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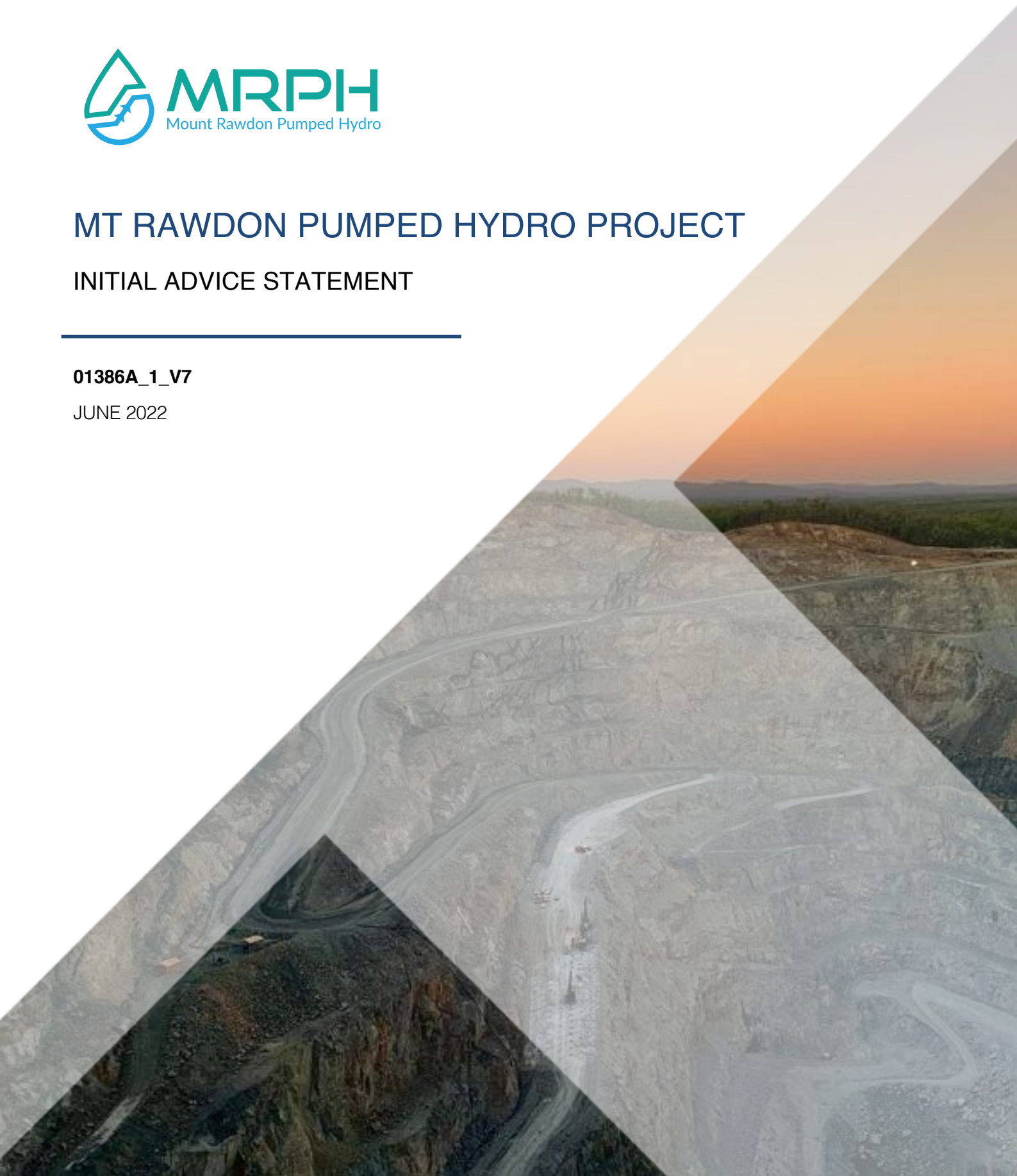
Mount Rawdon Pumped Hydro

MT RAWDON PUMPED HYDRO PROJECT

INITIAL ADVICE STATEMENT

01386A_1_V7

JUNE 2022



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Mt Rawdon Pumped Hydro Project

Initial Advice Statement

Report No.01386A_1_v7, June 2022

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Executive Summary

The Mt Rawdon Pumped Hydro Project (the Project) is a joint venture between Mt Rawdon Operations Pty Ltd (a wholly owned subsidiary of Evolution Mining Ltd), as the current owner and operator of the Mt Rawdon gold mine, and ICA Investment Services Pty Ltd as trustee for the Mt Rawdon Energy Trust, a wholly owned subsidiary of ICA Partners Pty Ltd, who bring expertise in renewable energy development and financing.

The Project is located 75 km southwest of Bundaberg and approximately 20 km southeast of Mount Perry (Figure ES1.1).

The Project involves the creation of a pumped hydro electricity generation plant through the repurposing of the pit created by the existing Mt Rawdon gold mine. The Project will store excess electricity generated by variable forms of renewable generation (such as solar photovoltaic and wind power), by using it to pump water to the upper storage and releasing it back into the grid (by release to the lower storage) at times of high electricity demand or low renewable electricity generation. In this way, the Project will help to facilitate increasing levels of renewable energy generation in Queensland, while also being able to provide ancillary services to assist with grid stability and will provide a portion of the 9 to 16 GW of dispatchable electricity that the Australian Energy Market Operator has forecast in the 2020 Integrated System Plan as likely to be needed by 2040.[1] The Project can also help to smooth the transition of Queensland electricity generation away from coal-fired generation by being scheduled to commence operating in 2028, in line with the expected closure date for the Callide B power station.

The Project will provide multiple environmental and economic benefits through providing emission-free electricity and an economically productive use for a former mine site and will help to deliver on the state government policy objectives of achieving net zero emissions by 2050 and 50% renewable energy by 2030. The estimated capital costs for the project are in the order of A$1.2 – A$1.4 billion for a 500 MW/hr project, between A$1.8 and A$2.2 billion for a 1,000 MW/hr project and A$3.34 billion for a 2 GW/hr project and is likely to create between 300 and 500 direct jobs during the construction phase and around 25 direct jobs during the operational phase (which will be of particular significance to the Mt Perry community as mining at Mt Rawdon draws to a close).

This strategic significance of the Project, together with its complex approval requirements warrant coordinated project status. The Project will require both the approvals necessary for the development of a new power generation facility and the approvals necessary to establish the rehabilitation standards to allow the mine pit to become part of the generation facility. It will also have the added complexity of being constructed while some mineral processing activities continue to be carried out on the mine site.

Hydroelectric generation is a mature technology which has been successfully operating in Australia since the 1970s and in Queensland since the 1980s, with known and manageable

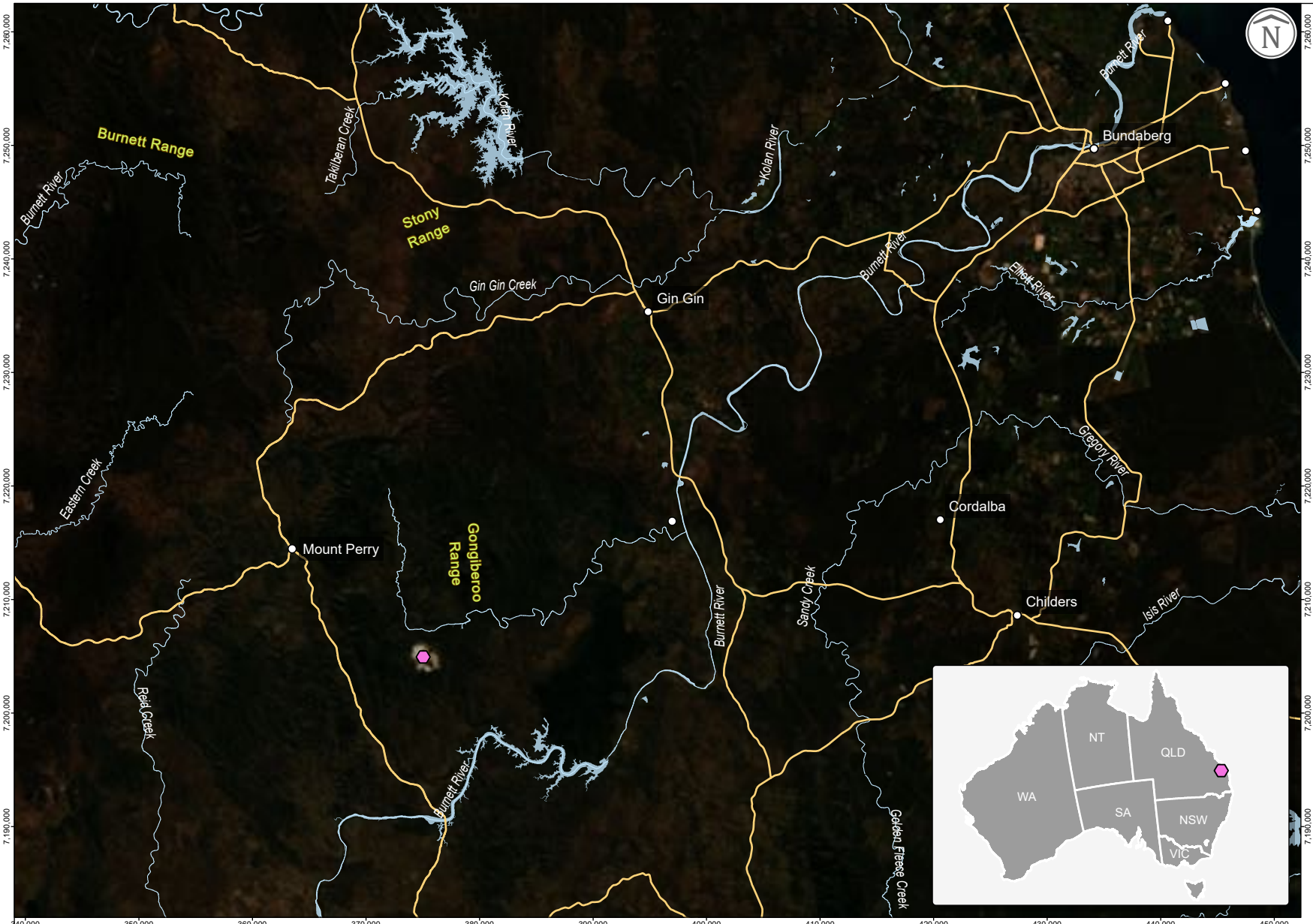
[1] The Draft 2022 Integrated System Plan goes further and forecasts the need for 45GW/620GWh of storage (in all forms) by 2050 under the most likely scenario.

environmental impacts. The environmental impacts of the project will be minimised by the use of off-stream dams and by the use of a brownfield site for the lower storage. During the construction phase, environmental impacts will be largely driven by the vegetation clearing and earthworks necessary to construct the upper storage. The environmental impact statement (EIS) / impact assessment report (IAR) for the Project will address any legacy issues arising from past land uses of the brownfield parts of the Project site.

PROJECT LOCATION

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE ES1.1



- Mt Rawdon site
- Town
- Road
- Watercourse

Issue Date: 2022.04.21

Map ID: 01386A_IAS_GIS008

Figure Number: 01386A_IAS_ES1-1_GIS_v0-f_es

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DATA SOURCES:
Project data from Evolution Mining, 2022.
Base data from Queensland Spatial Data Catalogue, 2022.
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Glossary and Abbreviations

Abbreviation	Definition
DAWE	Department of Agriculture, Water and Environment
EIS	An Environmental Impact Statement under the *State Development and Public Works Organisation Act 1971 (Qld)*.
EP Act	*Environmental Protection Act 1994 (Qld)*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999 (Cth)*
ERIAS	ERIAS Group Pty Ltd
IAR	An Impact Assessment Report under the *State Development and Public Works Organisation Act 1971 (Qld)*.
IAS	Initial advice statement under the *State Development and Public Works Organisation Act 1971 (Qld)*.
ICA Partners	ICA Investment Partners Pty Ltd
NEM	National Electricity Market
PRC Plan	Means a progressive rehabilitation and closure plan for a mine required under the *Environmental Protection Act 1994 (Qld)*.
PMST	Protected Matters Search Tool
QHA	*Queensland Heritage Act 1992 (Qld)*
SDPWOA	*State Development and Public Works Organisation Act 1971 (Qld)*
WoNS	Weeds of National Significance

1. Introduction

1.1 Background

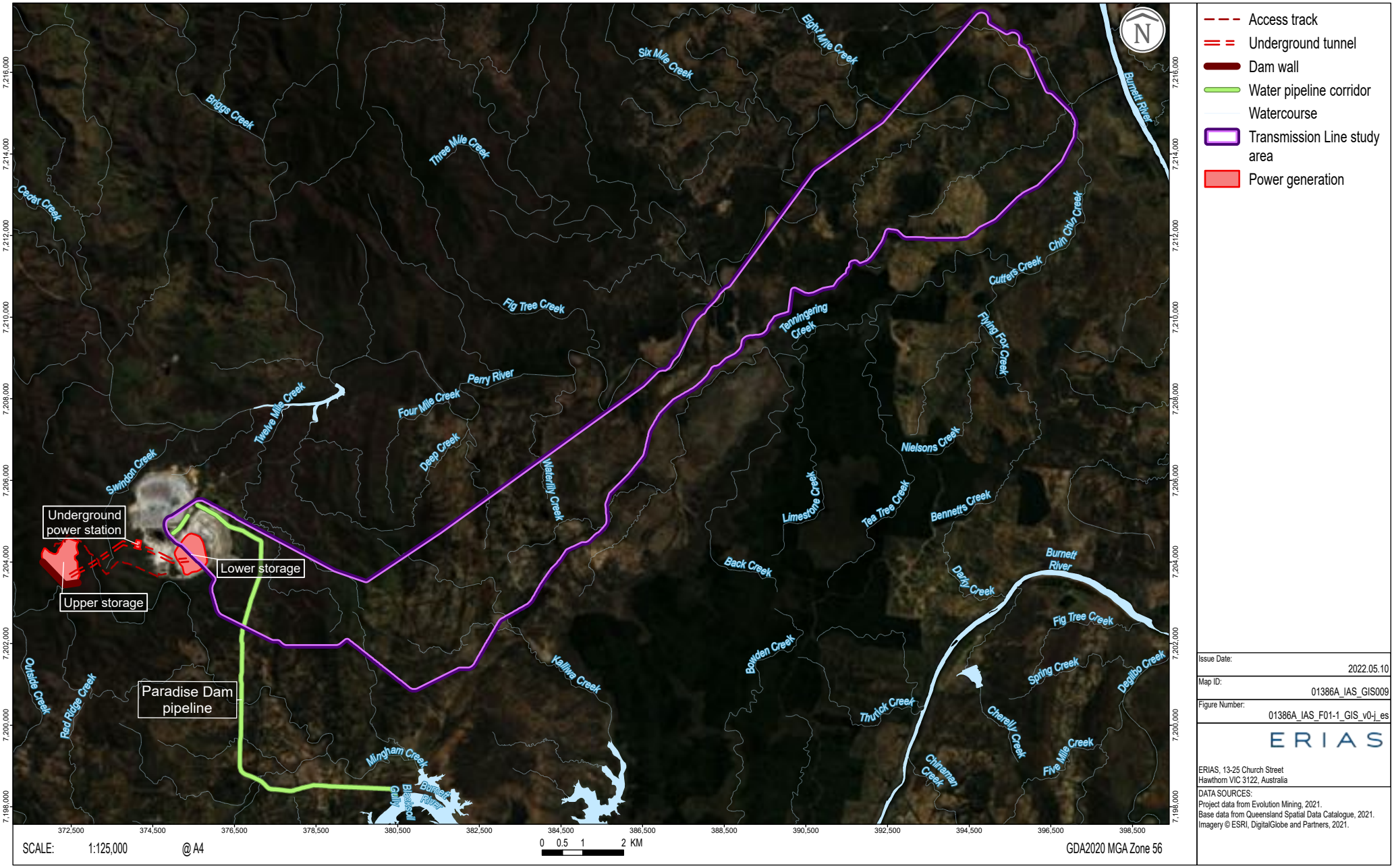
The Mt Rawdon Pumped Hydro Project (the Project) involves the re-use of land disturbed by mining to establish a pumped hydro electricity generation facility.

The Project will utilise the pit void created by the current Mt Rawdon open-cut gold mine as the lower storage (Figure 1.1). The upper storage will be a purpose-built valley fill dam. The upper and lower storages will be connected by an underground tunnel/waterway and powerhouse. The Project will also include a transmission line, electrical substation, water pipeline and temporary facilities required during the construction phase, including a construction camp and quarry.

CONCEPTUAL PROJECT LAYOUT

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE 1.1



- Access track
- Underground tunnel
- Dam wall
- Water pipeline corridor
- Watercourse
- Transmission Line study area
- Power generation

Issue Date: 2022.05.10

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Hawthorn VIC 3122, Australia

DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.
Imagery © ESRI, DigitalGlobe and Partners, 2021.

The proposed facility is likely to have an energy storage capacity of up to 20,000 MWh, allowing for up to 40 hours of continuous generation at 500 MW/hr, 20 hours of continuous generation at 1,000 MW/hr or 10 hours of generation at 2,000MW/hr. The final configuration and staging of capacity will be driven by market demand. The Project will create firming capacity for the increasing amounts of variable renewable generation (i.e. wind power and solar photovoltaic) which are connecting to the grid in Queensland, shifting daytime solar electricity generation to the evening and night and supporting energy supply.

