AUSTAR COAL MINE
PART OF THE YANCOAL AUSTRALIA GROUP

AUSTAR COAL MINE
LWB4-B7 MODIFICATION
ENVIRONMENTAL ASSESSMENT

umwelt

MAY 2017

YANCOAL
兖煤澳大利亚有限公司

LWB4-B7 MODIFICATION ENVIRONMENTAL ASSESSMENT

Austar Coal Mine

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Austar Coal Mine Pty Ltd

Project Director:	Barbara Crossley
Project Manager:	Gabrielle Allan
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Newcastle

75 York Street
Teralba NSW 2284

Ph. 02 4950 5322

www.umwelt.com.au

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Executive Summary

Austar Coal Mine Pty Ltd (Austar) is seeking to modify DA 29/95 (the Bellbird South consent) to permit the transfer and processing of coal from four additional longwall panels within the Austar Coal Mine. This modification is referred to as the LWB4-B7 Modification and is sought under 75W of the *Environmental Planning and Assessment Act 1979*.

Mining operations at the Austar Coal Mine are currently progressing within the LWB1-B3 area. The LWB4-B7 Modification will provide mining and business continuity following the completion of LWB3.

The LWB4-B7 Modification seeks to extend the Bellbird South consent area to cover the four proposed longwall panels. No other changes to the approved mining operations associated surface facilities or production rates are proposed as part of the modification.

The modification will facilitate the recovery of approximately 3.65 million tonnes of additional ROM coal using conventional longwall mining methods and maximises the use of existing infrastructure and facilities.

The LWB4-B7 Modification is located within an area surrounded by previous underground mine workings. The proposed longwalls are located beneath a mix of Austar owned land, privately owned rural land, and Crown and Council landholdings. The primary land use within the modification area is rural and agricultural, with a focus on grazing. The modification area has no major constraints to the proposed deep underground operations, with specific assessment conducted in relation to all relevant natural, cultural and built surface features. This has included detailed assessment in relation to residential and rural structures on private properties, portions of local roads and other public infrastructure, and the biodiversity, water resource and cultural heritage features of the area.

The detailed impact assessments undertaken for the LWB4-B7 Modification conclude that the proposed modification is likely to result in only minor environmental impacts. This is primarily due to the substantial depth of mining, which is a minimum of 400 metres below ground, the design of the longwall panels, the overlying and surrounding site characteristics and Austar's commitment to continued implementation of appropriate monitoring, management and mitigation measures.

Predicted subsidence parameters are less than those previously approved in Stage 2 and Stage 3 mining areas. Extensive monitoring within these previously extracted areas has shown no significant impacts associated with underground mining, including no visible surface cracking, negligible impact to creeks or near surface aquifers, no observable impact on flora or fauna and no significant impacts to built features. The LWB4-B7 Modification is predicted to have similarly low impact on natural and built features and on existing land uses within the modification area.

Existing management measures implemented at the Austar Coal Mine will be extended to the LWB4-B7 Modification Area and additional monitoring is proposed to confirm potential subsidence impacts within the modification area. Management plans will be updated or prepared as part of the Extraction Plan process for the LWB4-B7 Modification Area.

This Environmental Assessment demonstrates that with the continued implementation of existing monitoring, management and mitigation measures, the proposed modification can proceed within acceptable environmental standards.

Table of Contents

Figures

Plates

Tables

Appendices

Appendix 1	EA Statement of Authorship, Schedule of Lands and Project Team
Appendix 2	Subsidence Predictions and Impact Assessment
Appendix 3	Flooding and Drainage Assessment
Appendix 4	Groundwater Assessment
Appendix 5	Ecological Assessment
Appendix 6	Aboriginal Cultural Heritage and Archaeological Assessment

1.0 Introduction

Austar Coal Mine Pty Ltd (Austar), a subsidiary of Yancoal Australia Limited (Yancoal) operates the Austar Coal Mine, an underground coal mine located approximately 10 kilometres south of Cessnock in the Lower Hunter Valley in NSW (refer to **Figure 1.1**). The Austar Coal Mine incorporates the former Pelton, Ellalong, Cessnock No. 1 (Kalingo) and Bellbird South Collieries and includes coal extraction, handling, processing and rail and road transport facilities (**refer to Figure 1.2**).

Extensive mining has been undertaken within the Austar Coal Mine since 1916. Historical mining was predominantly via bord and pillar mining and more recently via conventional longwall mining and Longwall Top Coal Caving (LTCC) methods. Mining within the Bellbird South areas (Southland, Stage 1 and Stage 2, refer to **Figure 1.2**) was approved by the Minister for Urban Affairs and Planning in 1996 under DA 29/95 (the Bellbird South Consent), while mining of Stage 3 was approved by the Minister for Planning in 2009 under Project Approval 08_0111. Longwall mining commenced in the Ellalong Colliery area in 1983 and has subsequently progressed into the Bellbird South and the Stage 3 areas.

Mining is currently proceeding in the LWB1-B3 mining area in accordance with DA 29/95 (as modified).

A review of accessible coal resources within the Bellbird South / Ellalong Colliery areas has identified the potential for four additional longwall panels (LWB4-B7) adjacent to LWB3 that can be accessed from the Bellbird mains (refer to **Figure 1.3**). This additional longwall resource would provide continuity of mining following the completion of LWB3, and with minimal additional mine development would provide approximately 3.65 million tonnes (Mt) of additional run-of-mine (ROM) coal which can be processed using the existing site facilities to provide export quality metallurgical product coal.

1.1 Overview of Proposed LWB4-B7 Modification

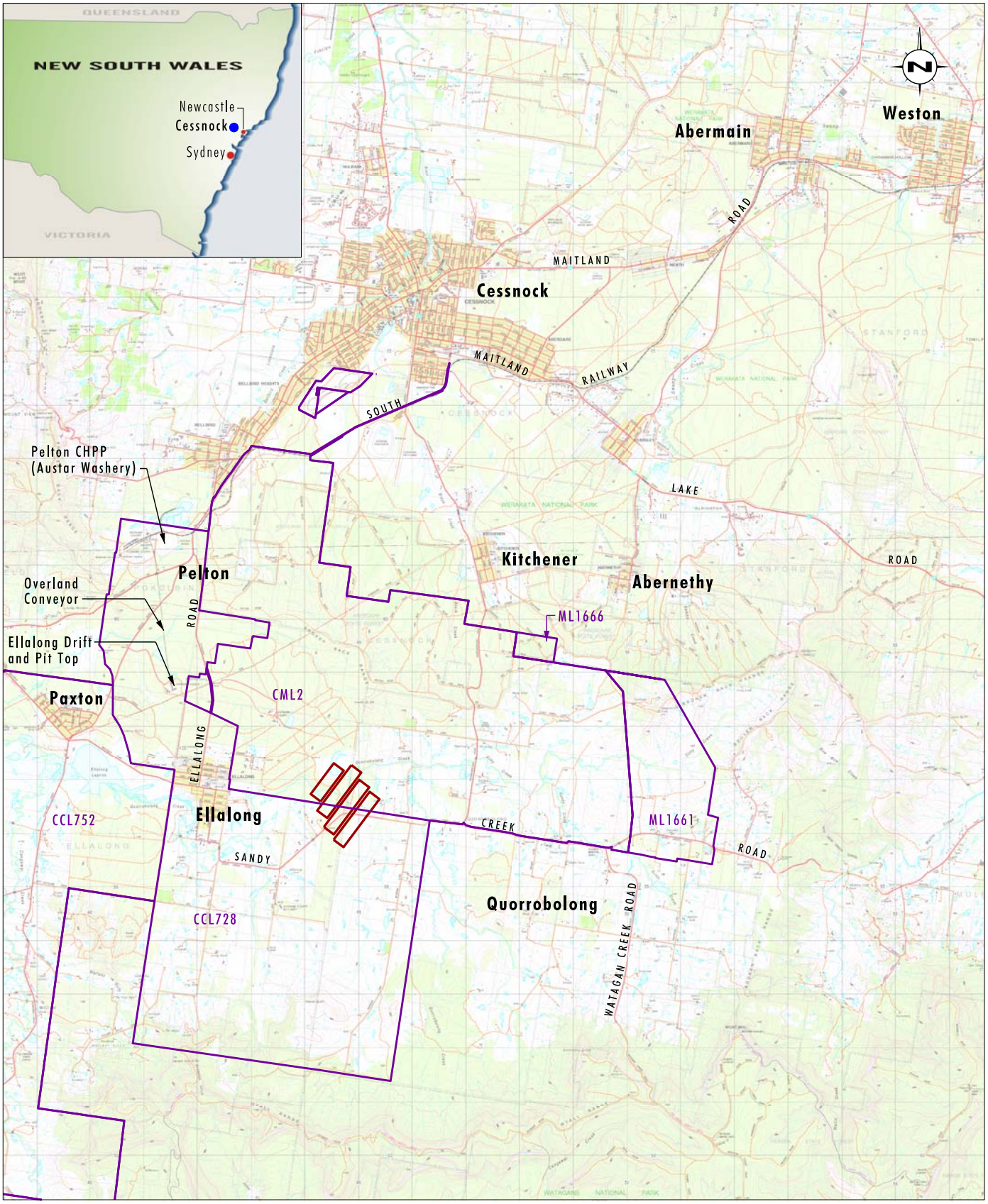
Austar proposes to modify the Bellbird South Consent to permit the transfer and processing of coal from four proposed longwall panels (LWB4-B7) via the existing Bellbird mains and to extend the development consent area to cover the four proposed longwall panels (refer to **Figure 1.3**).

No other changes to the approved mining operations associated surface facilities or production rates are proposed as part of the modification.

1.2 Proposed Modification Area

The environmental impacts of the proposed LWB4-B7 Modification have been assessed within the predicted 20 millimetre subsidence contour for LWB4-B7. This area is referred to as the 'LWB4-B7 Modification Area' throughout this EA and is shown on **Figure 1.3**.

The 20 millimetre subsidence contour is considered the vertical limit of subsidence. While some far field horizontal movements may occur beyond the limit of the 20 millimetre subsidence contour, any natural or built surface features that could be sensitive to such movements have also been considered in this assessment.



