INITIAL ADVICE STATEMENT

STANMORE ID EXTENSION PTY LTD

ISAAC DOWNS EXTENSION PROJECT

August 2025

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EXECUTIVE SUMMARY

Stanmore ID Extension Pty Ltd (ID Extension), a wholly owned subsidiary of Stanmore Resources Ltd (Stanmore), proposes to develop the Isaac Downs Extension (IDE) Project (the Project). The Project will extend the life of mining operations at Isaac Plains Complex (IPC) through the development of an open cut coal mine pit and associated infrastructure, primarily mining metallurgical (steel making) coal. Approximately 46 million tonnes (Mt) of run of mine (ROM) coal will be mined over 15 years, with approximately 2 – 4.5 million tonnes per annum (Mtpa).

IPC comprises Isaac Downs Mine (IDM) and Isaac Plains Mine (IPM), operated by wholly owned subsidiaries of Stanmore. The Project adjoins IDM and will be integrated into IPC, with ROM coal washed at the IPM coal handling and preparation plant, shared mine infrastructure area (MIA) at IDM, and connecting infrastructure such as water management infrastructure and power supply.

The Project is located in the Bowen Basin of central Queensland approximately 15 km southeast of Moranbah and 150 km southwest of Mackay.

Mining of ROM coal at IDM is expected to ramp down between 2026 and 2028, with Project construction commencing late 2027 / early 2028 and ROM coal extraction in 2029. The IPC workforce will transition to IDE as mining ramps down at IDM and IPM, and ramps up at IDE. The Project, being an extension of mining activities at IPC, is therefore important to ensure a near steady state workforce across IPC beyond 2027 and 2028.

The open cut mining methods for the Project will be similar to those at IDM, including:

- clearing of vegetation, stripping and stockpiling of topsoil
- drilling and blasting of pre-strip overburden
- removing the pre-strip overburden using mining equipment at IDM being a dragline and / or truck and shovel fleets and / or dozers
- drilling and blasting of overburden
- drilling and blasting of pit floor for geotechnical stability to allow for in-pit dumping
- overburden removal using the existing dragline at IDM and / or truck and shovel fleets
- coal mining using excavators
- formation of out of pit and in-pit overburden dumps as mining progresses
- progressive rehabilitation of overburden dump areas.

Mining areas will be progressively rehabilitated as they become available for rehabilitation. Rehabilitation milestone criteria will be developed for each stage of rehabilitation. Post mining land uses will be developed for different rehabilitation areas.

The infrastructure required for the Project includes a ROM coal pad, ROM coal haul road and site access road (via IDM) with a bridge crossing of the Isaac River, go line and crib area, levees along the Isaac River and Cherwell Creek, diversion of Conrock Gully, mine affected water dam, sediment dams, water transfer pipelines and power line. The dragline will be walked from IDM to the Project via a temporary crossing of the Isaac River.

This Initial Advice Statement (IAS) has been prepared to provide sufficient information to support the submission of a draft Terms of Reference (ToR) for an environmental impact statement (EIS) for the Project under Chapter 3, Part 1 of the *Environmental Protection Act 1994* (EP Act).

The primary approvals required for the Project are:

- State:

  - An environmental authority (EA) under the EP Act
  - A progressive rehabilitation and closure plan (PRCP) schedule under the EP Act
  - One or more mining leases (MLs) under the *Mineral Resources Act 1989* (MR Act)
  - Estimated rehabilitation cost (ERC) decision under the EP Act.
- Commonwealth:
  - Approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The key environmental values of the Project area, being the ML application areas, and surrounds are:

- surface water resources, including the Isaac River, Cherwell Creek, Conrock Gully and small palustrine wetlands
- groundwater resources, including groundwater in alluvium associated with major watercourses
- flora and fauna, including endangered and of concern regional ecosystems, threatened ecological communities and habitat for listed threatened species, noting that the majority of the Project area comprises land cleared of remnant vegetation for pastoral purposes
- soils, which will be stripped from disturbance areas for future use in rehabilitation
- air quality and the acoustic environment of the region, noting that there is only 1 sensitive receptor within 5 km of the Project area
- Indigenous and non-indigenous cultural heritage values, should these be identified through fieldwork.

The proponent has commenced a comprehensive program of field surveys and studies to understand environmental values, including terrestrial ecology surveys, aquatic ecology surveys, groundwater bore installation and groundwater monitoring, surface water sampling, groundwater dependent ecosystem (GDE) surveys, baseline noise monitoring, and geochemical and geophysical characterisation of overburden and rejects.

The Project has potential to impact on environmental values through:

- direct disturbance of the land with impacts to terrestrial ecology value, cultural heritage values, soils and the landscape
- indirect impacts on ecological values through, for example, edge effects and habitat fragmentation
- management of mine affected or sediment affected water, with changes to water quality and flows
- changes to the hydrology and geomorphology of waterways
- impacts to aquatic ecology values through changes to surface waters
- drawdown of groundwater aquifers through ingress of groundwater into the mined areas with potential to impact GDEs or landholder bores
- dust emissions, noise or vibration from mining operations.

Comprehensive management measures will be developed to avoid and mitigate impacts on environmental values. Where there are significant residual impacts to ecological values, after management measures, then biodiversity offsets will be provided.

The proponent will prepare a Greenhouse Gas (GHG) Abatement Plan in accordance with State requirements and will be subject to the requirements of the Commonwealth's GHG legislation. This includes reporting under the National Greenhouse and Energy Reporting (NGER) Scheme and complying with the requirements of the Safeguard Mechanism under the NGER Scheme.

The Project will result in socio-economic benefits, including

- the ongoing employment of approximately 300 - 400 people currently supporting IPC
- approximately 100 - 150 construction jobs

- capital investment of approximately $190M
- associated revenue benefits for the State and Commonwealth through coal royalties and other taxation
- provision of a continuous and steady level of economic activity in Moranbah and the region
- provision of opportunities for supply from local and regional business in construction, transport and goods and services.

On balance these socio-economic benefits are considered to outweigh the managed social and environmental impacts from the Project.

1. INTRODUCTION

1.1 Overview of the Project

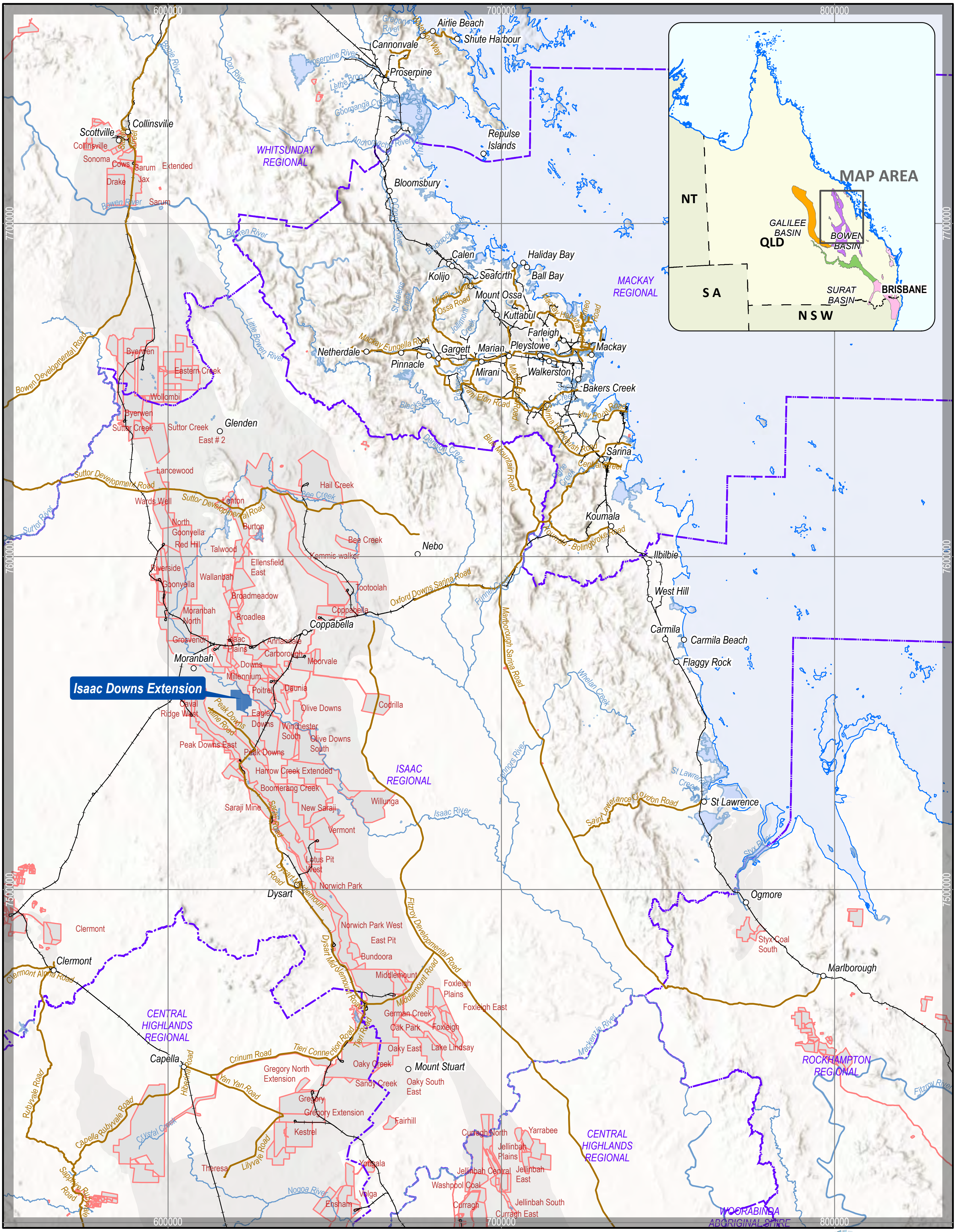
Stanmore ID Extension Pty Ltd (ID Extension), a wholly owned subsidiary of Stanmore Resources Ltd (Stanmore), proposes to develop the Isaac Downs Extension (IDE) Project (the Project). The Project will extend the life of mining operations at Isaac Plains Complex (IPC) through the development of an open cut coal mine pit and associated infrastructure, primarily mining metallurgical (steel making) coal. Approximately 46 million tonnes (Mt) of run of mine (ROM) coal will be mined over 15 years, with approximately 2 – 4.5 million tonnes per annum (Mtpa).

IPC comprises Isaac Downs Mine (IDM) and Isaac Plains Mine (IPM), operated by wholly owned subsidiaries of Stanmore, Stanmore IP South Pty Ltd (IP South) and Stanmore IP Coal Pty Ltd (IP Coal), respectively (refer to Figure 1-2).

The Project adjoins IDM and will be integrated into IPC (refer to Figure 1-2) with ROM coal washed at the IPM coal handling and preparation plant (CHPP), shared mine infrastructure area (MIA) at IDM, and connecting infrastructure such as water management infrastructure and power supply.

The Project is located in the Bowen Basin of central Queensland approximately 15 km southeast of Moranbah and 150 km southwest of Mackay (refer to Figure 1-1), with the Project's mining lease (ML) application areas shown in Figure 1-2.

Mining of ROM coal at IDM is expected to ramp down between 2026 and 2028, with Project construction commencing late 2027 / early 2028 and ROM coal extraction in 2029. The IPC workforce will transition to IDE as mining ramps down at IDM and IPM, and ramps up at IDE. The Project, being an extension of mining activities at IPC, is therefore important to ensure a near steady state workforce across IPC beyond 2027 and 2028.



Legend

- Populated Places
- Roads
- Rail
- LGA Boundaries QLD
- Isaac Downs Extension
- Coal Mining Lease
- Regional Geology

0 10 20 30 40 50
Kilometers

Datum:	GDA2020
Scale:	1 : See Scale Bar (A4)
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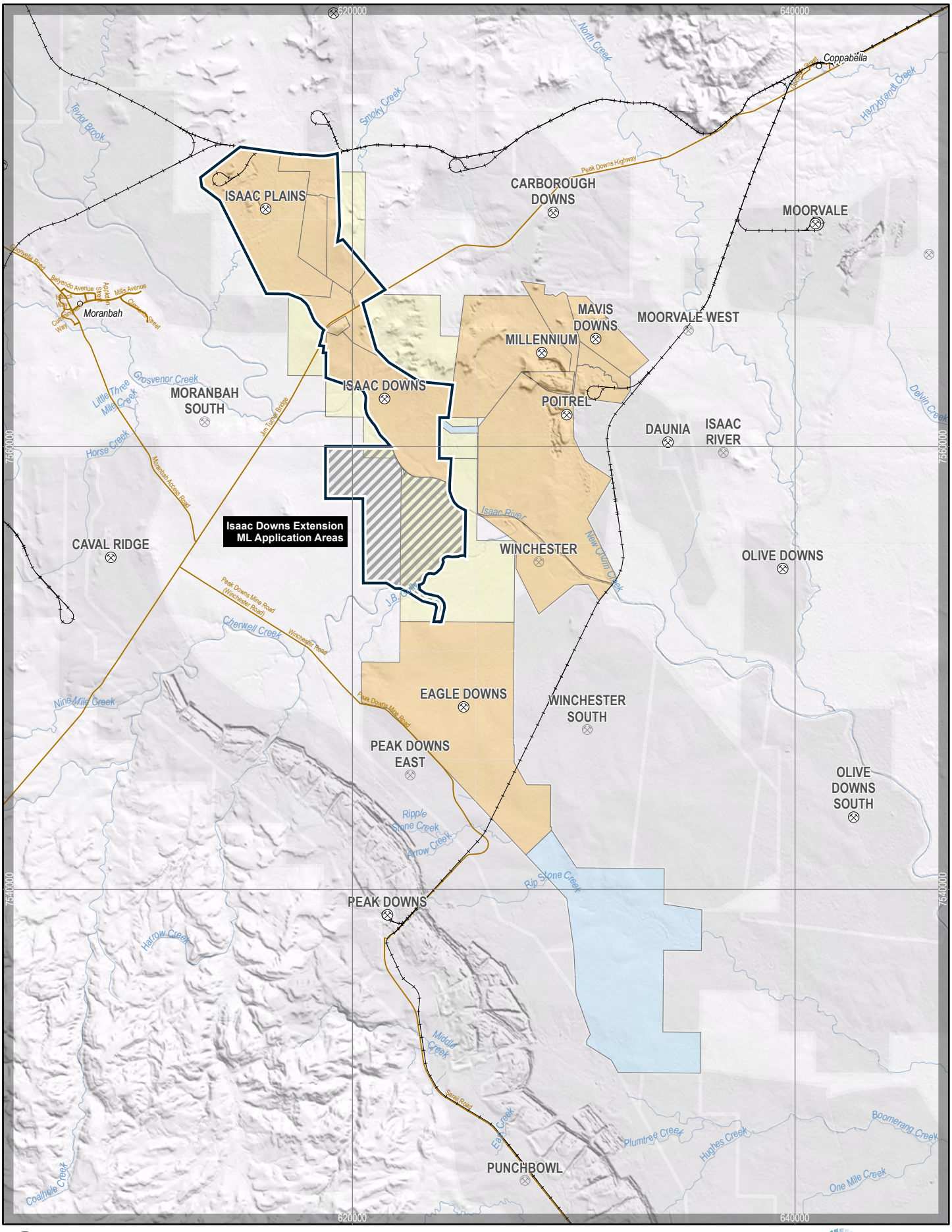
ISAAC DOWNS EXTENSION

Project Regional Location

Figure | 1-1



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LEGEND

- Mining Lease
- Populated Places
- Waterway
- Roads
- Rail
- Isaac Plains Complex
- Isaac Downs Extension ML Application Areas

Stanmore Resources Ltd Subsidiary Tenements

- Mining Lease
- Mineral Development Licence
- Exploration Permit Coal

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ISAAC DOWNS EXTENSION

Project Location

Figure | **1-2**

1.2 Purpose of the Initial Advice Statement

On 16/05/2025 the proponent applied to prepare a voluntary environmental impact statement (EIS) for the Project under Chapter 3, Part 2 of the *Environmental Protection Act 1994* (EP Act). On 17/06/2025 the Queensland Department of the Environment, Tourism, Science and Innovation (DETSI) approved the voluntary EIS application.

The purpose of this IAS is to provide sufficient information to support the submission of a draft Terms of Reference (ToR) for an EIS for the Project under Chapter 3, Part 1 of the EP Act.

This IAS provides a high-level overview of the Project, including the scope, location and potential environmental, social and economic impacts. The IAS provides information to stakeholders and the general public about the Project.

1.3 Structure of the Document

This IAS has been developed in accordance with the IAS checklist provided with the application for an EIS decision.

This IAS:

- describes the Project proponent, required approvals for the Project, stakeholder engagement process (Sections 2, 3 and 4, respectively)
- provides information on Project design, construction, operation and rehabilitation (Section 5)
- provides an initial assessment of the environmental and socio-economic values which may be impacted by the Project, with an overview of proposed mitigation measures (Section 6).

2. PROPONENT

2.1 Proponent Details

The proponent for the Project is Stanmore ID Extension Pty Ltd, a wholly owned subsidiary of Stanmore. The proponent's details are provided in Table 2-1.

Stanmore is an Australian Stock Exchange (ASX) listed Australian company which, through various subsidiary entities, owns metallurgical (steel making) coal mines and coal mining projects in Queensland's Bowen Basin including IDM, IPM, South Walker Creek (SWC) Mine, Poitrel Mine, Millennium Mine, Eagle Downs project and Lancewood project.

Table 2-1 Proponent Details

Name	Address	Contact Information
Stanmore ID Extension Pty Ltd, ACN 685 301 231	Level 32, 12 Creek Street Brisbane, QLD, 4001 GPO Box 2602, Brisbane QLD 4001	office@stanmore.net.au

2.2 Business Activities

Stanmore specialises in mining metallurgical coal, with operations and exploration projects in the Bowen Basin and Surat Basin, in Queensland. Stanmore supplies metallurgical coal to global markets with three major coal-producing assets; SWC Mine, Poitrel Mine and IPC. The metallurgical coals that Stanmore produce are low in impurities and are predominately used in the manufacturing of steel, essential for infrastructure, construction and technology projects, and crucial to the transition toward a lower-carbon economy and sustainable development.

2.3 Environmental Record

Stanmore is committed to minimising the environmental impacts of its operations through complying with regulatory requirements and implementing strategies that promote sustainable environmental practices, conserve natural resources, reduce emissions and contribute positively to the communities in which Stanmore operates. Stanmore has an environmental policy[1] which applies to all Stanmore employees, visitors and any workers engaged under the management of Stanmore. Under the environmental policy: *'Stanmore is committed to minimising the environmental impacts of our operations. We will do this through implementing strategies that promote environmental stewardship, conserve natural resources, reduce emissions and contribute positively to the communities in which we operate.'*

Stanmore does not have any active environmental protection orders issued under the Queensland environmental legislation. Stanmore does not have any previous prosecutions under the Commonwealth, State or local legislation.

2.4 Health, Safety and Community Policies

Stanmore has a health and safety policy which defines the standard for health and safety across Stanmore's activities. The policy conveys Stanmore's commitment to the health and safety of its people,

[1] https://stanmore.au/wp-content/uploads/2024/08/Stanmore-Environment-Policy.pdf

and how it will deliver on this by ensuring risks are at an acceptable level, in line with Stanmore's corporate values and relevant legislative obligations.

Stanmore is proud to be part of the Isaac region and is committed to making a positive contribution to the local community. Stanmore aims to operate in a responsible manner — in a way that balances short and long-term interests, and integrates economic, environmental and social considerations, and its governance obligations.

3. REQUIRED APPROVALS

3.1 Approvals Overview

The primary approvals required for the Project are:

- State:
  - An environmental authority (EA) under the EP Act
  - A progressive rehabilitation and closure plan (PRCP) schedule under the EP Act
  - One or more mining leases (MLs) under the *Mineral Resources Act 1989* (MR Act)
  - Estimated rehabilitation cost (ERC) decision under the EP Act.
- Commonwealth:
  - Approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

ID Extension will apply for an EA and PRCP schedule for the Project. The voluntary EIS for the Project will support the EA and PRCP schedule applications.

As an EIS is required for the Project, a social impact assessment (SIA) will be required under the *Strong and Sustainable Resource Communities Act 2017* (SSRC Act). The SIA requires approval from the Queensland Coordinator-General.

The proponent applied for 4 MLs for the Project on 24/06/2025 (ML application (MLA) 700081, MLA 700082, MLA 700083 and MLA 700084). The MLAs can only be granted following:

- approval of the EA and PRCP schedule by DETSI
- a native title agreement under the *Native Title Act 1993* (NT Act) for properties where native title is not extinguished (see Figure 5-6)
- compensation agreements with underlying landholders.

The Project was referred under the EPBC Act on 28/04/2025 to the Australian Government (EPBC 2025/10183). On 06/06/2025 the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) determined that the Project was a controlled action under the EPBC Act subject to the following controlling provisions:

- listed threatened species and ecological communities
- water resources that relate to large coal mining development.

On 23/06/2025 DCCEEW decided that the Project would be assessed by an accredited assessment process, being the voluntary EIS required under the under EP Act.

Secondary approvals or obligations under other legislation may be required for the Project, including under the:

- *Aboriginal Cultural Heritage Act 2003* (ACH Act)
- *Coal Mining Safety and Health Act 1999* (CMSH Act)
- *Environmental Offsets Act 2014* (EO Act)
- *Nature Conservation Act 1992* (NC Act)
- *Stock Route Management Act 2002* (SRM Act)
- *Transport Infrastructure Act 1994* (TI Act).

The proponent will be subject to the requirements of the Commonwealth's *National Greenhouse and Energy Report Act 2007* (NGER Act) and Safeguard Mechanism for the management and abatement of greenhouse gas (GHG) emissions.

The Project is unlikely to require approvals under the *Water Act 2000* (Water Act), *Regional Planning Interests Act 2014* (RPI Act), *Planning Act 2016*, *Vegetation Management Act 1999* (VM Act), *Fisheries Act 1994, Forestry Act 1959* and *Queensland Heritage Act 1992* (QH Act).

The Project is not expected to require any local government approvals.

DETSI must consider the *Human Rights Act 2019* (Qld) (HR Act) in making decisions about approvals for the Project. An act or decision is compatible with human rights if it does not limit a human right or, where it does, the limit is only to the extent reasonable and justifiable in a free and democratic society based on human dignity, equality and freedom. The test of compatibility of a limit to a human right is known as the proportionality test.

3.2 EIS Process

3.2.1 Requirement for an EIS

On 17/06/2025 DETSI approved an application by the proponent to prepare a voluntary EIS for the Project.

This IAS has been prepared to provide sufficient information to support the submission of a draft Terms of Reference (ToR) for an EIS for the Project under Chapter 3, Part 1 of the EP Act.

3.2.2 EIS Process

The regulatory requirements for an EIS are provided in Chapter 3 of the EP Act, and include the following key steps:

- The proponent lodges a draft terms of reference (ToR) for the EIS.
- The draft ToR is publicly notified, and the public can make submissions on the draft ToR.
- Following responses to submissions on the draft ToR, a final ToR is issued.
- The proponent prepares and lodges an EIS, addressing the requirements of the ToR.
- DETSI determine whether the EIS can proceed.
- The EIS is publicly notified, and the public can make submissions on the EIS.
- The proponent responds to submissions on the EIS.
- DETSI assess the adequacy of responses to submissions.
- DETSI issue the EIS Assessment Report, which concludes the EIS process.

Following issue of the EIS Assessment Report, the EA enters the 'decision stage' (Chapter 5, Part 5 of the EP Act). The notice of decision to approve the EA, subject to conditions provided in a draft EA, will be provided to submitters to the EIS, who then have 20 business days to provide any objections. The EA is granted once all objections have been resolved.

As an EIS is required, the Project will be assessed as an accredited process under the EPBC Act using the EIS prepared under the EP Act.

4. CONSULTATION PROCESS

4.1 Stakeholder Engagement

Community consultation and stakeholder engagement forms an integral component of the assessment process for the Project. The proponent has and will continue to build strong, lasting relationships with stakeholders, with the objectives of providing accurate and timely environmental, social and economic Project information.

The objectives of community and stakeholder consultation will be as follows:

- Initiate and maintain open and honest communication with affected and interested stakeholders on all aspects of the Project.
- Identify stakeholder issues and concerns in the relation to the Project via a range of engagement methods.
- Address stakeholder issues and concerns throughout the approvals process.
- Provide feedback to stakeholders on their issues or concerns and how their comments have been considered.

Accordingly, the proponent will undertake consultation that is flexible and will take full account of stakeholder input, respond to feedback and incorporate new stakeholders who may be identified as the approvals process evolves.

Consultation will involve:

- identifying key stakeholders and determining their level of interest in the Project
- determining the level of impact to stakeholder from the Project
- development of a communication and consultation model
- selection of appropriate stakeholder communication and consultation tools
- development of a schedule of activities
- ongoing maintenance of documentation of community and stakeholder comments and issues of concern.

Communication and consultation tools will be applied consistent with the level of interest and logistics relative to the individual or group. Communication and consultation tools will include the following options:

- face to face meetings
- phone meetings
- written notices and communications
- information on the proponent's website
- media releases.

Stakeholders will include:

- State and Commonwealth government agencies with an interest in the Project
- local councils
- Aboriginal peoples
- non-governmental organisations and unions
- industry groups and businesses
- members of potentially affected communities.

As an EIS is required for the Project, the proponent will undertake a social impact assessment which includes stakeholder engagement.

To date the proponent has consulted with:

- DETSI
- Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development (DNRMMRRD)
- Department of State Development, Infrastructure and Planning (DSDIP), Office of the Coordinator General (CG)
- Isaac Regional Council (IRC)
- DCCEEW
- Department of Transport and Main Roads (TMR)
- local landholders
- the relevant Aboriginal Party for the land
- local community members, groups, organisations and businesses
- State and local government agencies.

Future consultation will continue with the stakeholders. Consultation outcomes will be considered in the design, construction, operation and rehabilitation of the Project.

4.2 Affected and Interested Persons

Affected persons are defined in the EP Act and have a high level of influence on, or potential to be affected by the Project are likely to have a high-level interest in, or concern regarding the Project.

The affected and interested persons for consultation include:

- property owners within and adjoining the Project
- mining and petroleum tenement holders within and adjoining to the Project
- local and regional service providers
- Isaac Regional Council
- State government agencies
- Commonwealth government agencies
- community interest groups and non-government organisations
- emergency service groups
- industry groups
- infrastructure and service providers
- Barada Barna.

The complete list of identified affected and interested persons for consultation has been provided separately to DETSI, as some of the contents are confidential and / or publicly sensitive.

5. PROJECT DESCRIPTION

5.1 Project Overview

The Project activities that will extend the life of mining operations at IPC comprise an open cut coal mine pit and associated infrastructure, primarily mining metallurgical (steel making) coal. Approximately 46 Mt of ROM coal will be mined over 15 years, with approximately 2 – 4.5 Mtpa. The proponent intends to commence construction activities in late 2027 / early 2028, subject to obtaining all required approvals, with mining operations commencing in 2028 and ROM coal extraction in 2029.

The open cut mining methods for the Project will be similar to those at IDM, including:

- clearing of vegetation, stripping and stockpiling of topsoil
- drilling and blasting of pre-strip overburden
- removing the pre-strip overburden using mining equipment at IDM being a dragline and / or truck and shovel fleets and / or dozers
- drilling and blasting of overburden
- drilling and blasting of pit floor for geotechnical stability to allow for in-pit dumping
- overburden removal using the existing dragline at IDM and / or truck and shovel fleets
- coal mining using excavators
- formation of out of pit and in-pit overburden dumps as mining progresses
- progressive rehabilitation of overburden dump areas.

ROM coal will be transported from the Project's ROM coal pad to the CHPP at IPM for washing, utilising existing haul roads at IPC and new haul roads, including a bridge across the Isaac River, constructed in the Project area. The dragline will be walked from IDM to the Project via a temporary crossing of the Isaac River.

A satellite go line and crib area will be constructed at the Project, with the existing MIA at IDM continuing to service Project activities.

The primary access to the Project for workers and deliveries will be via IDM's existing access road and new access roads connecting with the Project, utilising the bridge to be constructed across the Isaac River. There is potential for a secondary access route to the Project between the Project and Stanmore's Eagle Downs project, utilising new and existing roads to connect with the Peak Downs Mine Road.

During operations, levees will be constructed to protect the open cut pit area from flooding of the Isaac River, Cherwell Creek and Conrock Gully up to a 0.1% annual exceedance probability (AEP) (1:1,000 year) flood event. Conrock Gully will be diverted around the active mining areas into the Isaac River, with the diversion remaining post mining. Any residual void remaining post mine life will not be located within the 0.1% AEP flood event.

A mine affected water dam will store water from the pit, ROM pad, go line and crib area, with the ability to transfer mine affected water to and from IDM and IPM within IPC's integrated water management system, thereby enabling the balancing of water supply and demand. Sediment water drains and dams will be constructed to capture runoff from overburden dumps. Clean water drains and dams will be constructed to separate clean water from mine affected water and sediment water.

IPC has access to external raw water supplied from SunWater and has excess storage capacity for water within existing mined voids and dams. As the Project's water management systems will be integrated with IPC, it is anticipated that water supply will be available during dry periods, and storage capacity will be able to receive any excess water during wet periods. Therefore no new sources of water supply will be required.

Topsoil stockpile areas will be used for storage of topsoil that has been stripped from mining and infrastructure areas, for future use in rehabilitation.

