Ravensworth Underground Mine – Longwalls 403 to 406

Land Management Plan Addendum

April 2025

DOCUMENT CONTROL

DOCUMENT DETAILS	**Title**	Longwalls 403-406 Land Management Plan Addendum
	Reference	Ashton Longwalls 403-406 Extraction Plan
	Document Status	Final for Submission

APPROVAL DATE	Revision	Revision Details	Prepared	Date
-	1	Final for Consultation	ACOL	Dec 2024
-	2	Final for Submission	ACOL	Apr 2025

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FIGURES

1 INTRODUCTION AND SCOPE

Ashton Coal Operations Pty Ltd (ACOL), a subsidiary of Yancoal Australia Limited (Yancoal), owns the Ashton Coal Project (ACP), an underground coal mine located approximately 14 kilometres north-west of Singleton in the Hunter Valley in New South Wales (NSW) (**Figure 1**). Development of the underground mine commenced in December 2005 and is accessed through the southern wall of the Arties Pit under the New England Highway.

The ACP was granted consent on 11 October 2002 by the Minister of Planning pursuant to the provisions of the *Environmental Planning and Assessment Act 1979* (DA 309-11-2001-i). The consolidated Development Consent has been modified on eleven occasions, with the most recent amendment approved on 6 July 2022. The most recent amendment allows ACOL to access and mine coal resources at the Ravensworth Underground Mine (RUM) that are approved to be mined under Development Consent DA 104/96. The RUM is approved to produce up to 7 million tonnes per annum (Mtpa) of run of mine (ROM) coal and operate until 2032.

The RUM is approved for multi-seam longwall extraction, targeting two coal seams in descending order (Pikes Gully [PG] and Middle Liddell [MLD]) (**Figure 2**). Development Consent DA 104/96 approved mining by ACOL of six panels in the PG Seam and five panels in the MLD Seam. Following further detailed studies on the extraction layout, ACOL has decided to not mine Longwalls 401 and 402 in the PG Seam.

ACOL has prepared an Extraction Plan for mining of Longwalls 403 to 406 in the PG Seam of the RUM (**Figure 3**), varying between 177 metres and 312 metres below the surface. Proposed mining of Longwalls 403 to 406 is due to commence approximately September 2025 and is planned to take place over a three-year period.

The **Study Area** (**Figure 3**) is generally determined as the area within a distance equal to an angle of draw measured form the outermost goaf edge of the planned longwall panel voids of:

- 45° (1 times depth of cover) over waste rock fill material; or
- 26.5° (0.5 times depth of cover) over natural ground.

This Addendum references the relevant sections of the currently approved *Biodiversity Management Plan* (Ashton Coal Operations Pty Ltd [ACOL], 2020), the *Ashton Coal Project Forward Program 31 December 2023 – 30 December 2026* (Forward Program) (ACOL, 2024a) and the *Ashton Coal Project Rehabilitation Management Plan* (ACOL RMP) (ACOL, 2024b) to ensure the requirements of the Extraction Plan are met. Due to the mine layout, a standalone document has not been prepared as the impacts associated with the Extraction Plan are addressed in the existing site wide management plans.

Source: NSW Spatial Services (2023)

LEGEND

- Mining Operation
- Local Government Area
- State Forest
- National Parks and Wildlife Estate
- Ravensworth Underground Mine
- Ashton Mine Complex
- Longwalls 403 to 406 Study Area

