

WAMBO COAL PTY LIMITED



SOUTH BATES EXTENSION UNDERGROUND MINE

EXTRACTION PLAN LONGWALLS 24 TO 26

APPENDIX E BUILT FEATURES MANAGEMENT PLAN

WAMBO COAL PTY LIMITED
SOUTH BATES EXTENSION UNDERGROUND MINE

BUILT FEATURES MANAGEMENT PLAN
LONGWALLS 24 - 26



PREPARED BY
WAMBO COAL PTY LIMITED AND
RESOURCE STRATEGIES PTY LTD

November 2024
Project No. WAM-09-15
Document No. 01253755

RELEVANT STAKEHOLDERS

This Built Features Management Plan provides a summary of the management plan prepared for assets relevant to Wambo Coal Pty Limited. Wambo Coal Pty Limited is the only relevant stakeholder as there are no built features owned or operated by other parties.

DOCUMENT CONTROL

Document No.	BFMP LW24-26
Title	Built Features Management Plan for South Bates Extension Underground Mine Longwalls 24 to 26
General Description	Management of potential subsidence impacts and/or environmental consequences on all public infrastructure and all classes of other built features for mining of Longwalls 24 to 26 at the South Bates Extension Underground Mine

Revisions

Rev No	Date	Description	By	Checked
A	June 2023	Final for Submission	WCPL and Resource Strategies	P. Jaeger
B	October 2023	Minor changes to incorporate agency consultation comments and DPE comments	WCPL and Resource Strategies	-
C	November 2023	Minor revisions to incorporate additional DPE comments	WCPL and Resource Strategies	-
D	November 2024	Updated to include revised mine layout of Longwalls 24-26	WCPL and Resource Strategies	-

The nominated Coordinator for this document is	Technical Services Superintendent
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1 INTRODUCTION

The Wambo Coal Mine is an open cut and underground coal mining operation located approximately 15 kilometres (km) west of Singleton, near the village of Warkworth, New South Wales (NSW) (**Figure 1**). The Wambo Coal Mine is owned and operated by Wambo Coal Pty Limited (WCPL), a subsidiary of Peabody Energy Australia Pty Limited.

The potential environmental impacts of the existing Wambo Coal Mine were assessed in the *Wambo Development Project Environmental Impact Statement* (WCPL, 2003). Development Consent DA 305-7-2003 for the Wambo Coal Mine was granted on 4 February 2004 by the then NSW Minister for Urban Affairs and Planning under Part 4 of the NSW *Environmental Planning and Assessment Act, 1979*.

The South Bates Extension Underground Mine is a component of the approved Wambo Coal Mine. An application to modify the Development Consent (DA 305-7-2003 MOD 19) to allow for the optimisation and continued operations of the South Bates Extension Underground Mine through the reorientation of Longwalls 24 and 25, and the addition of Longwall 26 (WCPL, 2022) was approved on 25 January 2023. The application was accompanied by the *Longwall 24 to 26 Modification* (Modification 19) Modification Report (WCPL, 2022).

The South Bates Extension Underground Mine commenced in Longwall 17 in December 2018 and involves extraction of coal by longwall mining methods from the Whybrow Seam within Coal Lease (CL) 397, Mining Lease (ML) 1594, ML 1572, ML 1806 and **ML 1873** (**Figure 1**).

1.1 PURPOSE AND SCOPE

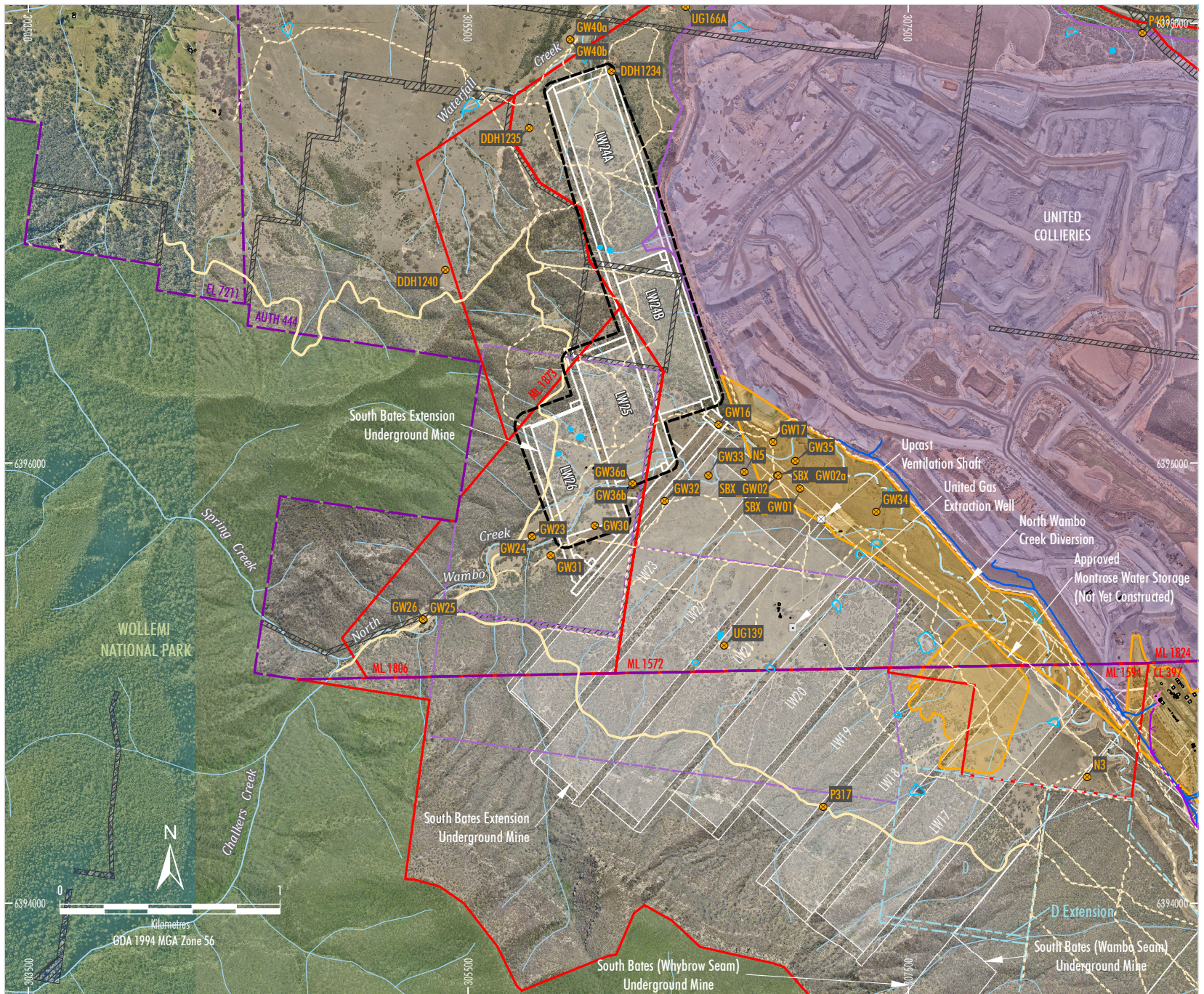
Purpose: This Built Features Management Plan (BFMP) for Longwalls 24 to 26 outlines the management of all items of public infrastructure and all classes of other built features for the proposed secondary workings described in the Extraction Plan.

Scope: This BFMP covers all items of public infrastructure and all classes of other built features within the Longwalls 24 to 26 Application Area (**Figure 1**).

This BFMP has been prepared in accordance with Condition B7(e) of Schedule 2 of the Development Consent (DA 305-7-2003) as a component of the South Bates Extension Underground Mine Longwalls 24 to 26 Extraction Plan.

This BFMP has been prepared by WCPL with assistance from Resource Strategies. The appointment of the team of suitably qualified and experienced experts (which includes representatives from WCPL, Mine Subsidence Engineering Consultants [MSEC] and Resource Strategies) has been endorsed by the Secretary of the NSW Department of Planning and Environment (DPE).

The Longwalls 24 to 26 Application Area is located wholly within WCPL-owned (**Figure 1**). No items of public infrastructure are located within the Longwalls 24 to 26 Application Area and therefore this BFMP applies to WCPL-owned built features only.