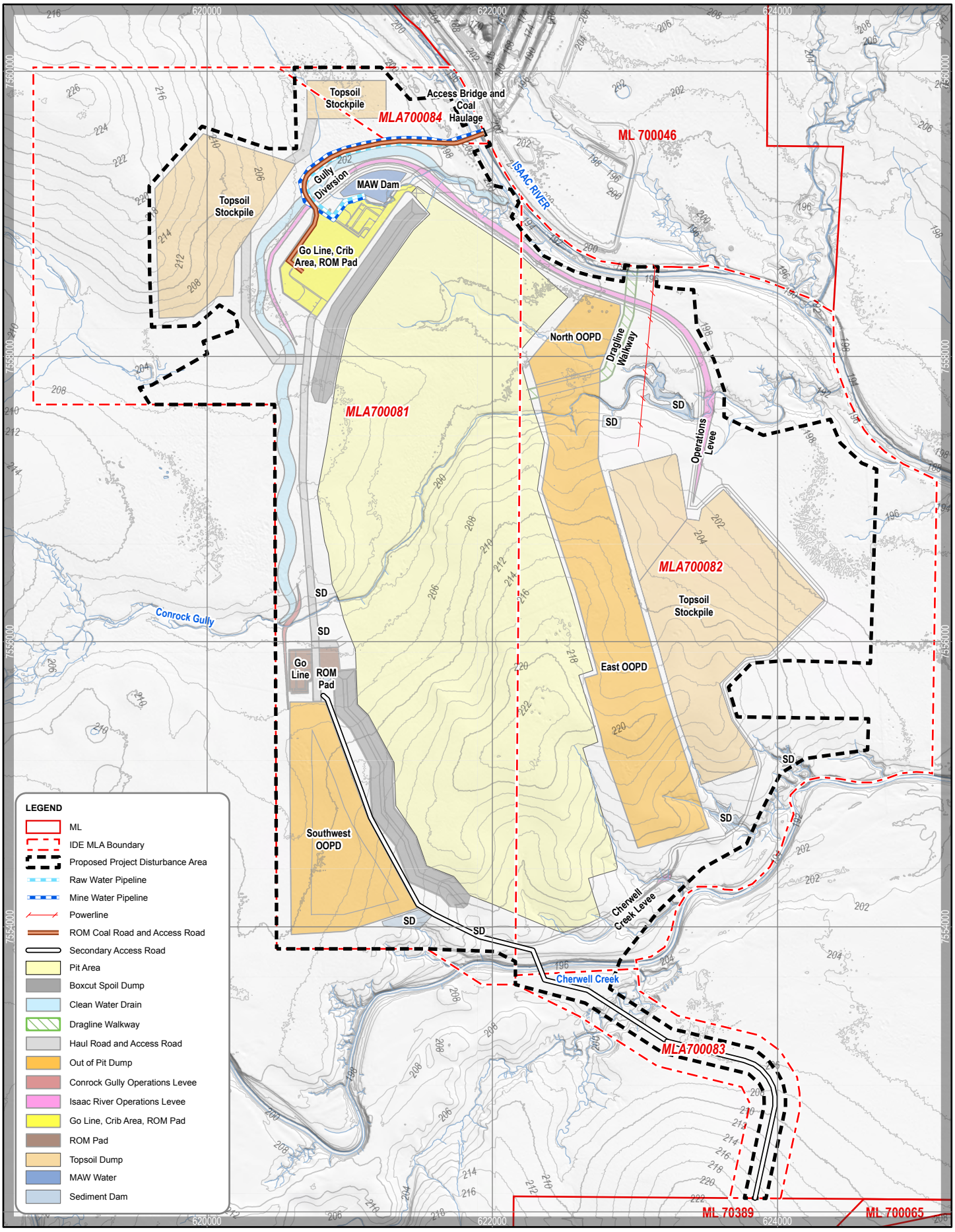
Power for the dragline will be supplied to the Project via powerline connections with existing power supply at IDM. The Project may require additional linear infrastructure at IDM to facilitate the extension of IDM mining activities to the Project, however this will be within areas authorised for disturbance.

The proposed Project layout, MLA areas and proposed disturbance area is shown in Figure 5-1. The proposed disturbance allows for working and construction areas within and around proposed Project activities and infrastructure. The area of the 4 MLAs is 2,707 ha and the proposed disturbance area is 2,080 ha. The disturbance area has been refined to minimise and / or avoid sensitive ecological features (e.g. habitat for listed threatened species and riparian areas). The disturbance area may be subject to further refinement for environmental or operational reasons. The disturbance area excludes approximately 2.5 ha of disturbance on IDM MLs for which an IDM EA and PRCP schedule amendment will be required.

The Project operational workforce will be similar to, but lower than that for current operations at IPC, with around 300 - 400 workers, compared to around 400 - 450 workers. Approximately 100 – 150 workers will be engaged at the Project for infrastructure construction. The Project, being an extension of mining activities at IPC, is therefore important to ensure a near steady state workforce across IPC beyond 2027 and 2028.

Workforce accommodation arrangements will continue in a similar manner to those for the current IPC workforce, being a mix of residences in Moranbah and other local or regional towns, and mine accommodation villages in the region. Through the Project, Stanmore will continue to support local and regional suppliers and contractors, providing additional economic benefits and employment in the region.

The Project is not proposing any novel or unproven resource extraction process, technology or activity.



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ISAAC DOWNS EXTENSION

Draft Project Layout and Disturbance Area

Figure | 5-1

5.2 Project Location

5.2.1 Regional Project Location

The Project's regional location is described in Section 1 and shown in Figure 1-1 and Figure 1-2.

5.2.2 Local Project Location and Mining Lease Application Areas

MLAs have been submitted for the Project, with Figure 5-2 showing the boundaries of the MLAs. For the purposes of this IAS, the 'Project area' is defined as the MLA boundary areas; however the Project's disturbance area will ultimately be less than the MLA boundary areas. Figure 5-2 shows:

- IPC, inclusive of the Project's MLAs being integrated into IPC
- the granted MLs for nearby mines, including Stanmore's Poitrel Mine and Eagle Downs project
- Isaac River and Cherwell Creek which are located at or near the Project's MLA boundaries
- Conrock Gully, a defined drainage feature under the Water Act upstream of Project mining activities, bisecting the MLA boundaries.

The Project is located immediately south of IDM with the MLA boundaries abutting the IDM ML 700046 boundary. IDM's environmental approvals and MLs were granted in mid-2021 with mining commencing shortly thereafter. ROM coal from IDM is transported to the IPM CHPP for washing.

The Project's MLAs are located on underlying exploration permit for coal (EPC) 755 owned by a Stanmore subsidiary (Stanmore IP Coal Pty Ltd), and on mineral development licence (MDL) 277 and EPC 548 owned by Anglo Coal (Grosvenor) Pty Ltd (Anglo Coal) and Exxaro Australia Pty Ltd (Exxaro). A subsidiary of Stanmore and Anglo Coal and Exxaro executed an agreement in September 2024 giving Stanmore the right to conduct exploration activities (including environmental studies) and apply for MLs over part of MDL 277 and EPC 548.

The Project has the potential for cumulative impacts with other mines and projects shown on Figure 1-2 and Figure 5-2:

- IPM, IDM and Poitrel Mine, active open cut coal mines operated by Stanmore subsidiaries
- Millennium Mine, inactive open cut coal mine operated by a Stanmore subsidiary
- Eagle Downs mine – an underground coal mining project proposed by a Stanmore subsidiary that has not commenced mining
- Winchester South mine – an open cut coal mining project proposed by Whitehaven Coal that has not commenced mining
- Caval Ridge / Peak Downs / Peak Downs East mine – active open cut mines operated by BHP, its subsidiaries and partners
- Moranbah South project – an underground coal mine proposed by Anglo Coal and Exxaro that has not commenced mining.

5.2.3 Overlapping Tenements

Figure 5-3 shows non-mineral tenements overlapping the Project's MLA boundary areas. These comprise exploration tenement only (i.e. no production tenements):

- Authority to prospect (ATP 1103) – CH4 Pty Ltd (a subsidiary of Arrow Energy)
- Exploration permit geothermal (EPG) application 2047 - Australis Energy Pty Ltd.

There are no petroleum leases or other resource production tenures that overlap with the Project's MLA boundary areas. The proponent will engage with the overlapping tenement holders in accordance with requirements of relevant resource legislation.

5.2.4 Properties and Sensitive Receptors

Table 5-1 and Figure 5-4 describe and show property boundaries within and adjoining the MLA boundaries. The Project area is largely located on Winchester Downs station (Lot 8 SP277834), but also has overlaps with a State Reserve (Lot 9 GV33) which has grazing rights for the owners of Winchester Downs, a local road used to access Winchester Downs, the Isaac River and Cherwell Creek. Winchester Downs station is a pastoral operation with the land within the MLA areas primarily used for grazing. The State Reserve is a nominated stock route, although this is disconnected from other stock routes in the region.

There is a single sensitive receptor (Winchester Downs homestead) within approximately 5 km of proposed mining activities, as shown on Figure 5-4. Other sensitive receptors, within approximately 10 km of the Project area are shown in Figure 5-5.

The proponent has tenement and land access arrangements (e.g. conduct and compensation arrangements) to enter the Project area for the purpose of conducting environmental studies, including environmental surveys, groundwater bore installation and drilling access.

Table 5-1 Properties within the Project Area

Lot and Plan	Tenure	Owner
8 SP277384 (Winchester Downs)	Freehold	Private landowner
9 GV33	Reserve, with purpose of 'camping, water and road' as a stock route	State Owned
B GV33 (on Lot 9 GV33)	Lands Lease	Lease held by owner of Lot 8 SP277384 (Winchester Downs) for grazing purposes
A GV33 (on Lot 9 GV33)	Permit to occupy	Permit to occupy held by former owner of Lot 8 SP277384 (Winchester Downs) for grazing purposes
Isaac River	Boundary watercourse	State Owned
Cherwell Creek	Boundary watercourse	State Owned
Road	Local road (segment 37555066), utilised for access to Winchester Downs	Isaac Regional Council

5.2.5 Native Title

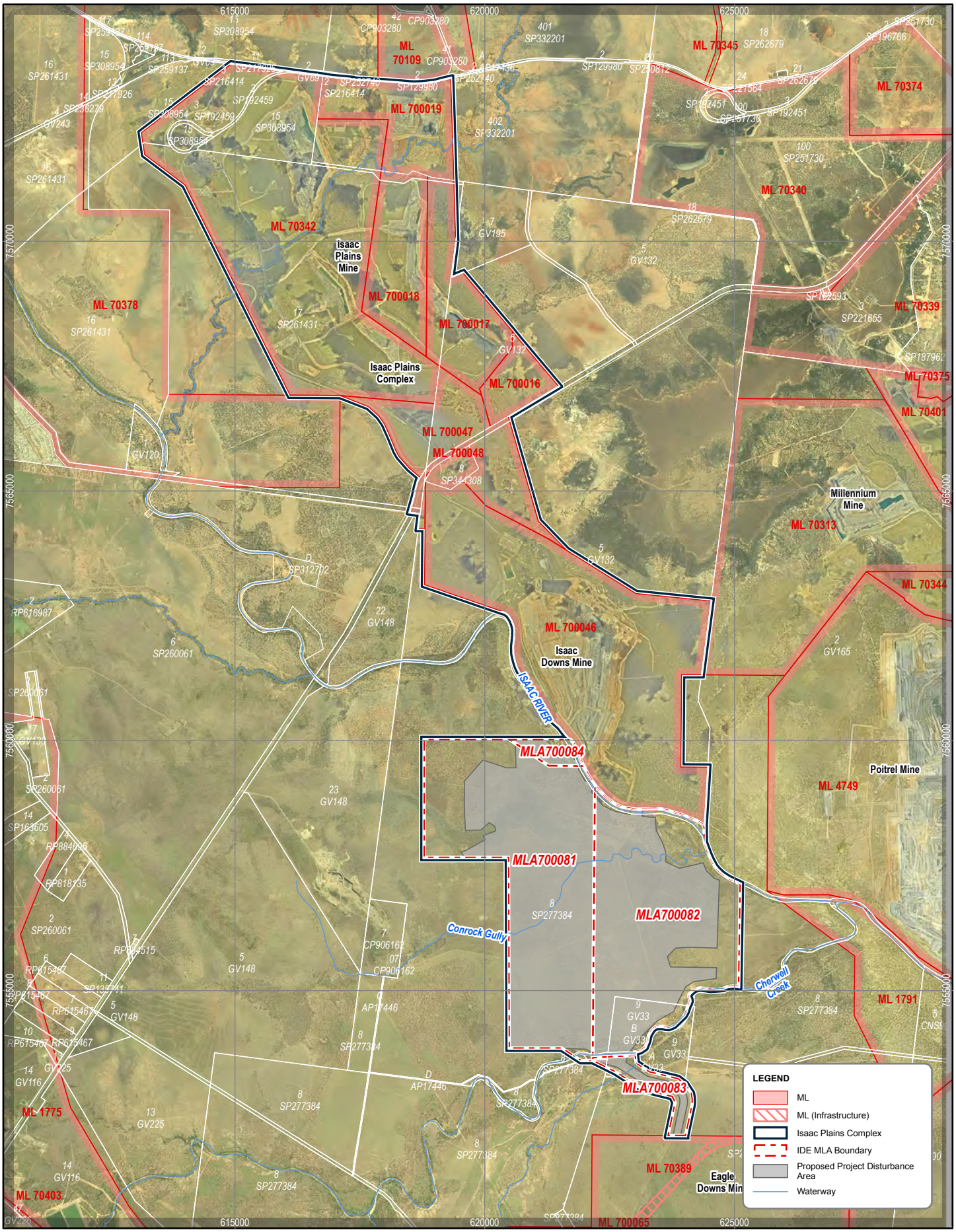
The Barada Barna Aboriginal Corporation (BBAC) is the registered native title holder for that land. Figure 5-6 shows properties where DNRMMRRD mapping indicates native title is not extinguished. Native title exists over areas of the Isaac River, Cherwell Creek and within a stock reserve located to the southwest of the Project. A native title agreement will be required with the BBAC prior to the grant of MLs.

5.2.6 Environmental Features

Central Queensland has a sub-tropical, continental climate characterised by high variability in rainfall, temperature and evaporation. The region can experience droughts, floods, heatwaves and frosts. In

general, winter days are warm and nights are cool, while summer days are hot and nights are warm. Rainfall is summer dominant with almost half of the average annual rainfall occurring from December to February due to storms and tropical lows associated with cyclones.

Environmental features of the Project area and surrounds are described and shown in Section 6, including topography (Figure 6-1), local and regional catchments (Figure 6-3 and Figure 6-5) and soils (Section 6.1). Geology of the Project area is described in Section 5.4.



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Metres

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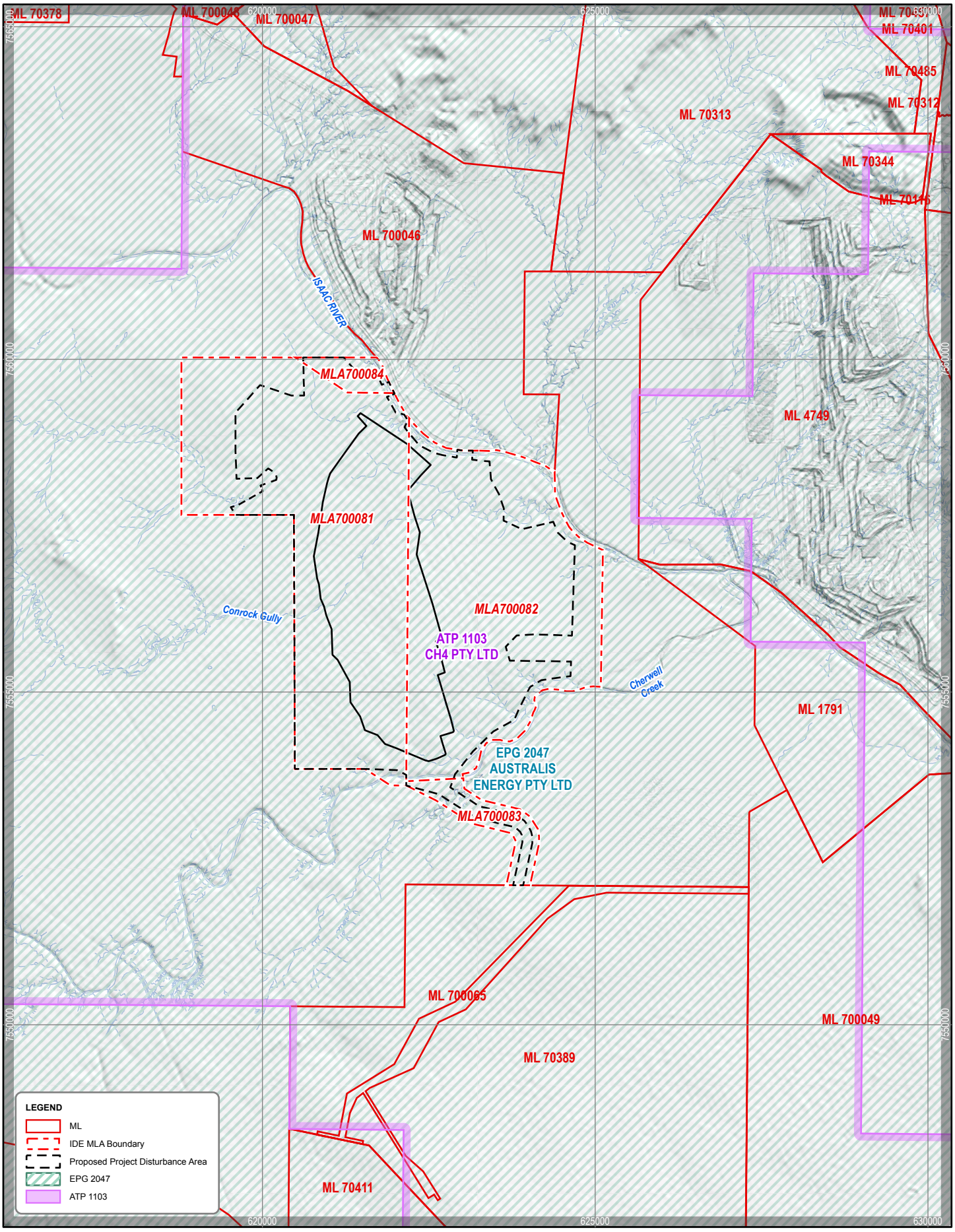
ISAAC DOWNS EXTENSION

Local Project Location

Figure | **5-2**



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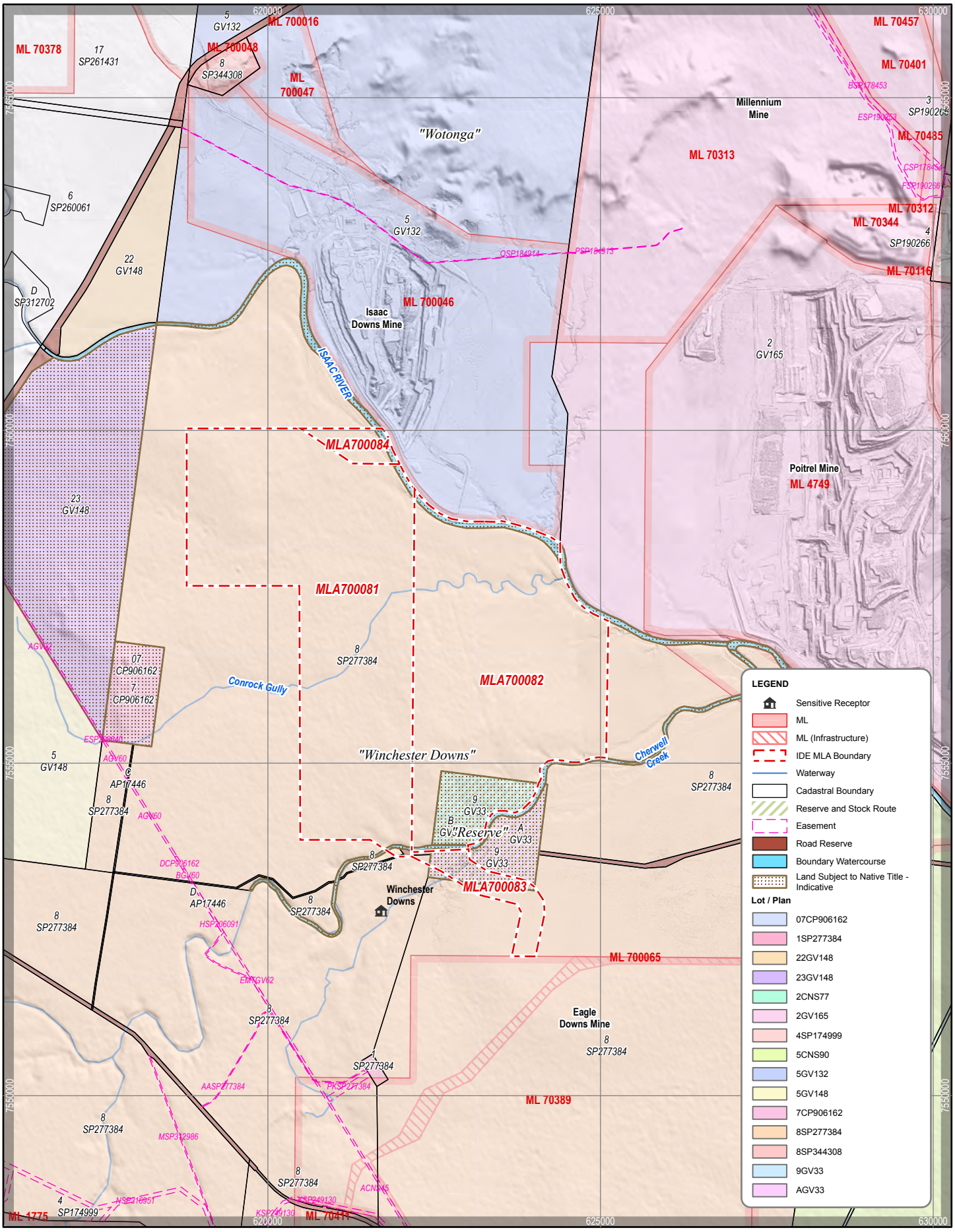
ISAAC DOWNS EXTENSION

Overlapping Tenements

Figure | **5-3**


ML 70378
17 SP261431
5 GV132
ML 700016
ML 700048
8 SP344308
ML 700047
"Wotonga"
ML 70457
ML 70401
Millennium Mine
3 SP190264
ML 70485
ML 70313
6 SP260061
5 GV132
ML 70312
ML 70344
4 SP190266
ML 70116
22 GV148
D SP312702
ML 700046
Isaac Downs Mine
ISAAC RIVER
2 GV165
MLA700084
Poitrel Mine
ML 4749
23 GV148
MLA700081
8 SP277384
07 CP906162
7 CP906162
Conrock Gully
MLA700082
"Winchester Downs"
Cherwell Creek
5 GV148
6 AP17446
8 SP277384
9 GV33
B GV33
"Reserve"
A GV33
MLA700083
Winchester Downs
D AP17446
ML 700065
Eagle Downs Mine
1 SP277384
ML 70389
4 SP174999
ML 4775
ML 70411
620000
625000
630000
7550000
LEGEND
Sensitive Receptor
ML
ML (Infrastructure)
IDE MLA Boundary
Waterway
Cadastral Boundary
Reserve and Stock Route
Easement
Road Reserve
Boundary Watercourse
Land Subject to Native Title - Indicative
Lot / Plan
07CP906162
1SP277384
22GV148
23GV148
2CNS77
2GV165
4SP174999
5CNS90
5GV132
5GV148
7CP906162
8SP277384
8SP344308
9GV33
AGV33
0 500 1000 1500 2000 2500
Metres
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DISCLAIMER: Third party data sources are used in this map compilation.
Minserve makes no warranty regarding this data's accuracy or currency.
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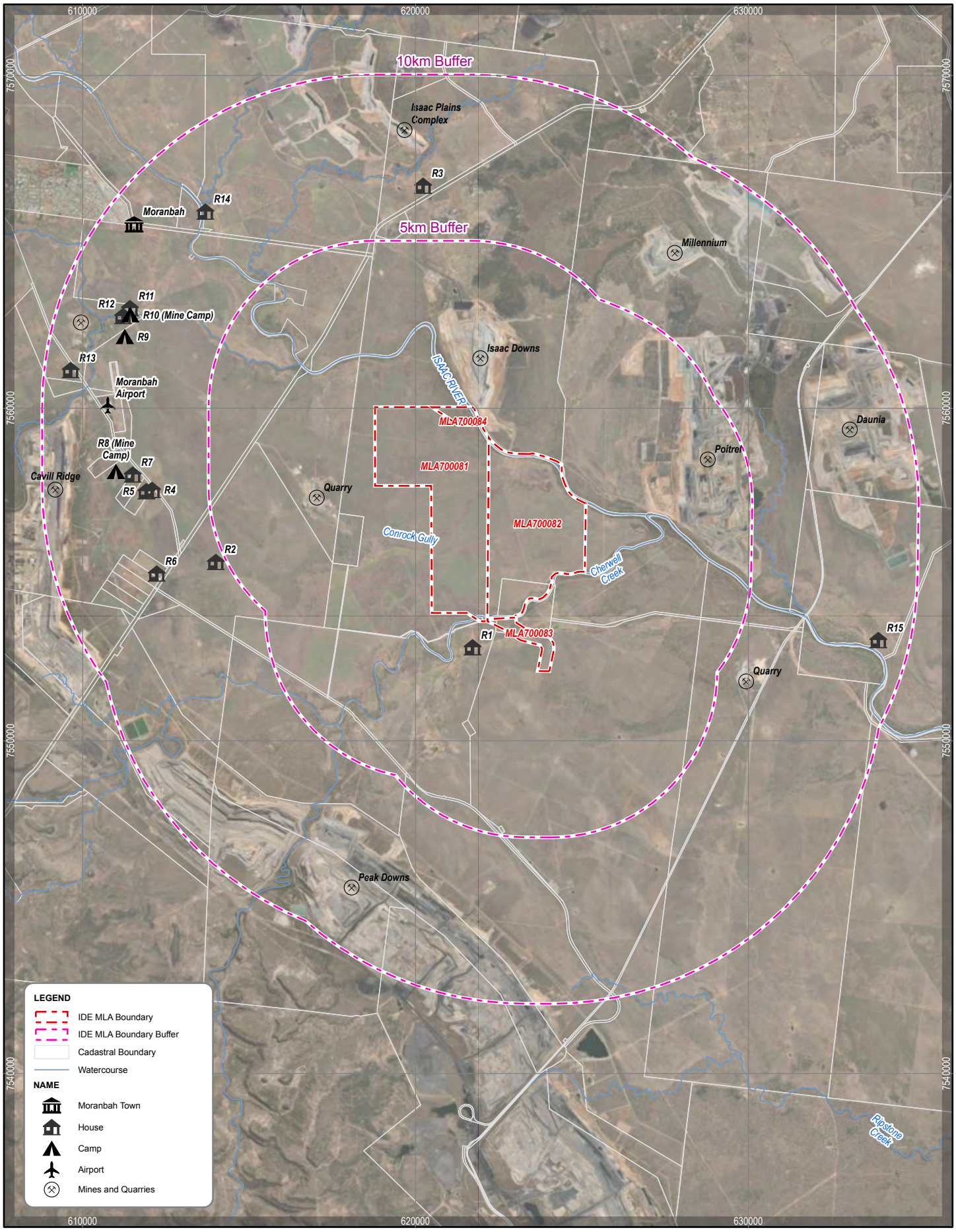
ISAAC DOWNS EXTENSION
Properties and Sensitive Receptors
Figure | 5-4



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Kilometers

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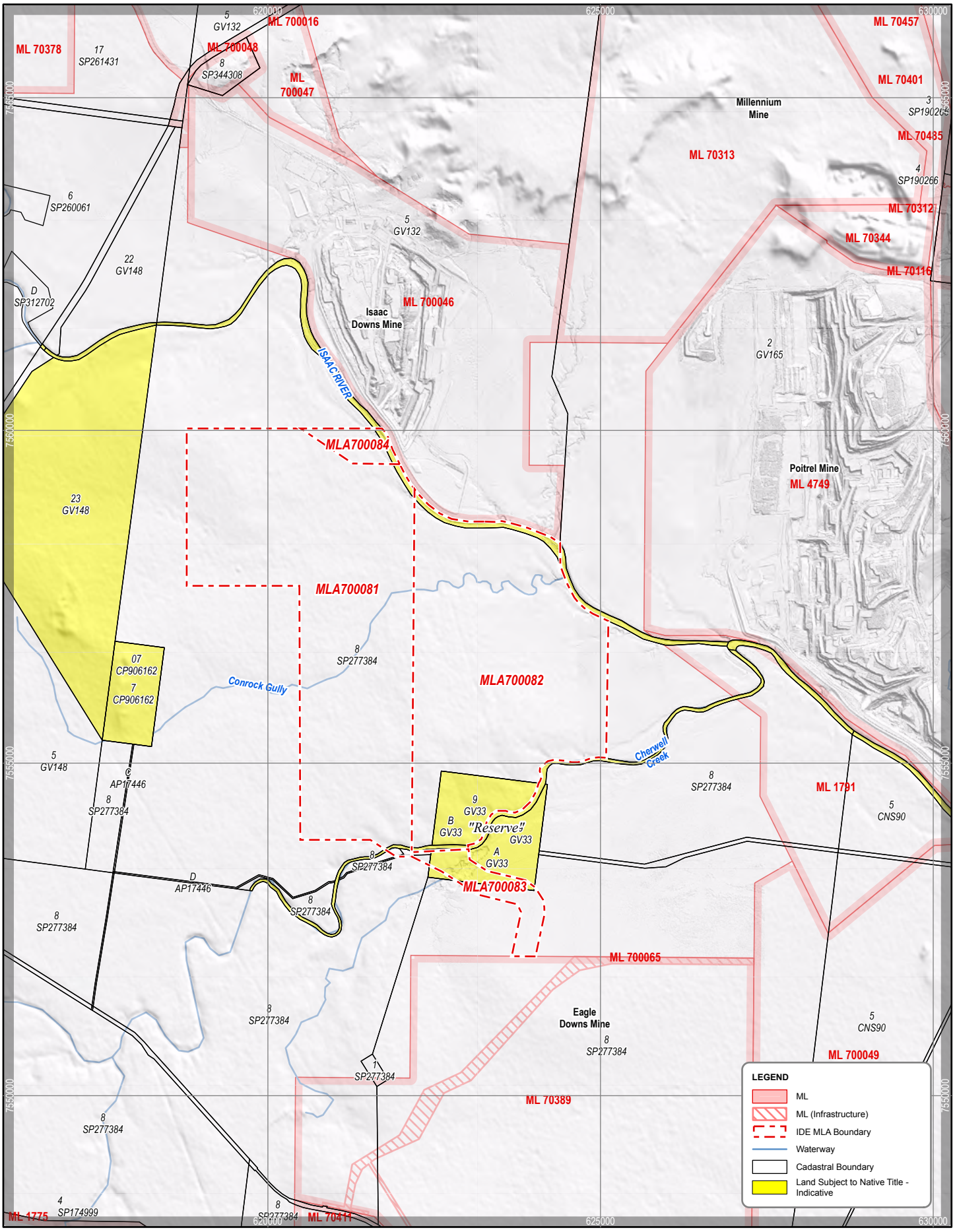
ISAAC DOWNS EXTENSION

Sensitive Receptors

Figure | **5-5**



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ISAAC DOWNS EXTENSION

Native Title

Figure | **5-6**

5.3 Integration with IDM and IPM

Mining of ROM coal at IDM is expected to ramp down between 2026 and 2028. ROM coal has been mined at a rate of approximately 3 – 4 Mtpa at IDM since operations commenced mid 2021, with a similar rate forecast until 2027, after which mining ramps down to under 1 Mtpa. The Project will mine ROM coal at a rate of approximately 2 – 4.5 Mtpa, effectively extending the life of ROM coal mined from IDM, allowing for the transition of the workforce from IDM and ongoing utilisation of the dragline and IPM CHPP.