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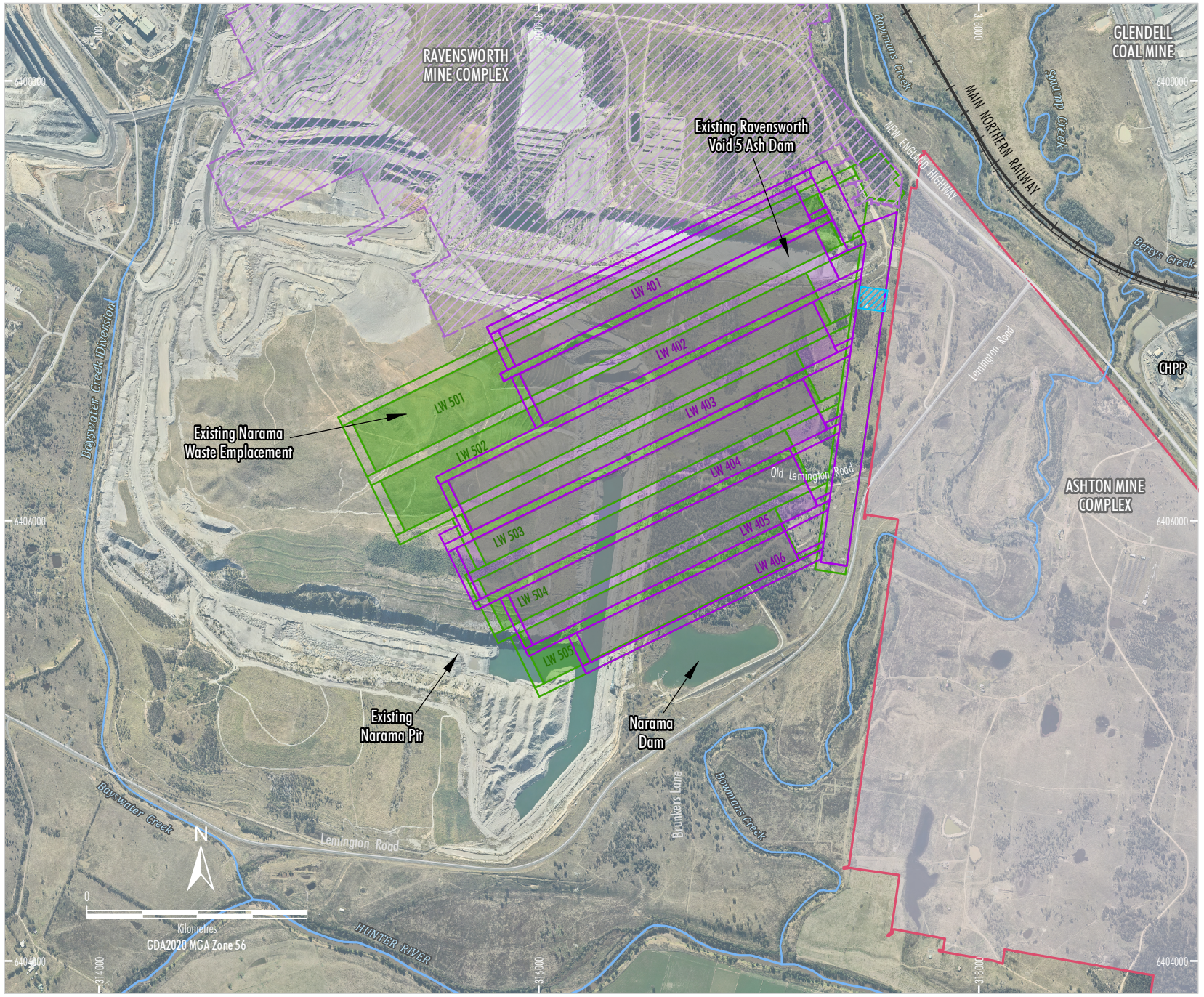
RAVENSWORTH UNDERGROUND MINE
LONGWALLS 403 TO 406 EXTRACTION PLAN

Regional Location

Figure 1

ACO-18-03A LW403-406_EP_MT_203A



LEGEND

- Completed Pikes Gully Seam Workings
- Existing Shaft 5 Location
- Indicative Pikes Gully Seam Longwall Layout
- Indicative Middle Liddell Seam Longwall Layout
- Ashton Underground Mine