- LEGEND**
- National Park
 - Crown Road
 - SSD 7142 Operational Area #
 - Biodiversity Stewardship Site under SSD 7142
 - Wambo Coal Mine
 - Exploration Licence Boundary (AUTH, EL)
 - Mining and Coal Lease Boundary (ML, CL, CCL)
 - Remnant Woodland Enhancement Program (RWEF) Area
 - Existing/Approved Wambo Coal Mine Surface Development Area
 - Ventilation Shaft
 - Existing/Approved Underground Development
 - Extraction Plan Application Area
 - 11 kV Power Line
 - 11 kV Power Line Buried
 - Surface Water Supply/Dewatering Pipeline
 - Fire Trail
 - Access Track
 - Buildings
 - Groundwater Monitoring Sites

Under Phase 2 of mining at Wambo Coal Mine (commenced 1 December 2020), this area is operated by United Collieries Pty Ltd under the United Wambo Joint Venture Project.

Source: WCPL (2024); MSEC (2024); NSW Spatial Services (2024)
 Orthophoto: WCPL (Nov 2023)

Peabody
 W A M B O C O A L M I N E
 Location of Built Features

Figure 1

1.2 ABBREVIATIONS AND ACRONYMS

BFMP	Built Features Management Plan	MSEC	Mine Subsidence Engineering Consultants
CCC	Community Consultative Committee	NSW	New South Wales
CL	Coal Lease	BCD	Biodiversity and Conservation Division
DPE-Water	NSW Department of Planning and Environment – Water	WAMP	WCPL Asset Management Plan
DPE	NSW Department of Planning and Environment	WCPL	Wambo Coal Pty Limited
km	kilometre		
ML	Mining Lease		

1.3 STRUCTURE OF THE BUILT FEATURES MANAGEMENT PLAN

This BFMP forms part of WCPL’s Environmental Management System for the Wambo Coal Mine and includes a WCPL Asset Management Plan for Longwalls 24 to 26 (WAMP) (component plan), provided in **Attachment 1**.

The relationship of this BFMP to the Wambo Coal Mine Environmental Management System is shown on **Figure 2**.

The Longwalls 24 to 26 Application Area does not intersect the Notification Area of any Prescribed Dam gazetted under the *Dams Safety Act, 1978* (**Figure 3**).

2 BUILT FEATURES

A number of WCPL-owned built features are located within, or in the vicinity of, the Longwalls 24 to 26 Application Area as indicated in **Figure 1**. Monitoring and management measures have been developed for each of these built features and are detailed in the WAMP as summarised in **Table 1**. WCPL owns all assets within the Longwalls 24 to 26 Application Area.

The Longwalls 24 to 26 Application Area is located wholly within the Patrick Plains Mine Subsidence District (proclaimed 2 July 1980 and revised on 7 July 2017). Wells, fences, gates and tracks are the only man-made structures in the Longwalls 24 to 26 Application Area known to have been constructed prior to declaration of the Mine Subsidence District.

The North Wambo Creek Diversion is located outside the Longwalls 24 to 26 Application Area and is not anticipated to experience direct subsidence impacts due to the mining of the proposed longwalls. North Wambo Creek is located directly above the Longwalls 25 and 26 and ephemeral drainage lines are located across the Study Area.

The Longwalls 24 to 26 Application Area is wholly within WCPL-owned land and there are no relevant developments within the Longwalls 24 to 26 Application Area proposed by other parties.

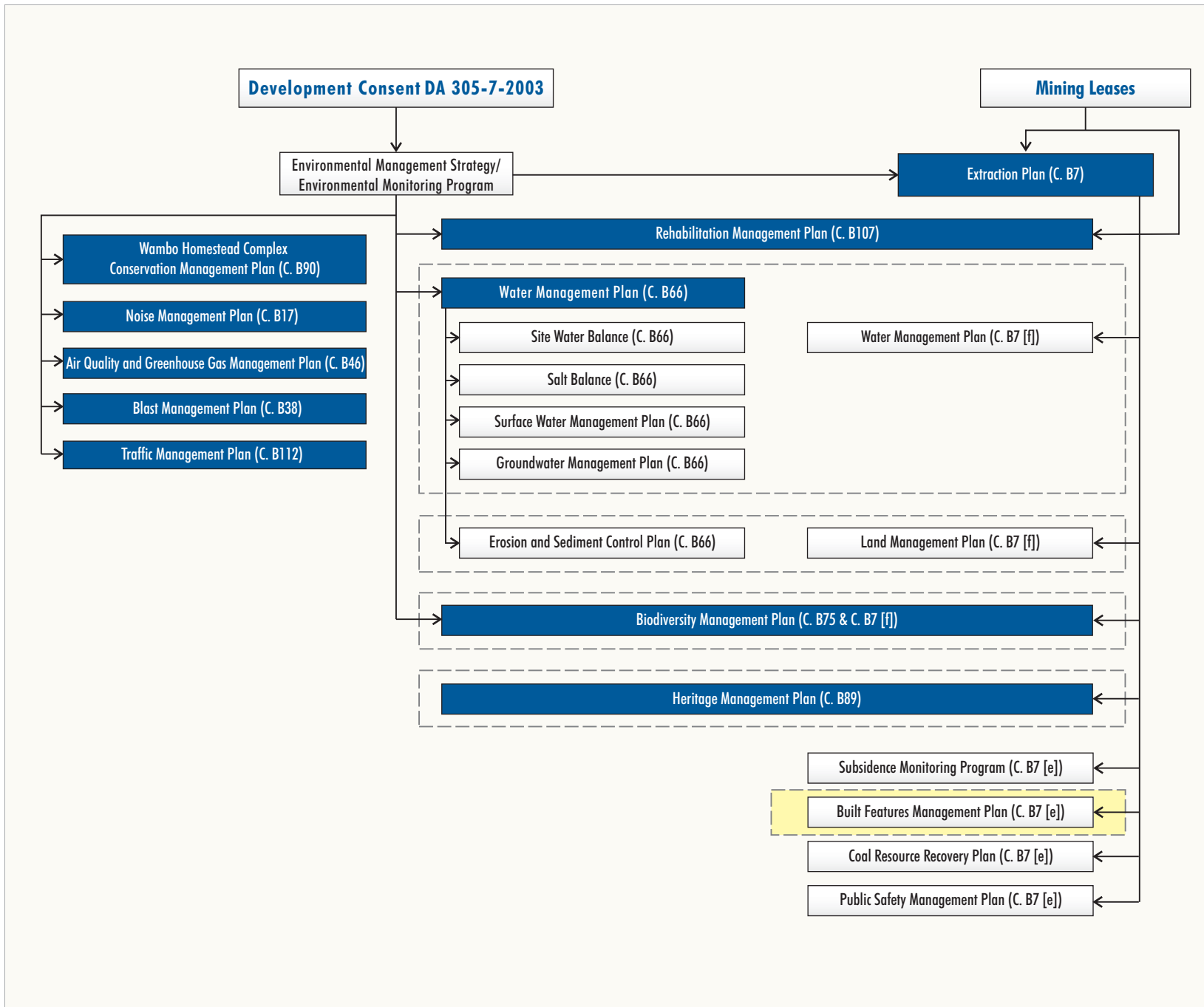
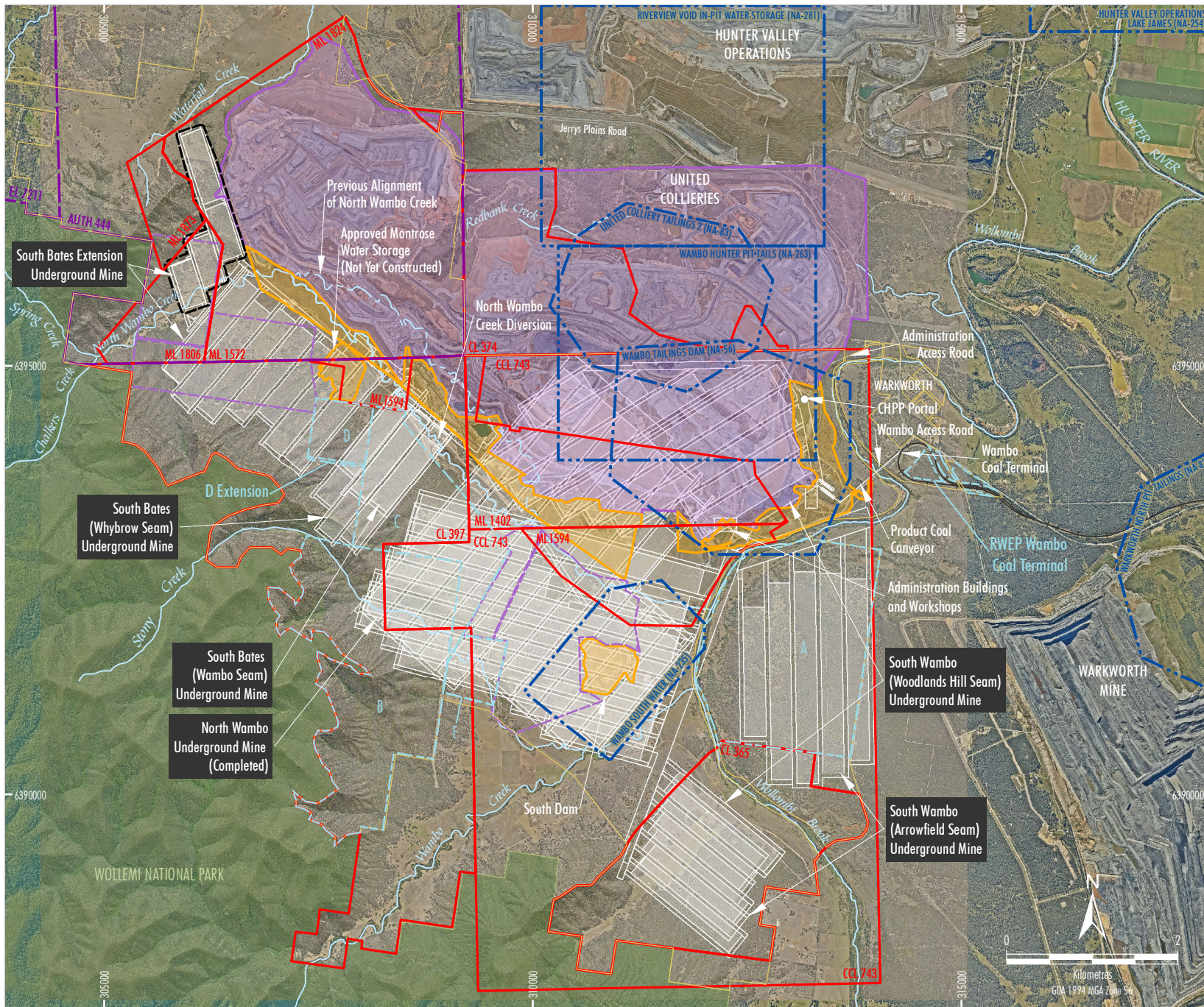


