Whitehaven

2025

Maules Creek Continuation Project

Environmental Impact Statement

Section 3
Project Description

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3 Project Description

This section describes the proposed Project. The approved MCCM (PA 10_0138) and its interaction with the Project is described in Section 1.4.

Should Development Consent be granted for the Project (which incorporates and optimises the approved MCCM), subject to the proponent being satisfied with the consent conditions, it is currently proposed by MCC that PA 10_0138 would, at an appropriate time after the Development Consent is granted for the Project, be surrendered so that the Project would operate under the new consent only.

3.1 Project Overview

The Project would involve the continuation of the MCCM, including extraction of additional coal within the MCCM mining and exploration tenements and revegetation of existing cleared land referred to as Landscape Revegetation Zones.

Compared to the existing approved MCCM, the Project would include the following additional key activities:

- extension of open cut mining operations within CL 375, ML 1719 and AUTH 346 to allow mining and processing of additional coal reserves until approximately 31 December 2044;
- extraction of approximately 117 Mt of ROM coal (in addition to the approved MCCM coal resource of 240 Mt of ROM coal);
- extraction of up to 14 Mtpa of ROM coal (i.e. a 1 Mtpa increase from the currently approved maximum ROM coal mining rate of 13 Mtpa);
- a revegetation program to establish approximately 2,300 ha of native woodland in the vicinity of the MCCM (i.e. in addition to any offset and rehabilitation obligations);
- an increase in the operational workforce to an average of approximately 940 people, with a peak operational workforce of approximately 1,030 people;
- continued operation of the existing CHPP and train load-out and rail spur infrastructure, with upgrades as required;
- continued transport of up to 12.4 Mtpa of product coal via rail (i.e. no change to the currently approved maximum product coal transport rate);
- development of an integrated waste rock emplacement landform that incorporates geomorphic design principles;
- construction and use of a remote go-line, access and infrastructure area;
- continued operation and extension of the MCCM water management system;
- upgrades to workshops, electricity distribution and other ancillary infrastructure;
- continued placement of coal rejects within the mined out voids and the out-of-pit overburden emplacement areas;
- construction and operation of a water transfer pipeline between the MCCM water pipeline network and the approved VCM to TCM pipeline;
- ongoing exploration activities; and
- other associated infrastructure, equipment and activities.

Table 3-1 provides a summary of the key characteristics of the Project. These key characteristics remain generally consistent with the Project as described in the Scoping Report (Whitehaven, 2023c), with some refinements to the total volume of ROM coal recovered and operational workforce to reflect more detailed mine planning. This has also included the mine life extension being reduced by approximately 12 months.

The indicative Project general arrangement is provided on Figures 3-1 to 3-4. The general arrangement also illustrates the existing/approved surface development areas that would continue to comprise part of the Project (Figures 3-1 and 3-2). The conceptual go-line and infrastructure area is shown in Figure 3-3. The Landscape Revegetation Zones are shown on Figure 3-4.

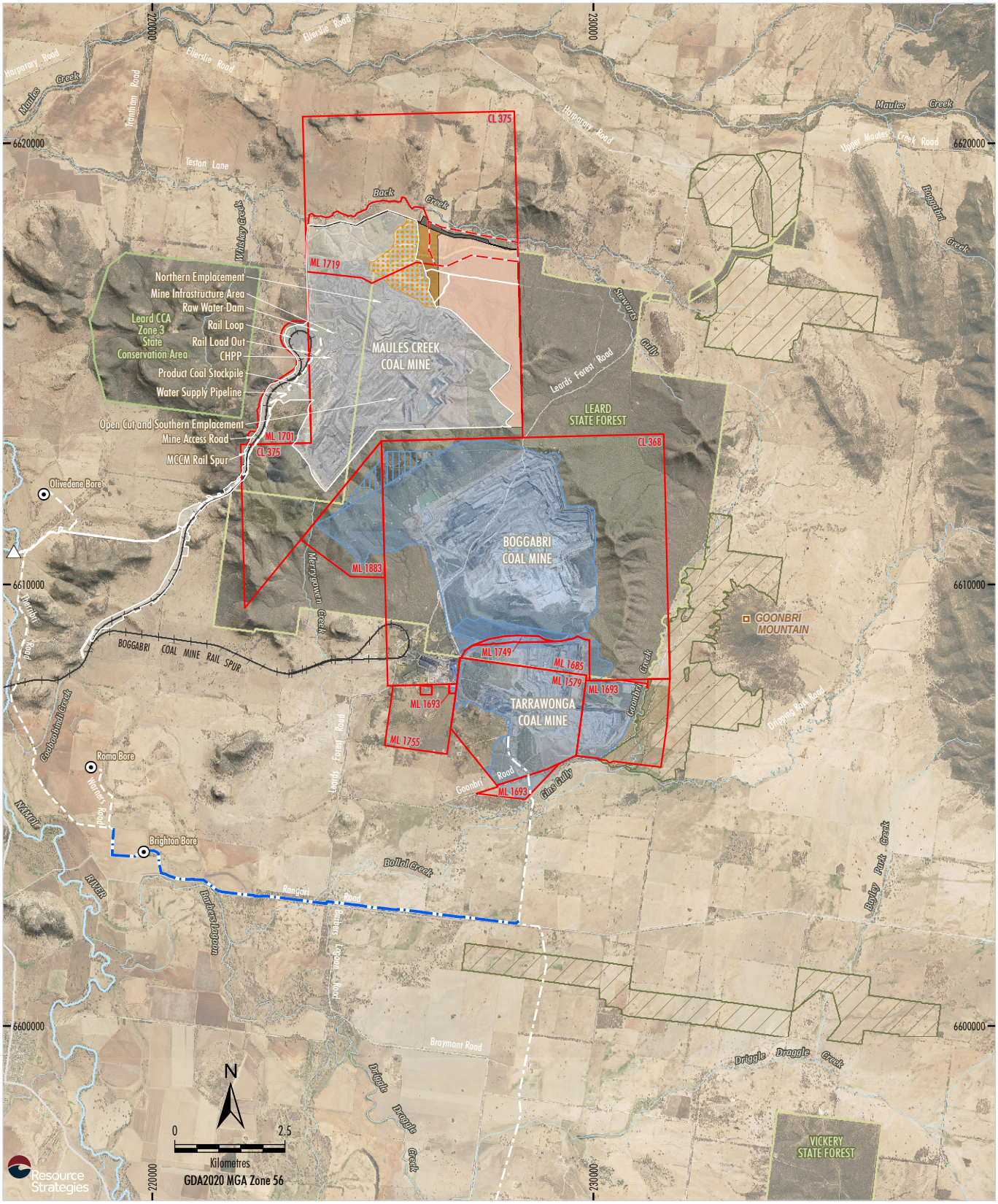
Further detail on the Project description is provided below.

Table 3-1
Summary of the Approved MCCM and the Project

Project Component	Approved MCCM (PA 10_0138)	Project (Maules Creek Continuation Project)
Mine Life	Mining operations are approved until 31 December 2034.	Continuation of mining operations until 31 December 2044 within CL 375, ML 1719 and AUTH 346 (i.e. a 10 year extension compared to the approved operations).
Mining Method	Conventional open cut mining method, comprising truck and excavator operations.	Unchanged. Existing mobile equipment would be used for the Project and progressively replaced at the end of the equipment's serviceable life.
Open Cut Mining Areas	Mining within existing mining and exploration tenements via conventional open cut mining methods within the approved MCCM open cut pit.	Mining to continue within existing mining and exploration tenements via conventional open cut mining methods. Mining lease to be sought over part of AUTH 346 for surface mining rights (Figure 3-1).
Open Cut Coal Extraction Limits	Up to 13 Mt of ROM coal extracted from the open cut mining operations in any calendar year.	Up to 14 Mt of ROM coal would be extracted from the Project in any calendar year (i.e. an increase in maximum extraction by up to 1 Mtpa).
Overburden Emplacement	Overburden emplacement within the out-of-pit Northern Emplacement and the Southern Emplacement. The Northern Emplacement and Southern Emplacement would be constructed to maximum approximate heights of 455 m AHD and 430 m AHD, respectively.	Expansion of the existing overburden emplacement and integration with the Project landform. The Northern Emplacement and Southern Emplacement would be constructed to maximum approximate heights of 490 m AHD and 499 m AHD, respectively.
Coal Processing and Offsite Transport	Up to 13 Mtpa of ROM coal from the MCCM can be processed in any calendar year. Up to 12.4 Mtpa of product coal can be transported off-site via rail.	Unchanged. Continued operation of existing CHPP and train load-out and rail spur infrastructure with minor upgrades as required. No change to the maximum processing rate or train movement limits.
Coal Rejects	Coarse rejects and dewatered fine rejects are placed within mined out voids and the out-of-pit emplacements.	Unchanged. Continuation of approved methods until 31 December 2044.
Water Demand Supply	Water demand met by water captured by the on-site water management system and supplementary licensed sources (Namoi River and off-site groundwater bores).	Continued use and augmentation of the existing water management system to incorporate the Project during mining operation, rehabilitation and closure. Bi-directional transfer of water between MCCM and TCM and/or VCM via the construction and operation of the proposed water transfer pipeline to meet water supply and storage requirements.
Water Management	Diversion of clean water to downstream environment. Retention and use of mine water and sediment laden water for mine activities.	Unchanged. Continued use of existing water management infrastructure with additional sediment dams, mine water dam, drains, pipelines and clean water diversions to be constructed through the life of the Project.
Biodiversity Offsets	As per the Biodiversity Offset Strategy outlined in Conditions 44, 45 and 45A of PA 10_0138.	Unchanged. Biodiversity impacts to be offset by either retiring biodiversity credits generated via a land-based offsets area, retiring of purchased biodiversity credits and/or payment into the Biodiversity Conservation Fund.

Table 3-1 (Continued)
Summary of the Approved MCCM and the Project

Project Component	Approved MCCM (PA 10_0138)	Project (Maules Creek Continuation Project)
Landscape Revegetation Zones	Not applicable to the approved MCCM.	Implementation of a revegetation program to establish approximately 2,300 ha of native woodland in the vicinity of the MCCM (i.e. in addition to any offset and rehabilitation obligations).
Final Landform and Land Use	Create self-sustaining native forest and woodland communities that are suitable for a conservation final land use. A final void catchment of approximately 904 ha.	Unchanged. Continue to create self-sustaining native forest and woodland communities. Development of an integrated waste rock emplacement landform that incorporates geomorphic design principles into rehabilitation. One final void would remain at the cessation of mining. The final void catchment would be approximately 440 ha following reshaping of the landform after coal extraction is completed. Establishment of native woodland vegetation over the Project Mining Area to provide fauna habitat and create woodland vegetation communities. The water transfer pipeline would be rehabilitated with native grasses in areas where vegetation disturbance has occurred.
Workforce	Current workforce of approximately 865 people.	Peak operational workforce expected to be up to approximately 1,030 people with an average workforce of approximately 940 people.
Hours of Operations	Mining operations and associated activities can be carried out 24 hours per day, seven days per week.	Unchanged.
Site Access	Main site access via a private access road off the Kamilaroi Highway. Workers and delivered materials are transported via internal roads.	Unchanged.
Infrastructure	The existing MIA includes the CHPP, ROM coal stockpiles, product coal stockpiles, train load out infrastructure, workshops and administration building, hardstand and laydown areas, car parking, wash bays and other associated infrastructure.	Unchanged. Continued operation of existing infrastructure with minor upgrades as required. Construction and use of a remote go-line, access tracks and infrastructure area to the north of the MCCM.



LEGEND

- Rail Line
- State Conservation Area
- State Forest
- Mining Tenement Boundary (ML and CL)
- Provisional Mining Lease Application Area
- Other Mining Operation *
- Other Mining Operation - Proposed *
- VCM to TCM Water Transfer Pipeline

Existing/Approved MCCM Development

- Approximate Extent of Existing/Approved Surface Development
- MCCM Water Supply Pipeline
- MCCM Groundwater Supply Bore
- MCCM Namoi River Pump Station

Maules Creek Continuation Project

- Indicative Go-line, Access and Infrastructure Area
- Indicative Open Cut Extension Area
- Indicative Overburden Emplacement Extension
- Existing Overburden Rehabilitation to be Disturbed
- Indicative Landscape Revegetation Zones#
- Indicative Water Transfer Pipeline (Proposed)

Source: NSW Spatial Services (2024)
Orthophoto Mosaic: Whitehaven (2019-2024)

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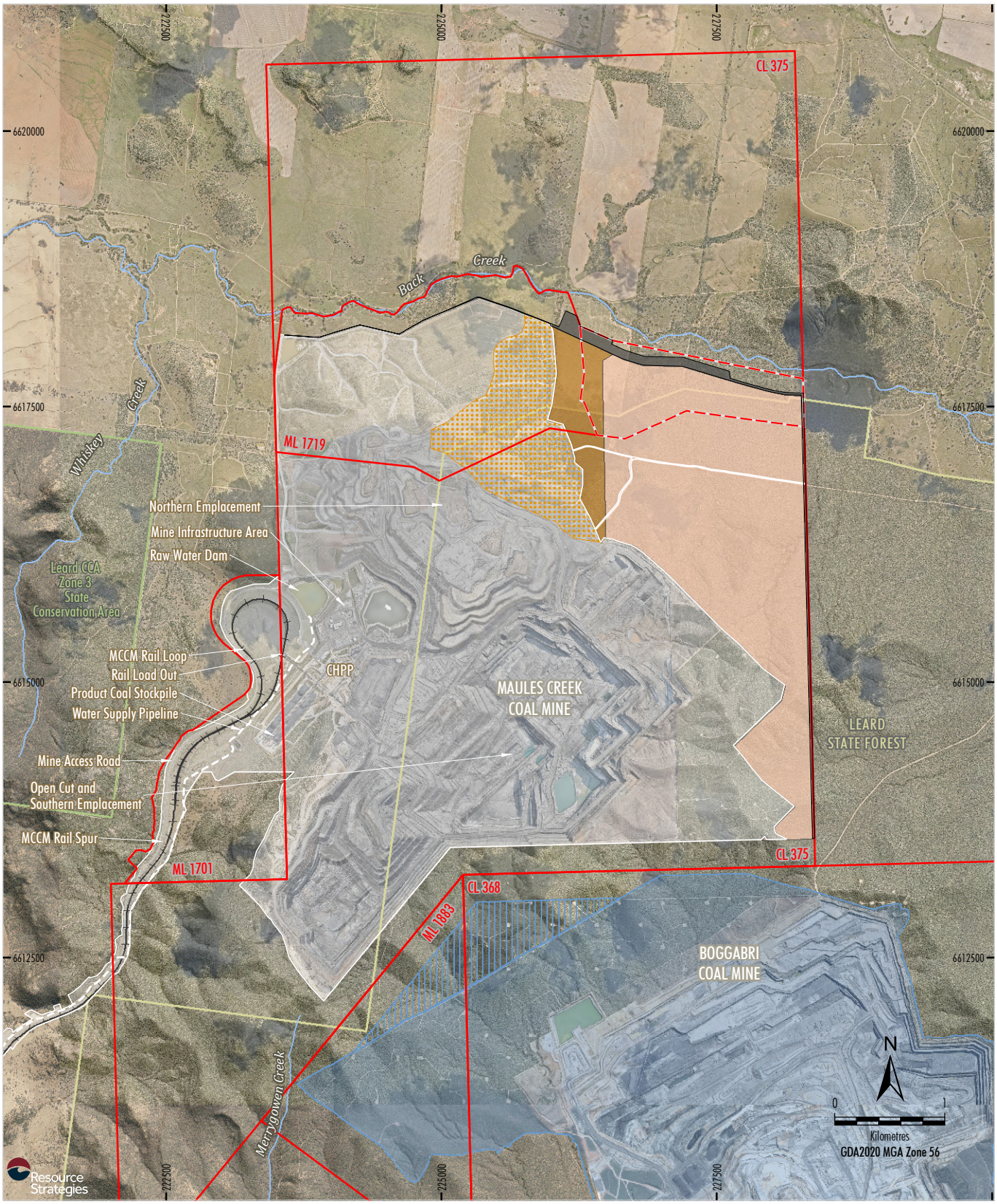
MAULES CREEK CONTINUATION PROJECT

General Arrangement of the Project

** BCM boundary digitised from Figure 1 of the BCM Modification 10 Scoping Letter.*

#Landscape Revegetation Zones shown on this figure are approximate extents only.