The Mt Rawdon mine is an open-cut gold mine owned and operated by Mt Rawdon Operations Pty Ltd. The mine has historically produced approximately 80,000 to 100,000 ounces of gold per annum and current plans indicate mining will finish in 2024. Processing of ore stockpiles (under the current mining leases and environmental authority) is expected to continue on site until approximately 2028 during this time construction of the Mt Rawdon pumped hydro project will also be undertaken.

1.2 Purpose and Scope of IAS

The purpose of this Initial Advice Statement (IAS) is to provide sufficient information to enable the Coordinator-General to decide whether the project should be declared a 'coordinated project' under the *State Development and Public Works Organisation Act 1971 (Qld)* and whether the project should be assessed by way of either an Impact Assessment Report (IAR) or an Environmental Impact Statement (EIS).

In order to be declared a coordinated project, the Coordinator-General must be satisfied the project has complex approval requirements, strategic significance to the locality, region or state, significant environmental effects or significant infrastructure requirements.[2] The Project has both complex approval requirements and strategic significance to its region and to the state as discussed below.

1.2.1 Complex Approval Requirements

The nature of the Project means that it will involve both mining rehabilitation works (governed by the *Mineral Resources Act 1989* and *Environmental Protection Act 1994*) and non-mining works (which are primarily regulated by the *Planning Act 2016*). Mining development and rehabilitation is regulated separately from development for other purposes, with the consequence that the works required to construct the Project will be governed by two separate regulatory regimes.

In addition, the rehabilitation standards which will apply to the site will need to be established through the relatively new process of a Progressive Rehabilitation and Closure Plan (PRC plan) under the *Environmental Protection Act 1994*.

The works on the mine site will also need to co-exist with ongoing mineral processing activities being conducted under the existing mining leases and environmental authority.

As a consequence, the complex approval requirements applying to the Project will largely be driven by the need to coordinate the processes that apply to the quite distinct regulatory regimes

[2] *State Development and Public Works Organisation Act 1971 (Qld)*, s. 27(2)(b)

that apply to mining and non-mining activities, by the co-existence of the new Project with the existing mining activities and by the need to navigate the relatively new regulatory regime that now applies to mining rehabilitation.

The environmental coordination facilitated by 'coordinated project' status under the SDPWOA provides an opportunity to ensure that the mining and non-mining approvals required for the Project are assessed within a single process and are subject to consistent conditions.

In addition to the PRC plan required for the rehabilitation of the mine and land use approvals under the *Planning Act 2016* for both the Generation Facility and the Transmission Line, the Project will also require a number of other approvals in relation to aspects of the project including vegetation clearing, dam safety, operational works and temporary facilities such as the quarry and the concrete batching plant. The Project will also involve the need to secure rights to take water for the first fill. 'Coordinated project' status also provides the opportunity for streamlining these processes.

The project may also require approval under the Commonwealth EPBC Act. The environmental assessment processes required for coordinated projects under the *State Development and Public Works Organisation Act 1971 (Qld)* has been accredited under the bilateral agreement between Queensland and the Commonwealth under the EPBC Act. As a consequence, coordinated project status also provides the opportunity to streamline state and federal approvals processes and to avoid burdening the community with the need to participate in multiple assessment and public notification processes.

1.2.2 Strategic Significance

The local significance of the Project is that it will involve significant capital investment in regional Queensland and will generate both construction jobs and ongoing jobs which will ensure that the Mt Rawdon mine site continues to benefit the local community well beyond the end of the mine life.

The Project is likely to generate between 300 and 500 direct full time equivalent jobs during the construction phase and is likely to create 25 to 30 permanent jobs during the operational phase (with additional jobs created during any large service or rebuilding work).

The state significance of the Project lies in its ability to provide firming capacity for the significant amounts of variable renewable electricity generation (particularly wind farms and solar photovoltaic generation) now connecting to the National Electricity Market (NEM). The project will also assist the Queensland government in achieving its policy goals of 50% renewable energy by 2030 and zero net emissions by 2050 (with a 30% reduction in emissions by 2030).

1.2.3 Assessment Approach

Coordinated projects may be assessed by way of either an EIS or IAR. However, assessment by way of an IAR is permissible only if the Coordinator-General is satisfied that the environmental effects of the project do not, having regard to their scale and extent, require assessment through an EIS.

The Coordinator-General's guidance on the issue indicates that the following factors will be relevant to this decision:

- the expected magnitude and scale of the project and impacts are less than those of a coordinated project requiring an EIS;
- the risk of environmental harm arising from potential impacts of the project is considered to be significantly less than a coordinated project requiring an EIS, given the nature or extent of those impacts;
- the impacts and measures to avoid or mitigate any potential adverse impacts of the project are generally well understood, widely practised, easily applicable and/or adequately managed by application of standard conditions or codes.

The proposed Generation Facility component of the Project (consisting of upper and lower storage, underground waterway/tunnel and powerhouse) is not located on a watercourse and is intended to be a closed-loop system, with no uncontrolled discharges.

Hydro-electric power generation, including pumped hydro generation, is a mature technology which doesn't involve novel or unknown environmental risks. The components of the Project being constructed on greenfield sites (i.e., the upper storage, waterway tunnels, powerhouse and parts of the transmission line) are also infrastructure with well-known techniques for mitigating environmental impacts. Any environmental impacts likely to result from utilising a former mine site can be adequately identified and addressed through an IAR process, particularly given the Progressive Rehabilitation and Closure Plan (which specifically addresses mine site rehabilitation and post-mining land use) will be assessed as part of the Project, alongside the development permit for the new development. As a consequence, the scale of the project and its potential environmental impacts of the project do not warrant assessment by way of an EIS.

2. The Proponent

The Mt Rawdon Pumped Hydro Project is a joint venture between Mt Rawdon Operations Pty Ltd ACN 152 727 663 (ABN 77 152 727 663), a wholly owned subsidiary of Evolution Mining Ltd ACN 084 669 036 (ABN 74 084 669 036) and ICA Investment Services Pty Ltd ACN 631 031 742 (ABN 69 631 031 742) as trustee for the Mt Rawdon Energy Trust, a wholly owned subsidiary of ICA Partners Pty Ltd (ICA) ACN 158 181 241 (ABN 55 158 181 241).

Evolution Mining Ltd is an Australian gold producer listed on the Australian Securities Exchange (ticker: EVN) with a portfolio of six wholly owned and operated mines in Queensland, New South Wales, Western Australia and Canada, following the recent acquisition of 100% ownership of the Ernest Henry Gold Mine in Queensland. Evolution Mining has undertaken a number of significant mine expansions in Australia, including the recent expansion to underground mining of the Mount Carlton mine near Townsville and underground mining at the Cowal Gold Operation near West Wyalong.

ICA Partners is an independent specialist corporate and project advisory company, with extensive development and operational experience in utility scale renewable energy projects, and the capability to fully manage the development of a renewable energy facility. ICA Partners is, for example, currently in the process of constructing the Woolsthorpe wind farm in Victoria in partnership with Enerfin.

Neither ICA Partners nor Evolution Mining Ltd (or any of its subsidiaries) have been prosecuted for an offence, or subject to civil enforcement proceedings or an enforceable undertaking under any Commonwealth, State or Territory law relating to the protection of the environment or the conservation and sustainable use of natural resources. Mt Rawdon Operations Pty Ltd has recently completed an environmental evaluation with the Queensland Department of Environment and Science, in relation to groundwater quality at the Mt Rawdon site, which resulted in a report accepted by the Department of Environment and Science and the issue of an Environmental Authority with amended conditions.

The proponent has engaged Stantec Australia Ltd and Strategy Focused Innovation Pty Ltd to undertake project design and feasibility studies.

The proponent has engaged ERIAS Group Pty Ltd (ERIAS) to undertake the work necessary to complete the EIS/IAR process for this project. ERIAS is an environmental and social impact assessment and management consultancy specialising in life-of-project environmental and social performances services for the energy, resource and infrastructure sectors. The ERIAS team has extensive experience in delivering environmental impact assessment and approval processes for projects in Queensland, across Australia and the Asia-Pacific and will engage sub-consultants with Queensland experience to provide specialist expertise.

3. Nature of the Proposal

3.1 Scope of the Project

The Project, as shown in Figure 1.1, involves the re-use of the Mt Rawdon gold mine which is nearing the end of its life. The mine pit will form the lower water storage of the Generation Facility, with an upper storage created adjacent to the site of the existing mine. The upper and lower storage will be connected by underground waterway tunnels and an underground power station. During times of excess power generation (and low power cost) in the NEM, water will be pumped from the lower storage to the upper storage, allowing energy generated by variable renewable energy facilities to be stored. At times of high power demand, water will be released from the upper to the lower storage, through the power station, thereby generating electricity.

The Project for which coordinated project status is sought includes a new transmission line and sub-station to link the Project to Powerlink's existing transmission network. A study area (shown in figure 4.1 has been identified, within which the final alignment will be selected through a process including environmental and cultural heritage assessments and consultation with landholders and other affected stakeholders.

3.2 Components, Developments, Activities and Infrastructure forming part of the Project

The Mt Rawdon Pumped Hydro Project includes:

- A pumped hydro **Generation Facility**, comprising a lower storage (formed by the existing mine pit), a purpose-built upper storage, waterway tunnels linking the two storages, an underground power station, switchyard and associated access works.
- A **Transmission Line** and substation to link the Generation Facility to Powerlink's existing transmission network.
- An upgraded or duplicated **Water Pipeline** which is likely to comprise of a pump, pipes and power supply to enable the first fill of the Generation Facility (most likely from nearby Paradise Dam).
- **Temporary facilities** during construction which are likely to include a construction camp to accommodate 300 to 500 people (including associated water and wastewater systems), a temporary concrete batching plant, temporary quarry (potentially within the upper storage site), construction lay down area/s, portable power generation and a location for temporary storage of excavated material from upper storage construction.

The Project does not include mining or mineral processing activities undertaken under the current (or any amended) Environmental Authority and Mining Leases, rehabilitation works which are not directed towards the construction of the Project or preliminary works such as geotechnical investigations and other prefeasibility works.

The Project may be delivered as a single stage or as two or more stages, depending upon market demand for electricity storage and the timing of coal generation retirement in Queensland. The majority of the Project's environmental impacts are likely to occur during the first stage when the above-ground facilities are constructed and vegetation clearing works (including the upper storage) are undertaken, while subsequent stages are likely to predominantly involve underground works.

Under any staging scenario, the first stage of the Project would include delivery of the upper and lower storages, waterway tunnel and powerhouse, water pipeline and transmission line (as well as temporary construction facilities). As a consequence, the Project's full storage capacity would be delivered in the first stage. Subsequent stages would involve either the installation of additional generation units into the underground powerhouse delivered in stage 1 or the construction of a new tunnel and powerhouse for additional generation units. Under any scenario, all of the surface disturbance and a large proportion of the underground disturbance would occur during the first stage. The final staging scenario will be addressed in the EIS/IAR.

The Proponents are seeking approval, through this process, for all stages of the project up to approximately 2GW of generation capacity. The National Electricity Market is undergoing unprecedented changes at a pace that is difficult to predict, with the result that it is difficult to identify precisely when there will be demand for additional stages. The grant of approval for all stages now provides the benefit to the National Electricity Market of allowing the Proponents to respond swiftly to increased need for storage services (for example, if coal retirement occurs more quickly than currently predicted) and has little or no down-side given that:

- The vast majority of the Project's environmental impacts will occur during the first stage;
- The off-site impacts of the Project will be essentially the same for a 500MW project as they would be for a 2GW project;
- The site is relatively remote, with the result that adjacent landholders are unlikely to experience significant impacts during construction phases;
- The land use intention for a site (comprising rural zoned land containing a closed mine and land of marginal agricultural potential) is unlikely to change between stages. Surrounding land use is similarly unlikely to significantly change between stages.

3.3 External Infrastructure Requirements

The Project has the benefit of being able to utilise infrastructure constructed for the existing Mt Rawdon mine, including the mine access roads and existing water pipeline corridors connecting the site to the Perry River Weir and Paradise Dam.

Road access to the mine is via the Bruce Highway and approximately 18 km of unsealed road.

The proponents have been consulting with Powerlink regarding options to connect the facility to the transmission grid and will continue to work closely with Powerlink in the construction of the Transmission Line that forms part of the project.

3.4 Timeframes for the Project

Table 3.1 shows the timeframes currently proposed for the Project.

Table 3.1 – Project Timeframes

Milestone	Timeframe
Pre-feasibility A study	August 2020
Site geotechnical investigations and commencement of full feasibility study	Third quarter of 2021
Financial close	First quarter of 2024
Completing of mining and commencement of power station civil works	Fourth quarter of 2023
Commencement of waterway and dam construction	Third quarter 2024
Commencement of transmission works	Second quarter 2025
Power station electrical and mechanical installation	Fourth quarter 2026
Commercial operations commence	Third quarter 2028

If the Project is delivered in stages, the first stage is likely to be delivered in accordance with the timeframes in Table 3.1, while the timing of subsequent stages will be driven by the timing of coal retirement in Queensland and the demand for storage of excess electricity. The first stage of the Project is likely to continue generating electricity with minimal or no disruption during subsequent construction stages.

3.5 Construction and Operational Processes

3.5.1 Construction Phase

Water required during construction and operations is likely to be sourced from within the mine's existing water entitlements from Perry Weir and Paradise Dam. Water to replace evaporative or other losses during the operational phase will be sourced either from within the mine's existing entitlements or through the acquisition of new entitlements (most likely out of Paradise Dam or Perry Weir).

A new (temporary) water entitlement will be required to undertake the initial filling of the Generation Facility at the end of the construction phase. The Proponent's current intention is to seek access to water available through the strategic reserve or strategic water infrastructure reserve under the *Water Plan (Burnett Basin) 2015,* which is available to coordinated projects. The Proponent has been advised by government that approximately 16GL per year is available, with this volume reflecting the reduced volumes being held in Paradise Dam due to Paradise Dam's structural issues. The volumes of water available dictate whether the first fill can be completed in a single year or over two or more years and will depend upon factors including works on Paradise Dam, demand from other users and projects and seasonal factors (please see further discussion in section 6.6.2).

The Proponent's current intention is to investigate the feasibility of sourcing construction material for the dam wall of the upper storage by quarrying within the upper storage site. This would have

the benefit of both minimising the project footprint and increasing the storage capacity of the upper storage. If this option is not feasible, other options will be investigated including alternative sites for a temporary quarry and the use of non-acid forming material from the mine pit.

The mine site has a current electricity supply, however, this may need to be supplemented to address the higher electricity usage during the construction phase. The existing water pipeline between the site and Paradise Dam will also need to be supplemented for the purposes of the initial filling of the Generation Facility (see figure 1.1).

3.5.2 Rehabilitation

The part of the mine site that is not utilised for the proposed Generation Facility will be rehabilitated by the EA holder in accordance with the requirements of the *Environmental Protection Act 1994 (Qld)* under an approved PRC plan. The PRC plan will also approve the use of the existing pit as part of the Project, as an approved post-mining use of land.

The Generation Facility will have an operation life of at least 40 years. At the end of its design life the site could be upgraded to extend its economic life or finally rehabilitated. The EIS/IAR will outline the proposed approach to the final rehabilitation of the Generation Facility site in accordance with current practices and regulatory requirements.

3.6 Workforce Requirements During Construction and Operation

The Project is likely to generate between 300 and 500 direct jobs during the construction phase and is likely to create 25 to 30 permanent jobs during the operational phase (with additional jobs created during any large service or rebuilding work). The Project is also likely to generate a significant number of indirect jobs, particularly during the construction phase.

The construction workforce is likely to be largely accommodated in a temporary construction camp in the vicinity of the Generation Facility site.

3.7 Financing Requirements and Implications

The Project will involve estimated project development costs of between A$1.2 billion and A$1.4 billion for an initial 500 MW stage, between A$1.8 and A$2.2 billion for a 1,000 MW project and A$3.34 billion for a 2GW project.

4. Location of Key Project Elements

4.1 Location

The Project is located primarily within the North Burnett Regional Council local government area, with part of the transmission line extending into the Bundaberg Regional Council local government area. The Generation Facility site is 75 km southwest of Bundaberg and approximately 20 km southeast of Mount Perry, the closest town.

The Project will connect with Powerlink's existing transmission network. The study area for the Transmission Line is shown in Figure 4.1. The study area was selected through a desktop constraints analysis which applied environmental, social and economic constraints. The final alignment will be selected from within the study area through a process which includes inputs from environmental and cultural heritage field surveys, consultation with landholders and other affected stakeholders, engineering design and constructability.

4.2 Tenure and Land Use

The project area for the Generation Facility and Water Pipeline are outlined in Table 4.1 and the study area for the transmission line is shown in Figure 4.1. Temporary Facilities will be preferentially located on areas within the mine site and on land owned by Mt Rawdon Operations Pty Ltd.