Figure 2



- LEGEND**
- National Park
 - Prescribed Dam Notification Area
 - SSD 7142 Operational Area #
 - Biodiversity Stewardship Site under SSD 7142
 - WCPL Owned Land
 - Wambo Coal Mine
 - Exploration Licence Boundary (AUTH, EL)
 - Mining and Coal Lease Boundary (ML, CL, CCL)
 - Remnant Woodland Enhancement Program (RWEPA) Area
 - Existing/Approved Wambo Coal Mine Surface Development Area
 - Existing/Approved Underground Development
 - Extraction Plan Application Area

Under Phase 2 of mining at Wambo Coal Mine (commenced 1 December 2020), this area is operated by United Collieries Pty Ltd under the United Wambo Joint Venture Project.

Source: WCPL (2024); MSEC (2024); Dams Safety NSW (2023); NSW Spatial Services (2024)
 Orthophoto: WCPL (Nov 2023-May 2022)

Peabody
 W A M B O C O A L M I N E
 Notification Areas
 under the Dams Safety Act, 1978

Figure 3

Table 1
Summary of Built Features within the Longwalls 24 to 26 Application Area

Built Feature	Relevant Stakeholder	Component Plan
Montrose West Open Cut Pit walls and emplacement areas	WCPL	WAMP (Attachment 1)
Exploration bores and gas wells	WCPL	WAMP (Attachment 1)
Groundwater monitoring bores	WCPL	WAMP (Attachment 1)
Fences	WCPL	WAMP (Attachment 1)
Farm dams	WCPL	WAMP (Attachment 1)
Roads (all types)	WCPL	WAMP (Attachment 1)
Drainage culverts	WCPL	WAMP (Attachment 1)
Farm buildings or sheds	WCPL	WAMP (Attachment 1)
Tanks	WCPL	WAMP (Attachment 1)

There are no State survey control marks in the Longwalls 24 to 26 Application Area (MSEC, 2024).

3 PERFORMANCE MEASURES

The performance measures specified in Table 2 of Schedule 2 of the Development Consent (DA 305-7-2003) relevant to built features are listed in **Table 2**.

Table 2
Built Features Performance Measures

Feature	Subsidence Impact Performance Measure
All built features (including public infrastructure and all structures on privately-owned land)	Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.

Source: Table 2 of Schedule 2 of the Development Consent (DA 305-7-2003).

In accordance with Condition B4 of Schedule 2 of the Development Consent (DA 305-7-2003), WCPL must ensure that underground mining operations comply with the performance measures listed in Table 2 of Schedule 2 of the Development Consent (DA 305-7-2003).

Performance indicators for the performance measures relating to the built features within the Longwalls 24 to 26 Application Area are presented in the relevant component plan of this BFMP as summarised in **Table 1**. The assessment of the secondary extraction of Longwalls 24 to 26 against the performance indicators for the performance measures for built features will be undertaken in accordance with the relevant component plan of this BFMP.

4 LEGAL REQUIREMENTS AND GUIDELINES

The Development Consent (DA 305-7-2003) includes provisions for dispute resolution between WCPL and the owner of any built feature over the interpretation, application or implementation of the performance measures listed in **Table 2**. Specifically, Condition B5 of Schedule 2 of the Development Consent (DA 305-7-2003) states:

Any dispute between the Applicant and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 2 is to be settled by the Planning Secretary, following consultation with the Resources Regulator. Any decision by the Planning Secretary shall be final

Additional requirements under WCPL mining tenements in regard to built features within the Longwalls 24 to 26 Application Area are addressed in Attachment 1 of the Extraction Plan.

5 SUBSIDENCE PREDICTIONS

Predictions of subsidence effects for Longwalls 24 to 26 were developed by MSEC (2024). The maximum subsidence, tilts and curvatures predicted for Longwalls 24 to 26 are summarised in **Table 3** and the location of predicted subsidence is presented in **Figure 4**.

Table 3
Maximum Predicted Subsidence, Tilt and Strains for Longwalls 24 to 26

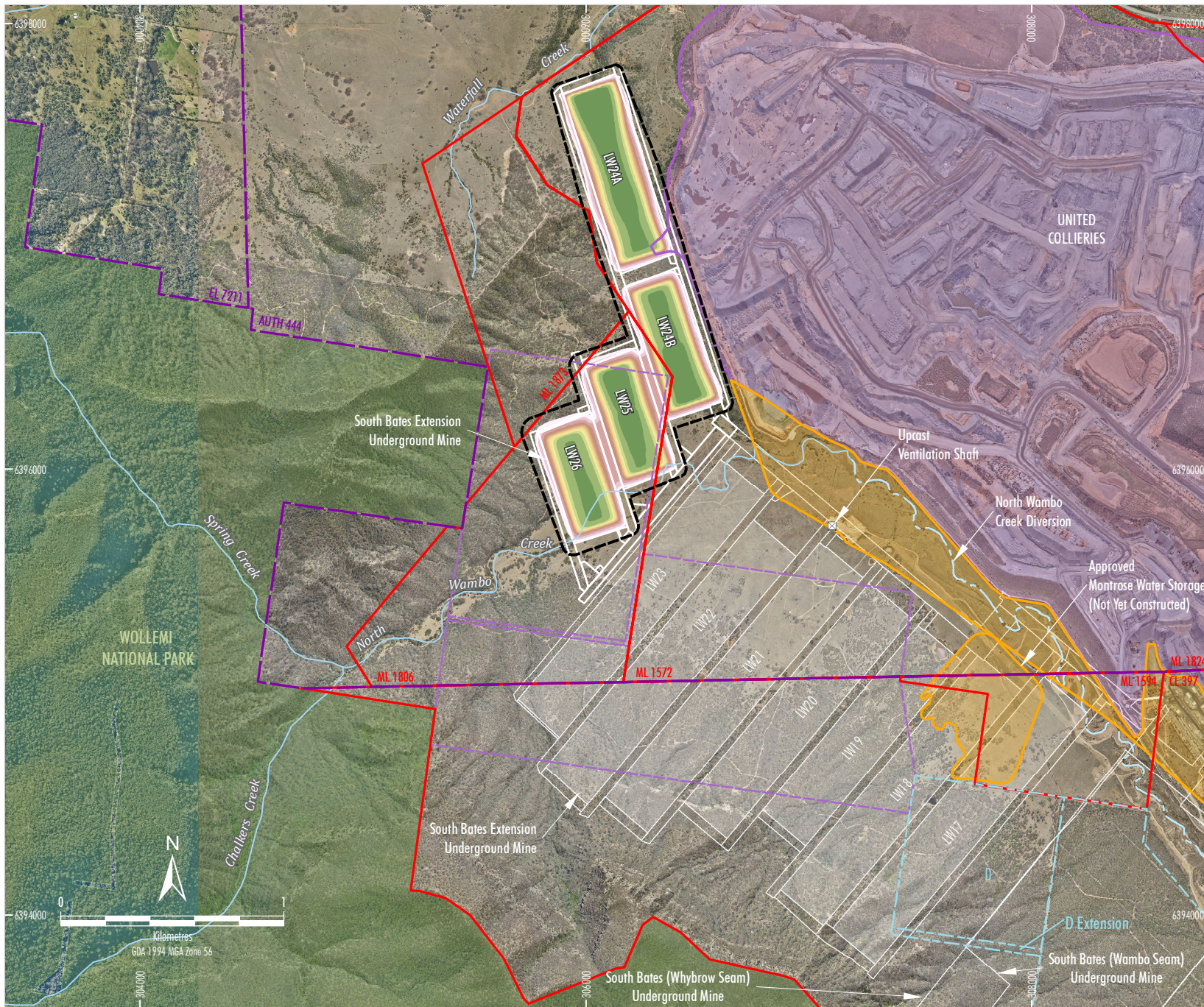
Subsidence Parameter	Maximum Values Predicted Anywhere Above the Longwalls
Maximum Subsidence (mm)	1,950
Maximum Tilt (mm/m)	75
Maximum Hogging Curvature (km ⁻¹)	> 3.0
Maximum Sagging Curvature (km ⁻¹)	> 3.0

