

Environmental Impact Statement Guidelines

Unity Mining Pty Limited

*Newton Pond Leach Residual Storage
Facility Extension, Queenstown*

December 2024



ENVIRONMENT PROTECTION AUTHORITY

Table of Contents

Glossary and abbreviations	4
Part A. Introduction	6
The role of the EIS.....	6
How the Board uses the EIS.....	6
Planning information.....	7
Australian Government environmental assessment.....	7
Part B. Instructions	8
General requirements.....	8
Spatial and visual information requirements.....	8
Independent Review.....	9
Submission.....	9
Part C. EIS structure and content	10
Title page.....	10
Executive summary.....	10
Table of contents.....	10
Glossary and abbreviations.....	10
Proponent information.....	10
1. Introduction.....	11
2. Proposal description.....	11
2.1 Summary table.....	11
2.2 Detailed description of proposal.....	12
2.3 Maps, plans and figures.....	13
2.4 Offsite infrastructure.....	14
3. Planning and socio-economic context.....	14
4. Project Alternatives.....	15
5. Public Consultation.....	15
6. Potential Impacts and Management.....	15
Key issues.....	17
6.1 Water quality – Surface Water.....	17
6.2 Water Quality - Groundwater.....	20
6.3 Air quality.....	21
6.4 Noise emissions.....	22
6.5 Biodiversity and Natural Values.....	22
6.6 Waste management.....	24
6.7 Dangerous goods and environmentally hazardous materials.....	25
6.8 Greenhouse gas emissions, ozone depleting substances and climate change.....	25
6.9 Socio-economic issues.....	26
6.10 Fire risk.....	27
6.11 Infrastructure and off-site ancillary facilities.....	27
7. Monitoring and Review.....	28
8. Decommissioning and Rehabilitation.....	28
9. Management Measures Table.....	28
10. Conclusion.....	28
11. References.....	28
12. Appendices.....	28
Appendix A: General principles for assessing environmental impacts	29
Appendix B: Other issues and agency contacts	31
Appendix C: Example of project description summary table	33

Glossary and abbreviations

Term	Definition
AMD	Acid and Metalliferous Drainage
ASS	Acid Sulfate Soils
Board	Board of the Environment Protection Authority
Case for assessment	Information required for environmental impact assessment, prepared according to the Board's requirements.
Director	Means the Director, Environment Protection Authority holding office under Section 18 of <i>Environmental Management and Pollution Control Act 1994</i> and includes a delegate or person authorised in writing by the Director to exercise a power or function on the Director's behalf.
EIS	Environmental Impact Statement
EMPCA	<i>Environmental Management and Pollution Control Act 1994</i>
EMPCS	Environmental Management and Pollution Control System. Objectives found in Schedule 1 of EMPCA.
Environmentally hazardous material	Means 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 but excludes sewage.
EPA	Environment Protection Authority. Tasmania's independent principal environmental regulator which administers EMPCA and consists of a Board and a Director.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
LUPAA	<i>Land Use Planning and Approvals Act 1993</i>
MNES	Matters of National Environmental Significance
NCA	<i>Nature Conservation Act 2002</i>
Noise sensitive premises	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.
PASS	Potential Acid Sulfate Soils
Planning Authority	Council for relevant local government area
RMPS	Resource Management and Planning System, Tasmania. Objectives found in Schedule 1 of EMPCA.
Suitably qualified person	Means suitably qualified person in the opinion of the Director
TSF	Tailings Storage Facility

Term	Definition
TSPA	<i>Threatened Species Protection Act 1995</i>

Part A. Introduction

These Guidelines provide instructions for proponents on how to prepare an Environmental Impact Statement (EIS) for an activity being assessed in Tasmania by the Board of the Environment Protection Authority (the Board). The Board uses an EIS as a ‘case for assessment’, to assess the environmental impact of an activity, as required under the *Environmental Management and Pollution Control Act 1994* (EMPCA).

The role of the EIS

An EIS is generally required for larger scale developments, classed as requiring 2B or 2C assessments under EMPCA. It is a document that provides information about a proposal, its potential impacts and proposed mitigation measures. As a publicly available document, an EIS should facilitate public consultation and informed comment and should contain sufficient information to establish the conditions of approval by authorities, if approved.

The EIS should demonstrate that the proposal is consistent with the objectives of relevant laws and policies, including the Tasmanian Resource Management and Planning System (RMPS) and the Environmental Management and Pollution Control System (EMPCS). These systems are designed to facilitate sustainable development.

Further information on the EPA Assessment Process is available on the [EPA website](#).¹

Refer also to Appendix A *General principles for assessing environmental impacts*, for further information on EIS principles.

How the Board uses the EIS

The Board uses the EIS to inform decision making as part of the environmental impact assessment process. The EIS must be prepared in accordance with guidance provided by the Board under section 74(4) of EMPCA. The staff of the EPA support the Board during the assessment process.

The EIS will be advertised publicly to allow for public consultation. The proponent may then be required to supply additional information in response to public and government agency submissions. This information is generally supplied in the form of a supplement to the EIS.

The Board considers the EIS as well as other relevant information in the context of the objectives of the RMPS and EMPCS. These objectives aim to sustain the environment and avoid or mitigate adverse effects, while considering the economic and social needs of people now and in the future. The Board will endeavour to make the decision which best furthers the objectives of the RMPS and EMPCS. It may approve the proposal with conditions, or in some cases may decide to reject the proposal if the objectives cannot be upheld.

The Environmental Impact Statement Guidelines are adapted for each specific proposal. In general, more detailed studies and information will be required where issues are considered by the Board to involve a higher level of environmental risk.

Other significant matters may emerge while preparing the EIS, from environmental studies, public comments, or other sources. These must also be considered in the EIS. Information collected or generated during the assessment process may also change the understanding of the level of risk associated with some issues. This must also be reflected in the EIS.

¹ See <https://epa.tas.gov.au/Pages/Assessment-Process.aspx>

Planning information

The relevant Planning Authority (local Council) will assess planning information if the *Land Use Planning and Approvals Act 1993* (LUPAA) applies. Information solely for the purpose of assessment under the relevant Planning Scheme should be supplied to the Planning Authority either:

- as required under section 54 of LUPAA where the planning application has started the environmental assessment process; or
- as a combined planning and environmental report where it is intended to submit an EIS (draft or final) with the planning application. Where this option is selected, the information required for the Board's assessment must be clearly distinguished from that supplied for the purposes of LUPAA.

Australian Government environmental assessment

The Australian Government (Commonwealth) may have a role in the environmental assessment and approval of the proposal in addition to Tasmanian requirements. Approval under the *Australian 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 (MNES).

The nine MNES are:

- world heritage properties
- national heritage places
- wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed)
- nationally threatened species and ecological communities
- migratory species
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions (including uranium mining)
- a water resource, in relation to coal seam gas development and large coal mining development.

Information on the EPBC Act can be obtained from the [Australian Government, Department of Climate Change, Energy, the Environment and Water \(DCCEEW\) website](#),² or by calling 1800 803 772.

The Australian and Tasmanian Governments have signed a bilateral agreement for environmental impact assessment under section 45 of the EPBC Act, which accredits the Tasmanian assessment process. This allows a proposal that has been determined to be a controlled action under the EPBC Act to be assessed by the Board on behalf of the Australian Government.

If a proposal is to be assessed under the bilateral agreement, the EIS must specifically describe the implications of the proposal for the relevant EPBC Act controlling provisions. It must also contain a summary table showing that it addresses the matters specified in Schedule 4 of the [Commonwealth Environment Protection and Biodiversity Conservation Regulations 2000](#).³

Information on the EPBC Act can be obtained from the [Australian Government, Department of Climate Change, Energy, the Environment and Water \(DCCEEW\) website](#),⁴ or by calling 1800 803 772. It is the proponent's responsibility to consult DCCEEW to determine whether the EPBC Act and the bilateral agreement apply to the proposal.