Legend

- Proposed LWB4-B7 Longwall Panels
- Mining Lease Boundary

FIGURE 1.1

Locality Plan

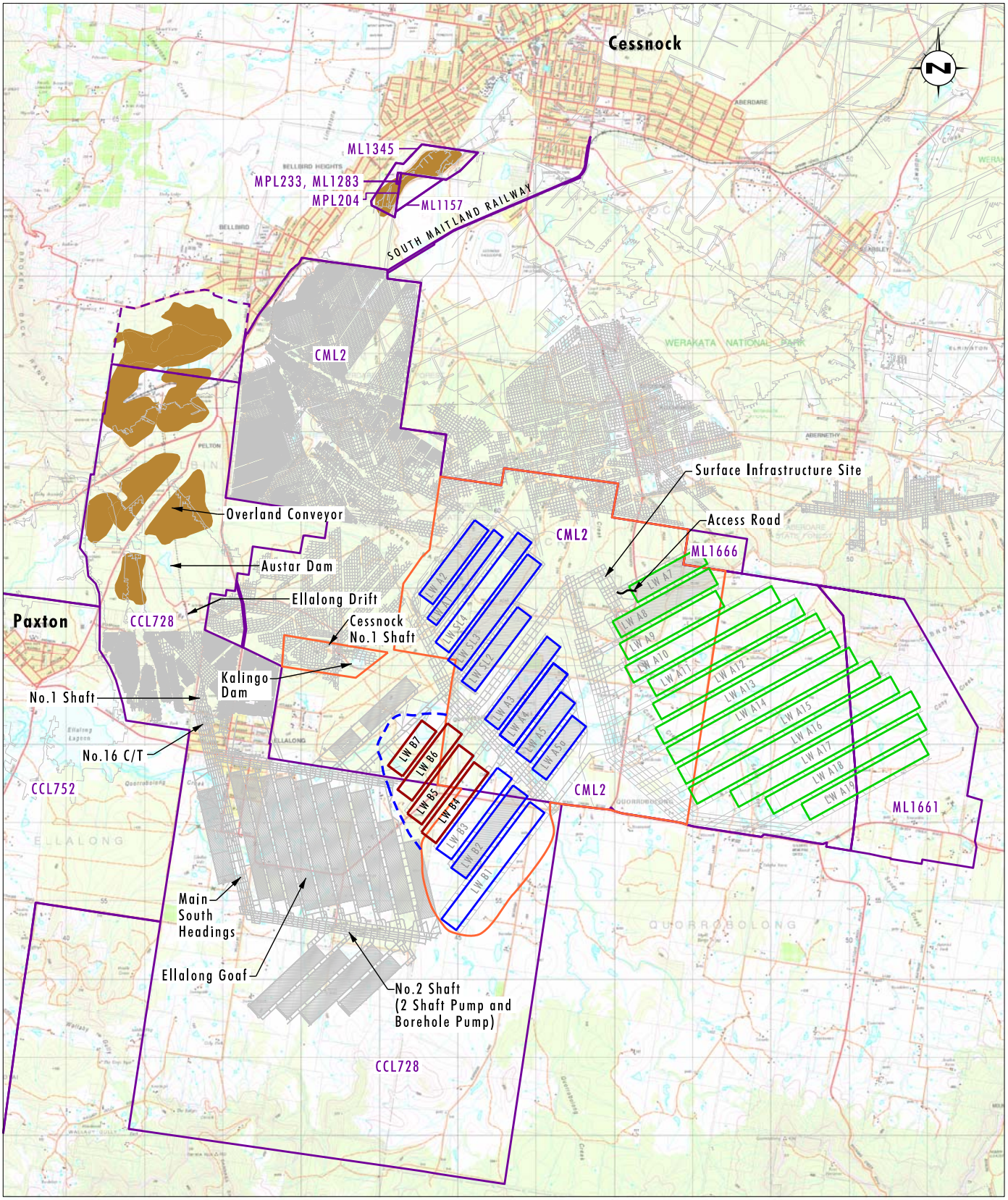


Image Source: LPI NSW (2009)
Data Source: Austar Coal Mine (2016)

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Legend

- Bellbird South Stage 1, Stage 2, Southland and LWB1-B3 Longwall Panels (DA 29/95)
- Proposed LWB4-B7 Longwall Panels (DA 29/95)
- Stage 3 Longwall Panels (PA08_0111)
- DA 29/95 Bellbird South Consent Area (Subsurface) - As Approved
- DA 29/95 Bellbird South Consent Area (Subsurface) - Proposed Extension
- Approved Reject Emplacement Areas
- Completed Underground Workings
- Mining Lease Boundary
- Austar owned CHPP Land

FIGURE 1.2

Austar Coal Mine and Proposed LWB4-B7

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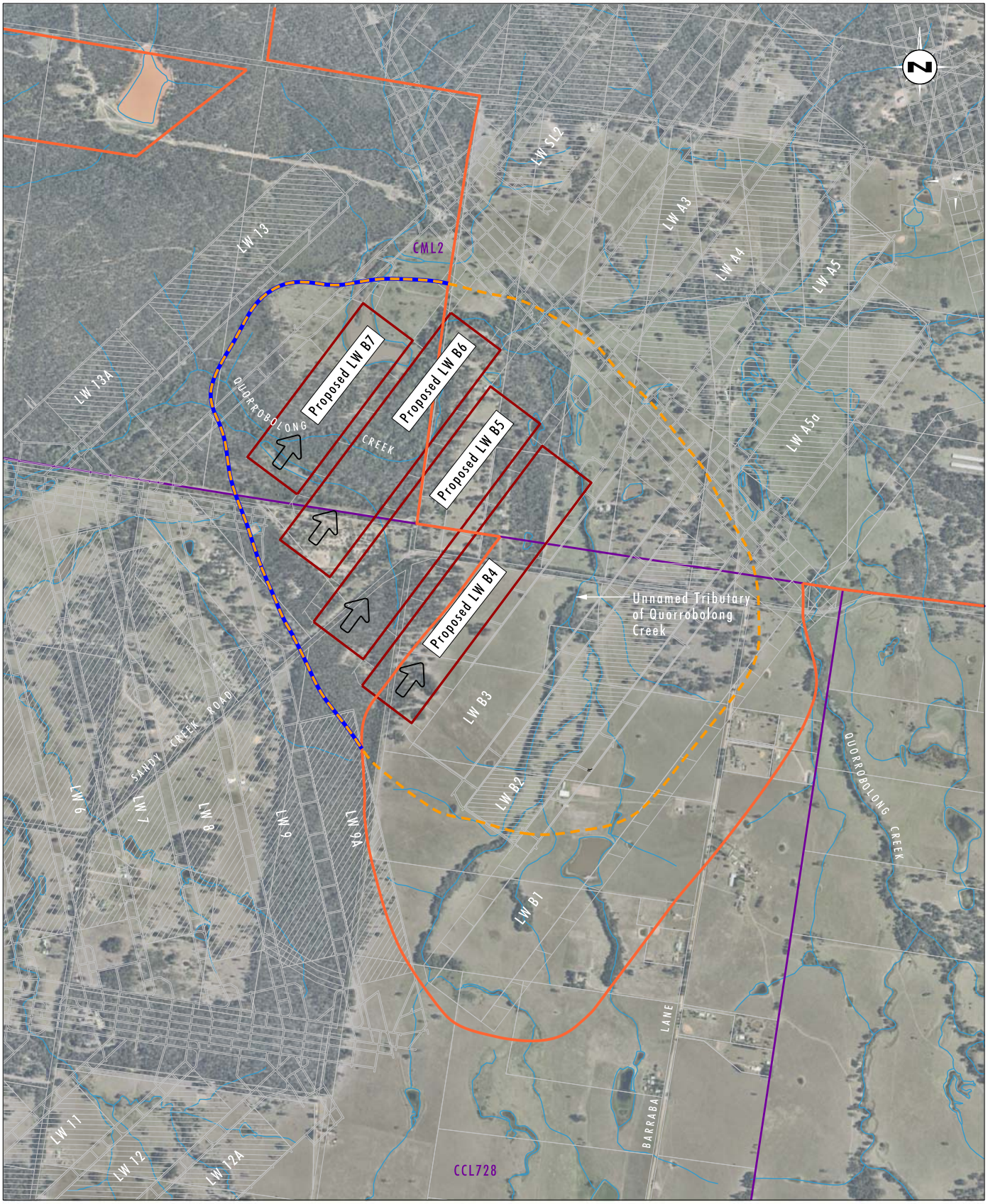

Image Source: Nearmap (2017)
Data Source: Austar Coal Mine (2016)

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Legend

- Proposed LWB4-B7 Longwall Panels
- LWB4-B7 Modification Area
- DA 29/95 Bellbird South Consent Area (Subsurface) - As Approved
- DA 29/95 Bellbird South Consent Area (Subsurface) - Proposed Extension
- Mining Lease Boundary
- Completed Underground Workings
- Direction of Mining
- Drainage Line

FIGURE 1.3

Proposed LWB4-B7 Modification

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20170515 13.05

1.3 Environmental Context and Land Use

The LWB4-B7 Modification Area is located in Quorrobolong, approximately two kilometres east of the township of Ellalong in the lower Hunter Valley of NSW (refer to **Figure 1.1**).

The Austar Coal Mine is located in the Newcastle Coalfield and targets coal extraction from the Greta Coal Seam within the Permian Age Greta Coal Measures. The depth of the cover directly above the proposed longwalls ranges from approximately 400 metres in the north-west above LWB7 to approximately 505 metres in the south-east above LWB4. The Greta Seam is the main economic coal seam in the Greta Coal Measures. The Greta Coal Measures are overlain by the Branxton Formation, which is comprised of a substantial thickness of sedimentary rocks and is up to 1300 metres thick in some locations (Geoscience Australia 1988).

The topography of the LWB4-B7 Modification Area is generally characterised by low undulating hills and creek flats associated with Quorrobolong Creek and its unnamed tributaries (refer to **Figure 1.4**). Elevations within the LWB4-B7 Modification Area range from approximately 115 metres to 160 metres Australian Height Datum (AHD). Steeper slopes associated with the Broken Back Range are located approximately 1.5 kilometres to the north of the LWB4-B7 Modification Area within the Werakata State Conservation Area.

The LWB4-B7 Modification Area is situated within the Quorrobolong Creek Catchment, a sub-catchment to the larger Wollombi Brook and ultimately the Hunter River catchment. Quorrobolong Creek forms part of the Congewai Creek Management Zone of the Upper Wollombi Water Source within the Hunter Unregulated and Alluvial Water Sources Water Sharing Plan area. Quorrobolong Creek crosses the northern portion of the LWB4-B7 Modification Area above proposed LWB6 and LWB7 (refer to **Figure 1.4**) and flows west into Ellalong Lagoon approximately 3.5 kilometres to the west. Quorrobolong Creek is ephemeral; however localised areas of ponding occur along its alignment. An unnamed tributary (4th order) of Quorrobolong Creek drains in a northerly direction through the LWB4-B7 Modification Area above LWB1 to LWB4, converging with Quorrobolong Creek upstream of LWB5 (refer to **Figure 1.4**).

A 1st order drainage line also traverses above LWB6 and LWB7 and includes an ephemeral ponded area adjacent to Quorrobolong Creek above LWB7. This drainage line acts as an overland flow path for Quorrobolong Creek during high out of bank flows (refer to **Figure 1.4**). A number of farm dams are located across the modification area, including a large farm dam waterbody located on Austar owned land in the north of the modification area that drains into Quorrobolong Creek (refer to **Figure 1.4**).

One soil landscape type is found within the LWB4-B7 Modification Area, being the Quorrobolong soil landscape (Kovac and Lawrie 1991) (refer to **Figure 1.5**). The main soils within this landscape are prairie soils which form in alluvium and occur in drainage depressions and on lower slopes. They are generally poorly drained, have moderate permeability and the upper horizon has moderate erodibility (Kovac and Lawrie 1991). The soils are moderately fertile and the main land use is generally grazing on unimproved pasture.

Land ownership within and surrounding the LWB4-B7 Modification Area is shown on **Figure 1.6**. The LWB4-B7 Modification Area is located beneath a mix of Austar owned land, privately owned rural land, and Crown landholdings. Austar owns approximately 21 per cent of the land within the modification area.

The primary land use within the LWB4-B7 Modification Area is rural and agricultural grazing including cattle and goat grazing on private landholdings in the south and east of the modification area. Six rural dwellings are located on the private landholdings within the modification area (refer to **Figure 1.4**). Land within the north and west of the modification area which is owned by the Crown and Austar and is currently vacant, supporting remnant and regrowth vegetation.