Source: MSEC (2024).

mm = millimetre.

mm/m = millimetres per metre.

km⁻¹ = per kilometre.



- LEGEND**
- National Park
 - SSD 7142 Operational Area #
 - Biodiversity Stewardship Site under SSD 7142
 - Wambo Coal Mine
 - Exploration Licence Boundary (AUTH, EL)
 - Mining and Coal Lease Boundary (ML, CL, CCL)
 - Remnant Woodland Enhancement Program (RWEF) Area
 - Existing/Approved Wambo Coal Mine Surface Development Area
 - Ventilation Shaft
 - Existing/Approved Underground Development
 - Extraction Plan Application Area
 - Subsidence Contour Colour Scale (mm)**
 - 20
 - 50
 - 100
 - 200
 - 400
 - 600
 - 800
 - 1000
 - 1200
 - 1400
 - 1600
 - 1800

Under Phase 2 of mining at Wambo Coal Mine (commenced 1 December 2020), this area is operated by United Collieries Pty Ltd under the United Wambo Joint Venture Project.

Source: WCPL (2024); MSEC (2024); NSW Spatial Services (2024)
 Orthophoto: WCPL (Nov 2023)

Peabody
 W A M B O C O A L M I N E
 Predicted Subsidence from the
 South Bates Extension Underground Mine

Figure 4

6 RISK ASSESSMENT

A Subsidence Risk Assessment for Longwalls 24 to 26 was undertaken to identify subsidence impacts with high risk levels and/or potentially severe consequences, including a workshop conducted in March 2023. The workshop was facilitated by a risk assessment specialist and attended by relevant WCPL personnel and technical specialists (Risk Mentor, 2023). The Subsidence Risk Assessment is provided as Technical Report 4 of the Extraction Plan.

With the implementation of the identified controls, the risk assessment team consensus was that subsidence related impacts over Longwalls 24 to 26 could be managed at a tolerable level of risk (Risk Mentor, 2023).

7 ROLES AND RESPONSIBILITIES

The key responsibilities of WCPL personnel in relation to this BFMP are specified in the component plan of this BFMP. A summary WCPL organisation structure is provided in **Figure 5**. Contact details for key personnel are provided in **Table 4**.

Table 4
BFMP Key Personnel Contact Details

Organisation	Position	Contact Name	Phone Number
WCPL	Manager, Environment and Community	Peter Jaeger	(02) 6570 2206
	Control Room (24 hours)		(02) 6570 2240
	General Manager	Kenneth Rigsby	(02) 6570 2300
	Technical Services Superintendent	Tim Chisholm	
	Mining Engineering Manager (Underground Mine Manager)	Peter Jandzio	
	Community Hotline		
Subsidence Advisory NSW	Emergency Service (24 hours)		1800 248 083
	Newcastle District Office		(02) 4908 4300

8 REPORTING FRAMEWORK

The reporting framework relevant to this BFMP is summarised in **Table 5**.