Table 4.1 – Project Area: Generation Facility and Water Pipeline

Lot on Plan	Tenure	Planning Scheme zoning	Regional Plan Designation	Current use
Generation Facility including upper and lower storage, connecting tunnel and powerhouse				
Lot 3 on BN37400 (Part of lower storage)	Freehold	Rural zone	Regional Landscape and Rural Production Area	Mine site
Lot 2 on SP138073 (Powerhouse, access tunnels, underground waterways)	Freehold	Rural zone	Regional Landscape and Rural Production Area	Mine site
Lot 38 on BON 559 (Upper storage, potential quarry site, part of lower storage; powerhouse, access tunnels, underground waterways)	Freehold	Rural zone	Regional Landscape and Rural Production Area	Partly mine site and partly grazing of native vegetation

Lot on Plan	Tenure	Planning Scheme zoning	Regional Plan Designation	Current use
Water pipeline – likely route for Paradise Dam water supply option				
Lot 3 on BN37400	Freehold	Rural zone	Regional Landscape and Rural Production Area	Mine site/Existing water pipeline
Lot 53 on SP163281	Freehold	Rural zone	Regional Landscape and Rural Production Area	Grazing/Existing water pipeline
Lot 48 on SP163281	Freehold	Rural zone	Regional Landscape and Rural Production Area	Grazing/Existing water pipeline
Lot 40 on SP163281	Freehold	Rural zone	Regional Landscape and Rural Production Area	Grazing/Existing water pipeline
Kallwa Road	Road			Road/Existing water pipeline
Lot 5 on SP163281	Freehold	Community purpose	Regional Landscape and Rural Production Area	Grazing/Existing water pipeline

TRANSMISSION LINE STUDY AREA

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FIGURE 4.1

Watercourse

Transmission Line study area

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Map ID: 01386A_IAS_GIS011

Figure Number: 01386A_IAS_F04-1_GIS_v0-e_es

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DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.

5. Project Need, Justification and Alternatives Considered

The proposed Project will help to achieve the Queensland Government goal of net zero emissions by 2050 and will fulfill a need for dispatchable energy generation identified in the 2020 Integrated System Plan (ISP) published by the Australian Energy Market Operator (AEMO).

Australia is a signatory to the Paris Agreement which has the objective of holding the increase in global average temperature to 2˚C and pursuing efforts to limit temperature increase to 1.5˚C above pre-industrial levels.[3] Queensland's climate change policies are reflected in the Queensland government policy of achieving zero net emissions by 2050 and a 30% reduction in emissions by 2030.

One key part of achieving these objectives is through reducing the greenhouse gas emissions created by electricity generation, consistent with the Queensland Government target of a transition to 50% renewable energy by 2030.

The Queensland Government's COVID-19 Economic Recovery Plan[4] includes measures intended to drive growth and provide jobs in regional Queensland. Those measures include the establishment of three renewable energy zones which contain high quality renewable resources. The renewable energy zones are intended to drive jobs growth, support the 50% renewable energy target through the coordinated delivery of infrastructure, facilitate renewable energy development and match the energy needs of existing and new industries. The Mt Rawdon Pumped Hydro Project is located within the Central Renewable Energy zone.

AEMO's 2020 ISP[5] found that the least cost and least regret transition of the NEM is from a system dominated by centralised coal-fired generation to a highly diverse portfolio of renewable energy resources, supported by dispatchable firming resources (including pumped hydro) to ensure that the power system remains physically secure.

The ISP contemplates that more than 26 GW of variable renewable energy generation will be required to replace coal-fired generation up to 2040, with 63% of existing coal-fired generation set to retire in that period.[6] The ISP also contemplated that 6 to 19 GW of dispatchable resources are required to back up this variable renewable energy generation, in forms including utility-scale pumped hydro, fast-responding gas fired generation and utility scale battery storage.

[3] Paris Agreement 2015, article 1(a)
[4] State of Queensland, Queensland's Economic Recovery Plan – Budget update, found at: https://budget.qld.gov.au/files/Budget_2021-22_Covid_Economic_Recovery_Plan.pdf
[5] AEMO, 2020, 2020 Integrated System Plan for the National Electricity Market, viewed on 16 March 2021 at: https://aemo.com.au/-/media/files/major-publications/isp/2020/final-2020-integrated-system-plan.pdf?la=en
[6] The Draft 2022 Integrated System Plan (AEMO, 2021, Draft 2022 Integrated System Plan, viewed on 17 December 2021 at: link), notes that coal fired generation is retiring 2 – 3 times faster than expected and that between 5 and 14GW of the existing 23GW of coal capacity will withdraw by 2030.

In Queensland the 700 MW Callide B coal-fired power station could be anticipated to retire in 2028[7], while the 1,680 MW Gladstone Power Station has an anticipated retirement year of 2035. The Project's current timeframe anticipates that electricity production will commence in 2028, which would allow for coordination with the closure of Callide B. This effective replacement of Callide B with firmed renewables at a competitive cost would allow for the smooth exit of a coal-fired generator.

Pumped hydro electricity generation has the advantage of being a lower cost form of dispatchable generation than batteries and not subject to the fuel price volatility of gas-fired generation.

Pumped hydro generation can also improve system strength and reliability by supplying additional inertia (necessary for frequency control) to the Queensland part of the grid. It can also help to smooth out the price volatility caused by the increased renewable energy penetration in the Queensland grid, by buying power during periods of high generation and low demand and selling at periods (such as the evening peak) when there is high demand and lower generation, helping to put downwards pressure on prices for end users.

5.1 Alternatives

As discussed above, the national electricity grid has a demonstrated need for dispatchable electricity generation, particularly via pumped hydro. The forthcoming closure of the Mt Rawdon mine, with its favourable topography of an existing pit adjacent to higher elevation land, provides an opportunity to create this necessary infrastructure without disturbing a greenfield site for the lower storage and without the environmental impacts commonly caused by on-stream dams.

The current regulations applying to rehabilitation of mines in Queensland require most parts of the mine site to have a nominated post-mining land use, while other parts of a mine site may be designated as 'non-use management areas' (NUMAs) if the land cannot sustain a post-mining land use. The current approved Operational Environmental Management Plan for the Mt Rawdon mine contemplates that the majority of the site will be rehabilitated to the post-mining activity of 'bushland with potential for light grazing', while the pit would be managed as a 'water storage' for agricultural purposes. This approach is likely to represent the 'do nothing' option. The proposed Mt Rawdon Pumped Hydro Project, by contrast, will allow the site to be used for a higher value use, with greater potential to support jobs in the region and to support the Queensland government's renewable energy priorities.

Several potential locations were investigated for the site of the upper storage. The preferred option (known as S1) has the highest potential stored energy reserve (in MWh) for electricity generation and allows for a project that is both technically and commercially feasible. Further geotechnical work will be undertaken to confirm the suitability of the preferred site. In the event that this site is found to be unsuitable, the alternative sites will be further investigated.

[7] CS Energy, the owner of Callide B, has informed AEMO under the National Electricity Rules that the forecast closure date for the power station is 2028.

The connection point to the electricity transmission network was identified through consultation with Powerlink, the network operator. The study area for the Transmission Line component of the Project was identified through a desktop constraints analysis, the objective of which was to identify engineering, environmental and social constraints between the Mt Rawdon mine site and the proposed Morganville substation.

The selection of the study area addressed the key environmental and social risks that have potential to constrain transmission line routing, including:

- Biodiversity sensitivity: significant and irreversible impacts to protected areas and broad flora and habitat.
- Social sensitivity: number of land parcels, dwellings, existing land use, heritage, visual impact and rural infrastructure.
- Ground conditions: steep or rocky terrain, problematic soils, waterways and areas prone to inundation.

The resulting study area primarily comprises areas of Category X (unregulated) vegetation and avoids the Good Night Scrub National Park to the south and areas of remnant vegetation to the north. The study area will be further refined through engineering input and consultation with landholders and other stakeholders to seek to minimise impacts on farm infrastructure, visual amenity and aerial mustering areas.

6. Existing Environment

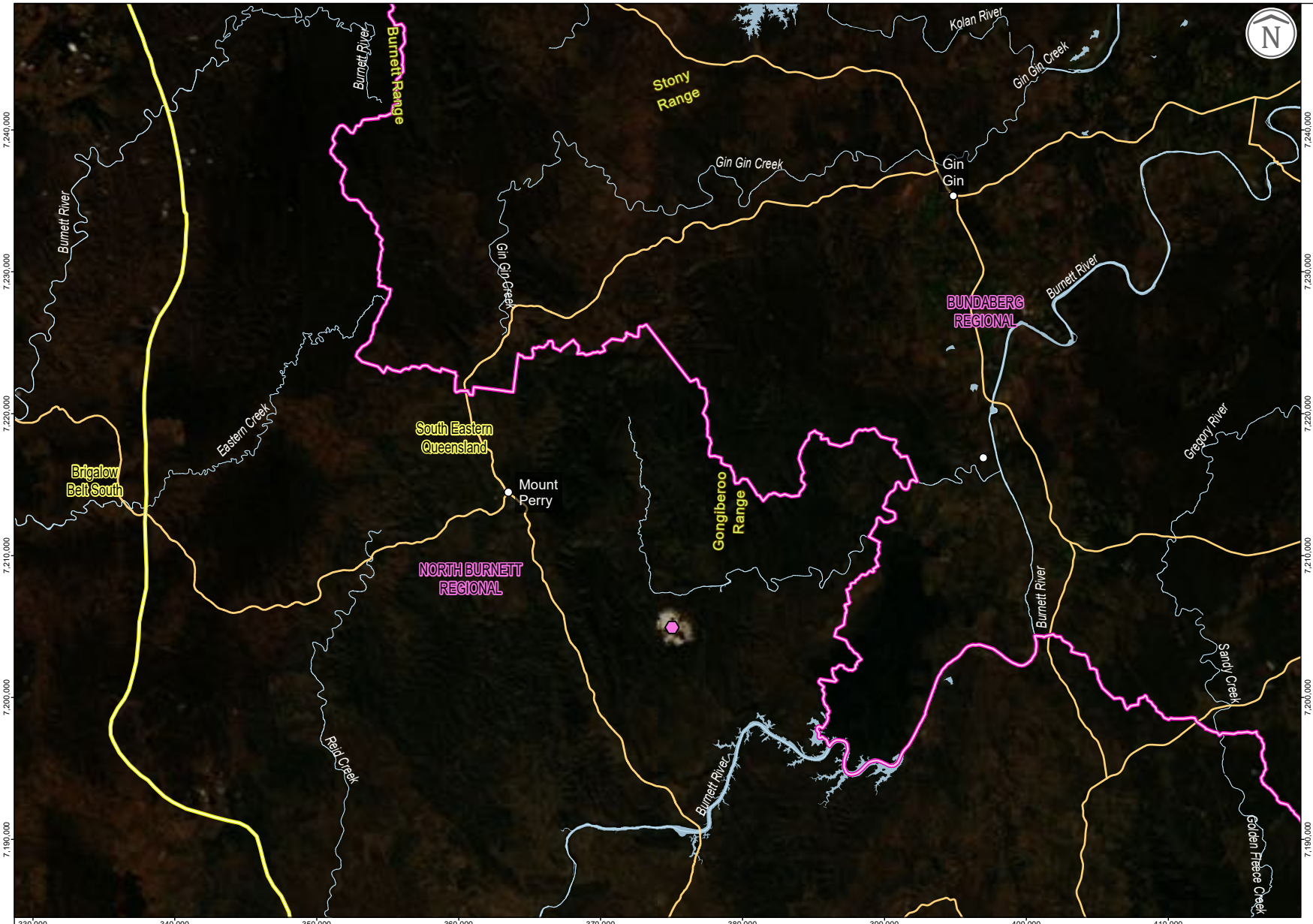
6.1 Natural Environment

The Project primarily lies within the North Burnett Region in the vicinity of the town of Mount Perry, approximately 30 km southeast of the Burnett Range, with the Transmission Line extending into the Bundaberg Region. The Project is situated within the Southeast Queensland Bioregion, (Figure 6.1). The area is characterised by undulating to rugged ranges and alluvial plains, with the most common vegetation being eucalypt woodlands dominated by *Corymbia citridora* (spotted gum) and *Eucalyptus crebra* (narrow-leaved ironbark). The Project is set within the Burnett drainage basin, which features drainage lines that drain into several eastern-flowing rivers. (Department of Agriculture, Water and Environment (DAWE), 2008).

PROJECT AREA

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE 6.1



Mt Rawdon site
Town
Road
Watercourse
Local Government Area
Bioregion

Issue Date: 2022.04.21

Map ID: 01386A_IAS_GIS001

Figure Number: 01386A_IAS_F06-1_GIS_v0-i_es

ERIAS, 13-25 Church Street
Hawthorn VIC 3122, Australia

DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.

6.1.1 Climate

The bioregion of Southeast Queensland is categorised as a subtropical climate with a distinct drier season over the winter months, and a hot and humid season during the summer months (Bureau of Meteorology, (BoM) 2021). Rainfall in the North Burnett Region is largely governed by the seasons; with the summer season bringing higher rainfall.

The closest, most complete BOM rainfall records are from Mt Perry The Pines Station (Station No. 039070), located 1.7 km northwest of the Project. Mt Perry The Pines Station has an average rainfall of 896 mm per year, with a wet season from December to February and the driest months in August and September. As the Mt Perry The Pines Station (Station No. 039070) does not maintain a temperature record, the closest comparable BOM station is Gayndah Airport (Station No. 039066), approximately 48 km south of the project site. Mean daily maximum temperatures at the Gayndah Airport (Station No. 039066) vary from 34ºC to 23ºC throughout the year, with the warmest months being December to February, and the coolest temperatures in June and July (BoM, 2021).

6.1.2 Geology and Soils

Geological mapping shows the project is primarily situated on a surface geology formation of volcanic and metamorphic rock. The soils of the bioregion are described as plains of dermosols and clay deposits, basalt and alluvium scattered with undulating and hilly terrain (DNRME, 2021). Table 6.1 describes the surface geological groups present within the project site, as per geological mapping (1:100,000) (DNRME, 2021).

Table 6.1 – Surface Geological Groups

Rock Group	Description
Ra	Andesitic to rhyolitic flow and volcaniclastics
Ccs	Quartzose sandstone, mudstone; local quartz-muscovite-biotite schist
Ra/b	Aphyric or sparsely phyric basalt lava

6.1.3 Land

The Generation Facility site comprises the existing mine site, an adjacent lot (which will host the upper storage and connecting tunnels) and a water pipeline feeding the lower storage. The adjacent lot and water pipeline corridor are currently mapped as being used for grazing native vegetation. The Transmission Line study area is predominantly mapped as grazing native vegetation with scattered fragments of residential and irrigated modified pastures (DNRME, 2021).

Neither the subject sites nor the surrounding land is designated as either class A or class B agricultural land under the State Planning Policy (DNRME, 2021).

The Project and the surrounding land are within the Rural zone under the North Burnett Regional Council's Planning Scheme and within the Regional Landscape and Rural Production Area under

the Wide Bay Burnett Regional Plan. The timber reserve adjacent to the proposed upper storage is also designated under the Planning Scheme as being within the Conservation Precinct.

The nearest protected areas outside of the project area are the Goodnight Scrub National Park, approximately 8 km east-southeast of the existing mine and 1 km east of the transmission line study area and the Mount Blandy Conservation Park to the south, neither of which are likely to be affected by the project. There are no National or World Heritage Listed Properties, Ramsar Wetlands, Commonwealth marine areas, Commonwealth Land or Commonwealth heritage places within the project area.

6.1.4 Topography and Drainage

The Project is located in Southeast Queensland and the North Burnett Region. Satellite imagery indicates the Project is located in an area comprising of vast rugged ranges and mountainous terrain amongst a mosaic of alluvial plains and grazing fields. The existing mine is situated in the moderate relief slopes of the Burnett Range at approximately 170 m asl and is surrounded by increasing elevations of surrounding ridges reaching up to 440 m asl, which provide the elevation change necessary for the upper storage site. The ridges are several hundred metres higher than the interspersed grazing plains which sit at an average elevation of 120 m asl.

Surface water within the Generation Facility site, Water Pipeline Corridor and Transmission Line study area flows predominantly to the east. Latticed watercourses flow into the Perry River 1 km to the northeast of the Project and the Burnett River 8 km to the southeast of the project (Figure 6.2). The Perry River flows east for approximately 32 km before joining the east-flowing Burnett River, which eventually discharges to the Coral Sea approximately 88 km northeast of the project site.

PROJECT AREA WATERCOURSES AND TOPOGRAPHY

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE 6.2

Road
Access track
Underground tunnel
Dam wall
Water pipeline corridor
Watercourse
Contours (10 m)
Major
Minor
Power generation

Issue Date: 2022.05.10

Map ID: 01386A_IAS_GIS002

Figure Number: 01386A_IAS_F06-2_GIS_v0-j_es

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Hawthorn VIC 3122, Australia

DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.
Imagery © ESRI, DigitalGlobe and Partners, 2021.

6.1.5 Surface and Groundwater

The Project is located within Lower Burnett sub-catchment of the Burnett Basin Catchment. Swindon Creek and Twelve Mile Creek (Figure 7.2) are ephemeral creeks adjacent to the current mined area that flow to the northeast and discharge to the Perry River. Mingham Creek and Outside Creek are adjacent to the proposed upper storage site and course generally to the south to discharge into the Burnett River and eventually the Coral Sea.