² See <https://www.dcceew.gov.au/environment/epbc>

³ See http://www8.austlii.edu.au/cgi-bin/viewdoc/au/legis/cth/consol_reg/epabcr2000697/sch4.html

⁴ See <https://www.dcceew.gov.au/environment/epbc>

Part B. Instructions

The EIS must present information in a way that can be easily understood. It should provide summaries in non-technical language to give readers a general understanding of the proposal. It must also provide technical detail to allow analysis and understanding of impacts and mitigation measures by technical specialists, regulatory bodies, and people with an interest in specific matters arising from the proposal.

Section C of these Guidelines sets out the structure and **minimum** content requirements of the EIS.

Proponents are advised to consult the EPA during preparation of the EIS, including in the case of any uncertainty in relation to the requirements set out in these Guidelines.

General requirements

- Avoid technical terminology where possible in the main body of the EIS. It should be able to be read as an independent document which provides a general understanding of the proposal.
- Include any detailed technical data or supplementary reports as appendices.
- Consider document accessibility. The Australian Government Style Manual provides information about inclusion and accessibility.
- Use cross-referencing to prevent unnecessary duplication between sections.
- Reference all sources of information using a consistent style.
- Define all key terms and words used.
- Information in the EIS must be relevant.
 - Show reasoning for arguments. Support conclusions with referenced evidence.
 - Indicate how current information is, how reliability has been tested, and the degree of confidence attached to any predictions.
 - Sufficient technical detail must be provided to allow for environmental impact assessment, even when details are not final at the time of preparation.
 - If information is currently unavailable, estimates and alternative options should be provided, however the limitations of available information must be evaluated.
- Provide any sensitive commercial or corporate information in a confidential appendix. Provide a comment in the EIS if this has been done.

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 (section 43A of EMPCA).

Spatial and visual information requirements

- Present information in maps, plans, diagrams, and photographs where necessary, to enhance understanding.
- Images must be high quality and reproducible in monochrome, with all text and relevant features clearly visible.
- Maps and plans should include a north arrow and scale.

- Use a consistent base plan throughout the EIS where appropriate, to allow elements to be overlaid and compared. Ensure that detailed information is clear and visible, particularly when using satellite images as background layers. This is best achieved using a geographical information system (GIS).
- Specify the coordinate reference system when providing or referring to spatial information, including maps, plans, grid coordinates and heights. Further information on coordinate reference systems used in Tasmania can be found on the [Land Tasmania website](#)⁵.

Recommended systems are:

- Horizontal – Geocentric Datum of Australia 1994⁶ Map Grid of Australia Zone 55 (GDA94 MGA55)
- Vertical – Australian Height Datum (Tasmania) (AHD83).

Independent Review

For large proposals, such as Class 2C activities, prior to submission to the EPA, the draft EIS should be independently reviewed by a suitably qualified person to confirm that it meets the requirements detailed in Guidelines issued for the proposal.

Submission

It is strongly recommended that proponents submit a draft EIS to the EPA for review prior to formal lodgement of the EIS with the Board. The draft EIS submitted for review must meet the requirements of these Guidelines and be in accordance with Appendix A; incomplete documents will not be accepted for review.

The EIS (and any drafts submitted for review) may be submitted via email to assessments@epa.tas.gov.au and your nominated contact officer. Proponents should contact the EPA if alternative submission methods are deemed necessary.

⁵ See <https://nre.tas.gov.au/land-tasmania/geospatial-infrastructure-surveying/geodetic-survey/coordinate-height-and-tide-datums-tasmania>

⁶ Geocentric Datum of Australia 2020 (GDA2020) is the new official datum for recording the horizontal location of spatial information in Australia, but is not yet fully implemented in Tasmania.

Part C. EIS structure and content

The EIS must follow the structure set out below and must address all requirements unless otherwise agreed following consultation with the EPA. For clarity, organise content with further headings and subheadings as appropriate.

Title page

The title page must include:

- Name of proponent (legal entity)
- Name of proposal (include “expansion” or “upgrade” where appropriate)
- Proposal address or location
- EIS version number
- Month and year of submission

Executive summary

The executive summary must provide a clear and concise overview of the proposal, its environmental implications, and the function of the EIS in the context of the assessment process. For a larger EIS, the executive summary must be written as a stand-alone document for people who may not wish to read or acquire the full EIS.

Table of contents

The EIS must include a table of contents and a list of figures and tables to allow the reader to easily locate information. The table of contents should include hyperlinks to allow documents to be navigated easily.

Glossary and abbreviations

Provide a list of abbreviations and acronyms and a glossary which clearly defines any technical terms used in the EIS.

Proponent information

Proponent details:

- Name of proponent (legal entity)
- Name of proponent (trading name)
- Registered address of proponent
- Postal address of proponent
- ABN
- ACN (where relevant)

Contact person’s details:

- Name
- Telephone
- Email address

Activity Operator details must be provided if the operator will be a different entity to the proponent.

1. Introduction

The introduction should provide:

- General background information on the proponent, including relevant development and operational experience.
- General background information on the proposal, including:
 - current status of the proposal;
 - an overview of the principal components of the proposal;
 - the proposal location;
 - likely markets for the product; and
 - possibilities for future expansion.
- If the proposal is associated with an existing activity, information on current permits, regulatory approvals and/or licences.
- A discussion about how the proposal relates to any other proposals that have been or are being developed in the same region as 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

The scope of the proposal must be clearly described, and must include:

- A summary table,
- A detailed description of proposal,
- Definition of the Activity Area,
- Maps, plans and visual information,
- A summary of planning aspects,
- Socio-economic context, and
- Off-site infrastructure.

Where a proposal will require a permit application under LUPAA, the proposal description and specification of the site must be consistent with the intended or current permit application.

2.1 Summary table

The summary table provides an overview of the proposal and identifies the key characteristics, including:

- Location and planning context;
- Existing site information, including topography, local climate, geology, geomorphology, soils (e.g. erodibility and acid sulfate soils), vegetation, fauna, groundwater, and surface drainage (e.g. waterways, lakes, wetlands, coastal areas);
- Proposed infrastructure;
- Proposed timeline; and
- Inputs (e.g. water, materials, energy) and outputs (e.g. products, wastes and emissions).

Refer to *Appendix C* for an example of a project description summary table.

2.2 Detailed description of proposal

This section should include information that has not been included in the summary table, or that requires further explanation. Provide detail on the proposed construction, commissioning and operation of the activity, including any ancillary works that are for the purpose of the proposal (e.g. access works).

2.2.1 Project Components

- Describe the physical components required for the proposal to function up to closure.
- Describe the major items of equipment (including pollution control equipment) and onsite facilities. Include detailed technical information on major items of equipment as appendices.
- Detail the total footprint of the proposal.

2.2.2 Construction

- Provide a step-by-step description of significant activities that will occur during the construction phase of the proposal.
- Provide an indicative timetable for completing major stages of construction.
- Detail the total construction footprint.
- Define the proposed hours within which construction activities will take place (hours per day and specific days per week).
- Describe the volume, composition, origin, destination, and route for vehicle movements (road, rail, shipping, and air) during construction. Specify what proportion of road usage and vehicle movements will involve over-dimension and heavy road vehicles. Compare the proposed vehicle movements with existing usage of relevant routes.

2.2.3 Commissioning

- Provide a step-by-step description of significant commissioning activities that will occur following installation of equipment.
- Provide an indicative timetable for completing major stages of commissioning. Describe the point at which commissioning will be considered complete.

2.2.4 Operation

- Describe the process(es) of operation in a step-by-step manner, using explanatory diagrams and flow charts where appropriate.
- Outline all raw materials (including water) required for operation. Detail sources, quantities, and characteristics.
- Identify and quantify all products, emissions and/or wastes produced.
- Outline all energy requirements for operation. Describe how energy demands will be met.
- Define the production capacity and rate for relevant processes. Include peak rates, daily average rates and annual production rates where applicable.
- Define the proposed hours of operation (hours per day and specific days per week). Specify any seasonal variations.
- Describe the volume, composition, origin, destination, and route for vehicle movements (road, rail, shipping, and air) likely to occur during operation, including timing of traffic flows. Specify what proportion of road usage and vehicle movements will involve over-dimension and heavy road vehicles. Compare the proposed vehicle movements with existing usage of relevant routes.
- If the proposal is associated with an existing activity, describe any current approvals or regulatory conditions.