Figure 3-1



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LEGEND

- Rail Line
- State Conservation Area
- State Forest
- Provisional Mining Lease Application Area
- Mining Tenement Boundary (ML and CL)
- Other Mining Operation *
- Other Mining Operation - Proposed *

Existing/Approved MCCM Development

- Approximate Extent of Existing/Approved Surface Development
- MCCM Water Supply Pipeline

Maules Creek Continuation Project

- Indicative Go-line, Access and Infrastructure Area
- Indicative Open Cut Extension Area
- Indicative Overburden Emplacement Extension
- Existing Overburden Rehabilitation to be Disturbed

Source: NSW Spatial Services (2024)
Orthophoto Mosaic: Whitehaven (2022-2024)

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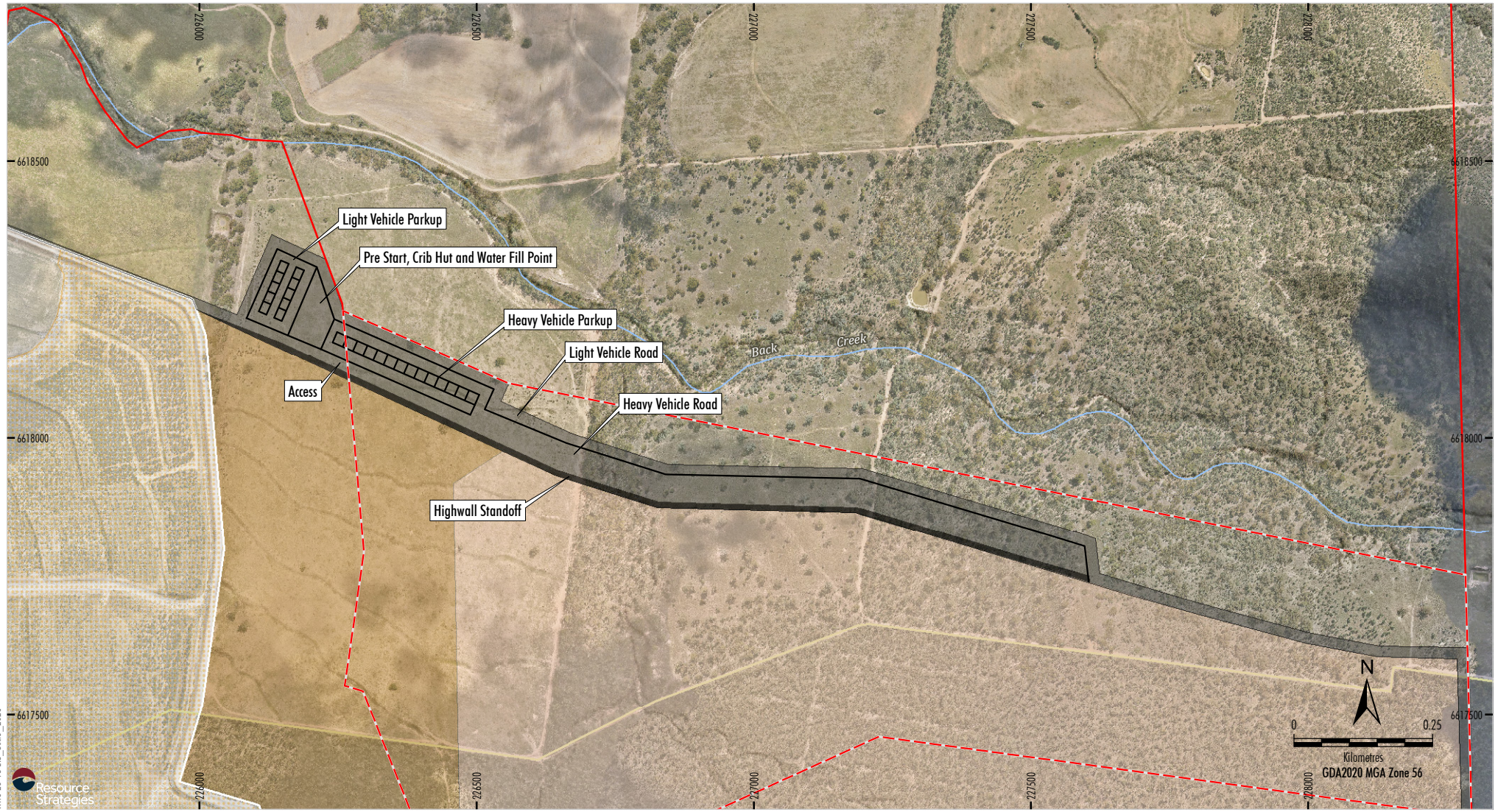
MAULES CREEK CONTINUATION PROJECT

General Arrangement of the Mine Site

** BCM boundary digitised from Figure 1 of the BCM Modification 10 Scoping Letter*

Figure 3-2



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LEGEND

State Forest

Provisional Mining Lease Application Area

Mining Tenement Boundary (ML and CL)

Existing/Approved MCCM Development

Approximate Extent of Existing/Approved Surface Development

Maules Creek Continuation Project

Indicative Extent of Infrastructure Area

Indicative Highwall Standoff

Indicative Open Cut Extension Area

Indicative Overburden Emplacement Extension

Existing Overburden Rehabilitation to be Disturbed

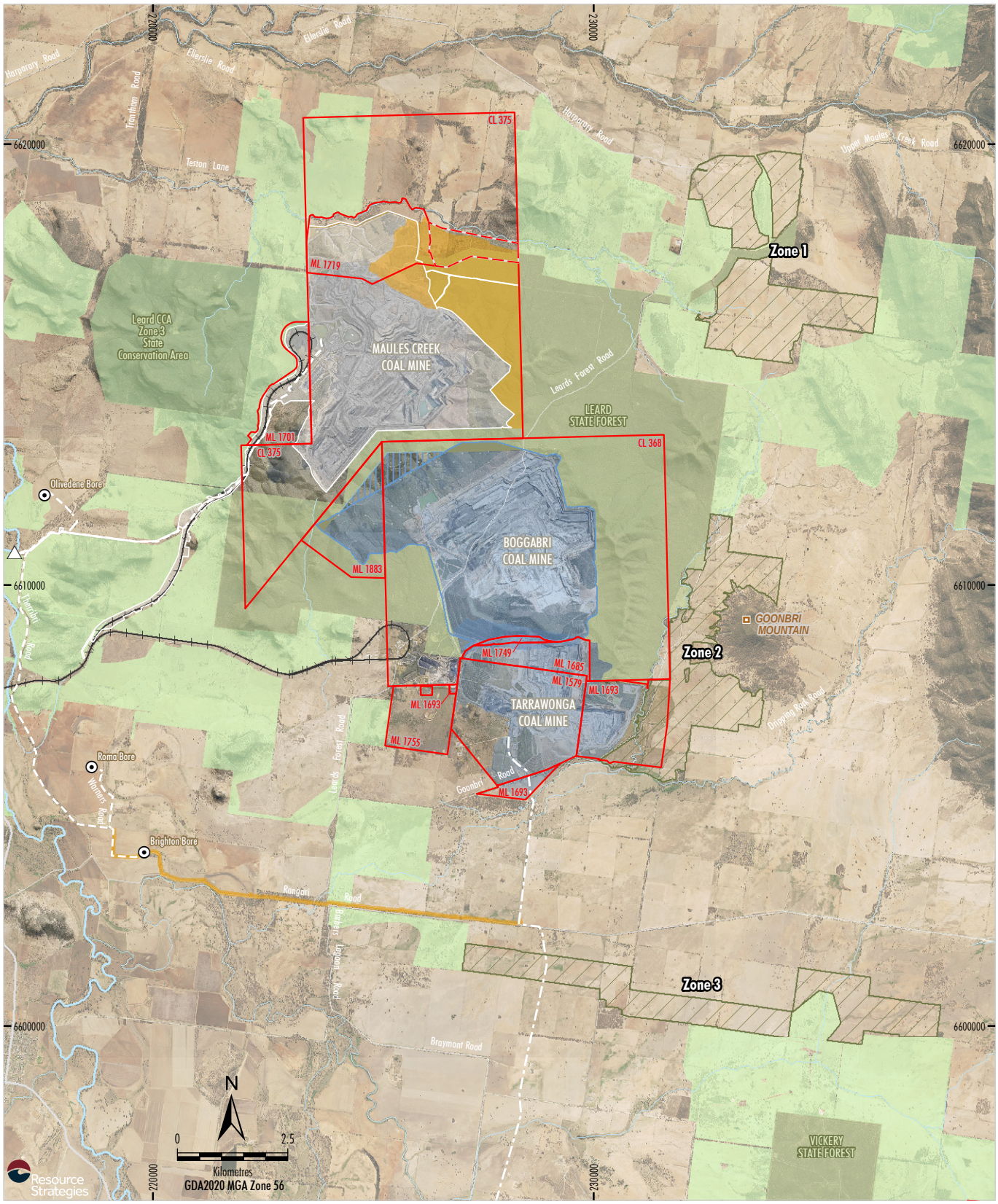
Source: NSW Spatial Services (2024)
Orthophoto Mosaic: Whitehaven (2024-2022)

Whitehaven

MAULES CREEK CONTINUATION PROJECT

Conceptual Go-line, Access and Infrastructure Layout

Figure 3-3



LEGEND

- State Conservation Area
- State Forest
- Rail Line
- Mining Tenement Boundary (ML and CL)
- Provisional Mining Lease Application Area
- Existing Conserved Areas
- Other Mining Operation *
- Other Mining Operation - Proposed *
- VCM to TCM Water Transfer Pipeline

Existing/Approved MCCM Development

- Approximate Extent of Existing/Approved Surface Development
- MCCM Water Supply Pipeline
- MCCM Groundwater Supply Bore
- MCCM Namoi River Pump Station

Maules Creek Continuation Project

- Indicative Project Disturbance Extent
- Indicative Landscape Revegetation Zones#

Source: NSW Spatial Services (2024)
Orthophoto Mosaic: Whitehaven (2019-2024)

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MAULES CREEK CONTINUATION PROJECT

General Arrangement
Landscape Revegetation Zones

Figure 3-4

** BCM boundary digitised from Figure 1 of the BCM Modification 10 Scoping Letter. A portion of the Vegetated Corridor is within the Approved BCM Mine Disturbance and will not be mined through.*

 # Landscape Revegetation Zones shown on this figure are approximate extents only.

3.2 Landscape Revegetation Zones

The wider landscape surrounding the MCCM (and the Leard State Forest) has historically been extensively cleared for grazing livestock and dry land cropping. The Leard SCA was the only conserved area in the immediate vicinity of the MCCM under the NSW *National Parks and Wildlife Act 1974* (NPW Act) until Whitehaven and its subsidiaries began to establish biodiversity offset areas and secure them under Conservation Agreements in perpetuity (Figure 3-4)[1]. At present, within 20 km of the MCCM, there is approximately 23,000 ha of land under Conservation Agreements managed by MCC/Whitehaven and 10,000 ha of land set aside for biodiversity offset areas by Idemitsu.

MCC is currently implementing a program to restore woodland within the biodiversity offset areas on Whitehaven-managed land. Since 2016, approximately 3,126 ha of plantings has been completed by MCC (Plate 3-1).

As part of the Project, MCC would expand the revegetation program to include an additional approximately 2,255 ha of plantings (Figure 3-4) making it one of the largest revegetation projects in NSW.

Plate 3-1 Example of Areas Undergoing Active Revegetation across MCCM Offset Areas

3.2.1 OBJECTIVE

The additional revegetation areas are termed Landscape Revegetation Zones. The Landscape Revegetation Zones are proposed as part of the Project to:

- provide a larger area of native vegetation cover than currently exists in the local region of Leard State Forest;
- complement the existing Leard Forest Regional Biodiversity Strategy, by expanding habitat adjacent to Leard State Forest and restoring linkages between remnant woodland/existing conserved areas; and
- provide a larger benefit (net gain) compared to offsetting alone (i.e. it would be additional/in excess to standard biodiversity offset/credit requirements).

A key aspect to the initiative is anticipated to be that MCC would plant approximately 500 to 800 ha of trees in the planting season per year for the first three to five years of the Project, upon its approval and commencement. This initiative would establish approximately 2,300 ha of native woodland within approximately three to five years of approval and commencement of the Project.

3.2.2 TARGET LOCATIONS

Three revegetation zones are proposed as part of the Project and the indicative locations are shown on Figure 3-4. The indicative Landscape Revegetation Zones shown on Figure 3-4 represents the area within which revegetation works would occur. It is noted that revegetation works would be excluded from some locations within these indicative Landscape Revegetation Zones where access roads, fire breaks, easements and other infrastructure is to be retained.

[1] The existing conserved areas on Figure 3-4 include biodiversity offset areas secured by MCC and Whitehaven as well as biodiversity offsets held by BCOPL.

The three Landscape Revegetation Zones are:

- **Landscape Revegetation Zone 1** – This zone is approximately 810.8 ha adjoining existing conserved areas adjacent to the Leard State Forest.
- **Landscape Revegetation Zone 2** – This zone is approximately 703.9 ha adjoining the south-eastern part of the Leard State Forest and immediately to the east of the TCM.
- **Landscape Revegetation Zone 3** – This zone is approximately 740.3 ha and connects an existing conserved area to the south of the Leard State Forest with another existing conserved area adjacent to the Vickery State Forest.

The Landscape Revegetation Zones:

- are on Whitehaven-owned land to be managed by MCC;
- comprise land that was historically cleared and is either currently Category 1-Exempt Land (under the LLS Act) or derived native grassland that is not Category 1-Exempt Land;
- avoid existing mining tenements;
- avoid higher quality agricultural areas (2rog, 2025); and
- exclude constraints (e.g. infrastructure such as powerlines, access tracks and sheds).

A land category assessment has been prepared for the Landscape Revegetation Zones by Premise (2025a) and is presented in Appendix C.

3.2.3 DESCRIPTION OF REVEGETATION WORKS

The revegetation works would target establishment of self-sustaining woodland vegetation communities that are likely to have occurred in each of the respective Landscape Revegetation Zones prior to clearance considering soil, landscape position, topography and surrounding native vegetation.

Consistent with MCC's existing revegetation work to date (Whitehaven, 2025b), the key components of the proposed additional revegetation works would be:

- **1. Site Planning** – For example, archaeological and ecological due diligence surveys would be completed prior to commencing works that cause surface disturbance. Pre-clearance surveys for Aboriginal cultural heritage sites would inform the extent of revegetation activities (i.e. no activities would occur within the vicinity of known Aboriginal cultural heritage sites). Ground truthing of proposed revegetation areas would also inform planning, identification of constraints and maintenance works that are required for individual revegetation paddocks (e.g. weed control, grass competition maintenance, planting technique).
- **2. Soil Testing** – Elevated soil nutrients (such as nitrogen) can inhibit revegetation efforts and favour the growth of weeds. Soil testing will be undertaken to determine the need for nutrient reduction prior to planting.
- **3. Grazing Control** – Grazing livestock (cattle) would be excluded while the planted trees establish and the need for tree guards to protect plants from grazing kangaroos would be evaluated. Once the woodland has reached maturity, some grazing within the Landscape Revegetation Zones would be possible.
- **4. Weed and Animal Pest Control** – Environmental weeds (and high threat weeds) would be managed. Controlling weeds prior to active revegetation can reduce competition and improve the success of revegetation. Animal pests would be managed (e.g. Feral Pig [*Sus scrofa*] and European Red Fox [*Vulpes vulpes*]).
- **5. Ground Preparation** – Ground preparation methods (i.e. mounding, ripping, harrowing or ploughing) would be only undertaken within Category 1 – Exempt Land prior to direct seeding or planting of seedlings. Planting of seedlings would be undertaken using shovels and/or augers (suitable for hikos) outside of Category 1 – Exempt Land.