Source: SCT (2021); NSW Spatial Services (2023)
Orthophoto: Ravensworth Mine Complex (2021)

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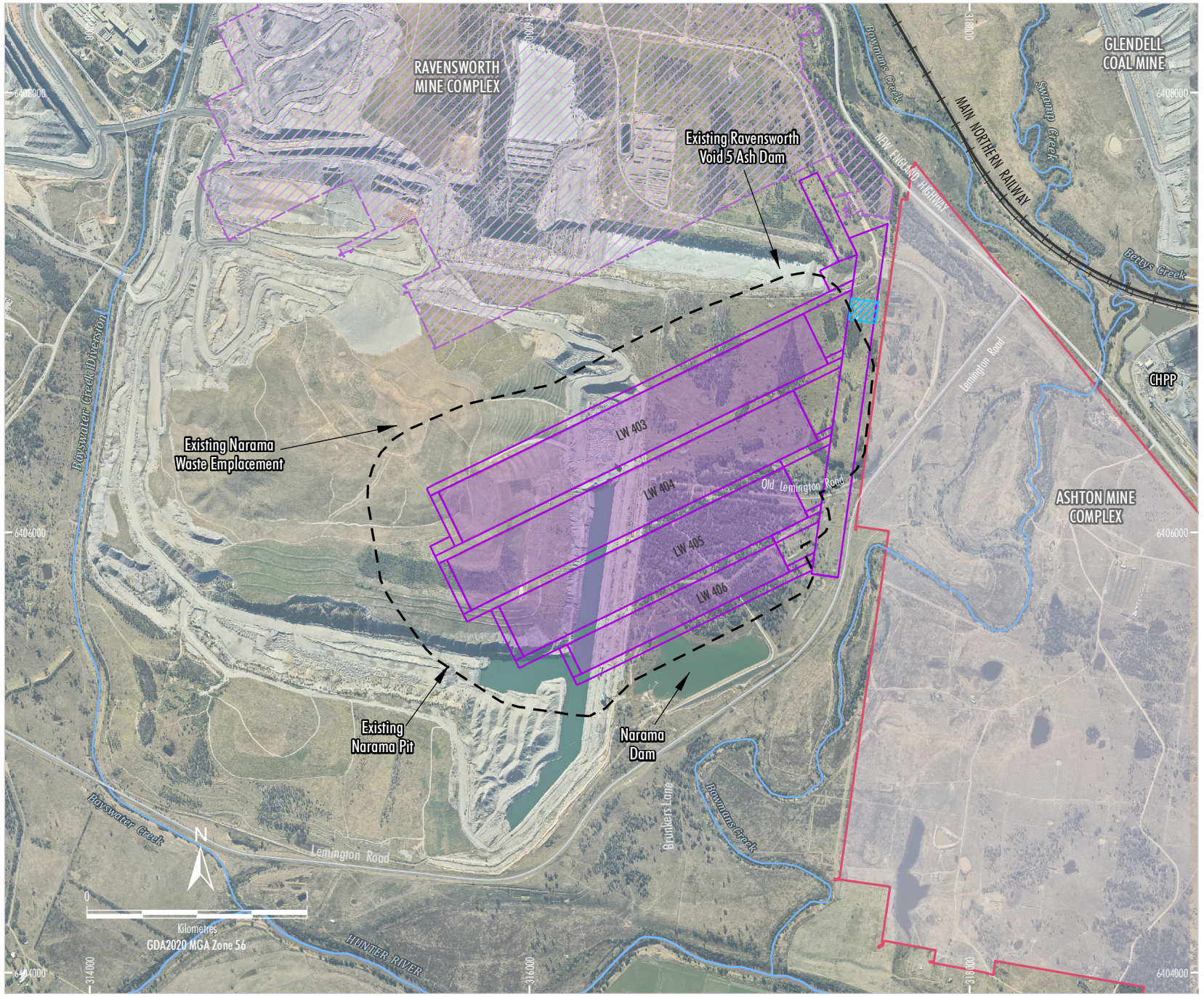
RAVENSWORTH UNDERGROUND MINE
LONGWALLS 403 TO 406 EXTRACTION PLAN

