APPENDIX J

Rehabilitation Strategy





DRAYTON SOUTH COAL PROJECT

REHABILITATION STATEGY

for

Anglo American Metallurgical Coal Pty Ltd

May 2013

Hansen Bailey
ENVIRONMENTAL CONSULTANTS

DRAYTON SOUTH COAL PROJECT

REHABILITATION STRATEGY

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1 INTRODUCTION

1.1 BACKGROUND

Hansen Bailey Pty Ltd (Hansen Bailey) in cooperation with Global Soil Systems was commissioned by Anglo American Metallurgical Coal Pty Ltd (Anglo American) to prepare a Rehabilitation Strategy for the Drayton South Coal Project (the Project).

Anglo American is seeking Project Approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the Project. The Project will facilitate the continuation of the existing Drayton Mine through the extraction of coal by both open cut and highwall mining operations in the Drayton South area, which is located within Exploration Licence (EL) 5460. The Project will utilise the existing Drayton Mine workforce, infrastructure and equipment. A transport corridor will be constructed to link Drayton Mine and the Drayton South area.

The Drayton Complex (collectively comprised of Drayton Mine and Drayton South) is located approximately 10 km north-west of the village of Jerrys Plains and approximately 13 km south of the township of Muswellbrook in the Upper Hunter Valley of NSW.

Drayton Mine commenced production in 1983 and currently operates under Project Approval 06_0202, which expires in 2017. Drayton Mine predominantly provides steaming coal to export and domestic markets at a maximum of 8 Million tonnes per annum (Mtpa) of Run of Mine (ROM) coal. Drayton Mine currently manages rehabilitation at the site in accordance with the approved Rehabilitation Management Plan.

As Drayton Mine is scheduled for mine closure in 2017, a Mine Closure Plan and Final Void Management Plan has been prepared. All rehabilitation works at Drayton Mine are undertaken in accordance with these documents.

1.2 PURPOSE OF STRATEGY

The purpose of this Rehabilitation Strategy is to establish objectives and strategies for the rehabilitation of land that will be disturbed in the Drayton South mining area due to the Project. This Rehabilitation Strategy expands upon the broad rehabilitation objectives that are outlined in Section 8.17 of the *Drayton South Environmental Assessment* dated November 2012 (EA) (Hansen Bailey, 2012).

This Rehabilitation Strategy also incorporates the rehabilitation commitments and objectives outlined in the *Anglo American Met Coal Rehabilitation Strategy Guideline*.

As such, this strategy provides:

- Rehabilitation strategies for areas that are expected to be affected by surface disturbance;
- A revegetation program for the mining and onsite offset areas;
- A monitoring program to assess performance of the rehabilitated areas; and

- Objectives and conceptual success criteria for final void management and mine closure.

As noted above, this Rehabilitation Strategy is designed to expand on the broad rehabilitation objectives presented in the EA and provide further clarity and methodology for the rehabilitation proposed at Drayton South and the onsite offset areas. This Rehabilitation Strategy will then inform the detailed Rehabilitation and Offset Management Plan which will be prepared to the satisfaction of the Director General of NSW Trade & Investment, Regional Infrastructure & Services following the grant of Project Approval.

The Rehabilitation and Offset Management Plan will provide further specific detail beyond this Rehabilitation Strategy on rehabilitation procedures for the site, including the effective rehabilitation of the Houston Bund, weed control and watering strategies.

1.3 DOCUMENT STRUCTURE

This report is structured as follows:

- **Section 2** describes the key aspects of the Project including the general mining and rehabilitation sequence;
- **Section 3** describes the relevant legislation, plans and guidelines in relation to rehabilitation which have been considered;
- **Section 4** describes the conceptual final landform design and land uses for the Drayton Complex;
- **Section 5** outlines strategies for an effective rehabilitation program that includes targeted rehabilitation, landform establishment, topsoil management, revegetation and rehabilitation maintenance;
- **Section 6** outlines a monitoring programme designed to assess performance of rehabilitated areas against preliminary success criteria;
- **Section 7** describes key strategies for the management of the final void; and
- **Section 8** describes key strategies for mine closure.