LEGEND
 ■ Key personnel responsible for implementation of the Extraction Plan

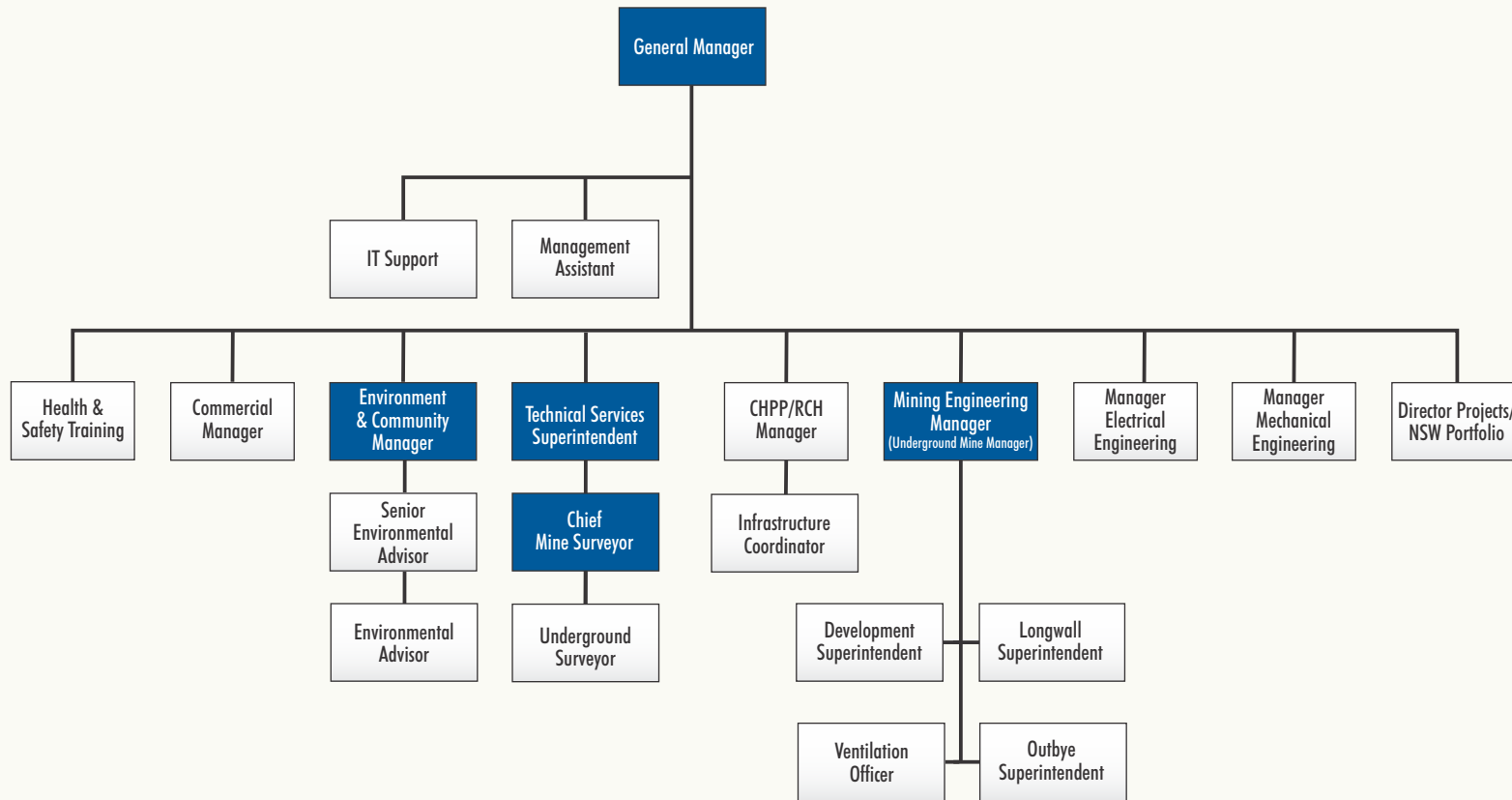


Figure 5

**Table 5
Summary of Reporting Framework**

Report	Frequency	Distribution ¹	Distribution Method ¹	Responsibility for Data Collation and Preparation	Responsibility for Submission
Subsidence Management Status Report	To be updated fortnightly. Must be submitted if impacts greater than predicted are identified or upon request.	DPE (Manager, Mining Projects) NSW Resources Regulator (Subsidence Executive Officer)	Email	Technical Services Superintendent Manager, Environment and Community	Technical Services Superintendent (in consultation with Mining Engineering Manager and Manager, Environment and Community)
Six Monthly Report	Annual (for the period 1 January to 30 June)	DPE (Manager, Mining Projects) NSW Resources Regulator (Subsidence Executive Officer) Subsidence Advisory NSW (District Manager) BCD (General Contact) DPE-Water (Water Regulation)	Email	Manager, Environment and Community	General Manager
Annual Review	Annual (for the period 1 January to 31 December)	DPE (Manager, Mining Projects) NSW Resources Regulator (Subsidence Executive Officer) NSW Resources Regulator (Manager Environmental Sustainability) Subsidence Advisory NSW (District Manager) BCD (General Contact) DPE-Water (Water Regulation) Singleton Shire Council (General Manager) CCC Members	Email and/or Post	Manager, Environment and Community	General Manager

¹ Distribution details are provided in Attachment 4 of the Extraction Plan.

Notes: BCD – Biodiversity and Conservation Division

DPE-Water – Department of Planning and Environment – Water.

CCC – Community Consultative Committee.

9 MANAGEMENT PLAN REVIEW

This BFMP and its component plan will be reviewed in detail, and revised if necessary, in the following circumstances:

- within three months of the submission of an Incident Report relating to a subsidence impact, (Section 6.2 of the Extraction Plan) taking into consideration any contingency response implemented following submission of the Incident Report (Section 6.2 of the Extraction Plan); and/or
- where there is a significant change in operation that may affect the environment or the community.

In addition to the above, this BFMP will also be reviewed within three months of:

- the submission of an Annual Review;
- the submission of an audit report; or
- any modification to the conditions of the Development Consent (DA 305-7-2003).

10 REFERENCES

Mine Subsidence Engineering Consultants (2023) *South Bates Extension Underground Mine Longwalls 24A to 26 Extraction Plan Subsidence Assessment – Subsidence Predictions and Impact Assessments for the Natural and Built Features in Support of the Updated Extraction Plan Application for the South Bates Extension Underground Mine Longwalls 24A-26 in the Whybrow Seam*. Report prepared for Wambo Coal Pty Limited.

Risk Mentor (2023) *Wambo U/G South Bates Extension – Longwalls 24-26 – Extraction Plan Risk Assessment Report*. Report prepared for Wambo Coal Pty Limited.

Wambo Coal Pty Limited (2003) *Wambo Development Project Environmental Impact Statement*.

Wambo Coal Pty Limited (2022) *Modification Report – Wambo Coal Mine Longwall 24 to 26 Modification*.

ATTACHMENT 1
WCPL ASSET MANAGEMENT PLAN
LONGWALLS 24 – 26

WAMBO COAL PTY LIMITED
SOUTH BATES EXTENSION UNDERGROUND MINE

WCPL ASSET MANAGEMENT PLAN
LONGWALLS 24 - 26



PREPARED BY
WAMBO COAL PTY LIMITED AND
RESOURCE STRATEGIES PTY LTD

November 2024
Project No. WAM-09-15
Document No. 01253760

DOCUMENT CONTROL

Document No.	WAMP LW24-26
Title	WCPL Asset Management Plan for South Bates Extension Underground Mine Longwalls 24 to 26
General Description	Management of potential subsidence impacts and environmental consequences on Wambo Coal Pty Limited assets for mining of Longwalls 24 to 26 at the South Bates Extension Underground Mine.

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LIST OF ATTACHMENTS

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1 INTRODUCTION

The South Bates Extension Underground Mine is a component of the approved Wambo Coal Mine. The South Bates Extension Underground Mine commenced in Longwall 17 in December 2018 and involves extraction of coal by longwall mining methods from the Whybrow Seam within Coal Lease (CL) 397, Mining Lease (ML) 1594, ML 1572, ML 1806, and [ML 1873 \(Figure 1\)](#).

1.1 PURPOSE AND SCOPE

Purpose: This WCPL Asset Management Plan for Longwalls 24 to 26 (WAMP) outlines the management of potential subsidence impacts on WCPL assets.

Scope: This WAMP covers WCPL assets within the Longwalls 24 to 26 Application Area ([Figure 1](#)).

This WAMP is a component of the Built Features Management Plan for Longwalls 24 to 26, which is part of the South Bates Extension Underground Mine Longwalls 24 to 26 Extraction Plan ([Figure 2](#)).

WCPL assets are identified in [Section 2](#) and relevant management measures are outlined in [Section 5](#).

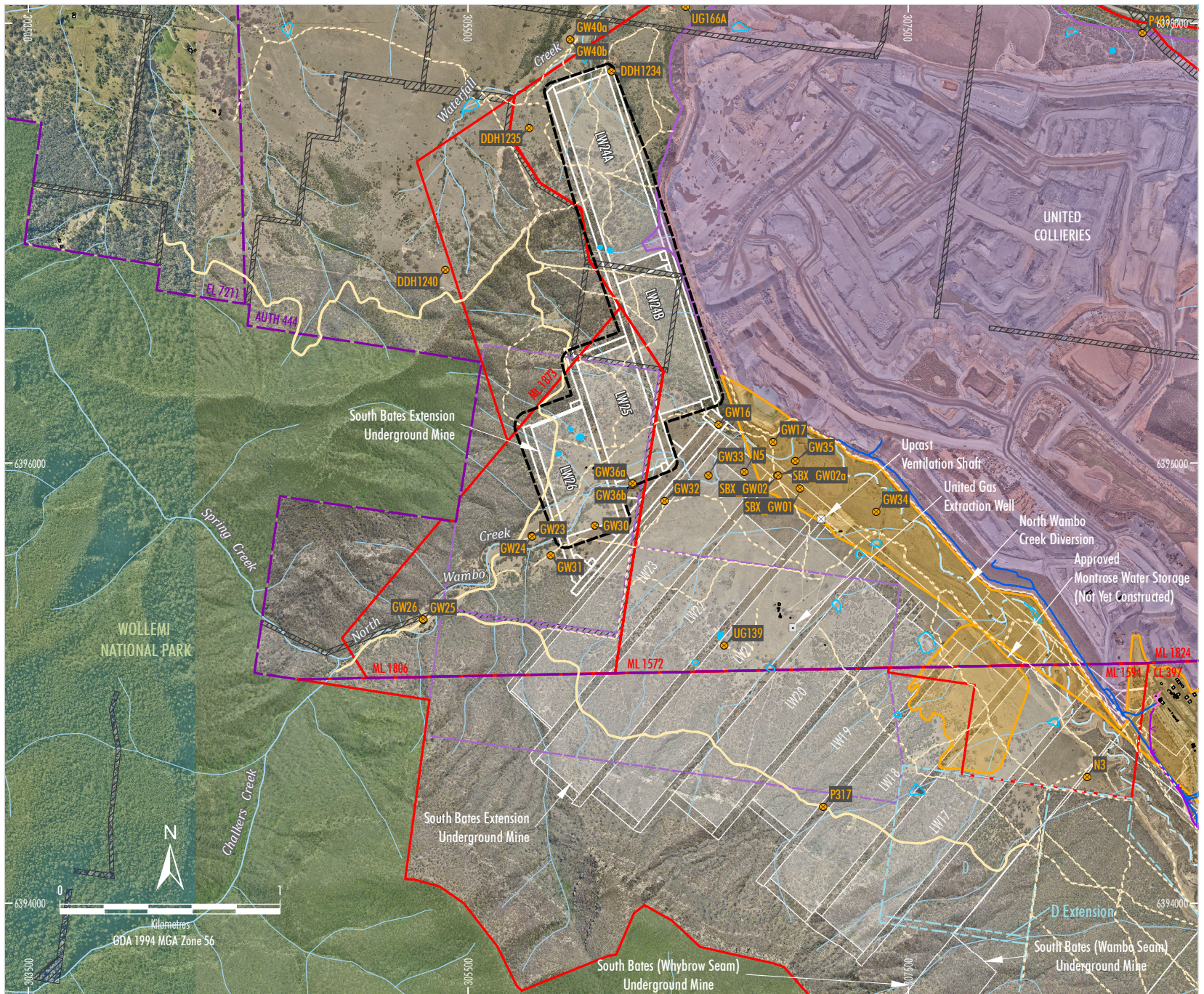
[Attachment 1](#) provides a **Trigger Action Response Plan** for this WAMP which is a simple and transparent snapshot of the monitoring of subsidence impacts and, where required, the implementation of management and/or contingency measures.