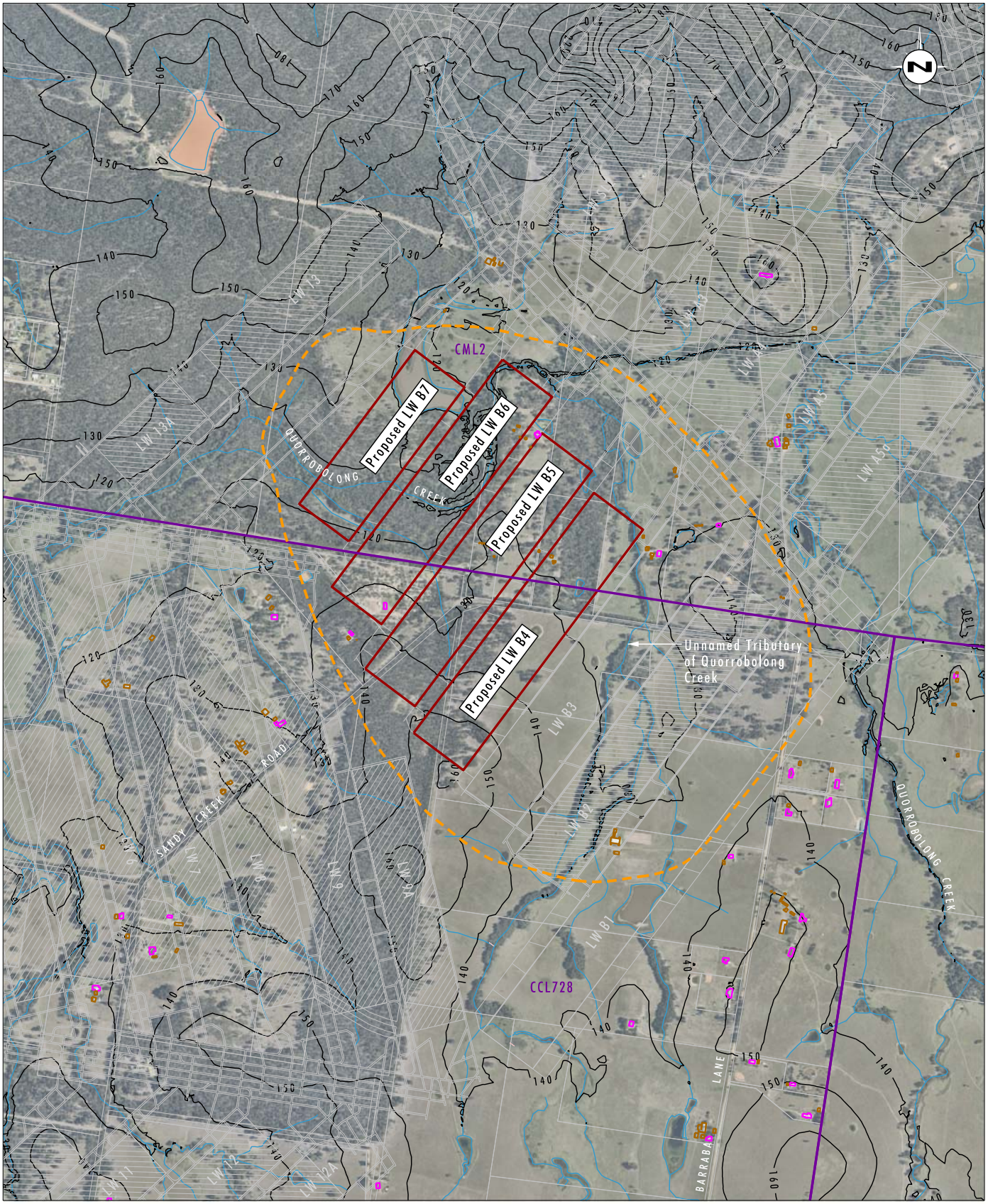

Image Source: Nearmap (2017)
Data Source: Austar Coal Mine (2015)
Note: Contour Interval 10m

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Legend

- Proposed LWB4-B7 Longwall Panels
- LWB4-B7 Modification Area
- Mining Lease Boundary
- Completed Underground Workings
- Drainage Line
- Contour
- Dwelling
- Other Structure

FIGURE 1.4

Topography and Land Use Context

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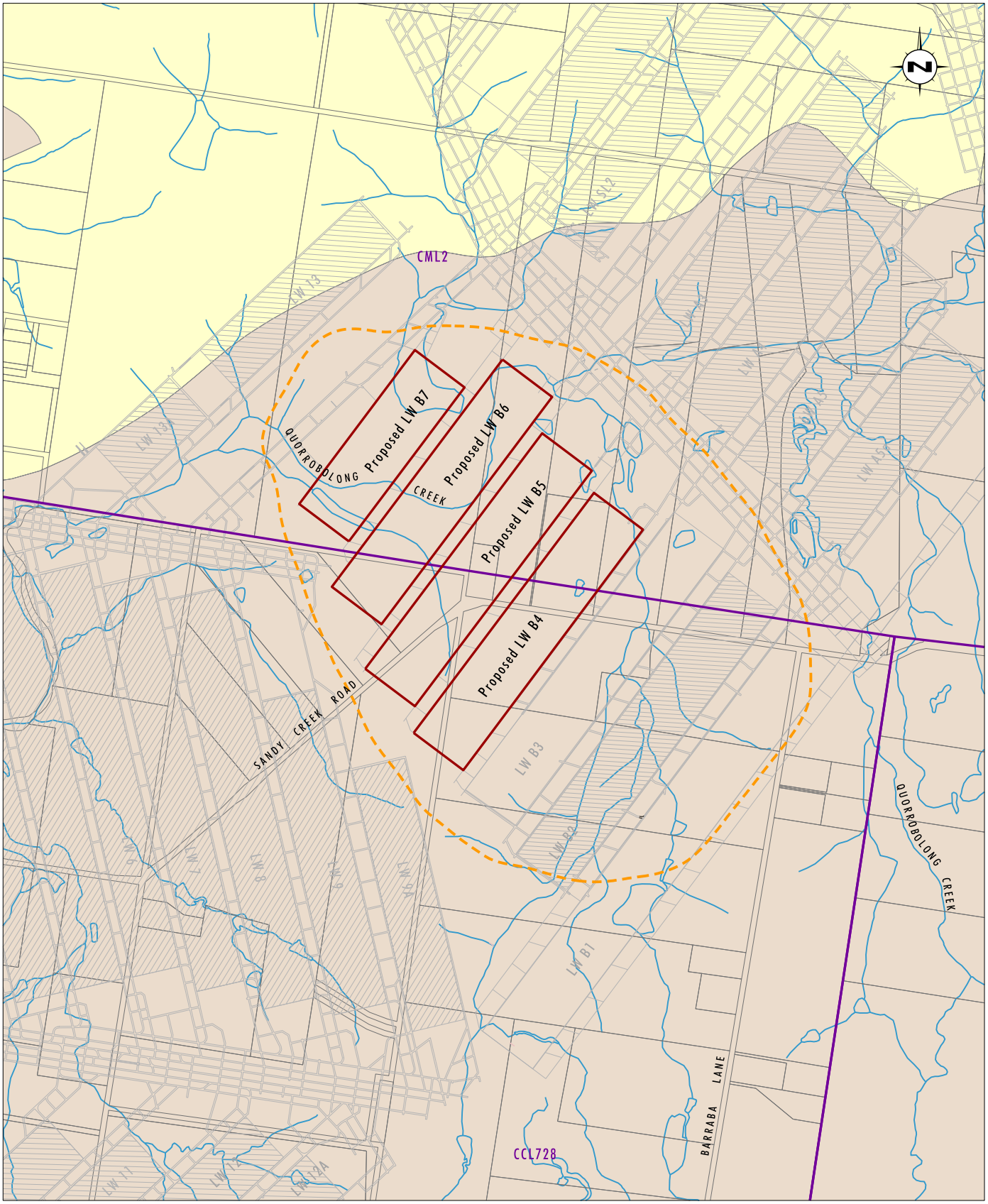
20170515 13.17



Data Source: Austar Coal Mine (2015), Department of Natural Resources (2005)

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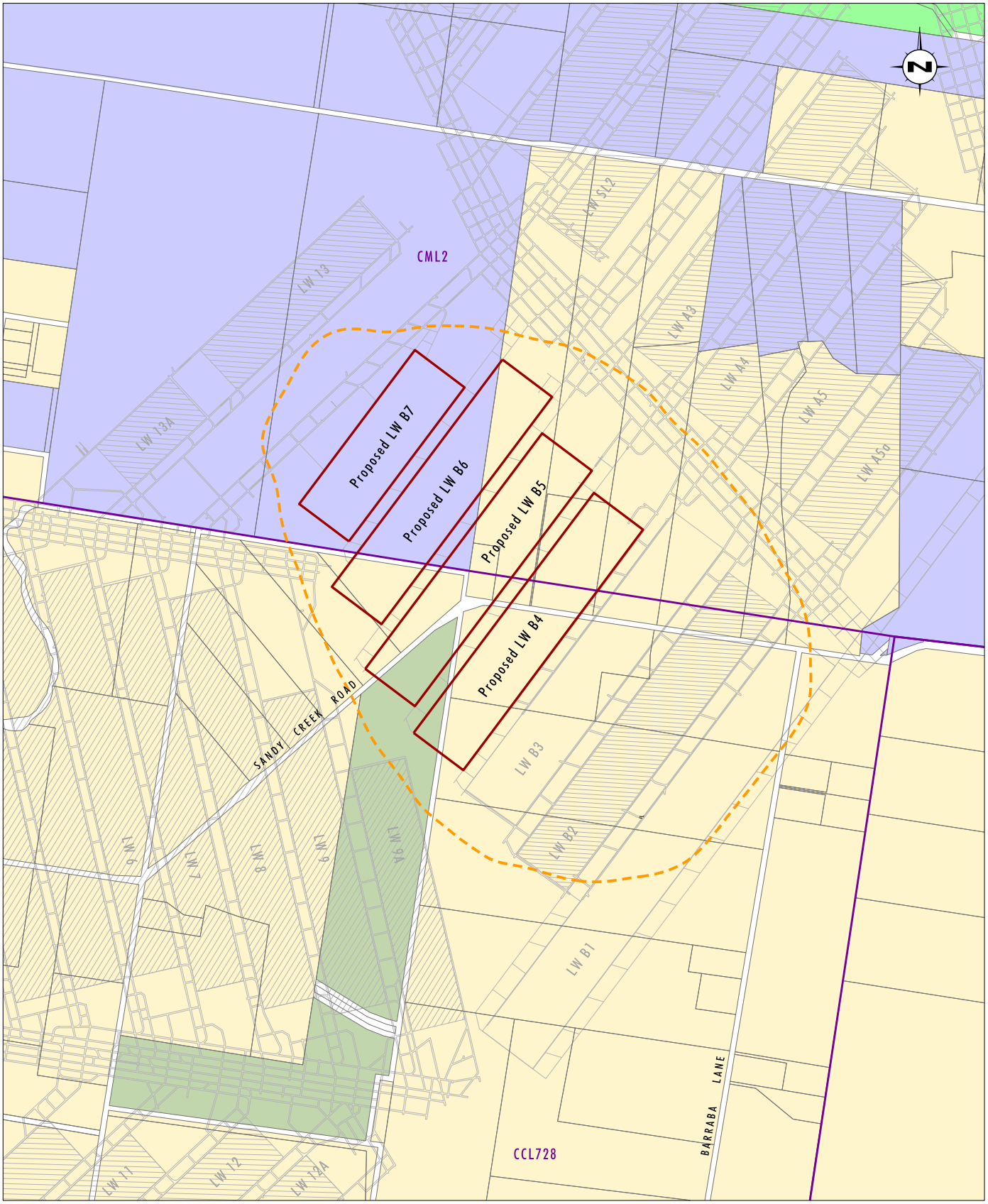
Legend