2.3 Maps, plans and figures

Spatial information should be presented in maps, plans, diagrams and imagery. These must be of high quality and reproducible in monochrome with all text and relevant features clearly visible. Maps and plans should include a north arrow, scale and legend. When spatial data (including maps, plans, coordinates and heights) are provided or referred to, the horizontal and vertical datum must be specified. At a minimum, provide the following:

2.3.1 General location maps

Provide general location maps of the existing environment and surrounding area (of a suitable scale), showing:

- The location of the proposal site;
- Boundaries of the property on which the proposal is located;
- Road access to and from the site;
- The distance(s) to any sensitive uses and residences⁷ within 1.5km of the proposed activity;
- The applicable attenuation distance⁸
- Topographical features, aspect, and direction of drainage;
- Location of waterways and drains (including ephemeral waterbodies and water courses);
- Electricity transmission lines;
- Surrounding land tenure;
- Surrounding land use (including areas of conservation or recreational significance); and
- Surrounding land zoning in the local government planning scheme.

2.3.2 Map of the proposed activity area

Provide a map of the proposed activity area clearly showing the physical extent of the proposal. The activity area should encompass all works for construction and areas used for operations, including earthworks, land clearing, existing or proposed structures, stockpiles, laydown areas, parking, amenities and sediment management and other infrastructure.

- The map should include a sufficient number of coordinates at corner points for the activity area boundary; and
- The activity areas boundary should also be provided in a geospatial vector format (shapefile or DXF).
- Where works are proposed in key stages over time, include definitions or boundaries of each of the key stages.

2.3.3 Site plan

Provide site plan(s) showing the detail of proposed works and operations, including:

- Cadastral boundaries and mining lease boundaries (if relevant);
- The boundary of the activity area;
- The location of existing and proposed buildings/structures and plant and machinery;
- Relevant topographic features, including contours and waterways;
- Proposed buildings, structures, major earthworks, major items of equipment, storage areas, loading/unloading areas;
- The locations and extent of extractive areas;
- The location of product, overburden, soil, and waste stockpiles;
- Site water management (drains, settling ponds, bunding and monitoring points, as relevant); and
- Vegetation types, clearly marking areas to be cleared, and records of any threatened species/vegetation communities.

⁷ 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.’

⁸ Refer to relevant planning scheme or State Planning Provisions

2.3.4 Figures and flowcharts

Present figures such as process flowcharts and images where they are likely to improve readers' understanding of the site and proposal. Any images and photos used must be high-quality, with an accurate description and date.

2.4 Offsite infrastructure

Describe any new infrastructure or offsite ancillary facilities required to enable the proposal to proceed, such as water supply, electricity supply, roads or other infrastructure.

3. Planning and socio-economic context

The planning aspects description should include any additional planning information and data not included in the summary table.

- If a permit is required under LUPAA provide Use Class and Permissibility of the proposed activity under the applicable Planning Scheme.
- Detail land tenure and property boundaries of the proposed site, with certificate of title details.
- Detail land zonings for the proposed site and surrounding areas.
- Describe any rights of way, easements and covenants affecting the site.
- Discuss land use and planning history of the site, including the potential for site contamination⁹, present use and any existing buildings and significant structures.
- Describe land use and ownership in the vicinity of the site and those areas which may be affected by the proposal.
- Provide the location and nature of industrial facilities.
- Detail sensitive uses¹⁰ and 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).
- Consider any proposed or potentially sensitive uses within applicable attenuation distances from the proposal site, which have been or are likely to be granted approval under the local planning scheme.

Briefly describe the existing social and economic environment that may be affected by the proposal. This may include:

- 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.

⁹ Information on potentially contaminating activities and contaminated site assessment can be found online at <https://epa.tas.gov.au/Pages/Land.aspx>

¹⁰ 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.'

4. Project Alternatives

Proponents should provide the rationale for the proposal. Alternatives should consider best practice environmental management, including measures listed under section 4(2) of [EMPCA](#).¹¹ The rationale should:

- Describe the site selection process and criteria.
- Evaluate any alternative sites considered. Justify the choice of the proposed site in terms of clearly defined environmental, social, economic, and technical considerations, including avoidance of environmental impacts.
- Describe the effect of any community consultation on the selection process.
- Identify and provide an assessment of other available technologies, materials, design options or management practices, where relevant, including how environmental impacts will be avoided. Evaluate the environmental performance of identified alternatives and provide justification for the preferred option.

5. Public Consultation

Describe any public consultation that has taken place during project planning and preparation of the EIS and summarise the results of this consultation. Describe any proposed future public consultation that will take place during project implementation and operation. The Board encourages early community engagement, as it often leads to better outcomes for all parties. Guidance on effective community engagement is available on the [EPA website](#).¹²

6. Potential Impacts and Management

Identify all potential environmental impacts and describe the proposed measures to avoid, mitigate or offset adverse consequences. The detail provided on each issue should reflect its significance. While key issues are identified for the proposal, other issues that emerge as significant while preparing the EIS, through environmental studies, public comments or otherwise, must be considered and addressed.

Address each discrete issue separately, using headings and subheadings where necessary to organise and separate discussions.

Use scientific data to support predictions and evaluate impacts and provide references to the data used. Where specialist reports have been required for key issues, summarise them within the body of the EIS where relevant, and attach the reports as appendices. Detail the qualifications of the authors of any specialist reports. Make sure that the information in the body of the EIS is consistent with the information in the appendices.

General information requirements for each potential impact are described below and are in addition to any specific information requirements detailed later in this section.

Existing Environment

- Describe the existing environment in relation to the impact, including the vulnerability of the potentially affected environment.
- Analyse the issue in relation to the existing environment.

¹¹ See: <https://www.legislation.tas.gov.au/view/html/inforce/current/act-1994-044#GS4@EN>

¹² See [https://epa.tas.gov.au/Documents/Guidance on Community Engagement.pdf](https://epa.tas.gov.au/Documents/Guidance%20on%20Community%20Engagement.pdf)

Methodology

- Describe how the assessment of the impact has been undertaken, such as by survey or desktop study.
- Identify any relevant guidelines and standards used.
- Discuss any choice of methodology over alternatives where relevant.

Assessment

- Clearly articulate potential impacts, using tables and figures to aid communication where possible.
- Support assertions and assumptions with adequate argument and/or evidence.
- Identify plausible worst-case scenarios and the reversibility of the impact.
- Summarise the proposal's contribution to any cumulative impacts, where appropriate.

Avoidance and Mitigation Measures

- Describe the measures proposed to avoid, mitigate or offset potential adverse impacts.
- Detail any specialist recommendations which have been/will be implemented. Where specialist recommendations are not to be implemented, justify why. All recommendations made in specialist reports should be addressed.
- Analyse the effectiveness of the mitigation measures. Describe how and to what degree the impacts will have been avoided, minimised or offset.
- Discuss any residual impacts, referring to relevant guidelines or standards.
- Discuss any contingency measures related to pollution control equipment.

Refer to *Appendix A: General principles for assessing environmental impacts*.

Key issues

The key issue identified for this proposal, which should be the focus of the EIS, is the potential impacts on water quality associated with construction and operation of the proposal.

6.1 Water quality – Surface Water

Discuss potential impacts of the proposal on surface water during construction and operation, including methodology where appropriate.

