A list of sites to be sampled.
 - A site plan showing sampling locations.
 - Site establishment and sampling procedures/methods.
 - Parameters to be analysed, incorporating monitoring for oxidation products which may be precursor indicators of AMD.
 - Frequency of sampling.
 - Format and frequency of reporting.
 - A monitoring program summary table.
- A map showing the location of all monitoring sites and a table of proposed monitoring including location, parameters and frequency.

8. Decommissioning and Rehabilitation

Due to the finite nature of mining operations and their susceptibility to external economic influences, mine closure planning should commence before the operation commences. The EIS must contain sufficient detail to enable a bond to be established to protect the Crown from future liabilities in the event of unforeseen mine closure or company failure.

The EIS should describe an on-going, staged approach to site decommissioning and rehabilitation throughout the proposal life.

A preliminary Decommissioning and Rehabilitation Plan or Closure Plan must be provided, and should include:

- A conceptual mine closure plan for end-of-mine life and/or premature mine closure. (Note: permit conditions will typically require a detailed mine closure plan to be submitted by the first anniversary of granting of any permit.)
- Consideration of long term stability (i.e. post-mine closure) of tailings dams, wetlands and mine pit walls, waste rock dumps etc, including results of geochemical testing and modelling of long term acid-generating capacity of the affected sites.

9. Management Measures

This section should contain a consolidated management measures table listing all of the management measures made throughout the EIS. Measures must be sequentially numbered, unambiguous statements of intent. For each measure, the table must specify when it is to be implemented, and refer to the section of the EIS where the measure is detailed.

10. Conclusion

Describe the proposal and draw together the critical environmental, social and economic impacts of the proposal, both positive and negative; present a balanced overview of the net impacts of the proposal, and the extent to which any adverse impacts can be satisfactorily avoided, mitigated, remediated or compensated and positive impacts promoted and sustained. The conclusion should also describe how the proposal meets and furthers the objectives of relevant Commonwealth and State legislation, policies, plans and strategies. This should be done by itemising the RMPS and EMPCS objectives and providing a commentary about how the proposal addresses each of the objectives.

11. References

This section should provide details of authorities consulted, reference documents etc.

12. Appendices

As a means of improving readability of the EIS document, detailed technical information which supports the EIS should be included in appendices. The salient features of the appendices should be included in the main body of the EIS. Care should be taken to avoid inconsistencies between technical content of Appendices and the EIS itself, unless carefully explained.

13. Glossary

EIS	Environmental Impact Statement
EMPC	<i>Environmental Management and Pollution Control Act 1994</i>
EMPCS	Environmental Management and Pollution Control System objectives to be found in Schedule 1 of EMPCA
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> JAMBA/CAMBA - Japan-Australia and China-Australia Migratory Bird Agreements
RMPS	Resource Management and Planning System of Tasmania objectives to be found in Schedule 1 of EMPCA
Tasmanian RFA	Tasmanian Regional Forest Agreement

Appendix A: Other issues and agency contacts

In addition to a permit under the LUPA Act and the EMPC Act, there may be other legal requirements to be met to allow your proposal to proceed. These may include other permits, licences or landowner consent. You may also need to contact other Government agencies to obtain information for the purpose of assessment under the LUPA Act or the EMPC Act. The following list identifies some of the key agencies you may need to contact:

Note: your proposal may also be referred to other agencies in the process of preparing guidelines. Should assessments or approvals outside of the Board's responsibilities be required, the respective agency will engage with you to progress them.

Natural values including flora, fauna, and geoconservation values, or permits to deal with threatened species:

Policy and Conservation Advice Branch, DPIPWE

Telephone: (03) 6165 4395

Email: conservationassessments@dpiwwe.tas.gov.au

Website: www.dpiwwe.tas.gov.au

Historic cultural heritage, including State-level site listings, impacts and permits as required under the Historic Cultural Heritage Act 1995:

Heritage Tasmania

Telephone: (03) 6165 3700

Email: enquiries@heritage.tas.gov.au

Website: www.heritage.tas.gov.au

Note: Where works are proposed in or in close proximity to a heritage place entered on the Tasmanian Heritage Register or likely to be of heritage significance to the whole of Tasmania, and a permit is required under the *Land Use Planning and Approvals Act 1993*, the proposal will be referred to Heritage Tasmania by the planning authority. There may also be additional sites listed under local planning schemes, impacts on which are assessed by the relevant planning authority.

Aboriginal heritage, including desktop assessment, artefact survey requirements, permits:

Aboriginal Heritage Tasmania

Telephone: (03) 6165 3152

Email: aboriginal@heritage.tas.gov.au

Website: <http://www.aboriginalheritage.tas.gov.au>

Note: your proposal will be referred to Aboriginal Heritage Tasmania (AHT) on submission or referral to the Board. If Aboriginal Heritage matters are identified, AHT will engage directly with the proponent regarding relevant assessments and approvals.

Parks and reserves, including where any proposal may impact on land managed by Parks & Wildlife:

Parks and Wildlife Service

Telephone: 1300 827 727

Website: www.parks.tas.gov.au and www.thelist.tas.gov.au

Crown land, including where any proposal may impact on land owned by the Crown:

Crown Land Services

Telephone: (03) 6233 6413

Email: cls.enquiries@dpipwe.tas.gov.au

Website: www.parks.tas.gov.au

State roads, including where any proposal requires works on or access from a State-managed road asset:

State Roads

Telephone: (03) 6166 3369

Email: permits@stategrowth.tas.gov.au

Website: www.transport.tas.gov.au

Mining leases:

Mineral Resources Tasmania

Telephone: 03 6165 4800

Email: info@mrt.tas.gov.au

Website: www.mrt.tas.gov.au

Works impacting natural waterway flow, e.g. dams or fords:

Water Management and Assessment Branch

Telephone: (03) 6165 3222

Email: Water.Enquiries@dpipwe.tas.gov.au

Website: www.dpipwe.tas.gov.au/water



ENVIRONMENT PROTECTION AUTHORITY