- Proposed LWB4-B7 Longwall Panels
- LWB4-B7 Modification Area
- Mining Lease Boundary
- Completed Underground Workings
- Drainage Line
- Quorrobolong Soil Landscape
- Aberdare Soil Landscape

FIGURE 1.5

Soil Landscapes

File Name (A4): R01/3900_014.dgn
20170515 13.20



Data Source: Austar Coal Mine (2016)

0 0.25 0.5 1.0km

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Legend

- Proposed LWB4-B7 Longwall Panels
- LWB4-B7 Modification Area
- Mining Lease Boundary
- Completed Underground Workings
- Austar Owned Land
- Privately Owned Land
- Crown Land

FIGURE 1.6

Land Ownership

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Land use surrounding the LWB4-B7 Modification Area is primarily rural and is dominated by cleared grazing land. Vegetated land to the northwest is owned by Austar and utilised for a variety of surface infrastructure associated with the mine. This Austar owned land connects to the north with the Werakata State Conservation Area which is dominated by vegetation. Other land uses in the surrounding area include rural residential, roads, underground mining and surface mining infrastructure associated with the Austar Coal Mine. The small township of Ellalong is located approximately 2 kilometres west of the LWB4-B7 Modification Area and the villages of Kitchener and Pelton are located approximately 4 kilometres to the northeast and northwest respectively (refer to **Figure 1.1**). The Watagans National Park is located approximately four kilometres south of the LWB4-B7 Modification Area, the Werakata State Conservation Area is located approximately one kilometre to the north and Werakata National Park is located approximately five kilometres to the north-east.

The LWB4-B7 Modification Area is located beneath Sandy Creek Road, with LWB4 and LWB5 passing beneath the road. Barraba Lane and its intersection with Sandy Creek Road is also located just inside the south eastern corner of the modification area, however will not be directly undermined by the proposed modification. Both Sandy Creek Road and Barraba Lane are local Council roads. Two unformed road reserves also occur within the LWB4-B7 Modification Area, north and south of Sandy Creek Road.

1.4 The Proponent

The proponent for the LWB4-B7 Modification is Austar Coal Mine Pty Ltd (Austar). Austar is a wholly owned subsidiary of Yancoal Australia Ltd (Yancoal).

1.5 Environmental Assessment Team

This EA was prepared by Umwelt (Australia) Pty Limited on behalf of Austar with specialist input provided by the following organisations/specialists. The specialist assessments prepared for this EA and their authors are presented in .

Table 1.1 Specialist Reports included within this EA

Report	Author
Mine Subsidence Impact Assessment	Mine Subsidence Engineering Consultants Pty Ltd
Groundwater Impact Assessment	Dundon Consulting Pty Ltd
Flooding and Drainage Assessment	Umwelt
Ecological Assessment	Umwelt
Aboriginal Cultural Heritage and Archaeological Assessment	Umwelt

A full listing of the project team members and their respective roles are provided in **Appendix 1**

1.6 Environmental Assessment Structure

This EA has been prepared in accordance with the EP&A Act and Regulation (refer to EA Statement of Authorship in **Appendix 1**). The EA comprises a main text component and supporting studies, which are included as appendices. An overview of the layout of the main text is presented in **Table 1.2** below.

Table 1.2 Environmental Assessment Structure

EA Section	Environmental Assessment Details
Executive Summary	Provides a brief overview of the proposed modification, the major outcomes of the environmental assessment and key project commitments to mitigate potential impacts.
Section 1.0	Provides the background and context for the proposed modification, key modification details, the proponent and environmental assessment team.
Section 2.0	Describes the existing Austar operations and approvals including environmental management and monitoring at the Austar Coal Mine.
Section 3.0	Describes the proposed modification.
Section 4.0	Provides a description of the current planning context for the proposed modification.
Section 5.0	Describes the stakeholder consultation process undertaken as part of the environmental assessment process.
Section 6.0	Provides a comprehensive analysis and assessment of the potential environmental and community impacts of the proposed modification, including the project specific and cumulative impacts.
Section 7.0	Provides a summary of proposed management and mitigation measures for the proposed modification
Section 8.0	Provides a conclusion and justification for the proposed modification, including how the proposed modification meets the principles of ecologically sustainable development.
Sections 9.0 and **10.0**	References and Abbreviations.

2.0 Overview of Existing Operations

2.1 Mine History

The Austar Coal Mine is an amalgamation of several older mines and operates within a number of mining leases under 14 separate development consents issued by Cessnock City Council between 1975 and 2012. Additionally, Austar operates under the Bellbird South consent granted by the NSW Minister for Urban Affairs and Planning in 1996 and Project Approval 08_0111 granted by the Minister for Planning in 2009. The Bellbird South consent permits underground longwall mining in the Bellbird South area and includes the Stage 1, Stage 2, Southland and LWB1-B3 mining areas (refer to **Figure 2.1**). Project Approval 08_0111 permits underground longwall mining in the Stage 3 mining area (refer to **Figure 1.2**).

The Austar Coal Mine and its associated infrastructure have a long and productive history. A chronology of mining within the Greta Coal Seam at the site and related activities is presented in **Table 2.1**. The locations of previous underground workings in the area are shown on **Figure 1.2.** The location of infrastructure currently used in the handling and processing of coal from the Austar Coal Mine is also shown on **Figure 1.2**.

Table 2.1 Summary of Mining Activities and Approvals at Austar Coal Mine

Year	Historical Details
1916	Underground mining commenced at Pelton Colliery.
1921	Underground mining commenced at Cessnock No. 1 (Kalingo) Colliery.
1960/1961	Pelton Coal Handling Preparation Plant (CHPP) constructed.
1961	Underground mining ceased at Cessnock No. 1 Colliery.
Late 1960s	Cessnock No. 1 Colliery amalgamated into Pelton Colliery.
1975	1975 development consent for Ellalong Colliery granted under Part X11 of the *Local Government Act 1919* as DA 74/75/79 (Ellalong Consent).
1978	Underground mining commenced at Ellalong Colliery with coal being delivered by overland conveyor to the coal preparation plant, raw and washed coal handling systems and train loading facilities at Pelton Colliery.
1983	Longwall production commenced at Ellalong Colliery.
1992	Underground mining ceased at Pelton Colliery.
1994	High levels of gas (primarily carbon dioxide) encountered in the underground workings at Ellalong Colliery, preventing further mining of additional seams to the south-east.
1994	Development consent for the extraction of two longwall panels as a minor extension to the Ellalong Colliery granted by Cessnock City Council.
1995	Pelton Open Cut Coal Mine established.

Year	Historical Details
1996	DA 29/95 approved by the Minister for Urban Affairs and Planning and underground operations from the Ellalong Colliery extended into the Bellbird South Colliery area (Bellbird South consent).
1998	Ellalong and Pelton Collieries amalgamated with Bellbird South Colliery and re-named Southland Colliery.
2003	Spontaneous combustion event resulting in a fire in the underground workings in Bellbird South. Mine placed in 'care-and-maintenance' for approximately 18 months.
2004	Yancoal purchased Southland Colliery and changed the name to Austar Coal Mine.
2005	Austar recommenced underground mining in the Bellbird South Colliery area.
2006	DA 29/95 modified to allow underground mining using LTCC technology in the Stage 1 area.
2008	DA 29/95 modified to allow underground mining using LTCC technology in the Stage 2 area.
2009	DA 29/95 modified to increase the size and dimensions of Longwalls A4 and A5 in the Stage 2 area.
2009	PA 08_0111 for underground mining using LTCC in the Stage 3 area approved by the Minister for Planning.
2010	DA 29/95 modified to allow extraction of one additional longwall panel (Longwall A5a) using LTCC technology in the Stage 2 area.
2010	PA 08_0111 wording of Condition 1 of Schedule 3 modified.
2012	PA 08_0111 modified to reorient Stage 3 longwalls and increase chain pillar width.
2012	DA 29/95 modified to increase the length of Longwall A5a.
2013	Mining completed in Stage 2 longwall A5a.
2013	Kitchener Surface Infrastructure Site ventilation shafts, services borehole, and services completed, and underground longwall mining commenced in Stage 3 area in Longwall A7.
2013	PA 08_0111 modified to extend the length of Longwalls A7 to A10.
2014	Stage 3 development works temporarily suspended.
2015	Development operations relocated to the Bellbird South and Ellalong Colliery areas to maintain business continuity in the medium term.

Year	Historical Details
2016	DA 29/95 modified to permit the transfer and processing of coal from LWB1-B3 in the Bellbird South/Ellalong Colliery areas and to extend the life of the consent to 14 February 2022. Underground longwall mining commenced in the LWB1-B3 mining area in LWB2.

As set out in **Table 2.1**, underground mining commenced at Pelton Colliery in 1916. The Pelton CHPP was constructed in about 1960/1961 for the washing of Pelton Colliery coal. Pelton Colliery was amalgamated with the neighbouring Cessnock No. 1 Colliery in the late 1960s.

In 1975 development consent for Ellalong Colliery was granted under Part X11 of the Local Government Act 1919 and the mine was officially opened in July 1979. The 1975 development consent envisaged that coal from Ellalong Colliery would be transported by conveyor from the Ellalong Drift and Pit Top to the Pelton CHPP. Longwall production commenced at Ellalong Colliery in 1983. Mining within the Ellalong Colliery is still permissible under the 1975 consent.

In early 1994 high gas levels were encountered in the southern part of Ellalong Colliery. Development consent was granted by Cessnock City Council in June 1994 to allow extraction of two longwall panels within existing mining leases to the north of the Ellalong Colliery and allow continuity of operations whilst investigations into alternate mining options were undertaken for the Ellalong Colliery.

In 1996 the Bellbird South consent was granted by the Minister for Urban Affairs and Planning to extend Ellalong Colliery to the north-east into the Bellbird South area to allow development in an area not affected by high levels of coal seam gas. The Bellbird South consent allowed for mining within CML2 by conventional retreat longwall mining producing up to 3 million tonnes per annum (Mtpa) of product coal. The approved mining area that formed part of the Bellbird South consent is shown in **Figure 2.1**.

In 1998 Southland Coal Pty Limited acquired Ellalong and Pelton Collieries and amalgamated them with Bellbird South Colliery. Ellalong, Pelton and Bellbird South Collieries became known as the Southland Colliery. Southland Colliery was operated until 2003 when spontaneous combustion resulted in the mine ceasing operations and being placed on care and maintenance for a period of 18 months.

Southland Colliery and its associated infrastructure was acquired by Yancoal in December 2004 and was renamed Austar Coal Mine.

Austar recommenced development mining in the Bellbird South area in April 2005. A modification to the Bellbird South consent was approved by the Minister for Planning in 2006 to allow for the extraction of coal to a height of 6.5 metres using LTCC technology in the Stage 1 area (consisting of LWA1 and A2 as shown on **Figure 2.1**). A further section 96 Modification (Stage 2) was approved by the Minister for Planning in 2008 to allow LTCC extraction of LWA3 to A5 in Stage 2 (see **Figure 2.1**). A third minor section 96 (1a) modification to vary the length and widths of LWA4 and A5 was approved in 2009, and a fourth modification under Section 75W of the EP&A Act adding LWA5a to the Stage 2 area was approved in November 2010. Modification 5 was approved on 27 April 2012 to lengthen LWA5a. Mining of LWA5a was completed in February 2013. Modification 6 was approved on 29 January 2016, permitting the transfer and processing of coal from three additional longwall panels, LWB1-B3 (refer to **Figure 2.1**).