6.1.1 Existing Environment

- Provide a description and map of the activity site with respect to topography and preferential surface water flow, existing surface water and stormwater drainage. Identify nearby water bodies and watercourses likely to be impacted by the proposal. Imagery should be of a sufficient quality as to support detailed hydrological assessment.
- Provide an overview of the receiving environment. Identify all relevant Protected Environmental Values (PEVs)¹³, including:
 - sensitive uses and associated water quality considerations;
 - seasonal water quality, hydrological characteristics and ecological health of the receiving environment;
 - reference to published or determined (site-specific) water quality guideline values for receiving environments. For information about the water quality management framework and evaluation criteria in Tasmania, refer to [Technical Guidance for Water Quality Objectives \(WQOs\) Setting for Tasmania, August 2020](#).¹⁴
- Describe the geochemical and physicochemical characteristics of historical and existing acid and metalliferous drainage (AMD) on site as relevant to the generation and storage of tailings within the proposed tailings storage facility (TSF), the sourcing and use of construction materials, and the downstream treatment and discharge of supernatant from the TSF. Detail any geochemical testing undertaken historically and as part of this proposal to determine acid generating potential of existing and proposed waste to be contained within the proposed TSF. Testing and analysis should be conducted in a manner consistent with the Australian Government Handbook [Preventing Acid and Metalliferous Drainage, Leading Practice Sustainable Development Program for the Mining Industry](#)¹⁵.
- Provide mapping of the potential distribution of Acid Sulfate Soils on the proposed site.
- Detail the geochemical characteristics of historical and existing tailings in accordance with leading industry best practice (as detailed in the Australian Government Handbook [Preventing Acid and Metalliferous Drainage, Leading Practice Sustainable Development Program for the Mining Industry](#)¹⁵).
- Describe the ore processing method with respect to the potential for discharge of other contaminants of concern to the TSF, particularly cyanide.
- Describe baseline water quality, referencing any relevant historical biological and sediment monitoring and any further monitoring undertaken to close any knowledge gaps and inform this proposed development. Detail any other information relevant to assessing potential impacts, including any relevant ecotoxicological data and hydrology.
- Include the results in a report of relevant historical monitoring and monitoring carried out as part of this project and provide separately as data. Provide metadata and monitoring data to the EPA following

¹³ See <https://epa.tas.gov.au/environment/water/pevs-for-tasmanian-surface-waters>

¹⁴ See [https://epa.tas.gov.au/Documents/Technical%20Guidance%20for%20Water%20Quality%20Objectives%20\(WQOs\)%20Setting%20for%20Tasmania.pdf](https://epa.tas.gov.au/Documents/Technical%20Guidance%20for%20Water%20Quality%20Objectives%20(WQOs)%20Setting%20for%20Tasmania.pdf)

¹⁵ See <https://www.industry.gov.au/sites/default/files/2019-04/lpsdp-preventing-acid-and-metalliferous-drainage-handbook-english.pdf>

the instructions and using the Excel workbook templates or file formats provided on the [Water Quality Data Elements](#)¹⁶ webpage.

6.1.2 Assessment

- Identify and characterise all liquid emissions that could arise from the proposal, including:
 - Any potential for AMD associated with construction material generation and use;
 - Potential for AMD and other known current potential contaminants of concern, including cyanide, associated with tailings deposition, including impact on existing stored waste and changes over time;
 - Stormwater runoff from areas disturbed in conduct of the activity;
 - Any other significant sources that may impact water quality.

In relation to tailings storage:

- Detail geochemical characteristics of proposed waste materials and potential effluent generation from the TSF in accordance with leading industry best practice on Preventing Acid and Metalliferous Drainage¹⁷, identifying all potential contaminants and parameters of concern. This assessment must:
 - Be based on site-specific geological and climate conditions.
 - Consider any geochemical changes that may occur within the TSF over time. Provide an analysis of acid generating and metal leaching potential, acid buffering potential and metal enrichment.
- Provide a water balance model for the life of the extended TSF, including consideration of:
 - climatic variations such as extended dry periods (i.e., extended summer seasons or high wind events) and periods of excessive rainfall (i.e., 1 in 100-year flood event);
 - changes in mining operations relevant to tailings deposition;
 - hydrogeological effects with reference to the conceptual hydrogeological model required by these Guidelines;
 - how water collecting within the proposed extension cell will be managed to discharge from permitted discharge points prior to construction of the proposed raises of the extended embankment;
 - potential changes as the TSF is progressively filled.

The water balance model should provide an estimate of effluent fluxes over time discharged from the TSF.

- Provide an estimation of residual cyanide concentrations which may be present in discharges from the TSF under plausible worst-case scenarios. The analysis must be supported with details of cyanide chemistry and residence times within the TSF.
- Provide an analysis as to whether Potential Acid Sulfate Soils (PASS)/Acid Sulfate Soils (ASS) may be present and potentially disturbed by the proposal. Include, as a minimum, a desktop assessment of the potential for disturbance of acid sulfate soils. The desktop assessment should consider: soil profiles, including any test pit and bore log data; geology, hydrogeology, and geomorphology; detail of the development footprint, proposed construction methodology and the extent of disturbance; and the time period over which sub surface materials are likely to be exposed.
- Consistent with the Tasmanian Acid Sulfate Soil Management Guidelines, provide an acid sulfate soils management plan as part of the required E&SC Plan, where the potential for impacts exists and where volumes of more than 100 cubic metres of ASS/PASS are expected.

¹⁶ See <https://epa.tas.gov.au/environment/water/water-quality-data-elements>

¹⁷ See <https://www.industry.gov.au/sites/default/files/2019-04/lpsdp-preventing-acid-and-metalliferous-drainage-handbook-english.pdf>

- Provide sufficient geochemical analysis of dam construction materials to demonstrate they are geochemically benign and fit for their intended purpose, should the potential for AMD associated with these materials exist based on geology.
- Regarding TSF effluent management, provide a discharge management plan which details the following:
 - The location and dimensions of effluent polishing ponds.
 - Details of any effluent treatment undertaken.
 - The location of discharge points for effluent to receiving waters.
 - Contingency and maintenance measures to ensure treatment efficacy is maintained.
- Provide details of, and a map depicting, preferential flow of stormwater arising from rainfall on the proposal site and location of stormwater collection systems.
- Evaluate the water quality impacts associated with discharge. Consider effluent quality, volume(s) and discharge regime in conjunction with receiving environment conditions. The evaluation should include consideration of seasonal variations in effluent and receiving environment water quality and quantity.
- Unless water quality guideline values for the receiving water can be met within the zone of initial dilution, undertake dilution/dispersion modelling to define the zone of attenuation for contaminants of concern.

6.1.3 Avoidance and mitigation measures

- Provide justification for any proposed emission of contaminants to surface waters in accordance with the principle outlined in the *State Policy on Water Quality Management 1997*. The justification is to demonstrate:
 - all reasonable measures have been taken to minimise the generation and discharge of contaminants, by application of the waste management hierarchy, implementation of accepted modern technology and best practice environmental management.
 - The proposal will not prejudice the achievement of any water quality objectives or equivalent guidelines for receiving water bodies.
- Provide details of monitoring to be undertaken during construction and ongoing operations to assess potential impact to receiving water quality and aquatic ecosystems.

For information about water quality management framework and evaluation criteria in Tasmania refer to [Technical Guidance for Water Quality Objectives \(WQOs\) Setting for Tasmania, August 2020](#).¹⁸

Erosion and Sediment Control Plan

Provide an Erosion and Sediment Control Plan for the construction and operational phases of the proposed development to mitigate the potential for sediment mobilisation, entrainment and discharge from the land. The plan must be prepared in accordance with the principles of best practice¹⁹ and include:

- General classification of erosion potential for each land type and topography likely to be disturbed by construction activities
- Indicative plans for each major phase/component of the activity, showing areas of disturbance, stockpiles and laydown areas, drainage, erosion control measures, sediment control infrastructure, stormwater discharge points and receiving environments.
- ongoing erosion control and rehabilitation measures to minimise the area of disturbance and potential for entrainment of sediment.