The Project, once approved, will result in an extension of mining operations of IPC. The key aspects of Project integration with IPC are:

- Continued employment of the workforce at IDM and the IPM CHPP.
- Transport of ROM coal from the Project to the IPM CHPP via new and existing haul roads, primarily utilising existing haul roads.
- Washing of ROM coal at the IPM CHPP, with no changes required at the CHPP to allow washing of Project ROM coal.
- Railing of product coal from the IPM CHPP utilising the Goonyella rail line to transport product coal to Dalrymple Bay Coal Terminal (DBCT).
- Disposal of rejects and tailings within existing dumps and mined voids at IPM.
- Access to the Project for light and heavy vehicles from the Peak Downs Highway utilising new and existing roads on IDM to the point of connection with the Project's proposed bridge crossing of the Isaac River.
- Supply of water to the Project from either the SunWater raw water pipeline to IPC, or from existing water storages (e.g. voids, dams, etc), for which new and existing pipelines will be required.
- Ability to transfer excess mine affected water from the Project to existing voids and storages at IPC, via new and existing pipelines.
- Connecting to a suitable power supply source at IDM with new power lines required for supply of power to the Project.
- Utilisation of the dragline currently operating at IDM, with the dragline walked to the Project via a temporary dragline route, including a crossing of the Isaac River.
- Utilisation of mining equipment (e.g. excavators, haul trucks) currently operating at IDM.
- Utilisation of the explosives magazine reload facility at IDM with transport of explosives along existing and proposed haul roads

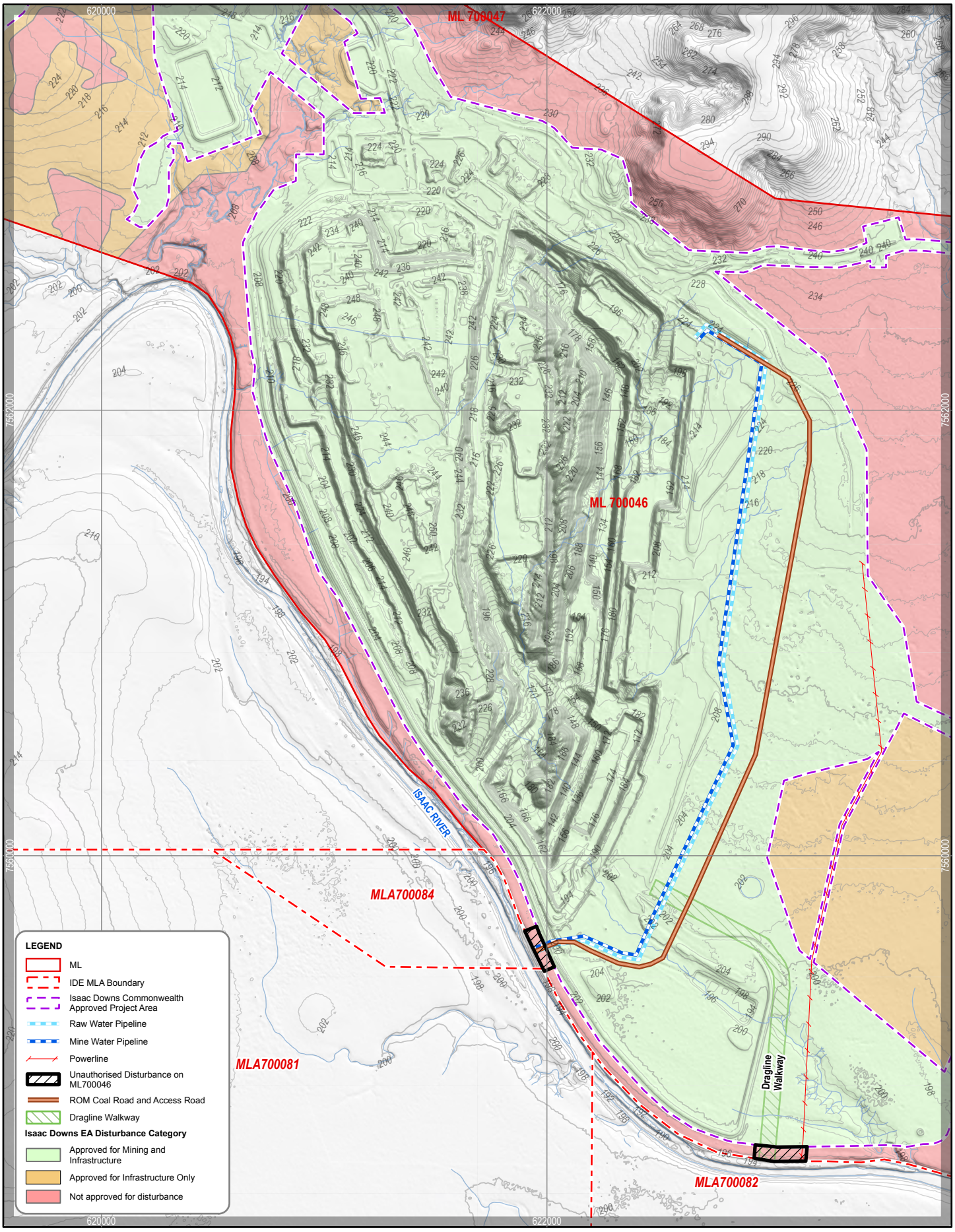
The Project related activities that would result in disturbance at IDM are approved under existing State and Commonwealth approvals, as shown in Figure 5-7; except for two small areas (approximately 2.5 ha in extent) on the north side of the Isaac River at the crossing locations. Approvals for activities in these two areas will be sought as:

- an EA and PRCP schedule amendment to the IDM EA and PRCP schedule
- part of the 'action' defined for the Project for Commonwealth approvals under the EPBC Act.

The ongoing utilisation of infrastructure at IDM to support the Project (e.g. the MIA and haul roads) may result in a delay to the timing of rehabilitation milestones approved in the IDM PRCP schedule. Therefore it is expected that a future amendment will be required to the IDM PRCP schedule once the Project has secured all approvals and there is a change to the infrastructure decommissioning schedule at IDM.

Rejects and tailings management at IPM is expected to occur in accordance with the Mine Waste Management Plan authorised by the IPM EA, and the methodologies described in the IPM PRCP (see Section 5.5.3 for additional information). However the timing of completion of proposed PRCP schedule rehabilitation and improvement milestones will be extended beyond that currently anticipated to allow for disposal of rejects and tailings the Project. Therefore it is expected that a future amendment will be

required to the IPM PRCP schedule, once the Project has secured all approvals and there is a change to the reject and tailings management schedule at IPM.



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Metres

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ISAAC DOWNS EXTENSION

Isaac Downs Mine
Proposed Disturbance Area and Approvals Boundaries

Figure | **5-7**

5.4 Coal Resource and Geology

The coal resource has been defined through multiple exploration programs involving drilling and seismic over prior decades. The Leichhardt and the Vermont seams form the principal economic coal resources in the Project area.

The Project's coal deposit area is located in the northern part of the Permo-Triassic Bowen Basin. Structurally, the deposit lies on the western boundary of the deformed Nebo Synclinorium immediately west of the regional Isaac Thrust fault system. To the east and north of the thrust, seams are repeated.

The economic seams are contained in the Late Permian Rangal Coal Measures which are approximately 100 m thick. The Rangal Coal Measures are underlain by the Fort Cooper Coal Measures and overlain by the Late Permian to Early Triassic Rewan Group. The regional stratigraphy of the North Bowen Basin is shown in Figure 5-8.

The Rangal Coal Measures comprise light grey, cross-bedded, fine to medium grained labile sandstones, grey siltstones, mudstones and coal seams. Cemented sections are common in the sandstones. The transition from the Rangal Coal Measures to the Rewan Formation is generally difficult to define and is often based on the change from the green-grey colour of the Rewan sandstones to the blue-grey colour of the Rangal sandstones. The transition between the formations is 15 to 60 m above the first major seam in the Rangal Coal Measures, being the Leichhardt Seam.

The Fort Cooper Coal Measures comprise typically tuffaceous sandstones, siltstones, mudstones and coal seams. The transition between the Rangal Coal Measures and the Fort Cooper Coal Measures is generally clearly marked by the Yarrabee Tuff - a basin-wide marker bed comprised of weak, brown tuffaceous claystone.

The deposit area contains Quaternary sediments range in thickness from 2 to 20 m (average 7.8m). Some thicker Quaternary sediments are present along the banks of the Isaac River in the north and a minor amount along Cherwell Creek to the south. Figure 5-9 shows the typical local stratigraphy of the area. In the north of the Project area the Leichhardt and the Vermont seams coalesce to form a thickened pod of coal. The Vermont coalesces with the Girrah seam in the south of the Project area. The Rangal Coal Measures dip to the east at 2 to 6 degrees.

Depth of weathering over the whole deposit ranges from 11 to 36 m averaging 20 m. Non-coal Permian sediments consist of moderately weak to strong sandstones, siltstones and minor mudstones. Sandstone and siltstone appear to be co-dominant. There are no significant Tertiary basalt flows in the Project area.

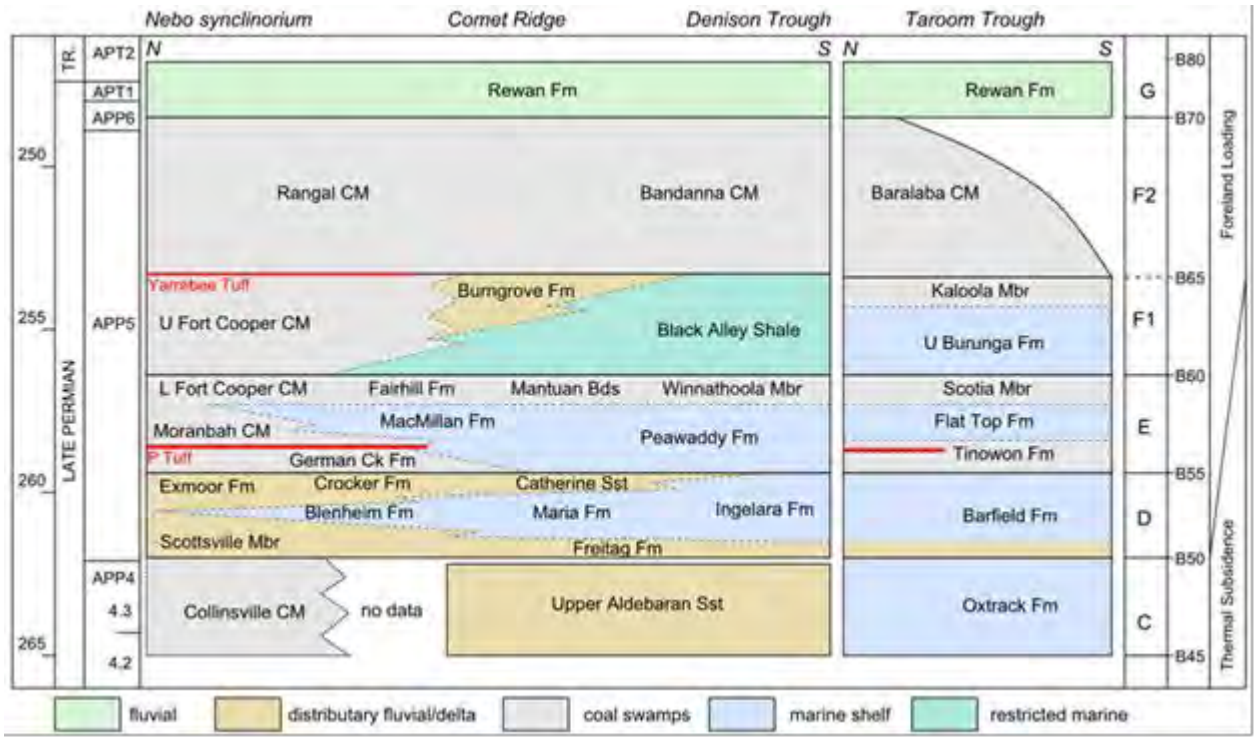


Figure 5-8 Regional Stratigraphy of the North Bowen Basin

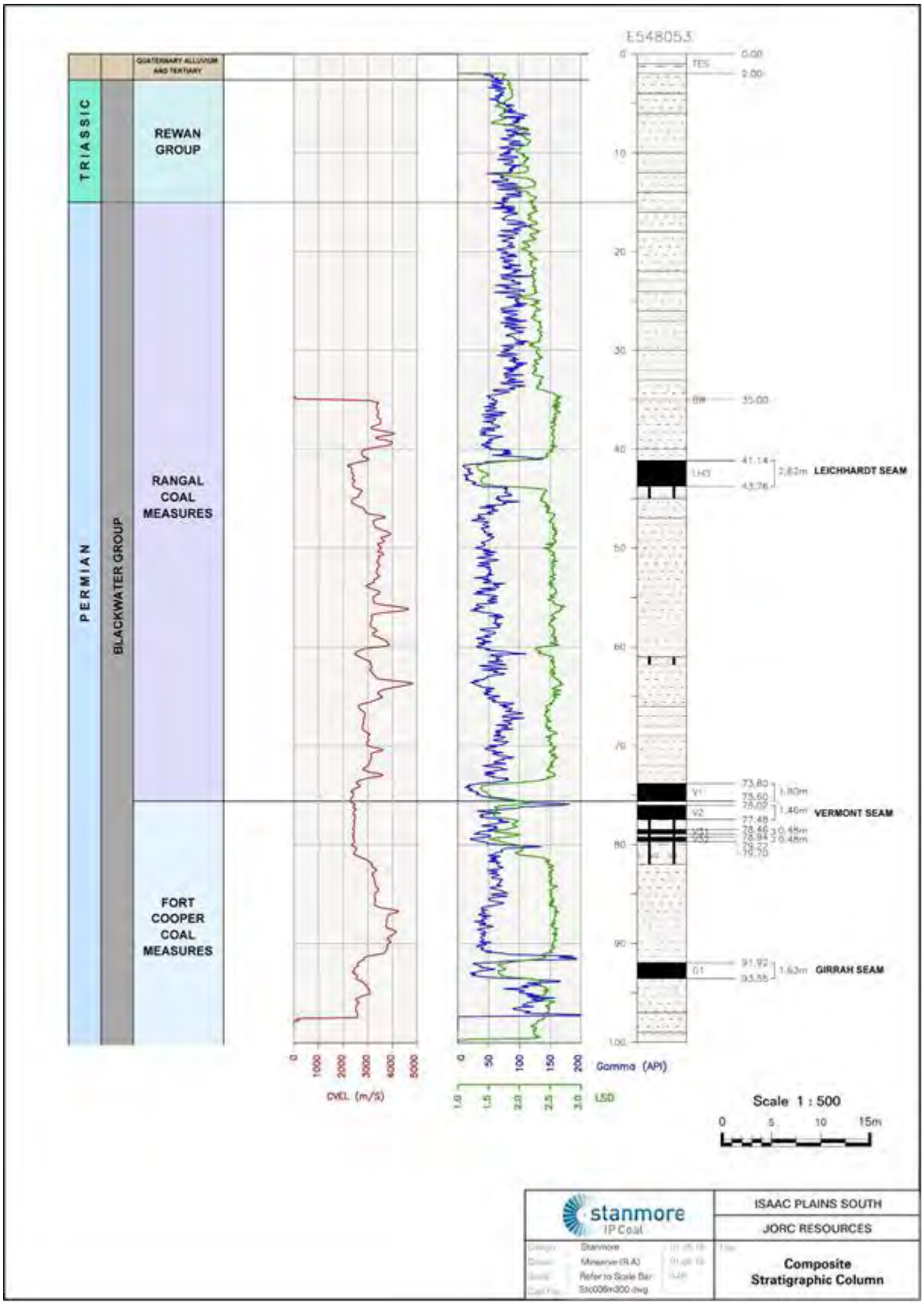
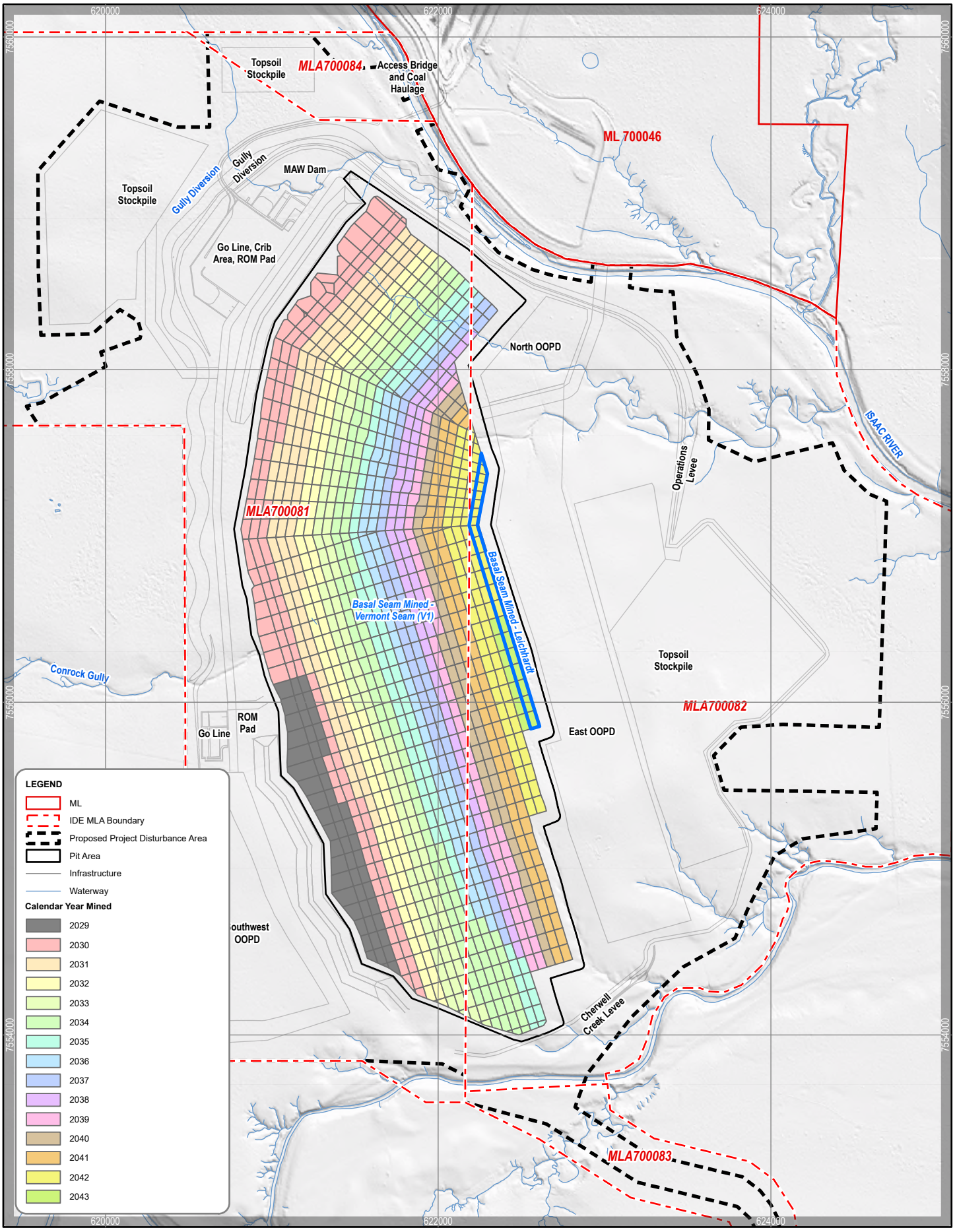


Figure 5-9 Local Stratigraphy

5.5 Mine Schedule

Whilst the Project comprises a single open cut pit, the pit development will commence in the south and expand to the north. Mining will generally be in an easterly direction following the dip of the coal seams. A period progress plot is provided in Figure 5-10.

It is proposed to construct the Isaac River levee and Conrock Gully diversion at the commencement of the Project. Mining activities (e.g. topsoil stripping, overburden removal) may commence in the southern areas where a levee and diversion is not required to protect the pit from flooding. Once the levee and diversion are constructed mining can occur in the central and northern areas. The proponent may stage the construction of the levee and diversion as and when required for protection of mining activities.



Minserve: M:\Stc0077m\02 ARC\GIS\Isaac South\20250508 Period Progress by Strip.aprx

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Metres

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ISAAC DOWNS EXTENSION

Period Progress Plot
- Basal Seam Mined

Figure | **5-10**

5.5.1 ROM Coal Extraction

The forecast annual ROM coal extraction rate (tonnes) for the Project is shown in Figure 5-11. ROM coal extraction varies between around 2 and 4.5 Mtpa, with higher ROM coal extraction in the initial years, before declining to around 2 Mtpa in later years. Approximately 46 Mt of ROM coal will be extracted over the life of the Project.

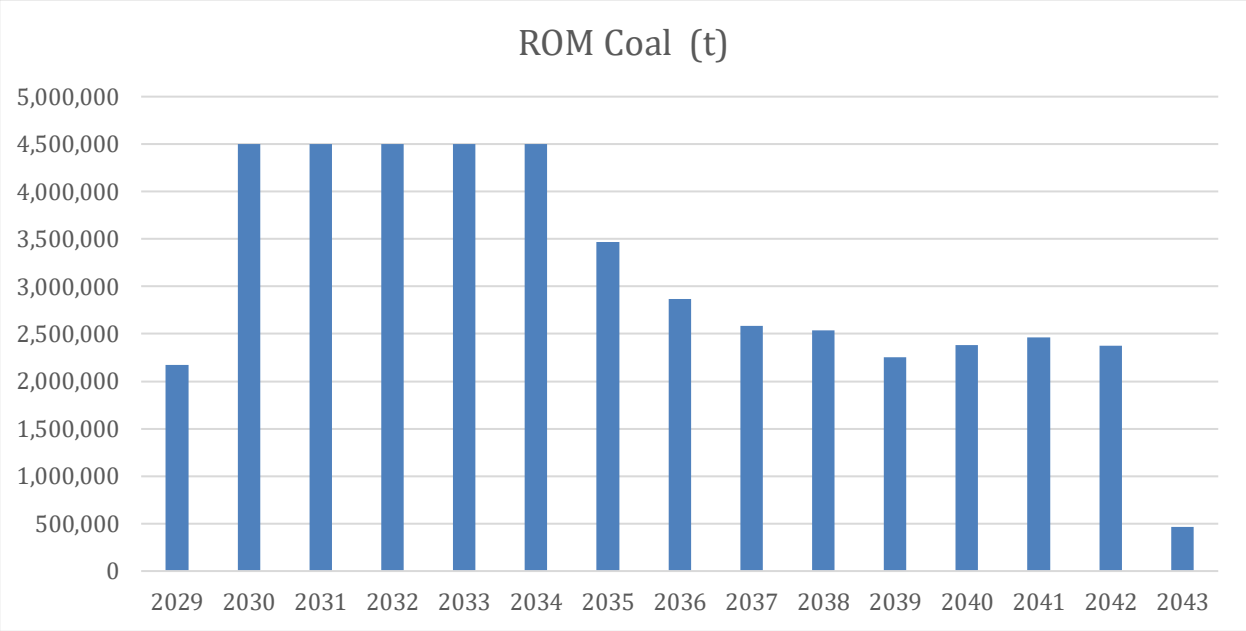


Figure 5-11 Annual ROM Coal (Tonnes)

5.5.2 Product Coal

ROM coal will be washed at the IPM CHPP. The forecast annual product coal production rate (tonnes) for the Project is shown in Figure 5-12. Product coal production varies between around 1.5 and 3 Mtpa, with higher production in the initial years, before declining to around 1.5 Mtpa in later years. Approximately 30 Mt of product coal will be produced over the life of the Project. The majority of product coal, around 60%, will be a pulverised coal injection (PCI) metallurgical coal. As a by-product from the CHPP, a mid to high energy thermal coal will also be produced for use in cement making or power generation.

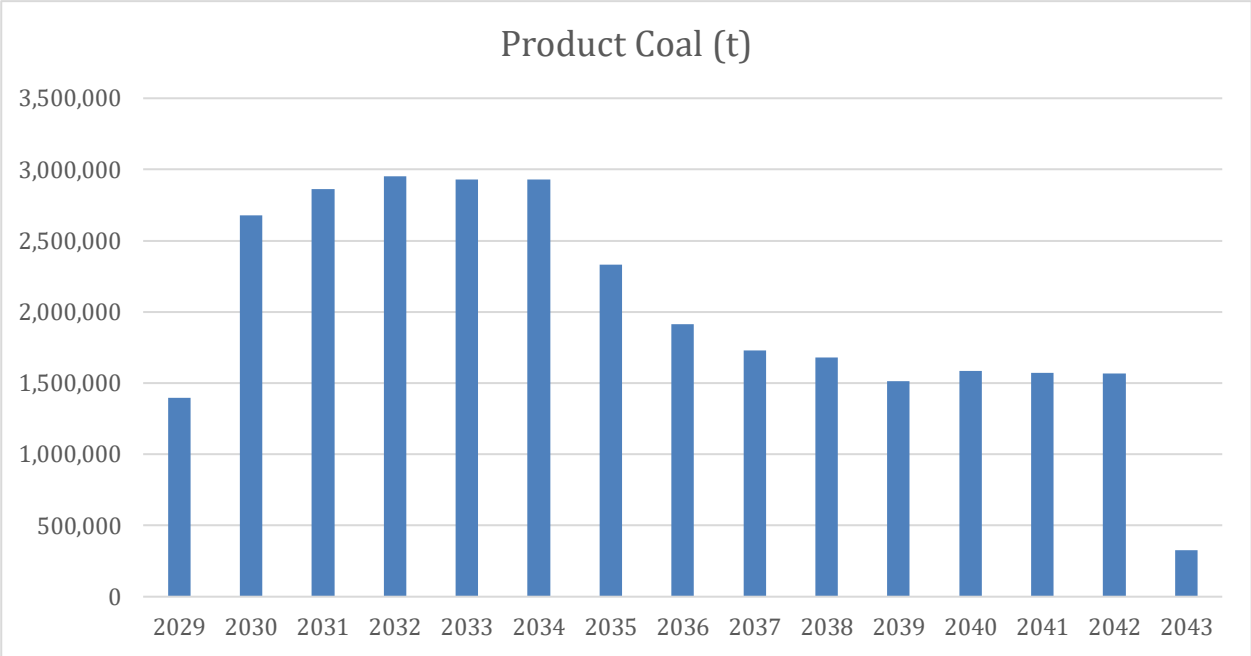


Figure 5-12 Annual Product Coal (Tonnes)

5.5.3 Rejects

Coarse rejects and fine tailings (together 'rejects') will be produced from washing of coal at the IPM CHPP. The forecast annual rejects production rate (bank cubic metres (bcm)) for the Project is shown in Figure 5-13. Rejects production varies between around 0.4 and 0.9 million bank cubic metres (Mbcm) per annum. Approximately 7.5 Mbcm of coarse rejects and 2 Mbcm of tailings will be produced over the life of the Project. Table 5-2 provides the life of IPC rejects and tailings volumes for disposal at IPM, inclusive of volumes from washing of coal from IPM, IDM and the Project. In accordance with currently authorised rejects and tailings management measures at IPM, coarse reject will be disposed of within cells in the overburden dumps, and tailings will be disposed of within a residual void. Rehabilitation of in-pit tailings disposal areas and coarse rejects areas within the dumps will be in accordance with methodology described in the IPM PRCP and Mine Waste Management Plan, summarised as:

- Coarse reject cells will be landformed (e.g. to a slope percentage required by the PRCP schedule), capped with a cover system, growth medium will be applied, vegetation will be established, and a stable, grazing post mining land use will be established.
- Tailings will be disposed of within an approved, safe and geotechnically stable void (non-use management area), covered by an in-pit cover system or void water, with void water levels remaining below the groundwater source / sink level, such that voids continue to be groundwater sinks.

IPC has sufficient available dump and void capacity for the storage of 11.6 Mbcm of rejects and 3.2 Mbcm of tailings (i.e. the volumes estimated per Table 5-2). The dump in the N1 pit area has available capacity for 11.6 Mbcm of rejects, with the dump height remaining below the current height of the rehabilitated dump landforms. The residual void at N1 pit has available capacity of 15 Mbcm before reaching the groundwater source / sink level, as identified in studies for the IPM PRCP. Therefore, with 3.2 Mbcm required for life of mine tailings disposal, this represents around 20% of the available volume. Utilising existing overburden and void areas at IPM for storage of rejects and tailings removes the requirement for above ground storage tailings storage facilities.

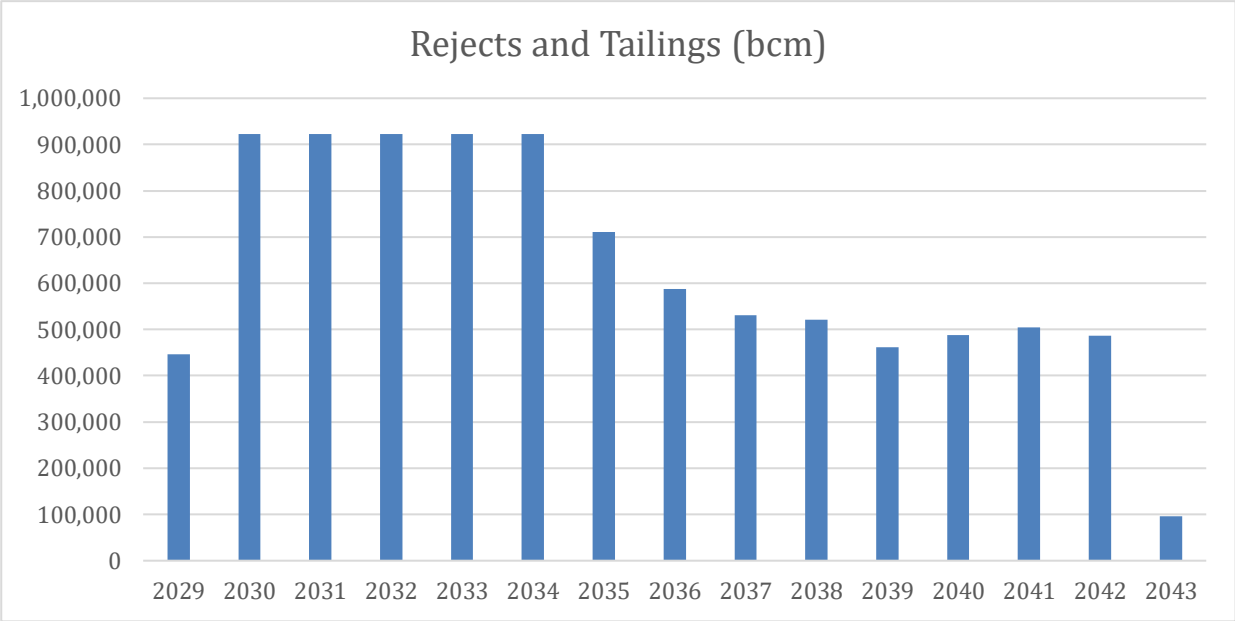


Figure 5-13 Annual Rejects and Tailings (bcm)

Table 5-2 IPC Life of Mine Rejects and Tailings

Source / Volume	Coarse rejects (Mbcm)	Tailings (Mbcm)	Total (Mbcm)
IPM and IDM	4.1	1.3	5.4
IDE (the Project)	7.5	2.0	9.5
Total (bcm)	**11.6**	**3.2**	**14.8**

5.5.4 Overburden

Approximately 20 to 30 Mbcm per annum of overburden will be removed, with the majority of overburden (around 90%) placed in-pit in previously mined areas.