There are no wetlands of high ecological significance in proximity to the upper storage, waterway tunnels, power station, lower storage, water pipeline or the transmission line study area (DNRME, 2021). The Water Pipeline corridor (see figure 1.1) connects the Generation Facility site to Paradise Dam.

Studies undertaken by Northern Resource Consultants (NRC, 2015) for the existing mine indicate that groundwater aquifers at the existing mine site are believed to be highly localised and discontinuous, with depth to groundwater varying widely. A search of Queensland Globe database (DNRME, 2021) of registered groundwater bores within the entire Project area (generation facility, transmission line study areas, water pipeline corridor) indicated that the only registered groundwater bores were those encompassing Mt Rawdon mine site used for mine water monitoring.

Drilling records for monitoring bores within the mine site indicate the presence of three main hydrogeological units:

- Regolith: This layer comprises an organic-rich topsoil layer less than a metre thick, underlain by a gravel, sand or clay layer from 1 to 4m thick and highly decomposed igneous rocks up to 15m in thickness. The regolith is only permanently saturated near mine water storages and elsewhere all recharge occurs due to rainfall;
- Fractured rock aquifer: Most groundwater bores intercept groundwater in joints and isolated fractures with low storativity. Groundwater bearing zones in fractures rock are mainly aquicludes and isolated or semi-isolated compartments of fractured rock surrounded by competent rock;
- Basement unit: This unit comprises of fresh granite, dacite, rhyolite or granodiorite generally at depths of more than 30m, but close to the surface in some areas. Fracturing intensity in this unit is very low and therefore accounts for very little groundwater flow.

The open pit is currently the main discharge area for groundwater within the mine site, owing to a steep hydraulic gradient and can require dewatering following rain events.

The EIS/IAR will comprehensively model the potential impacts on groundwater movement and water quality under the more dynamic pit water levels that will occur as a consequence of the operation of the pumped hydro facility.

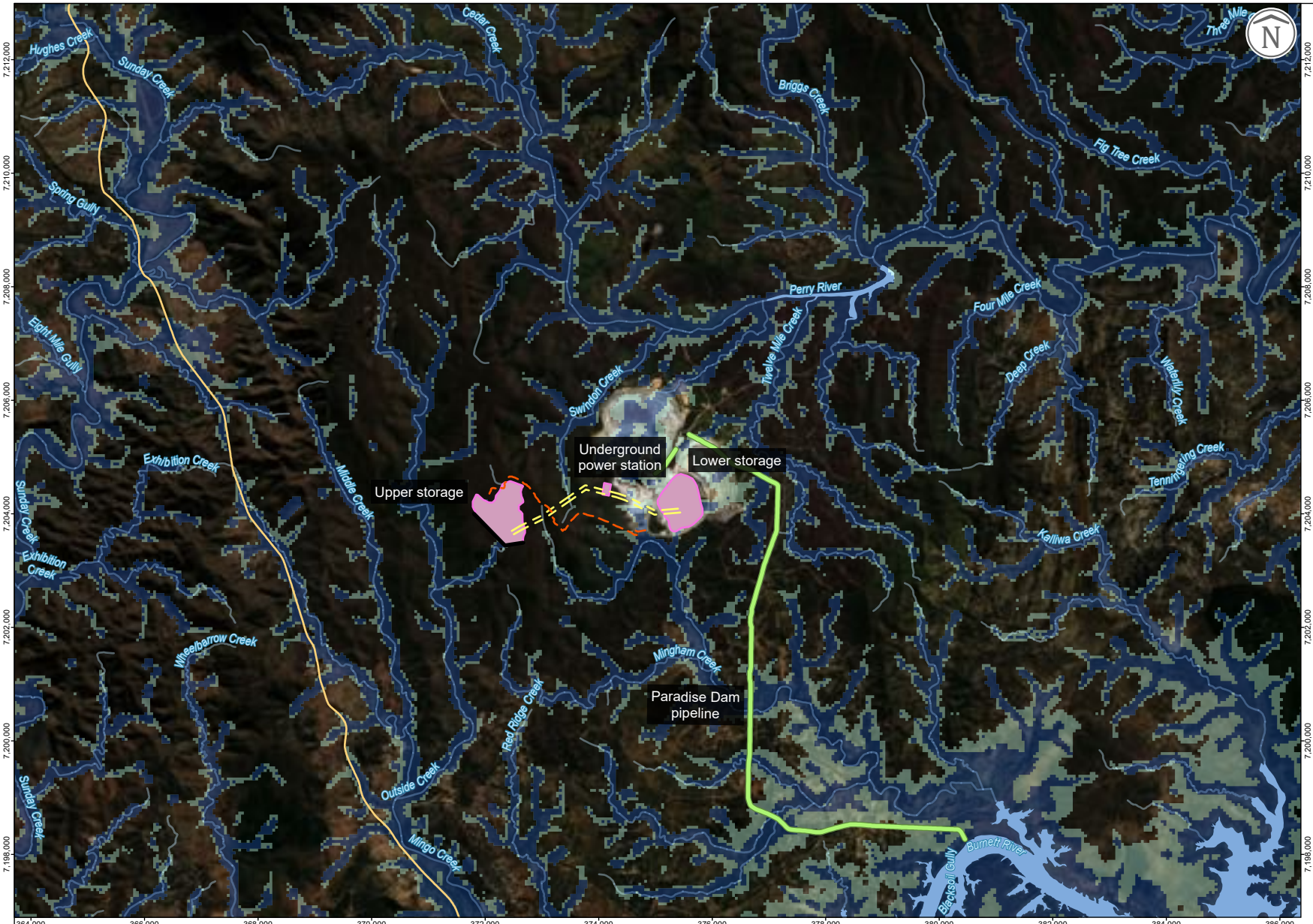
The area can be subject to flooding events (DNRME, 2021) during which drainage channels can distribute fast flowing flood waters within the vicinity of the Project (Figure 6.3), however, the Generation Facility site should remain predominantly unaffected. The Transmission Line study

area should also remain mostly unaffected by flooding, with small areas potentially affected by surrounding natural drainage channels. The water pipeline corridor may be subject to flooding due to the proximity to Paradise Dam (DNRME, 2021).

PROJECT AREA BASIN FLOOD MODELLING

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE 6.3



- Access track
- Underground tunnel
- Dam wall
- Road
- Water pipeline corridor
- Watercourse
- Power generation

Basin level flood modelling

- Extreme basin events flood levels
- Basin 1% AEP flood level

Issue Date: 2022.05.10

Map ID: 01386A_IAS_GIS006

Figure Number: 01386A_IAS_F06-3_GIS_v0-h_es

ERIAS

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Hawthorn VIC 3122, Australia

DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.
Imagery © ESRI, DigitalGlobe and Partners, 2021.

6.1.6 Air Quality

Apart from the existing mine site, the project is located within a primarily rural landscape, without any nearby industrial activities which are likely to be a source of air emissions (Department of Natural Resources, Mines and Energy (DNRME), 2021).

6.2 Ecosystems, Flora and Fauna

6.2.1 Native Terrestrial Flora and Vegetation

The majority of the existing mine site is mapped as Category X vegetation (Department of Agriculture, Water and Environment (DAWE),2020). Category X areas are areas not regulated by the vegetation management laws. The lots proposed to contain the upper storage, lower storage, underground waterway tunnels and underground power station (lot 38 on BON 559 and part of lot 2 on SP138073) contain areas mapped as Category B remnant vegetation (Figure 6.4). These areas are mapped on the regional ecosystem database as being sub-dominant 'of concern' regional ecosystem, while the water pipeline contains scattered areas mapped as Category C 'endangered' vegetation (Table 6.2). These areas will be impacted by the Project construction activities and mitigation and management measures including field surveys and an environmental management plan (EMP) will be implemented to mitigate these risks.

Lot 38 also includes a small area of 'endangered regional ecosystem' which is mapped as essential habitat; however, this area is unlikely to be within the project footprint.

No part of the Generation Facility site or Water Pipeline Corridor is mapped as high-risk on the protected plants flora survey trigger map, indicating that threatened flora is less likely to be found in these areas. The Generation Facility site, however, is located within 5 km of areas mapped as high-risk in the protected plants flora survey trigger map, (DNRME, 2021) which are more likely to contain endangered, vulnerable or near threatened native plants. The Transmission Line study area also contains small, scattered patches of areas mapped as high-risk for protected plants. Ecological field surveys will be undertaken to determine whether protected plant species are found in any part of the Project site. The results of this survey will also influence the final Transmission Line corridor.

A biodiversity offset area (Figure 6.5) has been established and managed under the conditions of the current Environmental Authority for the mine. The project is not expected to affect the offset area.

Table 6.2 – Regional Ecosystems within the Project Area

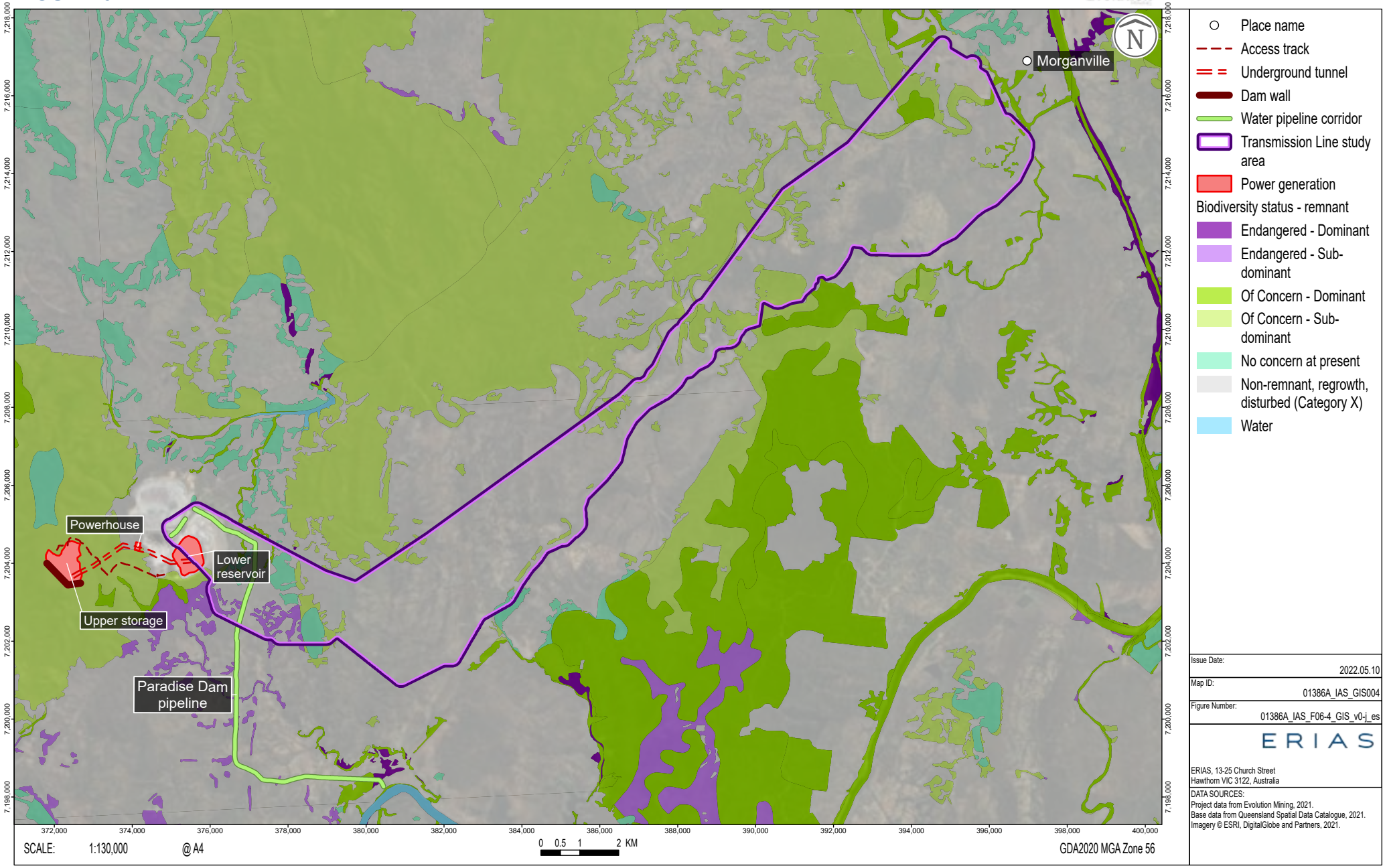
Regional Ecosystem	Status*	Category	Short Description
12.11.12	Of concern	B	*Araucarian* complex microphyll vine forest on metamorphics +/- interbedded volcanics; usually northern half of bioregion
12.11.8	Of concern	B	*Eucalyptus melanophloia, E. crebra* woodland on metamorphics +/- interbedded volcanics
12.3.3	Endangered	C	*Eucalyptus tereticornis woodland on Quaternary alluvium*
12.12.5	Least concern	B	*Corymbia citriodora subsp*. 6–10a*riegate*, *Eucalyptus crebra* woodland on Mesozoic to Proterozoic igneous rocks
12.11.6	Least concern	B	*Corymbia citriodora subsp. variegata*, *Eucalyptus crebra* woodland on metamorphics +/- interbedded volcanics

*Status refers to VMA Class Status (DNRME, 2021).

PROJECT AREA REGIONAL ECOSYSTEMS

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE 6.4



Place name
Access track
Underground tunnel
Dam wall
Water pipeline corridor
Transmission Line study area
Power generation

Biodiversity status - remnant

Endangered - Dominant
Endangered - Sub-dominant
Of Concern - Dominant
Of Concern - Sub-dominant
No concern at present
Non-remnant, regrowth, disturbed (Category X)
Water

Issue Date: 2022.05.10
Map ID: 01386A_IAS_GIS004
Figure Number: 01386A_IAS_F06-4_GIS_v0-j_es

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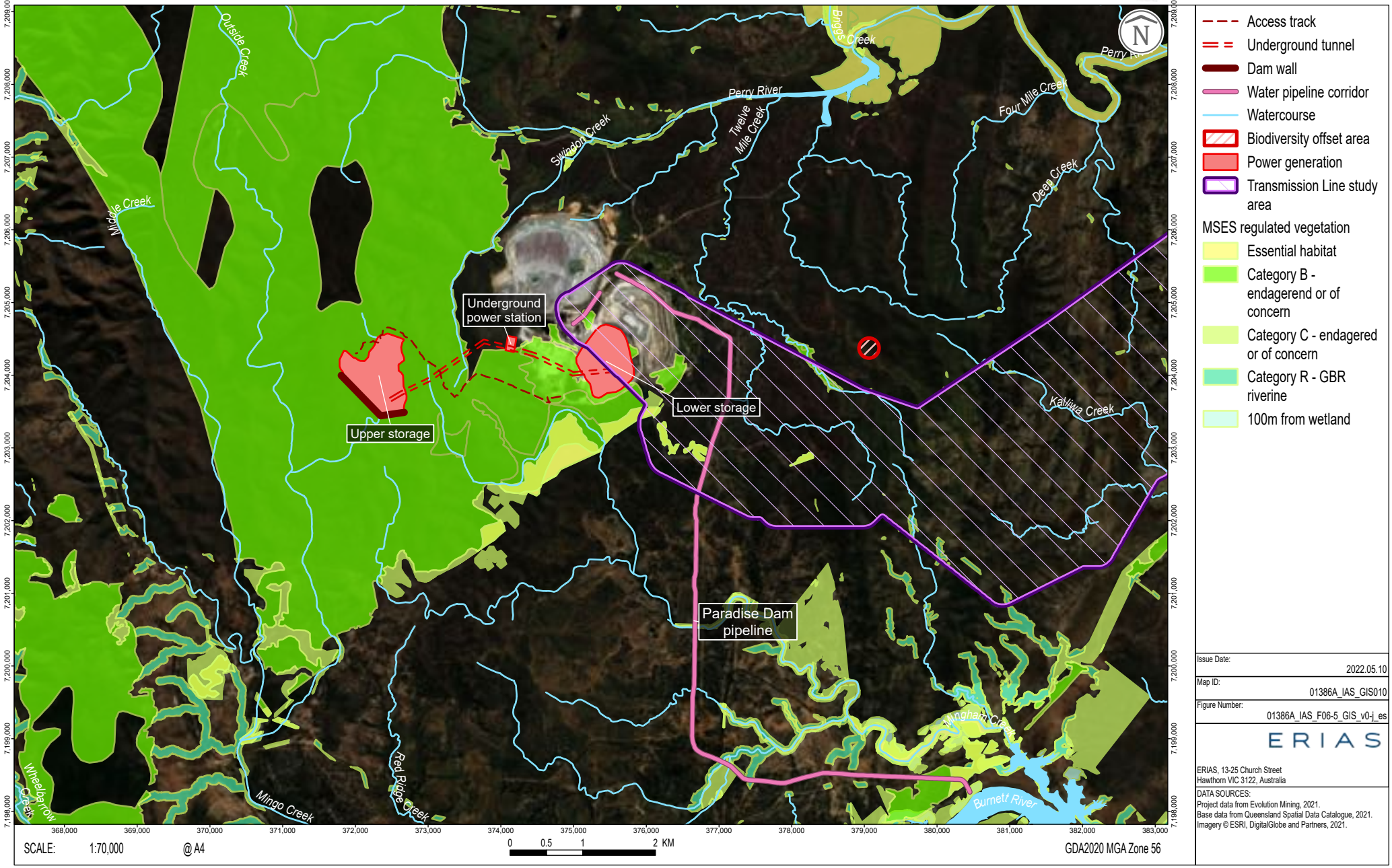
Hawthorn VIC 3122, Australia

DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.
Imagery © ESRI, DigitalGlobe and Partners, 2021.