- **6. Planting/Seeding** – Planting/seeding would occur during periods of desirable seasonal conditions (times of opportunistic high soil moisture and moderate diurnal temperature variation) and/or will be undertaken between autumn and spring seasons when conditions are closest to optimal for revegetation.
- **7. Monitoring** – Monitoring would be undertaken to track changes in vegetation and habitat in response to management measures.
- **8. Maintenance** – Annual revegetation assessments of previous revegetation areas would be undertaken to determine what and where any active maintenance revegetation is required (i.e. maintenance revegetation, ecological burns, weed and pest animal control).
- **9. Review** – The progress of the program would be reviewed annually to determine if any improvements are needed.

3.3 Coal Resource, Geological Features and Exploration

Exploration in the general area of the MCCM (including within the Project Mining Area) has been conducted since the 1970s, with over 1,300 exploration boreholes completed to date.

Coal resources within the MCCM tenements occur within the early Permian age Maules Creek Formation of the Maules Creek Sub-basin (Figure 3-5). The Maules Creek Formation is the primary coal bearing unit containing a cumulative thickness of more than 35 m of coal that has been developed in 15 recognised coal seams across the MCCM (including the Project Mining Area). These coal measures generally dip to the south-east at 1 to 7 degrees.

Figure 3-6 displays a conceptual stratigraphic section of the Maules Creek Sub-basin in the vicinity of the Project and shows the seams and plies of the stratigraphic section, and the target seams and partings of the typical working section.

The seam groups situated below the Braymont Seam lap onto the basement Boggabri Volcanics. Overburden and interburden materials of the Maules Creek Formation consist predominantly of sandy conglomerate with minor amounts of interbedded sandstone, siltstone and mudstone (Figure 3-6).

Similar to the existing MCCM, the Project targets all defined seams via open cut methods down to the Templemore Seam (Figure 3-6). Additional coal seams are known to occur stratigraphically below the Templemore Coal Member as the thickness of the Maules Creek Formation increases to the east away from the basement ridge. Other coal seams may also be recovered, if present, and able to be economically mined. Mining depth would be between approximately 260 metres (m) below ground level (mbgl) and 340 mbgl within the Project Mining Area.

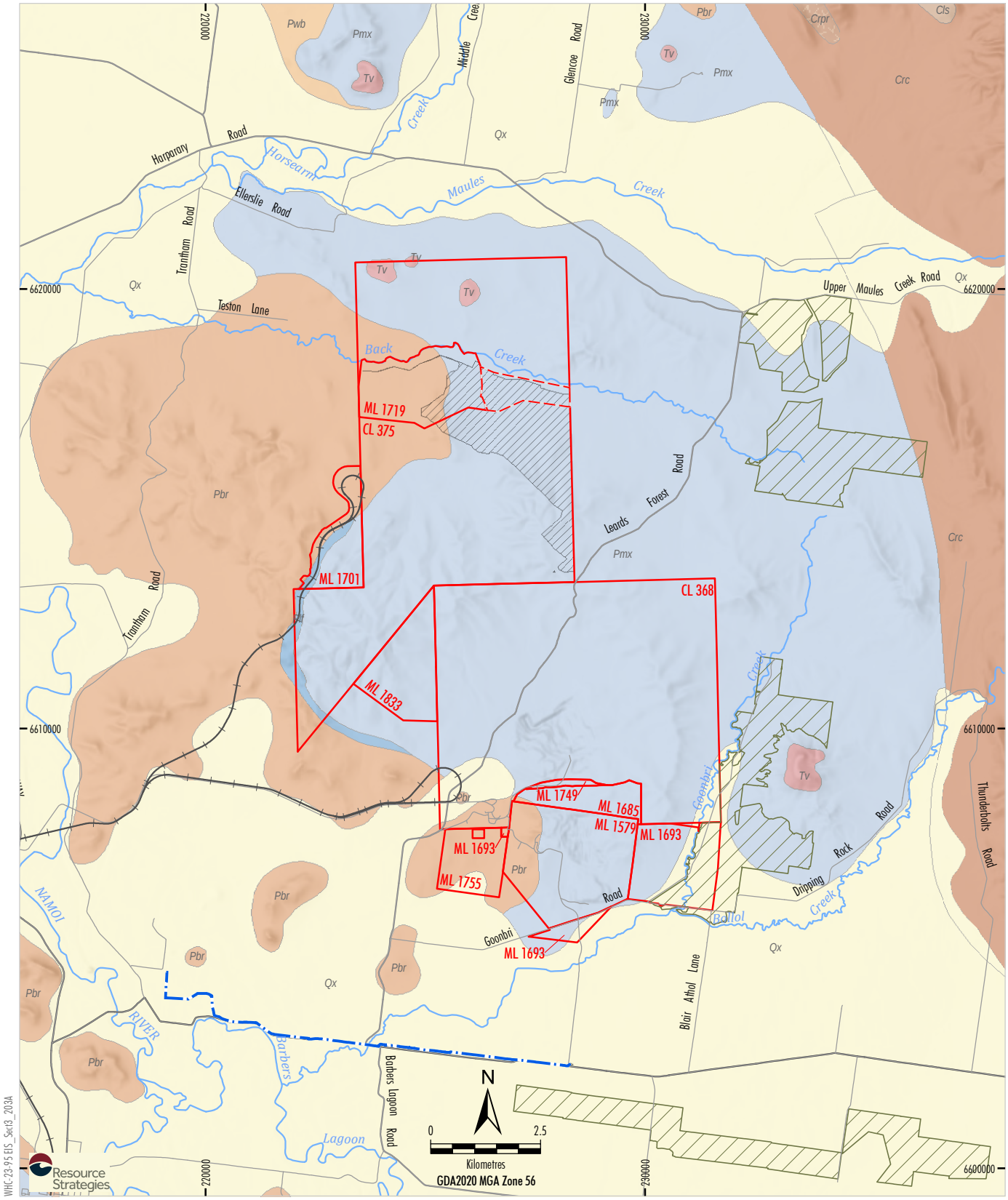
Geological exploration activities within the Project Mining Area would continue to be undertaken over the life of the Project to provide input to detailed mine planning and engineering studies to maximise resource recovery and refine the understanding of coal quality and geological features.

Normal faults within throws of less than 5 m and of variable orientation are relatively common within the BTM Complex. Faulting is minor and discontinuous in the proposed open cut extension area.

A more detailed description of the local geological features (including faulting) in the vicinity of the MCCM is provided in the Groundwater Assessment (Appendix A).

3.4 Project Area

The Project includes extraction of coal resources within existing tenements held by MCC, within the Leard State Forest and on Whitehaven–managed freehold land (Table 3-2 and Figure 1-4a). In addition, the proposed Landscape Revegetation Zones are located on Whitehaven–owned land to be managed by MCC. The MCCM operates under an existing agreement with the Forestry Corporation of NSW to compensate for mining operations within CL 375 and ML 1719 until 2034 (Section 2.5.4). This agreement would be revised, or a separate agreement established, to incorporate the Project.



Source: NSW Spatial Services (2024)

LEGEND

- Mining Tenement Boundary
- Provisional Mining Lease Application Area
- Indicative Surface Disturbance
- Indicative Water Transfer Pipeline
- Indicative Landscape Revegetation Zones*

Regional Geology

Quaternary
- Qx Quaternary Alluvial

Tertiary
- Tv Undifferentiated Volcanics

Permian
- Plf Leard Formation
- Pbr Boggabri Volcanics
- Pmx Maules Creek Formation
- Pwb Werrie Basalt

Carboniferous
- Cls Lark Hill Formation
- Crc Rocky Creek
- Cpr Plagyan Rhyodacite

** Landscape Revegetation Zones shown on this figure are approximate extents only.*

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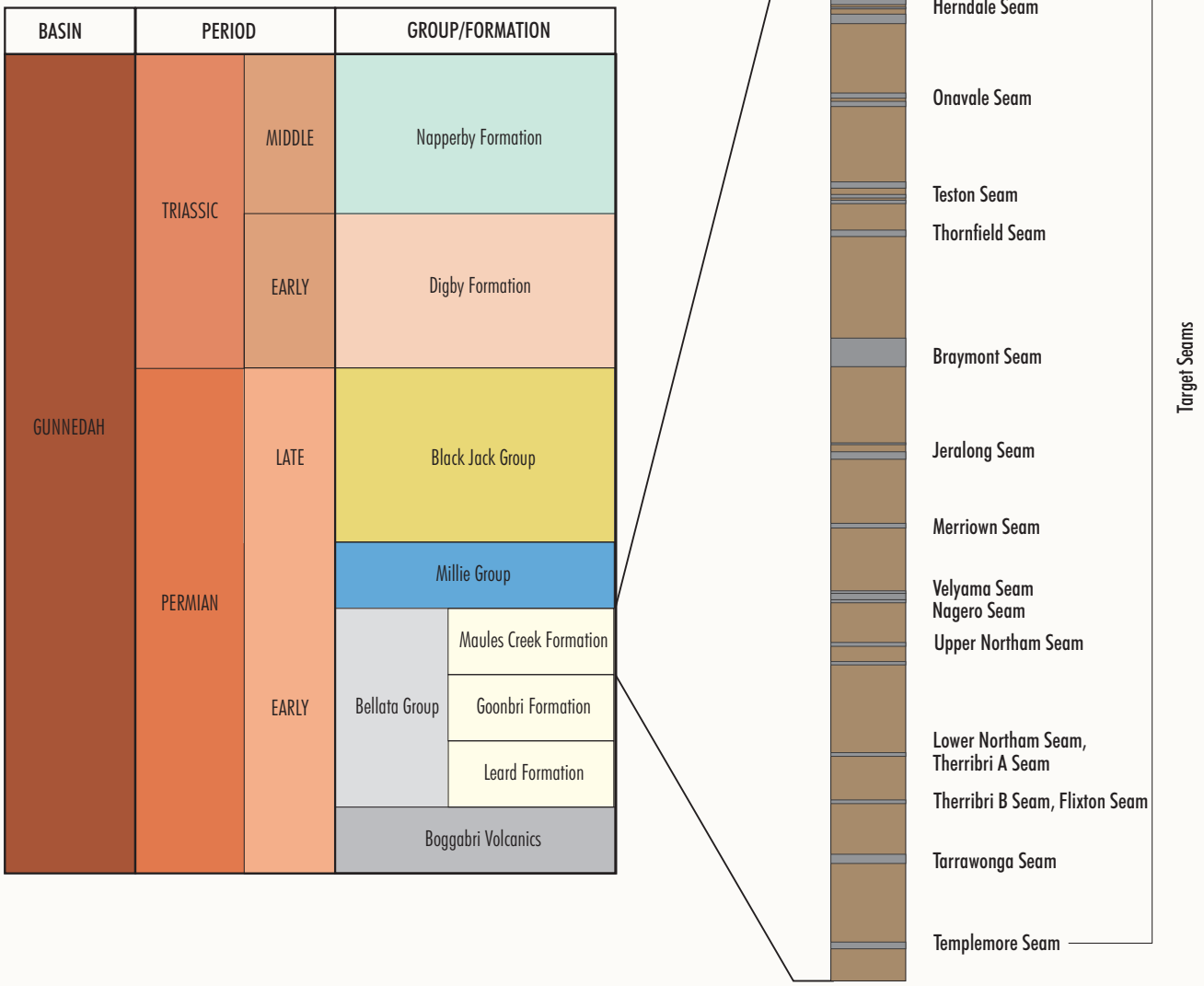
MAULES CREEK CONTINUATION PROJECT

Geology of the Project Area and Surrounds

Figure 3-5



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Resource Strategies

LEGEND

Coal Seam

Waste

Source: After Hansen Bailey (2010)

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MAULES CREEK CONTINUATION PROJECT

Indicative Stratigraphy of the Project Area

Figure 3-6

The proposed water transfer pipeline between the MCCM water pipeline network and the approved VCM to TCM water transfer pipeline would be located on land managed by Whitehaven, road reserves and Crown land (Figure 1-4a).

Table 3-2
Mining and Exploration Tenements

Tenement Reference	Tenement Holders	Expiry
ML 1701	Aston Coal 2 Pty Ltd; ICRA MC Pty Ltd; J-Power Australia Pty Ltd	9 October 2035
ML 1719	Aston Coal 2 Pty Ltd; ICRA MC Pty Ltd; J-Power Australia Pty Ltd	11 November 2036
CL 375	Aston Coal 2 Pty Ltd; ICRA MC Pty Ltd; J-Power Australia Pty Ltd	4 June 2033
EL 8072	Aston Coal 2 Pty Ltd; ICRA MC Pty Ltd; J-Power Australia Pty Ltd	12 March 2026
AUTH 346	Aston Coal 2 Pty Ltd; ICRA MC Pty Ltd; J-Power Australia Pty Ltd	28 February 2028

The Indicative Project Disturbance Extent (Project Mining Area and water transfer pipeline) covers a total of 681 ha. The Project Mining Area includes the open cut extension area, overburden emplacement extension, overburden rehabilitation to be disturbed, go-line, access and infrastructure area (Figure 3-1).

A Petroleum Exploration Licence (PEL1) held by Santos Qnt Pty Ltd and Australian Coalbed Methane Pty Limited, is located across the Indicative Project Disturbance Extent (Figure 1-4a).

The surrounding land uses include existing open cut mining for the approved MCCM, BCM and TCM, forestry, agricultural enterprises, rural dwellings/properties, biodiversity conservation areas and the proposed Maules Creek Solar Farm (SSD-62443723).

The Project would include biodiversity offsets in accordance with the NSW *Biodiversity Conservation Act 2016* (BC Act). The preference for the Project is to establish land-based biodiversity offsets as part of the biodiversity offset strategy, where possible. In addition to MCC's obligations under the BC Act, the Project would implement a revegetation program to establish approximately 2,300 ha of native woodland in the vicinity of the MCCM (Section 3.2).

The Project has been designed to avoid and minimise potential environmental and amenity impacts, by:

- utilising existing infrastructure which services the existing MCCM including the MIA, CHPP, rail loop, water infrastructure, regional accommodation villages and ancillary infrastructure;
- maximising emplacement of waste rock in-pit and on top of the approved out of pit emplacement rather than constructing new out-of-pit emplacements;
- implementing an offset of at least 200 m between the open cut pit and the mapped top-of-bank of Back Creek;
- avoiding open cut excavation within the in-stream sediments and flood plain associated with Back Creek;
- minimising the design of the infrastructure to reduce impacts on mapped TECs;
- avoiding clearance of the vegetated corridor located between MCCM and BCM;
- maximising the use of existing easements and cleared areas for the proposed water transfer pipeline; and
- the conceptual final landform has been developed using geomorphic design principles (such as GeoFluv^{TM}) to create a natural landform design aimed at achieving long-term erosional stability, reduce maintenance and improve aesthetic value on rehabilitated landforms.

3.5 Project General Arrangement

Key components of the Project Mining Area would include an open cut pit, waste rock emplacement, haul roads, internal access roads, water management infrastructure (e.g. clean water diversions, mine water dams, highwall dams, sediment dams and water transfer pipelines), remote go-line area, access tracks, temporary topsoil stockpiles and ancillary infrastructure.

Provisional Project general arrangements for FY2029, FY2032, FY2036 and FY2040, are shown on Figures 3-7 to 3-10.

The indicative general arrangements are based on the indicative mine schedule (Section 3.8.3). The mining sequence, rate of mining and coal processing requirements may vary to take into account localised geological features, coal market quality and volume requirements, mining economics and detailed engineering design.