Ravensworth Underground Mine
Approved General Arrangement

Figure 2

ACO-18-03A LW403-406_EP_MT_201A



LEGEND

- Completed Pikes Gully Seam Workings
- Existing Shaft 5 Location
- Pikes Gully Seam Longwall Layout
- Ashton Underground Mine
- Longwalls 403 to 406 Study Area

Source: SCT (2021); NSW Spatial Services (2023)
Orthophoto: Ravensworth Mine Complex (2021)

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RAVENSWORTH UNDERGROUND MINE
LONGWALLS 403 TO 406 EXTRACTION PLAN

Pikes Gully Seam Longwall Layout

Figure 3

2 PREDICTED IMPACTS

This Addendum addresses potential subsidence impacts to land from underground mining (secondary extraction) of Longwalls 403 to 406 in the Pikes Gully Seam only.

2.1 PREDICTED SUBSIDENCE

See **Section 4** of the Extraction Plan Main Text for a detailed description of the predicted subsidence impacts.

In summary, SCT (2024) predicts that the maximum vertical subsidence will range from 1.6 metres (m) to 3.3 m. Tilts are predicted to range from 50 millimetres per metre (mm/m) to 60 mm/m. Strains are predicted to range from 25 mm/m to 30 mm/m.

The estimated values subsidence effects for the Longwalls 403 to 406 Extraction Plan are similar with those forecast in the previous assessments for approval modification (SCT, 2024).

SCT (2024) concluded that subsidence impacts to the limited natural, heritage and built features within and surrounding Longwalls 403 to 406 of the Ravensworth Underground Mine are expected to be generally minor and manageable with appropriate management plans in place following consultation and agreement with asset and landowners.

2.2 PREDICTED IMPACTS TO LAND

The predicted impacts to water and biodiversity are outlined in the Water Management Plan, and the Biodiversity Management Plan, respectively. The below sections summarise the predicted impacts to land in general overlying the Longwalls 403 to 406 Study Area.

2.2.1 Land Overlying Longwalls 403 to 406

A large portion of the surface above the planned layout for Longwalls 403 to 406 has been significantly modified by previous open cut mining or activities associated with mining and power generation (SCT, 2024). Only the section of surface in the southeast of the Study Area is natural ground where the overburden strata has not been disturbed or modified by the previous open cut and underground mining (SCT, 2024). SCT (2024) reviewed the surface topography within the Study Area and surrounds, and concluded that:

- Some cracking is expected along the top of exposed eastern highwall in the vicinity of the proposed longwall panels. This cracking may allow ingress of surface runoff causing localised slope instability.
- Impacts from subsidence are expected to include cracks and changes in gradient affecting drainage with the potential for very minor ponding. All impacts are expected to be repairable with minor earthworks due to the existing surface gradients.
- There is the potential for subsidence to increase the storage volume of farm dams, which would be retained post-mining.

As described in the RMP (ACOL, 2024b), environmental monitoring undertaken in accordance with ACOL Environmental Management Plans will identify areas of ponding in the Study Area. Mitigation and remediation measures will be implemented as required. The strategies required may be different for each area of ponding and may include:

- Cuts in the humps above each of the chain pillars where practical.
- Creation of drainage channels where practical.

Further assessment would be undertaken to evaluate the options for each area, once identified.

3 LAND MANAGEMENT GAP ANALYSIS

The following gap analysis demonstrates where the requirements of the Extraction Plan Guidelines are covered within the existing approved RMP or Biodiversity Management Plan.

Table 1 has been completed rather than repeating information in a separate Management Plan document.