A new Project Approval (PA 08_0111) was granted by the Minister for Planning in September 2009, enabling longwall mining using LTCC technology in the Stage 3 area and construction and operation of a new Surface Infrastructure Site and access road south of Kitchener (refer to **Figure 1.2**).

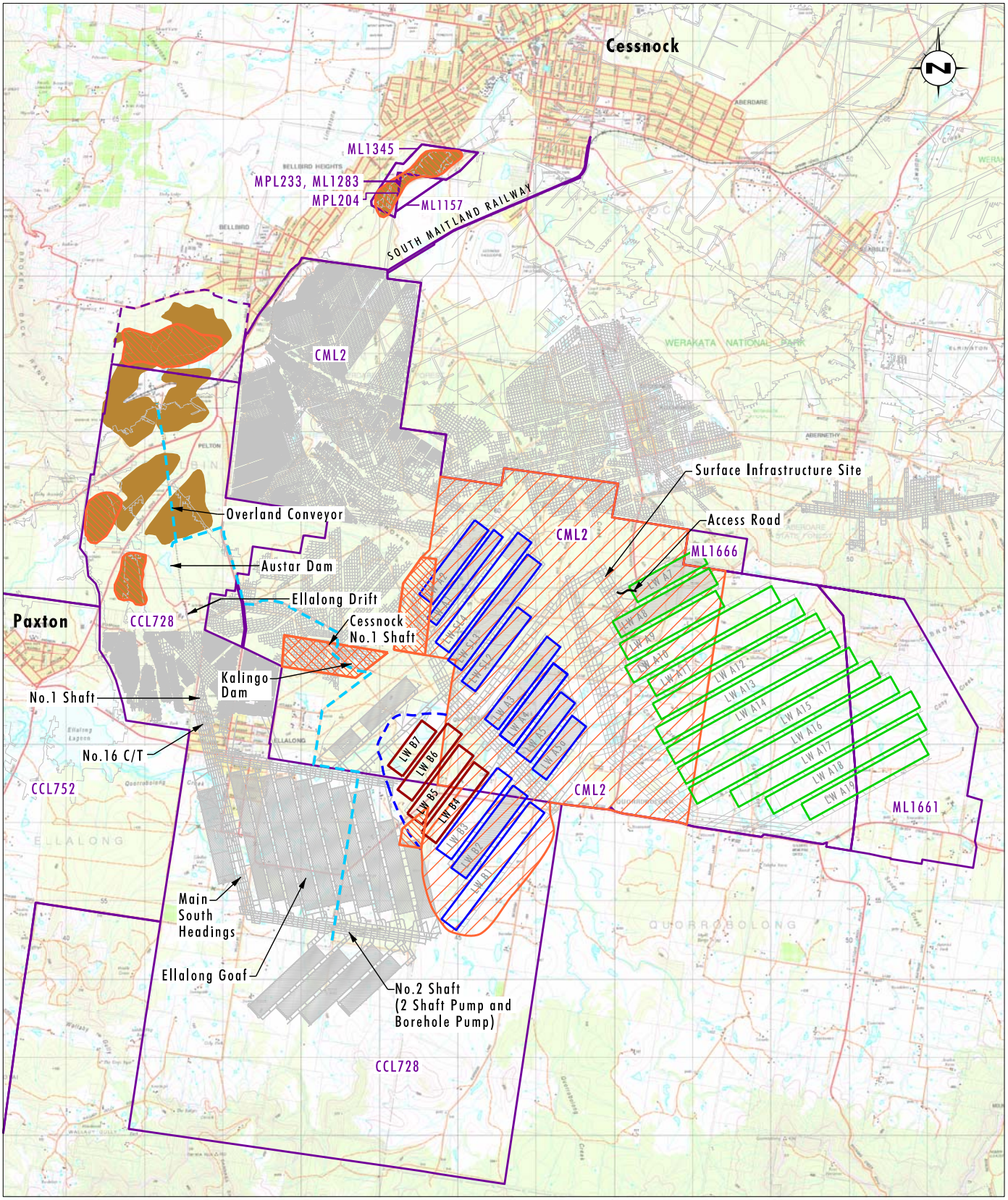

Image Source: LPI NSW (2009)
Data Source: Austar Coal Mine (2016)

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Legend

- Bellbird South Stage 1, Stage 2, Southland and LWB1-B3 Longwall Panels (DA 29/95)
- Proposed LWB4-B7 Longwall Panels (DA 29/95)
- Stage 3 Longwall Panels (PA08_0111)
- DA 29/95 Bellbird South Consent Area (Subsurface) - As Approved
- DA 29/95 Bellbird South Consent Area (Subsurface) - Proposed Extension
- Surface Application Area (DA 29/95)
- Approved Reject Emplacement Areas
- Completed Underground Workings
- Mining Lease Boundary
- Austar owned CHPP Land
- Water Pipeline

FIGURE 2.1

DA29/95 Approved Mining Area and Proposed LWB4-B7 Modification

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The new Surface Infrastructure Site includes new pit top facilities including an access road, upcast and downcast ventilation shafts, main ventilation fans, winder house, bathhouse, workshop, electricity substation and distribution line, service boreholes, potable and reticulated sewerage services, telecommunication services, offices and store. Ventilation shaft/fans and ancillary services construction at the Kitchener Surface Infrastructure Site was substantially completed in June 2013, with underground longwall mining also commencing in the Stage 3 area in June 2013.

2.2 Current Mining Operations

Since 2013, underground mining within the Austar Coal Mine has progressed within the Stage 3 area under Project Approval 08_0111, and more recently in the LWB1-B3 mining area under the Bellbird South consent (as modified). Austar Coal Mine has approval to extract up to 3.6 Mt of run of mine (ROM) coal a year until 31 December 2030.

Coal mined from within the Stage 3 area (PA 08_0111) and from the Bellbird South consent area (DA 29/95) is bought to the surface at the Ellalong Drift and Pit Top via an underground conveyor through the Ellalong East and South Headings (refer to **Figure 1.2**). Coal is then conveyed to the Pelton CHPP via an overland conveyor system, processed and handled at the Pelton CHPP and railed to the Port of Newcastle via the Austar Rail Line, South Maitland Railway and Main Northern Rail Line. Up to 60,000 tonnes of specialty coal product is also transported by road from the Pelton CHPP.

Reject from the Pelton CHPP is emplaced at approved emplacement areas at the Pelton CHPP and Aberdare Extended Open Cut Voids and may be emplaced at other approved sites as shown on **Figure 1.2**.

Longwall mining within the Stage 3 area has progressed to the end of LWA8. Mining of LWA8 was completed in June 2015. Austar has approval to mine longwalls A9 to A19 in Stage 3, however development operations were temporarily suspended in the Stage 3 area in 2014, causing discontinuity to Stage 3 longwall operations.

Austar returned mining operations to the Bellbird South/Ellalong Colliery areas in June 2015. Following approval of a modification to the Bellbird South consent (DA 29/95 Modification 6) in January 2016, Austar commenced longwall mining in the LWB1-B3 area. Mining has been completed in LWB2 and has commenced in LWB3.

2.3 Environmental Management of Existing Operations

The environmental management of existing operations at the Austar Coal Mine is undertaken within the framework of the Austar Environmental Management Strategy (Austar 2013a) and supporting management plans, the Austar Mining Operations Plan (MOP) (Austar 2016) and the Environment Protection Licence for the mine (EPL 416). This section provides an overview of the environmental management framework at the Austar Coal Mine and its current environmental performance.

2.3.1 Environmental Management and Monitoring

The Austar Environmental Management Strategy (2013a) and supporting environmental management and monitoring plans provide a methodical and integrated approach to fulfilling Austar's environmental obligations and ensuring the effective ongoing environmental management of the site.

An independent environmental audit of the Austar Coal Mine undertaken in 2014 found that Austar's Environmental Management Strategy provides a sound basis for the management of environmental aspects of the activities and operations within the Austar Coal Mine (AEMC 2015).

It also found that Austar has generally demonstrated a high degree of compliance with conditions of consent and approval under the Bellbird South consent and Project Approval 08_0111 (AEMC 2015).

Current environmental management and monitoring plans include:

- Environmental Management Strategy
- Environmental Monitoring Program
- Subsidence Management Plans for the Stage 1 and Stage 2 areas including:
    - Property Subsidence Management Plans
    - Public Safety Subsidence Management Plan
    - Infrastructure Subsidence Management Plans
    - Subsidence Monitoring Strategy
- Extraction Plan/Subsidence Management Plan for Stage 3 LWA7 to LWA10 including:
    - Subsidence Monitoring Program
    - Land Management Plan
    - Biodiversity Management Plan
    - Built Features Management Plan
    - Heritage Management Plan
    - Public Safety Management Plan
- Extraction Plan for LWB1-B3 including:
    - Water Management Plan
    - Land Management Plan
    - Biodiversity Management Plan
    - Built Features Management Plan
    - Public Safety Management Plan
    - Subsidence Monitoring Program
- Noise and Vibration Management Plan
- Air Quality and Greenhouse Gas Management Plan
- Site Water Management Plan
- Bushfire Management Plan
- Aboriginal Cultural Heritage Management Plan
- Historic Heritage Management Plan

- Stage 2 Ecological Monitoring Program
- Stage 3 Surface Infrastructure Site – Traffic Management Plan
- Stage 3 Surface Infrastructure Site – Shaft Construction Environmental Management Plan
- Stage 3 Surface Infrastructure Site – Landscape Management Plan Kitchener Surface Infrastructure Site.

Austar's environmental management plans have been prepared and implemented in accordance with the conditions of the Bellbird South consent or Project Approval 08_0111, where appropriate.

Annual review and reporting of environmental performance is provided in the Annual Environmental Management Report (AEMR).

2.3.2 Subsidence Management and Monitoring

The monitoring, management and mitigation of subsidence is an integral component of current mining operations and requirements of the existing Austar Extraction and Subsidence Management Plans.

Austar has implemented a range of subsidence monitoring procedures that have been developed in consultation with overlying landholders and other relevant stakeholders to monitor the impact of the Austar Coal Mine. This includes:

- subsidence monitoring lines to be located as determined as part of the Extraction Plan process
- visual assessment of natural features and items of surface infrastructure before, during and following longwall mining to detect subsidence impacts such as surface cracking, irregularities in the subsidence profile, erosion, changes in drainage patterns or loss of water from drainage structures
- assessment of buildings and other relevant structures by a structural engineer before and after longwall mining
- verification and revision of subsidence predictions as mining progresses.

Verification and ongoing refinement and calibration of the subsidence predictive model are critical components of subsidence management. As the coal resource is extracted, verification of the model is undertaken by assessing measured subsidence against predictions. This monitoring information may then be incorporated into future iterations of subsidence predictions. This allows a continual refinement process for the assessment and management of subsidence impacts as operations progress.

Monitoring of subsidence parameters and subsidence induced impacts for the mining of two LTCC panels in Stage 1 confirmed that observed subsidence levels were within Maximum Predicted Subsidence for those panels. The same observation has been recorded for extraction of LWA3, A4, A5 and A5a in the Stage 2 area; LWA7 and LWA8 in the Stage 3 area; and for LWB2 in the LWB1-B3 area. Surface impacts associated with subsidence within the Stage 1, Stage 2 and LWB1-B3 areas have been minimal and have very rarely required surface remediation works.

