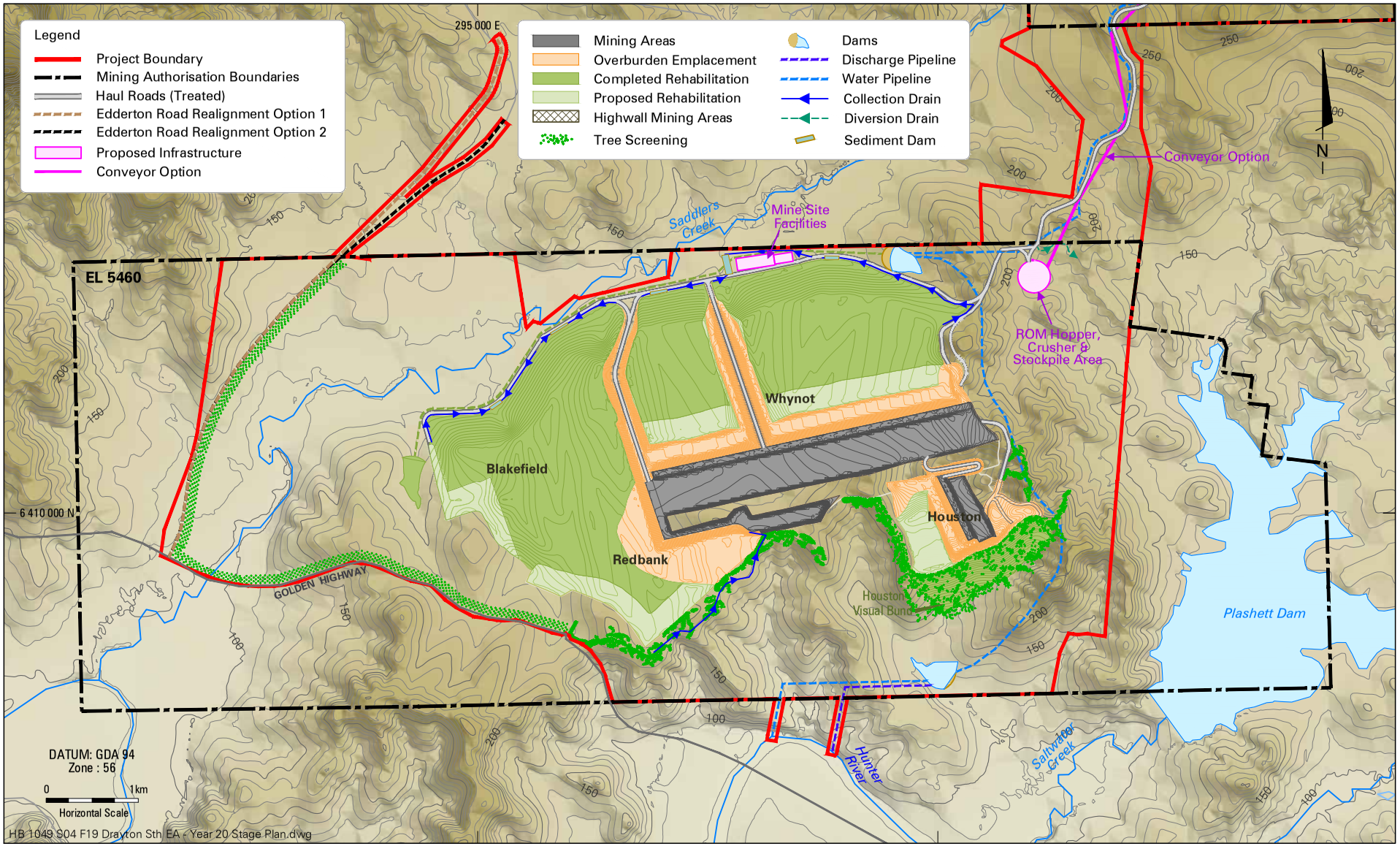

DRAYTON SOUTH COAL PROJECT

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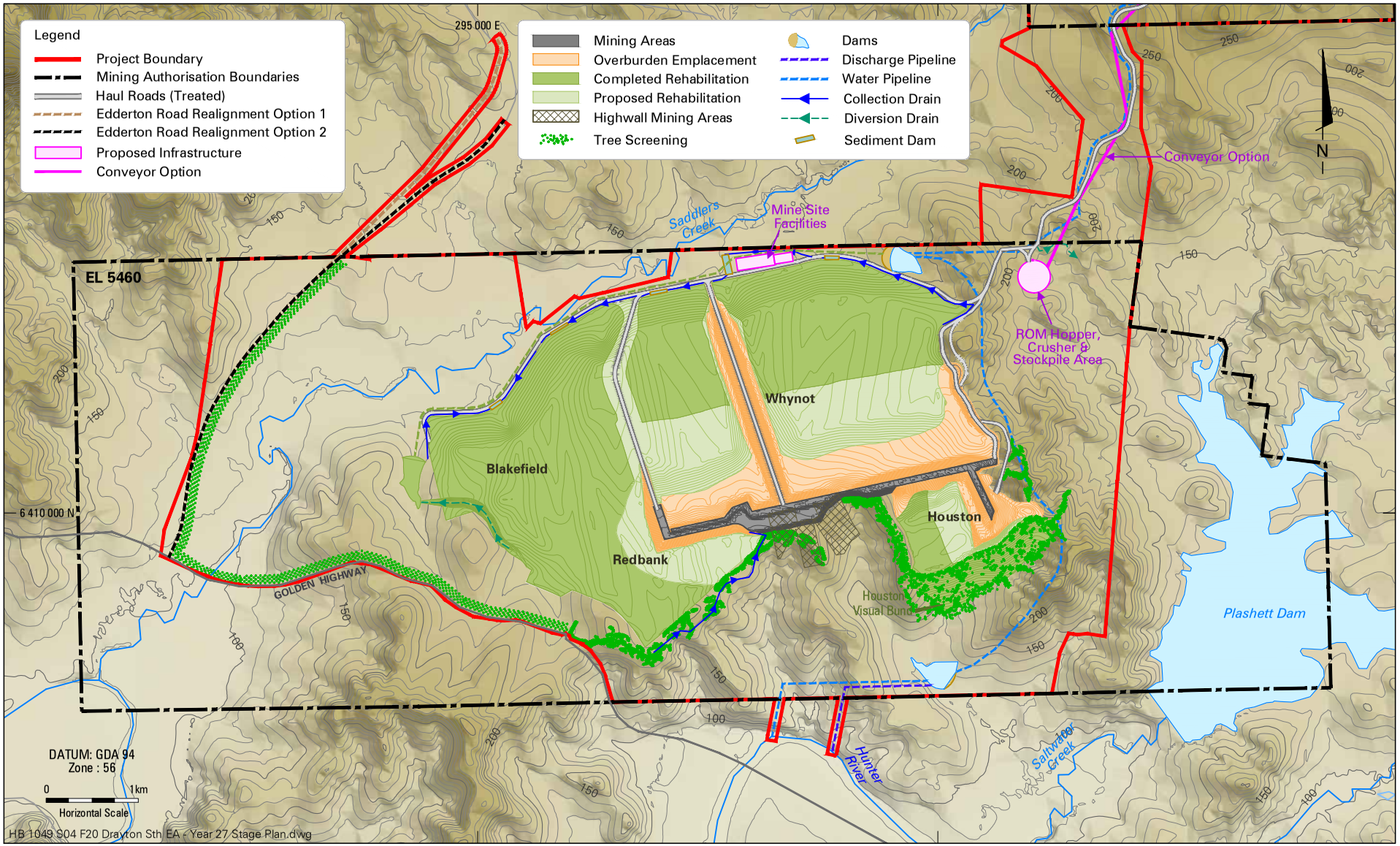
Conceptual Drayton South Year 20 Mine Plan

FIGURE 6



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Conceptual Drayton South Year 27 Mine Plan