Table 1. Land Management Plan – Gap Analysis

Aspect	Section/Comment
Overview of all landscape features, heritage sites, environmental values, built features or other values to be managed under the component plan;	Overall Forward Program. ACOL Biodiversity Management Plan **Section 4.2.** SCT (2024) Subsidence Assessment **Section 5.**
Setting out all performance measures included in the development consent relevant to the features or values to be managed under the component plan;	ACOL Biodiversity Management Plan **Section 4.1.**
Setting out clear objectives to ensure the delivery of the performance measures and all other relevant statutory requirements (including relevant safety legislation);	ACOL Biodiversity Management Plan **Section 2.2.**
Proposing performance indicators to establish compliance with these performance measures and statutory requirements;	ACOL Biodiversity and Fauna Management Plan **Section 4.1.** EcoLogical Australia (2024) *Ravensworth Underground Mine LW403-406 Biodiversity Review* **Section 3.**
Describing the landscape features, heritage sites and environmental values to be managed under the component plan, and their significance. It should be noted that a full description of such features, sites and values would commonly have been provided and considered in a recent environmental impact assessment. Consequently, this section can be relatively brief, and focus on the presentation of appropriate figures and/or graphical plans;	ACOL Biodiversity Management Plan **Section 4.** SCT (2024) Subsidence Assessment **Section 5.** EcoLogical Australia (2024) *Ravensworth Underground Mine LW403-406 Biodiversity Review* **Section 2.**
Fully describing all currently-predicted subsidence impacts and environmental consequences relevant to the features, sites and values to be managed under the component plan;	This document **Section 2.1.** SCT (2024) Subsidence Assessment **Section 4.**
Fully describing all measures planned to remediate these impacts and/or consequences, including any measures proposed to ensure that impacts and/or consequences comply with performance measures and/or the Applicant's commitments;	ACOL Biodiversity Management Plan **Section 4.** ACOL RMP **Section 6.**

Aspect	Section/Comment
Describing the existing baseline monitoring network and the current baseline monitoring results, including pre-subsidence photographic surveys of key landscape features and key heritage sites which may be subject to significant subsidence impacts (such as significant watercourses, swamps and Aboriginal heritage sites);	ACOL Biodiversity Management Plan **Section 4**.
Fully describing the proposed monitoring of subsidence impacts and environmental consequences;	Extraction Plan **Section 4.** ACOL Biodiversity Management Plan **Section 4.3.** Subsidence Monitoring Program.
Describing the proposed monitoring of the success of remediation measures following implementation;	ACOL Biodiversity Management Plan **Section 4.3**.
Fully describing adaptive management proposed to avoid repetition of unpredicted subsidence impacts and/or environmental consequences;	ACOL Biodiversity Management Plan **Section 4.7.** RMP **Section 10**.
Fully describing contingency plans proposed to prevent, mitigate or remediate subsidence impacts and/or environmental consequences which Substantially exceed predictions or which exceed performance measures;	ACOL Biodiversity Management Plan **Section 4.7.**
Listing responsibilities for implementation of the plan; and	ACOL Biodiversity Management Plan **Section 3.**
An attached Trigger, Action, Response Plan (effectively a tabular summary of most of the above).	ACOL Biodiversity Management Plan **Section 4.6.**

4 REFERENCES

Ashton Coal Operations Pty Ltd (2020) *Ashton Coal Project Biodiversity Management Plan*.

Ashton Coal Operations Pty Ltd (2024a) *Ashton Coal Project Forward Program 31 December 2023 – 30 December 2026*.

Ashton Coal Operations Pty Ltd (2024b) *Ashton Coal Project Rehabilitation Management Plan.*

EcoLogical Australia (2024) *Ravensworth Underground Mine LW403-406 Biodiversity Review*. Prepared for Ashton Coal Operations Pty Ltd.

SCT Operations Pty Limited (2024) S*ubsidence Assessment for the Extraction Plan for Longwalls 403 – 406 in the Pikes Gully Seam*, Report Number ASH5749.