¹⁸ See [https://epa.tas.gov.au/Documents/Technical%20Guidance%20for%20Water%20Quality%20Objectives%20\(WQOs\)%20Setting%20for%20Tasmania.pdf](https://epa.tas.gov.au/Documents/Technical%20Guidance%20for%20Water%20Quality%20Objectives%20(WQOs)%20Setting%20for%20Tasmania.pdf)

¹⁹ Information on best practice erosion and sediment control is available at: Books 1-3 - International Erosion Control Association (<https://www.austieca.com.au/publications/best-practice-erosion-and-sediment-control-bpesc-document>)

- Detail on the design criteria for temporary and permanent drainage control and sediment containment infrastructure, including design rainfall average recurrence interval and emission limits for sediment retention basins, and drainage infrastructure.
- On site water management and infrastructure maintenance regimes necessary to ensure the effectiveness of erosion and sediment control infrastructure is maintained, including management of any flocculants if required.
- Detail of any monitoring to be undertaken, including visual inspection, to assess effectiveness of erosion and sediment control measures.
- Provision of contingency measures for events such as extreme rainfall, poor infrastructure performance or operational changes.
- If there is the potential for disturbance of acid sulfate soils in volumes greater than 100 cubic metres - provide an acid sulfate soil management plan consistent with the [Tasmanian Acid Sulfate Soil Management Guidelines](#).²⁰

6.2 Water Quality - Groundwater

Discuss potential impacts of the proposal on groundwater (quality and quantity). Consider construction and operational phases and include methodology details where appropriate.

Existing Environment

- Provide a conceptual groundwater model (including a piezometric surface) indicating groundwater table slope angles and direction of flow. This model must be consistent with the Surface Water Balance required by these Guidelines.
- Identify any surface water and groundwater dependent ecosystems that may receive expression to surface of groundwater (including AMD and seepage) from the facility.
- Provide details of any baseline groundwater quality monitoring undertaken. Additional bore sittings should consider the gaps in the conceptual groundwater model and provide a credible analysis of the local hydrogeological setting and the groundwater pathway to local receptor aquatic environments.
- Provide any existing groundwater management plan for the existing TSF including: a summary report of groundwater data for the last five years and identification of exceedances of appropriate water quality guidelines; all known groundwater bore installation engineering logs; identification of which bores monitor which parameters (including frequency of monitoring); any existing groundwater modelling outputs and recommendations (including confirmation as to whether the recommendations were accepted).

Assessment

- Discuss the potential impact of the expansion and raising of the TSF on groundwater (quality and quantity), with reference to the proposed liner design and groundwater assessments undertaken (where appropriate), including:
 - a map showing the location of any existing and newly installed groundwater bores (all engineering bore logs are required);
 - TSF liner permeability, and any changes to permeability with changes in tailings chemistry and volume over time;
 - the groundwater conceptual model required by these Guidelines;
 - a report detailing the existing groundwater monitoring and modelling to current Australian Standards which includes all known bore logs for the monitoring bores;
 - details of any proposed groundwater monitoring activities (including the location of new bores) and a summary table of all bores with respect to the targeted aquifer (e.g. shallow [unconsolidated] or deep [consolidated] hydrogeological unit);
 - details of whether the proposed raise will impact seepage rates and off-site mass loading via the groundwater pathway of any identified contaminants of concern.

²⁰ See <https://nre.tas.gov.au/Documents/ASS-Guidelines-FINAL.pdf>

6.2.1 Avoidance and mitigation measures

- Describe the measures proposed to avoid or mitigate potential adverse impacts to groundwater and aquatic water receptors.
- Detail any potential contingency measures to manage or reduce impact to groundwater should any impacts be identified.
- Provide justification for any potential impact to groundwater in accordance with the principles under the [State Policy on Water Quality Management 1997](#)²¹ and with reference to likely groundwater community values, associated guideline values and guideline values for receiving surface waters.

For information about water quality management framework and evaluation criteria in Tasmania refer to [Technical Guidance for Water Quality Objectives \(WQOs\) Setting for Tasmania, August 2020](#).²²

6.3 Air quality

The air quality assessment should detail the potential impact of the proposal on the local air quality during construction and operation, including the methodology for establishing this impact where appropriate. Additionally, it should provide evidence that the activity will not cause environmental nuisance or harm. The air quality assessment should the information in the following sections.

6.3.1 Existing Environment

- Provide a sitemap including the land boundary and the location of the nearest sensitive receptors.
- Describe the existing environment including climatic/meteorological conditions, terrain, land use and air quality in the vicinity of the proposal.

6.3.2 Assessment

- Provide a site map showing the locations and names of all sources of atmospheric emissions from the site.
- Provide details of the materials handled and equipment used on the site. Provide the location of the equipment.
- Provide the duration of the construction activities and information on staging.
- Describe and characterise all potential sources of dust emissions from the site. This includes but may not be limited to dust generated from the disturbed topsoil/vegetation clearing, levelling/compacting, stockpiles, blasting, excavating, loading/unloading, wind erosion, and traffic movements on and off site.
- Describe and assess the potential impacts of fugitive dust and particulate matter emissions from the proposed activity on the environment in the context of the existing environment (local meteorology, terrain) and land use (particularly proximity of sensitive receptors). The assessment should cover a variety of conditions including worst case scenario and upset conditions.
- Provide a history of any complaints related to the operation of the existing facility received in the last 5 years and the likely causes.
- Demonstrate that the assessment is consistent with the requirements of the [Tasmanian Environment Protection Policy \(Air Quality\) 2004](#)²³ and any supplementary documents, including the [Air Pollutant Design Criteria - EPA Board Statement](#).²⁴

²¹ See <https://epa.dpipwe.tas.gov.au/Pages/State-Policy-on-Water-Quality-Management-1997.aspx>

²² See [https://epa.tas.gov.au/Documents/Technical%20Guidance%20for%20Water%20Quality%20Objectives%20\(WQOs\)%20Setting%20for%20Tasmania.pdf](https://epa.tas.gov.au/Documents/Technical%20Guidance%20for%20Water%20Quality%20Objectives%20(WQOs)%20Setting%20for%20Tasmania.pdf)

²³ See https://epa.tas.gov.au/Documents/EPP_Air_Quality_2004.pdf

²⁴ See <https://epa.tas.gov.au/Documents/Board%20Statement%20-%20Update%20to%20Air%20Pollutant%20Design%20Criteria%20Used%20in%20the%20EIA%20Process%20-%20January%202022.pdf>

6.3.3 Avoidance and Mitigation Measures

- Describe measures to be implemented to mitigate all atmospheric emissions from the site that may cause environmental nuisance or harm at or beyond the site boundary, including during unfavourable meteorological conditions. This may include but are not limited to watering or sealing roads, covering of truck loads, reduced vehicle speed, road surfacing/maintenance details, enclosures, water sprays, windbreaks, and revegetation/stabilisation/rehabilitation. Discussion of the ongoing requirement to provide an adequate water supply should be included, along with considerations for water availability in response to the potential impact of the future climate, such as the possibility of increasing unseasonal dry periods.

6.4 Noise emissions

6.4.1 Existing Environment

- Provide a map showing the location of all major sources of noise and any noise sensitive premises²⁵ within 3km of the activity area.

6.4.2 Assessment

- Describe all major noise sources, including the height and sound power level and hours of operation for each main piece of equipment.
- Describe the potential impacts of noise generated by the activity.
- Evaluate the potential for noise emissions (during both construction and operational phases) to cause nuisance for nearby land users, particularly at noise sensitive premises, taking into account the:
 - distance to nearest residences and other noise sensitive premises;
 - existing background noise environment;
 - hours of operation;
 - topography; and
 - site layout showing locations of activities (refer to the Site Plan).

When assessing nuisance at noise-sensitive premises, discuss the [Environment Protection Policy \(Noise\) 2009](#)²⁶ and the existing acoustic environment.