MOUNT RAWDON BIODIVERSITY MSES OFFSET AREA

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE 6.5



Issue Date: 2022.05.10

Map ID: 01386A_IAS_GIS010

Figure Number: 01386A_IAS_F06-5_GIS_v0-j_es

ERIAS, 13-25 Church Street
Hawthorn VIC 3122, Australia

DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.

A search of the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (PMST) (Department of Agriculture, Water and Environment (DAWE, 2021) shows there are three listed threatened ecological communities with the potential to occur within 10 km of any part of the Project, namely:

- Coastal swamp oak (*Casuarina glauca)*. An endangered ecological community native to south Queensland which may occur within the area.
- Lowland rainforest of subtropical Australia. A critically endangered ecological community which is likely to occur in the area.
- Poplar box grassy woodland on alluvial plains. An endangered ecological community that may occur within the area.

The PMST also shows 19 listed threatened flora species as potentially occurring within 10 km of the Project, as shown in Table 6.3.

Table 6.3 – EPBC Flora Within 10 km of the Project Area

Common Name	Scientific Name	QLD (NC) Status	National (EPBC) Status	Likelihood
	Acacia grandifolia		VU	Species or species habitat may occur within the area
Isis tamarind	*Alectryon ramiflorus*		EN	Species or species habitat likely to occur within the area
Hairy-joint grass	*Arthraxon hispidus*		VU	Species or species habitat likely to occur within the area
Three-leaved bosistoa, yellow saintheart	*Bosistoa transversa*		VU	Species or species habitat likely to occur within the area
Hoop pine orchard/ Miniature moss orchid	*Bulbophyllum globuliforme*		VU	Species or species habitat likely to occur within the area
Ooline	*Cadellia pentastylis*		VU	Species or species habitat may occur within the area
Cossinia	*Cossinia australiana*		EN	Species or species habitat known to occur within area
Wedge-leaf Tuckeroo	*Cupaniopsis shirleyana*		VU	Species or species habitat known to occur within area
	Cycas megacarpa	EN	EN	Species or species habitat known to occur within area*
	Cycas ophiolitica		EN	Species or species habitat likely to occur within the area

Common Name	Scientific Name	QLD (NC) Status	National (EPBC) Status	Likelihood
Bluegrass	*Dichanthium setosum*		VU	Species or species habitat likely to occur within the area
	Fontainea venosa		VU	Species or species habitat may occur within the area
Black Ironbox	*Eucalyptus raveretiana*		VU	Species or species habitat may occur within area
Macadamia Nut	*Macadamia integrifolia*		VU	Species or species habitat likely to occur within the area
Pineapple zamia	*Macrozamia pauli-guilielmi*		EN	Species or species habitat likely to occur within the area
Lesser-swamp orchid	*Phaius australis*		EN	Species or species habitat likely to occur within the area
Austral cornflower	*Rhaponticum australe*		VU	Species or species habitat likely to occur within the area
Quassia	*Samadera bidwillii*		VU	Species or species habitat likely to occur within the area
	Sophora fraseri		VU	Species or species habitat may occur within the area

EPBC status: EN = Endangered, VU = Vulnerable.

Several Weeds of National Significance (WoNS) that are likely to occur in the project area were also identified in the desktop search and in the earlier baseline survey undertaken by NRC (NRC, 2013) which included:

- Climbing asparagus fern (*Asparagus plumosus).*
- Bitou bush (*Chrysanthemoides monilifera*).
- Rubber vine (*Cryptostegia grandiflora).*
- Cat's claw (*Dolichandra unguis-cati).*
- Lantana (*Lantana camara).*
- Prickly pears (*Opuntia spp).*
- Parthenium weed (*Parthenium hysterophorus).*

6.2.2 Native Fauna

The proposed site for the upper storage is within a densely wooded forest, interspersed with latticing water courses that are home to a variety of native fauna species (DNRME, 2021), while the Transmission Line and Water Pipeline corridors are primarily cleared grazing land

interspersed with smaller patches of native vegetation. A search of the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (PMST) (Department of Environment and Energy (DoEE), 2021 showed that there are 23 listed threatened fauna species including 11 birds, 1 fish, 7 mammals and 4 reptiles with the potential to occur within 10 km of the Project as shown in Table 6.4.

Table 6.4 – EPBC Fauna Within 10 km of the Project Area

Common Name	Scientific Name	QLD (NC) Status	National (EPBC) Status	Likelihood
Birds				
Curlew sandpiper	*Calidris ferruginea*		CE	Species or species habitat may occur within area
Coxen's fig parrot	*Cyclopsitta diophthalma coxeni*		E	Species or species habitat may occur within area
Red goshawk	*Erythrotriorchis radiatus*		V	Species or species habitat known to occur within area
Grey falcon	*Falco hypoleucos*		V	Species or species habitat likely to occur within area
Squatter pigeon	*Geophaps scripta scripta*		V	Species or species habitat likely to occur within area
Painted honeyeater	*Grantiella picta*		V	Species or species habitat may occur within area
White-throated needletail	*Hirundapus caudacutus*		V	Species or species habitat known to occur within area
Star finch	*Neochmia ruficauda*		E	Species or species habitat likely to occur within area
Eastern curlew	*Numenius madagascariensis*		CE	Species or species habitat likely to occur within area
Australian painted snipe	*Rostrautla australis*		E	Species or species habitat likely to occur within area
Black breasted button quail	*Turnix melanogaster*		V	Species or species habitat likely to occur within area
Fish				
Australian lungfish	*Neocreatodus forsteri*		V	Species or species habitat known to occur within area
Mammals				
Large eared pied bat	*Chalinolobus dwyeri*		V	Species or species habitat may occur within area
Northern quoll	*Dasyurus hallucatus*		E	Species or species habitat likely to occur within area
Spot-tailed quoll	*Dasyurus maculatus*		E	Species or species habitat may occur within area

Common Name	Scientific Name	QLD (NC) Status	National (EPBC) Status	Likelihood
Corben's long-eared bat	*Nyctophilus corbeni*		V	Species or species habitat may occur within area
Greater glider	*Petauroides volans*	V	V	Species or species habitat known to occur within area
Koala	*Phascolarctos cinereus*	V	E	Species or species habitat likely to occur within area
Grey-headed flying fox	*Pteropus poliocephalus*		V	Foraging, feeding or related behaviour known to occur within area
Reptiles				
Adorned delma	*Delma torquate*		V	Species or species habitat may occur within area
Yakka skink	*Egernia rugosa*		V	Species or species habitat may occur within area
White-throated snapping turtle	*Elseya albagula*		CE	Species or species habitat known to occur within area
Dunmall's snake	*Furina dunmalli*		V	Species or species habitat may occur within area

EPBC statues: E = Endangered, V = Vulnerable, CE = Critically Endangered.

Pest fauna that may occur within the Project area (DoEE, 2020) includes cane toads, goats, cats, house mice, rabbits, feral pigs and red foxes.

6.2.3 Aquatic Environment

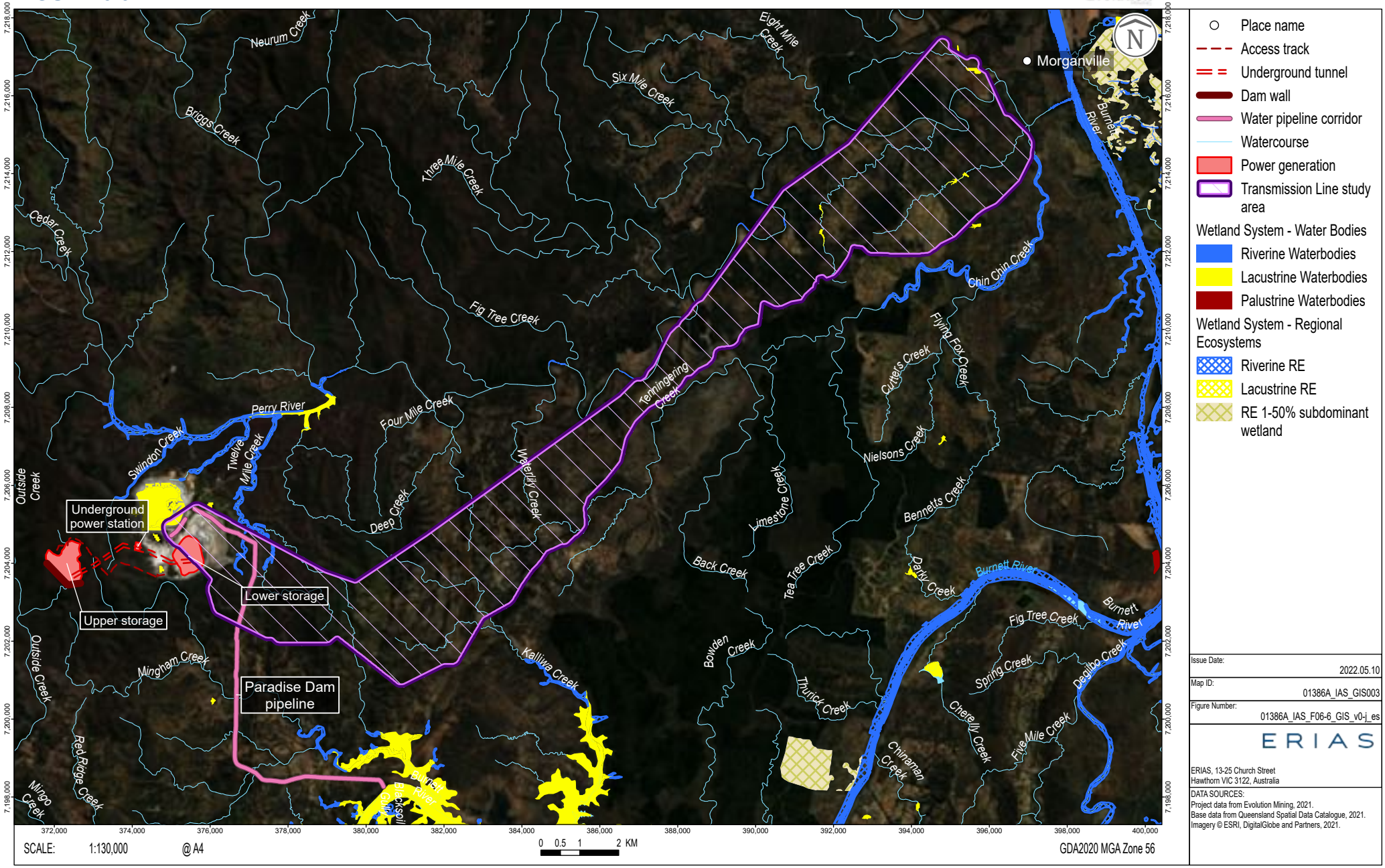
The Project is located in a lattice of riverine wetland ecosystem watercourses (DNRME, 2021) that connect the Perry River and the Burnett River (Figure 6.6)[8] No wetlands occur within the Transmission Line study area; however, the Water Pipeline corridor intersects the lacustrine wetland located on the Burnett River (Figure 6.6), at Paradise Dam.

[8] Of note in Figure 6.6 is the Mount Rawdon mine tailings storage facility, parts of the mine pit and other mine areas shown as Lacustrine Waterbodies. While this is clearly incorrect, the DNRME data defines these as Lacustrine Waterbodies and therefore these have been left as such in the figure.

MOUNT RAWDON WETLAND ECOSYSTEMS

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE 6.6



- Place name
- Access track
- Underground tunnel
- Dam wall
- Water pipeline corridor
- Watercourse
- Power generation
- Transmission Line study area

Wetland System - Water Bodies

- Riverine Waterbodies
- Lacustrine Waterbodies
- Palustrine Waterbodies

Wetland System - Regional Ecosystems

- Riverine RE
- Lacustrine RE
- RE 1-50% subdominant wetland

Issue Date: 2022.05.10

Map ID: 01386A_IAS_GIS003

Figure Number: 01386A_IAS_F06-6_GIS_v0-j_es

ERIAS, 13-25 Church Street
Hawthorn VIC 3122, Australia

DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.
Imagery © ESRI, DigitalGlobe and Partners, 2021.

In 2020, SLR (SLR, 2020) undertook aquatic sampling of surface waters, sediments and macroinvertebrate bioindicators at fourteen sites within a 5-km-radius of the mine site to analyse the impacts of the receiving environment from mining activities. During the campaign, 48 macroinvertebrate taxa were sampled within the project area. *Cladocera* (Water Fleas) were the most abundant taxa, with more than 1,300 individuals being collected. *Copopoda* (Copepods) and *Ostracota* (Seed Shrimp) were also highly abundant compared to other taxa, with 342 and 351 individuals collected, respectively. *Dytiscidae* (predaceous water beetles), *Chironominae* and *Tanypodinae* (non-biting midges), *Baetidae* (small Mayflies), *Acarina* (mites), *Leptoceridae* (Long-horned Caddisflies), and *Cordulid libellulid* were all moderately abundant, with 60 to 127 individuals collected, respectively. The endangered Australian Lungfish (*Neocreatodus forsteri)* is also known to occur in the area, being endemic to the Burnett River systems.

The majority of the veining watercourses are ephemeral, however a field survey undertaken by NRC (NRC, 2013) indicated several aquatic species were present at the time of survey. Five amphibian species were observed during the fauna survey, including four native species and the introduced Cane Toad (*Rhinella marina*). The Desert Tree Frog (*Litoria rubella*) and the Broad-palmed Frog (*Litoria latopalmata*) were observed at numerous locations to the north of the generation facility, while the Smooth Toadlet (*Uperoleia laevigata*) and the Northern Banjo Frog (*Limnodynastes terraereginae*) were both captured in the south of the Generation Facility.

6.3 Social and Economic Environment

The closest populated town is Mount Perry, located 20 km northwest of the Generation Facility site. The small town has a population of 538 people (Australian Bureau of Statistics (ABoS), 2016), with 52.1% being male and 47.9% being female. The median age of Mount Perry residents is 51 and the median weekly household income is $883 (ABoS, 2016).

Mount Perry has one police station, one general store, one medical centre, a post office and one primary state school (DNRME, 2021). The closest pharmacy and hospital are located 55 km northeast in Gin Gin, where the closest grocery store and secondary school are also located. There are three accommodation options available in Mt Perry with a hotel and a motel which provide meals and a caravan park all of which are serviced by a general store, mechanic workshop and fuel station/farm supply business. Other amenities such as retail, recreation and additional shopping areas (e.g., larger grocery stores) are located in Bundaberg. Mount Perry also hosts an art gallery, a horse racing track, a town history museum and a library. Bush walking and hiking are known recreational activities.

Mount Perry is a rural farming community, primarily raising cattle, with a high proportion of the surrounding natural environment cleared for grazing lands (DNRME, 2021). Gold mining also continues as an important industry within the area. Evolution Mining owns and operates Mt Rawdon Gold Mine, and they provide annual community tours. The Mount Perry Race Club also runs horse racing events, and the town hosts an annual Mount Perry Show.

The existing Mount Rawdon gold mine currently employs 192 staff and 38 permanent contractors, 85% of which live in the Wide Bay Burnett Region, of which 50% live within the local Mt Perry area.

The other settlement in the vicinity of the Project site is Gin Gin, located approximately 35km northeast of the Generation Facility site. Gin Gin has a population of 1,053 people (ABoS, 2016), with 50% being male and 50% being female. The median age of Gin Gin residents is 51 and the median weekly household income is $729 (ABoS, 2016). The major sources of employment for residents of Gin Gin are primary education (7.2%), supermarket and grocery store (6.3%), citrus growing (5.5%), cattle farming (5.5%) and gold ore mining (5.1%). Gin Gin is also bisected by one of the major heavy vehicle routes running between Southeast Queensland and Gladstone (DNRME, 2021).

Gin Gin has a hospital, police station, ambulance station and SES facility, as well as a pharmacy and grocery store, primary school and high school (DNRME, 2021). Land uses in the surrounding area include cattle grazing, various types of irrigated agriculture and forestry. There are four accommodation providers within Gin Gin itself, and a number of others providing bed and breakfast style accommodation in the surrounding area. Other amenities available within Gin Gin include a library and public swimming pool, fitness hub and the Gin Gin Recreation Reserve which provides a playground and barbecue facilities.

6.4 Accommodation and Housing

The Project will include a temporary construction camp which will accommodate the construction workforce (approximate 300 to 500 people). The location of the construction camp will be finalised during feasibility studies.

The 25 to 30 permanent staff during the operational phase of the Project are unlikely to place significant pressure on the availability or cost of accommodation in the local area. It is assumed that the operational staff will obtain accommodation in one of the local communities being either Mount Perry (20 km northwest of the project) or Gin Gin (35 km northeast of the project). The demand for accommodation near the site will also be driven by the closure of mining at the Mt Rawdon Gold Mine and the extent to which Evolution is able to transition existing local mine staff into jobs at the Generation Facility.