5.6 Coal Mining

5.6.1 Overview

The open cut mining methods for the Project will be similar to those at IDM. Project mining will involve the following activities:

- clearing of vegetation
- stripping and stockpiling of topsoil
- drilling and blasting of pre-strip overburden
- removing the pre-strip overburden using dragline and / or truck and shovel fleets and/or dozers
- drilling and blasting of overburden
- drilling and blasting of pit floor for geotechnical stability, allowing for in-pit dumping
- overburden removal using dragline and / or truck and shovel fleets
- coal mining using excavators
- progressive rehabilitation of overburden dump areas.

5.6.2 Permits to Disturb

All ground disturbance will be subject to a disturbance permitting system which considers a number of factors, including:

- State and Commonwealth approvals
- need for the disturbance
- method of disturbance
- spotter catcher requirements
- drainage and sediment control requirements
- vegetation status
- cultural heritage matters
- vegetation and topsoil recovery
- rehabilitation.

5.6.3 Vegetation Clearing

Progressive clearing of pasture grasses, tree and shrub regrowth, and remnant vegetation will be required ahead of topsoil stripping for the proposed activities. Clearing will be undertaken progressively, as areas are required for mining, and to minimise exposed areas. Fauna spotter catchers will be engaged to conduct pre-clearance surveys prior to vegetation clearing.

5.6.4 Topsoil Stripping

Following vegetation clearing, topsoil will be recovered using dozers, and relocated using front end loaders, trucks and/or scraper fleet. Topsoil will either be used directly on areas of progressive rehabilitation or stockpiled for later use if no areas for rehabilitation are available at the time of stripping. Topsoil stockpiles will be appropriately located and sized to minimise loss of biological and physiochemical integrity. An inventory of topsoil will be maintained on site which records details such as stripping and stockpiling date, quantity, amelioration, analysis results and usage location.

5.6.5 Overburden Removal

Mining will utilise an open cut mining technique where strips and blocks are mined in succession, thus allowing overburden from one strip or block to be dumped into a previously mined out area. Overburden from an initial strip or box cut will be taken to an out of pit dump. Overburden will also be taken to an out of pit high wall dump. Overburden may be utilised in the construction of associated infrastructure such as roads and water management structures.

After topsoil has been removed from a strip, the overburden waste material will be drilled and blasted and subsequently removed by a combination of dragline, truck/shovel, truck/excavator or dozer push methods in order to expose the top coal seam.

A schematic, representative of this type of open cut mining operations, is shown in Figure 5-14.

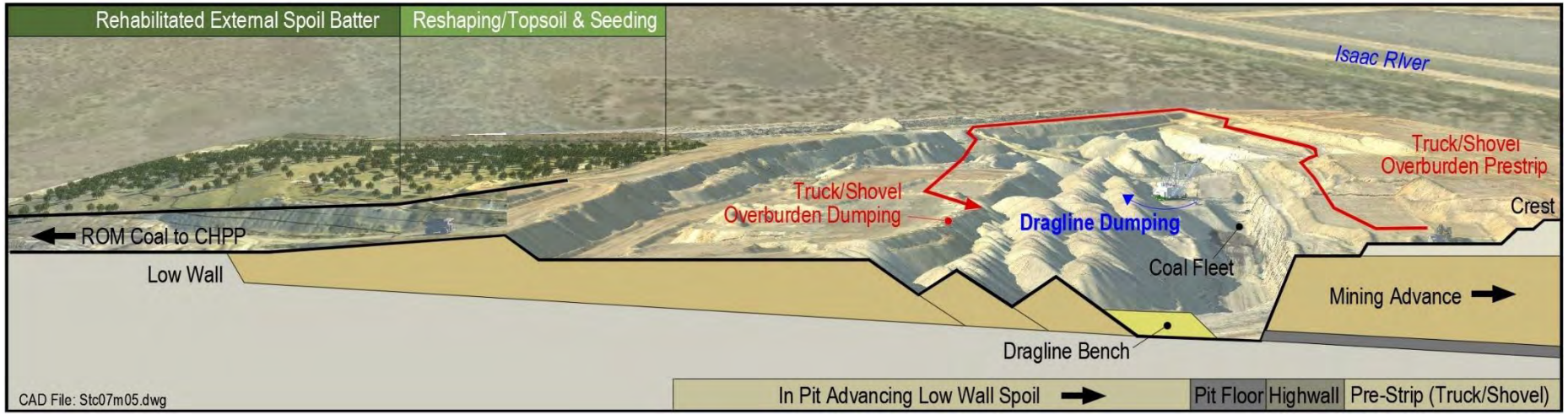


Figure 5-14 Open Cut Mining Schematic

5.6.6 Overburden Characterisation and Management

As the overburden in the Project's resource area is from the same geological formation at IDM, it is expected that the overburden will share the same geochemical characterisation. This will be further tested as Project assessments are undertaken. Per information provided in the IDM EIS, overburden material at IDM is non-acid forming, with very low total metal and metalloid concentrations, and is erosive and dispersive to varying degrees (IP South, 2020). Runoff from overburden dumps will be managed through a sediment water management system (see Section 5.7).

5.6.7 Coal Recovery

Mining the coal seam will continue along the length of a strip or terrace until the end of the strip or terrace is reached. Once the coal seam has been mined out the strip will become available as a dumping destination.

The coal will be mined using front end loaders or excavators and placed into rear dump trucks for haulage. The haul trucks will transport the coal along the strip or terrace, up a ramp out of the pit, then along internal haul roads to the ROM coal pad. ROM coal will be transported to the IPM CHPP for washing; likely utilising off-road road trains (e.g. C triples), or similar.

5.6.8 Mining Equipment

The Project will utilise a similar mining fleet to that utilised at IDM. The existing fleet operating at IDM will most likely be deployed to the Project area in stages, and will comprise the following approximate equipment:

- 1 dragline
- 2 large excavators (400 – 450t) for overburden removal
- 2 smaller (approximately 120 - 350 t) excavators for overburden, coal and general site works
- 10 large dump trucks (190 – 220 t) for overburden
- 5 smaller dump trucks (85 – 190 t) for coal, rejects and topsoil
- 14 dozers (D10 and D11 sizes)
- 4 graders
- 4 water trucks
- 2 loaders
- 3 overburden drills.

In general, the dragline or large excavators mine the overburden and thick partings, which are then dumped directly in dragline overburden piles or hauled by rear dump trucks to their planned dump site. The thinner partings and coal are likely to be mined by smaller excavators or loaders. A range of auxiliary fleet is utilised to maintain roads and dumps, and complete rehabilitation, which includes graders and dozers. Water carts are employed on-site to minimise dust levels. A drill is also used for drilling out blast patterns on the overburden and thick partings.

5.7 Water Management

The water management strategy is for separation of mine affected water, sediment affected water and clean water.

Mine affected water will be collected in the pit before transfer to a turkey's nest mine water dam (see Figure 5-1). Mine water can then be used for dust suppression, piped to IDM or IPM if there is excess water or, alternatively, be released in a controlled manner to the Isaac River (i.e. dependent on flows and water quality in the receiving environment) to protect downstream water quality. If mine water is required at the Project (e.g. for dust suppression) then water can be transferred from existing storages at

IDM and IPM. A detailed mine water balance, that integrates the Project, IDM and IPM will be developed for the Project.

Design and sizing of the mine water dam will be undertaken as part of the detailed water balance for the Project, and an assessment will be completed as to whether the mine water dam is a regulated structure, and hence subject to design criteria for a regulated structure.

The mine water transfer pipeline will be installed in a linear infrastructure corridor adjacent to the haul road, and will be fitted with leak detection shut-off. Where the water pipeline crosses the Isaac River the pipe will either be located with the bridge or will be trenched and buried below predicted scour depth with the pipe encased through a larger diameter pipe (enveloper) to protect it from damage.

The mine water pipeline will be approximately 300 – 400 mm diameter polyethylene pipe. Pumps will used to transfer water along the pipelines. Mine water transfer pipelines will include engineered controls such as isolation valves, pressure release valves and flow meters, to prevent or minimise any accidental releases of water during transfer between IPC and the Project.

Sediment affected water, primarily from runoff from overburden dumps prior to and during rehabilitation stages, will be captured in sediment dams, designed in accordance with relevant engineering standards, to allow settlement of sediments before release of water. An erosion and sediment control plan will be developed for the Project. Water from sediment water storages will be preferentially used for dust suppression.

Clean water from upgradient of the mining activities will be diverted around the mining activities into the Isaac River or Cherwell Creek. During stages of mine life, some small clean water catchments may be within the Isaac River levee and report to a clean water dam, from where clean water will be pumped to the Isaac River.

5.8 Water Supply

Water demand for the Project will primarily be for dust suppression and vehicle washdowns, with an initial estimate of 700 - 750 mega litres per annum (ML/a) required. Water for dust suppression (around 90% of demand) will be obtained from mine affected and sediment affected water stored at the Project, in accordance with the water management plan. If water required for dust suppression is not available in Project water storages it will be pumped from existing water storages at IDM or IPM. Water storages at IPM and IDM, which supply water for various purposes at IPC, have contained between 700 and 3,200 ML at various times during the past 3 years, demonstrating that there is sufficient water within the system to meet forecast demands. Initial water balance modelling indicates that during periods with median to lower than average rainfall, the Project will be a net importer of water from IDM and IPM; but during periods with higher than average rainfall the Project will be a net exporter of water to IDM and IPM.

Raw water is currently supplied to IPC via the Eungella Burdekin water supply pipeline under contract with SunWater, with approximately 1,200 ML/a available. The requirement for raw water at the Project will be limited to vehicle washdowns and fire fighting water storage (estimated at less than 50 ML/a). Raw water requirements for the Project are substantially less than the existing capacity available under contract with SunWater. The Project will have minimal impact on the volume of raw water required and therefore additional SunWater supply is not expected to be required. Raw water could also be made available to meet demands for dust suppression if required, with this demand well below the existing capacity available under contract with SunWater. A raw water pipeline will be constructed between IDM and the Project, likely in a similar corridor to the mine water transfer pipeline. The raw water pipeline will be approximately 300 mm diameter polyethylene pipe.

Potable water for the crib area will be trucked to site.

There is no requirement to source additional water from surface water or groundwater sources.

5.9 Levees and Gully Diversion

5.9.1 Levees

A levee, approximately 5 km in length, will be constructed adjacent to the Isaac River to protect mine pits from the 0.1% AEP (1:1,000 year) flood event (see Figure 5-1). The Isaac River levee will be located outside the high bank of the Isaac River to minimise impacts on the zone of riparian vegetation. A buffer distance of approximately 200 m or greater is proposed between the levee and high bank of the Isaac River.

A levee, approximately 500 m in length, will be constructed adjacent to Cherwell Creek to protect mine pits from the 0.1% AEP (1:1,000 year) flood event (see Figure 5-1).

All levees will be designed in accordance with The Manual for assessing consequence categories and hydraulic performance of structures (Queensland Government, 2016) (the Manual) with a flood immunity level for the 1:1,000 year flood event. Levees will be regulated structures and will be designed and certified by a suitably qualified person (i.e. registered professional engineer Queensland (RPEQ)).

Levee construction will occur prior to mining in the 1:1,000 year flood zone. Levees will be constructed from adjacent borrow material within the disturbance footprint and / or from suitable overburden material, conditioned with water, placed and compacted. Based on the conceptual levee design, levees range in height between less than 1 m and 10 m, with 25 % batter slopes. Detailed levee design will be undertaken for the Project and could include cut-off trenches beneath the levee, erosion protection such as rock armouring, and capping of the levee crest.

5.9.2 Conrock Gully Diversion

Conrock Gully comprises portions that are a defined drainage feature and a defined watercourse under the Water Act, with the drainage feature portion commencing from upstream of the Project area through the mining area, and the watercourse portion mostly downstream of mining activities. Conrock Gully enters the Isaac River approximately 3 km upstream of the confluence with Cherwell Creek. The proposed diversion is located with the portion of Conrock Gully defined as a drainage feature. Conrock Gully's catchment area is approximately 2% of the catchment size of the Isaac River upstream of the Project.

Conrock Gully flows will be diverted to the Isaac River, approximately 3 km upstream of the existing confluence with the Isaac River. The diversion will be designed to contain at 1:1,000 year flood event and meet the accepted standards for diversion design to be geomorphically stable. The diversion is intended to remain in the post mining landform. Due to the relative size of its catchment compared to those of the Isaac River the diversion is expected to have minimal influence on the hydrology of either system.

The proponent has considered an option to divert Conrock Gully to Cherwell Creek. Whilst the current preference, based on the hydraulics of the conceptual design, is a diversion to the Isaac River, the proponent will determine whether a diversion to Cherwell Creek may be preferred.

5.10 Go Line and Crib Area

The Project will utilise the MIA at IDM, resulting in a requirement for minimal support infrastructure at the Project, comprising a go line and crib area.

The go line will have parking for heavy and light vehicles, self bunded storage tanks for fuel (around 100 kL), oil and lubricants, and laydown / storage yards.

The crib area will comprise demountable or mobile huts to accommodate around 20 people during breaks, with associated potable water storage and supply, sewage storage facilities and communications tower, all powered by a generator. A sewage treatment plant is not required, with all sewage trucked off site. Potable water will be trucked to site.

There are limited construction requirements for the go line and crib area with civil works (e.g. landform shaping and installation of a gravel layer) for area establishment and pre-fabricated infrastructure transported to the site.

Runoff from the go line and crib area will report to the mine water dam.

The MIA at IDM will continue to provide a workshop servicing mining equipment, washdown pad and consumables storage.

5.11 Haul Road, Access Road and Dragline Walk Route

The Project will have a network of internal haul roads for haulage of ROM coal from the pit to the ROM coal pad and for haulage of overburden.

A haul road will be constructed between the ROM coal pad and existing haul roads at IDM, including a bridge crossing of the Isaac River. The haul road will be used for transport of ROM coal by off-road trains (e.g. C triples), or similar. ROM coal haulage on IDM and IPM MLs will be in areas authorised for disturbance, other than small sections on the north side of the Isaac River. ROM coal haul roads on IDM and IPM MLs will utilise existing haul roads, including the Peak Downs Highway underpass.

Access to the Project will be via IDM, utilising the existing access road intersection with the Peak Downs Highway. The extension of the access route to reach the Project is likely to follow the haul road to the Project, including Isaac River bridge crossing.

A secondary access route is proposed via the Eagle Downs project MLs and will be utilised intermittently, for example when access via IDM is constrained. The secondary access route will be approximately 20 m wide with a bridge crossing of Cherwell Creek.

New sections of the haul roads will be constructed as a cut and fill, with any additional road base sourced from overburden material, and a capping material sourced from a local quarry, if quarry materials are unavailable onsite. The road material will be sourced, crushed and screened, conditioned with water prior to placement and compaction. New sections of access road, if different to new haul road sections, will also be constructed using the cut and fill method; however the specifications of this road would be lower than that of the haul road due to the differences in axle loads and will require less material. Mine equipment will primarily be used for road construction, including dozers and excavators.

The Isaac River and Cherwell Creek bridges will be approximately 110 m and 70 m long, respectively. The conceptual design of the bridges includes:

- approximate 15 m bridge width
- dual lanes
- between 2 and 4 concrete and / or steel spans supported by concrete piers, piled into the banks and beds
- less than 1:10 year flood event immunity
- rip rap rock scour protection for bank abutments to minimise risk of scour
- waterway crossings perpendicular to the waterway direction.

Bridge designs are subject to detailed design which may result in changes to the conceptual design.

A nominal 200 m width has been allowed for the construction of the Isaac River bridge, however it is expected that the construction width will be less than this.

The dragline currently operating at IDM will be walked to the Project. The proposed walk route (see Figure 5-1) is different to the haul road and access road, but will be short duration (e.g. days to a few weeks), with a temporary crossing of the Isaac River. The walk route may also be utilised by other heavy vehicles to cross the Isaac River prior to bridge construction, in which case the walk route may remain open for 6 – 12 months.

The proposed location for the dragline walk route crossing of the Isaac River has been selected based on relatively shallow and low river banks and minimising areas of remnant vegetation clearing. The dragline walk route crossing of the Isaac River will require stabilisation of the banks and beds. High voltage power lines will be installed prior to this walk, to allow for the connection of the dragline substation and dragline trailing cable to support the walk, with a required separation distance between the power line and the walk route for safety purposes. A nominal 250 m width has been allowed for the dragline walk route and power line crossing activities. The dragline walk route will be stabilised and rehabilitated after it is no longer required to manage erosion and restore ecological values along the Isaac River.

5.12 Power Supply and Communications

IPC is connected to the electricity supply grid through substations at IPM and IDM. These substations have available capacity to supply power to the Project for the dragline. Overhead 66kV powerlines will follow a linear infrastructure route with a crossing of the Isaac River, likely spanning the Isaac River between high banks. Any new powerlines on the IDM MLs will be within areas authorised for disturbance other than small sections on the north side of the Isaac River.

The go line and crib area will be powered by generators and / or solar arrays and battery banks. Power demand for the go-line and crib area is estimated at less than 0.5 MW, with allocation between generators and solar power to be determined.

Communications services at IPC will be extended to the Project using a linear infrastructure corridor for fibre optic cable and / or additional repeater stations or communications tower.

5.13 Exploration

The Project resource has been defined through exploration drilling. However, additional exploration drilling within the resource area will be undertaken to refine the geological information, as needed for detailed mine planning as mining progresses. This may involve between 10 and 20 drill holes per annum in advance of mining, and in areas to be mined.

5.14 Non-Mining Waste Management

Non-mining waste will include general waste from the crib area. Waste from sewage facilities at the crib area will be removed by a licensed contractor to a suitable waste disposal facility.

Non-mining waste will be managed in accordance with existing methodologies at IPC, including use of licensed waste contractors and disposal of tyres in the dumps. Non-mining waste will be collected onsite and transferred to an appropriately licensed waste disposal facility locally or regionally. Waste will be stored in a dedicated waste storage area, designed to separate waste types and prevent waste from being released to the environment.

5.15 Rehabilitation and Decommissioning

5.15.1 Overview

A PRCP will be developed for the Project in accordance with legislative requirements and DETSI's 'Statutory guideline - Progressive rehabilitation and closure plan (PRC plans)'. Mining areas will be progressively rehabilitated as they become available for rehabilitation. Rehabilitation milestone criteria will be developed for each stage of rehabilitation. Post mining land uses (PMLUs) will be developed for different rehabilitation areas, with the majority expected to have a grazing PMLU, as per the current land use. Some rehabilitation areas may have a PMLU of native vegetation, although other PMLU options may be considered. In developing preferred PMLUs, the proponent will consider the outcome of consultation

with the community in developing the PRCP, and any relevant strategies or plans for the land from a local government, the State or the Commonwealth. PMLU options analysis will also consider land use, geophysical, environmental and socio-economic factors.

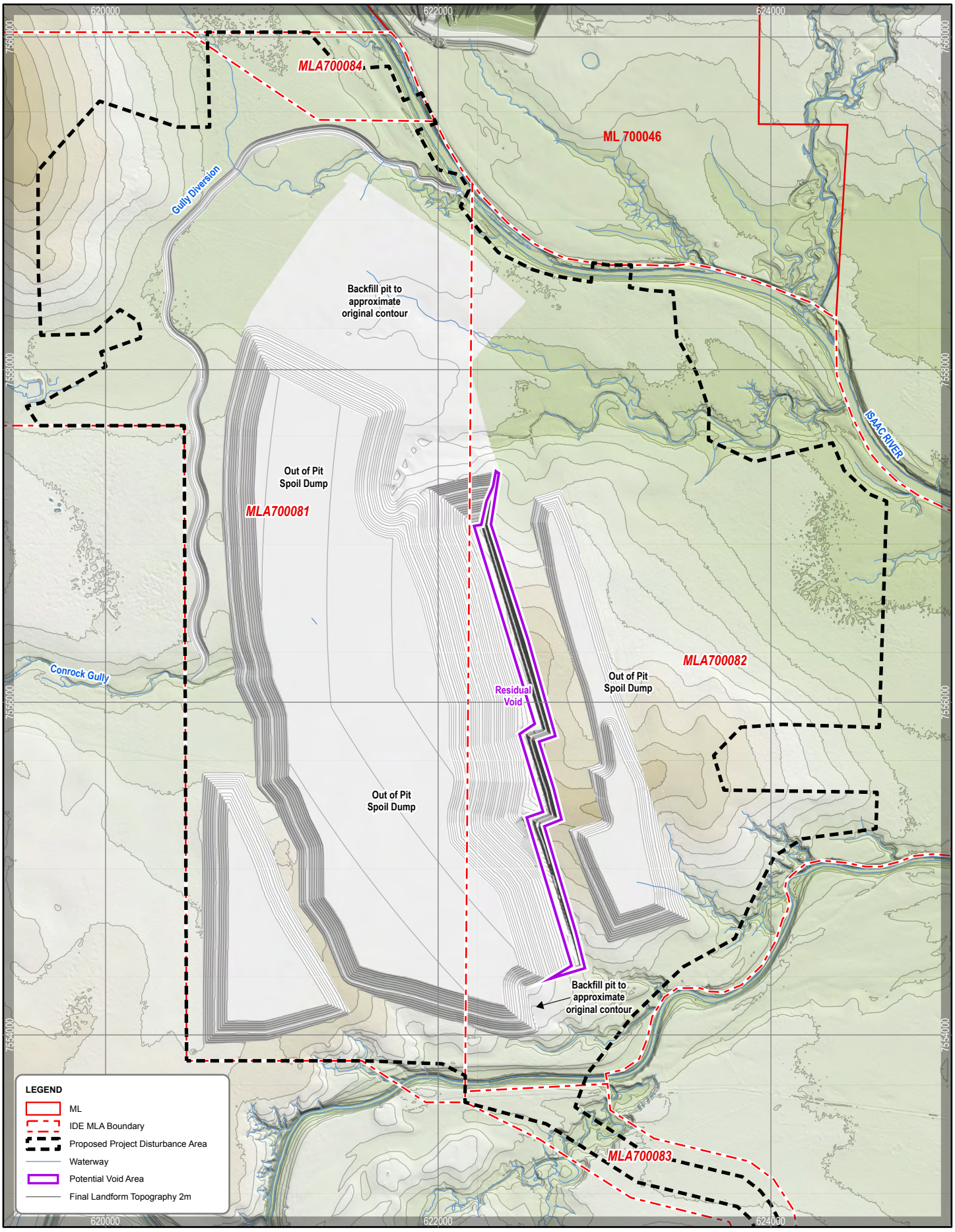
5.15.2 Final Landform

Options are under consideration for the final landform and land use of the final void area. Initial mine planning includes a high wall dump with overburden that can be used for partial backfill of the final void, as shown in Figure 5-1. The options assessment for final landforms will include studies of void water balance and water quality, hydrology (flooding), hydrogeology, geotechnical stability and land use (i.e. PMLU options). Final landform options will be considered based on the risk of environmental harm, scale of risk posed by the final landform, community and landowner consultation and public interest considerations. Final landform options will seek to utilise water in the final void for a variety of beneficial purposes, rather than result in a non-use management area (NUMA) for all or part of the final void area. The proponent will consider socio-economic costs and benefits of various final landforms in developing a preferred final landform. Options for consideration include the following:

- A residual void that is not within the 0.1% AEP (1:1,000 year) floodplain, with an example of this final landform in Figure 5-15, representing the likely maximum extent of any residual void.
- Variations of the final landform shown in Figure 5-15, including in-pit dumping strategies, and alternative sizes and shapes of any residual void that may suit potential PMLUs.

Based on preliminary flood mapping for the final landform shown in Figure 5-15 (see Figure 6-9), any final void would not be located within the 0.1% AEP (1:1,000 year) flood event.

As the Project will not have a void in a floodplain, levees will be decommissioned and rehabilitated at the end of mine life, with a PMLU developed for the former levee areas.



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Draft Final Landform
Option with Void

Figure | **5-15**

5.16 Workforce and Accommodation

The mining, coal haulage and support staff workforce at IDM will transition to the Project. The CHPP workforce at IPM will continue to support the washing of coal from the Project.

A draft workforce histogram is shown in Figure 5-16, with the estimated workforce at IPM and IDM in 2026 and 2027 (i.e. prior to the Project), the transitional stage as workers move from IDM to the IDE Project (2028), construction period (2028 and into 2029), subsequent estimates of the workforce required at the IDE Project during operations, and ongoing workforce for rehabilitation at IPM, IDM and the Project.

Excluding the construction workforce, there is expected to be a small decrease in the operational workforce in the transition from mining at IDM to mining at the Project, from around 450 workers to around 400 during the initial years of peak production at the Project. The operational workforce later declines to around 300 - 350 workers as less ROM coal is mined. In the absence of the Project, these workers would need to secure employment elsewhere.

The accommodation strategy for the operational workforce will be similar to the current strategy used by IPC, with the majority of the workforce residing in existing, local mining village accommodation and some workers residing in local towns, such as Moranbah. The proponent will provide incentives for the workforce to live locally, providing workers with genuine choice on their preferred accommodation. The majority of workers staying at the mining village accommodation are likely to drive in drive out (DIDO) from regional centres such as Mackay. The Project is not proposing a fly in fly out (FIFO) workforce, although some workers may fly to regional airports (e.g. Moranbah or Mackay) from their place of residence. Shift rosters will generally be 7 days on, 7 days off, working 12 hours per day during shifts. Some staff may work 5 days on, 2 days off.

There will be around 100 – 150 construction workers required for the Project as different infrastructure is constructed during the initial 12 – 18 months. The construction workforce will be short duration and is expected to be accommodated in an existing local mining accommodation village, other than those construction workers who live locally.

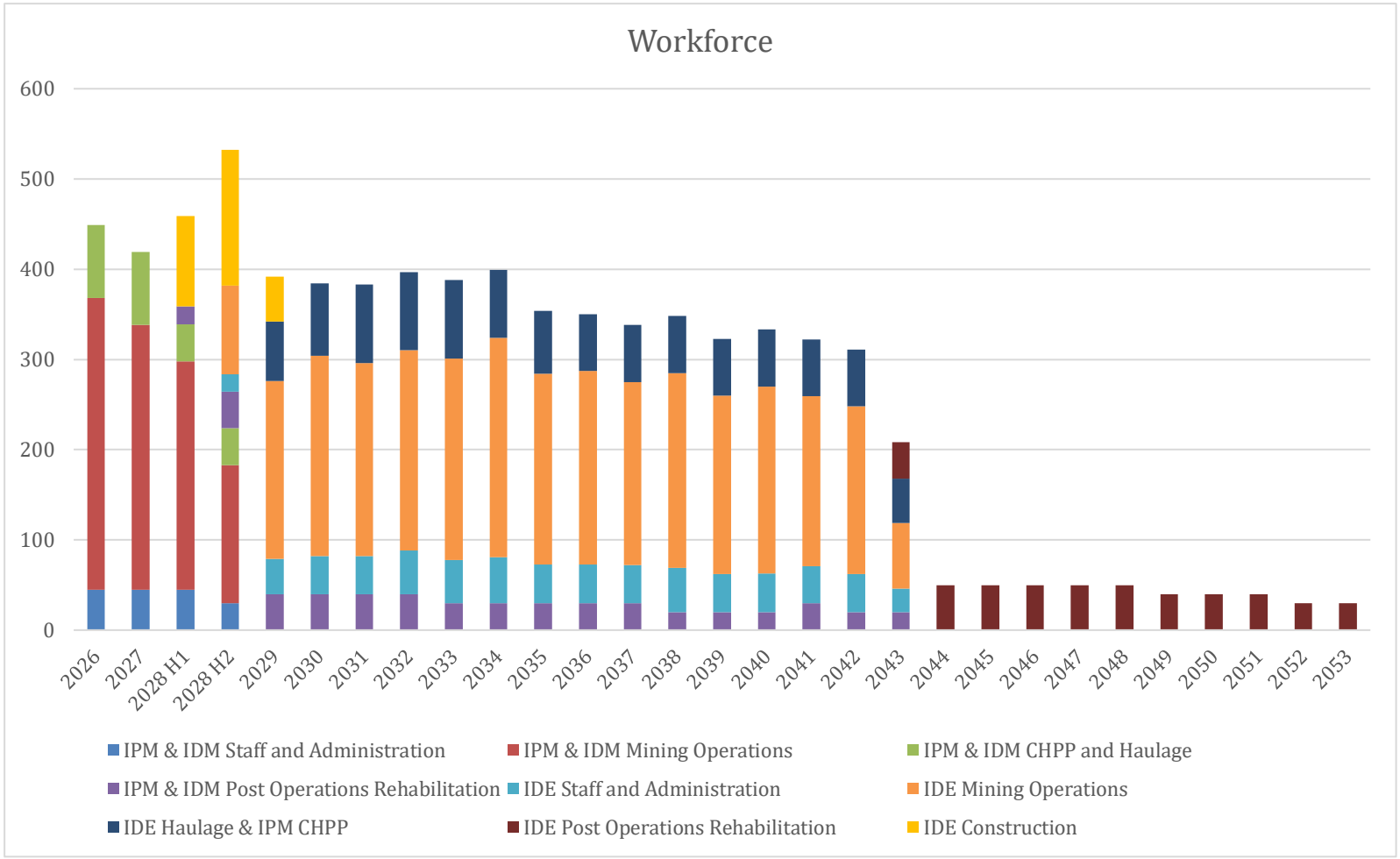

Figure 5-16 Project Workforce

5.17 Project Need and Justification

The Project will primarily produce metallurgical coal, which will be supplied to the world market, where the demand for coal in steel making is expected to remain strong. There is general alignment between long term forecasters and peak industry bodies that global steel demand will continue to grow from around 1.8 billion tonnes to around the two billion tonnes level by 2050, this group includes the International Energy Agency (IEA) (2020), CRU (2023) and the World Steel Association (2025). Over time an increasing proportion of steel is predicted to be produced from electric arc furnaces rather than from blast furnaces (requiring metallurgical coal). However, blast furnaces are forecast to remain the predominant source of crude steel over the production life of the Project, with demand for metallurgical coal for blast furnaces expected to remain strong at around 1 billion tonnes per annum through 2040. A smaller proportion of the Project's product coal will be thermal coal, with the Project supplying thermal coal to the international market for cement production and power generation. Global trade in thermal coal grew again in 2024 to an estimated total of 1,180 Mt (IEA, 2024), with China and India representing approximately 50 percent of this total. China and India continue to build coal fired power stations with a number of plants located close to port cities with coal import capabilities. Growth in renewable power remains strong (IEA, 2024), but reliance on coal and gas remains over the life of the Project to satisfy the growing demand for energy.