The sequence of mining and/or the general arrangement may also be modified throughout the life of the operation to maintain compliance with the applicable noise and air quality criteria specified in the Project Development Consent for surrounding private residences.

The detailed mining sequence for any given period would be documented in the relevant Forward Program under the RMP framework.

Waste rock would be progressively placed in the open cut pit and waste rock emplacement, and landform profiling and rehabilitation of the emplaced waste rock would be undertaken over the life of the Project.

At the completion of Project mining activities, infrastructure would be decommissioned, and final landform profiling and rehabilitation would be undertaken. The provisional final landform and rehabilitation strategy for the Project is presented in Section 3.13, Section 3.18 and Attachment 7.

3.6 Project Construction Activities

The Project would largely comprise open cut mining and the development of general facilities and infrastructure to support the extension of open cut operations. The level of construction activity for the Project is limited due to the proposed use of the existing coal handling, preparation and transport infrastructure at the approved MCCM (i.e. existing CHPP and rail load-out facilities), and existing large water storages.

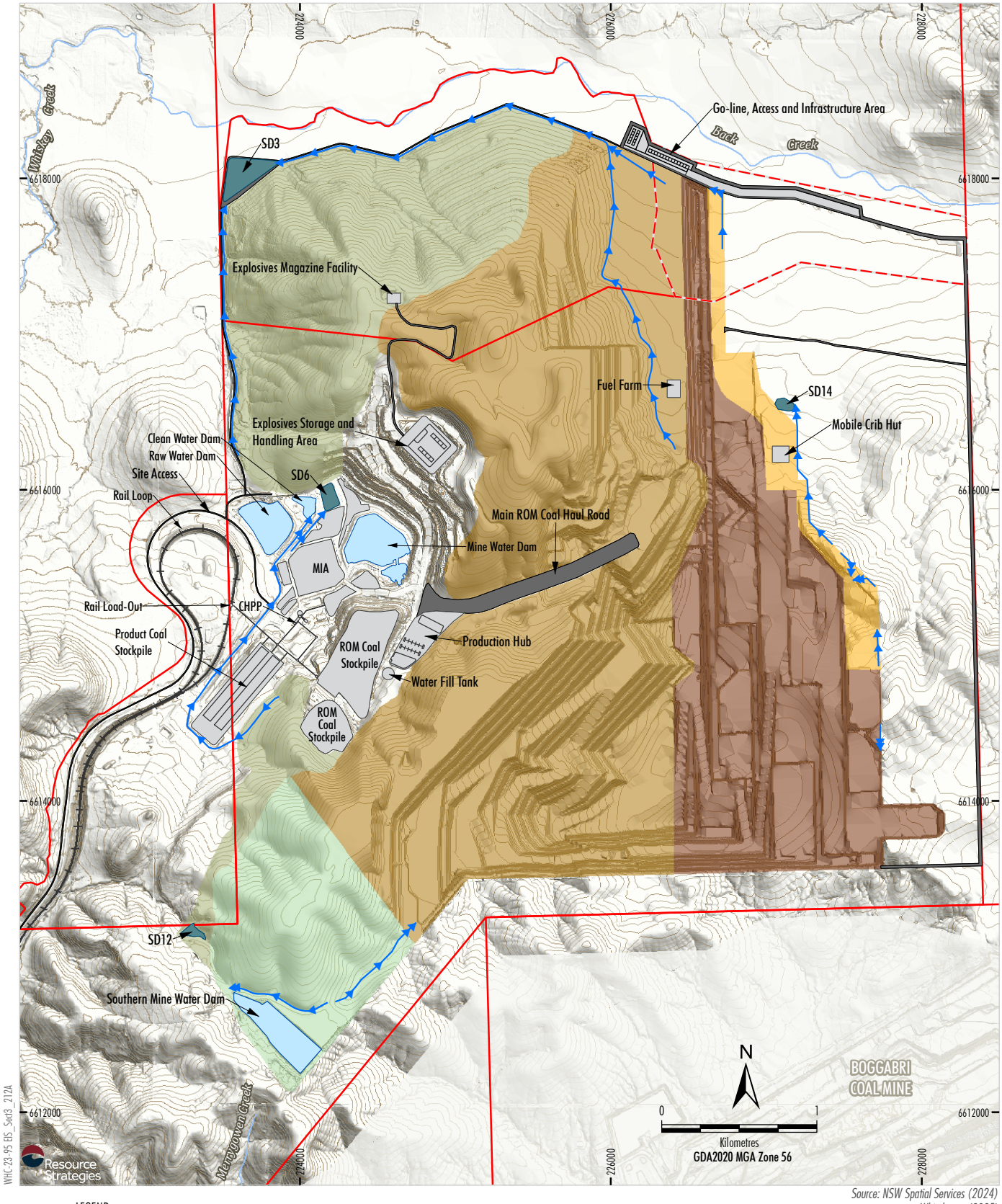
The following provides a summary of the construction activities planned to be undertaken in the first year of the Project:

- development of a water transfer pipeline between the MCCM water pipeline network and the approved VCM to TCM pipeline; and
- development of a go-line, access and infrastructure area.

The actual timing and sequence of these project construction activities may vary to take into account detailed design, Project capital decisions, contractor availability and market conditions.

Other construction activities that would be undertaken progressively over the life of the Project would include:

- progressive development of dams, pumps, water diversions, pipelines, drains, storages and other water management equipment and structures;
- progressive development of internal haul roads, light vehicle access roads and services;
- construction of ancillary infrastructure (e.g. electricity generation and/or distribution infrastructure, internal access roads, potable water supply, site communications and upgrades to fuel storages, crib huts and equipment maintenance facilities); and
- construction of monitoring equipment and other minor associated infrastructure.



Source: NSW Spatial Services (2024)
Whitehaven (2025)

LEGEND

- Rail Line
- Provisional Mining Lease Application Area
- Mining Tenement Boundary (ML and CL)
- Active Mining
- Active Overburden Emplacement
- Topsoil Stripping
- Initial Rehabilitation
- Established Rehabilitation
- Infrastructure Area
- Internal Road and Access Track
- Water Storage
- Sediment Dam
- Key Surface Water Drain (Conceptual)*

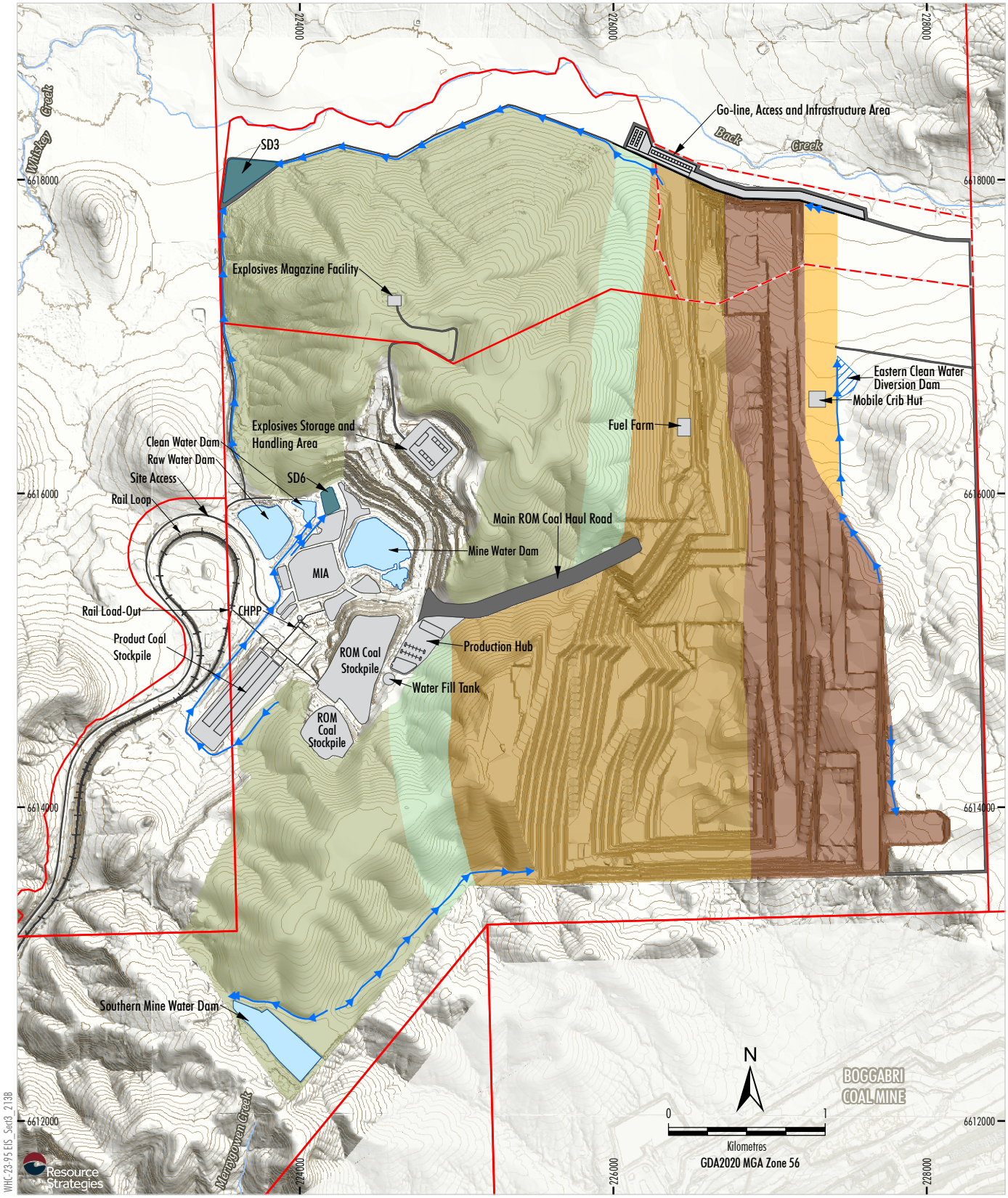
**While not shown on this general arrangement, temporary water storages may be constructed along the drains to enable water to be contained and pumped to a water storage (e.g. to prevent water flowing into the open cut pit).*

Whitehaven

MAULES CREEK CONTINUATION PROJECT

Indicative General Arrangement FY2029

Figure 3-7



Source: NSW Spatial Services (2024)
Whitehaven (2025)

LEGEND

- Rail Line
- Provisional Mining Lease Application Area
- Mining Tenement Boundary (ML and CL)
- Active Mining
- Active Overburden Emplacement
- Topsoil Stripping
- Initial Rehabilitation
- Established Rehabilitation
- Infrastructure Area
- Internal Road and Access Track
- Water Storage
- Sediment Dam
- Eastern Clean Water Diversion Dam
- Key Surface Water Drain (Conceptual)*

**While not shown on this general arrangement, temporary water storages may be constructed along the drains to enable water to be contained and pumped to a water storage (e.g. to prevent water flowing into the open cut pit).*

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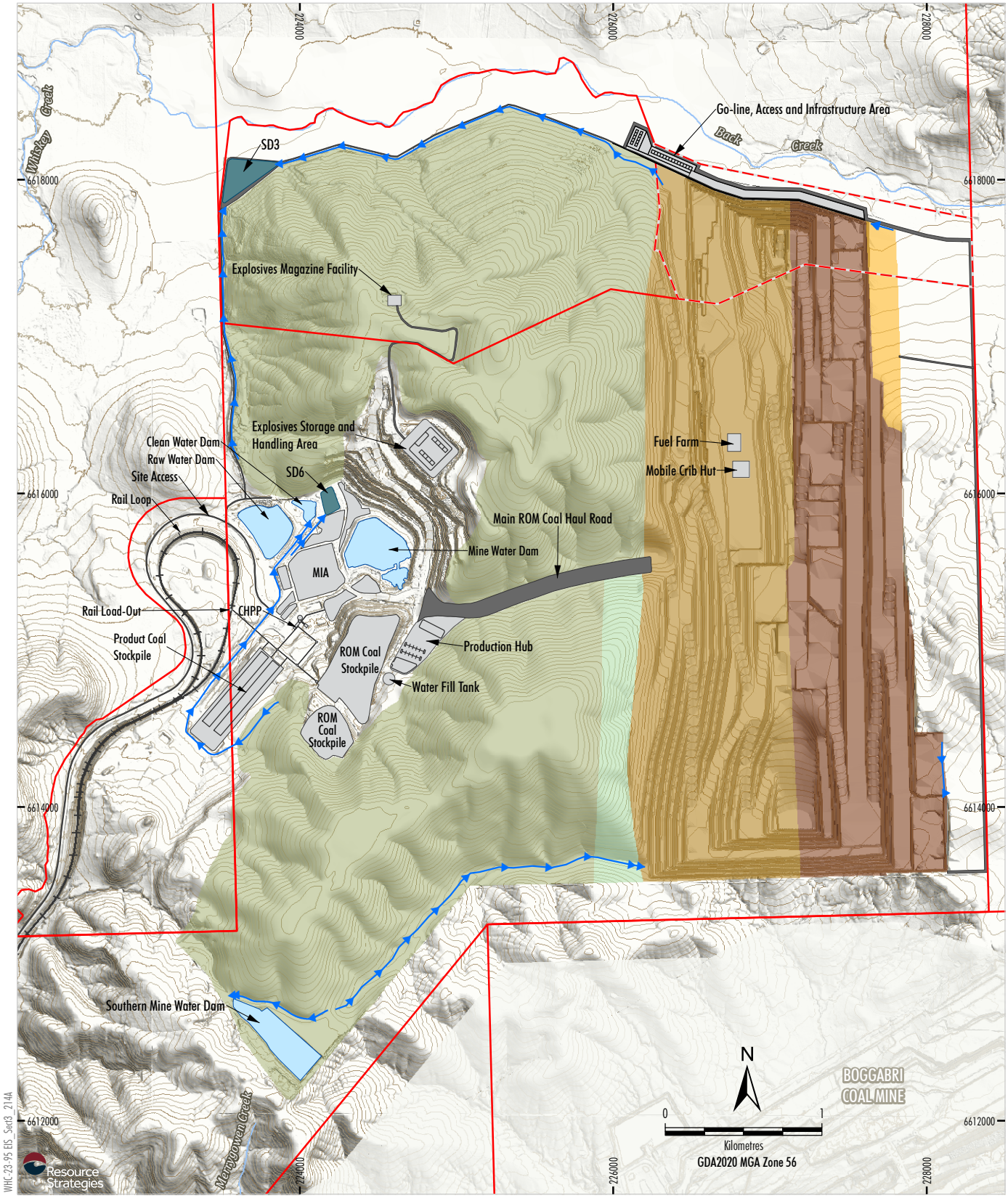
MAULES CREEK CONTINUATION PROJECT

Indicative General Arrangement FY2032

Figure 3-8



LEGEND

- Rail Line
- Provisional Mining Lease Application Area
- Mining Tenement Boundary (ML and CL)
- Active Mining
- Active Overburden Emplacement
- Topsoil Stripping
- Initial Rehabilitation
- Established Rehabilitation
- Infrastructure Area
- Internal Road and Access Track
- Water Storage
- Sediment Dam
- Key Surface Water Drain (Conceptual)*

While not shown on this general arrangement, temporary water storages may be constructed along the drains to enable water to be contained and pumped to a water storage (e.g. to prevent water flowing into the open cut pit).