6.5 Cultural Heritage

In Queensland cultural heritage is governed at the state level by the *Queensland Heritage Act 1992 (Qld)* (QHA), the *Aboriginal Cultural Heritage Act 2003 (Qld)* (ACHA) and the *Torres Strait Islander Cultural Heritage Act 2003 (Qld).* Places of local heritage significance are also protected by local governments under the QHA/*Planning Act 2016 (Qld)*.

The Queensland Heritage Register is a list of State Heritage Places which contribute to an understanding of the wider pattern and evolution of Queensland's history and heritage (excluding indigenous cultural heritage, which is protected under separate legislation). No part of the Project is listed in the Queensland Heritage Register under the *Queensland Heritage Act 1992 (Qld)*.

Local governments either maintain a local heritage register or identify local heritage places in their planning scheme. No part of the Project Area is identified as a local heritage place under the North Burnett Heritage Register or subject to the relevant overlay under the *Bundaberg Planning Scheme 2015*.

Aboriginal cultural heritage is protected under the ACHA which establishes a cultural heritage duty of care to take all reasonable and practicable measures to ensure the activity does not harm Aboriginal Cultural Heritage.[9] There are a number of different ways of complying with the cultural heritage duty of care, however, if the Project requires an EIS then compliance must be by way of a Cultural Heritage Management Plan.[10]

Limited information on Aboriginal cultural heritage is available for the Project area, with the exception of the mine site. A previous cultural heritage study was undertaken within the mine area by Archaeo in 2013 (Archaeo, 2013) and reported a low probability of cultural artefacts and aboriginal heritage in the mine site area. While this aboriginal cultural heritage survey was carried out to the west of the mine site, it did not include any areas of the Project. A cultural heritage survey will be undertaken within the Generation Facility site, Transmission Line study area and Water Pipeline corridor to identify any cultural heritage sites or artefacts.

6.6 Built Environment

The Generation Facility and Transmission Line study area are located in primarily rural areas and are not in the vicinity of any coordinated projects or infrastructure mapped under the State Planning Policy. The only infrastructure within the vicinity of the Project is the Mount Rawdon Gold Mine and a scattering of residential properties, including farming infrastructure, which undertake intensive agriculture and irrigation activities within the Transmission Line study area.

6.7 Traffic and Transport

Traffic volumes in the vicinity of the Project are low, with the majority of vehicles being mining transportation and Mount Perry town residents. (Department of Transport and Main Roads, 2021). The Queensland government has recently provided to the North Burnett region an $8 million grant to upgrade the Monto-Mount Perry Road, allowing easier access to the town from the main Bruce Highway.

6.8 Land Use and Tenure

The Project is within the area which is the subject of a consent determination by the National Native Title Tribunal that native title exists over certain land within the area, the determination was made on 28 November 2017 and came into effect on 3 May 2018.

The native title holders are the Bailai, Gurang, Gooreng Gooreng and Taribelang Bunda people, represented by the Port Curtis Coral Coast Trust Limited (PCCC) (Tribunal file number QDC2017/010; Federal Court File number QUD6026/2001). The site of the Generation Facility and Water Pipeline contain only freehold land (see section 4.2), however, the native title determination indicates that non-exclusive native title exists over Lot 38 on BON559. The study area for the Transmission Line contains a mix of tenures, however, land subject to the native title determination is generally limited to the bed and banks of the Perry River. As a consequence, it is

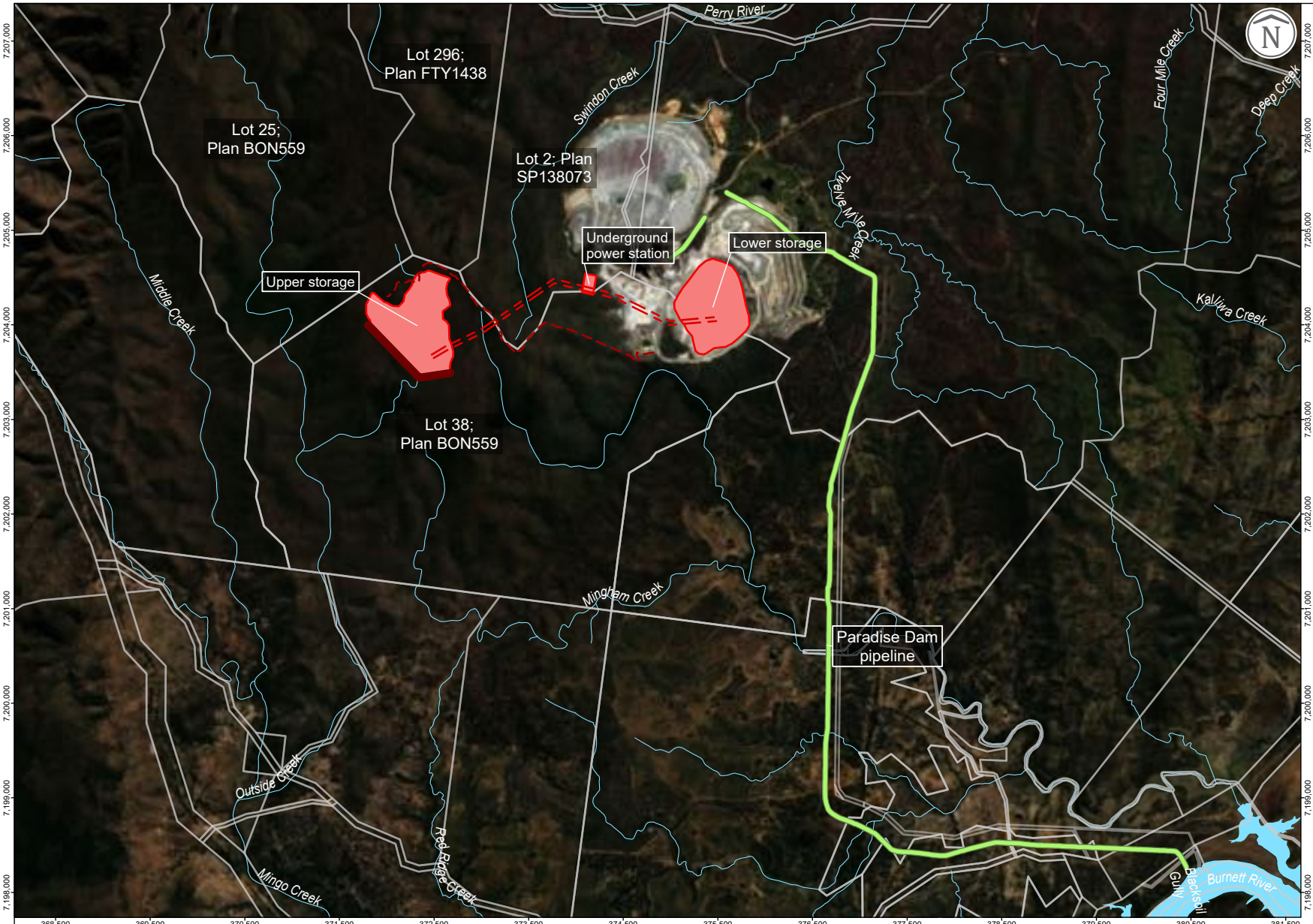
[9] *Aboriginal Cultural Heritage Act 2003*, s.23
[10] *Aboriginal Cultural Heritage Act 2003*, s.87

possible that native title processes will also be required for land within the final transmission line alignment.

LAND USE AND TENURE: GENERATION FACILITY

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE 6.7



Access track
Underground tunnel
Dam wall
Water pipeline corridor
Watercourse
Power generation
Lot boundary

Issue Date: 2022.05.10

Map ID: 01386A_IAS_GIS007

Figure Number: 01386A_IAS_F06-7_GIS_v0-h_es

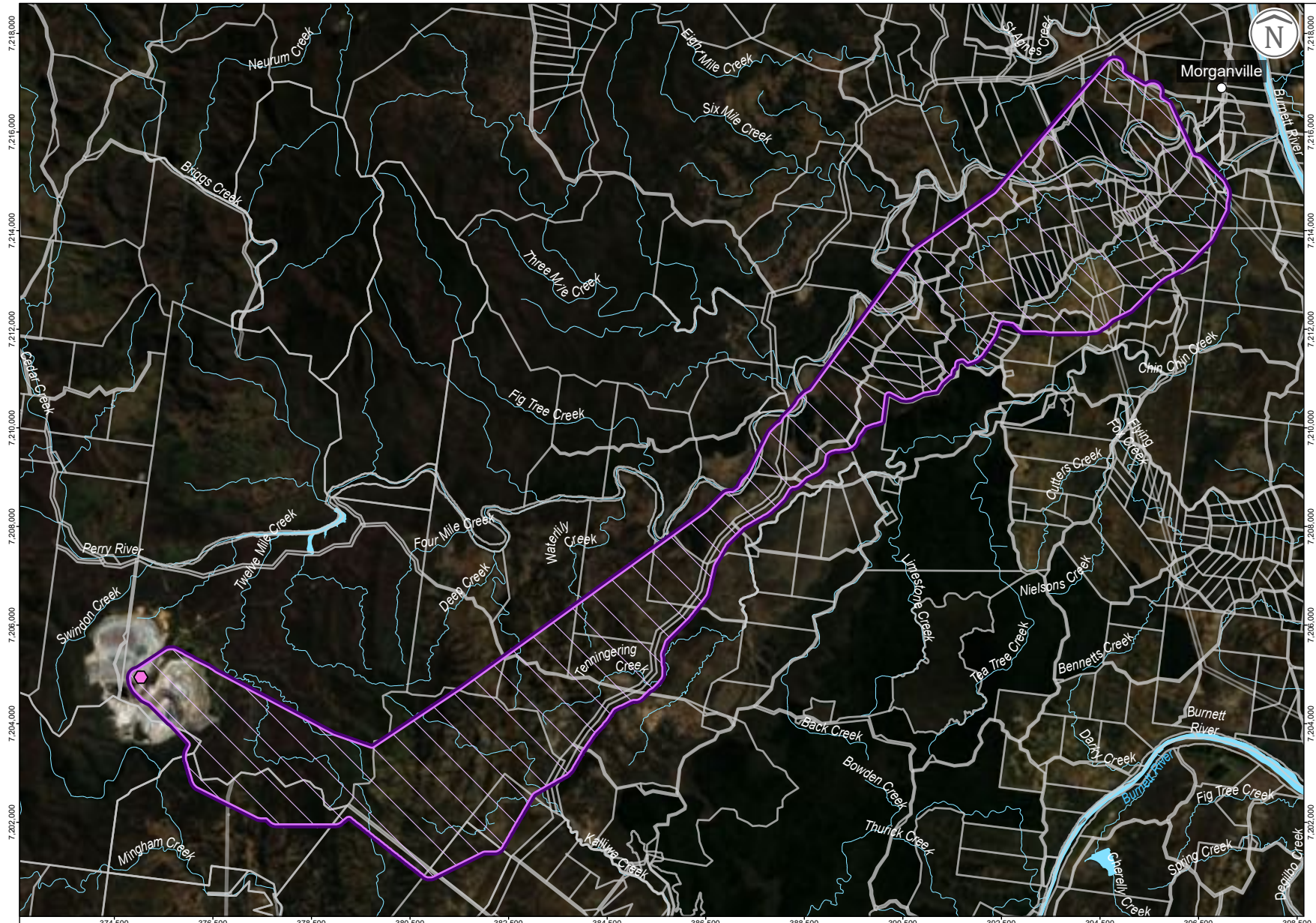
ERIAS, 13-25 Church Street
Hawthorn VIC 3122, Australia

DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.

LAND USE AND TENURE: TRANSMISSION LINE

Mount Rawdon Hydro Project | Initial Advice Statement

FIGURE 6.8



Mt Rawdon site

Place name

Watercourse

Transmission Line study area

Lot boundary

Issue Date: 2022.05.10

Map ID: 01386A_IAS_GIS012

Figure Number: 01386A_IAS_F06-8_GIS_v0-f_es

ERIAS

ERIAS, 13-25 Church Street
Hawthorn VIC 3122, Australia

DATA SOURCES:
Project data from Evolution Mining, 2021.
Base data from Queensland Spatial Data Catalogue, 2021.
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6.8.1 Queensland Government Planning Framework

The primary policy frameworks relevant to the Project are the planning framework in effect under the *Planning Act 2016* and the framework for the rehabilitation of mined land in effect under the *Environmental Protection Act 1994*.

The Generation Facility site is located within the area of the *North Burnett Regional Planning Scheme* and within the *Wide Bay Burnett Regional Plan*.

The Strategic Outcomes identified in the *North Burnett Planning Scheme* include the intention that North Burnett make good use of potential renewable energy sources within its region and minimises consumption of energy from non-renewable resources.

The policies contained in the *Wide Bay Burnett Regional Plan* include improved public access to renewable energy options and that, upon cessation of mining, former mining areas are rehabilitated to facilitate multiple end-uses of sites, ensuring their continuing contribution to the economic, social and environmental values of the region.

The intent of the rehabilitation framework contained in the *Environmental Protection Act 1994* is to ensure that land disturbed by mining activities is rehabilitated to a safe and stable landform that does not cause environmental harm and can sustain an approved post-mining use of land.

6.8.2 Water

The Project will require an initial allocation of at least 24 GL of water to fill the upper storage, following which the water needs of operational facility are likely to be met through inflows and the existing water rights held by the mine.

The Project is within the area of the *Water Plan (Burnett Basin) 2015* under the *Water Act 2000 (Qld)*. There is unallocated water available under the water plan, including water held as a strategic reserve and water held in a strategic water infrastructure reserve.

Water from the strategic reserve may be made available for the 'State purposes' of either a coordinated project or a project of regional significance.[11] Water held in the strategic water infrastructure reserve is not currently required for the purposes for which it was reserved (being to supply planned-for infrastructure) and could be made temporarily available to other projects of significance, such as Coordinated Projects.[12] As a consequence, Coordinated project status would allow the project to access water being held in one of the strategic reserves. In each case, the water would be granted only for a short period, which would be limited to the first fill of the proposed storages.

The Proponent has been advised that 16GL/year is currently available in the strategic reserves, which suggests that first fill of the Generation Facility may need to take place over two years or more. The volumes likely to be available in the strategic reserves in future years will depend upon

[11] *Water (Burnett Basin) Plan 2015*, s.37
[12] Advice from Department of Regional Development and Water.

factors including inflows, demand from other projects and water users and capacity of Paradise Dam.

The volume of water estimated to be available in the strategic reserve was based on interim full supply level[13] of Paradise Dam, which was imposed because of the structural and stability issues identified in the dam following the 2011 and 2013 flood events. In December 2021 the Queensland Government announced that Paradise Dam will be returned to its original height following the completion of the Paradise Dam Improvement Project, with major works expected to commence in 2024. The volume of water available in the strategic reserves, is therefore also likely to depend upon the progress of those works.

If insufficient water is available through the strategic reserve, the Proponents may seek additional water through a lease or seasonable assignment of water allocations held by SunWater out of the Burnett River sub-scheme. The availability of water in that sub-scheme will similarly depend upon the future of Paradise Dam.

[13] The interim full supply level of the dam is currently 170,429ML, reduced from 300,600ML

7. Potential Project Impacts and Measures to Avoid or Mitigate

7.1 Physical Environment

7.1.1 Landforms and Soils Impacts

Potential Project-related landform and soil impacts are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction and operations which will result in the residual impacts discussed in Section 7.1.2.

The engineering design of the Project will ensure that subsidence is not a risk for the underground components (i.e. the waterway tunnel and powerhouse) of the Project. The location of the tunnel and underground powerhouse are being finalised through a detailed program of geotechnical drilling and both the tunnel and the powerhouse will be concrete lined.

Vegetation Clearing

Landforms and soils will be disturbed during vegetation clearing activities. There is the potential for erosion once vegetation has been cleared and soil is exposed to wind and rain.

The majority of the vegetation clearing required for the Project will take place in the upper storage site, which is approximately 64ha in area. The balance of the Generation Facility is either located on disturbed land or will be located underground, further minimising the amount of vegetation clearing required for the project.

Vegetation clearing for the Transmission Line has been minimised by locating the investigation area in an area that is predominantly mapped as Category X vegetation; and will be further minimised to the extent practicable through micro-siting of towers.

Vegetation clearing for the Water Pipeline has been minimised by locating the pipeline within or adjacent to the cleared corridor containing the existing water pipeline.

Contamination of Soils

Accidental release of hydrocarbons or hazardous wastes during construction activities have the potential to impact the soils. Affected soils may reduce the likelihood of successfully revegetating areas following construction.

7.1.2 Landforms and Soils Avoidance, Mitigation and Management Measures

Avoidance, management and mitigation measures that will be implemented as part of the Project development are outlined below.

- Limiting vehicle movements to defined access roads and existing operational areas.

- Utilising land-clearing techniques that preserve the rootstock of removed vegetation in the ground (where practicable).
- Undertaking major earthworks and ground disturbance activities during the drier months, wherever practicable when exposed surfaces will be less prone to rainfall erosion and avoiding such works during high rainfall periods.
- Refuelling on impermeable hardstand areas with spill prevention and spill containment kits available in close proximity.
- Providing training to relevant staff in emergency spill response procedures and responsibilities.
- Storage of fuels and chemicals in accordance with Australian Standards.
- Development and implementation of an Environmental Management Plan (EMP).