The Project will:

- contribute significantly to the State's economy and will provide employment opportunities through utilisation of a similar workforce to that at IDM for the Project.
- employ approximately 100 - 150 people during the construction phase and approximately 300 - 400 people during operations
- provide opportunities for supply from local and regional business in construction, transport and goods and services.
- require a capital investment of approximately $190M to bring it to full production.
- generate coal sales and exports over the life of the Project, with associated revenue benefits for the State and Commonwealth through coal royalties and other taxation.
- provide a continuous and steady level of economic activity in Moranbah and the region, as the Project substitutes activities at IDM, with ongoing opportunities for engagement of local and regional suppliers.
- capitalise on existing infrastructure and activities located at IPC, and reduce the Project's environmental footprint, by utilising existing:
    - coal processing and railing infrastructure
    - haul roads and access roads
    - open-cut dumps and voids for disposal of coarse rejects and tailings, respectively
    - open cut voids for the storage of mine affected water
    - raw water supply and power supply.

If the Project does not proceed, these socio-economic benefits will not be realised.

5.18 Project Alternatives

Project alternatives are considered in terms of location of activities, design of infrastructure and types of activities proposed.

5.18.1 Mining Location

The location of mining is dictated by the location, depth and geology of the coal resource. However, where the coal resource encroaches on sensitive areas (e.g. the Isaac River) buffer areas have been proposed

that will limit encroachment. The proposed pit shell has been defined by economic and geological constraints to the west and east; and by environmental constraints (the Isaac River and Cherwell Creek) in the north and south. Whilst the coal resource is located beneath the Isaac River the proponent has not sought to divert the Isaac River to access this coal.

5.18.2 Mining Methods

The coal resource is suited to open cut mining methods, being shallow depth (approximately 20 m) in the location of the initial box cut. Underground mining at such shallow depths is not practicable for operational and economic reasons. Hence open cut mining is the preferred mining method.

The proponent proposes to use the dragline currently in operation at IDM, supplemented by excavators, for overburden removal. Use of a dragline is the most efficient and economical, and hence least greenhouse gas intensive method for removing overburden. As a dragline is available for use for the extraction of overburden, and it is the most efficient method for overburden extraction, the dragline is preferred for the majority of overburden extraction.

The mining schedule has been designed to maximise the efficient use of mining equipment and coal recovery, with an overburden dumping schedule designed to align with the preferred rehabilitation options for the final landform. The majority of overburden (around 90%) is placed in-pit rather than out-of-pit, thereby reducing the overall Project footprint. The out of pit waste rock dumps have largely been located in cleared areas (i.e. an area without remnant vegetation), within the limits of the tenement areas available for mining activities, thereby minimising environmental impacts. There are few other alternatives for the location of out of pit overburden dumps, with other locations requiring longer haulage and greater emissions and disturbance, or located within floodplain areas.

Coal mining is proposed using conventional open cut methods including dragline (for overburden removal), excavators, dump trucks and dozers. There are no practicable alternatives to the method for coal extraction.

The preferred method for coal haulage between the Project ROM pad and IPM CHPP is via road trains, which are more efficient and economical over the haulage distance than dump trucks.

The mine sequence was selected so that any remaining residual void would not be located within the 0.1% AEP (1:1,000 year) floodplain.

Options were considered for mining of two separate pit areas without diverting Conrock Gully. However the economic benefit of resource extraction from this area, even after considering the cost of a permanent, stable diversion, was considered to outweigh the environmental values of a defined drainage feature with a very small catchment, limited remnant vegetation and surrounded by active grazing land.

5.18.3 Resource Sterilisation

The proposed mining method and sequence targets all economic coal within the resource area. As the coal seams become deeper they intersect the regional Isaac Thrust fault, and therefore there is limited potential for additional resource extraction. The overburden box cut dump has been located to the west of the ‘limit of oxidisation’ of the coal seams and therefore no economic resources are located beneath the western overburden dump.

Based on investigations for IDM, which is in the same geological areas as the Project, there is very limited potential for coal seam gas extraction from the coal seams proposed for mining due to their low gas content. Coal seams at deeper depths in the Project area remain available for coal seam gas extraction, although this resource is not currently targeted by the overlapping coal seam gas tenement holder.

The Project will not result in the sterilisation of coal or coal seam gas resources.

5.18.4 Progressive Rehabilitation and Final Landform

As described in Section 5.15, options will be developed for PMLUs at the Project, including for the final void area. Within PMLU areas, landforms will be designed so that they are geotechnically stable, safe, non-polluting and able to support the preferred PMLU. Rehabilitation milestone criteria will be developed to achieve these rehabilitation objectives.

5.18.5 Infrastructure

The proponent has taken advantage of existing infrastructure at IPC rather than develop infrastructure specifically for the Project. This provides environmental and economic benefits by reducing the Project footprint and reducing capital expenditure. The existing infrastructure at IPC that will be utilised for the Project includes the CHPP, rejects and tailings disposal in existing mining dumps and voids, train loading facility, rail loop, MIA, internal haul roads, explosives magazine, and connections to raw water, power and communication supply. By disposing of rejects and tailings from Project coal in existing mining dumps and voids respectively, the requirement for an above ground tailings storage facility at the Project is avoided, thereby by avoiding the environmental impacts that would result from an above ground tailings storage facility.

The location of mining infrastructure has been selected to minimise vegetation clearance, where possible. All potential Isaac River bridge crossing locations were similar in terms of riparian vegetation, and therefore the preferred alignment is based on engineering considerations and linkages with IDM.

A buffer distance of approximately 200 m has been maintained between the levee construction area and the high bank of the Isaac River. A buffer distance of between approximately 100 m has been maintained between the levee construction area and the high bank of Cherwell Creek. This allows for protection of riparian vegetation between the high bank and levee construction areas. Without the levee, the area of resource extraction would be significantly reduced.

The water management plan for the Project is for integration with the approved water management system for IDM, rather than being developed as an independent system. This allows for balancing of mine affected water and minimises the potential for uncontrolled releases of mine affected water from the Project. If a standalone mine water management system were proposed for the Project, this would increase the risk of uncontrolled releases of mine water, increase the size and footprint of the mine water dam and increase the risk of stoppages to operations. Therefore the preferred option, being an integrated mine water management system for the Project and IPM, provides environmental and economic benefits.

5.18.6 Accommodation

The accommodation strategy is for a combination of accommodation in local centres and use of existing mining accommodation villages. It is not proposed to develop a mining camp at the Project as the workforce is transitioning from IDM (i.e. similar workforce numbers) and there is available accommodation at existing mining accommodation villages in the area. The accommodation strategy has been developed to encourage workers to live locally, without overwhelming housing and social services in Moranbah and other local communities. Workers who do not live locally will continue to be accommodated at existing mine village accommodation.

6. ENVIRONMENTAL, SOCIAL AND ECONOMIC VALUES

6.1 Land

6.1.1 Existing Land Features and Environmental Values

The following section outlines the existing land features and environmental values of the Project area and surrounds.

6.1.1.1 Properties and Tenements

Section 5.2 describes properties and tenements of the Project area and surrounds.

Existing infrastructure in the Project area comprises that required to support cattle grazing activities, including landholder tracks, fencing, stock watering pens, pipelines and water bores. Infrastructure adjacent the Project is similar but also includes the residence and stockyards on Winchester Downs and a power line to the residence.

6.1.1.2 Land Use

The properties within the Project area are utilised for cattle grazing, associated with the Winchester Downs property. This includes the State Reserve (Lot 9 GV33) which is leased to the owners of Winchester Downs property, and the Isaac River and Cherwell Creek boundary watercourses. The State Reserve is a nominated stock route for the purpose of 'camping, water and road'. However, this stock route is disconnected from any other nominated stock routes. Grazing within these properties occurs in cleared areas, and areas of regrowth and remnant vegetation.

Within the local area, coal mining and pastoral activities are the predominant land use. The Project is consistent with the surrounding land use.

The current pastoral activities on the land will likely continue until such time as the land is required for mining operations. Non-operational land will remain available for pastoral uses throughout the life of the Project, where safe.

6.1.1.3 Topography

Figure 6-1 shows the topography of the area within and surrounding the Project area, with the topography fairly flat and falling towards the Isaac River and Cherwell Creek from the centre of Project area. Elevation ranges between approximately 230 mAHD on a rise to the north of Cherwell Creek and 190 m AHD along the Isaac River.

6.1.1.4 Soils

Soils surveys have been undertaken in the Project area and surrounds, with preliminary soils mapping shown in Figure 6-2 and soils described as follows:

- Taurus: sodic texture contrast soils with thin sandy surfaces. Neutral to alkaline trend with sodic and saline subsoil. Occurs on gently undulating rises within the southern half of the study area.
- Davey: deep alluvial sands occurring along the Isaac River and Cherwell creek. Neutral to acidic trend, non-sodic and non-saline.
- Krongie: cracking clay soils with normal gilgai microrelief. Alkaline trend with sodic and saline subsoil. Occurs on alluvial floodplains.
- Taurus-Teviot Complex: complex soil unit consisting of sodic texture contrast soils with cracking clay soils sporadically occurring in gilgai depressions. Occurs on a gently undulating rise within the southern half of the study area.

- Retro: sodic texture contrast soils with thin loamy surfaces. Neutral to strong alkalinity with sodic and saline subsoil. Occurs on gently undulating rises on the northern half of the Project area and surrounds.
- Teviot: cracking clay soils with normal gilgai microrelief. Alkaline trend with sodic and saline subsoils. Occurs on gently undulating rises, within the central Project area.
- Arcturus: cracking clay soils derived from basalt with crabhole gilgai microrelief. Alkaline with sodic and slightly saline subsoil. Occurs on gently undulating rises and colluvial depositions on the western boundary of the Project area.
- Luxor: texture contrast soils with thick sandy surfaces and clay subsoils. Neutral to alkaline trend and sodic subsoil. Occurs on a prominent rise on the northern half of the Project area.
- Pegunny: cracking clay soils in low lying flood plains, subject to prolonged waterlogging. Acidic trend with sodic subsoils. Minor occurrence to the south east of the Project area.

Soil survey results will inform soils management (e.g. amelioration requirements), stripping depths and suitability for use in rehabilitation.

6.1.1.5 Contaminated Land and Notifiable Activities

The location of the MLAs, which is used for pastoral operations of Winchester Downs, is unlikely to contain contaminated land or have been used for notifiable activities. However an assessment will be undertaken to determine if areas of contaminated land are present which may require management prior to Project activities commencing.

6.1.1.6 Areas of Regional Interest

There are no areas of regional interest, as defined under the RPI Act, within the Project area.

6.1.1.7 Protected Areas

The closest protected area, Dipperu National Park, is approximately 45 km northeast of the Project area. The Project will not impact protected areas.

6.1.1.8 Visual Amenity

The local and regional landscape that encompasses the Project area is broadly representative of the Bowen Basin, with mining and agriculture the dominant activities. The proposed mining activities are located approximately 1.5 km from the Winchester Downs homestead. Other residences are greater than 5 km from the Project area. The Peak Downs Highway and Peak Downs Mine Access Road are approximately 4 - 5 km from proposed Project mining activities and separated by hills and outcrops. Moranbah township is over 14 km from the proposed Project mining activities and therefore not subject to visual amenity impacts.

6.1.2 Potential Impacts and Management Measures

The Project will result in a modified final landform; however the majority of the land disturbed by mining activities is expected to achieve a PMLU of grazing, noting that other land uses will be considered as part of environmental assessments for the Project. The Project's PRCP and PRCP schedule will establish the rehabilitation milestones that support the safe, structurally stable, non polluting and sustainable PMLUs for the Project. A compensation agreement will be entered into with underlying landholders, recognising the impacts of the Project on existing pastoral activities.

Soils that are suitable for use as a growth medium in rehabilitation will be stripped from areas of proposed disturbance. Soil management measures (e.g. amelioration) will be implemented to maximise the benefits soils resources can provide in rehabilitation activities.

The final landform may result in altered topography compared to pre-mining, however the final landform will be designed so that the topography supports the proposed PMLU.

The Project area overlaps portions of the State Reserve (Lot 9 GV33), however it is expected that the majority of Lot A GV33 (the portion of Lot 9 GV33 south of Cherwell Creek) will be unimpacted by the Project. Project activities are expected to result in a change in land use in the grazing lease section Lot B GV33 (north of Cherwell Creek). With the retention of the land use within Lot A GV33, it is expected that the stock route (Lot 9 GV33) will retain its functionality for 'camping, water and road'.

The Project is unlikely to impact on the visual amenity of nearby receptors, other than the Winchester Downs homestead. As noted above, a compensation agreement will be required with the owners of Winchester Downs.

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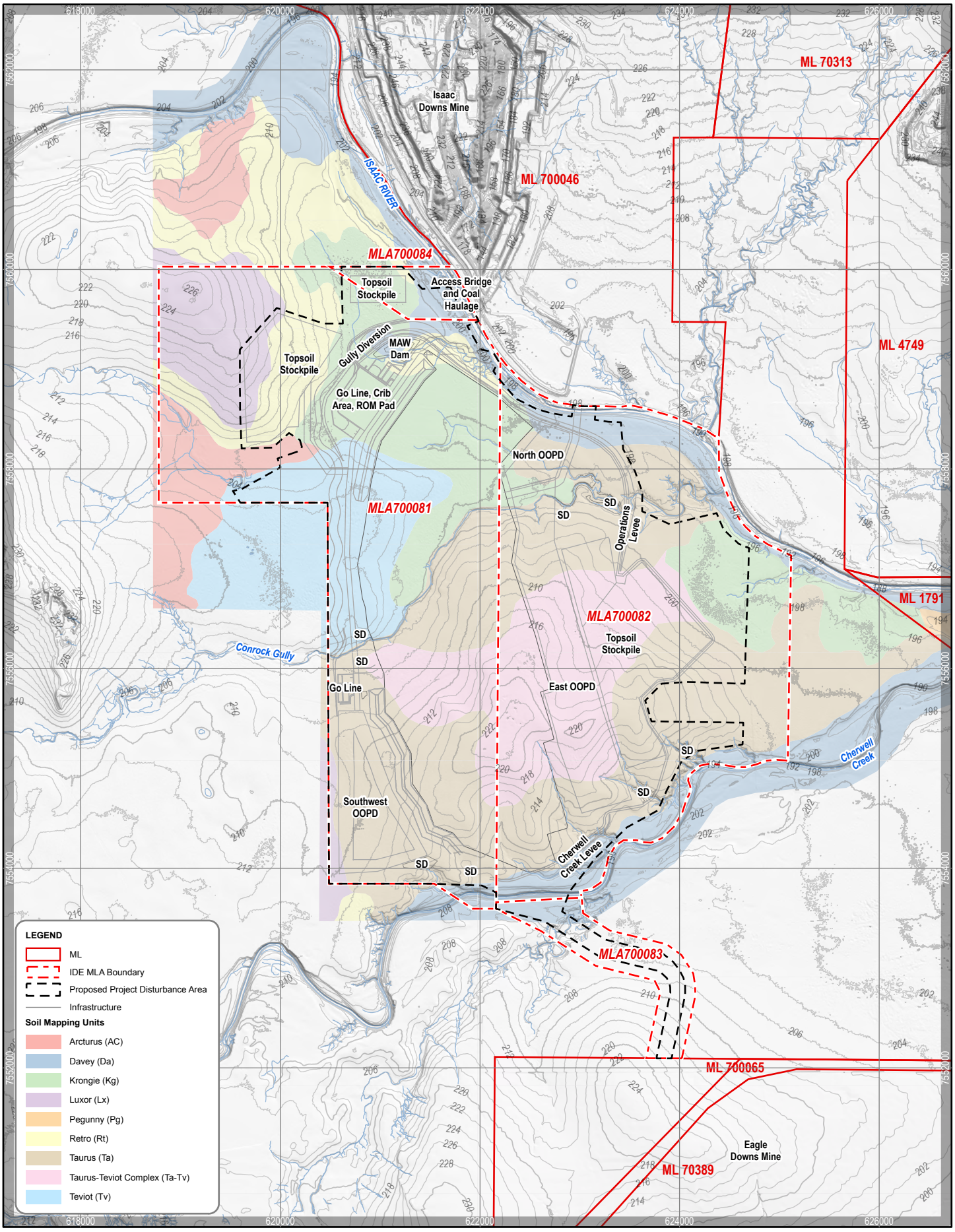
Topography

Figure | **6-1**



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ISAAC DOWNS EXTENSION

Soils

Figure | **6-2**

6.2 Surface Water

6.2.1 Environmental Values

The Project is located within the Isaac River sub-catchment of the greater Fitzroy Basin. The Isaac River is the main watercourse in the vicinity of the Project area, and flows in a north-west to south-east direction to the east of the Project. The catchment commences at the Denham Range located about 75 km to the north of the Project. The Connors River, which has a catchment area similar to the upstream Isaac River, flows into the Isaac River approximately 115 km downstream of the Project area. The Isaac River converges with the Mackenzie River a further 55 km downstream.

The greater Isaac-Connors sub-catchment area is approximately 22,364 km^2 (to the Mackenzie River confluence), out of a total Fitzroy River catchment of 142,665 km^2. That is, it represents around 15% of the overall Fitzroy River catchment. Ultimately, the Mackenzie River joins the Fitzroy River, which flows towards the east coast of Queensland and discharges into the Coral Sea southeast of Rockhampton.

Figure 6-3 shows the location of the Project area, regional catchments and Isaac River catchment upstream of the Connors River confluence. Figure 6-4 shows the drainage characteristics of the upper Isaac River to the Deverill flow gauge.

The Isaac River is an ephemeral, seasonally flowing watercourse, typically with surface flows in the wetter months from November to April, reducing to shallow subsurface flows from about May to October. All other waterways of the Project area are ephemeral and experience flow only after sustained or intense rainfall in the catchment. Stream flows are highly variable, with most channels drying out during winter to early spring when rainfall and runoff is historically low. Therefore, physical attributes, water quality, and the composition of aquatic flora and fauna communities are also expected to be highly variable over time.

The Isaac River catchment upstream of the Project comprises mainly scattered to medium dense bushland, grazing land and the township of Moranbah. There are several existing coal mines in the Isaac River catchment including Burton, North Goonyella, Grosvenor, Goonyella-Riverside, Broadmeadow, Broadlea, Isaac Plains, Carborough Downs, Caval Ridge, Poitrel, Daunia, Millennium and Moranbah North.

The southern extent of the Project area is bordered by Cherwell Creek which is a major tributary of the Isaac River. Cherwell Creek features a well-defined active flow channel accompanied by a densely vegetated riparian zone, extending approximately 20 m wide along each bank. The catchment for Cherwell creek is approximately 698 km^2.

The catchment of the Isaac River to the confluence with Cherwell Creek, including the Cherwell Creek catchment, is 3,528 km^2, representing approximately 16% of the Isaac-Connors sub-catchment area.

A tributary, locally known as Conrock Gully, flows west to east through the centre of the Project area before joining the Isaac River. Under the Water Act, Conrock Gully is not a defined watercourse (it is a defined drainage feature) upstream of Project activities. Conrock Gully flows into the Isaac River approximately 2.5 km upstream of Cherwell Creek. Conrock Gully has a small catchment area of approximately 71 km^2, with highly ephemeral flows.

Local watercourses and catchments are shown in Figure 6-5.

There are isolated, small and fragmented mapped palustrine wetlands along parts of the western bank of the Isaac River, and within low lying areas to the west of the Project area, between Cherwell Creek and Conrock Gully (see Figure 6-6). Of the wetlands along parts of the western bank of the Isaac River, two are upstream (0.5 – 1.5 ha in extent), one (approximately 1 ha in extent) is located within the disturbance area, and one (around 8 ha in extent) is approximately 2 km east of the Project area. There is one small, mapped wetland area located near the secondary transport route connecting with Eagle Downs mine. All wetlands to the west of the Project are upgradient. Based on field studies conducted to date the 3

wetlands along the Isaac River to the north of the Project are largely disturbed by weeds and cattle, would hold water on clay-based soils for short periods and generally blend into surrounding ecosystems. They therefore have low ecological value as a wetland. The wetland to the east of the Project area is ephemeral, but may hold water on clay-based soils for longer periods than other small wetlands, has surrounding canopy cover and native groundcovers, but is impacted by weeds and cattle. This wetland has low to moderate ecological value as a wetland. These wetland areas predominantly respond to rainfall, although may receive flood flows from the Isaac River during major flood events.

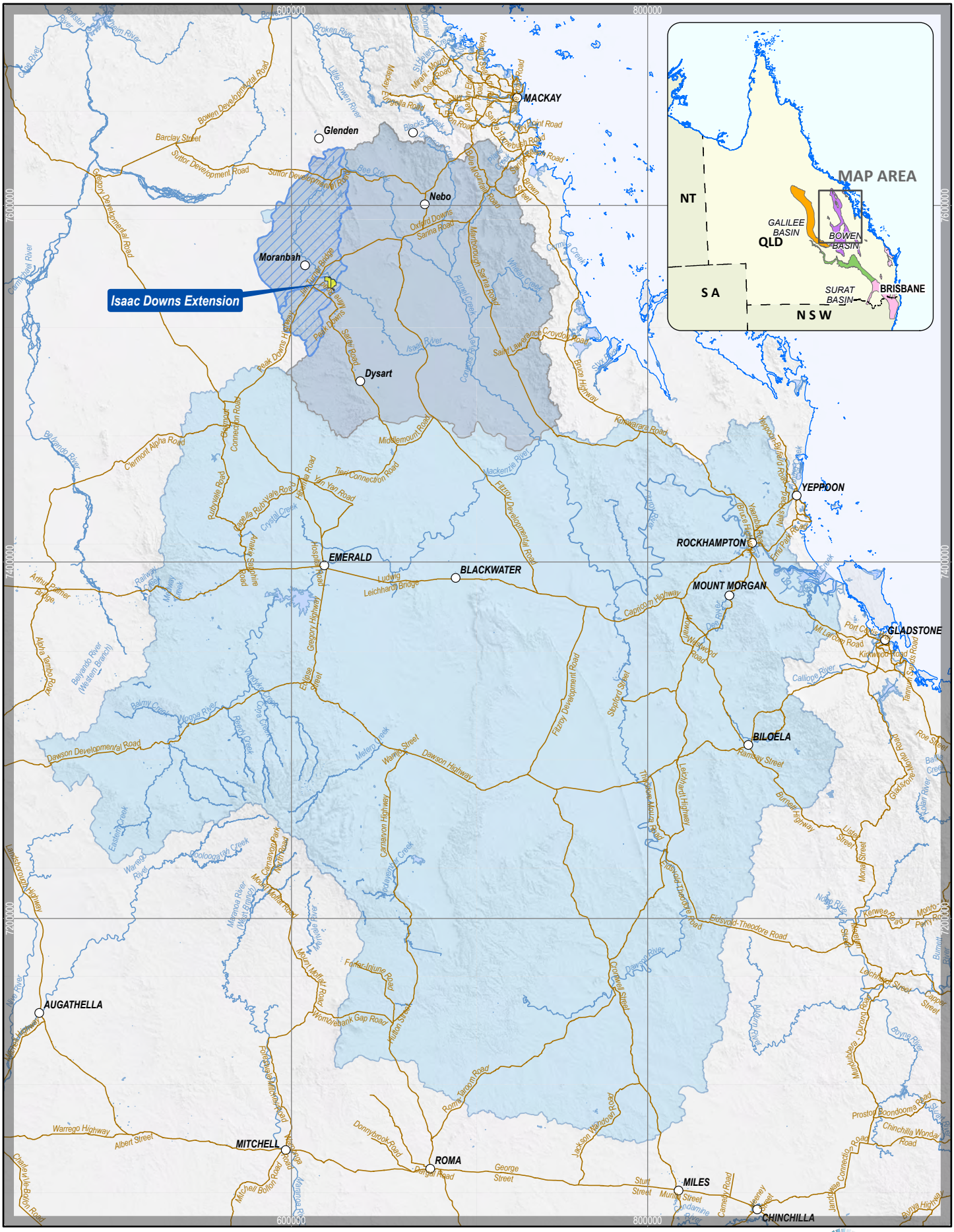
Preliminary flood modelling has been undertaken for the Project, with the indicative 0.1% AEP flood event, prior to any Project mining activities (i.e. existing conditions) shown in Figure 6-7.

The main water users in the vicinity of the proposed Project are existing mining operations and agricultural (mainly grazing) practices. There are 7 licences to take water from the Isaac River downstream of the Project which have been issued for mining, irrigation, stock watering, domestic supply and water harvesting. These licenses are located on 4 properties between 35 and 160 km downstream of the Project.

The *Environmental Protection (Water and Wetland Biodiversity) Policy 2019* (EPP (Water)), established under the EP Act, provides a framework for identifying the environmental values (EVs) of waterways and determining water quality objectives (WQOs) to protect or enhance these values. EVs for water are the qualities of water that make it suitable for supporting aquatic ecosystems and human water uses.

The waterways in the vicinity of the proposed Project (the Isaac River, Cherwell Creek and Conrock Gully) are located within the Isaac River main channel region of the Isaac River Sub-Basin (WQ1301). The EVs for the Isaac and lower Connors River main channel are:

- aquatic ecosystem
- irrigation, farm use and stock watering
- human consumption
- primary, secondary and visual recreation
- drinking water
- industrial use
- cultural and spiritual values.



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Kilometers

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Legend

- Town
- Roads
- Waterway
- Isaac Downs Extension
- Fitzroy River Catchment
- Isaac River Catchment
- Isaac River to Isaac Downs Extension Project

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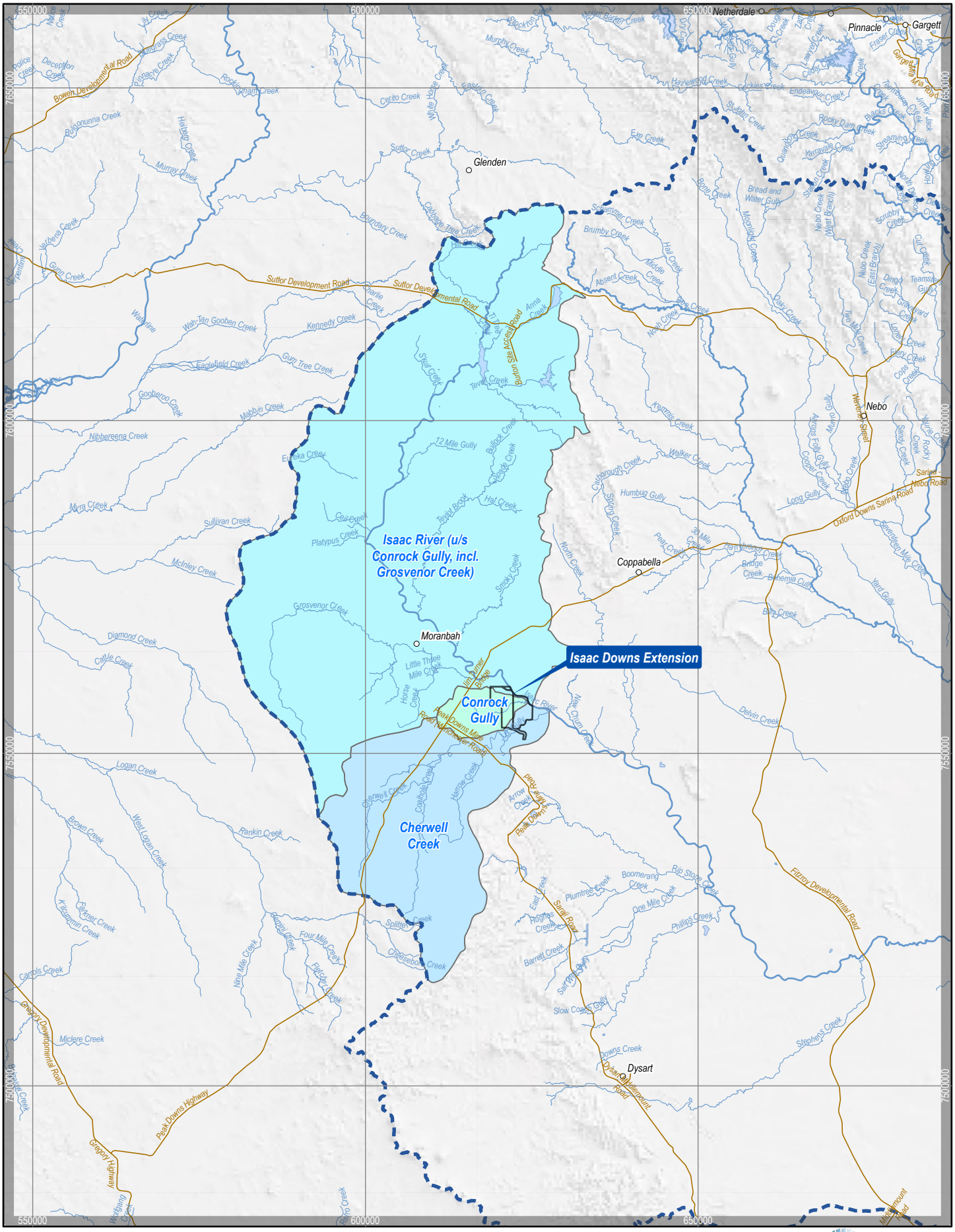
ISAAC DOWNS EXTENSION

Regional Catchments

Figure | **6-3**



Minserve: 20250221 IDE Upper Isaac River Drainage.aprx

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Kilometers

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Legend

- Populated Places
- Roads
- River
- Minor Waterway
- Isaac Downs Extension
- Isaac River Catchment

Catchment

- Cherwell Creek
- Conrock Gully
- Isaac River (u/s Conrock Gully, incl. Grosvenor Creek)