Source: NSW Spatial Services (2024)
Whitehaven (2025)

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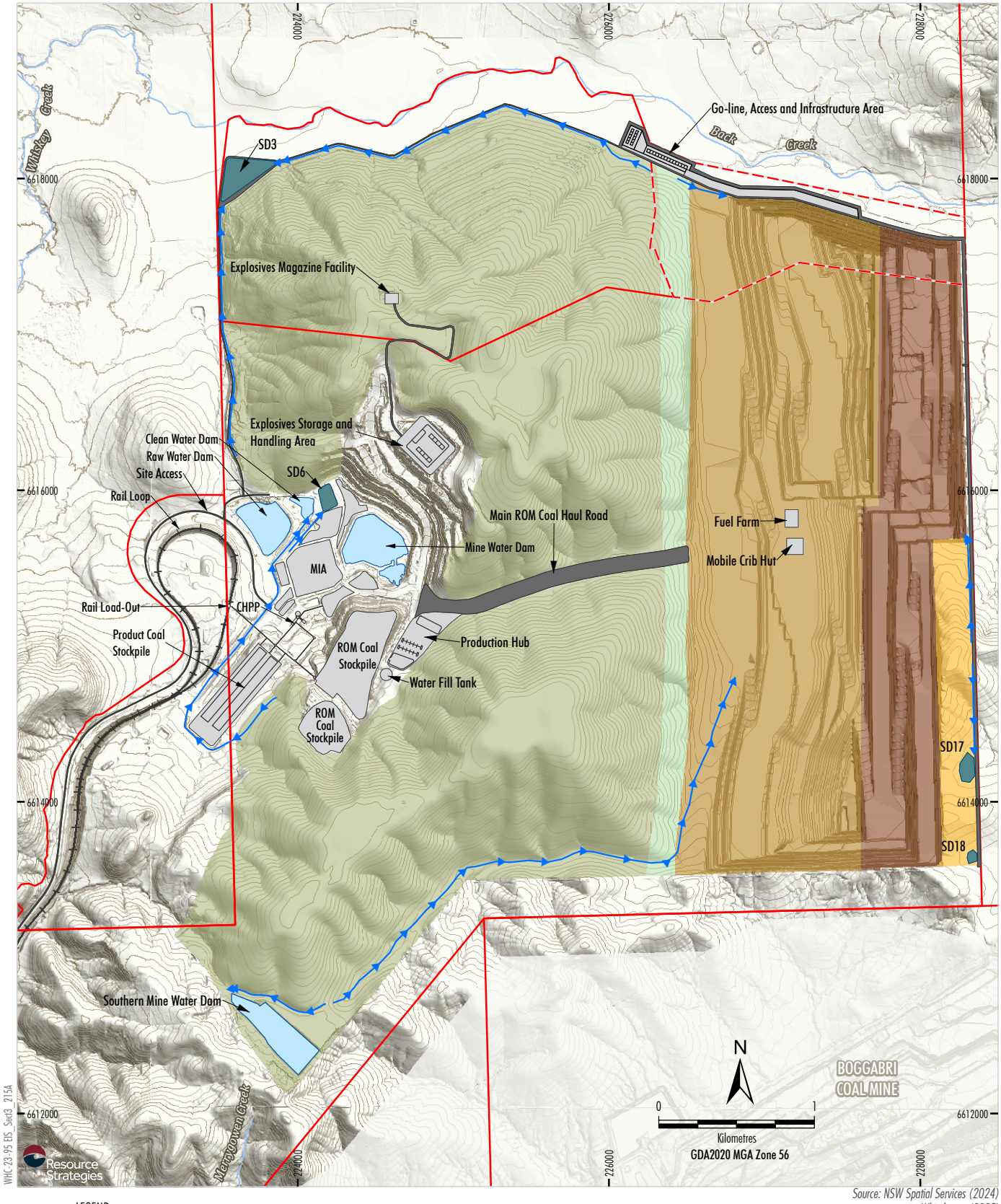
MAULES CREEK CONTINUATION PROJECT

Indicative General Arrangement FY2036

Figure 3-9



Source: NSW Spatial Services (2024)
Whitehaven (2025)

LEGEND

- Rail Line
- Provisional Mining Lease Application Area
- Mining Tenement Boundary (ML and CL)
- Active Mining
- Active Overburden Emplacement
- Topsoil Stripping
- Initial Rehabilitation
- Established Rehabilitation
- Infrastructure Area
- Internal Road and Access Track
- Water Storage
- Sediment Dam
- Key Surface Water Drain (Conceptual)*

**While not shown on this general arrangement, temporary water storages may be constructed along the drains to enable water to be contained and pumped to a water storage (e.g. to prevent water flowing into the open cut pit).*

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MAULES CREEK CONTINUATION PROJECT

Indicative General Arrangement FY2040

Figure 3-10

Construction/development activities would generally be undertaken between 7.00 am to 6.00 pm, Monday to Sunday (inclusive). Activities undertaken outside of these hours would include:

- activities that cause $L_{Aeq(15\ minute)}$ (equivalent continuous noise level over a sample period of 15 minutes) of no more than 35 decibels (dB) at any privately-owned residence;
- the delivery of materials of which delivery is required, by the NSW Police Department or RMS, to be undertaken for safety reasons outside the normal construction hours; and
- emergency work to avoid the loss of life, damage to property or to prevent environmental harm.

The construction of the water transfer pipeline and construction activities associated with the Project would occur during the recommended standard hours according to the *Interim Construction Noise Guideline* (INCG) (NSW Department of Environment and Climate Change [DECC], 2009).

Construction materials would be sourced from the MCCM and/or Project disturbance areas or externally sourced, as required (e.g. gravel required for the construction of the buried sections of the water transfer pipeline).

3.7 Hours of Operation

Project mining operations, including open cut mining activities and associated mobile equipment movements, would be conducted up to 24 hours per day, seven days per week subject to compliance with relevant environmental management criteria (e.g. real-time air quality and noise operational trigger levels).

3.8 Open Cut Mining

3.8.1 OPEN CUT MINING AREAS

The Project involves a continuation of open cut mining operations immediately east of the approved MCCM mining area (Figure 3-1).

Mining operations in the Project open cut pit would target 15 coal seams (Figure 3-6) and provide a total of approximately 117 Mt of ROM coal in addition to approved MCCM operations of 240 Mt of ROM coal.

Key constraints on the Project open cut pit extent includes the subcrops of target seams in the west, the vegetated corridor to the south, Back Creek to the north and CL 375 extent to the east. Further discussion of open cut alternatives is provided in Section 2.

The indicative extent of the open cut pit has been designed in consideration of detailed exploration works undertaken to define the coal resource as well as identified geological features and other environmental constraints (e.g. 200 m set back between the open cut pit and the mapped top-of-bank of Back Creek).

Waste rock material would be preferentially placed in-pit when suitable in-pit storage areas are available. The existing overburden emplacement areas would continue to be used by the Project to store waste rock and coal reject materials. Rehabilitation established on part of the Northern Emplacement would be cleared to facilitate the integration of the existing and proposed overburden emplacement (Figure 3-1).

Minor adjustments to pit extents within assessed disturbance extents may be made in consideration of detailed design, geotechnical considerations and mine planning throughout the life of the Project.

A Geotechnical Assessment has been completed by WSP Australia Pty Limited for the Project (Attachment 12). The Geotechnical Assessment determined that the geotechnical stability of the final landform would meet the target Factor of Safety through the implementation of appropriate slope angles and geological monitoring of the post mining landform design and geometry (Attachment 12).

MCC would continue to implement geotechnical monitoring and management measures over the life of the Project.

3.8.2 MINING EQUIPMENT

The mobile equipment used for the Project would vary according to the requirements of the advancing open cut mining operations.

Existing mobile equipment used at the MCCM would be used for the Project with additional equipment to be purchased/contracted to meet the increasing strip ratio and long hauls.

Existing mobile equipment would be progressively replaced during the Project at the end of the equipment's serviceable life. New non-road equipment would include reasonable and feasible best-practice noise attenuation packages and would incorporate all reasonable and feasible greenhouse gas emissions reduction technologies available at the time of placing orders for the equipment.

An indicative list of major mobile equipment used for impact assessment purposes for the Project is provided in the Noise and Blasting Impact Assessment (Appendix H).

3.8.3 INDICATIVE MINING SCHEDULE

An indicative mine schedule for the Project is provided in Table 3-3 and indicative open cut mining progression is shown on Figures 3-7 to 3-10.

The Indicative Project Disturbance Extent has been divided into four development phases as shown on Figure 3-11.

The sequencing of the development of the Project open cut mining areas would be determined by coal market volume and blending requirements, mine economics and localised geological features.

As these requirements are likely to vary over the life of the Project, the development sequence of the different open cut mining areas and ROM coal extraction rates may also vary within the proposed maximum rate (i.e. 14 Mtpa). Any changes to the production presented in Table 3-3 would result in changes to the rehabilitation sequencing and/or timing presented on Figures 3-7 to 3-10.

The mining schedule would continue to be reviewed and documented in the relevant Forward Program under the Rehabilitation Management Plan (RMP) framework.

The product coal produced by the existing MCCM is sold as a high energy content, low emissions thermal coal (approximately 80%) and semi-soft metallurgical (coking) coal (approximately 20%). The split of thermal coal and semi-soft metallurgical coal produced by the Project, which would continue to mine the same coal seams as the MCCM, would be subject to coal market demand, and coal washing and blending requirements.

Table 3-3
Indicative Mine Schedule

Financial Year	Waste Rock (Mbcm)	Total ROM Coal (Mt)[1]
FY2028	88.2	14.0
FY2029	89.7	14.0
FY2030	88.3	14.0
FY2031	88.3	14.0
FY2032	90.3	11.6
FY2033	88.6	14.0
FY2034	92.2	10.5
FY2035	90.7	12.6
FY2036	89.9	14.0
FY2037	91.0	12.1
FY2038	90.8	12.5
FY2039	92.1	10.7
FY2040	92.3	11.1
FY2041	90.2	13.1
FY2042	75.5	11.9
FY2043	60.9	8.9
FY2044	39.5	8.2
Total[2]	**1,438.5**	**207.2**

Mbcm = Million bank cubic metres.

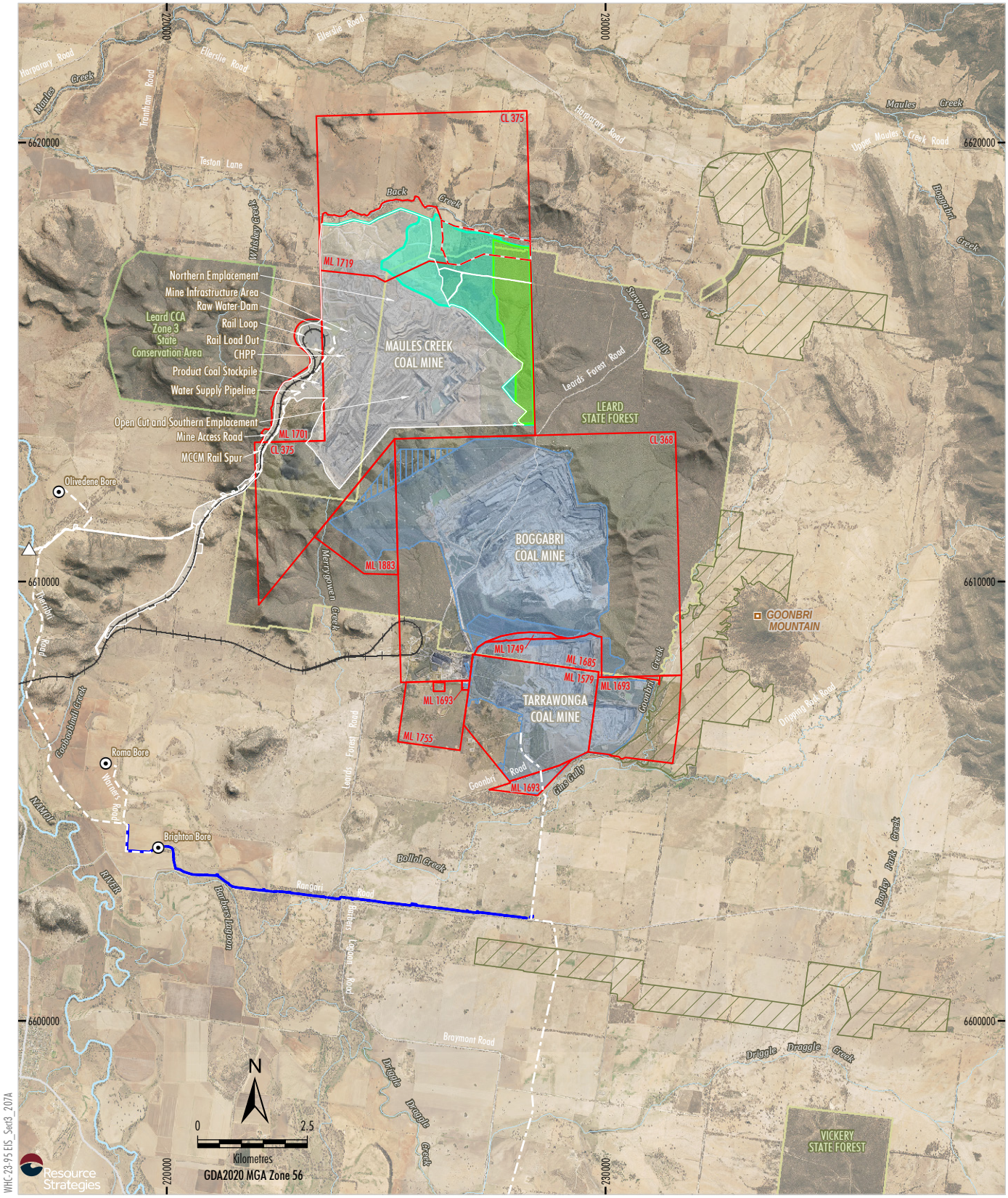
Note This Indicative Schedule reflects approval of the Project by 1 January 2028. ROM coal extraction is expected to be completed by FY2044, however, processing, handling, storage and transportation of coal on site would continue until 31 December 2044.

1 ROM coal extracted from the open cut extension area only (i.e. excluding the approved MCCM resource).

2 Totals may not equal the sum of each row due to rounding.

3.8.4 OPEN CUT MINING ACTIVITIES

The Project would mine up to 14 Mtpa of ROM coal using conventional open cut mining methods consistent with the existing MCCM operations. The mining areas would include supporting infrastructure such as haul roads, hardstands, soil stockpiles, water management structures and ancillary infrastructure (e.g. mobile refuelling areas, temporary in-pit services, crib-hut areas) that would be designed to integrate with the existing MCCM landforms and minimise the amount of additional infrastructure and ground disturbance required.



LEGEND

- Rail Line
- State Conservation Area
- State Forest
- Mining Tenement Boundary (ML and CL)
- Provisional Mining Lease Application Area
- Other Mining Operation *
- Other Mining Operation - Proposed *
- VCM to TCM Water Transfer Pipeline

Existing/Approved MCCM Development

- Approximate Extent of Existing/Approved Surface Development
- MCCM Water Supply Pipeline
- MCCM Groundwater Supply Bore
- MCCM Namoi River Pump Station

Project Development Phase

- Phase 1
- Phase 2
- Phase 3
- Indicative Landscape Revegetation Zones#

Source: NSW Spatial Services (2024)
Orthophoto Mosaic: Whitehaven (2019-2024)

Whitehaven

MAULES CREEK CONTINUATION PROJECT

Project Development Phasing

** BCM boundary digitised from Figure 1 of the BCM Modification 10 Scoping Letter*

#Landscape Revegetation Zones shown on this figure are approximate extents only.

Figure 3-11

The existing explosives magazine facility, explosives planning area and production hub would continue to be used throughout the life of the Project (Figures 3-7 to 3-10).

A summary of the Project general mining activities and sequence is provided below.

1. Vegetation Clearance

Progressive vegetation clearing would be undertaken ahead of advancing open cut mining operations. Specific vegetation clearance procedures for the Project would be generally consistent with procedures for the approved MCCM. This includes restricting the clearance of vegetation to a clearance window (i.e. 15 February to 30 April each year), with the exception of the first 12 month period following approval of the Project where clearance would occur once all relevant approvals are secured and may not fall within the 15 February to 30 April clearing window.

2. Soil Stripping

Prior to stripping, topsoil and subsoil would be sampled to:

- identify the soil resource prior to stripping (including determining available topsoil and subsoil volumes);
- produce a soil map for all proposed disturbed areas;
- assist with the preparation of a soil balance or inventory to assist with rehabilitation planning; and
- determine if the soil requires amelioration.