7.1.3 Surface Water and Groundwater Impacts

Potential Project-related surface water and groundwater impacts are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction and operations which will result in the residual impacts discussed in Section 7.1.4.

Risk of overtopping

Overtopping of the storages during high rainfall events is not considered a risk for the project, due to both catchment size and the volume of water in the system under normal operating conditions. Both storages will have only small catchment areas, which will result in limited inflows during and after rainfall events. During normal operation, the Generation Facility will continuously transfer water between the upper and lower storage – with the result that the storages will have ample spare storage capacity to receive inflows from rainfall events.

Any risk of overtopping is likely to be limited to the risk of over-pumping as a result of equipment malfunction or human error. This risk will be managed through operational procedures and the appropriate design of an emergency spillway.

Fugitive Sediment

The construction of the upper storage, access track, water pipeline and access to develop the underground waterway tunnel and powerhouse has the potential to cause soil erosion with possible discharge of sediment-laden water to the environment, impacting water courses and groundwater systems.

Altered Flow Regimes

Earthworks and vegetation clearing can potentially change overland drainage patterns and increase turbidity in waterways from erosion. Project infrastructure may result in changes to hydrological processes due to alteration of the natural surface drainage regime, including flow

direction, volume, velocity (and associated increased scour potential) and altered flood patterns. Depending on the changes in the flow regimes, riparian vegetation and aquatic fauna associated with creeks and drainage channels in the Project area could be impacted.

Fuels and Chemicals

Fuels, lubricants, and other chemicals used in construction will be stored and used on site, and spillage has the potential to adversely affect aquatic biota and water quality of the area and immediately downstream of the Project.

Water Contamination

The reuse of the current mine pit as the lower storage has the potential to transfer contaminants from the lower storage to the upper storage. These contaminants could discharge to the environment as a result of the upper storage discharging via the emergency spillway or through seepage from the upper storage to groundwater potentially contaminating the water quality of surrounding watercourses.

7.1.4 Surface and Groundwater Avoidance, Mitigation and Management Measures

Avoidance, management and mitigation measures that will be implemented as part of the Project development are outlined below.

- Minimising the area of land cleared.
- Diverting clean water away from disturbed areas.
- Controlling sediment runoff from stockpiles by installing sediment control structures to prevent sediment release to watercourse.
- Avoiding stockpiling spoil and/or topsoil in close proximity to existing drainage lines, maintaining a minimum distance of approximately 50 m, where practicable.
- Undertaking major earthworks and ground disturbance activities during the drier months, wherever practicable when exposed surfaces will be less prone to rainfall erosion and avoiding such works during high rainfall periods.
- Ensure regular water samples are taken, especially immediately after a storm or intense weather events.
- Storing fuels, lubricants and process reagents in bunded and lined areas. Bunding will be implemented in accordance with relevant standards and guidelines including AS 1940 Storage and handling of flammable and combustible liquids and the Australian Dangerous Goods Code.
- Depending upon the quality of the rock present in the upper storage site, measures to prevent seepage from the upper storage to groundwater such as grouting or lining.

- Minimising or avoiding the risk of over-pumping through dam operations systems and procedures and appropriate design of an emergency spillway to minimise safety and environmental risks.

7.1.5 Air Quality and Greenhouse Gas Impacts

Potential Project related air quality impacts are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction, and operations, which will result in the residual impacts discussed in Section 7.1.6.

Dust Emissions

The main air quality issues that will arise from the Project will occur during construction due to the generation of dust emissions as a result of the following activities:

- Site preparation works i.e., topsoil removal.
- Drilling and blasting at proposed quarry site.
- Loading and hauling materials.
- Crushing of rock for use in construction.
- Drilling and tunnelling of access decline, waterway tunnel and powerhouse.
- General vehicle movements within the Project.
- Wind erosion from exposed surfaces i.e., upper storage topsoil stockpiles.
- Construction of water pipeline.

Combustion Emissions

Emissions of combustion products (carbon dioxide, sulphur dioxide, nitrogen dioxide and particulate matter) from the combustion of predominantly diesel fuel during construction has the potential to adversely impact local air quality and contribute to greenhouse gas emissions.

Greenhouse gas emissions

The Project's scope 1 emissions during the construction phase will be predominantly driven by the combustion of fuels for construction equipment and the decomposition of vegetation cleared within the upper storage site; while its scope 2 emissions during this phase will be driven by the emissions intensity of the Queensland electricity grid.

The operational phase of the Project will have a significant beneficial impact in terms of emissions reduction by facilitating the use of increased amounts of variable renewable energy generation, which will offset any emissions from the storages.

7.1.6 Air Avoidance, Mitigation and Management Measures

Avoidance, management and mitigation measures that will be implemented as part of the Project development are outlined below.

Measures to avoid, mitigate and manage the risks associated with emissions to air include:

- Minimising the area of vegetation to be cleared by locating Project components such as temporary facilities on land that has already been disturbed by the mine site.
- Using tarps or covers for trucks and trailers transporting materials to and from the site.
- Maintaining vehicle speed limits on-site.
- Using water for dust suppression on access roads.
- All plant equipment will meet exhaust air quality standards. Vehicles and machinery will be fitted with the appropriate emission control equipment and will be maintained and serviced frequently.
- Prepare and implement a greenhouse gas management plan for both the construction and the operational phases of the project.

7.2 Natural Environment

7.2.1 Flora Impacts

Potential Project-related flora risks are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction and operations, which will result in the residual impacts discussed in Section 7.2.2.

Vegetation will be cleared to accommodate Project components such as the upper storage, transmission line corridor, water pipeline and access to underground infrastructure i.e. powerhouse and waterway tunnel. Project- related potential impacts to flora that may occur in the absence of avoidance, mitigation and management measures are discussed below.

Reduced Species Abundance

Species abundance can be measured by the density and diversity of species present (i.e. the number of individual plants and the total number of species present in a specified area). Vegetation clearing will remove individual plants from the broader population of plants in and around areas affected by the Project.

Threatened Species

One threatened species *Cyprus megacarpa* listed as Endangered under the EPBC Act was identified along the proposed access track during geotechnical flora surveys undertaken in August 2021. Nineteen EPBC Act threatened flora species were identified during the desktop search (PMST) with the potential to occur within the area. A flora survey will be undertaken in areas proposed to be disturbed by the Project to identify the presence of any other threatened

species and to further identify the distribution of *Cyprus megacarpa*. Vegetation clearing may reduce the abundance of this species and others if they are found to be present during the surveys.

Reduced Conditions for Plant Growth

The Project has the potential to cause increased erosion and generate dust. Vegetation clearing during construction will result in soil previously covered by vegetation no longer being bound by roots and protected by vegetative matter, and therefore prone to an increase in wind (and water) erosion. Disturbance of areas that are not naturally vegetated may also lead to increased erosion as the protective surface crust (or rock) is removed. Vehicle movements and quarrying activities will also generate dust. These conditions have the potential to reduce conditions favourable for plant growth, with subsequent reduced plant health. Compaction of disturbed ground, minor contamination of soil and physical damage to vegetation within the Project may reduce the ability of plants to become established and limit the potential for regeneration and revegetation of disturbed areas.

Increased Weed Distribution

Vegetation clearing and movement of project-related vehicles, machinery and equipment (especially earth-moving equipment) has the potential to increase weed density and distribution by spreading weeds that are already present on-site and by creating conditions favourable for the establishment of weed species and exclusion of native species. A dedicated flora survey will be undertaken prior to Project construction activities to determine weed populations and weed species of national significance.

7.2.2 Flora Avoidance, Mitigation and Management Measures

Avoidance, management and mitigation measures that will be implemented as part of the Project's development are outlined below.

During the development of the Project, a key consideration has been for the Project to utilise areas that have already been disturbed, such as the existing water pipeline easement and use of the existing open pit for the lower storage. Measures to avoid, mitigate and manage the risks associated with the clearing of vegetation and introduction of weeds include:

- Minimising the area of direct land clearing in areas sensitive to disturbance, such as near waterways.
- Complete ecology surveys to identify threatened species populations.
- Clearly identifying areas of vegetation that are to be protected and therefore avoided.
- Stockpiling of vegetation debris collected during clearing for later use in rehabilitation.
- Progressively rehabilitating disturbed areas.
- Retaining areas of vegetation that have high species diversity.

- Utilising land-clearing techniques that preserve the rootstock of removed vegetation in the ground (where practicable).
- Felling large trees in a manner that minimises harm to wildlife and damage to surrounding vegetation.
- Inspection of all earth moving equipment prior to being used on site to ensure that it is free of soil and any vegetative matter.
- Minimise the time frame between vegetation being cleared and the area being used for Project requirements to reduce the likelihood of weeds becoming established.
- Rehabilitate disturbed areas as soon as possible to reduce likelihood of weed development.
- Establish and implement an environmental management plan (EMP).

The provision of environmental offsets will be assessed as part of the EIS/IAR for biodiversity impacts which cannot be avoided or mitigated.

7.2.3 Fauna Impacts

Potential Project related fauna impacts are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction and operation of the Project, which will result in the residual impacts discussed in Section 7.2.4.

Vegetation clearing and ground disturbance during construction have the potential to reduce areas of habitat and resources within the Project. The potential impacts to fauna are discussed below.

Reduced Species Abundance

Vegetation clearing will remove some native fauna habitat, potentially reduce resources for native fauna species and increase competition for food and habitat, with potential changes in the density and distribution of these species. Project construction and operations have the potential to affect fauna drinking water quality and changing water levels may present a hazard for terrestrial fauna attempting to access water from the storages. The additional light and noise emissions during operations may deter fauna resettlement after construction. Increased Project traffic may also result in fauna collisions and deaths.

Threatened Species

Twenty three EPBC Act listed threatened species have been identified with the potential to occur within the Project. A fauna survey will be undertaken to identify if any of these species are present within the Project area. The Project is surrounded by predominantly Eucalypt forests and therefore is a potential habitat of Koalas. The area also provides suitable habitat for the endangered Northern Quoll, this species is known to occur in the area (PMST, 2021), however, multiple Quoll surveys undertaken previously by Evolution Mining have not reported any sightings (NRC, 2013). Construction activities and associated additional noise, light and vibration may

discourage these species from accessing the area. The forest surrounding the Project also provides extensive, undisturbed habitat for these species to relocate.

7.2.4 Fauna Avoidance, Mitigation and Management Measures

Avoidance, management and mitigation measures that will be implemented as part of the Project development are outlined below.

A key consideration for the Project has been to utilise areas that have already been disturbed or are mapped as Category X vegetation, thereby minimising the requirement to clear areas of native vegetation. Other measures to avoid, mitigate and manage the risks associated with habitat removal include:

- Minimising the area of direct land clearing in areas sensitive to disturbance, such as near waterways.
- Complete ecology surveys to identify threatened species populations and habitat.
- Clearly identifying areas of habitat that are to be protected and therefore avoided.
- Assess the benefits and impacts of fencing or other measures to restrict fauna access to water storages.
- Establish and implement an EMP.

The provision of environmental offsets will be assessed in the EIS/IAR for biodiversity impacts which cannot be avoided or mitigated.

7.2.5 Aquatic Biodiversity Impacts

Potential Project-related aquatic biodiversity impacts are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction and operation of the Project, which will result in the residual impacts discussed in Section 7.2.6.

Habitat Degradation

Habitat degradation or modification from increased turbidity and sedimentation in downstream surface waters due to construction activities is a potential impact of the Project that has the potential to impact aquatic flora and fauna. The Australian Lungfish (*Neoceratodus* forsteri) listed as endangered under the EPBC Act is known to inhabit the waterways around Paradise Dam. An aquatic field survey will be undertaken to identify if this species is present.

Changes in Water Quality

Changes in water quality due to increased concentrations of total suspended solids and associated contaminants is a potential impact related to Project activities. Sub-lethal or lethal toxicity effects to aquatic biota due to accidental release of hydrocarbons and chemicals is also a potential impact arising from Project activities, physical effects deriving from these impacts may also cause complications such as sediment blocking gills, or direct toxicity to aquatic biota.

7.2.6 Aquatic Biodiversity Avoidance, Mitigation and Management Measures

Avoidance, management and mitigation measures that will be implemented as part of the Project development are outlined below.

Measures designed to manage and mitigate the risks associated with aquatic habitat degradation and contamination of water include:

- Controlling sediment runoff from stockpiles by installing sediment control structures to prevent sediment release to watercourse.
- Avoiding stockpiling spoil and/or topsoil close to existing drainage lines, maintaining a minimum distance of approximately 50 m, where practicable.
- Undertaking major earthworks and ground disturbance activities during the drier months, wherever practicable when exposed surfaces will be less prone to rainfall erosion and avoiding such works during high rainfall periods
- Establish and implement an EMP.

The provision of environmental offsets will be assessed in the EIS/IAR for biodiversity impacts which cannot be avoided or mitigated.

7.3 Amenity (Including Noise, Vibration, Lighting, and Visual Aesthetics) Impacts

Potential Project-related amenity impacts are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction and operation of the Project, which will result in the residual impacts discussed in Section 7.3.1.

Disturbance to Natural Environment

Disturbance to the natural environment may occur due to construction noise, vibration and lighting, these disturbances may influence fauna behaviour and use of local habitat, potentially lowering species populations in the area.

Changes in Visual Amenity

The Project is located in a secluded area 20 km away from the nearest town, and scattered with few residential farming properties, however, changes to the landscape due to landform modification and construction of the transmission line may impact local residents visual amenity. Changes in visual amenity during construction activities may also be impacted due to increased dust.

Acoustic amenity

The acoustic amenity of the Generation Facility site is currently influenced by the mining operations at the Mount Rawdon mine which include heavy vehicle movements, processing plant

operation and blasting. While the acoustic amenity of the Transmission Line corridor will be more influenced by the agricultural nature of the land use.

The project has the potential to have noise and vibration impacts (which may be partially offset by the reduction in mining noise and vibration) during the construction phase as a result of increased vehicular movements, excavation works, earthworks, quarrying, concrete batching and other construction activities. These activities are well known in the construction industry and manageable through well-established practices, particularly given that the Generation Facility site is not located in close proximity to any dwellings. The Project's noise and vibration impacts will be assessed in the EIS/IAR and suitable measures incorporated into the construction EMP.

Noise is not expected to be a significant impact during the operational phase, given that the plant and machinery will be located in the underground powerhouse.

7.3.1 Amenity Avoidance, Mitigation and Management Measures

Avoidance, management and mitigation measures that will be implemented as part of the Project development are outlined below.

Disturbance to the Natural Environment

Measures designed to manage and mitigate the risks associated with environmental disturbance include:

- Maintaining construction vehicles and equipment in order to limit noise emissions.
- Maintaining noise suppression devices on construction vehicles and equipment.

Changes in Visual Amenity

Measures designed to manage and mitigate the risks associated with visual amenity include:

- Consult with landholders regarding transmission line alignment and potential visual impact.
- Using tarps or covers for trucks and trailers transporting materials to and from the site.
- Watering exposed areas to minimise dust generation.
- Develop and implement an EMP.

7.4 Social and Cultural Heritage Impacts

Potential Project-related social and cultural impacts are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction and operation of the Project, which will result in the residual impacts discussed in Section 7.4.1.

The local community, in particular the township of Mt Perry, will be experiencing social and economic impacts associated with the closure of the Mt Rawdon gold mine which will include loss of local employment opportunities, loss of opportunities for local businesses and the loss of the

community benefits (such as sponsorship of community events) that are currently provided by the mine operator.

The Project provides an opportunity to mitigate this loss by creating regional employment opportunities and opportunities for regional businesses such as sub-contractors during the construction phase. The mine operator has identified that, of its current workforce (comprising 192 employees and 38 permanent contractors), 128 have skillsets that may allow them to transition to the construction or operational workforce for the Generation Facility.

While there is some potential for social impacts that can be associated with the presence of a temporary workforce, the proponent will work with the local community to minimise those impacts and provide opportunities for local businesses.

Cultural Heritage

Impacts on indigenous and non-indigenous cultural heritage such as buried artefacts and sacred trees may be affected because of the Project construction activities such as ground disturbance and vegetation clearing. A cultural heritage survey is scheduled to be undertaken before construction activities commence.

Land Use

Potential limitations on some land uses within the transmission line corridor may impact local residents.

7.4.1 Social and Cultural Heritage Avoidance, Mitigation and Management Measures

The EIS/IAR for the Project will include an assessment of the potential social impacts of the project, in accordance with the Coordinator-General's *Social Impact Assessment Guideline*,[14] and will propose more detailed measures to avoid or mitigate the social impacts of the project.

Avoidance, management and mitigation measures that will be implemented as part of the Project development are outlined below.

Measures designed to manage and mitigate the risks associated with cultural heritage and land use include:

- Implementing operating procedures and staff training to identify artefacts and manage the reporting of cultural heritage.
- Stopping all works immediately and implementing the Chance Finds Procedure if suspected indigenous or non-indigenous culturally significant material or artefacts are found within 50 m of works.