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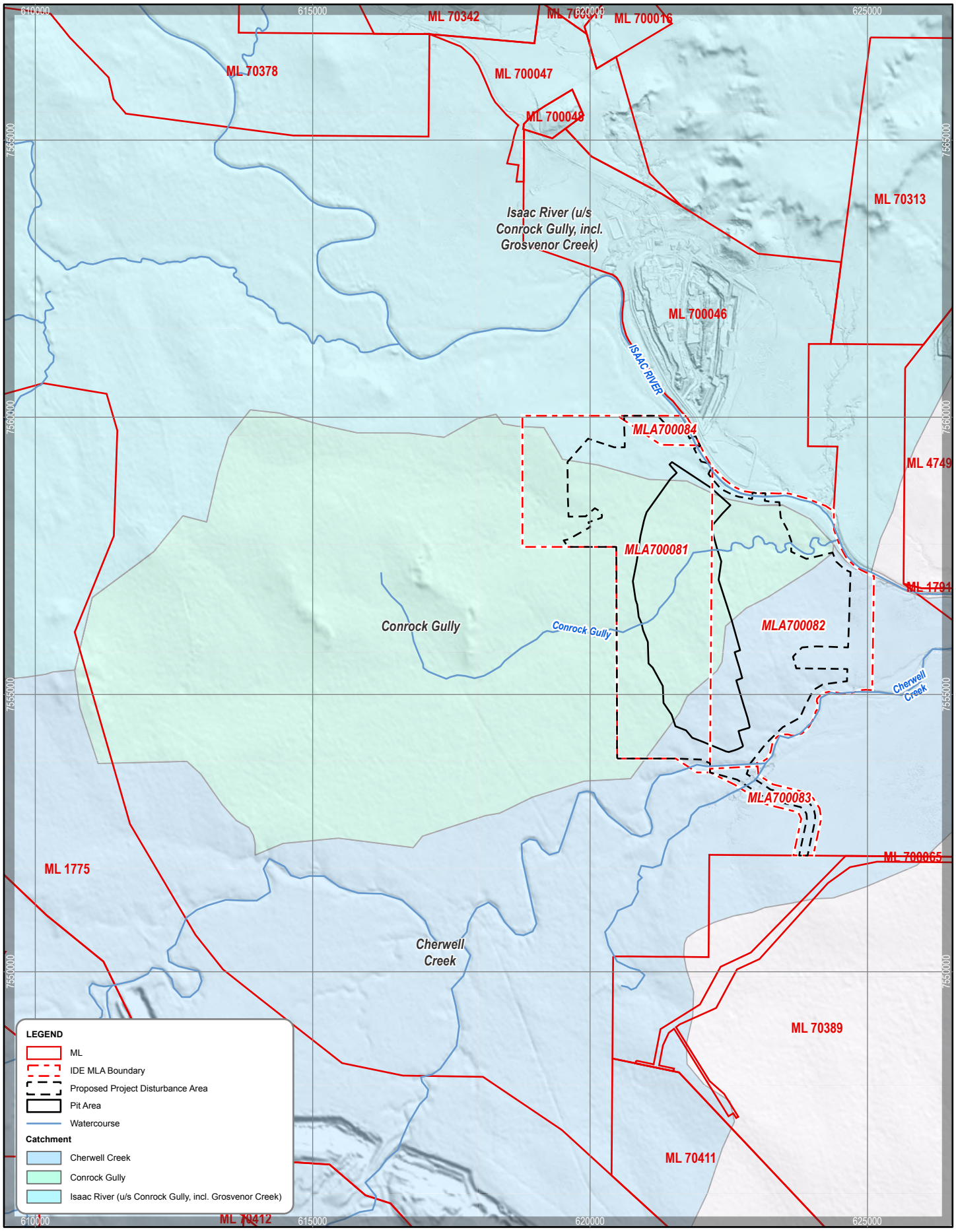
ISAAC DOWNS EXTENSION

Upper Isaac River Drainage

Figure | **6-4**



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Metres

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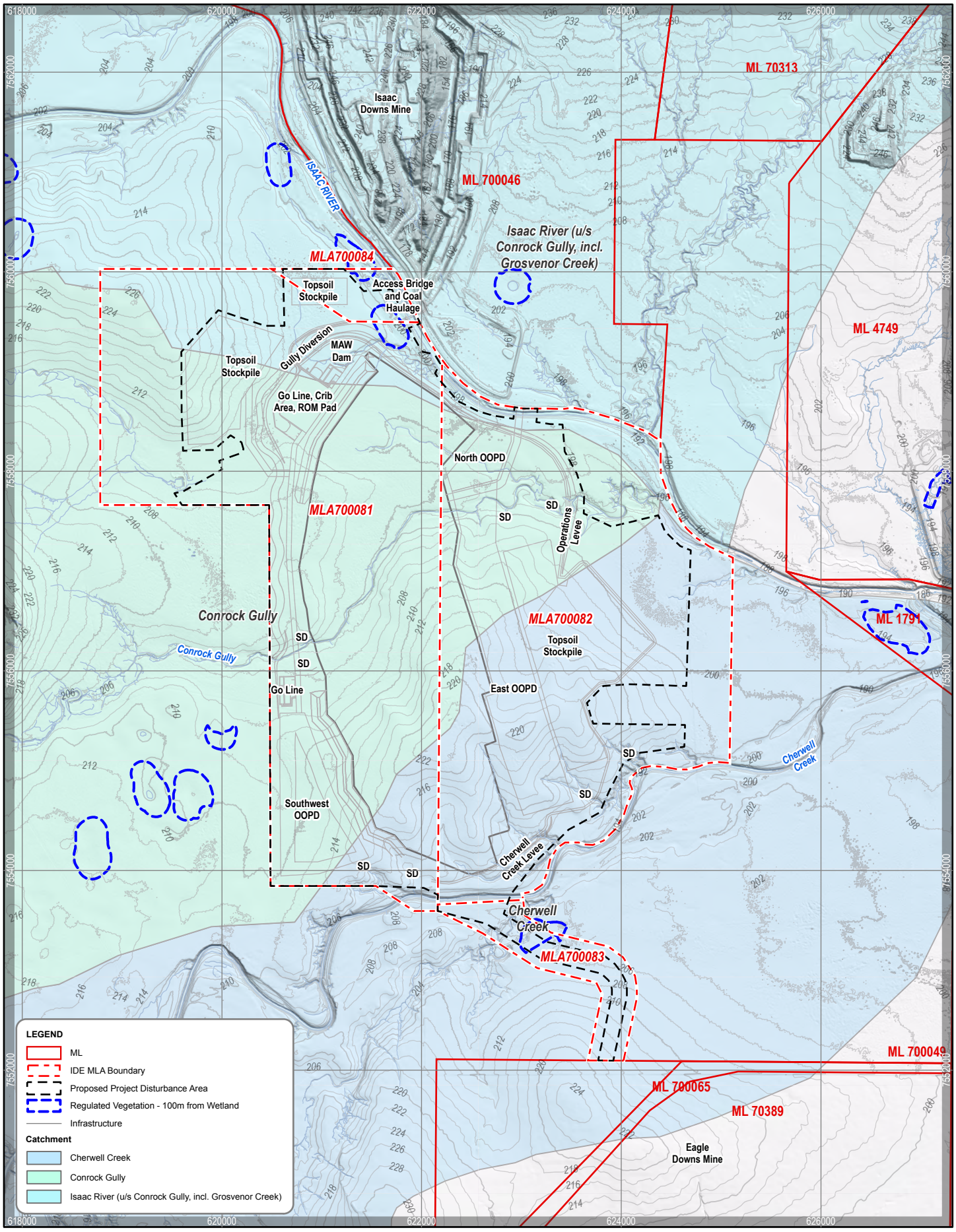
ISAAC DOWNS EXTENSION

Local Catchments and Watercourses

Figure | **6-5**



LEGEND

- ML
- IDE MLA Boundary
- Proposed Project Disturbance Area
- Regulated Vegetation - 100m from Wetland
- Infrastructure

Catchment

- Cherwell Creek
- Conrock Gully
- Isaac River (u/s Conrock Gully, incl. Grosvenor Creek)

Minserve: 20250310 IDE Conrock Gully Catchment.aprx

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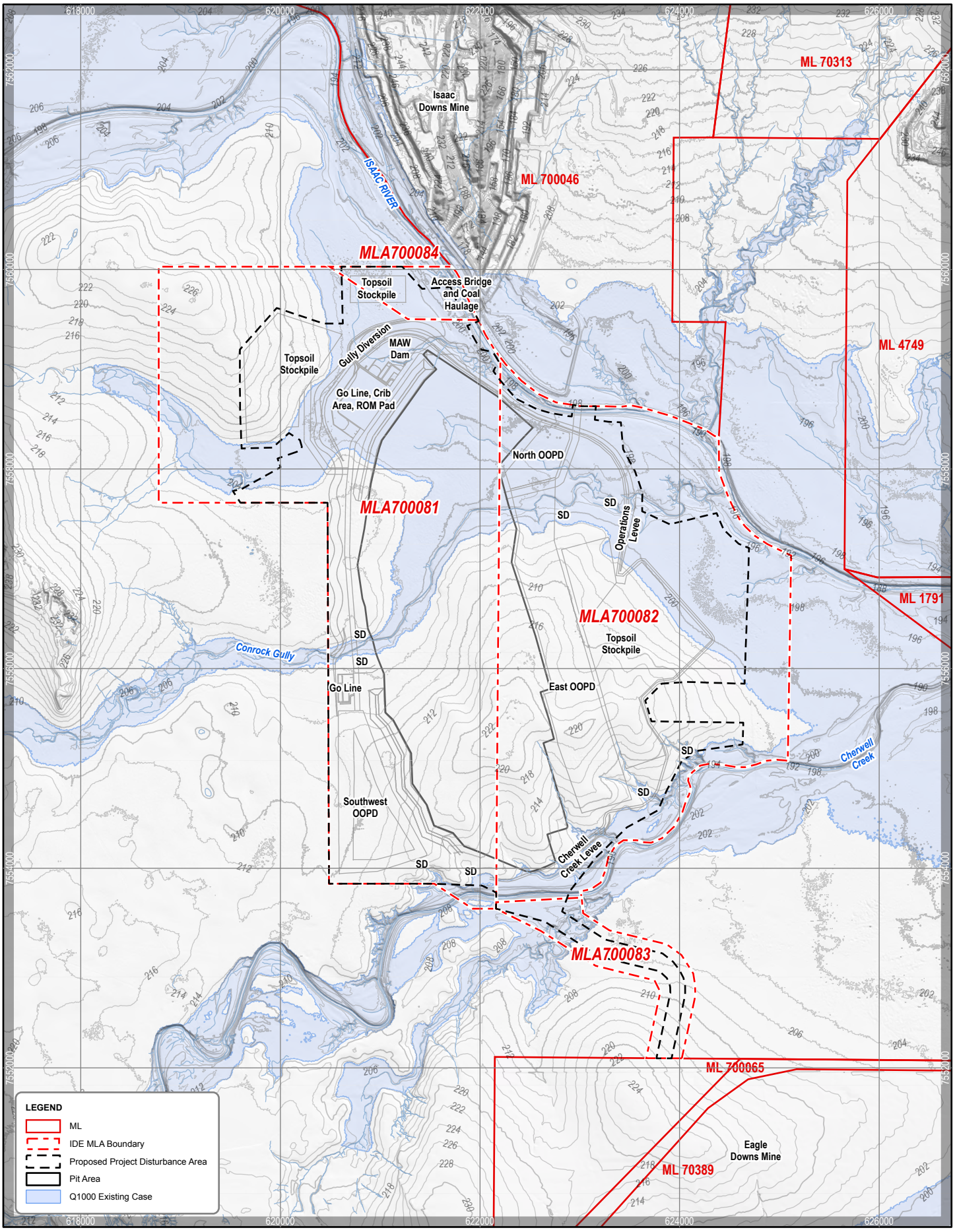
ISAAC DOWNS EXTENSION

Local Surface Water Features

Figure | **6-6**



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ISAAC DOWNS EXTENSION

0.1% AEP Flood Event - Existing Conditions

6.2.2 Potential Impacts and Management Measures

The Project's proposed water management system is described in Sections 5.7 to 5.9, and is the primary mitigation for impacts to surface waters.

Project activities may result in changes to downstream water quality from controlled or uncontrolled releases of mine affected water. The water management system will be integrated with IDM, designed to minimise the risk of uncontrolled release of mine affected water, and controlled releases will be undertaken when flows and water quality in the Isaac River protect downstream environmental values. The mine water balance for the Project will establish operating rules for controlled releases based on variable flows in the Isaac River, mine water release quality limits, release contaminant trigger investigation levels and receiving environment water quality trigger levels.

A mine water management plan will be developed for the Project, based on the water management system. The water management plan will include:

- identification of potential contaminants
- the water balance model for the Project, integrated with IDM
- a detailed description of the water management system
- management of saline drainage, should environmental assessments determine that this is a risk of causing environmental harm
- contingency procedures for emergencies
- a program for monitoring and review of the effectiveness of the water management plan.

The erosion and sediment control system will be designed to capture runoff from areas with sediment laden water, to allow sediment to settle prior to release of waters in accordance with the engineering design standards for sediment control structures. Overburden materials will be characterised to assess the risk posed to the receiving environment from runoff or seepage from dumps areas, although it is expected based on overburden characterisation at IDM (see Section 5.6.6), that sediment within runoff will be the focus for management. An erosion and sediment control plan (ESCP) will be developed for the Project, which will be based on the three cornerstones of erosion and sediment control:

- Drainage control – prevention or reduction of soil erosion caused by concentrated flows and appropriate management and separation of the movement of diverted and surface water through the area of concern.
- Erosion control – prevention or minimisation of soil erosion (from dispersive, nondispersive or competent material) caused by rain drop impact and exacerbated overland flow on disturbed surfaces.
- Sediment control – trapping or retention of sediment either moving along the land surface, contained within runoff (i.e. from up-slope erosion) or from windborne particles.

The construction of the bridge crossings will require the clearing of riparian vegetation and works within the beds and banks of the Isaac River and Cherwell Creek. Bank stabilisation will be implemented to reduce erosion and sedimentation. Rehabilitation of construction areas will occur once construction is completed. Following mining, and in the absence of an agreement with a third party for retention of the bridge structures, the bridges will be decommissioned and the bridge locations rehabilitated to a native riparian ecosystem.

The temporary dragline walk route will preferentially be constructed in the dry season to minimise interaction with flows in the Isaac River, and will be rehabilitated following use.

Water quality monitoring will be undertaken in the Isaac River, Cherwell Creek and Conrock Gully upstream and downstream of Project activities, including during mine water release events. Flows in the Isaac River will be monitored to determine potential opportunities for controlled releases. The surface water quality monitoring program will also monitor water quality and levels in Project water storages.

A receiving environment monitoring program (REMP) will be developed to monitor the potential impacts on downstream water and aquatic ecology values from water releases from the Project, with results utilised to adjust the water management plan and ESCP accordingly.

Chemical, fuel and hydrocarbon (e.g. oils) storage areas at Project will be located within self bunded storage tanks. There is potential for accidental release of hydrocarbons or chemicals during activities leading to localised contamination. However engineered design and management controls will be implemented to minimise the potential for accidental release, or to control and remediate any areas where an accidental spill may occur.

Project infrastructure (e.g. levees, diversion and bridge) may alter the hydrology and geomorphology of local watercourses and creeks. There will be an insignificant change in the catchments of the Isaac River and Cherwell Creek as a result of surface water being captured within the Project's water management systems. Due to the diversion of Conrock Gully, the downstream reach of the Gully will experience reduced flow, however the backwater flood effects from the Isaac River are likely to result in surface water flows still reaching these downstream areas.

There is one small, degraded wetland within the Project disturbance area, along the Isaac River. The other wetlands along the Isaac River, to the west of the Project and south of Cherwell Creek will not be subject to changes in rainfall runoff reporting to these wetlands. Wetlands along the Isaac River may be subject to minor changes in hydrology affecting the flood flows which interact with these wetland areas. Hydrological changes on wetlands will be assessed as part of the hydrology studies for the Project.

Conrock Gully's catchment area is approximately 2% of the of the catchment size of the Isaac River upstream of the Project. Conrock Gully flows will be diverted to the Isaac River approximately 3 km upstream of the existing confluence with the Isaac River. Due to the relative size of its catchment compared to those of the Isaac River, the diversion is expected to have minimal influence on flows in the Isaac River in the 3 km section upstream of its original confluence.

The diversion of Conrock Gully will be designed to be geomorphically stable in the long term (i.e. post mining), including:

- incorporate natural features (including geomorphic and vegetation)
- maintain hydraulic characteristics that are similar to Conrock Gully or other local watercourses, without using artificial structures that require on-going maintenance
- maintain sediment transport and water quality regimes that allow the diversion to be self-sustaining, while minimising impacts to water quality, geomorphology or vegetation
- be designed in accordance with relevant State guidelines for velocity, shear stress and stream power of diversions.

Diversion monitoring will be undertaken to measure the success of the establishment of a long term, geomorphically stable structure.

Flood modelling will be undertaken to assess the potential impacts of the Project on Isaac River and Cherwell Creek hydrology and geomorphology during and post mining. During mining this will include levees, diversion of Conrock Gully and bridge structures. Post mining this will include the final landform, diversion of Conrock Gully and bridge structures if subject to a third party retention agreement. Preliminary flood modelling has been undertaken for the 0.1% AEP flood event during operations, inclusive of the Isaac River and Cherwell Creek levees and Conrock Gully diversions, as shown in Figure 6-8.

Levees will be fully engineered structures and will be constructed to minimise the potential for erosion. Levees will be regulated structures. As such, they will be designed, constructed and operated in accordance with regulated structure requirements (see Section 5.9.1).

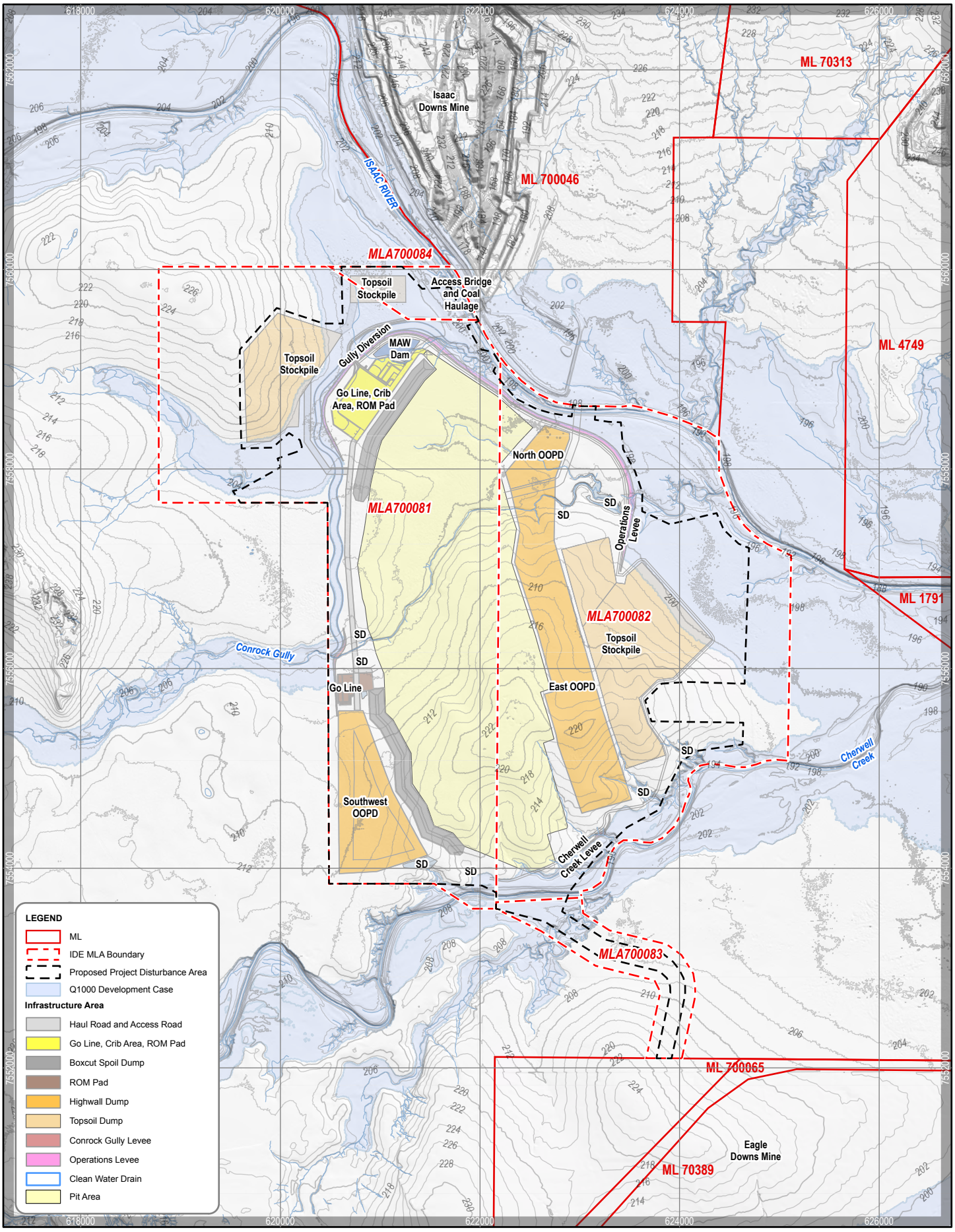
The Isaac River levee is generally between 200 m and 400 m from the high bank of the Isaac River, which is expected to have negligible impacts on high frequency flood events (e.g. 1:20 year) and limited impact on low frequency flood events (e.g. 1:100 year). The design of the Isaac River bridge will consider its potential impacts on hydrology. Never-the-less detailed flood modelling will allow for refinement in design of the Isaac River levee and bridge. Flood modelling will also consider potential landform modifications at IDM (to the north of the Isaac River) to manage impacts on the hydrology and geomorphology of the Isaac River.

The levee along Cherwell Creek will be located near the limits of the 1:1,000 year flood event and therefore likely to have negligible impact the hydrology and geomorphology of the Creek. Never-the-less detailed flood modelling will allow for refinement in design of the Cherwell Creek levee.

The levees will be designed to prevent ingress of a 1:1,000 year flood event into the operational mine pit. The post mining landform may continue to alter the hydrology and geomorphology of local watercourses and creeks (e.g. permanent diversion of Conrock Gully or stable landforms within floodplains); however the impacts are expected to be less than during the operational phase when levees are in place. Any final void would not be located within 1:1,000 year flood event, as shown in Figure 6-9 for the final landform option with residual void (see Figure 5-15).

Cumulative impact assessments for surface waters will include:

- potential combined controlled and uncontrolled releases of mine affected water from nearby mines
- the influence of landforms or structures at other mines which may result in changes in hydrology and geomorphology that could overlap with changes from the Project, including impacts to wetland areas and floodplains
- changes to local and regional catchments.



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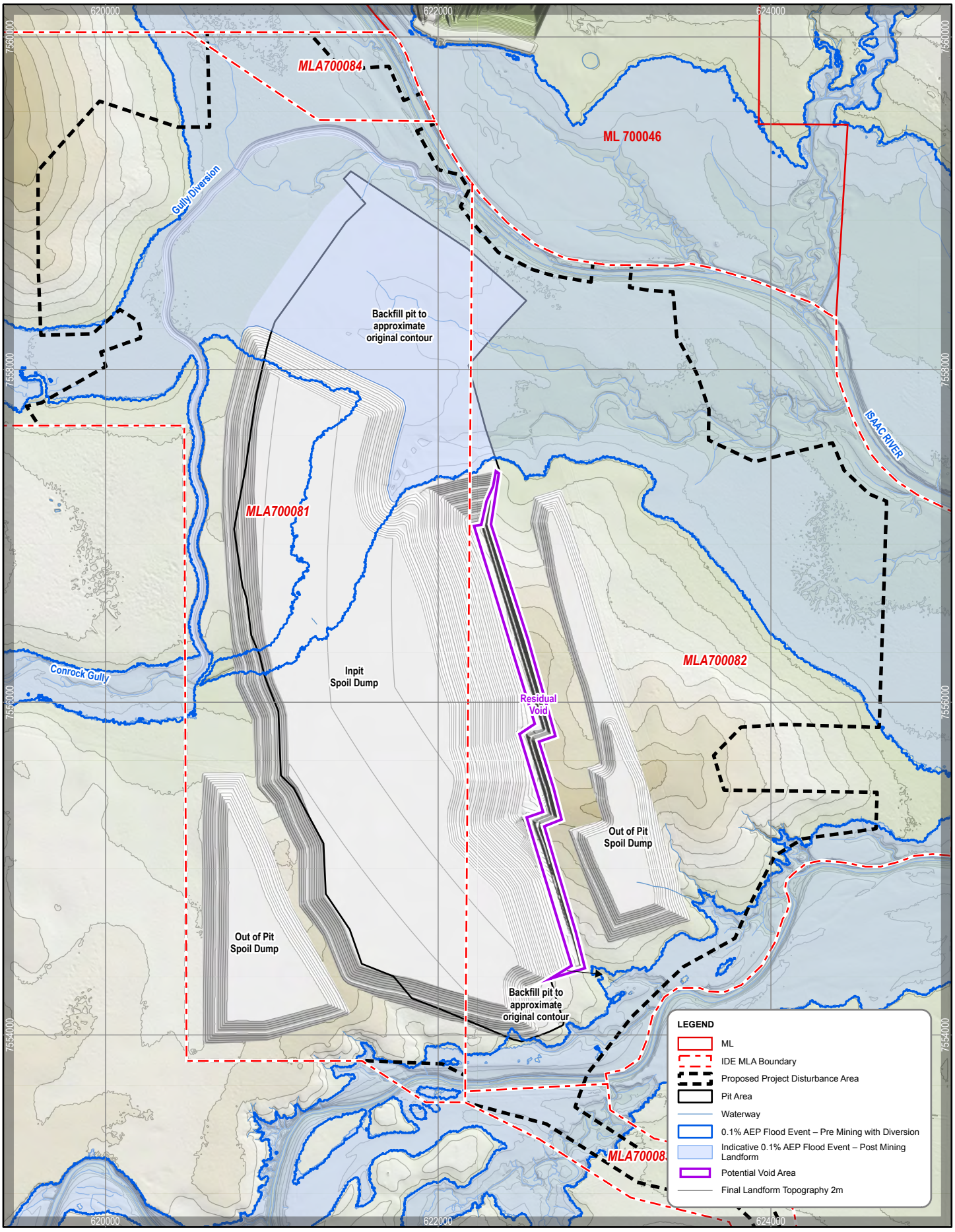
ISAAC DOWNS EXTENSION

0.1% AEP Flood Event - Project Operations

Figure | **6-8**



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ISAAC DOWNS EXTENSION

0.1% AEP Flood Event – Final Landform with Residual Void Option

Figure | **6-9**

6.3 Groundwater

6.3.1 Environmental Values

The geological units within the Project area can be categorised into the following hydrostratigraphic units based on their capacity to store and transmit groundwater:

- **Isaac River alluvium**: A relatively thin, porous aquifer system with variable permeability depending on the depositional environment.
- **Cainozoic sediments**: Comprised of Quaternary non-fluvial deposits (e.g., colluvium) and Tertiary sediments, forming relatively thin, porous aquifer systems with generally low permeability.
- **Triassic/Permian weathered zone**: Typically exhibits increased permeability compared to the underlying unweathered bedrock.
- **Triassic sediments (unweathered)**: Predominantly fine-grained, low-permeability sediments that act as aquitards.
- **Permian sediments (unweathered)**: Subdivided into:
    - Non-coal units of low permeability that serve as aquitards.
    - Coal seams with low to moderate permeability, forming the most transmissive strata and creating fractured rock aquifer systems within the Permian sediments.

The primary aquifers within and surrounding the Project area include the Isaac River alluvium and the Permian coal seams. Locally, the coal seams (Leichhardt and Vermont seams) of the Rangal Coal Measures sub-crop near the surface within the Project area.

The Rangal Coal Measures store groundwater within the two coal seams. The interburden of the Rangal Coal Measures generally exhibits relatively low permeability and specific yield due to the presence of fine-grained cemented sandstones, siltstones, and mudstones. These sedimentary rocks typically have low average hydraulic conductivity because they are interbedded with fine-grained siltstones and mudstones, which possess very low hydraulic conductivity. However, higher hydraulic conductivity may be observed in faulted and fractured zones. Permeability within the coal seams generally decreases with depth due to the tightening of coal cleats from overburden pressure and the transition from weathered to fresh rock.

Where they occur, coarser sediments of the Isaac River alluvium and paleo-channels are anticipated to have higher permeability and specific yield compared to finer grained sediments and the underlying Rangal Coal Measures. Further information on groundwater levels, permeability and quality will be collected during and following establishment of the groundwater monitoring bore network.

A network of existing bores occurs within and surrounding the Project area, primarily installed for monitoring impacts from existing mines or other proposed projects. In addition to existing bores in the local area, Stanmore will install a network of groundwater monitoring bores to understand the hydrogeological regime and groundwater quality in the Project area. The monitoring network will comprise approximately 35 bores in the various aquifers within and surrounding the Project area.

There are around 11 landholder supply bores within and surrounding the Project area (within a reasonable distance in which drawdown impacts could occur), of which approximately half are active supply bores. A detailed bore census will be conducted to identify the status of all potentially impacted landholder bores.

Water quality objectives for various aquifers will be established using data from the groundwater monitoring bores. The EVs for the Isaac groundwaters are:

- aquatic ecosystem
- irrigation, farm use and stock watering
- primary recreation

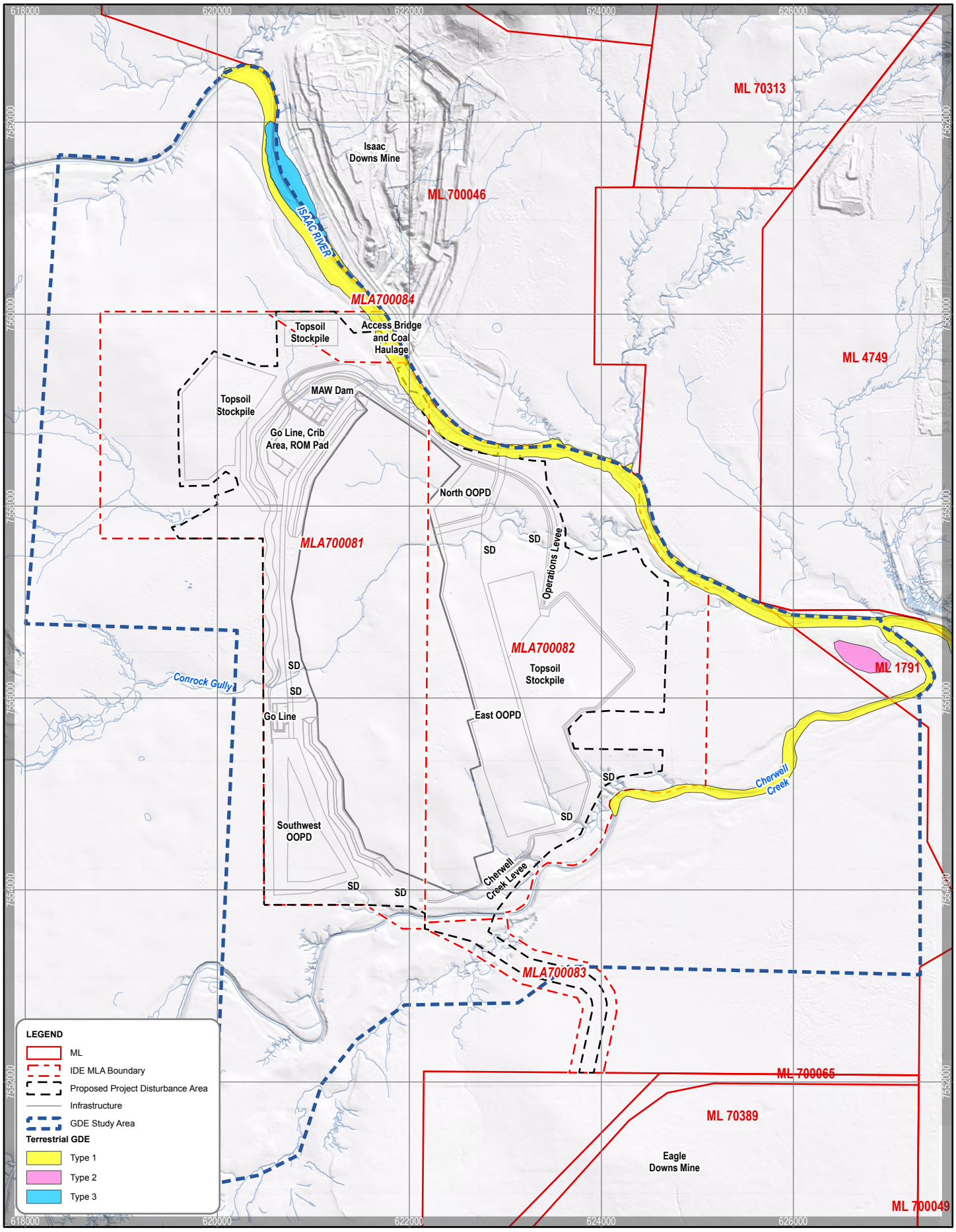
- drinking water
- cultural and spiritual values.