Soil stripping would be undertaken progressively by scrapers or dozers and stripped soil would either be used directly in progressive rehabilitation or placed in stockpiles for later re-use. Stockpiles would be managed to reduce the potential for soil degradation.

Soil management, stockpiling and re-application procedures undertaken for the Project would be consistent with existing procedures at the MCCM. These procedures are detailed in Attachment 7.

Soil stockpiles would be located within MCCM disturbance areas during the life of the Project. Specific locations of stockpiles would vary over the life of the Project as mining and rehabilitation progresses and soil stockpiles are developed and depleted.

3. Drilling and Blasting

Overburden and interburden material that cannot be efficiently ripped and excavated by mobile equipment would be drilled and blasted.

A mixture of ammonium nitrate and fuel oil (ANFO) and emulsion blend explosives, or similar, would be used for the Project, consistent with the existing MCCM operations.

Consistent with the approved MCCM, up to four blasts per week would be undertaken at the Project between the hours of 9.00 am to 5.00 pm from Monday to Saturday.

Consistent with the *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration* (Australian and New Zealand Environment Council, 1990) blasting would generally take place no more than once per day. However, due to the splitting of coal seams (which would reduce potential blast volumes), increasing mining depth and greater strike length in the Project Mining Area, two blasts per day may be required at times to manage blasting related safety risks. Consistent with the current MCCM, an additional blast may be required following a blast misfire.

4. Overburden and Interburden Material Removal and Handling

Overburden and interburden material would be removed with excavators, front-end loaders and dozers. Haul trucks would be used to haul the material to waste rock emplacement areas.

Mobile rock crushers would continue to be used to resize waste rock to be used on-site for construction, maintaining roads and drainage. The mobile rock crushers would be located in the open cut pit.

Waste rock management is described further in Section 3.10.

5. Coal Mining

Mining of exposed coal seams for the Project would typically involve dozers or front-end loaders ripping and pushing coal and parting material. ROM coal would typically be loaded into haul trucks with excavators for haulage directly to the ROM hopper or ROM coal stockpile.

Haulage of Project ROM coal would continue to use internal haul roads. Haul roads would be extended or relocated as required over the life of the Project.

Mobile coal sizing equipment would be used to resize ROM coal. The equipment would be located at the ROM stockpile area or in the open cut pit.

6. Landform Profiling and Rehabilitation

Hauled overburden and interburden material, and coarse rejects from the CHPP, would continue to be strategically placed within the mined out void and the overburden emplacement areas to develop the final landform. Dewatered fine rejects from the CHPP would also be co-disposed with coarse rejects in the open cut pit or overburden emplacement areas.

Landform profiling and rehabilitation of the backfilled open cut pit would be undertaken progressively over the life of the Project.

Temporary rehabilitation may be required to stabilise landforms until completion of mining operations and to minimise the potential for dust generation.

A detailed description of the rehabilitation strategy, final landform and post-mining land use for the Project is provided in Attachment 7.

3.9 Coal Processing and Product Coal Transport

ROM coal from the Project would be hauled to the existing MIA (ROM coal stockpile and transfer bin), where it would be sized (as required) and conveyed to the existing CHPP for further processing or bypass the CHPP and transferred directly to the product stockpile. Product coal would continue to be stockpiled (as necessary) and loaded to the existing Train Loading Facility for despatch to market.

There is no change proposed to the approved coal production and rail transport limits for the existing MCCM as a consequence of the Project (Table 3-1). The Project would seek a continuation of existing CHPP and train load out and rail spur infrastructure until 31 December 2044.

3.10 Waste Rock Management

3.10.1 WASTE ROCK QUANTITIES

Approximately 1,400 Mbcm of waste rock would be extracted over the life of the Project (Table 3-3) (i.e. a strip ratio of approximately 7 [Mbcm] to 1 [Mt ROM coal]).

3.10.2 WASTE ROCK EMPLACEMENT STRATEGY

Waste rock management for the Project would be integrated with the existing MCCM. Waste rock (including overburden and interburden) mined during development of the Project would be progressively placed in the mine voids (i.e. in-pit) once the coal has been mined. A proportion of the waste rock would be placed on the existing Northern Emplacement and proposed overburden emplacement extension area (Figure 3-2).

Temporary out-of-pit emplacement areas may be located adjacent to the open cut mining operations (within approved disturbance areas) to assist in managing waste rock throughout the life of the Project in preparation for establishing the final landform.

Where required, temporary emplacement areas would also be strategically placed near other large disturbance areas, such as dams and infrastructure areas, to expedite backfilling and rehabilitation and to minimise rehandling of overburden material.

Some temporary overburden emplacement areas would be higher in elevation than the final landform (but would remain lower than surrounding ridgelines) to minimise disturbance areas and material rehandling prior to final shaping of the overburden emplacement landform.

Overburden would be placed within existing/approved disturbance areas, or within the proposed open cut extension area, as far as practicable to minimise additional surface clearance required for the Project.

Further discussion of the management of landform development activities is provided in Attachment 7.

3.10.3 WASTE ROCK GEOCHEMISTRY

An assessment of the geochemical characteristics of the waste rock material associated with the development of the Project is provided in the Geochemistry Assessment (Appendix P) prepared by G.E.M (2025). A summary of the assessment is provided below.

Results of geochemical testing of overburden materials from the approved MCCM mining area (which are indicative of the Project Mining Area) were reviewed by G.E.M to identify any geochemical implications for waste rock management.

G.E.M (2025) concluded that waste rock associated with the Project (i.e. overburden and interburden) is typically expected to be non-saline and non-acid forming (NAF). This is consistent with previous geochemical assessments in the area.

As reported for the previous geochemical investigations, the overburden and interburden is expected to contain some sodic materials (G.E.M, 2025).

Test work indicates that overburden and interburden samples are slightly enriched with arsenic (As), antimony (Sb) and selenium (Se) (G.E.M, 2025). Previous geochemistry assessments in the region indicate that slight enrichment with heavy metals (i.e. Sb and Se) is a common characteristic of coal deposits in the Gunnedah Basin (G.E.M, 2018).

No selective handling would be required for placement of the overburden and interburden which is expected to be NAF or acid consuming, the bulk of which is expected to be relatively barren.

Consideration of the potential for mobilisation of metals is provided in Appendices A and B.

3.11 Coal Reject Management

3.11.1 COAL AND COAL REJECT GEOCHEMISTRY

An assessment of the geochemical characteristics of the coal within the Project Mining Area as well as coal reject material from the approved MCCM was undertaken for the Project Geochemistry Assessment (Appendix P) prepared by G.E.M (2025). A summary of the assessment is provided below.

G.E.M (2025) assessed the target coal seams relevant to the Project, and representative samples of raw coal, washed coal and coal rejects.

Laboratory testing indicates that raw coal is expected to be non-saline and NAF, and washed coal is expected to be non-saline and potentially acid forming-low capacity material.

Coal rejects are expected to be moderately to highly saline and are classified as ‘acid consuming’ due to high acid neutralising capacity. Notwithstanding the above, due to the range of geochemical characteristics throughout the different seams, there is a risk of encountering potentially acid forming (PAF) coal rejects during mining operations.

Management of suspected PAF coal rejects would be undertaken in accordance with existing procedures in place at the MCCM, as described in the approved MCCM RMP (Whitehaven, 2025b).

Potential impacts of the Project on downstream water quality have been assessed in Appendices A and B.

3.11.2 COAL REJECT DISPOSAL STRATEGY

The Project would generate up to approximately 3.1 Mtpa of coarse and fine rejects and fine tailings material in the coal preparation process.

The disposal of coal reject material produced at the CHPP for the Project would continue to be managed in accordance with the MCCM Coal Reject Disposal Procedure and the relevant RMP.

Coarse reject material would be diverted to a storage bin and loaded onto trucks for transported co-disposal into the overburden emplacement areas, or to suitable areas of the open cut. Dewatered fine rejects from the CHPP would also be co-disposed with coarse rejects in the open cut pit or overburden emplacement areas. There are no tailings dams associated with MCCM.

Fine tailings material would be dewatered using belt press filters and loaded onto haul trucks for co-disposal within open cut pit or overburden emplacement areas.

PAF reject material from the selected coal seams would be buried in-pit under at least 15 m of inert material as soon as practical.

Carbonaceous waste material (i.e. not PAF) would be covered as soon as practical with at least 5 m of non-carbonaceous NAF overburden to minimise the length of exposure to oxidising conditions.

3.12 Water Management

The existing water management system at the MCCM would be progressively augmented as water management requirements change over the life of the Project.

Figure 3-12 provides a general schematic of the indicative MCCM water management system incorporating the Project.

A detailed description of the Project water management system is provided in the Surface Water Assessment (Appendix B) prepared by WRM.

3.12.1 PROJECT WATER MANAGEMENT SYSTEM

The objectives of the Project water management system would be generally consistent with the existing water management system at the MCCM, as follows:

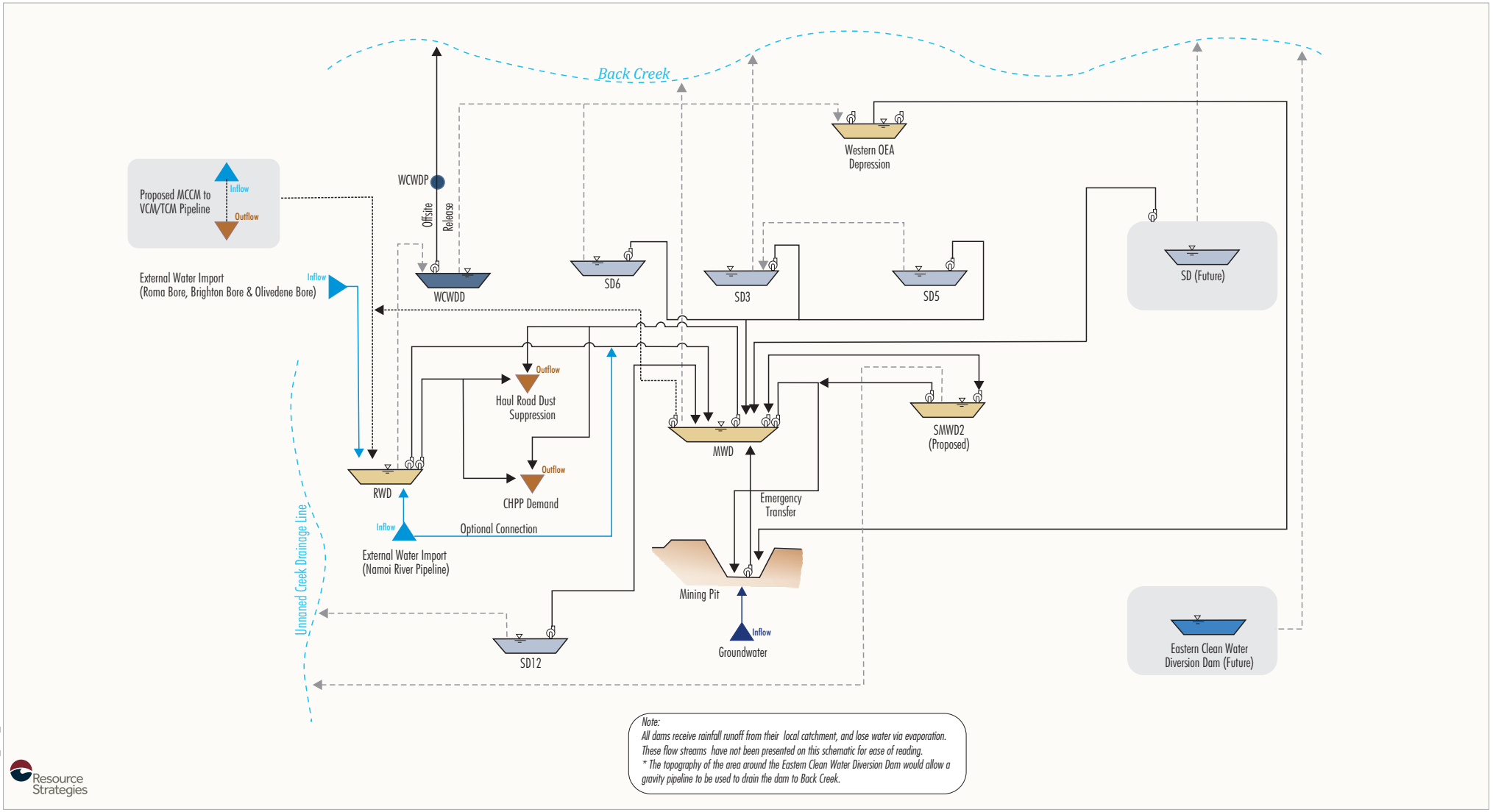
- clean water runoff from undisturbed catchment areas is diverted away from the disturbed mining area, where possible and practical to do so;
- sediment laden runoff from disturbed areas is beneficially re-used in the water management system as needed or otherwise released into the receiving environment (if the runoff does not need to be beneficially re-used in the water management system and the water quality meets the Environment Protection Licence [EPL] requirements);
- mine water and groundwater collected within the open cut pit is contained and beneficially reused on-site;
- no discharge of mine water off-site to the receiving environment; and
- on-site water demands are satisfied using recycled water whenever possible to minimise the need to supply water from off-site licensed water sources.

To meet these objectives, the Project water management system would comprise the following:

- clean water diversion drains and dams (including highwall dams) to divert runoff from undisturbed catchments around areas disturbed by mining where reasonable and feasible;
- sediment dams to collect and treat runoff from overburden emplacement areas and other operational areas;
- surface water drains to divert sediment-laden runoff from overburden emplacement areas and other operational areas to sediment dams;
- a mine-affected water system to store water from active mining areas and infrastructure areas; and
- other ancillary water management infrastructure (including pumps, piping and drains), as required.

The Project water management system would generally be based on the existing/approved water management system, with augmentations (e.g. additional sediment dams and highwall dams) undertaken progressively over the life of the Project.

The progressive development of water storages for the Project is described in Appendix B and provisionally shown on Figures 3-7 to 3-10.



Source: WRM (2025)

Whitehaven

MAULES CREEK CONTINUATION PROJECT

Indicative Water Management System Schematic

Figure 3-12

Up-Catchment Runoff Control

It is anticipated that the Project would use similar types of surface water runoff controls as those already used at the MCCM for the purpose of preventing up-catchment runoff water from entering the open cut (where reasonable and feasible).

Temporary and permanent up-catchment diversion structures would be constructed where reasonable and feasible over the life of the Project to divert runoff from undisturbed areas around the open cut pit and waste rock emplacement areas to Back Creek. The construction of new up-catchment diversions for the Project would be primarily associated with the advancement of the open cut pit to the east.

Mine Water Dams

The existing/approved mine water dams at the MCCM would continue to be used for the Project. Existing/approved storages and additional highwall dams would be developed progressively, as shown conceptually on Figures 3-7 to 3-10.

Water captured in the open cut pit would also be transferred to the mine water dams.

Upon completion of mining at the TCM, the TCM open cut void would be used as an external mine water dam (e.g. during periods of water surplus on-site) (Section 3.12.3). If necessary, PA 11_0047 for the TCM and Development Consent SSD 7480 for the VCM would be modified to enable water sharing between the mines, prior to transfer of water to/from the Project via the proposed water transfer pipeline.

Periodic reviews of the site water balance would be conducted, which would enable the Project water management system to be adjusted as necessary.

The mine water dams would be managed and operated to avoid uncontrolled release to downstream watercourses.

Sedimentation Control

Sedimentation control for the Project would be implemented through the use of sediment dams and other relevant works. Sediment dams would contain runoff from disturbed areas that have been stripped of topsoil, waste rock emplacement areas, infrastructure areas or partially rehabilitated areas.

The sediment dams would allow for gravity settling of sediment and prevent the contamination of downstream watercourses.