The results of the Subsidence Monitoring Program are communicated on a regular basis to a range of stakeholders, including landholders over the mining area, the Austar Community Consultative Committee, infrastructure owners, and relevant Government authorities. In addition, results are regularly provided on the Austar website, and formally reported on an annual basis through the AEMR.

Austar will continue to communicate with relevant stakeholders regarding the subsidence impact assessment, potential subsidence impacts, and the monitoring and management of these impacts (as described in **Section 6.2**).

2.3.3 Austar Mining Operations Plan

Operational aspects of the Austar Coal Mine, including environmental management and rehabilitation, are managed in accordance with the current Austar MOP as amended (Austar 2016), which was approved by the Department of Industry, Division of Resources and Energy (now Department of Planning and Environment - Resources and Energy), in 2016. The current MOP covers all mining operations at the Austar Coal Mine over a seven year period from 2016 to 2023. A new MOP will be prepared and submitted for approval prior to the expiry of the existing MOP. The MOP encompasses all mining activities within the Austar Coal Mine mining leases including:

- underground mining
- activities at Ellalong Drift and Pit Top
- overland transport of ROM coal from Ellalong Drift to Pelton CHPP
- processing and handling of coal at Pelton CHPP
- disposal of tailings to former underground workings
- reject management and emplacement activities
- water management
- use and management of remote infrastructure sites (No. 1, 2, 3, 4, 5 and 6 shafts, the Kalingo site, and the Kitchener Surface Infrastructure Site
- rehabilitation activities.

Review and reporting of Austar's performance against the MOP is provided through AEMRs and inspections by Resources and Energy.

3.0 Description of Proposed LWB4-B7 Modification

Austar proposes to modify the Bellbird South consent to:

- permit the transfer and processing of coal from LWB4-B7 via the existing Bellbird mains, and
- extend the development consent area to encompass the four proposed longwall panels (refer to **Figure 1.3**).

The existing Austar Coal Mine infrastructure is sufficient to support the mining of the four proposed longwalls and there will be no change to surface facilities, approved rates of mining, coal processing and handling or product transport rates as a result of the modification. This additional longwall resource will provide continuity of mining following the completion of LWB3, and with minimal additional mine development will provide access to approximately 3.65 Mt of additional ROM coal.

Austar holds mining authorities CCL728 and CML2 over the LWB4-B7 Modification Area. The LWB4-B7 Modification Area is located entirely within CCL728 and CML2 and no change to Austar's existing mining authorities is required to accommodate the LWB4-B7 Modification (**Section 4.1.2**).

Further detail of the proposed modification is provided in the following sections.

3.1 Proposed Longwalls

LWB4-B7 are located to the southeast of the Bellbird mains in the former Bellbird South / Ellalong Colliery areas (refer to **Figure 1.2**). The depth of cover above LWB4-B7 ranges from approximately 400 to 505 metres, consistent with surrounding underground workings. The approximate dimensions of the proposed longwalls are provided in **Table 3.1**.

Table 3.1 LWB4-B7 Approximate Dimensions

Longwall Panel	Approximate Void Length (m)	Approximate Void Width (m)	Approximate Extraction Height (m)
LWB4	1,125	237	3.4
LWB5	1,105		
LWB6	1,065		
LWB7	725		

3.2 Mining Method

Coal will be extracted from LWB4-B7 using conventional longwall mining techniques.

3.3 Surface Facilities and Infrastructure

Access to LWB4-B7 will be achieved via the existing Bellbird mains and no additional surface facilities or changes to existing surface infrastructure will be required to accommodate the LWB4-B7 Modification.

The proposed modification will utilise the existing and approved Austar Coal Mine infrastructure and facilities to handle, process and transport ROM coal from LWB4-B7.

Rejects (comprising coarse and fine rejects) generated from the processing of LWB4-B7 ROM coal will be managed in a manner consistent with approved rejects management practices. This includes the disposal of rejects in surface emplacement areas and in former underground workings (via pipelines and boreholes), as described in the approved Austar MOP. The LWB4-B7 Modification will generate approximately 0.36 Mt of additional reject material. The total remaining reject disposal capacity (within approved reject emplacement and underground disposal areas) at the Austar Coal Mine is greater than 10Mt, which is more than adequate for the management of rejects to be generated from approved (Stage3 and LWB1-B3) and proposed (LWB4-B7) mining areas.

3.4 Employment

Austar Coal Mine currently employs a workforce of approximately 240 people. The proposed modification will allow for the continued employment of the current workforce and avoid the loss of staff that would otherwise be associated with a significant break in mining continuity at the site.

3.5 Hours of Operation

The underground mining of LWB4-B7 will be undertaken on a 24 hour, seven day a week basis, consistent with the current consent.

3.6 Project Timing

Approval for the LWB4-B7 Modification is sought by the end of August 2017 to provide for certainty of the continuation of mining within Bellbird South mining area of the Austar Coal Mine.

3.7 Project Justification and Alternatives

3.7.1 Business Continuity

The LWB4-B7 Modification provides the opportunity to access and extract additional high quality metallurgical coal resources within an area of historical underground workings which, with relatively minimal development time and cost, will provide mining and business continuity following the completion of LWB3. The LWB4-B7 Modification will therefore maximise resource utilisation at the Austar Coal Mine and enable the efficient and continued use of existing mining services employees, facilities and infrastructure.

3.7.2 Coal Tonnage and Surface Impact

The LWB4-B7 Modification will provide access to approximately 3.65 Mt of additional ROM coal.

As shown in **Figure 1.2,** there has been significant longwall mining undertaken surrounding the LWB4-B7 Modification Area over a long period of time, including most recently the extraction of LWB2 in the southern portion of the LWB4-B7 Modification Area. As a result, the potential subsidence impacts associated with mining in the local area are well understood, and as the proposed longwalls will be extracted from the same coal seam at similar depths as surrounding historical workings, it is expected that subsidence and associated surface impacts from the proposed longwalls will be similar to that previously experienced in adjacent areas and less than that previously experienced in the LTCC extracted areas. Surface impacts associated with subsidence within the surrounding area have been minimal and have very rarely required surface remediation works.

A detailed assessment of the extent and nature of surface impacts associated with the LWB4-B7 Modification has been completed and confirms the subsidence related impacts on the environment and built features will be minimal and are able to be readily managed in accordance with existing management practices for recent operations at Austar Coal Mine (refer to **Section 6.0**).

3.7.3 Efficient Resource Recovery

The LWB4-B7 Modification optimises the efficient use and management of resources through maximising resource utilisation within an area of historical underground workings. The proposed modification can be achieved with minimal additional mine development, will utilise well established surface facilities and will require no changes to existing surface infrastructure.

3.7.4 Ecologically Sustainable Development (ESD)

Austar has identified additional high quality coal within its existing mining leases that can be recovered without having a significant impact on built features or the environment.

The proposed modification has been assessed with consideration of the principles of ESD (refer to **Section 8.3**), including the precautionary principle, intergenerational equity, conservation of biological diversity and valuation and pricing of resources. These principles have been incorporated into the planning and assessment of the LWB4-B7 Modification so as to minimise the potential for serious irreversible environmental damage. This has been achieved through careful project design, identification and assessment of potential impacts, the development of appropriate management and mitigation measures to address identified risks and the implementation of monitoring and reporting mechanisms.

3.7.5 Project Alternatives

Austar has considered the alternative of not proceeding with the proposed LWB4-B7 Modification. Not proceeding with the proposed LWB4-B7 Modification would result in the loss of an additional 3.65 Mt of ROM coal that could be readily accessed with relatively minimal additional development time and cost. It would also result in a significant discontinuity of longwall mining as at least twelve months of development would be required in other approved areas of the mine prior to longwall recommencement. This would represent a significant business interruption for Austar and would lead to loss of employment for a number of mine workers. A significant business interruption would risk business viability in an already marginal economic environment. The alternative of not proceeding with the proposed LWB4-B7 Modification is therefore not considered viable.

4.0 Planning Context

This section provides details of the relevant State and Commonwealth legislation and planning provisions and a discussion of their application to the proposed modification.

4.1 NSW State Legislation

4.1.1 Environmental Planning and Assessment Act 1979

As outlined in **Section 1.0**, a modification to the Bellbird South consent is sought under Section 75W of the EP&A Act.

The Bellbird South consent was granted by the Minister for Urban Affairs and Planning on 14 February 1996 pursuant to section 91 of the EP&A Act and clause 8 of the State Environmental Planning Policy No. 34 – Major Employment prior to the commencement of the (now repealed) Part 3A provisions.

Clause 8J(8) of the *Environmental Planning and Assessment Regulation 2000* provides that:

> *For the purposes only of modification, the following development consents are taken to be approvals under Part 3A of the Act and section 75W of the Act applies to any modification of such a consent …*
>
> *(b) a development consent granted by the Minister under State Environmental Planning Policy No 34—Major Employment-Generating Industrial Development,*

Further, Clause 12 of Schedule 6A of the EP&A Act provides that:

> *Section 75W of Part 3A continues to apply to modifications of the development consents referred to in clause 8J (8) of the Environmental Planning and Assessment Regulation 2000, and so applies whether an application for modification is made before or after the commencement of this clause.*

Accordingly, the Bellbird South Consent is a transitional Part 3A project and may continue to be modified pursuant to Section 75W of the EP&A Act.

Section 75W is therefore the appropriate approval pathway for the LWB4-B7 Modification.

Permissibility

Environmental planning instruments, other than State Environmental Planning Policies (SEPPs), do not apply to projects assessed under Section 75W of the EP&A Act, except as regards to permissibility.

The LWB4-B7 Modification Area is located within the Cessnock local government area (LGA). Hence, the Cessnock Local Environment Plan (LEP) 2011 is relevant to the permissibility of this modification. Under the LEP the LWB4-B7 Modification Area is zoned RU2 Rural Landscape (refer to **Figure 4.1**). Under the LEP, mining is permissible with consent on land zoned RU2.

The permissibility provisions of SEPP (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP) also provide that 'underground mining carried out on any land' is permissible with development consent. Consequently, the proposed modification is permissible with development consent under the Mining SEPP.