6.4.3 Avoidance and mitigation measures

- Describe attenuation measures that will be implemented to avoid or mitigate impacts of noise emitted by the proposal (as relevant).
- Demonstrate that the proposal is consistent with environmental performance requirements, including with Part 5 of the [Environment Protection Policy \(Noise\) 2009](#).²⁶

6.5 Biodiversity and Natural Values

Discuss impacts of the proposal on biodiversity and nature conservation values (terrestrial and aquatic). Include details on how information has been collected or generated where applicable.

6.5.1 Existing Environment

- Specify and map known records of fauna, flora, vegetation communities and habitat, including aquatic as relevant, including reference to:
 - threatened species, communities and habitats, including those listed under the relevant Schedules of the Australian Government EPBC Act and the Tasmanian [Threatened Species Protection Act 1995](#) (TSPA)²⁷ and Tasmanian [Nature Conservation Act 2002](#) (NCA).²⁸

²⁵ Noise-sensitive premises are 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.’

²⁶ See https://epa.tas.gov.au/Documents/EPP_Noise_2009.pdf

²⁷ See <https://www.legislation.tas.gov.au/view/html/inforce/current/act-1995-083>

²⁸ See <https://www.legislation.tas.gov.au/view/html/inforce/current/act-2002-063>

- Specify and map known records of weeds, pests and diseases.
- Provide the results of terrestrial and/or aquatic (as relevant) natural values surveys undertaken by a suitably qualified person(s), in accordance with relevant survey guidelines.^{29,30}
- Identify 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 Directory of Important Wetlands in Australia.³¹
- Identify any freshwater ecosystems of high conservation management priority using the [Conservation of Freshwater Ecosystem Values \(CFEV\) database](#),³² including values in the vicinity of the proposal. The specific CFEV information should be Conservation Management Priority Potential.
- Specify and map known sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database.
- Describe natural processes of particular importance for the maintenance of the existing environment (e.g. fire, flooding, etc).

6.5.2 Assessment

Describe potential impacts of both construction and operation of the proposal on:

- Flora, vegetation communities and habitat, with particular reference to threatened species, communities and habitats listed under the relevant Schedules of the EPBC Act, TSPA and NCA, including consideration of:
 - Direct impacts, such as disturbance, clearing, excavation or burning;
 - Indirect impacts, such as changes in hydrogeological flows, fragmentation of populations or introduction of weeds, pests or diseases;
 - Cumulative impacts with other human activity.
- Fauna, with particular reference to threatened species, communities and habitats listed under the relevant Schedules of the EPBC Act, TSPA and NCA, including consideration of:
 - Direct impacts, such as collision risks from both vehicles³³ and infrastructure, clearing or other physical changes to breeding and hunting or foraging habitat;
 - Indirect impacts, such as changes in disturbances to nesting, impacts of noise and light, changes in prey or food availability or introduction of pests or diseases;
 - Cumulative impacts with other human activity.
- Existing conservation reserves that may be affected by the proposal, with reference to the management objectives of the reserve(s) and the reserve management plan(s) (if any).
- Other species, sites or areas of special conservation significance, including areas of wilderness or scientific value.

²⁹ See <https://nre.tas.gov.au/conservation/development-planning-conservation-assessment/survey-guidelines-for-development-assessments>

³⁰ See <https://nre.tas.gov.au/Documents/Devil%20Survey%20Guidelines%20and%20Advice.pdf>

³¹ See <https://www.environment.gov.au/water/wetlands/australian-wetlands-database/directory-important-wetlands>.

³² See <https://nre.tas.gov.au/water/water-monitoring-and-assessment/cfev-program>

³³ An increase in night-time (between one hour before sunset and one hour after sunrise as defined by the Bureau of Meteorology) traffic on internal and nearby roads of more than 10% combined with a high abundance of Tasmanian Devils and/or Tasmanian Devil roadkill records in the Natural Values Atlas is considered significant regarding likely impacts on the Tasmanian Devil. See the *Survey Guidelines and Management Advice for Development Proposals that may impact on the Tasmanian Devil (Sarcophilus harrisii)* at <https://nre.tas.gov.au/Documents/Devil%20Survey%20Guidelines%20and%20Advice.pdf>

- The reserve system identified as part of the Tasmanian RFA, including high-quality wilderness areas; maintenance of forest communities under the [Permanent Native Forest Estate Policy](#);³⁴ wildlife habitat strips under the [Tasmanian Forest Practices Code 2015](#)³⁵; and non-forest communities.
- Sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database.

6.5.3 Avoidance and Mitigation Measures

- Describe management measures that will be implemented to avoid adverse impacts to threatened fauna, flora and vegetation communities and other natural values, including management of weeds, pests and diseases.
- Include any roadkill management measures as required in the [Survey Guidelines and Management Advice for Development Proposals that may impact on the Tasmanian Devil \(*Sarcophilus harrisii*\)](#).³⁶
- Where impacts cannot be avoided, present proposed measures to minimise and mitigate adverse impacts on biodiversity and nature conservation values.
- Identify potential residual impacts³⁷.
- Discuss any offset³⁸ proposed for residual impacts, including likely benefits from such an offset.
- Discuss rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity, including any proposed seed collection and progressive rehabilitation program.

6.6 Waste management

Discuss the impacts of waste generated by the proposal, during construction and operation.

6.6.1 Existing Environment

- Describe the existing environment in relation to the impact of waste generated by the activity.

6.6.2 Assessment

- Describe the source, nature and quantities of all general wastes likely to be generated by the proposal (liquid, gaseous, solid or other), including general refuse and by-products from the various stages of the process.
- Describe the methods and facilities proposed to collect, store, reuse, treat or dispose of each general waste stream. Describe collection or other maintenance requirements where relevant.
- Describe the source, nature, quantity, and method of treatment, storage and disposal for each controlled waste arising from the proposal.³⁹ Describe collection or other maintenance requirements where relevant.

6.6.3 Avoidance and mitigation measures

- Demonstrate that any waste management measures follow the following hierarchy of waste management, arranged in decreasing order of desirability:
 - Avoidance,
 - Reuse,
 - Treatment/stabilisation for reuse,

³⁴ See https://www.stategrowth.tas.gov.au/about/divisions/Renewables,_Climate_and_Future_Industries_Tasmania_and_resources/forestry/legislative_and_policy_framework/permanent_native_forest_estate_policy

³⁵ See https://www.fpa.tas.gov.au/planning/forest_practices_code

³⁶ See <https://nre.tas.gov.au/Documents/Devil%20Survey%20Guidelines%20and%20Advice.pdf>

³⁷ As defined in Appendix A of these Guidelines.

³⁸ See Appendix A of these Guidelines under Residual Impacts.

³⁹ Controlled waste is defined in EMPCA and associated regulations. A non-exhaustive listing of categories of controlled waste can be found at <https://epa.tas.gov.au/business-industry/regulation/waste-management/controlled-waste>

- Recycling,
- Energy recovery,
- Repository storage (for future treatment/recovery),
- Treatment/stabilisation for disposal,
- Disposal/permanent containment.

For information on the landfill levy and reporting requirements for landfills or resource recovery facilities under the *Waste and Resource Recovery Act 2022* and Regulations, refer to [Waste and Resource Recovery, Department of Natural Resources and Environment Tasmania website](#).⁴⁰

6.7 Dangerous goods and environmentally hazardous materials

Dangerous goods and environmentally hazardous materials are 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. This includes fuels, oils, waste and chemicals. Discuss the potential impacts of dangerous goods and environmentally hazardous substances used in or generated by the proposal. The discussion should:

- Describe 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](#))⁴¹ that will be used during the construction and operation of the proposal.
- Provide a map showing the location of temporary and permanent storage areas for fuels, oils, and other dangerous goods or chemicals.
- Detail measures to be adopted to prevent or control any accidental releases of dangerous goods and environmentally hazardous materials. Examples include bunding or spill trays.
- Provide contingency plans for when control measures fail, equipment breaks down or accidental releases to the environment otherwise occur. Include detail on proposed emergency and clean-up measures and notification procedures. Identify any safety management requirements for the protection of human health and safety where incidents may affect the community.