Sediment laden runoff from disturbed areas may be re-used in the water management system or released into the receiving environment (if the runoff does not need to be re-used in the water management system and the water quality meets the EPL requirements).

To protect downstream watercourses, sediment dams would continue to be maintained and operated until vegetation successfully establishes on topsoiled areas and runoff has similar water quality characteristics to areas that are undisturbed by mining activities.

Erosion and sediment control structures would be designed, constructed and maintained in consideration of the *Managing Urban Stormwater: Soils and Construction - Volume 2E Mines and Quarries* (DECC, 2008) or *Best Practice Erosion and Sediment Control* (International Erosion Control Association, 2008).

Water Consumption

The main water requirements for the Project would continue to be for the CHPP make-up supply, moisture lost within product coal and coal rejects, and dust suppression. Some water would also continue to be used for washdown of mobile equipment and other minor non-potable water uses in the MIA.

The water consumption requirements and water balance of the system would fluctuate based on varying climatic conditions and as the extent of the mining operation changes over time. A summary of the estimated water demands of the Project are provided below.

Coal Handling and Preparation Plant Make-Up

The make-up water demand of the CHPP is related directly to the rate of ROM coal feed to the CHPP, and the rate of production and moisture content of CHPP reject material.

The forecast maximum production rate of 14 Mtpa ROM coal corresponds to a maximum CHPP net consumption rate of 1,646 megalitres per year (ML/year) over the life of the Project (Appendix B).

Dust Suppression

The haul road dust suppression demand for the Project was calculated based on estimated future haul road lengths and widths, and in consideration of daily varying rates of evaporation and rainfall within the climatic sequences modelled for the site water balance (Appendix B).

The estimated haul road dust suppression demand for the Project is highly seasonal however peaks at approximately 1,804 ML/year between FY2040 and FY2045 (Appendix B).

3.12.2 OPEN CUT DEWATERING

Groundwater inflows to the open cuts over the life of the Project are predicted to peak at approximately 902 ML/year (Appendix A).

Sumps would be excavated in the floor of the open cut pit to manage potential inflows. Water that accumulates in the open cut sumps would be used for dust suppression and/or transferred to mine water storages.

Licensing of the predicted groundwater inflows for the Project has been assessed and is described in Appendix A and Attachment 6. MCC would obtain and hold water access licences (WALs) with sufficient entitlements to account for the groundwater inflows associated with the Project.

3.12.3 WATER TRANSFER PIPELINE

As described in Section 3.6, an addition to the water management system would be the construction of a water transfer pipeline between the MCCM water pipeline network and the approved VCM to TCM pipeline (Figure 3-1).

The water transfer pipeline would allow water sharing between the three mining operations to provide the following potential benefits:

- facilitate opportunities to reduce external water requirements from the Namoi River and groundwater bores;
- improve utilisation of water storages between operations, allowing excess water from one operation to be transferred to another operation with spare capacity;
- allow for the utilisation of the TCM final void post-closure as a water storage; and
- share water supply from groundwater bores and the Namoi River between operations for drought security (being water taken in compliance with relevant extraction limits and WAL allocations).

A predictive assessment of the performance of the Project water management system for a range of different climatic scenarios is presented in Appendices A and B.

Construction Methodology

The pipeline would be designed and constructed in accordance with the *Water Supply Code of Australia* (Water Services Association of Australia, 2011) and the Australian/New Zealand Standard (AS/NZS) 2033:2024 *Design and installation of polyolefin pipe systems*.

The water transfer pipeline would be constructed by a combination of trenching, underboring and sections placed directly on-ground. The relevant environmental assessments within the EIS have assumed a water transfer pipeline footprint of approximately 5 m.

Laydown areas would be located adjacent to the pipeline footprint to facilitate the construction of the pipeline. However, the pipeline would be constructed such that there is no impact to canopy vegetation. This would be achieved by:

- laying sections of the pipe on-ground where it can be located away from Rangari Road;
- designing the alignment and laydown areas to avoid the felling of trees; and
- underboring potential mature tree roots where it is not practical to lay the pipe on-ground.

For trenched sections of the pipeline, the construction methodology would include excavation of an approximate 0.5 m wide and 1 m deep trench, pulling pre-welded pipeline sections into place, laying the pipe and backfilling the trench with the excavated spoil. Backfilling of trenches would be undertaken progressively, and as soon as practicable after the pipeline installation is completed.

For road and driveway crossings, and avoidance of mature tree roots, the pipeline would be installed in a borehole which is directionally drilled underneath the roads or tree roots (i.e. underboring). Underboring of trees would be at least 2 m below surface to minimise interaction with tree roots.

3.13 Final Landform

The conceptual final landform for the Project has been designed based on the following key design principles (Attachment 7):

- The final landform is safe, stable and non-polluting.
- The emplacement landform incorporates macro-relief to avoid simple blocky forms.
- Surface water drainage from the final landform would incorporate micro-relief to increase drainage stability, avoid major engineered drop structures and limit erosion.
- Surface water drainage paths would be reinstated in the free-draining final landform to return flows to the natural environment.
- The size and depth of the final void would be minimised as far as is reasonable and feasible.
- The drainage catchment of the final void would be minimised as far as is reasonable and feasible.

The Project final landform design principles are generally consistent with the approved MCCM mining area due to similar pre-mining landforms.

The conceptual final landform (Figure 3-13) has been developed using geomorphic design principles to address these key design principles (Attachment 7).

The conceptual final landform has been designed using the GeoFluv™ methodology, which uses characteristics of relevant stable natural landforms in the local environment (referred to as analogues) and applies these characteristics to the design of new landforms of similar materials. More detailed erosion-based assessment and design methods are then used to refine parts of the landform that are steeper than alluvial analogues (Attachment 7).

The Project would result in one final void remaining in the rehabilitated landform. The mine sequencing has been designed to locate the final void away from Back Creek. The final mine void pit walls and in-pit waste rock emplacement would be designed to remain geotechnically stable and non-polluting in the long-term.

To maximise the ecological value of the area associated with the final void, the low walls of the final void would be reshaped to a gradient suitable for creating habitat for fauna known to occur in the area (e.g. establishing groundcover and native vegetation).

The catchment area draining to the final void in the originally approved MCCM final landform was approximately 904 ha. The Project would introduce drains/swales to reduce the catchment area draining to the final void to approximately 440 ha.

A conceptual final landform for the Project is shown on Figure 3-13. As Figure 3-13 is conceptual in nature and is intended to depict the mine site at a point in time after mining operations have ceased, the progressive establishment of the final landform over the life of the MCCM may ultimately result in a final landform which features certain variations compared to the conceptual final landform depicted in Figure 3-13 (including variations made in response to consultation with the NSW Department of Primary Industries and Regional Development - Resources Regulator [NSW Resources Regulator] and other relevant stakeholders).

The final landform for the Project would continue to be developed and refined in consultation with the relevant stakeholders over the Project life.

The Project rehabilitation strategy and mine closure activities are described in Section 3.18 and Attachment 7.

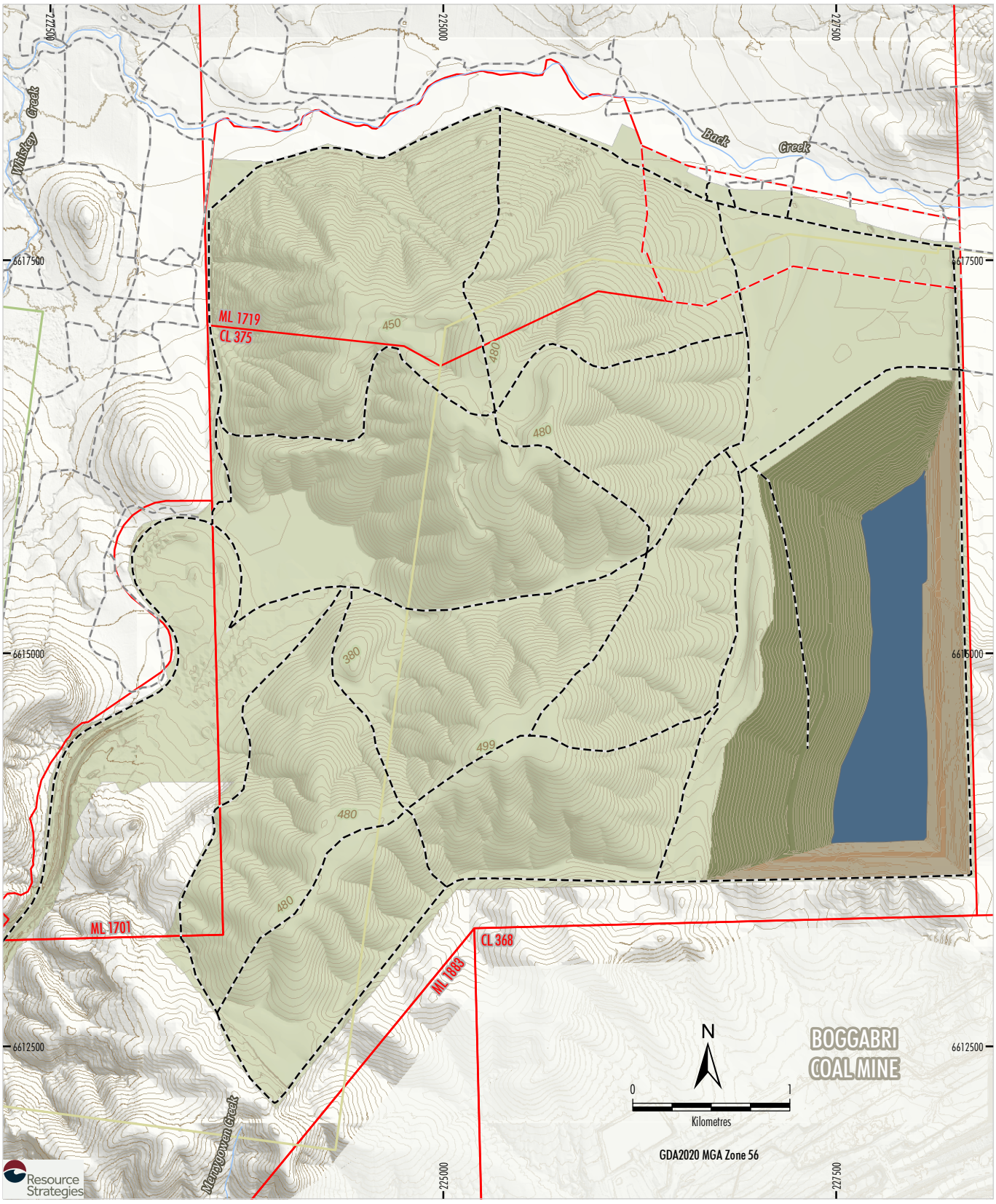
3.14 Infrastructure and Services

The existing infrastructure and services at the MCCM would continue to be utilised and augmented throughout the life of the Project.

3.14.1 MINE INFRASTRUCTURE AREA

The existing administration offices, workshops, stores, buildings, washdown facilities, laydown and hardstand areas and ablution facilities at the MCCM would continue to be used with upgrades throughout the life of the Project, within the approved footprint.

Existing buildings and workshops may be extended and/or upgraded to facilitate the increase in fleet and workforce. An additional light vehicle wash pad, light vehicle refuelling and service centre would be constructed during the Project.



Source: NSW Spatial Services (2024); Whitehaven (2025)

LEGEND

- State Conservation Area
- State Forest
- Provisional Mining Lease Application Area
- Final Void Water Body
- Native Woodland
- Native Vegetation
- Highwall
- Existing Firebreaks
- Indicative Fire Trails/Access Tracks*

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MAULES CREEK CONTINUATION PROJECT

Conceptual Final Landform and Final Land Use

** Fire trails/access tracks as indicative only and will be subject to further design as part of mine rehabilitation for closure*

Figure 3-13

The existing CHPP has a “nameplate” capacity of 13 Mtpa, which represents the maximum operating throughput that the CHPP has been designed to accommodate.

The nameplate capacity is higher than what is required for the existing MCCM, and is adequate to accommodate the proposed 1 Mtpa increase in ROM coal production for the Project. Therefore, the Project does not propose to increase the throughput capacity of the CHPP, although components of the CHPP would be upgraded as required through the life of the Project.

3.14.2 SITE ACCESS AND INTERNAL ROADS

Employees, contractors and deliveries would access the Project area by road from the existing main site access via Therribri Road, except under emergency situations. Workers and delivered materials would travel via internal roads to the Project area.

Existing internal access roads for light vehicles would also be used within the Project mining area as required.

The existing access road to the north of the existing Northern Emplacement would be widened by approximately 1 to 7 m to facilitate the construction-related vehicle movements for the go-line and infrastructure area, and due to the increase in operational traffic accessing the go-line and infrastructure area (Figure 3-2).

An access track and highwall standoff zone would be developed in Year 1 of the Project along the eastern boundary of the disturbance extent. This would provide an alternate access between the southern and northern areas of the MCCM. This track would also serve as a firebreak and emergency access.

Other internal haul roads and access roads required for the Project would be integrated with the existing MCCM mining area.

There may be continued use of ancillary site accesses from local roads for environmental monitoring, general land management, investigations, exploration, emergencies such as flooding and bushfires or other associated activities.

3.14.3 ELECTRICITY SUPPLY AND DISTRIBUTION

Whitehaven has already contracted electricity supply for its NSW operations (including in respect of the MCCM) from a nationally accredited carbon-neutral electricity supplier and intends to continue to adopt this approach in tandem with considering the role of off-grid carbon neutral energy, as Whitehaven is currently doing in respect of the Narrabri Coal Mine. Whitehaven acknowledges the importance of taking appropriate steps to ensure Scope 2 emissions in NSW are minimised or reduced to nil on a net basis where appropriate and commercially feasible.

Power is supplied to the MCCM at 132 kilovolts (kV) from the existing TransGrid Switchyard. The 132 kV powerline runs from the Narrabri to Boggabri East 132 kV electricity transmission line.

The existing electricity supply and distribution system at the MCCM would continue to supply power to the Project with minor upgrades. Power would be transferred either by the use of overhead cables or underground cables, where required. Standard electrical safety practices and laws (including considerations of vehicle clearance) would continue to apply.

If Project engineering studies indicate it would be reasonable and feasible to electrify fleet and equipment during the life of the Project, additional electricity supply and distribution infrastructure would be constructed. The additional electricity distribution infrastructure could include electrification of haul trucks, dig units and dozers (Attachment B of Appendix J).

Should electrification of fleet and equipment be adopted, it is possible that off-site upgrades to the site electricity supply may be required (e.g. augmentation of the electricity supply network to site).

3.14.4 LIGHTING

Lighting at the Project would be sourced from lighting plants, stationary work lights, fixed/permanent lights and vehicle mounted lights consistent with the approved lighting infrastructure at the MCCM. The Project would implement the 'good lighting principles' provided by the *Dark Sky Planning Guideline* (DPE, 2023a) and would consider the best practice lighting design outlined in the *National Light Pollution Guidelines for Wildlife* (Cth DCCEEW, 2023a), where practicable, and without compromising operational safety (Appendix M).

3.14.5 POTABLE WATER

The potable water supply for the Project would be sourced from a combination of rainwater captured from roofs of facilities, suitably treated bore water or imported water from external sources.

A water supply truck would be used to distribute potable water for the Project to service areas around the site.

3.14.6 ANCILLARY INFRASTRUCTURE

A northern go-line area would be established within the Project Mining Area. The go-line area would include a crib hut, pre-start area, heavy and light vehicle parking, offices, refuelling, water fill point, access roads and minor servicing of trucks and ancillary fleet. The facilities would service the workforce operating in the northern areas of the mine to avoid the need to drive heavy vehicles to the MIA area.

Mobile crib huts would be constructed within the open cut pit progressively throughout the Project life as the open cut advances to the east.

Temporary laydown and parking areas would be developed and/or relocated within the development footprint as required to support the progression of mining operations.