FIGURE 7

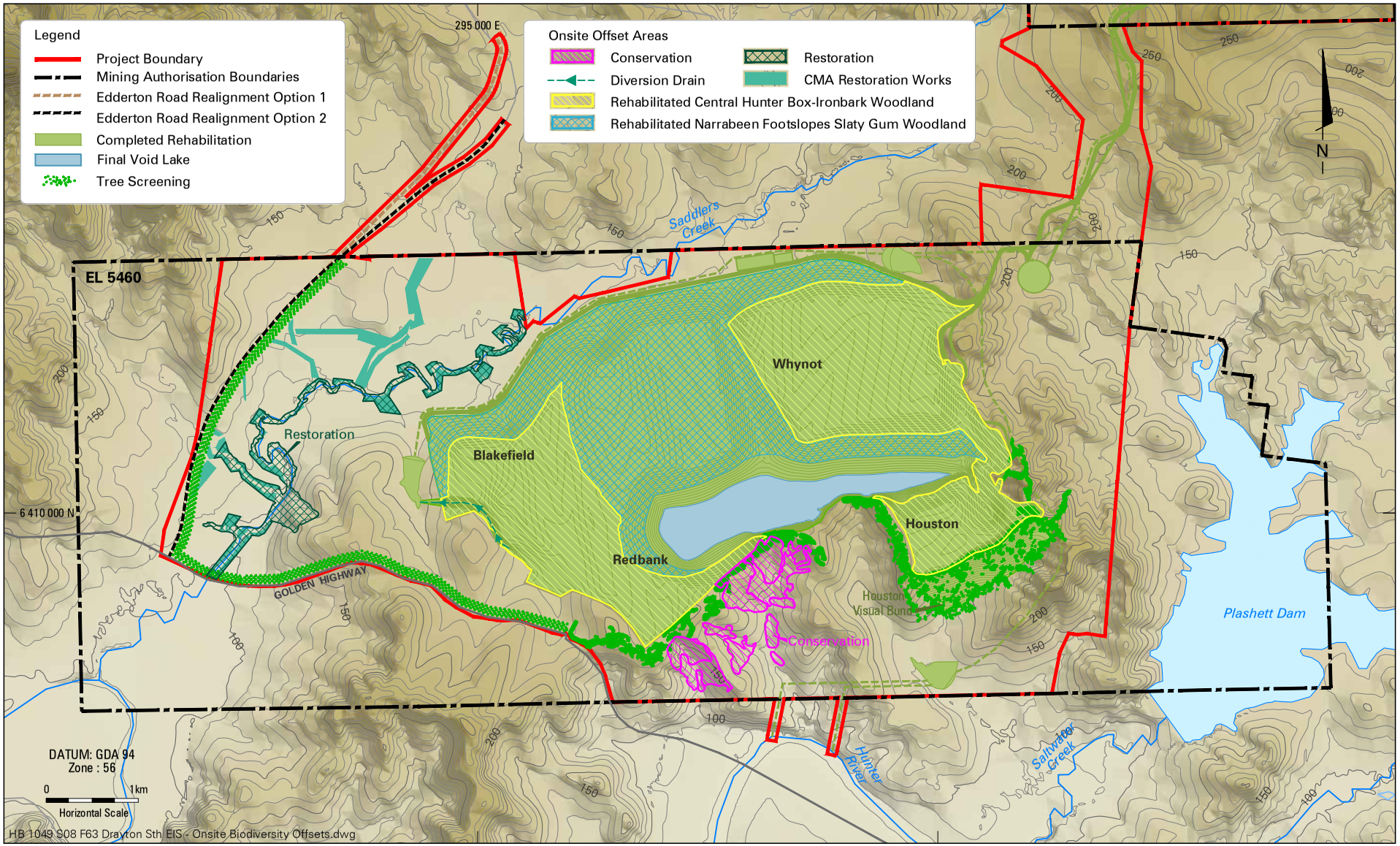
2.4 BIODIVERSITY OFFSET STRATEGIES

The biodiversity offset strategy for the Project has been developed to address the ecological impacts of the Project in a strategic and meaningful way that will deliver a real biodiversity outcome.

The onsite offsets for the Project include:

- Conservation: Retention of 85 ha of existing Central Hunter Box-Ironbark Woodland and Cooba Scrub along the primary ridgeline immediately south of the Drayton South disturbance footprint;
- Rehabilitation: Establish rehabilitated communities of Central Hunter Box-Ironbark Woodland and Narrabeen Footslopes Slaty Box Woodland on the Drayton South disturbance footprint; and
- Restoration: Maintain and improve 24 ha of existing vegetation in partnership with the Catchment Management Authority (CMA) that is situated within the immediate vicinity of Saddlers Creek and restore an additional 62 ha of Hunter Floodplain Red Gum Woodland through planting efforts.

The onsite offset component of the biodiversity offset strategy will concentrate on restoration and conservation efforts on available land within the Project Boundary as shown on **Figure 8**. This is a key focus of this Rehabilitation Strategy.



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Onsite Biodiversity Offsets

FIGURE 8

3 RELEVANT GUIDELINES AND DOCUMENTS

3.1 DRAYTON SOUTH ENVIRONMENTAL ASSESSMENT

The Drayton South Environmental Assessment (EA) dated November 2012, was prepared by Hansen Bailey to support Anglo American's application for Project Approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the Project.