1.4 DOMAIN PLAN

Rehabilitation of the Drayton South final landform will be undertaken on a domain basis, which represents land management units that will be rehabilitated using varying techniques suited to the proposed post-mine land use. The domains are listed below:

- Domain 1 - Open Cut Mining Disturbance Areas (1,540 ha). This domain refers to the area proposed to be disturbed for the extraction of coal or the emplacement of overburden. This domain also includes areas disturbed due to the haul roads and the transport corridor;
- Domain 2 - Final void (225 ha). As part of the final landform it is planned that a final void will remain at the Drayton South mining area in the Whynot pit;
- Domain 3 - Infrastructure Areas (164 ha). This domain consists of all buildings, structures, dams, rail loop and hardstand areas associated with mining operations at both Drayton and Drayton South; and
- Domain 4 - Undisturbed areas (2,670 ha). This domain refers to land outside of the active mining areas which is under the responsibility of Anglo American. This land includes the onsite offset areas and agricultural lands.

2 PROJECT DESCRIPTION

2.1 OVERVIEW

The Project involves:

- The continuation of operations at Drayton Mine as presently approved with minor additional mining areas within the East, North and South Pits;
- The development of an open cut and highwall mining operation extracting up to 7 Mtpa of ROM coal over a period of 27 years within the Drayton South area;
- The utilisation of the existing Drayton Mine equipment fleet with the addition of a highwall miner and coal haulage fleet;
- The continuation of the existing workforce of up to 530 employees and contractors;
- The use of Drayton Mine's final landform voids for rejects and tailings disposal and water storage;
- The utilisation of the existing Drayton Mine infrastructure including the Coal Handling and Preparation Plant (CHPP), rail loop and associated loading infrastructure, workshops, bath houses and administration offices;
- The construction of a transport corridor between the Drayton South mining area and the existing Drayton Mine;
- The continued utilisation of the Antiene Rail Spur off the Main Northern Railway to transport product coal to the Port of Newcastle for export;
- The realignment of a section of Edderton Road; and
- The installation of further water management and power reticulation infrastructure to support mining in the Drayton South area.

A contractor based workforce of approximately 369 personnel will be required during the peak construction phase.

Following construction within the Drayton South area, there will be a period when mining will occur at the existing approved Drayton Mine and within the Drayton South area concurrently as mining activities are transitioned. During this period, personnel and equipment will be progressively transferred from Drayton Mine to the Drayton South area. This will continue until mining operations are completed at Drayton Mine.

2.2 REHABILITATION SCHEDULE

Mining operations will initially commence in the Whynot, Redbank and Blakefield mining areas and generally progress in a north to south sequence (see **Figure 1** to **Figure 7**). At the start of Year 3, construction of the Houston visual bund will begin to shield views into the Houston and Whynot mining areas.

During this period, mining activities will continue in the Whynot, Redbank and Blakefield mining areas. By the end of Year 3, initial mining associated with the Houston mining area box cut will have commenced. By Year 5, the construction and rehabilitation of the Houston visual bund will be complete and integrated with the surrounding landscape.

Overburden Emplacement Areas (OEAs) will typically be developed in the northern reaches of each mining area followed by the establishment of progressive rehabilitation. No overburden is planned to be hauled from Drayton South for placement in the existing Drayton Mine voids.

Highwall mining will be undertaken at various stages during the operational phase of the Project within each of the mining areas to maximise coal recovery.