[14] Department of State Development, Manufacturing, Infrastructure and Planning, 2018, Social Impact Assessment Guideline.

- Establishing and maintaining an exclusion zone around identified potential heritage items observed on site.
- Implementing cultural awareness training for personnel and contractors.
- Consulting with landholders about location of the final alignment of the transmission line.
- Have regard to impacts on visual amenity in selecting final alignment.
- Engage with landholders so they are informed of transmission line stages.
- Undertaking ongoing engagement with local community (Mt Perry, farming residents and mine workers) providing clear, factual and accurate information relating to project impacts, in an open and transparent manner.

7.5 Built Environment

The Generation Facility is not located in the vicinity of any non-project-related infrastructure or any other coordinated projects and is therefore not envisaged to cause any impacts to the existing built environment.

The process for selecting the final transmission line route will take into account the views of landholders and other stakeholders and proximity to dwellings and other sensitive land uses.

7.6 Waste Management Impacts

The waste streams generated by the Project will include construction waste, waste rock generated by excavation within the S1 footprint, tunnels and powerhouse and general waste generated at the construction camp.

Potential Project-related waste management impacts are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction and operation of the Project, which will result in the residual impacts discussed in Section 7.6.1

Contamination

Contamination of soil and water due to improper storage of waste materials is a potential impact of Project construction.

7.6.1 Waste Management Avoidance, Mitigation and Management Measures

The Project EMP will include a specific waste management component (Waste EMP) which will implement the Waste and Resource Management Hierarchy[15] and state[16] and local[17] government waste management policies. The final engineering design of the project, and the Waste EMP, will

[15] *Waste Reduction and Recycling Act 2011 (Qld)*, ss.9 and 3(a)
[16] Department of Environment and Science, *Waste Management and Resource Recovery Strategy*
[17] North Burnett Regional Council, 2021, *Waste Reduction and Recycling Plan 2021 - 2026*

explore opportunities for reuse of waste rock in both the construction of the project and rehabilitation activities at the mine site and will assess whether on-site disposal at the mine's existing facilities is feasible (subject to capacity constraints and compliance with the conditions of the mine's Environmental Authority). The Waste EMP will otherwise seek to avoid and minimise waste generation and, where waste generation cannot be avoided, will ensure that waste streams are managed to direct wastes to appropriately licenced recycling and disposal facilities.

Avoidance, management and mitigation measures that will be implemented as part of the Project development are outlined below.

Measures designed to manage and mitigate the risks associated with waste management include:

- Reducing packaging materials
- Monitor the volumes and weights of waste produced
- Substituting materials for reusables to reduce waste
- Ensure appropriate recycling and reuse of materials
- Correct management for the segregation of waste
- Waste areas are covered to prevent foraging of animals and birds
- Inspect waste management and storage areas regularly
- Ensure regular monitoring of site to ensure no debris or litter has blown into the surrounding environment

7.7 Major Hazards Impacts

Potential Project-related major hazard impacts are described below. These potential impacts do not take into consideration the proposed avoidance, mitigation and management measures that the Project will implement during construction and operation of the Project, which will result in the residual impacts discussed in Section 7.7.1

Natural Hazards

Hazards such as earthquakes, floods and fires have the potential to impact Project activities and the surrounding environment by causing, loss of containment of fuels or chemicals, damage to the property, or degradation of water quality.

Project Hazards

Hazards such as accidental fire or explosion from reactive chemical, fuel or dangerous goods and failure of upper storage, are potential impacts of Project construction and operation that could cause damage to the natural environment, including loss of species and impacted air quality.

The water storages created for the Project, and the movement of water between storages, may create a potential safety hazard for unauthorised persons accessing the project site.

7.7.1 Major Hazards Avoidance, Mitigation and Management Measures

Avoidance, management and mitigation measures that will be implemented as part of the Project development are outlined below.

Natural Hazards

Measures designed to manage and mitigate the risks associated with natural and project hazards include:

- Implementing Fire and Emergency Response Management Plan
- Ensuring that all staff and contractors undergo training for the Fire and Emergency Response Plan Instructions
- Ensuring that fire-fighting equipment is maintained and available on site
- Implementing Emergency Response Plan for flooding events.
- Storing fuels and lubricants in accordance with Australian Standards.
- Undertake a failure impact assessment under the *Water Supply (Safety and Reliability) Act 2008* prepared by an independent registered professional engineer and accepted by the regulator.
- Training personnel in the handling, transportation and storage of hazardous materials and providing training to an appropriate number of staff in the handling of emergency response and release scenarios.
- Installing appropriate fencing to prevent public access to the Generation Facility site.

7.8 Matters of National Environmental Significance

A search of the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (PMST) (Department of Environment and Energy (DoEE), 2021 did not identify any World Heritage Properties, National Heritage Places or Wetlands of International Importance within the project area or within 20 km.

8. Approvals Required for the Project

Table 8.1 lists major approvals required for the Project. Other minor approvals may be required, depending upon detailed design.

Table 8.1 – Approvals Potentially Required

Legislation	Approval/Assessment Required	Approval Trigger	Relevance	Responsible Agencies	Withing EIS/IAR scope
Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)	Referral for determination of whether the Project is a controlled action.	Approval under the EPBC Act is required for actions that will, or may, have a significant impact on matters of national environmental significance (MNES) or that will, or may, have a significant impact on the environment in certain Commonwealth areas.	This project may have an impact on the following MNES: • Listed threatened species and communities • Migratory species. As a consequence, the Project is being referred to the Commonwealth for a determination on whether it is a controlled action. The bilateral agreement entered into between Queensland and the Commonwealth under the EPBC Act allows assessment of controlled actions to occur by way of either an EIS or an IAR under the SDPWOA.	Commonwealth Minister for Environment (Department of Agriculture, Water and Environment)	Yes
State Development and Public Works Organisation Act 1971 (Qld)	Assessment by way of an EIS or IAR resulting in the issue of the Coordinator-General's report assessing the Project.	This process is required only where a project is declared to be a coordinated project.	The process does not result in the grant of an approval but instead ends with the publication of the Coordinator-General's report which provides an assessment of a project's impacts and benefits, a recommendation on whether the project should be approved and, sometimes, conditions either directly imposed on the project or recommended/directed for inclusion in subsequent approvals.	Queensland Coordinator-General	Yes

Legislation	Approval/Assessment Required	Approval Trigger	Relevance	Responsible Agencies	Withing EIS/IAR scope
Environmental Protection Act 1994 (Qld)	Progressive Rehabilitation and Closure Plan (PRC Plan) and PRCP schedule	A PRC Plan and PRCP schedule is required for all Environmental Authorities granted by way of site-specific application.	The PRC Plan is a relatively new requirement of the EP Act and is now required for all mines operating under site-specific Environmental Authorities (including the Mt Rawdon mine). A PRC plan establishes the standard to which a mine site will need to be rehabilitated upon surrender of the Mining Lease and associated environmental authority. A PRC plan would be required for the Mt Rawdon mine even in the absence of this Project. However, it has been incorporated into this project because the rehabilitation outcomes established in the required PRC Plan will need to include the proposed hydro-electric plant as the post-mining use of part of the mine site and will include works that are necessary to facilitate the re-use of the pit as part of the Generation Facility. Mt Rawdon Operations Pty Ltd is currently seeking approval for a PRC plan for the mine without the Project as an approved post-mining use of the land. That PRC plan will need to be amended to identify the Generation Facility as an approved post-mining land use and to establish	Queensland Department of Environment and Science	Yes

Legislation	Approval/Assessment Required	Approval Trigger	Relevance	Responsible Agencies	Withing EIS/IAR scope
			appropriate rehabilitation standards for that use.		
Environmental Protection Act 1994 (Qld)	EA amendment application	The Mt Rawdon mine must be operated in accordance with the conditions of its Environmental Authority. If the activity changes such that the conditions can no longer be complied with, an application to amend the Environmental Authority will be required.	It is possible that minor amendments will be required to the conditions of the Environmental Authority under which the mine is currently operated. Such amendments may be required to achieve consistency with the PRC plan or with any other approvals for the project that involve works on the mine site.	Queensland Department of Environment and Science	Yes
Planning Act 2016 (Qld) *Planning Regulation 2017* *North Burnett Regional Planning Scheme 2014*	Development permit for a material change of use for a renewable energy facility and non-resident workforce accommodation and a development permit for operational works under the planning scheme.	The North Burnett Regional Planning Scheme, which is a local categorizing instrument for the purposes of the *Planning Act 2016*, provides that in the Rural zone a Renewable Energy Facility is assessable development for which an impact assessable development permit is required. 'Renewable energy facility' is defined as: (a) the use of premises for the generation of electricity or energy from a renewable energy source including, for example, hydropower; but (b) does not include the use of premises to generate electricity or energy mainly for use on the premises. Operational works that involve filling and excavation (other than for a	The proposed Generation Facility will be a 'Renewable energy facility' for the purposes of the North Burnett Planning Scheme. The proposed development will be the start of a new use of the site, which is a material change of use under the *Planning Act 2016*. The excavation works required for the underground power station and waterway tunnels will involve more than 100 cubic meters of excavation and will require a development permit for operational works. The proposed construction camp is likely to be located on Rural zoned land and will be a material change of use for 'non-resident workforce accommodation'.	North Burnett Regional Council	Yes

Legislation	Approval/Assessment Required	Approval Trigger	Relevance	Responsible Agencies	Withing EIS/IAR scope
		dam) of more 100 cubic meters of extraction material is code assessable development for which a development permit is required under the North Burnett Planning Scheme. A material change of use for 'Non-resident workforce accommodation' is also impact assessable development in the Rural zone.			
Planning Act 2016 (Qld) *Planning Regulation 2017*	Development permit for other assessable development	Operational work that is the clearing of native vegetation on freehold land is assessable development (schedule 10, Part 3) unless it is prohibited development, exempt clearing work or accepted development. A material change of use for a prescribed ERA is assessable development (schedule 10, Part 5). Prescribed ERAs include sewage treatment and extractive and screening activities. Operational work for the taking of water in a watercourse is assessable development, unless it is prescribed as accepted development (schedule 10, Part 19). Operational work for the construction of a referrable dam (being a dam having a category one or two failure impact rating) is assessable development (Schedule 10, Part 19)	The clearing of native vegetation to create the upper storage and other parts of the Project will not prohibited development if the project is declared to be a Coordinated Project under the SDPOWA. Such clearing will, however, be assessable development for which a development permit is required. The proposed quarry within the upper storage site is likely to constitute a prescribed ERA for which a development permit will be required. The construction camp is likely to include sewage treatment facilities which may, depending upon scale, constitute a prescribed ERA. The infrastructure required to take water for first fill is likely to involve the installation of new pumps, which will be operational works for taking water from a watercourse.	State Assessment and Referral Agency North Burnett Regional Council	Yes

Legislation	Approval/Assessment Required	Approval Trigger	Relevance	Responsible Agencies	Withing EIS/IAR scope
Planning Act 2016 (Qld)	Transmission line: Infrastructure Designation	An Infrastructure Designation is a decision of the Minister for Planning to identify specified premises for the development of certain types of infrastructure prescribed by regulation, including electricity operating works (Schedule 5, Part 2, Item 7). Infrastructure identified in a designation is accepted development for which a development permit is not required and any related vegetation clearing is 'exempt clearing work' for which development approval is not required.	The proposed transmission line constitutes 'electricity operating works' and may be the subject of an infrastructure designation. The linear nature of the Transmission Line suggests that an infrastructure designation is the most appropriate means of approving this element of the Project.	Minister for Planning Department of State Development, Infrastructure, Local Government and Planning	Yes
Water Supply (Safety and Reliability) Act	Failure Impact Assessment	Failure impact assessment is a dam safety assessment required for water dams which are over 10m in height and have a volume of more than 1,500ML or 750ML (if the catchment area is more than three times its maximum surface area). Failure impact assessment is process of establishing whether a dam requires regulation on the basis that it poses a hazard to human life through dam failure. If the outcome of the failure impact assessment is that the dam is a referable dam, then the owner will have obligations including the preparation of an emergency action plan, emergency event reporting and	The upper storage of the Generation Facility is likely to be of a scale requiring failure impact assessment.	Registered professional engineer Department of Regional Development, Manufacturing and Water	No

Legislation	Approval/Assessment Required	Approval Trigger	Relevance	Responsible Agencies	Withing EIS/IAR scope
		complying with any safety conditions imposed by the regulator.			
Aboriginal Cultural Heritage Act 2003 (Qld)	Compliance with the cultural heritage duty of care – possibly by way of a cultural heritage management plan	The Project proponent is required to comply with the cultural heritage duty of care, which requires that all reasonable and practicable measures be taken to avoid harm to aboriginal cultural heritage. There are a number of different ways of complying with the cultural heritage duty of care, depending upon factors such as the nature of the works involved and whether the project requires an EIS. If a project requires an EIS, a CHMP becomes mandatory.	The Project has the potential to impact upon Aboriginal cultural heritage including through vegetation clearing and surface disturbance. As a consequence, the project will need to comply with the cultural heritage duty of care through one of the available means. If the project requires an EIS on the basis that it is a Coordinated project under the SDPOWA, it will require a CHMP.	Aboriginal cultural heritage body Queensland Department of Aboriginal and Torres Strait Islander Partnerships	Yes
Electricity Act 1994 (Qld)	Generation Authority	A generation authority is required to authorise generating plant to connect to the transmission grid or supply network.	The proposed Generation Facility will be generating plant which will require approval to connect to the transmission grid operated by Powerlink.	Queensland Department of Energy and Public Works	No
Water Act 2000 (Qld) *Water Plan (Burnett Basin) 2014*	Water licence	All rights to the use flow and control of water are vested in the State. Unless a right to take is granted by the Act, the Regulation or a Water Plan, a form of authorisation is required to take water. There is unallocated water available in a strategic water infrastructure reserve under the *Water Plan (Burnett Basin) 2014*, which could	The project will require in the order of 24GL of water for the initial filling of the storage. The Proponent intends to submit an expression of interest for the release of water held in the strategic water infrastructure reserve. The Department of Regional Development, Manufacturing and Water has advised that the water	Department of Regional Development, Manufacturing and Water	Yes

Legislation	Approval/Assessment Required	Approval Trigger	Relevance	Responsible Agencies	Withing EIS/IAR scope
		potentially be made available for the project on a temporary basis.	would most likely be released through a temporary water licence.		
Forestry Act 1959 (Qld)	Permit to take timber	The state has retained, under the *Forestry Act 1959,* the rights to the commercial timber and quarry material on the site of the upper storage. The owner of the land has some rights to take timber and quarry material; any other take will require a permit.	The Project will involve the clearing of vegetation (including commercial timber) and potentially quarrying at the upper storage site.	Queensland Department of Agriculture and Fisheries	Yes
Nature Conservation Act 1992 (Qld) *Nature Conservation (Plants) Regulation 2020* *Nature Conservation (Koala) Conservation Plan 2017* *Nature Conservation (Animals) Regulation 2020*	Protected plant permit/damage mitigation permit	It is an offence under the Act to take a protected animal or protected plant, except under a form of exemption or authorisation under the Act, Regulation or an authorization.	While the Project will seek to avoid and minimise impacts on threatened flora, there is some potential that a protected plant clearing permit will be required. A damage mitigation permit or species management program will be required to authorise any fauna relocations necessary during clearing works. The whole of the Project is within koala district B. As a consequence, any clearing of koala habitat trees will need to comply with the sequential clearing condition and koala spotter requirements in sections 10 and 11 of the koala conservation plan.	Queensland Department of Environment and Science	Yes

9. Community and Stakeholder Consultation

A comprehensive Stakeholder Engagement and Consultation Plan (SECP) has been developed for the project and will continue to be implemented throughout the EIS or IAR process and during the construction and operational phases of the project.

The SECP builds upon the community engagement currently undertaken by Evolution Mining, as the operator of the mine and a current member of the local community. Evolution's current community engagement includes regular communication with the Port Curtis Coral Coast Native Title holders (as representatives of the Byellee, Gooreng Gooreng, Gurang and Taribelang Bunda people), members of the Mt Perry, Gin Gin, Biggenden and Gayndah communities and representatives of the North Burnett and Bundaberg Regional Councils.

The Proponent has also undertaken preliminary consultation regarding the project with representatives of relevant government agencies including the Department of Regional Development, Manufacturing and Water (in relation to access to a temporary water entitlement for the initial filling of the facility), Powerlink (in relation to connection to the transmission network and transmission line construction), the Office of the Coordinator-General, the Department of Environment and Science and both the North Burnett and the Bundaberg Regional Councils. The proponent will continue to engage closely with relevant government agencies throughout the EIS/IAR process and the construction and operational phases of the project.

An Open Day for the Mount Perry community was held on 5 October 2021 during which residents and local business owners were given the opportunity to learn about the Project and provide initial feedback. A Project Newsletter which explained the project was also circulated during the Open Day and through the local post-office. The feedback received from the community at the Open Day was generally positive with interest shown in employment opportunities, project timeframes (as an input into business planning by local business owners), the source of water for the first fill and the potential for recreational opportunities.

The Proponent has also commenced engagement with landholders potentially affected by the proposed Transmission Line and will continue to engage closely with those landholders throughout the corridor selection, land acquisition, construction and operational phases of the Transmission line development.

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