The EA presented the rehabilitation and mine closure strategic framework and conceptual final landform plan for the Project. The EA also committed to the preparation of the following detailed managements plans for the Project (as relevant to rehabilitation) following the grant of Project Approval:

- Rehabilitation and Offset Management Plan;
- Final Void Management Plan; and
- Mine Closure Plan.

3.2 ANGLO AMERICAN MET COAL REHABILITATION STRATEGY GUIDELINE

In June 2012, Anglo American Metallurgical Coal (Met Coal) developed the *Met Coal Rehabilitation Strategy Guideline* which aims to provide each mine site with a process to develop site specific rolling three-year rehabilitation plans and procedures.

Five elements have been defined within the Met Coal rehabilitation strategy (**Figure 9**). The Met Coal rehabilitation strategy document contains a number of commitments relating to each element which have been incorporated in this Rehabilitation Strategy. The Met Coal rehabilitation strategy was endorsed by the CEO on behalf of the Executive Leadership Team in March 2012.

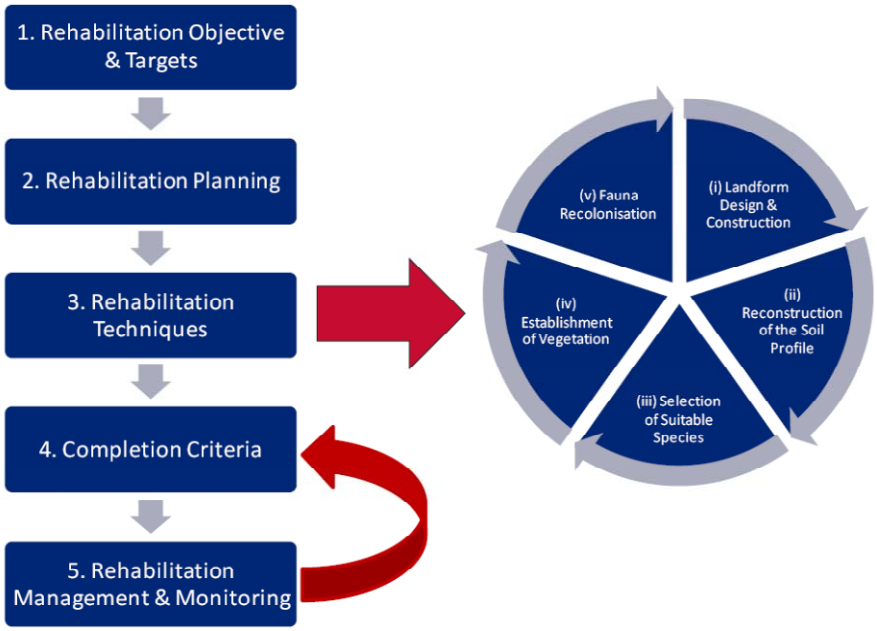

Figure 9
Five elements of the Met Coal Rehabilitation Strategy

3.3 STATUTORY PLANNING INSTRUMENTS

The Project is predominantly located on land zoned as RU1 (Primary Production) under the *Muswellbrook Local Environment Plan 2009* (LEP). The objectives of RU1 (Primary Production) are to:

- *"To encourage sustainable primary industry production by maintaining and enhancing the natural resource base;*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area;*
- *To minimise the fragmentation and alienation of resource lands;*
- *To minimise conflict between land uses within the zone and land uses within adjoining zones;*
- *To protect the agricultural potential of rural land not identified for alternative land use, and to minimise the cost to the community of providing, extending and maintaining public amenities and services;*
- *To maintain the rural landscape character of the land in the long term;*
- *To ensure that development for the purpose of extractive industries, underground mines (other than surface works associated with underground mines) or open cut mines (other than open cut mines from the surface of the floodplain), will not:*
  - *(a) Destroy or impair the agricultural production potential of the land or, in the case of underground mining, unreasonably restrict or otherwise affect any other development on the surface, or*
  - *(b) Detrimentally affect in any way the quantity, flow and quality of water in either subterranean or surface water systems, or*
  - *(c) Visually intrude into its surroundings, except by way of suitable screening.*
- *To protect or conserve (or both):*
  - *(a) Soil stability by controlling development in accordance with land capability, and*
  - *(b) Trees and other vegetation, and*
  - *(c) Water resources, water quality and wetland areas, and their catchments and buffer areas, and*
  - *(d) Valuable deposits of minerals and extractive materials by restricting development that would compromise the efficient extraction of those deposits."*

The conceptual final landform has been designed consistent with the above objectives from the Muswellbrook LEP.