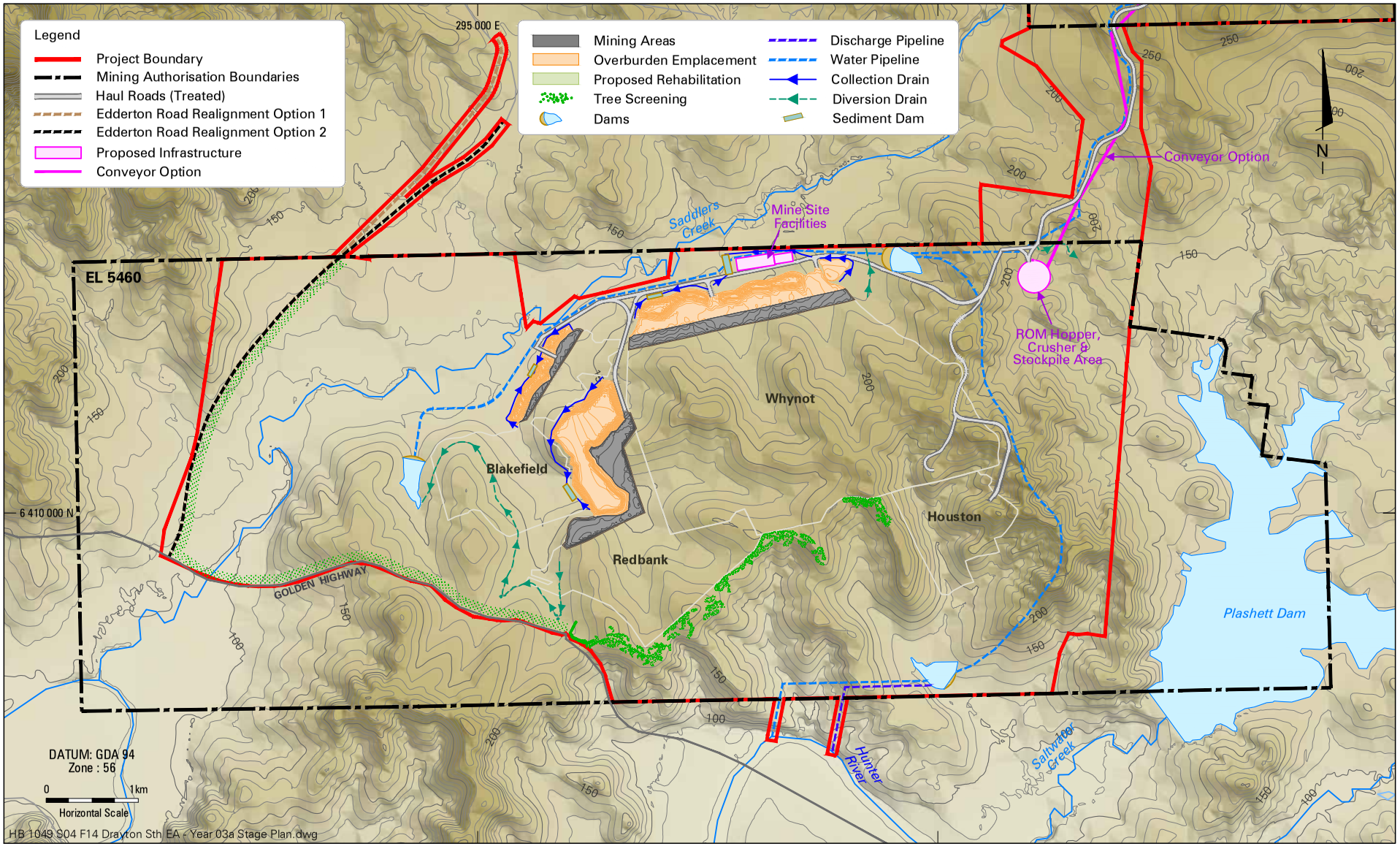
Open cut mining and progressive rehabilitation continues throughout the life of the operation. The majority of the Redbank and Blakefield mining areas will be rehabilitated by Year 20 with the remainder progressively completed to final landform following Year 27 (final year of mining).

2.3 HOUSTON VISUAL BUND

As noted above, a visual bund will be constructed in the foreground of the Houston mining area to shield views of the operation in the Houston and Whynot mining areas from sensitive locations to the south.

The Houston visual bund (Option 3 as presented in the EA) will involve an eight stage construction program from Year 3 for a period of approximately 16 months. It will be situated approximately 2.8 km from the nearest receiver in the south. Approximately 16.6 Million loose cubic metres (Mlcm) of overburden material from mining activities will be required for its construction. The design provides for a maximum batter height of 77 m, a crest length of 1,750 m and a slope of approximately 11 degrees. Once constructed the bund has been designed to align with the existing topography and landscape.