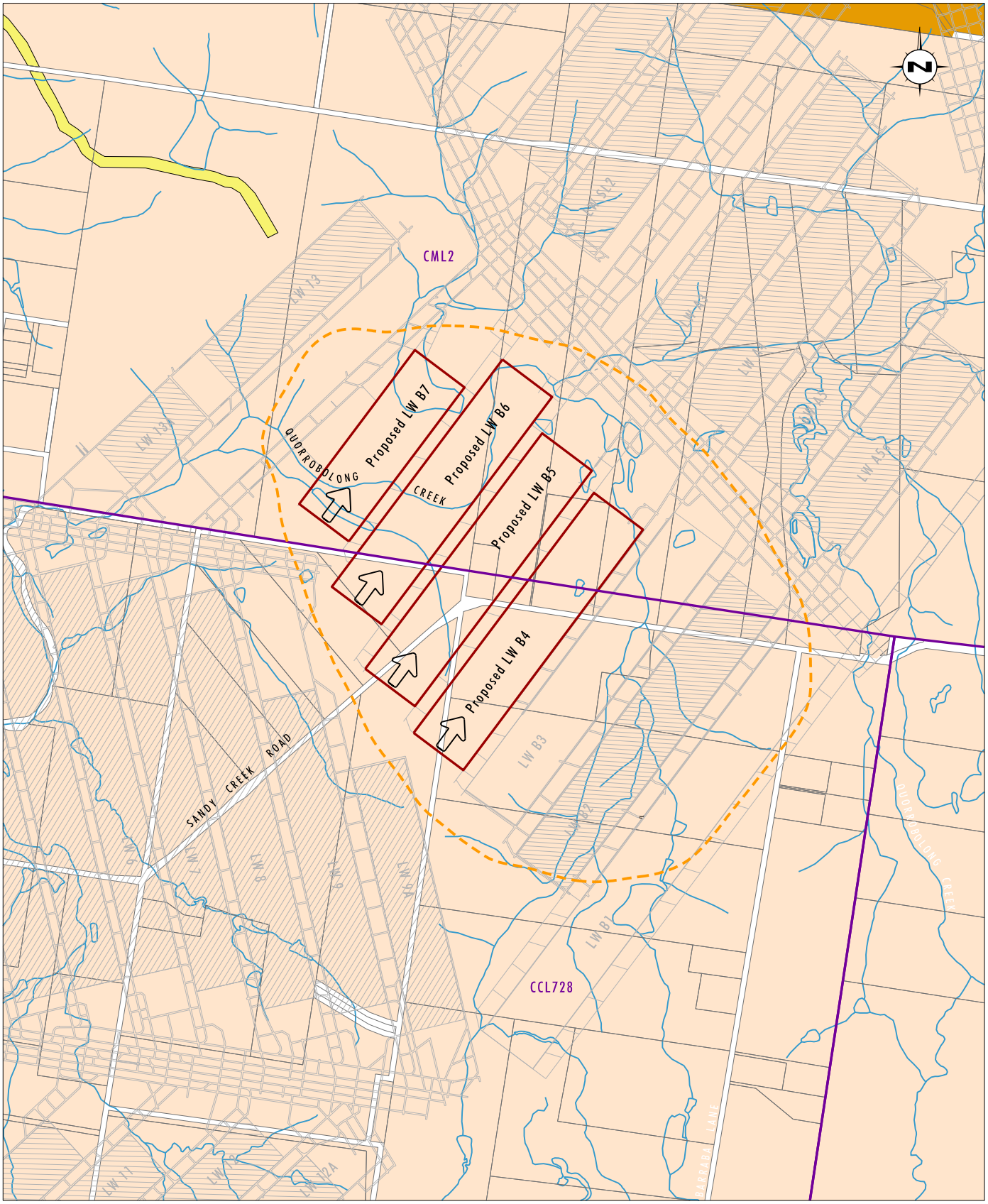

Image Source: Nearmap (2017)
Data Source: Austar Coal Mine (2015), Cessnock LEP (2011)

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Legend

- Proposed LWB4-B7 Longwall Panels
- LWB4-B7 Modification Area
- Mining Lease Boundary
- Completed Underground Workings
- Direction of Mining
- Drainage Line
- Cadastral Boundary
- RU2 Rural Landscape Zone (LEP)
- E1 National Parks and Nature Reserves (LEP)
- SP2 Infrastructure (LEP)

FIGURE 4.1

Cessnock LEP 2011 Land Zoning

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4.1.2 Other State Legislation and Environmental Planning Instruments

A summary of the other State environmental and planning legislation potentially relevant to the proposed modification is provided in **Table 4.1**.

Table 4.1 Summary of State Legislation and Relevance to the LWB4-B7 Modification

Act	Comment	Further Approval Required for Proposed Modification
Mining Act 1992	Under this Act a ML is required before any mining or specified mining purpose can be carried out on the land. Austar currently holds mining leases CML2 and CL728 over the LWB4-B7 Modification Area, which provides Austar with the mining rights to the target seam for the proposed LWB4-B7 Modification. All mining operations must be subject to a Mining Operations Plan (MOP) and approved Extraction Plan.	No, however Austar will be required to update the existing approved MOP and Extraction Plan in accordance with the conditions of the existing mining leases
Work Health and Safety (Mines) Act 2013 and Regulation	The *Work Health and Safety (Mines) Act 2013* commenced on 1 February 2015, replacing the Coal Mine Health and Safety Act 2002. The new laws align specific mine safety laws with general work health and safety laws. Under the Act, mine operators are required to notify the regulator of certain high risk activities, including secondary extraction by longwall methods. The approval of the regulator is however not required for these activities.	No, however Austar will be required to notify the regulator of all proposed high risk activities, including secondary extraction.
Protection of the Environment Operations Act 1997 (PoEO Act)	The PoEO Act is administered by the EPA and requires licences for environmental protection including waste, air, water and noise pollution control. Austar currently holds Environment Protection Licence (EPL) 416. No changes to surface operations, noise emissions, dust emissions or surface water management are proposed as a result of the proposed LWB4-B7 Modification.	No.
National Parks & Wildlife Act 1974 (NP&W Act)	An Aboriginal Heritage Impact Permit is required under section 90 of the NP&W Act to harm an Aboriginal object. An assessment of the proposed modifications potential to harm Aboriginal objects is provided in **Section 6.6.**	No, except in the very unlikely event subsidence remediation works are required at the location of the identified Aboriginal sites.

Act	Comment	Further Approval Required for Proposed Modification
Heritage Act 1977 (Heritage Act)	Approval is required under Section 60 of the Heritage Act to disturb an item listed on the State Heritage Register or the subject of an Interim Heritage Order. An excavation permit is required under section 140 to disturb or excavate other heritage items. A very small portion of one locally listed heritage site is partially located within the LWB4-B7 Modification Area, however will not be adversely impacted by the proposed modification.	No
Roads Act 1993	The Roads Act 1993 is administered by Roads and Maritime Services (RMS), local council or the Department of Industry - Lands depending on the classification of the road; the RMS has jurisdiction over major roads, the local council over minor roads, and the Department of Industry - Lands over Crown roads and Crown road reserves. The Act requires that applications for the closure of Crown roads be made to the Minister. Consent under Section 138 of the Roads Act 1993 is required in order to undertake works within a road reserve. Subsidence remediation works may be necessary along sections of Sandy Creek Road and approval for any such works will be required from Cessnock City Council under s138 of the Roads Act 1993. If any works are required, approvals would be obtained prior to such works being undertaken.	Yes, if subsidence remediation works are required within any road reserve
Crown Lands Act 1989	The Act provides for the administration and management of Crown land in the eastern and central divisions of the State. Crown land may not be occupied, used, sold, leased, dedicated, reserved or otherwise dealt with unless authorised by this Act or the *Crown Lands (Continued Tenures) Act 1989*. It is noted that the *Crown Lands Act 1989* will be replaced by the *Crown Land Management Act 2016* on its commencement (anticipated for 2018). The LWB4-B7 Modification Area extends across a parcel of Crown Land along its western boundary. The approval of the Department of Industry - Lands will be sought for any subsidence remediation works required within this area.	Yes, if subsidence remediation works required on Crown Land.

Act	Comment	Further Approval Required for Proposed Modification
Water Management Act 2000	This Act regulates the taking, interception, storage and use of surface water and groundwater within areas subject to water sharing plans. The *Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources 2009* (Hunter Unregulated and Alluvial WSP) applies to the surface water and alluvial water sources within the Modification Area. The *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016* (North Coast Fractured and Porous Rock WSP) applies to the non-alluvial groundwater sources within the Modification Area. Any water extracted from water sources regulated by a WSP will require licensing under the WM Act. Based on the findings of the subsidence assessment (refer to **Section 6.2**), surface water impact assessment (refer to **Section 6.3**) and groundwater impact assessment (refer to **Section 6.4**), no loss of surface water or water from alluvial or non-alluvial groundwater sources regulated by the WM Act is predicted as a result of the proposed modification. Austar holds sufficient non-alluvial groundwater licences to account for the inception and take of groundwater from the mine workings (refer to **Section 6.4**). Therefore no further water access licences are expected to be required under the WM Act. The following approvals are not required under the WM Act for the proposed modification: water use approval; water management work approval; or activity approval.	No
Water Act 1912	This Act applies to the licensing and regulation of water that is not covered by a water sharing plan under the WM Act. There are no areas of the Austar Coal Mine or Modification Area that are not covered by a WSP.	No
Environmentally Hazardous Chemicals Act 1985	The EPA is granted power under *the Environmentally Hazardous Chemicals Act 1985* to assess and control chemicals and declare substances to be chemical wastes. A licence is required for any storage, transport or use of prescribed chemicals. The modification will not result in any changes to the storage, transport or use of prescribed chemicals.	No

Act	Comment	Further Approval Required for Proposed Modification
Mine Subsidence Compensation Act 1961	Under this Act, the approval of Subsidence Advisory NSW (formerly the Mine Subsidence Board) is required for the erection or alteration of improvements within a mine subsidence district. The erection or alteration of improvements is not proposed as part of the modification. Therefore approval under Section 15 of the *Mine Subsidence Compensation Act 1961* does not apply. It is noted that changes are currently proposed to the mine subsidence compensation process whereby Subsidence Advisory NSW would no longer be responsible for processing claims for subsidence damage from active mines, rather, mining operators would directly compensate property owners for any subsidence damage that they cause. These proposed changes to the *Mine Subsidence Compensation Act 1961* are yet to be enacted. It is further noted that the Austar Coal Mine including the Modification Area is proposed to be included in a new mine subsidence district, however this is yet to be formalised.	No
Dams Safety Act 1978	The *Dams Safety Act 1978* requires that large dams that may constitute a hazard to human life and property must be periodically reviewed by the NSW Dams Safety Committee (to be known as Dams Safety NSW under the *Dam Safety Act 2015*). These dams are known as prescribed dams and are listed in Schedule 1 of the Act. There are no prescribed dams within the LWB4-B7 Modification Area, with the closest being the Austar Coal Mine owned Kalingo Dam approximately 750 metres to the north (refer to **Figure 4.2**). The proposed modification is outside the Kalingo Dam notification area and will not adversely impact the Kalingo Dam. The LWB4-B7 Modification will also not require the construction of any new dams. No approvals will be required under this Act. It is noted that this Act will be replaced by the provisions of the *Dam Safety Act 2015* on its commencement.	No