2 WCPL ASSETS

The WCPL assets located within the Longwalls 24 to 26 Application Area are shown on [Figure 1](#) and include:

- Montrose West Open Cut Pit walls and emplacement areas.
- Exploration bores and gas wells.
- Groundwater monitoring bores.
- Fences.
- Farm dams.
- Roads (all types).
- Drainage culverts.
- Farm buildings or sheds.
- Tanks.

The North Wambo Creek Diversion is located outside the Longwalls 24 to 26 Application Area and is not anticipated to experience direct subsidence impacts due to the mining of Longwalls 24 to 26. Monitoring, management and mitigation strategies for the North Wambo Creek Diversion are discussed in the Water Management Plan (Appendix A) for the South Bates Extension Underground Mine Longwalls 17 to 20 Extraction Plan.



- LEGEND**
- National Park
 - Crown Road
 - SSD 7142 Operational Area #
 - Biodiversity Stewardship Site under SSD 7142
 - Wambo Coal Mine
 - Exploration Licence Boundary (AUTH, EL)
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 - Remnant Woodland Enhancement Program (RWEPP) Area
 - Existing/Approved Wambo Coal Mine Surface Development Area
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 - 11 kV Power Line
 - 11 kV Power Line Buried
 - Surface Water Supply/Dewatering Pipeline
 - Fire Trail
 - Access Track
 - Buildings
 - Groundwater Monitoring Sites

Under Phase 2 of mining at Wambo Coal Mine (commenced 1 December 2020), this area is operated by United Collieries Pty Ltd under the United Wambo Joint Venture Project.

Source: WCPL (2024); MSEC (2024); NSW Spatial Services (2024)
 Orthophoto: WCPL (Nov 2023)

Peabody
 W A M B O C O A L M I N E
 Location of Built Features

Figure 1

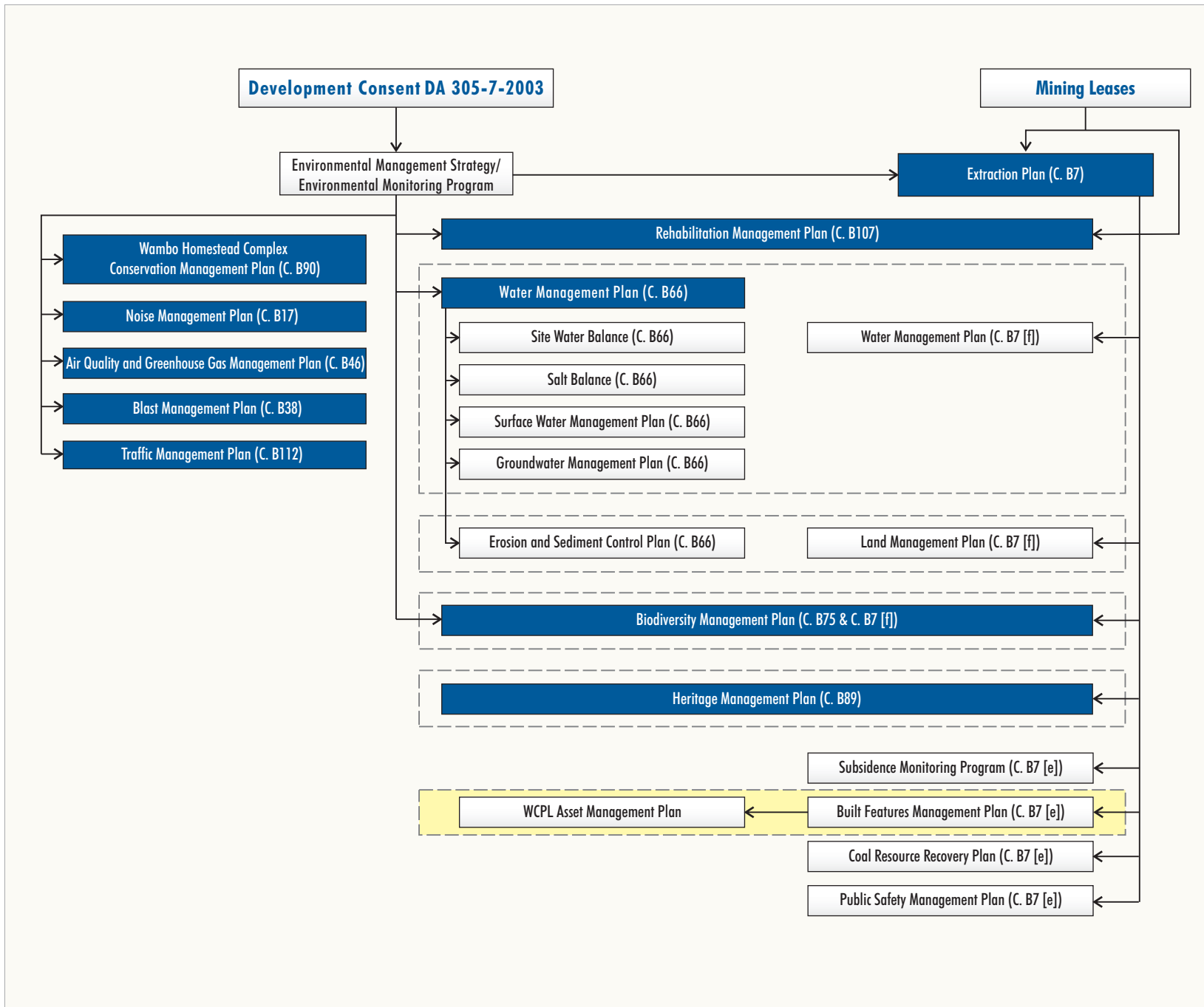


Figure 2

3 PERFORMANCE MEASURES

The performance measures specified in Table 2 of Schedule 2 of the Development Consent (DA 305-7-2003) relevant to built features are listed in **Table 1**.

Table 1
Built Features Performance Measures

Feature	Subsidence Impact Performance Measure
All built features (including public infrastructure and all structures on privately-owned land)	Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.

Source: Table 2 of Schedule 2 of the Development Consent (DA 305-7-2003).

In accordance with Condition B4 of Schedule 2 of the Development Consent (DA 305-7-2003), WCPL must ensure that underground mining operations comply with the performance measures listed in Table 2 of Schedule 2 of the Development Consent (DA 305-7-2003).

Section 4 outlines the monitoring that will be undertaken to assess the impact of Longwalls 24 to 26 against the performance measures in relation to WCPL assets. **Section 5** outlines management measures that will be employed for WCPL assets. Performance indicators for the performance measures are summarised in **Section 6**.

4 MONITORING

4.1 SUBSIDENCE MONITORING PROGRAM

A monitoring program will be developed in order to monitor the impacts of the extraction of Longwalls 24 to 26 on WCPL assets to identify unsafe conditions or loss of serviceability during or after mining. Key components of the monitoring program are summarised in **Table 2**.