The Houston visual bund will be progressively covered with available topsoil and rehabilitated with a crop of pasture grass and/or sterile cover crops to minimise exposed areas and erosion control. Trees, composed of native species, will be established on the visual bund to restore visual amenity with surrounding landscape.



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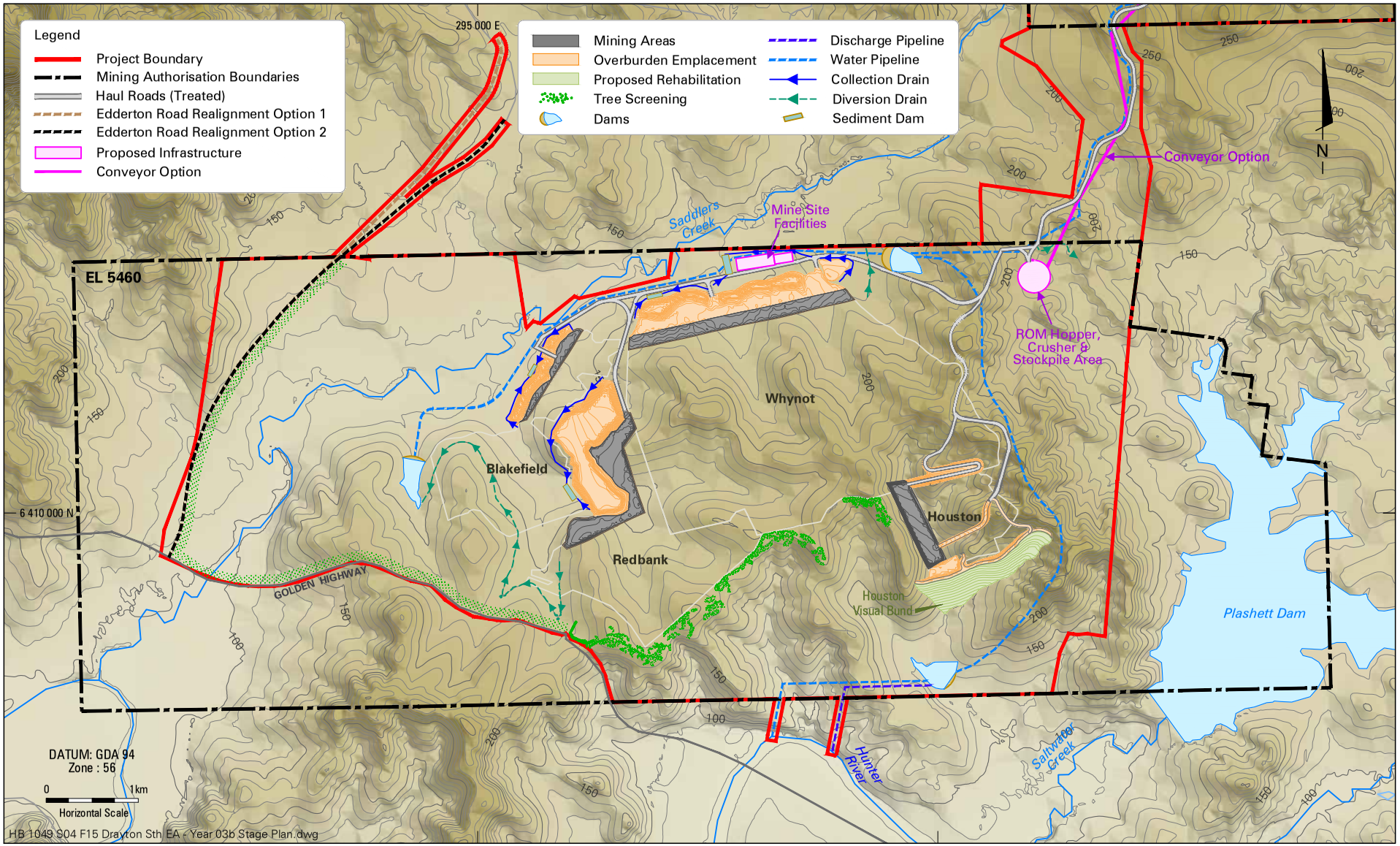
Conceptual Drayton South Year 3A Mine Plan