6.8 Greenhouse gas emissions, ozone depleting substances and climate change

Discuss potential impacts of the proposal in relation to greenhouse gases, ozone-depleting substances and climate change. The discussion should be proportionate to the significance of the potential impacts.

- Describe the direct and indirect effects of the proposal on greenhouse gas production and ozone-depleting substances, as well as any associated benefits of the proposal.
- Provide an inventory of projected scope 1, scope 2 and total greenhouse gas emissions,⁴² energy production, and energy consumption for a year of operation. Describe the methods used to develop the inventory⁴³. Discuss potential annual variation that may occur.
- Consider any carbon dioxide generated as a result of the use of lime products to treat Acid Sulfate Soils (ASS), both in production and transport as well as via spreading and neutralisation reactions. Refer to the [Tasmanian Acid Sulfate Soil Management Guidelines](#) for more information.⁴⁴

⁴⁰ See <https://nre.tas.gov.au/environment/waste-and-resource-recovery>

⁴¹ See <https://www.ntc.gov.au/codes-and-guidelines/australian-dangerous-goods-code>

⁴² More information on categorising emissions can be found at <https://www.cleanenergyregulator.gov.au/NGER/About-the-National-Greenhouse-and-Energy-Reporting-scheme/Greenhouse-gases-and-energy>

⁴³ Calculators are available on the Australian Government Clean Energy Regulator website. See <http://www.cleanenergyregulator.gov.au/NGER/Forms-and-resources/Calculators#Emissions-and-Energy-Threshold-Calculator-202021-and-user-guide>

⁴⁴ See <https://nre.tas.gov.au/documents/ass-guidelines-final.pdf>

- Demonstrate that the development will use cost-effective, best practice measures to minimise future greenhouse gas emissions.
- Detail measures proposed to minimise emissions and describe the anticipated effectiveness of these measures. Where less emissions-intensive options are not adopted, provide sufficient justification and/or mechanisms to offset greenhouse gas emissions.
- Estimate ‘whole of life’ greenhouse gas emissions for the proposed development. Include details of the methodology used.
- Describe the potential impacts of climate change upon the proposal. For example, it may be appropriate to plan for more intense storm events, more severe fire weather, and/or long-term sea level rise.
- 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 \(State Action\) Act 2008](#) (Tas),⁴⁵ [Tasmania’s Climate Change Action Plan 2023-25](#)⁴⁶ and the [Climate Change Act 2022](#) (Commonwealth).⁴⁷

Note: Proponents must determine whether they are required to report to the Commonwealth under the [National Greenhouse and Energy Reporting Act 2007](#).⁴⁸

6.9 Socio-economic issues

Discuss the social and economic impacts of the proposal. This discussion may:

- Include 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).
- Provide a summary of operational expenditures and revenues.
- Describe 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.
- Describe impacts on upstream/downstream industries, both locally and for the State.
- Detail the extent to which raw materials, equipment, goods and services will be sourced locally.
- Provide 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.
- Describe community demographic impacts (changes to cultural background, occupation and incomes).
- Describe impacts on land values, and demand for land and housing.
- Describe impacts on the local, regional, state and national economies.
- Detail any publicly funded subsidies or services to be relied upon for the construction or operation of the proposal.
- Detail any impacts on local, state and federal government rate, taxation and royalty revenues.

The extent to which socio-economic considerations need to be described depends on the nature and extent of any negative impacts or risks to the environment from the proposal.

Modest proposals with relatively low-level and localised environmental impacts or risks may be adequately supported by details of intended capital expenditure, operational expenditures, revenues and employment

⁴⁵ See <https://www.legislation.tas.gov.au/view/html/inforce/current/act-2008-036>

⁴⁶ See https://recfit.tas.gov.au/climate/climate_change_action_plan

⁴⁷ See <https://www.legislation.gov.au/Details/C2022A00037>

⁴⁸ See <https://www.legislation.gov.au/Details/C2007A00175>

(distinguishing between direct and indirect employment) and a qualitative discussion of other socio-economic aspects of particular relevance.

Proposals with higher-level or broader-scale environmental impacts need more comprehensive analysis of economic and social benefits, to allow the Board to evaluate both the benefits and adverse impacts of the proposal. Methods used to model social and economic impacts should be described where relevant. A description of how the local community has been consulted to determine its needs and aspirations in relation to the proposal should also be included. A social impact assessment and/or economic impact assessment may be required.

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

6.11 Infrastructure and off-site ancillary facilities

Discuss potential environmental impacts of the proposal on any significant off-site infrastructure or facilities (including increased use of existing infrastructure, such as roads, ports and quarries). Identify measures proposed to avoid and mitigate any possible adverse impacts. Assess the likely overall impacts after 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. Cross-reference to other sections where relevant.

7. Monitoring and Review

Outline any proposed monitoring, review and reporting programs for the proposal. Include a table of proposed monitoring locations, parameters and frequencies, and a map showing the location of all monitoring sites.

Monitoring, review and reporting programs should be designed to:

- Assess compliance with the proposed management measures;
- Assess compliance with emission standards and other identified performance requirements;
- Assess the effectiveness of the performance requirements and environmental safeguards in achieving environmental quality objectives; and
- Assess the extent to which the potential impacts described in the EIS have eventuated.

8. Decommissioning and Rehabilitation

Describe any proposed rehabilitation of disturbed areas that will follow construction activities or occur upon cessation of the activity. Outline a preliminary Decommissioning and Rehabilitation Plan or Closure Plan for the proposal. If applicable, describe the stages of site decommissioning and rehabilitation, including any proposed seed collection and progressive rehabilitation.

9. Management Measures Table

Provide a summary table listing all management measures detailed throughout the EIS. Each measure must include a reference number, must be an unambiguous statement of intent, must specify when it is to be implemented (including whether it is to be implemented during construction, operation, maintenance or other phases) and must include a cross-reference to where the measure is described in the EIS.

10. Conclusion

Summarise the proposal and present a balanced overview of its net impacts. Draw together the critical environmental, social and economic impacts. Evaluate the extent to which negative impacts can be avoided, mitigated, remediated or compensated and positive impacts promoted and sustained.

Describe how the proposal meets and furthers the objectives of relevant legislation, policies, plans and strategies. Itemise the RMPS and EMPCS objectives and comment on how the proposal addresses each of the objectives.

11. References

Provide details of authorities consulted, reference documents and other information sources, using a consistent referencing style.

12. Appendices

Detailed technical information which supports the EIS should be included as appendices. The salient features of the appendices should be included in the main body of the EIS. Technical content of appendices must be consistent with information presented in the EIS itself, unless inconsistencies are carefully explained. The EIS may not be accepted where unexplained inconsistencies exist.

Appendix A: General principles for assessing environmental impacts

This Appendix summarises general principles for assessing environmental impacts in EIS documents prepared in accordance with EMPCA.

General Approach

When assessing environmental impacts in an EIS, the proponent should:

- Present information in a clear, well-structured manner appropriate to the audience of the EIS.
- Avoid duplication.
- Base assessments and evaluations on scientifically supportable, referenced data.
- Describe methodologies used and provide supporting research and information wherever relevant.
- State any scientific assumptions, simplifications, or judgements, and define uncertainties.
- Describe impacts and their mitigation to a level of detail that is proportionate to potential consequences and to what extent they can be controlled.

Impact assessment

Impact assessment involves the identification and characterization of the effects of a proposal. When undertaking impact assessment, the proponent should:

- Explain methodologies used to identify and characterise impacts.
- Clearly state the impacts that are expected to result from the development in terms of the aspect of the proposal involved and the environmental receptor affected.
- Characterise those impacts in terms of:
 - The magnitude of impacts, quantified where possible, including spatial extent and timeframe;
 - The vulnerability of the affected environmental receptors to harm or nuisance;
 - Sources of the impacts and pathways by which the impact may occur;
 - Probability of occurrence (if not 100%);
 - The range of scenarios in which the impact may occur, including plausible worst-case consequences;
 - Reversibility of impacts;
 - Any predicted indirect effects; and
 - Any aspects of other proposals examined cumulatively.
- With reference to the project description and alternatives described in the EIS, state what measures to avoid or reduce impacts have been considered as part of this assessment, and which of these have been incorporated into the proposal.