Monitoring bores have been drilled in the Isaac River alluvium at locations identified as potentially supporting groundwater dependent ecosystems (GDEs). Fieldwork has been conducted to confirm the presence of GDEs, involving the collection and analysis of isotope samples from vegetation and groundwater, as well as assessments of moisture content in vegetation and shallow soils. Based on the initial data collected for the Project and information from GDEs at nearby Stanmore owned mines (i.e. IDM upstream and Poitrel Mine downstream), a preliminary GDE map has been developed, as shown in Figure 6-10. Three terrestrial GDE types have been mapped:

- Riverine (Type 1) GDEs associated with fringing riparian vegetation along the Isaac River and downstream reaches of Cherwell Creek (RE11.3.25).
- Wetland (Type 2) GDEs where seasonal groundwater dependence of deep-rooted wetland vegetation occurs, noting that seasonal groundwater reliance is driven by infiltration of ponded surface waters, and groundwater is rapidly discharged via transpiration as the climate dries.
- Riverine (Type 3) GDEs associated with lower river terraces and flood pockets of the Isaac River.

Based on recent studies of GDEs undertaken for Stanmore's IDM (IP South, 2020) the Isaac River upstream and downstream of the Project area is expected to have limited potential for aquatic GDEs.

Sampling for potential stygofauna will also be carried out using the monitoring bore network. A stygofauna assessment will be undertaken, with sampling of groundwater bores within and surrounding the Project area, to determine whether stygofauna are present and their relative abundance and distribution in the region.



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ISAAC DOWNS EXTENSION

Preliminary GDE Mapping

Figure | **6-10**

6.3.2 Potential Impacts and Management Measures

The Project will result in localised drawdown in aquifers impacted by open-cut mining activities. To evaluate these impacts, a numerical groundwater model will be developed to analyse changes to the hydrogeological system, including potential connections between the alluvium and the Isaac River. This model will incorporate data collected from the groundwater monitoring network and assess cumulative impacts in conjunction with other local and regional resource projects.

The numerical model will be used to predict drawdown at landholder bores and the requirement for 'make good' arrangements to compensate for loss of groundwater. During operations, an underground water impact report (UWIR) will be prepared in accordance with Water Act requirements to describe, make predictions about and manage the impacts of underground water extraction. This includes establishing underground water obligations (i.e. make good obligations for private water bores).

Project impacts on groundwater / hydrogeology may result in impacts to GDEs and stygofauna (e.g. through the removal or drawdown of aquifers). A GDE monitoring and management plan (GDEMMP) will be developed to assess the risk posed to GDEs from groundwater changes and describe adaptive management strategies should GDEs be impacted. The key components of the GDEMMP will be:

- Monitoring and assessment techniques to develop an environmental baseline for GDE function commencing prior to operations, including upstream and downstream control sites for GDE monitoring.
- A statistically robust multi-parameter dataset that can be used to validate perturbations in GDE function that fall beyond thresholds of natural seasonal variation.
- Utilisation of biophysical and ecological parameters to establish an appropriate:
    - ecological trigger threshold, applied to indicate requirement for further investigation or corrective action, and
    - disturbance level threshold applied to indicate requirement for offsets should corrective actions not be successful.
- Development of management actions and corrective measures which will be applied if a breach of a trigger threshold is identified.
- Assessment of the effectiveness of management actions and corrective measures to determine if significant residual impacts to ecological values have occurred.

Based on the cumulative groundwater modelling, potential cumulative impacts to GDEs will be assessed as a result of the other mines and projects located near the Project.

The groundwater model will be utilised to assess whether drawdown of groundwater aquifers results in material changes to surface flows in the Isaac River and Cherwell Creek; noting that watercourses in the region are typically 'losing systems' (i.e. surface water flows to groundwater rather than the opposite).

During mining it is expected that seepage from overburden dumps, with potential to alter groundwater quality, would report to the operational pit area as a result of the inward hydraulic flow gradient created by the pit area.

Should a void remain in the final landform a void water balance model will be developed (combining groundwater inflows, rainfall inflows, seepage and evaporation) to predict void water quality and whether the void would act as a permanent groundwater sink, thereby preventing release of potentially contaminated void water to groundwater.

There is potential for small and localised contamination of groundwater from hydrocarbon spills. Spill management practices would minimise the risk of contamination from these sources.

A groundwater monitoring and management plan (GMMP) will be developed for the Project, utilising the network of bores established to develop the Project's groundwater model. The network will contain compliance and reference bores. The monitoring network will contain sufficient monitoring points in

terms of spatial spread of monitoring across all formations of interest to develop sufficient pre-mining groundwater conditions. The GMMP will include procedures and processes required to determine and assess the hydrogeological regime, and be designed to establish groundwater level and quality triggers / limits against which Project impacts, as predicted by the groundwater model, can be compared. Groundwater level monitoring will be undertaken through manual measurements and the use of automatic level loggers. Groundwater quality sampling will be undertaken on at least a quarterly basis. Data from the GMMP will be utilised to update and evaluate the performance of the numerical groundwater model. The GMMP will be subject to regular review as more data becomes available and mining progresses.

6.4 Flora and fauna

6.4.1 Environmental Values

6.4.1.1 Surveys and Desktop Data

Project specific dry season surveys have been undertaken within a survey area encompassing the Project area and surrounding areas. These surveys were conducted to verify regional ecosystems (REs), habitat for threatened species and ecological communities, and detect the presence of matters of national environmental significance (MNES) and matters of state environmental significance (MSES) within the Project survey area. Surveys were conducted in November 2024, with survey methodologies in accordance with State and Commonwealth guidelines. Wet season terrestrial and aquatic ecology surveys are planned for the 2025 wet season.

Desktop data has been used to characterise and identify potential MNES and MSES that may be present within the Project area. This included Commonwealth and State public databases, and review of historical ecological surveys completed within and surrounding the Project area by proponents for other projects.

The Project area occurs within the Brigalow Belt bioregion and consists predominantly of highly modified pasture for grazing, with remnant vegetation mainly restricted to along the Isaac River, Cherwell creek, Conrock Gully and other small patches of fragmented remnant vegetation. State mapped regional ecosystems (REs) (under the VM Act) in the proposed disturbance area are shown in Figure 6-11. State mapped remnant vegetation includes endangered regional ecosystems (EREs), of concern regional ecosystems (OCREs) and least concern regional ecosystems (LCREs).

The State mapped EREs comprise:

- RE 11.3.1 (*Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains), mixed polygon with OCRE 11.3.3
- RE 11.4.9 (*Acacia harpophylla* shrubby woodland with Terminalia oblongata on Cainozoic clay plains)
- RE 11.4.8 (*Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains)
- RE 11.9.5 (*Acacia harpophylla* and/or *Casuarina cristata* open forest to woodland on fine-grained sedimentary rocks), mixed polygon with LCRE 11.9.2.

The State mapped OCREs comprise:

- RE 11.3.2 (*Eucalyptus populnea* woodland on alluvial plains)
- RE 11.3.3 (*Eucalyptus coolabah* woodland on alluvial plains)
- RE 11.8.11 (*Dichanthium sericeum* grassland on Cainozoic igneous rocks).

An EPBC Act protected matters search for MNES, within the Project area was conducted, which identified, as per Table 6-1, the potential for:

- 3 listed threatened ecological communities (TECs)
- 27 listed threatened species (of which 4 are also listed as migratory species)
- 9 migratory species (of which 4 are also listed as threatened species).

One additional flora species was added to the list of potential threatened species, namely Bluegrass (*Dichanthium setosum*), due to the presence of potential habitat for the species in the Project area.

A search of the Queensland Wildlife Online database within a 1 km radius of the Project area was conducted, which identified species records under the *NC Act* for:

- 2 vulnerable fauna species, the squatter pigeon and ornamental snake, which are also included in the EPBC Act protected matter search
- 2 endangered fauna species, the koala and greater glider (southern), which are also included in the EPBC Act protected matter search
- 1 special least concern fauna species, the glossy ibis
- 1 special least concern flora species, *Santalum lanceolatum*.

6.4.1.2 Findings

Regulated vegetation and regional ecosystems (REs) protected under the VM Act were verified during the field surveys. The ground-truthed REs within the Project area and the proposed disturbance area are listed in Table 6-2 and shown in Figure 6-13.

Three TECs were confirmed present within the Project area during the field surveys. These are:

- Brigalow (Acacia harpophylla dominant and co-dominant) TEC (Brigalow TEC)
- Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin TEC (Natural Grasslands TEC)
- Poplar Box Grassy Woodland on Alluvial Plains TEC (Poplar Box TEC).

Based on the dry season ecology surveys, desktop data (including ecological studies undertaken for IDM in the previous 5 years (IP South, 2020) and other historical ecology studies), the likelihood of occurrence for listed TECs, threatened species and migratory species, within the Project area, is provided in Table 6-1. For species that are 'unlikely to occur', the Project area does not support habitat for the species or associated habitat features, and there are no or very few species records within adjacent areas or within the region.

Based on ecological data obtained at the time of this IAS, habitat has been mapped for those listed threatened species and ecological communities that 'may occur', are 'likely to occur' or 'known to occur'.

Of the EPBC Act listed threatened species there are two aquatic turtle species known from the broader region, which are unlikely to occur in waterways of the Project area. The nearest likely population of these species some 140 - 170 km downstream from the Project area (IP South, 2020).

Further detailed analysis of flora and fauna will be undertaken during terrestrial and aquatic ecology surveys. This will enable refinement of the likelihood of occurrence of listed TECs, threatened species and migratory species within the Project area.

State mapped MSES within and surrounding the Project area are shown in Figure 6-12, these being:

- regulated vegetation associated with EREs and OCREs
- regulated vegetation intersecting a watercourse
- regulated vegetation essential habitat
- regulated vegetation great barrier reef riverine
- regulated vegetation 100m from a wetland.

There are no protected areas, conservation areas, state forests and nature refuges that are likely to be impacted by the Project.

Table 6-1 EPBC Act Listed Threatened Ecological Communities, Threatened Species and Migratory Species

Species	Status (Qld)[1]	Status (Commonwealth)[1]	Likelihood of Occurrence (Project Area)
Threatened Ecological Communities			
Brigalow TEC	EN	n/a	Known to occur
Natural Grasslands TEC	EN	n/a	Known to occur
Poplar Box TEC	EN	n/a	Known to occur
Listed Flora Species			
Polianthion minutiflorum	VU	VU	Unlikely to occur
Eucalyptus raveretiana	LC	VU	Unlikely to occur
Dichanthium queenslandicum	VU	EN	Likely to occur
Dichanthium setosum	LC	VU	May occur
Samadera bidwillii	VU	VU	Unlikely to occur
Listed Fauna Species			
Red Goshawk	EN	EN	Unlikely to occur
Squatter Pigeon (southern subspecies)	VU	VU	Known to occur
Star Finch (eastern and southern)	EN	EN	Unlikely to occur
Southern Black-throated Finch	EN	EN	Unlikely to occur
Diamond Firetail	VU	VU	Unlikely to occur
Grey Falcon	VU	VU	Unlikely to occur
Australian Painted Snipe	EN	EN, M	Likely to occur
Sharp-tailed Sandpiper	SLC	VU, M, Mi	May occur
Curlew Sandpiper	CR	CE, M, Mi	Unlikely to occur
Latham's Snipe	SLC	VU, M, Mi	Unlikely to occur
Common Greenshank	SLC	EN, Mi	May occur
Northern Quoll	LC	EN	Unlikely to occur

Species	Status (Qld)[1]	Status (Commonwealth)[1]	Likelihood of Occurrence (Project Area)
Ghost Bat	EN	VU	Unlikely to occur
Koala	EN	EN	Known to occur
Greater Glider (southern and central)	EN	EN	Known to occur
Corben's Long-eared Bat	VU	VU	Unlikely to occur
Fitzroy River Turtle	VU	VU	Unlikely to occur
Southern Snapping turtle	CR	CE	Unlikely to occur
Ornamental Snake	VU	VU	Known to occur
Dunmall's Snake	VU	VU	Unlikely to occur
Grey Snake	EN	EN	Unlikely to occur
Yakka Skink	VU	VU	Unlikely to occur
Allan's Lerista, Retro Slider	EN	EN	Unlikely to occur
Migratory Species			
Fork-tailed Swift	SLC	M, Mi	May occur
Oriental Cuckoo	SLC	Mi	May occur
Yellow Wagtail	SLC	M, Mi	Unlikely to occur
Common Sandpiper	SLC	M, Mi	Unlikely to occur
Pectoral Sandpiper	SLC	M, Mi	Unlikely to occur

1: Queensland (Qld) status (NC Act): EX = Extinct, EW = Extinct in the Wild, CR Critically Endangered, EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern or SLC = Special least concern

Commonwealth (Cth) Status (EBPC Act): EX = Extinct, EW = Extinct in Wild, CE = Critically Endangered, EN = Endangered, VU = Vulnerable, M = Marine, Mi = Migratory, - = not protected under the Act

6.4.2 Potential Impacts and Management Measures

For the purposes of estimating ecological impacts from the Project's disturbance area, the 2.5 ha associated with disturbance on IDM MLs has been added to the Project area and disturbance area (see Section 5.1). Therefore, for initial ecological assessments, the Project area is 2709.6 ha and the disturbance area is 2082.5 ha.

The Project may impact terrestrial ecology MNES and MSES, as well as other terrestrial flora and fauna, through direct impacts and indirect impacts. The primary direct impact will be clearing of remnant

vegetation and associated habitat for fauna and flora. Indirect impacts on fauna and flora could include edge effects and fragmentation of habitat; changes in the abundance of weeds and pests; noise, vibration, dust and lighting impacts; and changes to the quality or hydrology of surface waters and groundwater. Project impact on groundwater / hydrogeology may result in impacts to GDEs and stygofauna (e.g. through the removal or drawdown of aquifers).

The Project may impact aquatic flora and fauna through alterations to the hydrology or water quality of watercourses or wetlands.

Table 6-2 provides the extent of ground truthed REs within the Project area and disturbance area. Remnant and non-remnant vegetation comprise 343.5 ha and 1,739 ha of the 2082.5 ha disturbance area, or 16.5% and 83.5%, respectively. The high proportion of non-remnant vegetation is partially a result of the proponent reducing the disturbance area, where possible, to avoid remnant vegetation areas. By comparison remnant vegetation comprises 29% of the Project area.

Table 6-3 provides the extent of TECs and habitat for listed threatened species within the Project area and disturbance area, based on TEC and habitat mapping from field surveys to date and desktop data. The TECs and species included in Table 6-3 are all those that 'may occur', are 'likely to occur' or 'known to occur', as per Table 6-1. As is evident from Table 6-3, the proposed disturbance area has managed to avoid and reduce impacts on habitat for listed threatened species and TECs in the Project area. In particular:

- All natural grassland TEC, and habitat for King Blue-grass and Bluegrass has been avoided.
- Only 1 ha of habitat for Australian Painted Snipe, Sharp-tailed Sandpiper and Common Greenshank remains within the proposed disturbance area.

The Project therefore has potential for significant impacts on:

- regulated vegetation associated with EREs and OCREs
- regulated vegetation intersecting a watercourse
- Brigalow TEC
- Poplar Box TEC
- Squatter Pigeon (southern)
- Greater Glider (southern and central)
- Koala
- Ornamental Snake.

Whilst there are two migratory species that may occur in the Project area, habitat for these species is fragmented and likely to only be used for dispersal (e.g. flyover); with the habitat therefore not considered important for the species.

Significant impact assessments, in accordance with State and Commonwealth guidelines, will be undertaken for all MSES and MNES with potential to be impacted by the Project.

Project infrastructure and activities will be located to avoid or minimise disturbance to remnant vegetation when possible, including along the Isaac River and Cherwell Creek. Vegetation clearance protocols, such as a 'permit to disturb' system, demarcation of clearance areas, staged vegetation clearance and utilisation of a fauna spotter catcher, will be implemented to avoid and reduce impacts on fauna and flora. Species management plans for listed threatened species will be developed to reduce impacts from clearing activities.

A weed and pest management plan will be developed for the Project, based on the identification of weeds and pests in the Project area which have the potential to increase in abundance as a result of the Project. Weed and pest management will be developed based on recommended Commonwealth, State and regional / local control measures in conjunction with local landholders and natural resource management groups.

Noise, vibration and air quality controls will be implemented to manage impacts on sensitive receptors, with these measures also expected to reduce impacts on fauna and flora.

The Project's water management system will be designed to manage impacts on surface water quality and flows and hence reduce impacts on aquatic and terrestrial flora and fauna associated with watercourses and wetlands (refer to Section 6.2.2).

If the Project is assessed as being likely to have a significant residual on impact on terrestrial or aquatic ecology MNES or MSES, then biodiversity offsets will be required.

Cumulative impact assessments will include local scale changes to ecology as a result of other mines and projects.

Table 6-2 Regional Ecosystems – Project Area and Project Disturbance Area

RE	Category[1]	Description	VM Act Class[2]	Project Area (ha)[3]	Disturbance Area (ha)
11.3.1	B	*Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains*	EN	32.61	19.75
11.3.2	B	*E. populnea woodland on alluvial plains*	OC	53.58	23.82
11.3.3	B	*Eucalyptus coolabah woodland on alluvial plains*	OC	60.46	46.10
11.3.4	B	*Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains*	OC	16,24	Nil
11.3.21	B	*Dichanthium sericeum and/or Astrebla spp. grassland on alluvial plains. Cracking clay soils*	OC	37.89	Nil
11.3.25	B	*E. tereticornis or E. camaldulensis woodland fringing drainage lines*	LC	94.82	24.49
11.3.27b	B	*Freshwater wetlands*	LC	1.19	1.19
11.4.8	B	*Eucalyptus cambageana woodland to open forest with Acacia harpophylla or A. argyrodendron on Cainozoic clay plains*	EN	1.58	Nil
11.4.9	B	*Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains*	EN	14.48	12.43
11.5.3	B	*Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces*	LC	426.25	199.96
11.5.9	B	*Eucalyptus crebra and other Eucalyptus spp. and Corymbia spp. woodland on Cainozoic sand plains and/or remnant surfaces*	LC	10.83	10.83

RE	Category[1]	Description	VM Act Class[2]	Project Area (ha)[3]	Disturbance Area (ha)
11.8.5	B	*Eucalyptus orgadophila open woodland on Cainozoic igneous rocks*	LC	4.91	Nil
11.9.2	B	*E. melanophloia +/- E. orgadophila woodland to open woodland on fine-grained sedimentary rocks*	LC	23.06	5.24
Non-remnant	X	-	-	1931.74	1738.73
			TOTAL	**2709.64**	**2082.53**

[1] Regulated vegetation category: Category B (remnant vegetation), Category C (high-value regrowth) Category R (reef regrowth watercourse vegetation) or Category X (non-remnant).

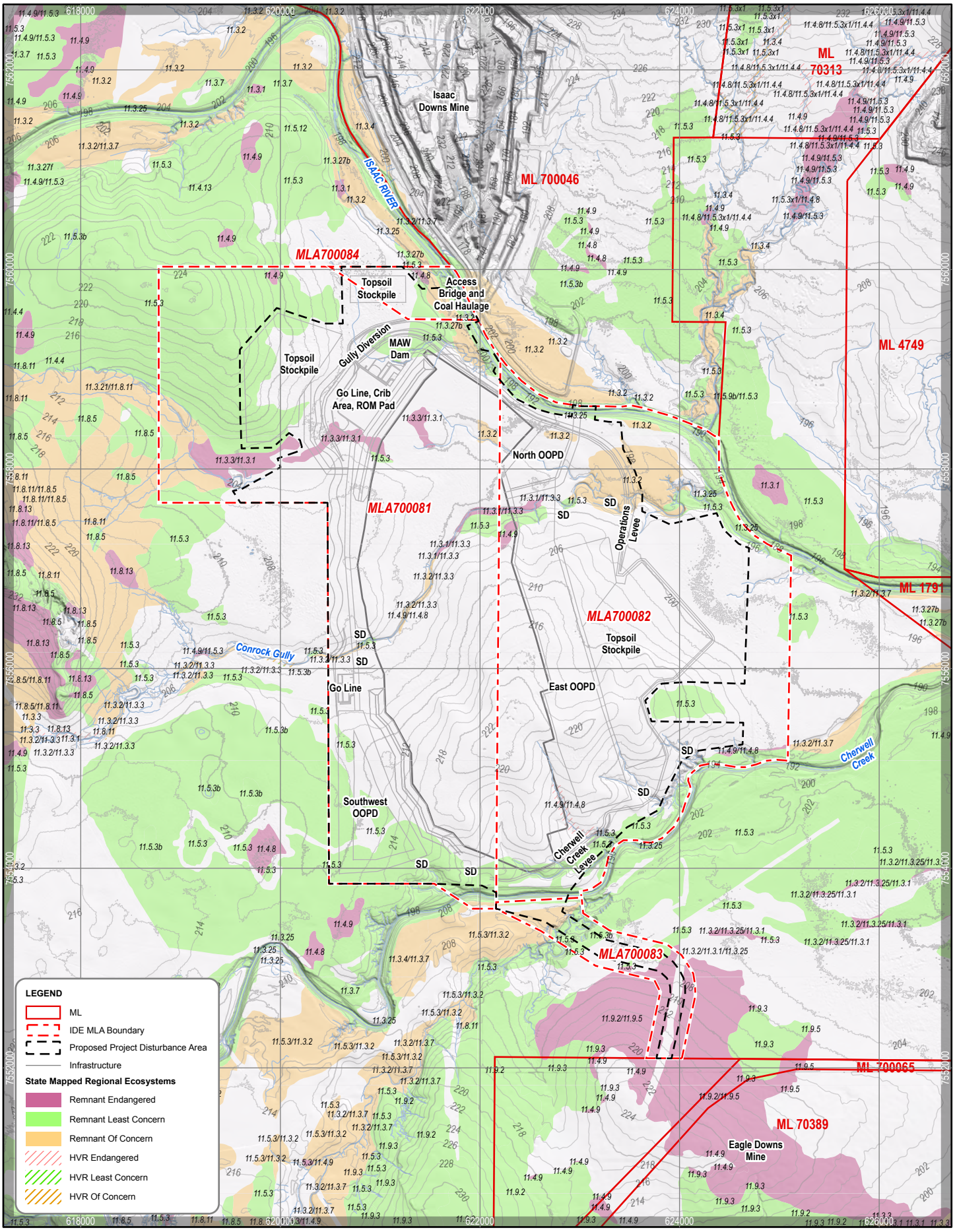
[2] Vegetation Management Act 1999 (Qld; VMA) Class: EN = Endangered, OC= Of Concern, LC = Least Concern, NC = No concern at present.

[3] Where REs occurred within a heterogenous polygon, the area calculated was based on when the RE was dominant only.

Table 6-3 Listed Threatened Species Habitat and Ecological Communities – Project Area and Disturbance Area

TEC / Species				Project Area	Disturbance Area
				Species Habitat	Species Habitat
TECs	Brigalow TEC			62.17	45.68
	Natural Grasslands TEC			37.89	-
	Poplar Box TEC			36.33	17.36
Threatened Species	Flora	*Dichanthium queenslandicum*		37.89	-
		Dichanthium setosum		37.89	-
	Birds	Squatter Pigeon	Preferred	683.73	313.88
			Suitable	78.11	17.49
			Marginal	16.06	12.43
		Australian Painted Snipe	Preferred		-
			Suitable	15.48	1.19
			Marginal	-	-
		Sharp-tailed Sandpiper	Preferred	-	-
			Suitable	15.48	1.19
			Marginal	-	-
		Common Greenshank	Preferred	-	-

TEC / Species				Project Area	Disturbance Area
				Species Habitat	Species Habitat
			Suitable	15.48	1.19
			Marginal	-	-
	Mammals	Koala	Preferred	174.30	57.14
			Suitable	548.47	273.05
			Marginal	-	-
		Greater Glider	Preferred	175.21	58.81
			Suitable	547.56	271.38
			Marginal	-	-
	Reptiles	Ornamental Snake	Preferred	91.38	62.64
			Suitable	7.94	5.89
			Marginal	-	-



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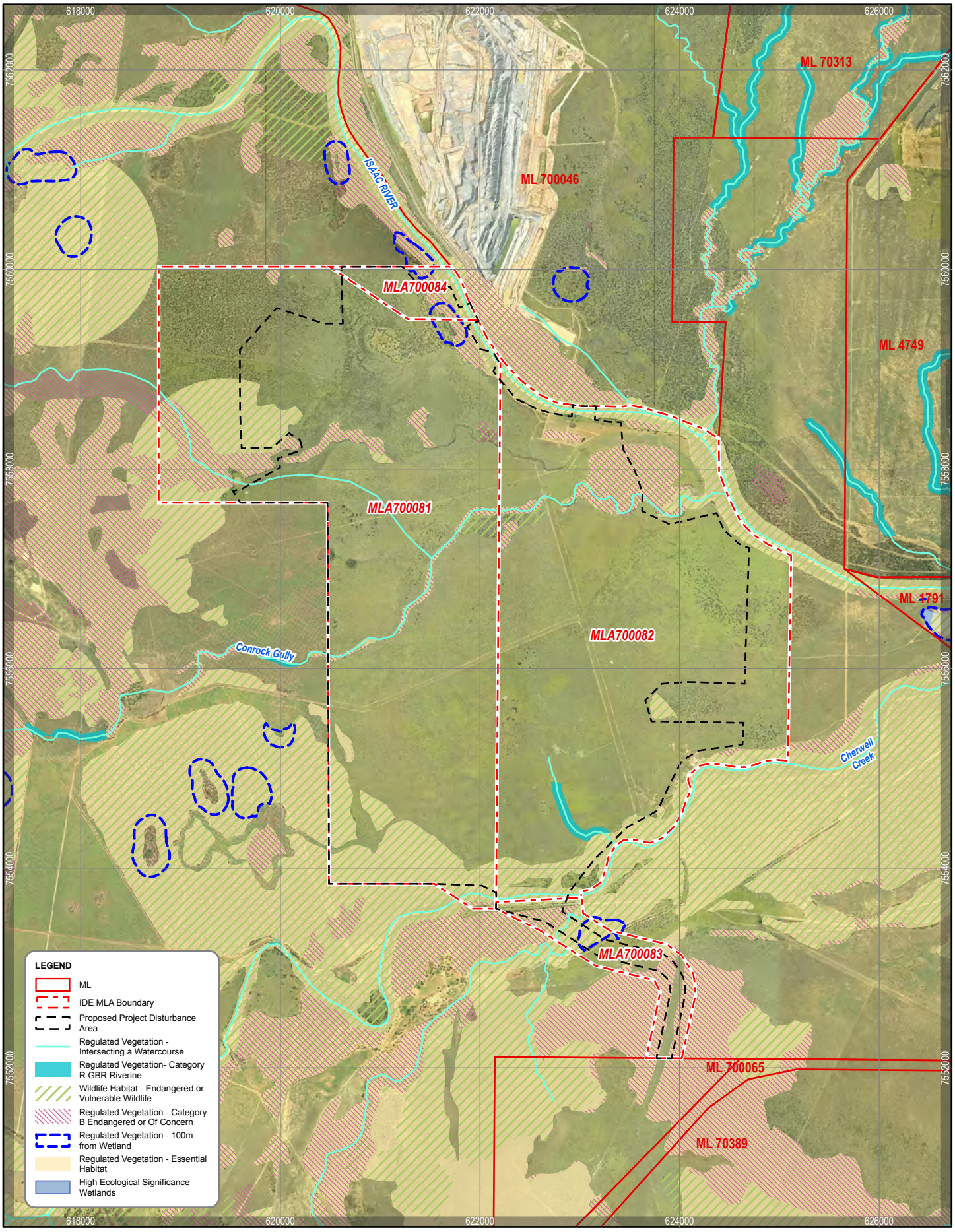
ISAAC DOWNS EXTENSION

State Mapped Regional Ecosystems



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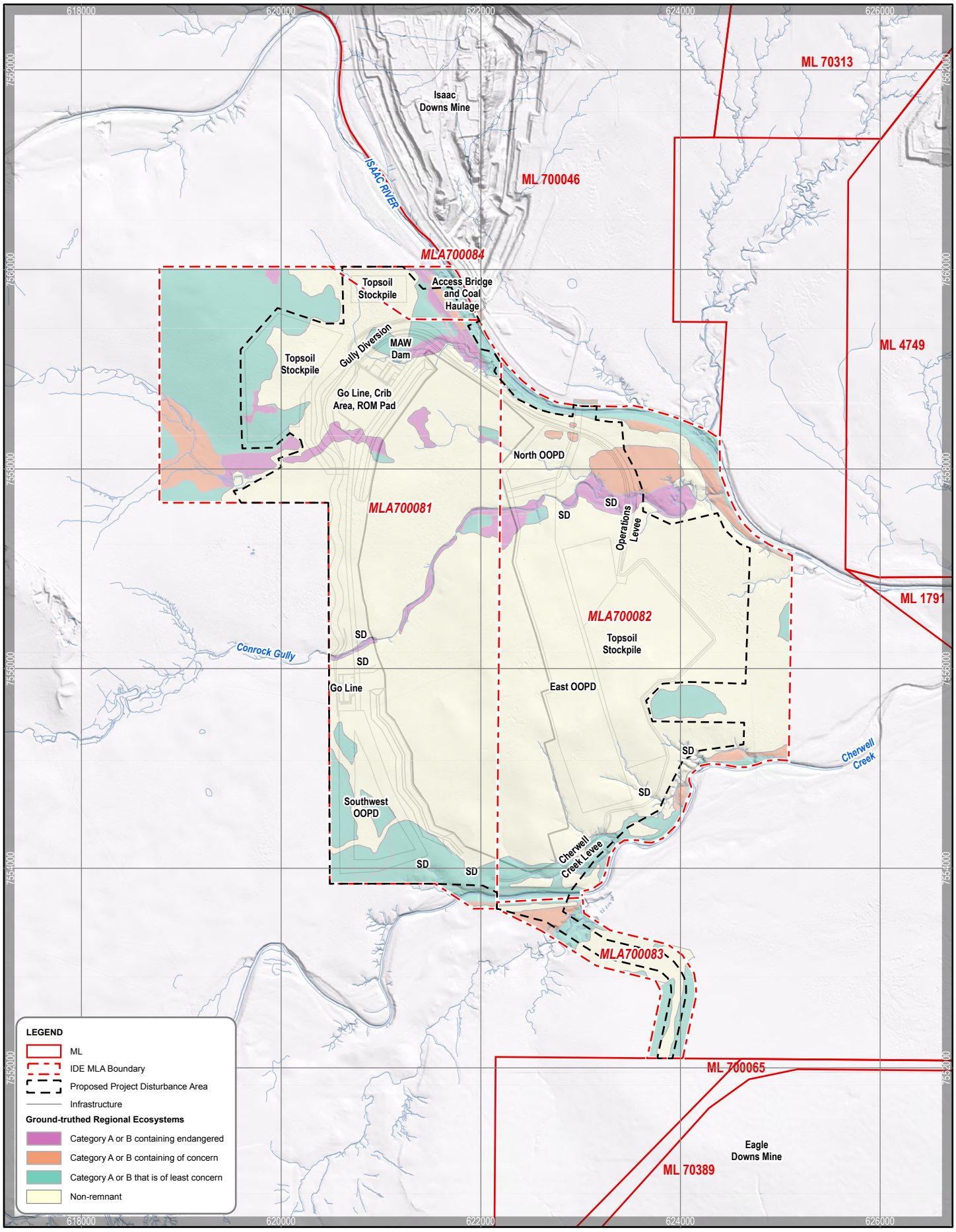
ISAAC DOWNS EXTENSION

Matters of State Environmental Significance

Figure | **6-12**



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ISAAC DOWNS EXTENSION

Ground-truthed Regional Ecosystems

6.5 Air quality

6.5.1 Environmental Values

The background, regional air quality is influenced by dust emissions from agricultural and mining activities, as well as natural emissions such as those from bushfires. A network of regional and mining project air quality monitors is utilised to monitor regional and mining related dust emissions. Air quality monitoring data will be utilised to calculate background dust deposition, PM_{10}, $PM_{2.5}$ [2] and total suspended particulates (TSP) within the region for the purposes of modelling the Project's incremental and cumulative impacts.