FIGURE 1



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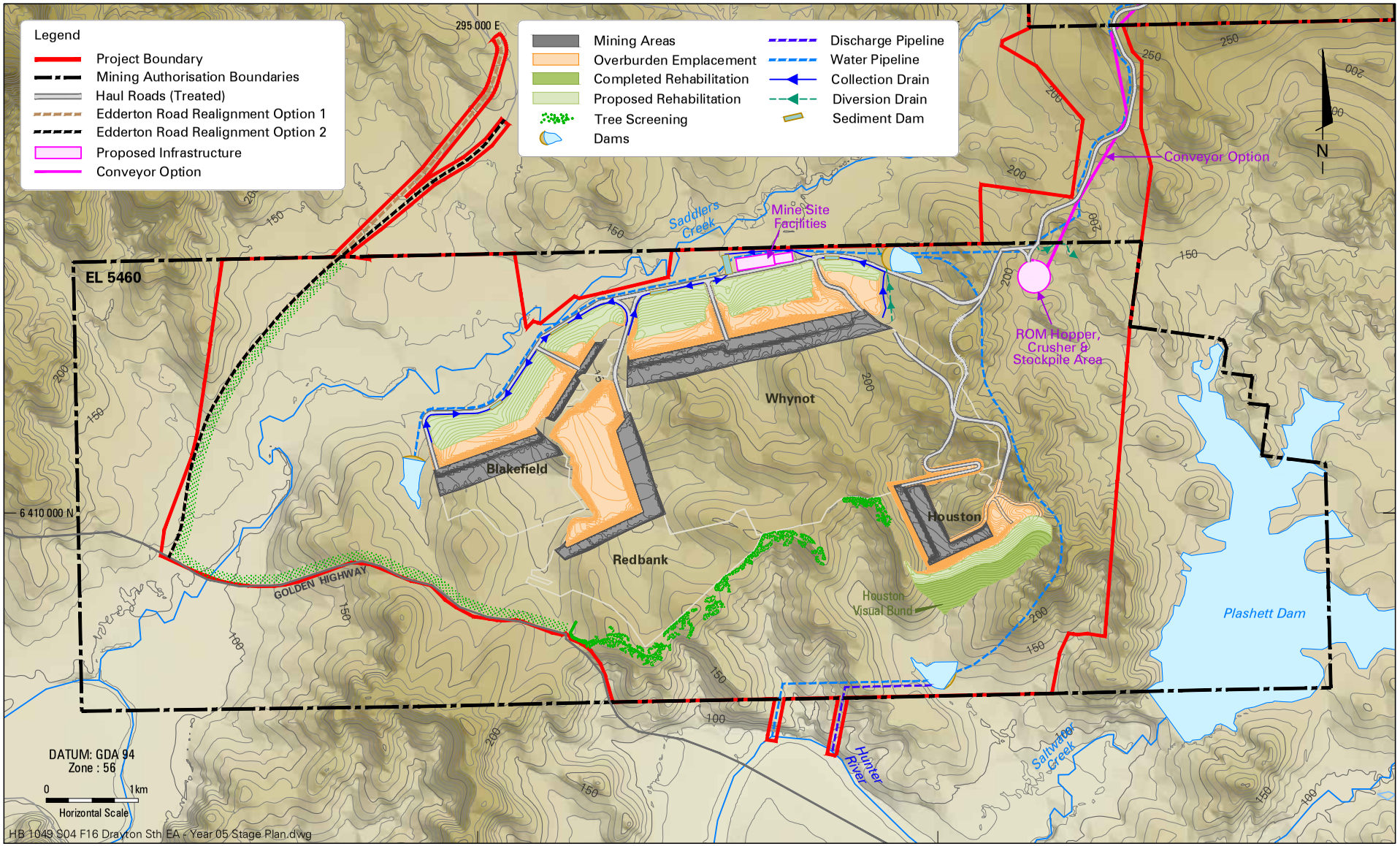
Conceptual Drayton South Year 3B Mine Plan