Impact evaluation

Impact evaluation is the determination of the significance of impacts. Proponents should support conclusions about the significance of impacts using a structured argument that clearly describes the magnitude of the impact, the sensitivity of the affected receptors, and how they relate.

Mitigation and Monitoring

Mitigation (planning and design considerations, pollution control technology and management practices) and monitoring are measures additional to those considered during the impact assessment to reduce the impact of the proposal. In presenting mitigation and monitoring the proponent should:

- Describe the measures proposed;
- Describe how mitigation measures function to avoid or reduce the impacts;

- Explain how measures accord with existing guidance, accepted practice or best practice environmental management as defined in EMPCA;
- Discuss contingencies for the breakdown/malfunction of equipment or processes;
- Describe any anticipated impacts resulting from the mitigation actions and how these will be addressed; and
- Identify where control measures are to be carried out, operated and/or maintained by a third party, and how this will be achieved.

Residual impacts

Residual impacts are those that remain after all proposed avoidance and mitigation measures have been taken into account. When assessing residual impacts, the proponent should:

- Revisit the first evaluation of impact, taking into account the effects of the measures to reduce the magnitude of the impacts and present a revised statement of significance, and
- Where required, identify appropriate actions that will offset impacts, based on the relevant guidelines.⁴⁹ Offset actions must present a measurable, relevant and ongoing net benefit which would not otherwise have been realised, and which is not accounted for by any other project or proposal.

⁴⁹ Guidelines include Appendix 4: General Offset Principles from the Guidelines for Natural Values Surveys – Terrestrial Development Proposals, see <https://nre.tas.gov.au/Documents/Guidelines%20for%20Natural%20Values%20Surveys%20related%20to%20Development%20Proposals.pdf> and Offset Guidelines for Impacts to Threatened Eagles from Wind Farm Developments, see <https://nre.tas.gov.au/conservation/development-planning-conservation-assessment/offset-guidelines-for-impacts-to-threatened-eagles-from-wind-farm-developments>

Appendix B: Other issues and agency contacts

In addition to a permit under LUPAA and EMPCA, there may be other legal requirements to allow your proposal to proceed, including other permits, licences or landowner consent. You may also need to contact other Government agencies to obtain information for the purpose of assessment.

Your proposal may have been referred to other agencies by EPA. If assessments or approvals outside of the Board's responsibilities are required, you should engage with the respective agency to progress them. The following list identifies some of the agencies you may need to contact:

Conservation Assessments

Department of Natural Resources and Environment Tasmania

Telephone: (03) 6165 4396

Email: conservationassessments@nre.tas.gov.au

Website: www.nre.tas.gov.au/conservation

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

Heritage Tasmania

Department of Natural Resources and Environment Tasmania

Telephone: (03) 6165 3700

Email: enquiries@heritage.tas.gov.au

Website: www.heritage.tas.gov.au

Purpose: Historic cultural heritage, including State-level site listings, impacts and permits as required under the Historic Cultural Heritage Act 1995. Where works are proposed in or near 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 Tasmania

Department of Premier and Cabinet

Telephone: 1300 487 045

Email: aboriginalheritage@dpac.tas.gov.au

Website: www.aboriginalheritage.tas.gov.au

Purpose: Aboriginal heritage, including desktop assessment, artefact survey requirements, permits and advice.

Parks and Wildlife – Property Services

Department of Natural Resources and Environment Tasmania

Telephone: (03) 6169 9015

Email: PropertyServices@parks.tas.gov.au

Website: www.parks.tas.gov.au

Purpose: Impacts on parks and reserves managed by Parks and Wildlife, or Crown land.

Agriculture and Water

Department of Natural Resources and Environment Tasmania

Telephone: 1300 368 550

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

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

Purpose: Water licences and works impacting natural waterway flow (e.g. dams or fords).

Transport Services

Department of State Growth

Telephone: (03) 6166 3369

Email: permits@stategrowth.tas.gov.au

Website: www.transport.tas.gov.au

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

Mineral Resources Tasmania

Department of State Growth

Telephone: (03) 6165 4800

Email: info@mrt.tas.gov.au

Website: www.mrt.tas.gov.au

Purpose: Mining Leases.

Appendix C: Example of project description summary table

Location and Planning Context

Location	State the address of the site, and CTs and PIDs (as applicable) for all titles on which the activity will take place.
Land zoning	Describe the land zoning of the site and surrounds. If rezoning of the site is required, provide details.
Land tenure	Provide the land tenure of the proposal.
Use Class and Permissibility	If a permit is required under LUPAA, provide the Use Class of the proposed activity and Permissibility of the activity with reference to the relevant Planning Scheme.
Mining lease	
Lease area	
Bond	State the amount of any bond required by MRT.

Existing site

Land Use	Describe the existing land use of the site and surrounds.
Topography	Describe the topography of the site and surrounds.
Geology	Describe the geology of the site, including the likely presence of potentially acid forming (PAF) material. Describe any geoconservation values on or near the site, e.g. karst.
Soils	Describe the potential to encounter acid sulfate soils and or contaminated soil (from past activities, as relevant).
Hydrology	Describe groundwater and surface drainage (including waterways, lakes, wetlands and coastal areas). Describe the waterbodies and aquatic values on site and in the surrounding area. State the distance from the activity to the nearest waterbody.
Natural Values	List the threatened fauna, flora and vegetation communities, including potential habitat for any such species, that are known to occur on or near the site (use the Natural Values Atlas, TASVEG 4.0 or results of any relevant survey). State the vegetation types on and near the site.
Potential Hazards	Provide a brief assessment of the vulnerability of the site to natural hazards (e.g. flooding, seismic activity, fire, landslips or strong winds) or climate change.

Local Region

Climate	State the annual rainfall and predominant wind direction.
Surrounding land zoning, tenure and uses	Describe the surrounding land use, distance to the nearest residences in other ownership, note any conservation reserves or recreation areas in the area, and provide a coastal description if the coast is nearby.
Species, sites or areas of conservation significance	Provide information on species, sites or areas of landscape, aesthetic, wilderness, scientific or otherwise special conservation significance which may be affected by the proposal. Relevant information resources include the LIST (www.thelist.tas.gov.au) and the Natural Values Atlas (https://www.naturalvaluesatlas.tas.gov.au).

Proposed Infrastructure

Major equipment	List all existing and proposed plant, machinery, or other major equipment (distinguish between existing and proposed).
Other infrastructure	List the existing and proposed buildings, structures, access roads, internal haul roads (can refer to the Site Plan) (distinguish between existing and proposed).

Inputs

Water	Include quantities and characteristics.
Energy	Include quantities and characteristics.
Other raw materials	Include quantities and characteristics.

Wastes and Emissions

Liquid	Include quantities and characteristics.
Atmospheric	Include quantities and characteristics.
Solid	Include quantities and characteristics.
Controlled wastes	Include quantities and characteristics.
Noise	Include major sources of noise emissions.
Greenhouse gases	Provide a brief description of changes to greenhouse gas emissions that will be caused by the proposal.

Construction, Commissioning and Operations

Proposal timetable	Provide a brief timetable outlining the proposed timeframe(s) for construction, commissioning and commencement of operations. Include significant milestones if applicable.
Construction hours	e.g. xx-xx Monday to Friday xx-xx Saturday
Operating hours (ongoing)	e.g. xx-xx Monday to Friday xx-xx Saturday

Other Key Characteristics

Other	Describe any additional characteristics relevant to the proposal/environment that are likely to provide important context as part of this summary.
--------------	--



ENVIRONMENT PROTECTION AUTHORITY