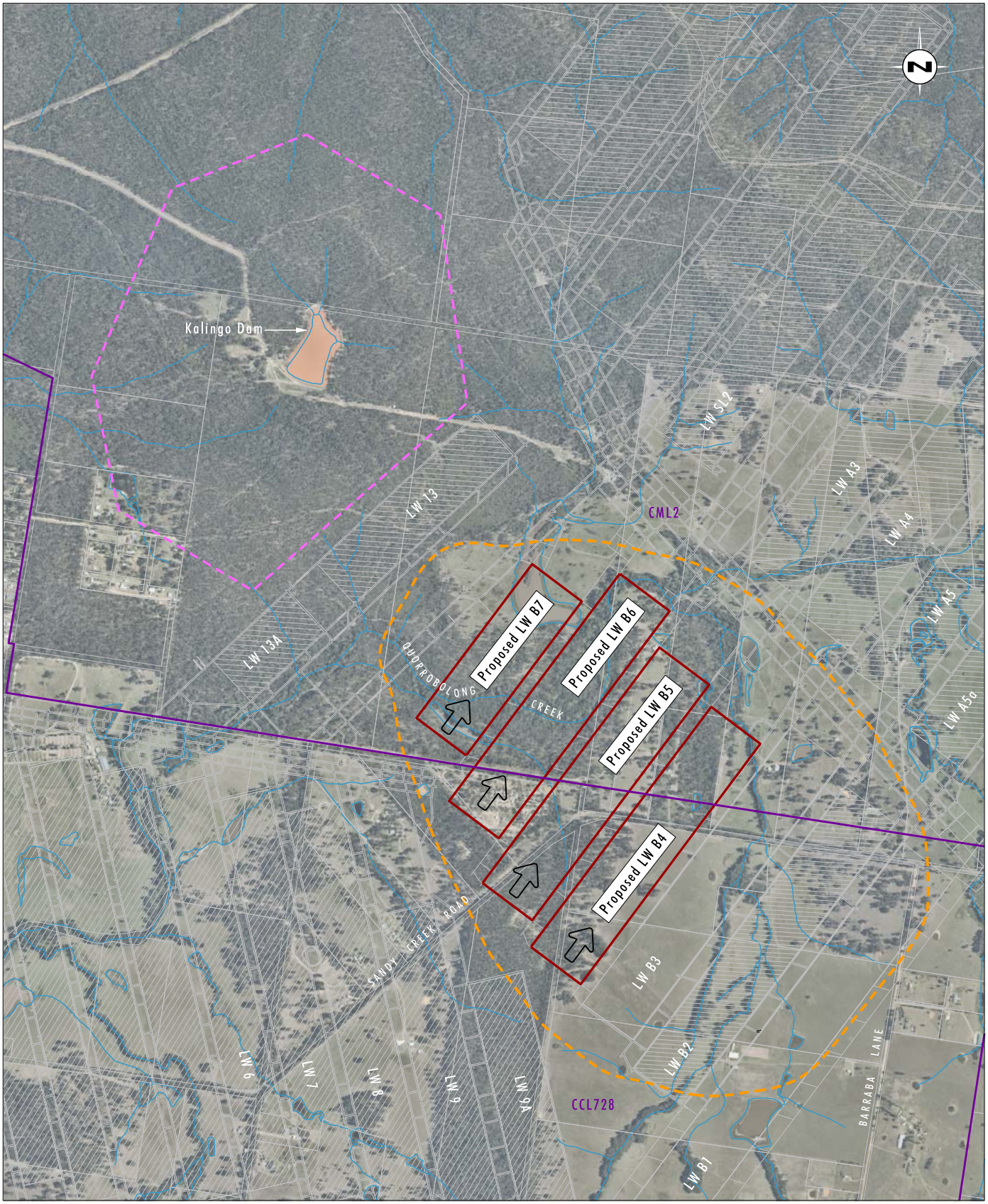

Image Source: Nearmap (2017)
Data Source: Austar Coal Mine (2016), NSW Dam Safety Committee (2008)

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Legend

- Proposed LWB4-B7 Longwall Panels
- LWB4-B7 Modification Area
- Kalingo Dam Notification Area
- Mining Lease Boundary
- Completed Underground Workings
- Direction of Mining
- Drainage Line

FIGURE 4.2

Kalingo Dam Notification Area

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Table 4.2 outlines the relevant SEPPs required to be considered in relation to the LWB4-B7 Modification.

Table 4.2 Relevant SEPPs for Consideration in Relation to the LWB4-B7 Modification

NSW Legislation – Environmental Planning Instruments		
Planning Provision	**Comment**	**Relevance**
State Environmental Planning Policy (State & Regional Development) 2011	The LWB4-B7 Modification is of a class of development listed in the SEPP and would have been categorised as State significant development if s75W did not apply to the proposed modification.	The proposed modification is categorised as State Significant Development but for the application of section 75W of the EP&A Act via schedule 6A of the EP&A Act.
State Environmental Planning Policy (Mining, Petroleum Production & Extractive Industries) 2007	Regulates the permissibility of mining and related development and specifies matters that must be considered in assessing mining developments requiring consent under Part 3A (repealed) and Part 4 of the EP&A Act.	The proposed modification is permissible with consent.
State Environmental Planning Policy 33 (Hazardous & Offensive Development) 1992	SEPP No. 33 requires the consent authority to consider whether an industrial proposal is a potentially hazardous industry or a potentially offensive industry. A preliminary hazard analysis is completed for potentially hazardous development to assist the consent authority to determine acceptability.	The existing Austar Coal Mine operations are not considered as hazardous or offensive. The proposed modification will not result in any changes to the existing operations which would alter this classification. No further consideration of SEPP No. 33 is required.
State Environmental Planning Policy 44 (Koala Habitat Protection)	SEPP No. 44 restricts a Council from granting development consent for proposals on land identified as core koala habitat without preparation of a plan of management.	No core koala habitat has been identified within the LWB4-B7 Modification Area. The provisions of SEPP 44 do not apply and a koala plan of management is not required for the modification.
State Environmental Planning Policy 55 (Remediation of Land)	SEPP No. 55 restricts a consent authority from granting consent for the carrying out of development on land unless the consent authority has considered any potential contamination issues.	No potential contamination issues have been identified within the LWB4-B7 Modification Area.

Table 4.3 outlines the relevance of other NSW strategic policies in relation to the LWB4-B7 Modification.

Table 4.3 Potentially Relevant NSW Strategic Policies

NSW Strategic Policies		
Policy	**Comment**	**Relevance**
Upper Hunter Strategic Regional Land Use Plan	The Upper Hunter Strategic Regional Land Use Plan (Upper Hunter SRLUP) contains the detailed policy direction for assessing and managing strategic land use decisions in the Upper Hunter Valley. The objective of the Upper Hunter SRLUP is to balance the strong economic growth in Regional NSW with the protection of valuable agricultural land and the sustainable management of natural resources. In particular, the Upper Hunter SRLUP seeks to minimise land use conflicts arising from the growth of coal mining activities and the coal seam gas industry. Key to the implementation of the Upper Hunter SRLUP is the assessment of impacts from mining and coal seam gas development on land identified as being strategic agricultural land.	The LWB4-B7 Modification Area is not located within the boundary of the Upper Hunter SRLUP, accordingly this plan does not apply to the LWB4-B7 Modification.
Aquifer Interference Policy	The Aquifer Interference Policy requires mining activities to consider 'Minimal Impact Considerations' with respect to groundwater sources.	Predicted groundwater impacts associated with the LWB4-B7 Modification have been assessed against the Aquifer Interference Policy as part of this EA. This assessment concludes that the proposed modification adequately satisfies the minimal impact considerations for less productive groundwater sources defined by the NSW Aquifer Interference Policy (refer to **Section 6.4**).

4.2 Commonwealth Legislation

4.2.1 Environment Protection and Biodiversity Conservation Act 1999

Under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), approval from the Commonwealth Minister for the Environment and Energy is required for any action that may have a significant impact on matters of national environmental significance.

If an 'activity' is likely to have a significant impact on a matter of national environmental significance then it may be a 'controlled action' and should be referred to the Commonwealth Minister for consideration.

Matters of national environmental significance potentially relevant to the LWB4-B7 Modification are:

- Threatened Species and Ecological Communities
- Migratory Species
- Water Resources.

The water resources trigger relates to the protection of water resources from impacts of coal seam gas and large coal mining projects. According to Significant Impact Guidelines 1.3 prepared by the Department of Environment (2013), an action is likely to have a significant impact on a water resource if there is a real chance or possibility that it will directly or indirectly result in:

- a substantial change to the hydrology of a water resource
- a substantial change in water quality of a water resource.

that is of sufficient scale or intensity as to reduce the current or future utility of the water resource for third party users, including environmental and other public benefit outcomes, or to create a material risk of such reduction in utility occurring.

Detailed assessment of surface water and groundwater resources has been prepared for the LWB4-B7 Modification and is discussed in **Sections 6.3** and **6.4**. These water resources impact assessments were undertaken with consideration of the key aspects of hydrological change listed by the Significant Impact Guidelines 1.3 (Department of Environment 2013).

Detailed ecological assessment has also been conducted and is discussed in **Section 6.5**.

On the basis of the detailed subsidence assessment, water resources assessments and ecological assessment undertaken for the LWB4–B7 Modification, it is considered that the proposed modification will not have a significant impact on any of the matters of national environmental significance listed above. Details of the subsidence, water resources and ecological assessments undertaken for the LWB4-B7 Modification are provided in **Sections 6.2** to **6.5**.

Approval of the LWB4-B7 Modification under the EPBC Act is therefore not required.

4.2.2 Native Title Act 1993

The (NSW) *Mining Act* 1992 must be administered in accordance with the Commonwealth *Native Title Act 1993* (NT Act). The primary effect of the NT Act on mining authorities is to provide native title parties with a 'right to negotiate' prior to the Minister (administering the NSW Mining Act) considering the grant or renewal of the mining authority. The LWB4-B7 Modification Area is completely within existing Austar Coal Mine mining leases (CL728 and CML2) and therefore no new mining authorities are required for the LWB4-B7 Modification.

Further details of registered Native Title Claims relevant to the LWB4-B7 Modification Area are provided in **Appendix 6**.

5.0 Stakeholder Consultation

5.1 Agency Consultation

During the preparation of this EA, the following government agencies were consulted to assist in identifying the matters to be addressed in the EA:

- NSW Department of Planning and Environment (DPE)
- Cessnock City Council
- Department of Planning and Environment - Resources and Energy (DPE - Resources & Energy)
- Department of Primary Industries - Water (DPI Water)
- Office of Environment and Heritage (OEH)
- NSW Environment Protection Authority (EPA).

The proposed approach to the environmental assessment, preliminary findings of relevant studies, and the approach to completing the assessment was confirmed. The approach to preparation of the proposed Extraction Plan and associated management plans was also discussed with DPE-Resources and Energy.

The DPE, Cessnock City Council and DPE - Resources and Energy identified a range of issues for consideration in the assessment of the LWB4-B7 Modification, these are outlined in **Table 5.1**

Table 5.1 Key Environmental and Community Issues

Issue	EA Reference
Surface water ponding impacts	**Section 6.3**
Impacts on private land & infrastructure	**Section 6.2** and **6.8**
Impacts on agricultural use of the land	**Section 6.8**
Impacts on riparian vegetation	**Section 6.5**
Impacts on aquatic biodiversity	**Section 6.5**
Description of landform, objectives of post mining land use and future land use sustainability	**Section 6.8**

5.2 Stakeholder and Community Consultation

Austar maintains close relationships with neighbouring private landholders and nearby communities as part of normal business. As well as operating the Austar Community Consultative Committee, Austar regularly conducts formal and informal consultation with individual residents who live in areas potentially affected by the mine.

Regular correspondence is provided to landholders within the Bellbird South and Stage 3 areas, more recently in the existing LWB1-B3 area, giving updates of underground mining operations and the results of subsidence and environmental monitoring.

The LWB4-B7 Modification Area extends beyond the Stage 2, Stage 3 and LWB1-B3 areas, consequently there are a small number of landowners within the modification area that Austar has not previously had direct contact with. A specific community consultation program has therefore been implemented for the LWB4-B7 Modification in order to introduce these landholders to the operations of the Austar Coal Mine and the details of the proposed modification. This involved correspondence and meetings with individual landholders within the LWB4-B7 Modification Area. Ongoing consultation with affected landholders will be undertaken as part of the Extraction Plan process.

Austar has also provided regular briefings to the Community Consultative Committee and has undertaken consultation with the registered Aboriginal parties as part of preparation of the Aboriginal Cultural Heritage and Archaeological Assessment for the LWB4-B7 Modification (refer to **Appendix 6)**