FIGURE 2



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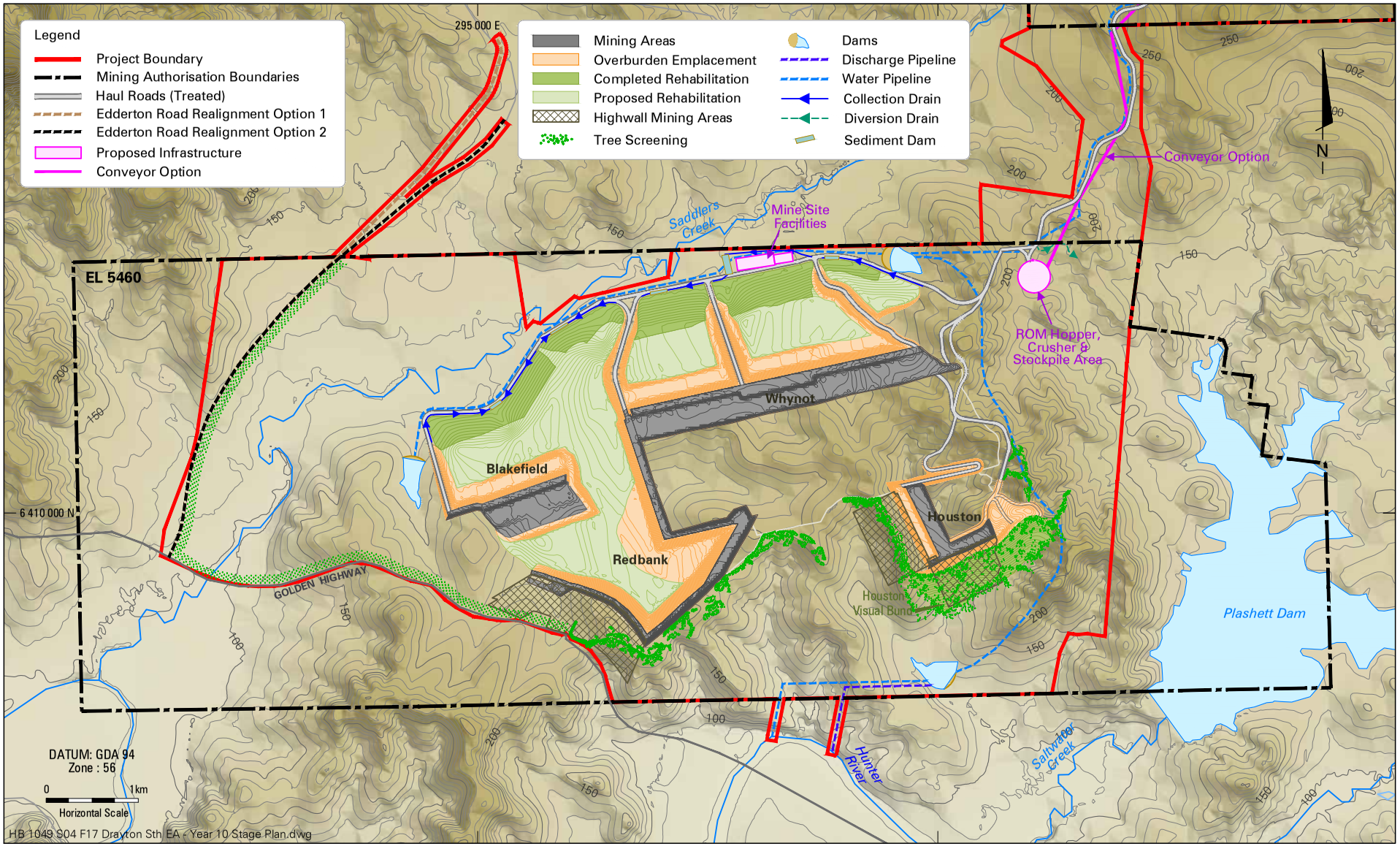
Conceptual Drayton South Year 5 Mine Plan