**Table 2
WAMP Monitoring Program Overview**

WCPL Asset	Monitoring Component	Parameter	Timing/Frequency	Responsibility
Pre-mining				
All	Initial visual assessment of WCPL assets.	Initial condition of WCPL assets.	Prior to secondary extraction within 1,000 metres (m) of WCPL assets.	Mine Surveyor
During Mining				
All	Longwalls 24 to 26 subsidence monitoring lines as described in the Subsidence Monitoring Program.	Monitoring parameters include: <ul style="list-style-type: none"> • subsidence; • tilt; • tensile strain; • compressive strain; and • absolute horizontal translation. 	Refer to Subsidence Monitoring Program (Appendix H of the Extraction Plan for Longwalls 24 to 26).	Mine Surveyor
Active service lines ¹	Visual inspections of WCPL active service lines.	The general condition of WCPL active service lines including safety and serviceability.	Weekly inspections when undertaking longwall extraction in the vicinity	Services Superintendent
	Monitoring of WCPL pipeline integrity.	Monitoring of pipelines at fixed points.	Daily inspections of any active pipelines commencing when secondary extraction is within 100 m of WCPL pipelines and undertaken until the active mining face is 100 m past the pipeline.	Infrastructure Coordinator
	Flow monitoring.	Monitoring to detect abnormal changes in flow.	Continuous (SCADA) monitoring of pump and pipeline conditions.	Infrastructure Coordinator

**Table 2 (Continued)
WAMP Monitoring Program Overview**

WCPL Asset	Monitoring Component	Parameter	Timing/Frequency	Responsibility
During Mining (Continued)				
Groundwater monitoring bores	Integrity of groundwater monitoring bores.	Review of groundwater monitoring data.	Once the active mining face is 100 m past the bore.	Manager, Environment and Community
Roads and tracks	Visual inspections of roads and tracks.	Monitoring parameters include: <ul style="list-style-type: none"> • surface cracks; • buckling; and • general safety. 	Prior to secondary extraction within 100 m of any WCPL asset and undertaken at 50 m intervals until the active mining face is 100 m past the WCPL asset.	Mine Surveyor
Culverts	Integrity of culverts.	Cracking of concrete culverts or grade reversal.	Prior to secondary extraction within 100 m of culverts and undertaken at 50 m intervals until the active mining face is 100 m past the culverts.	Services Superintendent
All	Visual inspections of other WCPL assets.	The general condition of WCPL assets including safety and serviceability.	Monthly inspection during secondary extraction of Longwalls 24 to 26.	Mine Surveyor

¹ Active service lines include all services required for mining at the Wambo Coal Mine (electricity supply, telecommunications, water supply and mine dewatering).

4.2 SUBSIDENCE CONSEQUENCES MONITORING

WCPL will compare the results of the subsidence impact monitoring against the built features performance measures and performance indicators. In the event the observed subsidence impacts exceed the performance measures or indicators, WCPL will assess the consequences of the exceedance in accordance with the Contingency Plan described in **Section 7**.

5 MANAGEMENT MEASURES

A number of management measures are applicable to WCPL assets. The key management measures are summarised in **Table 3**.

**Table 3
WAMP Key Management Measures**

Management Measure	Timing/Frequency	Responsibility
Pre-mining		
Structural assessment of WCPL assets to identify modifications potentially required pre-subsidence.	Structural assessment and any identification of modifications required will be undertaken prior to secondary extraction within 1,000 m of WCPL assets.	Mining Engineering Manager (Underground Mine Manager)
Posting of warning signs at suitable locations on unsealed roads and site access tracks.	Prior to secondary extraction of each longwall.	Manager, Environment and Community
Notification to electrical engineer in charge prior to subsidence effects on WCPL powerlines.	Prior to secondary extraction within 100 m of a power line.	Technical Services Superintendent
Notification to stakeholders prior to subsidence effects on access roads.	Prior to secondary extraction within 100 m of an impacted access road.	Technical Services Superintendent
Assessment of water pipelines and provision of sufficient slack in pipelines for subsidence.	Prior to secondary extraction within 100 m of pipeline.	Services Superintendent
Assessment of bores and decommission and seal prior to extraction if required (dependent on condition).	Prior to secondary extraction of each longwall.	Technical Services Superintendent
During Mining		
Maintain safe access to WCPL assets such that WCPL personnel are able to undertake routine maintenance and remediation works as required.	During secondary extraction of Longwalls 24 to 26. Regular inspection when undermining (internal notification process for any significant impacts observed by WCPL personnel).	Manager, Environment and Community
WCPL internal longwall panel status reports to ensure internal WCPL stakeholders are aware of the longwall progression and are able to provide sufficient notification to relevant WCPL personnel regarding potential subsidence impacts to WCPL assets.	WCPL personnel to conduct fortnightly reports during secondary extraction of Longwalls 24 to 26 including face position status and aerial photo to the relevant internal stakeholders.	Mine Surveyor
Provision of a 15 m separation barrier around the Montrose West pit walls.	Always.	Technical Services Superintendent
Post-mining		
Update warning signs if a change to the WCPL asset is identified during monitoring described in Table 2.	If change detected. Full review following completion of active mining.	Manager, Environment and Community
Repair of WCPL assets in accordance with associated standards and procedures.	As required.	Services Superintendent
Structural assessment of WCPL assets and subsidence assessment post-Longwalls 24 to 26 extraction.	Following completion of active mining.	Technical Services Superintendent

6 ASSESSMENT OF PERFORMANCE INDICATORS AND MEASURES

In accordance with Condition B2 of Schedule 2 of the Development Consent (DA 305-7-2003), performance indicators have been developed for the performance measures listed in **Table 1**.

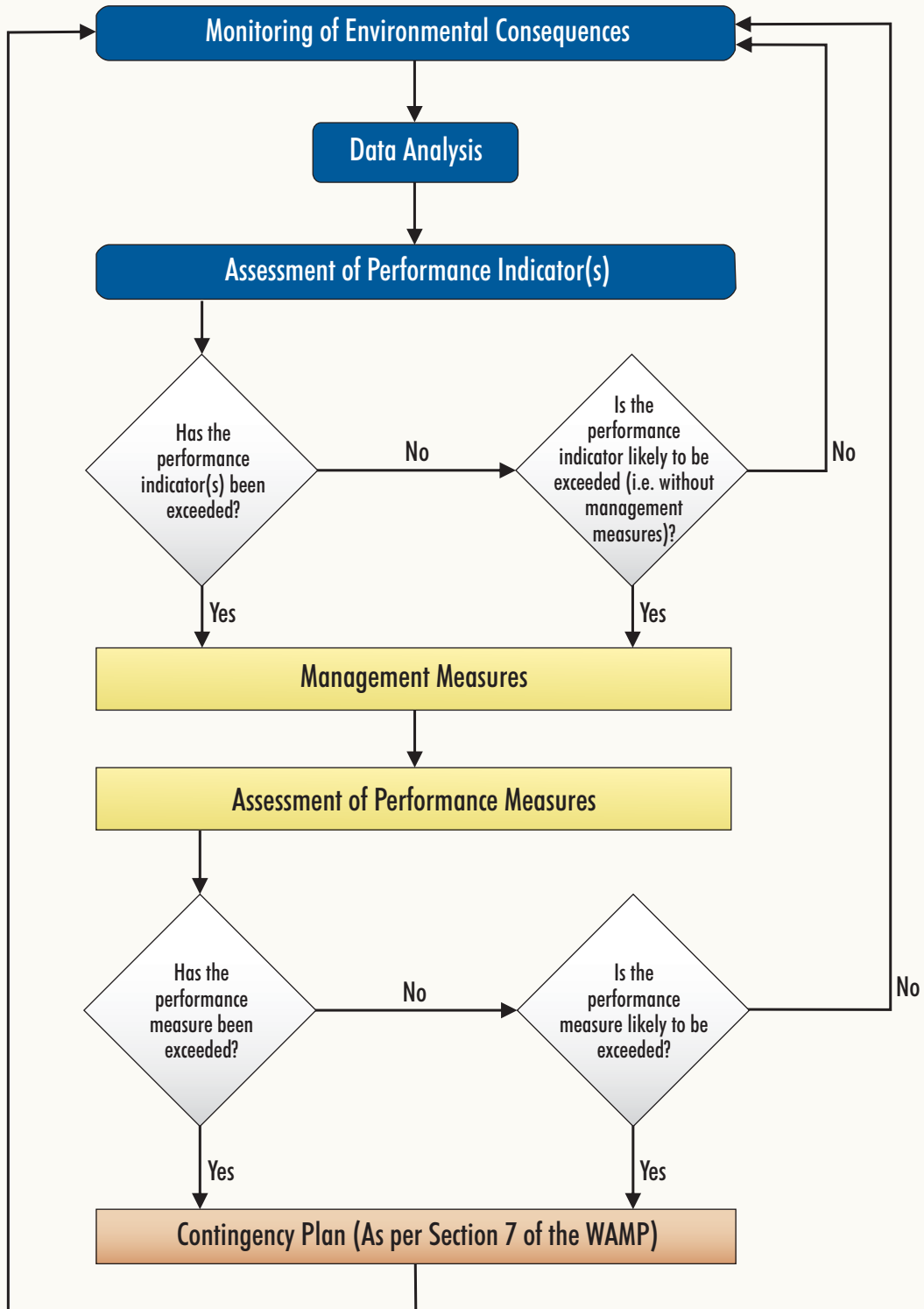
The proposed performance indicators for the built features performance measures will be considered to have been exceeded if:

- the **structural integrity** of any WCPL asset is assessed to have been compromised;
- the **functionality** of any WCPL powerlines, cables or pipelines is compromised; or
- the **integrity of access roads** required for the serviceability of WCPL assets is not maintained.