3.15 Waste Management

Key waste streams for the Project would comprise:

- waste rock (as described in Section 3.10);
- reject material (as described in Section 3.11);
- treated sewage and effluent;
- recyclable and non-recyclable wastes; and
- other wastes from mining and workshop activities (e.g. used tyres, scrap metal, oil filters and waste hydrocarbons).

In addition, heavy mobile equipment tyres and/or inert building waste (e.g. demolished buildings and other construction waste) would be disposed of in the Project or MCCM open cut pit, in accordance with an EPL.

The following actions/strategies would be implemented to maximise efficient waste management for the Project:

- general waste minimisation principles (reduce, re-use and recycle), including during purchase of products and materials;
- separation of waste streams at the source to minimise contamination of waste streams; and
- education of personnel (both during inductions and regular refreshers) regarding waste management principles and procedures, and locations of bins for various waste streams.

All waste would be classified in accordance with *Waste Classification Guidelines Part 1: Classifying Waste* (EPA, 2014), and either disposed of on-site or collected by an appropriately licensed contractor and disposed of at appropriately licensed disposal facilities. MCC would maintain a register of waste collected by appropriately qualified waste contractors.

Recyclable waste would be deposited in designated containers (e.g. scrap metal bins), which would be periodically removed from site for recycling.

Sewage and effluent from on-site ablution facilities would be collected and treated in the existing MCCM sewage treatment plant, in accordance with relevant approvals (including an EPL). The sewage treatment plant would continue to be serviced by a licensed waste disposal contractor. Sewage and effluent from mobile crib huts would be collected by a licensed waste disposal contractor and taken to a licensed off-site facility.

Once treated, sewage and effluent may also be applied to selected rehabilitation or landscaped areas at licensed discharge points as irrigation water, in accordance with an EPL.

Domestic waste from the MCCM (e.g. sump soil, bitumen, etc.) is collected and disposed of at the nearest authorised waste disposal site or at an alternative site agreed with the NSC or with the relevant council in the event it is to be disposed of outside the Narrabri LGA.

3.15.1 USED TYRE MANAGEMENT

Waste heavy vehicle tyres would continue to be temporarily stockpiled at laydown areas prior to permanent burial in the open cut pit in accordance with Whitehaven's Mine Tyre Disposal Environmental Procedure.

Tyres would be placed as deep into the overburden emplacement area as is reasonably practical, with a minimum of 20 m of material to be dumped over all tyre disposal areas. Tyres would not be disposed of in areas with potential to compromise the stability of the consolidated final landform or have any long-term effects on rehabilitation.

Tyre dumps would be located more than 15 m from any coal rejects or PAF material emplacement areas to minimise the potential for spontaneous combustion.

MCC would maintain an inventory of the dump locations for all waste heavy vehicle tyres buried on-site within the open cut pit.

3.16 Management of Dangerous Goods

The transportation, handling and storage of all dangerous goods for the Project would be conducted in accordance with the requirements of the *Storage and Handling of Dangerous Goods – Code of Practice 2005* (WorkCover NSW, 2005).

3.16.1 HYDROCARBON STORAGE

Hydrocarbons that would be used at the Project would include fuels (diesel and petrol), greases, oils, paints and degreasers.

Fuel and lubrication storage facilities for the Project would include above-ground bunded diesel-storage tanks in accordance with the requirements of Australian Standard (AS) 1940:2017 *The Storage and Handling of Flammable and Combustible Liquids*. Hydrocarbon storage facilities would be operated in accordance with the NSW *Work Health and Safety Regulation 2017*, NSW *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and associated regulations.

Runoff water from workshops and machine washdown bays would be directed to an interceptor trap to extract hydrocarbons, prior to it being discharged into the mine water management system. The trap would be routinely emptied of hydrocarbons by an appropriately licensed contractor.

In-pit storage facilities would continue to be developed to store and dispense fuels (diesel and petrol), oils, greases and lubricants which are required for day-to-day operations. These facilities would be relocated as the active open cut mining areas advance to the east to improve operational efficiencies.

Two additional fuel storage facilities with 50,000 litre (L) capacity each would be constructed along haul roads. Existing fuel storage facilities would be relocated as active open cut mining areas advance to the east.

The existing fuel farm would be upgraded from an approximate 800 kilolitre capacity to 1.1 megalitres capacity. To enable operational efficiency for refuelling, in-pit fuel farms of approximately 50,000 L capacity would also be constructed along the low-wall.

The in-pit fuel storage facilities would be designed and constructed in accordance with the relevant Australian Standards, including, but not limited to AS 1940:2017 *The Storage and Handling of Flammable and Combustible Liquids*.

3.16.2 EXPLOSIVES STORAGE

Explosives required for the Project include initiating products and detonators, ANFO and emulsion explosives.

Explosives would be transported and used in accordance with the existing safety and operational procedures at the MCCM, which are consistent with the relevant Australian Standards and legislation.

The continued use of the existing explosives storage facility would be conducted in accordance with the NSW *Explosives Act 2003* and NSW *Explosive Regulation 2013*. The NSW *Explosives Regulation 2013* details the requirements for the safe storage, land transport and handling and disposal of the explosive, with reference to AS 2187.2:2006 *Explosives -Storage and Use – Use of Explosives for specific guidelines.*

3.16.3 CHEMICALS STORAGE AND SAFETY DATA SHEETS

The management and storage of chemicals for the Project would be conducted in accordance with MCC's prescribed management procedures, and relevant Australian Standards and Codes.

Spill kits would be available onsite and contaminated soil would be rehabilitated in accordance with MCCM procedures.

MCC would continue to assess new substances before their use on-site by completing a substance evaluation and risk assessment. Safety Data Sheets and substance evaluations would be available to site personnel.

3.17 Workforce

The existing MCCM has an estimated average workforce of approximately 865 people.

The operational workforce required for the Project would increase to an estimated average of approximately 940 people, with a peak operational workforce of approximately 1,030 people (including MCCM staff and on-site contractor personnel) anticipated.

Construction activities for the Project including the construction of the water transfer pipeline, development of a go-line, access and infrastructure area and establishment of a revegetation program would require an additional 35 people during the peak workforce year (i.e. to a peak workforce of approximately 1,065 people).

Nominal shift start and finish times would generally continue to be as follows:

- Administration Personnel – 6.30 am to 5.00 pm weekdays.
- Mining Operations Personnel (Day) – 6.30 am to 7.00 pm.
- Mining Operations Personnel (Night) – 6.30 pm to 7.00 am.

These nominal shift times would be subject to periodic review throughout the life of the Project.

3.18 Rehabilitation and Mine Closure Activities

3.18.1 PROJECT REHABILITATION STRATEGY

A conceptual Rehabilitation and Mine Closure Strategy has been developed for the Project in consideration of relevant guidelines and the existing RMP and is presented in Attachment 7.

MCC has undertaken an assessment of potential post-mining land uses (e.g. establishment of woodland forest) taking into account relevant strategic land use objectives of the area in the vicinity of the MCCM, current land use including rehabilitation completed or to be completed at the MCCM within and adjacent to the Project Mining Area and the potential benefits of the post-mining land use to the environment, future landholders and the community (Attachment 7).

Proposed post-mining land uses for the Project Mining Area include native and open woodland areas and Figure 3-14 depicts the conceptual post-mining land use areas for the Project.

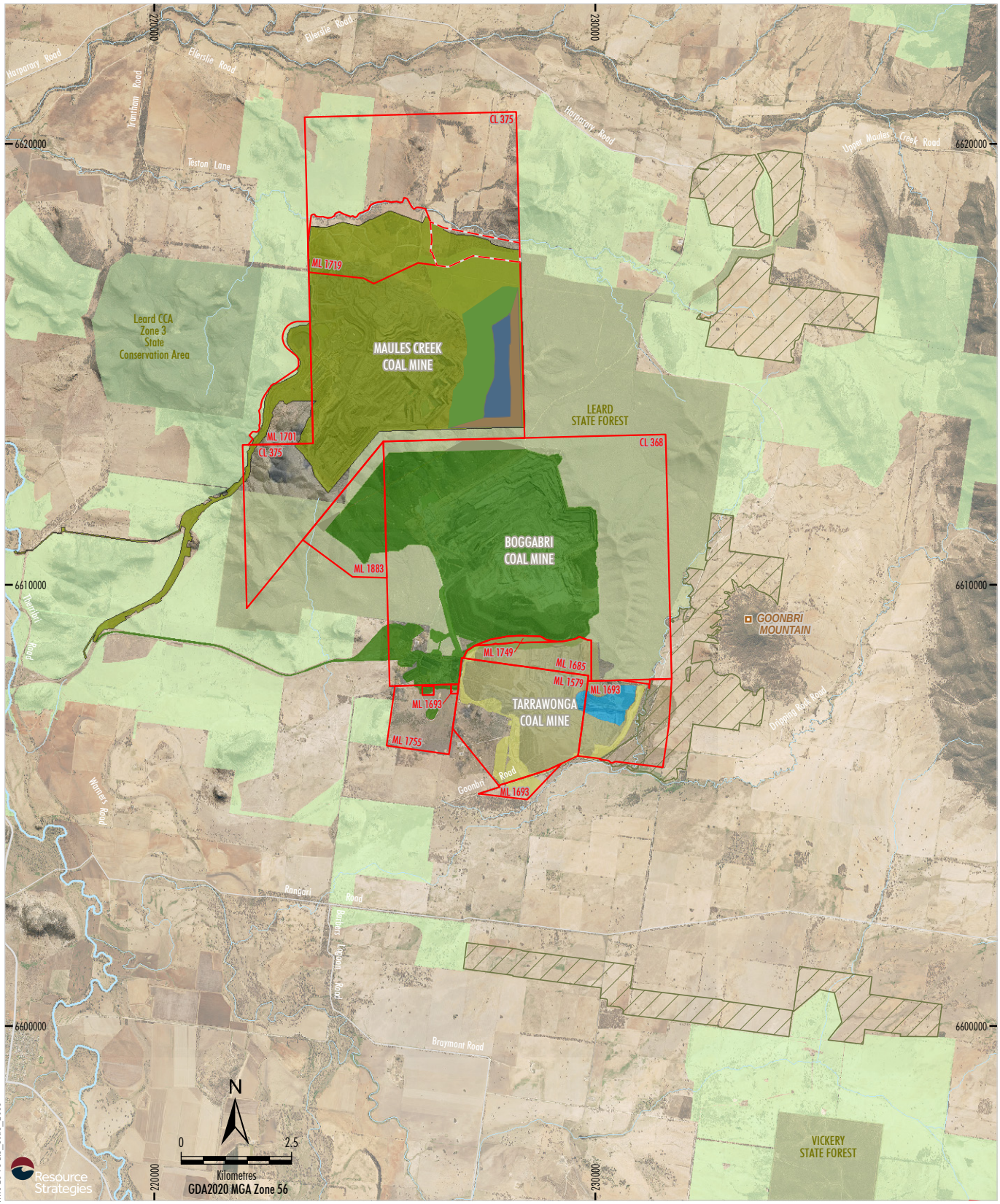
Post-mining land uses and land use domains for the Project would continue to be developed and refined in consultation with the relevant stakeholders over the Project life.

The conceptual Project final landform is detailed in Section 3.13.

3.18.2 PROJECT MINE CLOSURE AND DECOMMISSIONING

A Mine Closure Plan would be developed for the Project in consultation with relevant regulatory authorities and community stakeholders.

It is anticipated that the Mine Closure Plan would be integrated with mine closure measures for the existing MCCM.



LEGEND

- State Conservation Area
- State Forest
- Mining Tenement Boundary (ML and CL)
- Provisional Mining Lease Application Area
- Existing Conserved Areas
- Indicative Landscape Revegetation Zones#
- BCM Rehabilitated Landform*
- TCM Rehabilitated Landform - Native Ecosystem
- TCM Rehabilitated Landform - Grazing
- TCM Rehabilitated Landform - Final Void

Conceptual Post Mining Land Use

- Native Woodland
- Final Void Water Body
- Native Vegetation
- Highwall

Source: NSW Spatial Services (2024)
Orthophoto Mosaic: Whitehaven (2019-2024)

** BCM boundary digitised from Figure 1 of the BCM Modification 10 Scoping Letter. A portion of the Vegetated Corridor is within the Approved BCM Mine Disturbance and will not be mined through. Rehabilitation at the BCM would primarily comprise native ecosystem revegetation works, with some areas designated for agricultural activities (i.e. grazing and cropping).*

 # Landscape Revegetation Zones shown on this figure are approximate extents only.

Whitehaven

MAULES CREEK CONTINUATION PROJECT

Conceptual Post-mining Land Use Areas

Figure 3-14

MCC would decommission and remove all Project infrastructure unless a suitable post-mining use is identified for the infrastructure (e.g. water storages) in consultation with the NSW Resources Regulator, NSC and any other relevant stakeholders. A geotechnical assessment will be carried out prior to closure by a suitably qualified engineer to verify that any water infrastructure retained on-site is long-term stable. Ongoing geotechnical reviews of the final landform would continue during the Project to inform the Mine Closure Plan.

3.18.3 PROJECT REHABILITATION PRACTICES AND MEASURES

Final rehabilitation activities for the Project would be undertaken progressively (as appropriate and where reasonable and feasible to do so) and generally in accordance with the following phases:

- **Phase 1** – Decommissioning – removal of mining-related infrastructure such as hardstand areas, buildings and connected services, rail infrastructure, roads, contaminated materials, hazardous materials and other infrastructure (unless infrastructure is agreed to be retained with relevant authorities).
- **Phase 2** – Landform Establishment – construction of the approved final landform which incorporates gradient, slope, aspect, drainage, substrate material testing and characterisation geotechnical testing and morphology.
- **Phase 3** – Growth Medium Development – activities required to establish the physical, chemical and biological components of the growing media and ameliorants that are used to optimise the potential of the media in terms of the preferred vegetative cover.
- **Phase 4** – Ecosystem and Land Use Establishment – establishment of the approved final landform which incorporates revegetated lands and habitat enhancement areas; species selection, species presence and growth together with weed and pest animal control/management; and establishment of flora.
- **Phase 5** – Ecosystem and Land Use Sustainability – management of rehabilitation areas that incorporates components of floristic structure, species reproduction, nutrient cycling recruitment and recovery, community structure and function, which are the key elements of a sustainable landscape.
- **Phase 6** – Relinquished Lands – land use and landscape is deemed suitable to be relinquished from the MLs.

Rehabilitation materials would either be sourced from the Indicative Project Disturbance Extent, within the existing MCCM or imported as required.

A description of the progressive rehabilitation methods that would generally be implemented for the Project in relation to these phases is provided in Attachment 7.

Attachment 7 also includes:

- a detailed description of the methodology used to develop geomorphic landforms;
- a summary of proposed rehabilitation monitoring; and
- an overview of the current rehabilitation trials and research projects underway at the existing MCCM.

3.19 Other Activities

3.19.1 EXPLORATION ACTIVITIES

Exploration activities (including geotechnical investigations) would continue over the life of the Project to progressively refine the understanding of geological features, seam structure and coal/overburden characteristics, provide input to detailed mine planning and engineering and inform mine closure planning.

Exploration activities would also include investigation of potential construction material borrow pits within the indicative surface disturbance extent.

Exploration activities would comprise drilling, test pits, surface mapping and airborne and ground-based geophysical surveys.

Drilling activities would require only small surface areas and would involve the use of typical surface drilling rigs and supporting equipment.

Geochemical assessments would continue over the life of the Project to refine waste rock and coal reject management strategies and inform mine closure planning.

3.19.2 MONITORING ACTIVITIES

Collection of environmental baseline data and monitoring of impacts would occur throughout the life of the Project in accordance with relevant management plans.

Ongoing environmental management and monitoring for the Project is described in Attachment 8. The location, extent and methods adopted for monitoring would be adjusted throughout the life of the Project based on results and stakeholder feedback.