FIGURE 3



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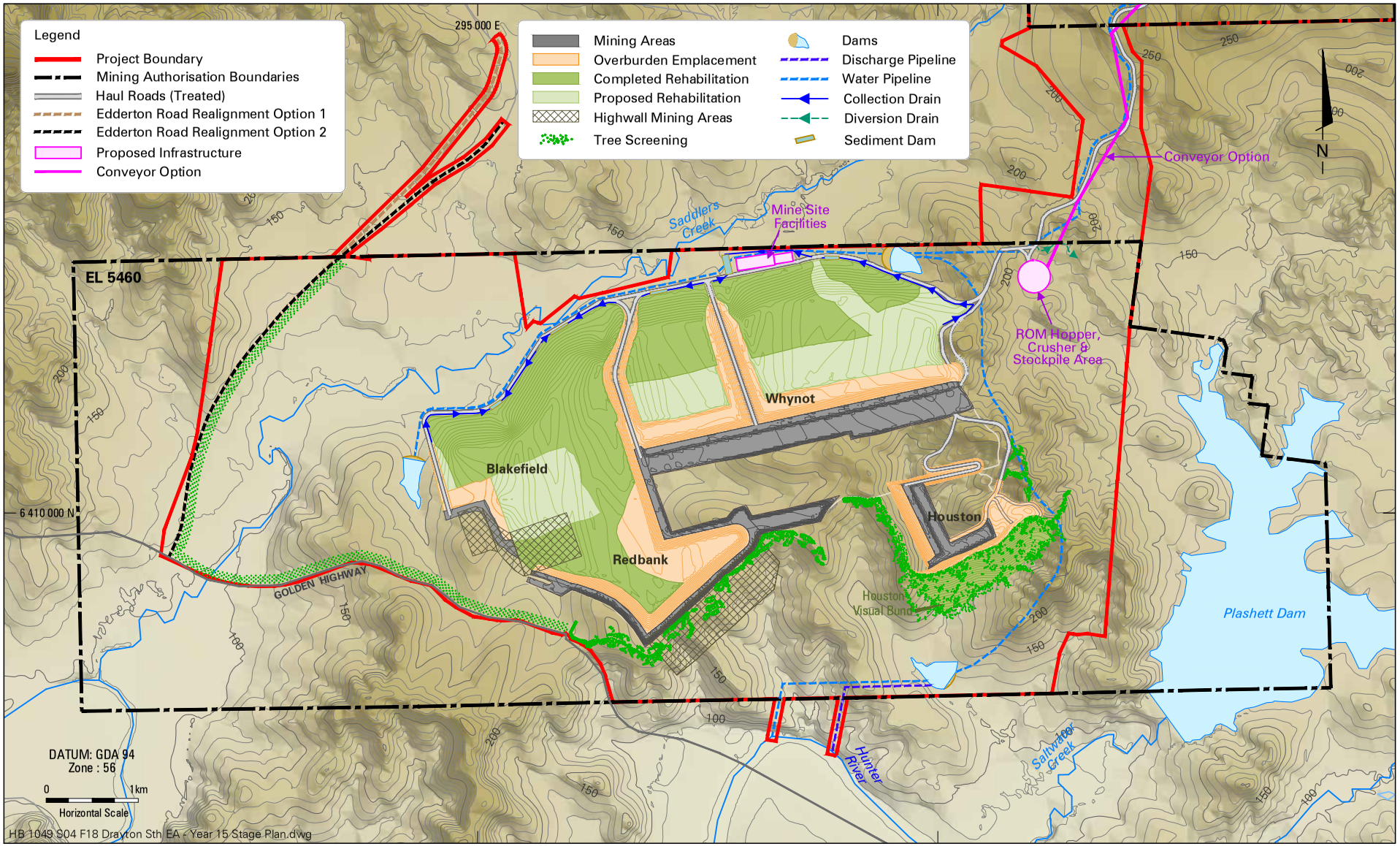
Conceptual Drayton South Year 10 Mine Plan

FIGURE 4



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Conceptual Drayton South Year 15 Mine Plan

FIGURE 5