Monitoring conducted to inform the assessment of the secondary extraction of Longwalls 24 to 26 against the performance indicators for the performance measures relevant to WCPL assets is outlined in **Section 4** of this WAMP. The monitoring process and subsequent assessment of performance indicators and measures is outlined in **Figure 3**.

If a performance measure is considered to have been exceeded, the Contingency Plan outlined in **Section 7** of this WAMP will be implemented.

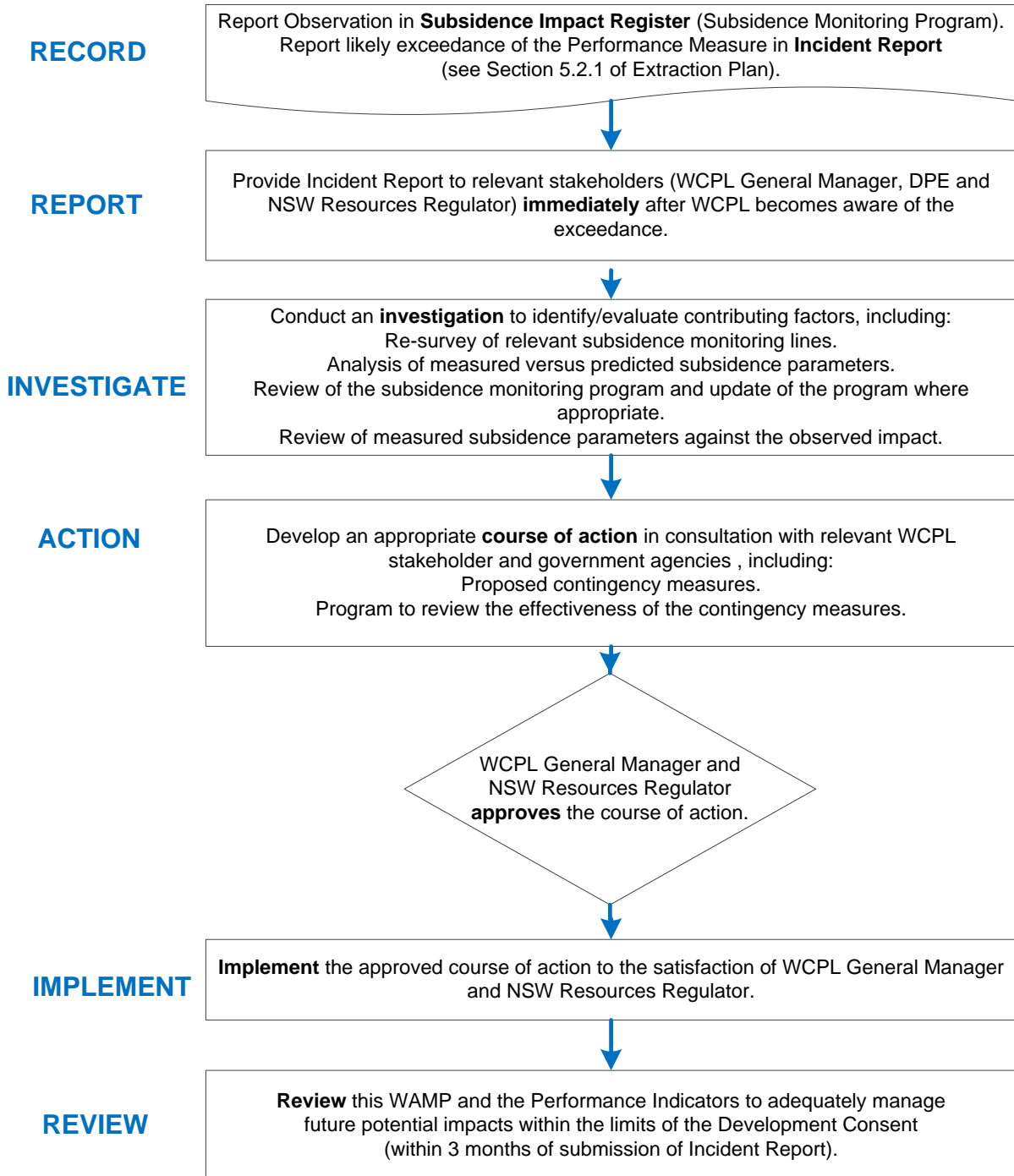
CONTINGENCY MANAGEMENT



WAM-09-15_SBX/Mod/UW24-26_EP AMP_002A

7 CONTINGENCY PLAN

In the event the built features performance measures summarised in **Table 1** are considered to have been exceeded or are likely to be exceeded, in accordance with the schematic presented in **Figure 3**, WCPL will implement the following Contingency Plan:



8 ROLES AND RESPONSIBILITIES

Key responsibilities of WCPL personnel in relation to this WAMP are summarised in **Table 4**. Responsibilities may be delegated as required.

**Table 4
WAMP Responsibilities Summary**

Responsibility	Task
General Manager	<ul style="list-style-type: none"> Ensure resources are available to WCPL personnel to facilitate the completion of responsibilities under this WAMP.
Mining Engineering Manager (Underground Mine Manager)	<ul style="list-style-type: none"> Ensure resources are available to WCPL personnel to facilitate the completion of responsibilities under this WAMP.
Technical Services Superintendent	<ul style="list-style-type: none"> Ensure timely and accurate Subsidence Management Status Reporting under this WAMP. Ensure the Subsidence Monitoring Program and this WAMP are implemented. Ensure monitoring and Subsidence Management Status Reports required under the Subsidence Monitoring Program and this WAMP are: carried out within specified timeframes; adequately checked and processed; and are prepared to the required standard.
Services Superintendent	<ul style="list-style-type: none"> Ensure site services are maintained in a safe and serviceable condition.
Manager, Environment and Community	<ul style="list-style-type: none"> Liaise with relevant stakeholders regarding subsidence impact management and related environmental consequences. Ensure Incident Reports and Subsidence Management Status Reports required under this WAMP are prepared within specified timeframes and to the required standard.
Mine Surveyor	<ul style="list-style-type: none"> Undertake all subsidence monitoring to the required standard within the specified timeframes and ensure data are adequately checked, processed and recorded. Undertake relevant monitoring and implementation of management measures summarised in Tables 2 and 3 respectively.

ATTACHMENT 1

WCPL ASSET MANAGEMENT PLAN TRIGGER ACTION RESPONSE PLAN

**Table A-1
WCPL Asset Management Plan Trigger Action Response Plan**

Condition	Normal	Level 1	Level 2
	Predicted Impacts	Implement Management Measures	Restoration/Contingency Phase
Trigger	<ul style="list-style-type: none"> Subsidence effects on WCPL assets. 	<ul style="list-style-type: none"> Management measures implemented (with regard to the specific circumstances of the subsidence impact [e.g. the nature and extent of the impact] in accordance with Section 5). 	<ul style="list-style-type: none"> If the Performance Measure relevant to WCPL assets has been exceeded, or is likely to be exceeded (i.e. loss of safety or serviceability).
Action	<ul style="list-style-type: none"> Conduct monitoring, consistent with Section 4 and the Subsidence Monitoring Program (Appendix H of the Extraction Plan for Longwalls 24 to 26). Implement management measures, as required, in accordance with Section 5. 	<ul style="list-style-type: none"> Implement management measures, as required, in accordance with Section 5. 	<ul style="list-style-type: none"> Implement Contingency Plan described in Section 7.
Frequency	<ul style="list-style-type: none"> Monitoring frequency consistent with Section 4. 	<ul style="list-style-type: none"> As required, in accordance with Section 5. 	<ul style="list-style-type: none"> As required, in accordance with Section 7.
Position of Decision Making	<ul style="list-style-type: none"> Technical Services Superintendent. 	<ul style="list-style-type: none"> Technical Services Superintendent . Mining Engineering Manager (Underground Mine Manager). 	<ul style="list-style-type: none"> General Manager.

Note: WCPL refers to Wambo Coal Pty Limited.

INTERNAL MANAGEMENT PLAN.
REFER TO SUMMARY IN EXTRACTION PLAN.