3.4 OTHER RELEVANT GUIDELINES

The following guidelines on mine site rehabilitation and closure are relevant to the Project:

- *Synoptic Plan – Integrated Landscapes for Coal Mine Rehabilitation in the Hunter Valley* (Department of Mineral Resources, 1999);
- *EDG03 – Guidelines to the Mining, Rehabilitation & Environmental Management Process* (NSW Department of Trade and Investment, 2012);
- The *Strategic Framework for Mine Closure* (ANZMEC & MCA, 2000);
- *Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry* (Commonwealth of Australia, 2006); and
- *Mine Closure and Completion - Leading Practice Sustainable Development Program for the Mining Industry* (Commonwealth of Australia, 2006).

Each is discussed briefly below.

3.4.1 Synoptic Plan – Integrated Landscapes for Coal Mine Rehabilitation in the Hunter Valley

The Synoptic Plan was prepared by the then Department of Mineral Resources (now Department of Resources and Energy) in 1999 and provided a comparative look at proposed mining rehabilitation plans of the Hunter Valley in 1998 and 2020 to aid in developing an integrated and holistic approach to land management. The Synoptic Plan identified opportunities to create green corridors between mining rehabilitation areas with native tree planting and to link remnant forest for improved biodiversity outcomes.

The conceptual final landform for the Project aims to provide an integrated landscape consistent with the Synoptic Plan by linking existing woodland with rehabilitation to provide corridors for the movement of flora and fauna.

3.4.2 Guidelines to the Mining Rehabilitation and Environmental Management Process

The *Guidelines to the Mining Rehabilitation and Environmental Management Process* (NSW Department of Trade and Investment – Division of Resources and Energy, 2012) (GMREMP) is designed to "*ensure that all mining operations are safe, the resources are efficiently extracted, the environment is protected and rehabilitation achieves a stable and satisfactory outcome*."

Specifically, the GMREMP provides the following criteria for mine site rehabilitation:

- *"Rehabilitation and rehabilitation outcomes should be consistent with the Environmental Impact Statement;*
- *Based on mine closure criteria and rehabilitation outcomes developed through stakeholder consultation;*

- *Integrates rehabilitated native vegetation with undisturbed native vegetation to provide larger areas and wildlife corridors;*
- *Suitable for an agreed subsequent land use as far as possible compatible with the surrounding land fabric and land use requirements;*
- *Addresses limitations on the use of rehabilitated land;*
- *Sustainable in terms of that land use;*
- *Stable and permanent landforms, with soils, hydrology, and ecosystems with maintenance needs no greater than those of surrounding land;*
- *Securely and safely contain waste substances that have the potential to affect land use or result in pollution;*
- *Not present a hazard to persons, stock or native fauna;*
- *Addresses threatened species issues;*
- *Addresses heritage issues;*
- *Clean and tidy, and free of rubbish, metal and derelict equipment/structures, except for heritage and other agreed features; and*
- *Freedom from unacceptable air and water pollution, and other environmental effect outside the disturbed area."*

3.4.3 Strategic Framework for Mine Closure

The *Strategic Framework for Mine Closure* (Australian and New Zealand Minerals and Energy Council & Minerals Council of Australia, 2000) (SFMC) was developed to promote a nationally consistent management framework for mine closure. The SFMC provides guidelines for the development of a mine closure plan to ensure that all stages of mine closure are conducted appropriately, including stakeholder engagement, development of mine closure methodology, financial planning, and implementation of mine closure. The SFMC also describes the expected standards for mine closure and relinquishment of the mine to a responsible authority.

The main objectives of the SFMC are:

- *"To enable all stakeholders to have their interests considered during the mine closure process;*
- *To ensure the process of closure occurs in an orderly, cost-effective and timely manner;*
- *To ensure the cost of closure is adequately represented in company accounts and that the community is not left with a liability;*
- *To ensure there is clear accountability, and adequate resources, for the implementation of the closure plan;*

- *To establish a set of indicators which will demonstrate the successful completion of the closure process;"* and
- *"To reach a point where the company has met agreed completion criteria to the satisfaction of the Responsible Authority."*

3.4.4 Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry

The aim of *Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry* (NSW Department of Industry, Tourism and Resources, 2006) (MR Handbook) is to provide guidelines to promote 'leading practice' sustainable mine plan and rehabilitation design, considering environmental, economic, and social aspects to support ongoing sustainability of a mining development.