Sensitive receptors surrounding the Project area are shown in Figure 5-5, although it is likely that only the Winchester Downs residence may experience incremental air quality impacts from the Project.

Air quality objectives at sensitive receptors will be developed for the Project, based on the air quality objectives from the *Environmental Protection (Air) Policy 2019* (EPP (Air)).

6.5.2 Potential Impacts and Mitigation Measures

Project dust emissions will result from overburden handling and transport, ROM coal handling and transport and wind erosion of active mining areas. The equipment involved in these activities includes the dragline, excavators, haul trucks, dozers, drill rigs, road trains and other mining equipment. Air quality impacts during construction activities are likely to be lower than during mining operations.

An air quality model will be developed for the Project to predict the incremental and cumulative (i.e. inclusive of background) dust deposition, PM_{10}, $PM_{2.5}$ and TSP impacts at sensitive receptors, including Winchester Downs homestead. If modelling shows that any sensitive receptors are at risk of exceeding the air quality objectives then mitigation measures will be developed, including changes in the location or timing of dust generating activities, changes to equipment or mining practices resulting in dust emissions, or compensation agreements for amenity impacts.

Air quality modelling will assess the risk posed by any point source emissions (e.g. a small generator at crib hut) to determine risk to air quality and whether point source air quality modelling from these sources is required.

Potential impacts of dust emissions on flora and fauna (i.e. ecologically sensitive receptors) will be included in the ecological assessment.

6.6 Greenhouse Gas

6.6.1 Emissions

The Project will result in scope 1, 2 and 3 emissions. Scope 1 emissions will result from fugitive emissions from mining the coal seams and the combustion of fossil fuels in mining vehicles and equipment. Scope 2 emissions will result from purchase of electricity to power the dragline. The majority of scope 3 emissions will result from the combustion of coal by the end user, typically in a country importing the coal such as Japan, Korea, Taiwan and India. Other scope 3 emissions include downstream transportation of coal products, including railing and shipping; upstream transportation of goods and services; and employee commuting and business travel.

Initial Project GHG emission estimates have been made based on the methodologies described in:

- For scope 1 and 2: National Greenhouse and Energy Reporting (Measurement) Determination 2008 (Cth).

[2] Particulate matter with an aerodynamic diameter of less than 10 micrometre (PM10) or 2.5 micrometre (PM2.5)

- For scope 3 within Australia: the latest National Greenhouse Accounts Factors Workbook, applying guidance from the latest Climate Active technical guidance manual to determine which scope 3 emissions sources must be included on the basis that they are assessed as relevant against the relevant tests.
- For scope 3 outside of Australia: the GHG Protocol Corporate Value Chain.

The initial GHG emissions estimate will be refined during the EIS process for the Project.

Table 6-4 provides information from the initial GHG emissions estimate. Scope 1 emissions from the Project are on average projected to be 0.109 Mt carbon dioxide equivalent (CO2-e) per annum, with:

- 37.2% of scope 1 emissions from combustion of diesel
- 62.7% from the release of fugitive emissions
- 0.1% from combustion of oils and greases.

Scope 3 emissions from the Project are predicted on average to be 3.879 Mt CO2-e per annum, with:

- 96.8% of scope 3 emissions from the processing and use of sold coal
- 1.7% associated with the downstream transportation of the sold coal including railing and shipping
- the remaining scope 3 sources contributing 1.5% of the total.

Annual Project Scope 1, 2 and 3 (within Australia only) emissions represent 0.04% of Australia's annual national emissions. Average annual Scope 1, 2 and 3 (within and outside Australia) emissions represent 0.008% of global emissions.

Table 6-4 GHG Emissions Estimate

GHG Emissions Type	Mt CO2-e / Percentage
Average annual scope 1 emissions (Mt CO_2-e)	0.109
Average annual scope 2 emissions (Mt CO_2-e)	0.002
Average annual scope 3 emissions - within Australia (Mt CO_2-e)	0.064
Average annual scope 3 emissions - outside Australia (Mt CO_2-e)	3.816
Project total scope 1 emissions (Mt CO_2-e)	2.279
Project total scope 2 emissions (Mt CO_2-e)	0.051
Project total scope 3 emissions - within Australia (Mt CO_2-e)	1.371
Project total scope 3 emissions - outside Australia (Mt CO_2-e)	80.128
Total GHG emissions (scope 1, 2 and 3) (Mt CO_2-e)	83.829
Total average annual Scope 1, 2 and 3 (within Australia only) emissions as a percentage of Australia's annual national emissions (432.6 Mt, ageis.climatechange.gov.au/)	0.0403%
Total average annual Scope 1, 2 and 3 (within and outside Australia) emissions as a percentage of global emissions (49,553.5 Mt, www.climatewatchdata.org/ghg-emissions?end_year=2021&start_year=1990)	0.0081%

6.6.2 Mitigation Measures

The proponent will prepare a GHG Abatement Plan, in accordance with DETSI's Greenhouse Gas Emissions Guide[3]. In accordance with Greenhouse Gas Emissions Guide, the GHG Abatement Plan will be required for the Project. The GHG Abatement Plan will describe how the Project intends to contribute to Queensland's emission reduction and renewable energy targets, and will provide estimates of scope 1, 2 and 3 emissions.

To reduce GHG emissions, Stanmore regularly assesses decarbonisation options under its Decarbonisation Plan, managed by a dedicated Decarbonisation Manager. Studies have and will be completed to prioritise GHG emissions reduction opportunities, primarily focusing on diesel and fugitive emissions.

IPC is a 'facility' subject to the requirements of the Commonwealth GHG legislation including reporting under the National Greenhouse and Energy Reporting (NGER) Scheme and complying with the requirements of the Safeguard Mechanism under the NGER Scheme. It is expected that the Project will become part the IPC facility and hence subject to the NGER Scheme reporting and Safeguard Mechanism obligations for IPC.

The Safeguard Mechanism requires a progressive reduction in GHG emissions, aligned with the Australia's commitments under United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement. Facilities have an annual emissions limit known as a baseline and this declines by 4.9% each year to 2030.

GHG avoidance and mitigation measures will be considered as part of the Project's GHG Abatement Plan and may include:

- capture and management of fugitive gas emissions (pending assessment of gas content in the coal seams)
- mining fleet type and usage, including the use of an electrically powered dragline rather than fossil fuel powered excavators
- operational efficiency gains, such as optimising haulage of ROM coal and overburden
- source of purchased electricity, and the use of solar power at crib hut facilities to offset the use of diesel power generators

Stanmore will continue priority GHG emissions management feasibility studies and projects in the coming years. In the absence of suitable emission reduction technology, Stanmore procures Australian Carbon Certificate Units (ACCUs) to meet its Safeguard Mechanism requirements/liability.

In terms of scope 2 emissions, Stanmore is investigating:

- onsite renewable energy solutions for electricity supply
- entering into a green power purchase agreement with other renewable providers.

Stanmore has partnered with a renewable energy developer that is assessing the potential of small-scale solar project at IPM and Poitrel Mine. However, it is acknowledged that the Queensland Government has a renewable energy target of 50% reduction in emissions by 2030 and 80% by 2050, which will effectively lower Scope 2 emissions for all electricity grid users.

[3] Greenhouse Gas Emissions Guide ESR/2024/6819, Department of Environment, Science and Innovation, May 2024, https://www.desi.qld.gov.au/policies?a=272936:policy_registry/era-gl-greenhouse-gas-emissions.pdf

6.6.3 GHG Emissions and Human Rights

The Queensland Government and the Land Court have considered the HR Act in making decisions regarding impacts to human rights. Two recent judgements from the Land Court ('Waratah Coal'[4] and 'Ensham'[5]) provide further guidance. In both these cases, key factors in the Land Court's decision included:

- the determination of 'proportionality'
- scope 1, 2 and 3 GHG emissions from the projects
- whether the projects were producing thermal coal or metallurgical coal
- emissions management.

A preliminary GHG emissions estimate for the Project, as well as proposed GHG emissions management, is provided above. By comparison with 'Waratah Coal', the Project is a majority metallurgical coal mine with approximately 5% of the total scope 1, 2 and 3 GHG emissions compared to that estimated for 'Waratah Coal'. The Project has similar GHG emission estimates to 'Ensham'. The human rights that could potentially be impacted by the Project (as per the 'Waratah Coal' and 'Ensham' cases), and their relevance to the Project are:

- Right to life and rights of children. The socio-economic benefits of the Project are described in Sections 5.17, 6.11 and 6.12. On balance any potential limitations of the Project on these rights are considered appropriate and proportional given the socio-economic benefits of the Project, proposed emissions management, significantly lower emissions than 'Waratah Coal' and production of majority metallurgical coal.
- Rights of First Nations peoples. The proponent will enter into a Native Title agreement and cultural heritage management plan / agreement with the Barada Barna, thereby managing impacts on the rights of First Nations peoples.
- Right to property and right to privacy and home. The Project will enter in compensation agreements with the landholder, including for amenity impacts to a residence where these may be impacted.

6.7 Noise and vibration

6.7.1 Environmental Values

Background noise levels in the region are influenced by noise from agricultural and mining activities, as well as natural emissions (e.g. birds and insects) and public traffic networks.

Sensitive receptors surrounding the Project area are shown in Figure 5-5, although it is likely that only the Winchester Downs residence may experience incremental noise impacts from the Project. Background noise monitoring is proposed at Winchester Downs to determine background noise levels.

Noise and vibration limits at sensitive receptors will be developed for the Project, based on the noise and vibration limits from the *Environmental Protection (Noise) Policy 2019* (EPP (Noise)), as well as DETSI's 'Model Mining Conditions' (ESR/2016/1936).

6.7.2 Potential Impacts and Mitigation Measures

Project noise sources include overburden handling and transport, ROM coal handling and transport, rehabilitation, heavy vehicles and light vehicles. Sound power levels will be determined for all potential noise sources. The equipment involved in these activities includes the dragline, excavator, haul trucks,

[4] *Waratah Coal Pty Ltd v Youth Verdict Limited* [2020] QLC 33
[5] *Sungela Pty Ltd and Anor* [2025] QLC 5

dozers, drill rigs, road trains and other mining equipment. Noise impacts during construction activities are likely to be lower than during mining operations.

A noise model will be developed for the Project to predict incremental and cumulative (i.e. inclusive of background) noise levels at sensitive receptors, including Winchester Downs homestead. If modelling shows that any sensitive receptors are at risk of exceeding noise limits then mitigation measures will be developed, including changes in the location or timing of noise generating activities, changes to equipment or mining practices resulting in noise, or compensation agreements for amenity impacts.

Blasting of overburden will result in vibration. It is expected that only the Winchester Downs homestead may be at risk of exceeding air blast overpressure or peak particle velocity criteria. Blasting operations will be tailored to mitigate vibration impacts at sensitive receptors.

6.8 Waste Management

The waste streams from the Project can be separated in mining waste and non-mining waste. Mining waste comprises overburden and rejects (coarse rejects and fine tailings). Non-mining waste includes all other waste streams.

6.8.1 Mining Waste

The management of mining waste is integral to the mine scheduling, mine design and environmental assessments described in other sections of this IAS. To understand the potential risk posed by overburden and rejects, geochemical and geophysical assessments of materials from drill holes will be undertaken. As the geology is the same as that at IDM, it is expected that overburden and rejects will demonstrate very similar materials characteristics as IDM and will be managed in a similar manner. That is, based on the IDM EIS (IP South, 2020):

- Overburden material at IDM is non-acid forming, with very low total metal and metalloid concentrations, and is erosive and dispersive to varying degrees. Runoff from overburden dumps will be managed through a sediment water management system. Overburden dumps will be rehabilitated to a preferred PMLU.
- Coal reject materials from IDM are classified as non-acid forming with low risk of acid and/or sulfate generation, and low total metal and metalloid concentrations. All rejects and tailings will be managed within existing dumps (coarse rejects) and voids (tailings) at IPM, in accordance with the IPM approved Mine Waste Management Plan. There is sufficient capacity within existing dumps and voids at IPM for all rejects and tailings from the Project, respectively.

6.8.2 Non-mining Waste

The Project will result in the production of general commercial and industrial waste, which may include:

- vegetation cleared from areas impacted by the Project
- regulated waste, such as hydrocarbon waste, detergents, solvents, batteries, and tyres, although this is more likely to be generated at the existing IDM MIA
- general waste, including food scraps, paper, rags, cans, and glass
- sewage effluent (limited to crib area sewage facilities)
- scrap metal and off-cuts generated during maintenance and construction activities.

The non-mining wastes from the Project will be similar to the non-mining waste generated at IDM, and will be managed in a similar manner. This includes the following management measures:

- characterisation of waste streams
- segregation of waste types
- storage and transport specific to each waste type

- monitoring and reporting on waste generated
- identification of any regulated or hazardous waste, with procedures for storage, transport and disposal of regulated or hazardous waste
- management of waste in accordance with the waste hierarchy – avoid, reduce, reuse, recycle, recover, treat and dispose
- identification of responsibilities for waste management.

Stanmore will continue to use appropriately licenced waste contractors to ensure that non-mining waste is managed in accordance with relevant legislation including the *Waste Reduction and Recycling Act 2011*.

6.9 Hazards and Safety

Stanmore operates several coal mines in the Bowen Basin and, as a result, has an established safety and health management system (SHMS). Hazards and risks from mining activities are identified and managed in accordance with the SHMS. Hazard analysis and risk assessments will be completed, and Stanmore's existing SHMS at IDM will be utilised for the Project. Potential hazards and risk to people and property that will be assessed include:

- transportation of personnel, equipment and materials to and from the site and within site
- transport of hazardous and dangerous materials
- hydrocarbon storage
- construction and installation – clearing and earthworks, construction and installation of infrastructure
- mining operations – ROM coal haulage, overburden handling, ROM coal storage, explosives handling
- non-mining waste management
- infrastructure – fires or floods, water management infrastructure (e.g. dams), electrical infrastructure
- decommissioning – contaminated land remediation
- interaction with external factors – third party interference, unauthorised entry, overlapping tenement activities, wildlife and natural weather / climate events.

Flood protection during operations, as described in Section 5.9, is a key component of Project design to minimise risks from flooding. Key infrastructure such as the ROM pad, go- line, crib area and mine water dam will be protected by the Isaac River levee during operations.

Whilst there is a potential for bushfires in the region, the Project activities will be buffered by the clearing required for mining activities and by virtue of much of the surrounding land be used for grazing. Never-the-less a bushfire management plan will be implemented for the Project.

Infrastructure will be designed in accordance with the requirements for structures in north, central Queensland, which is subject to cyclones or high rainfall associated with cyclones.

The Project is expected to result in minimal changes to public road use compared to the existing usage for IPC, and hence minimal change in the risk posed to public road users. In particular, ROM coal will not be hauled on public roads.

The SHMS will include emergency response plans.

6.10 Cultural heritage

6.10.1 Indigenous Cultural Heritage

The ACH Act provides a system to protect, preserve and manage Aboriginal cultural heritage areas and objects.

The BBAC is the registered native title holder for that land, and the relevant Aboriginal Party for managing Indigenous cultural heritage. A cultural heritage management agreement / plan will be entered into with the BBAC for the management of cultural heritage potentially impacted by the Project.

The cultural heritage management agreement / plan will set out the process for on-ground assessments of Aboriginal cultural heritage and their management. Cultural heritage assessments will be undertaken across the Project area, with cultural heritage finds managed in accordance with the cultural heritage management agreement / plan.

The State Aboriginal and Torres Strait Islander Cultural Heritage Database (cultural heritage database) and Aboriginal and Torres Strait Islander Cultural Heritage Register (cultural heritage register) were searched to identify any know sites of cultural heritage in the vicinity of the Project. These databases record around 5 sites from surveys prior to 2015 near the Project's secondary access route connection. There are no other cultural heritage sites recorded from previous surveys in the vicinity of the Project.

The proponent currently undertakes exploration activities within the Project area under a cultural heritage agreement with the BBAC. The surveys that have been undertaken to date have not identified sites of Aboriginal cultural heritage. However, it is noted that cultural heritage surveys will be conducted under the requirements of a cultural heritage management agreement / plan.

6.10.2 Non-Indigenous Cultural Heritage

Based on publicly available information in Queensland's heritage register mapping, there are no recorded heritage sites within the Project area (Queensland Government, 2025).

Further desktop reviews will be undertaken of non-Indigenous (historical) cultural heritage records to assess the potential for the Project area to contain any material non-Indigenous cultural heritage sites or artefacts. This will be supported by landholder interviews and field inspections, as required.

If non-Indigenous cultural heritage sites or artefacts are identified these will be managed in accordance with the QH Act.

6.11 Social

6.11.1 Social Environment

As an EIS is required for the Project, a SIA is required under the SSRC Act in accordance with the CG's SIA Guideline (DSDMIP, 2018) (the SIA Guideline).

The primary local social environment that would be assessed is Moranbah, with the social environment of other smaller towns (e.g. Nebo, Dysart, Coppabella) within a reasonable daily commute distance from the Project also considered. The local government areas that will be considered in an SIA are the IRC and Mackay Regional Council (MRC).

The following information is based the proponent's knowledge of the local social environment, as well as information that supported the SIA for IDM (IP South, 2020):

- Moranbah primarily supports mining and to a lesser extent agricultural industries. Moranbah's population has fluctuated in response to mining cycles, with a population of approximately 10,000 people. The IRC area supports a non-resident mining workforce comprising fly-in/fly-out and

drive-in/drive-out (FIFO/DIDO) workers living in the region, primarily in worker accommodation villages.
- Unemployment rates in Moranbah are generally lower than the State average due to mining related employment.
- Housing availability and affordability in Moranbah fluctuates in response to mining cycles.
- Moranbah has a strong identity as a mining town, as the town was established by mining companies. The mining industry is currently still dominant in the town's economy. Moranbah is considered as a workers' town, but is also a family town with large percentages of children and young people. Workers' unions are strong and represent local values.
- Moranbah is accessible via the State and local road networks and via the local airport.
- Moranbah has childcare facilities, primary schools and a high school, with enrolment at these facilities fluctuating with mining cycles.
- Moranbah has a hospital, police station, ambulance station, fire and rescue service and Court house.
- There are a wide range of community and civic services and community and family support services in Moranbah. The town offers a variety of sport and recreational facilities and several local associations and hobby groups.

An SIA for the Project would identify the most recently available social and economic baseline data for local and regional areas.

Stakeholder engagement is described in Section 4.1. Engagement will identify and address likely stakeholder concerns and inform Project planning and social impact management.

6.11.2 Potential Social Impacts, Benefits and Management

6.11.2.1 Overview

The key matters that would be assessed as part of an SIA for the Project are:

- community and stakeholder engagement (see Section 4.1)
- workforce management
- housing and accommodation
- local business and industry procurement
- health and community well-being.

The Project is an extension of mining activities at IDM, with the workforce transitioning to the Project (see Section 5.16). Hence the social impacts and benefits of the Project are likely to be very similar to those resulting from existing mining operations. There will be an extension in the duration of social impacts and benefits associated with the Project.

6.11.2.2 Workforce Management

The Project's workforce will be primarily DIDO from nearby regional centres, with some workers FIFO from their places of residence in the State or other parts of Australia. Stanmore also offers a 'Live Local' initiative which provides workers with genuine accommodation choice by providing direct financial subsidies to live in the local community.

Existing workforce management practices, which will continue for the Project, include sourcing workers from nearby regional communities, local construction procurement, and providing equitable access to employment opportunities for Aboriginal and Torres Strait Islander people.

The Project will have a positive impact in terms of employment continuity and flow on economic benefits. Ongoing employment opportunities will provide substantial benefits to residents of local and regional communities. The Project will also create commercial opportunities for local businesses through Project workforce expenditure on food and services in local communities.

The proponent will provide training and development opportunities for the workforce through the provision of upskilling and employment development programs.

The proponent will develop a Workforce Management Plan which includes fatigue management initiatives, drug and alcohol testing systems, onsite site medical and first aid facilities, working with camp accommodation providers to encourage and support workforce health programs targeting mental health, obesity, drug and alcohol use, maintain healthy and safe workforce practices.

6.11.2.3 Housing and Accommodation

As the construction period is relatively short (around 1 year), it is considered unlikely that any non-resident members of the construction workforce would seek permanent accommodation in the local area and there would be no subsequent effect on the local housing market.

Non-resident operational workforce will be accommodated at worker accommodations villages in the local area. The resident workforce associated with the Project is expected to be similar to that for existing operations at IPC. Stanmore will continue to encourage and support workers and their families that wish to relocate to Moranbah or other local communities.

With a near steady state transition of the workforce from IDM to the Project, it is not expected that the Project will place additional pressure on the local housing market. Never-the-less an SIA would consider the local housing markets and expected trends in housing to determine whether the extension of mining activities would have any impacts on housing.

6.11.2.4 Local Business and Industry Procurement

The Project will provide opportunities for the ongoing supply of a broad range of goods and services. Moranbah and Mackay are key service centres for the mining industry. Local and regional suppliers will be provided full, fair and reasonable opportunity for the supply of goods and services to the Project. Supply arrangements for the Project are likely to be similar to IDM and IPM, with supplies largely from Queensland, including local and regional suppliers. The proponent will continue to seek procurement opportunities for Indigenous owned businesses.

6.11.2.5 Health and Community Well-being

The Project is unlikely to change the demand on early childhood education, school, hospital, health services and emergency services as the workforce will be similar to current operations.

The construction period workforce is relatively small and over a short duration and hence is unlikely to result in changes to health and community services.

Stanmore currently provides a community grants program which supports of range of community initiatives in Moranbah and surrounding areas. This will continue for the Project.

6.12 Economic

6.12.1 Economic Environment

As an EIS is required for the Project, an economic impact assessment will be undertaken in accordance with the CG's Economic Impact Assessment Guideline. This requires a regional impact assessment and a cost benefit analysis.

The following information is based the proponent's knowledge of the local social environment, as well as information that supported the economic impact assessment for IDM (IP South, 2020):

- Moranbah and the broader Isaac local government area is heavily reliant on the mining industry as the town and region's highest employer.

- Moranbah and the region have experienced growth and contraction in economic activity through mining cycles over the previous two decades.

6.12.2 Potential Impacts, Benefits and Management

The Project will generate economic activity directly through construction activities, extraction and export of mined product during operations, and through onsite rehabilitation and decommissioning activities. Economic activity will also be supported indirectly for the supply of goods and services to support the Project across all these phases.

Justification for the Project, including economic benefits, is provided in Section 5.17.

The regional impact assessment will aim to quantify the contribution of the Project to gross regional product, gross State product, employment and wages (construction and operations), benefits and impacts to other business in the supply chain, and government contributions (royalties, taxes, etc).

A cost benefit analysis will provide an assessment of the net costs and benefits for the 'with Project' and 'without Project' scenarios. The cost benefit analysis will be based on the net present value calculation for the Project developed by the proponent but also consider environmental and social externalities (which can be costs and benefits).

The proponent will seek strategies to enhance economic benefits (e.g. supporting local businesses) and minimise economic impacts (e.g. restoring mined land to a PMLU suitable for grazing).

6.13 Transport

Traffic generated by the Project is expected to be similar to that generated to support current mining operations at IPC. This would include workforce transport, delivers of consumables (e.g. fuels and explosives) and other incidental deliveries of supplies and equipment. The Project is not expected to result in any material changes in public road use in the region, including the Peak Downs Highway, Peak Downs Mine Road and Moranbah Access Road. ROM coal will be hauled to IPM CHPP using the existing underpass of the Peak Downs Highway, avoiding interaction with public road users.

The Goonyella rail line will continue to be used for transport of product coal to DBCT, at a rate similar that for existing operations.

Some of the workforce may utilise regional airports such as Moranbah and Mackay at the start and end of shift rosters, however this is likely to be similar to existing use of airports by IPC workers.

Overall it is not expected that the Project will place any greater pressure on transport networks than that generated from existing mining operations at IPC.

As an EIS is required for the Project, a transport impact assessment will be prepared.

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8. GLOSSARY

Acronym / Abbreviation	Full Wording / Explanation
ACH Act	*Aboriginal Cultural Heritage Act 2003*
ACCU	Australian Carbon Certificate Units
AEP	annual exceedance probability
ASX	Australian Stock Exchange
ATP	Authority to prospect
BBAC	Barada Barna Aboriginal Corporation
bcm	bank cubic metres
CG	Coordinator General
CHPP	coal handling and preparation plant
CMSH Act	*Coal Mining Safety and Health Act 1999*
CO2-e	Carbon dioxide equivalent
DBCT	Dalrymple Bay Coal Terminal
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DETSI	Department of the Environment, Tourism, Science and Innovation
DIDO	drive in drive out
DNRMMRRD	Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development
DSDIP	Department of State Development, Infrastructure and Planning
EA	environmental authority
EIS	environmental impact statement
EO Act	*Environmental Offsets Act 2014*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPC	exploration permit for coal
EPG	exploration permit geothermal
EP Act	*Environmental Protection Act 1994*
EPP (Air)	*Environmental Protection (Air) Policy 2019*
EPP (Noise)	*Environmental Protection (Noise) Policy 2019*
EPP Water	*Environmental Protection (Water and Wetland Biodiversity) Policy 2019*
ERC	estimated rehabilitation cost
ERE	endangered regional ecosystem

Acronym / Abbreviation	Full Wording / Explanation
ESA	environmentally sensitive area
ESCP	erosion and sediment control plan
EVs	environmental values
FIFO	fly in fly out
GDE	groundwater dependent ecosystem
GDEMMP	groundwater dependent ecosystem monitoring and management plan
GHG	greenhouse gas
GMMP	groundwater monitoring and management plan
HR Act	Human Rights Act 2019
IAS	Initial Advice Statement
IDE	Isaac Downs Extension
IDE Project	The Project
IDM	Isaac Downs Mine
IEA	International Energy Agency
IPC	Isaac Plains Complex
IPM	Isaac Plains Mine
IP South	Stanmore IP South Pty Ltd
IRC	Isaac Regional Council
km	kilometre
LCRE	least concern regional ecosystem
MDL	mineral development licence
MIA	mine infrastructure area
ML	mining lease
ML	mega litres
ML/a	mega litres per annum
MNES	matters of national environmental significance
MR Act	*Mineral Resources Act 1989*
MRC	Mackay Regional Council
MSES	matters of state environmental significance
Mt	million tonnes
Mtpa	million tonnes per annum
NC Act	*Nature Conservation Act 1992*
NGER Act	*National Greenhouse and Energy Report Act 2007*

Acronym / Abbreviation	Full Wording / Explanation
NT Act	*Native Title Act 1993*
NUMA	non-use management area
OCRE	of concern regional ecosystem
PM2.5	particulate matter with an aerodynamic diameter of less than 2.5 micrometre
PM10	particulate matter with an aerodynamic diameter of less than 10 micrometre
PMLU	post mining land use
PRCP	progressive rehabilitation and closure plan
QH Act	*Queensland Heritage Act 1992*
RE	regional ecosystem
REMP	receiving environment monitoring program
ROM	run of mine
RPEQ	registered professional engineer Queensland
RPI Act	*Regional Planning Interests Act 2014*
SHMS	safety and health management system
SIA	social impact assessment
SRM Act	*Stock Route Management Act 2002*
SSRC Act	*Strong and Sustainable Resource Communities Act 2017*
Stanmore	Stanmore Resources Ltd
SWC	South Walker Creek
t	tonnes
TECs	threatened ecological communities
TI Act	*Transport Infrastructure Act 1994*
TMR	Department of Transport and Main Roads
ToR	Terms of Reference
TSP	total suspended particulates
UNFCCC	United Nations Framework Convention on Climate Change
UWIR	underground water impact report
VM Act	*Vegetation Management Act 1999*
Water Act	*Water Act 2000*
WQOs	water quality objectives