The MR Handbook recommends procedures and mitigation measures that should be considered during mine plan and rehabilitation design, including stakeholder consultation, material and handling, water balance, final landform design, topsoil management, vegetation and fauna habitat re-establishment and rehabilitation, and agriculture / commercial forestry suitability. The MR Handbook also provides relevant mine development case studies supporting the recommended procedures and mitigation measures.

3.4.5 Mine Closure and Completion - Leading Practice Sustainable Development Program for the Mining Industry

The aim of *Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry* (NSW Department of Industry, Tourism and Resources, 2006) (MCC Handbook) is to provide guidelines to promote 'leading practice' sustainable mine closure and completion, minimising any long-term environmental, economic, and social impacts and resulting in a suitable final land form for an agreed land use. Specifically, the MCC Handbook provides that a progressive rehabilitation plan should be developed for mine closure, which ensures:

- *"the post-mined landscape is safe and is stable from physical, geochemical and ecological perspectives;*
- *the quality of the surrounding water resources is protected;*
- *the agreed sustainable post-mining land use is established and clearly defined to the satisfaction of the community and government" and*
- *success criteria are agreed with relevant stakeholders, monitored and reported to stakeholders".*

The MCC Handbook identifies the following aspects which are required to achieve sustainable mine closure:

- *"recognising and addressing the issues that a mining operation needs to consider in its planning for closure and completion;*

- *the development of a risk management approach to mine closure planning that applies from mine concept to post closure and integrated with whole-of-mine-life planning;*
- *the closure activities associated with each step in the mine life cycle including establishment of a progressive rehabilitation system;*
- *the processes and tools that can assist a mining operation achieve good practice in mine closure and completion; and*
- *the need for engagement with communities and regulators in establishing and implementing closure outcomes and practice".*

The MCC Handbook provides procedures and mitigation measures that should be considered during all stages of a mining development to ensure sustainable mine closure, including exploration, feasibility, planning and design, construction / commissioning, operations, decommissioning and closure.

3.5 RELEVANT PLANS & POLICIES

3.5.1 Strategic Regional Land Use Policy – Upper Hunter

In September 2012, the NSW Government released the *Upper Hunter Strategic Regional Land Use Plan* (SRLUP). The SRLUP represents one component of the government's broader Strategic Regional Land Use Policy, which comprises multiple initiatives to address land use conflicts in regional areas, particularly focussed on managing coal mining and coal seam gas issues. While the Upper Hunter region is a highly productive agricultural region (particularly in regard to the equine and viticulture industries), it also has extensive coal and coal seam gas industries. The SRLUP presents strategies and action plans to balance agricultural and mining developments in the Upper Hunter region.

The SRLUP includes maps of the regions mineral resources and areas of Biophysical Strategic Agricultural Land (BSAL) and Equine and Viticulture Critical Industry Clusters (CIC). In particular, Map 6 indicatively identifies whether land is BSAL or CIC. Map 6 indicates an Equine CIC and Viticulture CIC within the Project Boundary but that there is no BSAL.

3.5.2 Muswellbrook Shire Council Land Use Development Strategy

Muswellbrook Shire Council has developed a Land Use Development Strategy (LUDS) to identify the long term strategic direction in relation to the land use and development of the Shire. The LUDS describes strategic directions for coal mining activity in the Shire within the following themes:

- *"Natural environment, including vegetation and revegetation/rehabilitation, water and soil structures, and final landform;*
- *Physical environment, including transport infrastructure;*

- *Managing competing land use, including interaction of coal mining with urban, agriculture, equine, viticulture and tourism activities; and*
- *Socio-economic and other matters."*

The way in which the Project has considered and adopted these key principles is outlined below and addressed in greater detail in the EA:

- Final landform design across the Drayton Complex has been engineered to ensure a successful and safe final landform including sustainable highwalls within the North, South and East pits at Drayton Mine and the final void within the Drayton South area;
- Utilisation of the existing voids at Drayton Mine for tailings and rejects disposal and potential future ash disposal;
- Identification of potential future uses for the final void within the Drayton South area;
- Final landform design to ensure contours will be as natural as possible, developing a free-draining landform. This will ensure the stability of the final void highwalls and will minimise natural erosion and sedimentation;
- The final landform design has incorporated the re-establishment of the pre-disturbance catchment areas as far as practicable; and
- The final void within the Drayton South area will have sufficient freeboard and as such will not require a spillway.