



xenith

# **RIX'S CREEK NORTH MODIFICATION 10**

**AMENDMENT REPORT  
Bloomfield Collieries Pty Ltd  
November 2024**

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# 1. Introduction

*This section provides the background to the Modification, the process undertaken to date and introduces the proposed Amendment to the Modification application as described and assessed within this Amendment Report.*

## 1.1 Background

Bloomfield Collieries Pty Ltd (Bloomfield) owns and operates Rix's Creek Mine (RCM) located in the Hunter Valley of New South Wales (NSW). RCM is a coal mining operation located approximately 5 kilometres (km) north of Singleton at its closest point and both east and west of the New England Highway (NEH) (see **Figure 1**). RCM is the collective name for Rix's Creek North (RCN) (previously Integra Open Cut) and Rix's Creek South (RCS) (the original Rix's Creek Mine).

RCN operates in accordance with Project Approval (MP) 08\_0102 granted 26 November 2010 under the *Environmental Planning and Assessment Act 1979* (EP&A Act). MP 08\_0102 has been modified on nine occasions to date. Under MP 08\_0102 (as modified), the Proponent can conduct open cut mining operations onsite until 31 December 2035.

MP 08\_0102 (as modified) facilitates the extraction of approximately 30 Million tonnes (Mt) of Run of Mine (ROM) coal from the 'Camberwell Pit' and the 'Falbrook Pit'. MP 08\_0102 also enables the processing of up to 8.7 Mt per annum (Mtpa) of ROM coal from RCN, RCS and the neighbouring Integra Underground Mine (now owned and operated by Glencore) at the RCN Coal Handling and Preparation Plant (CHPP).

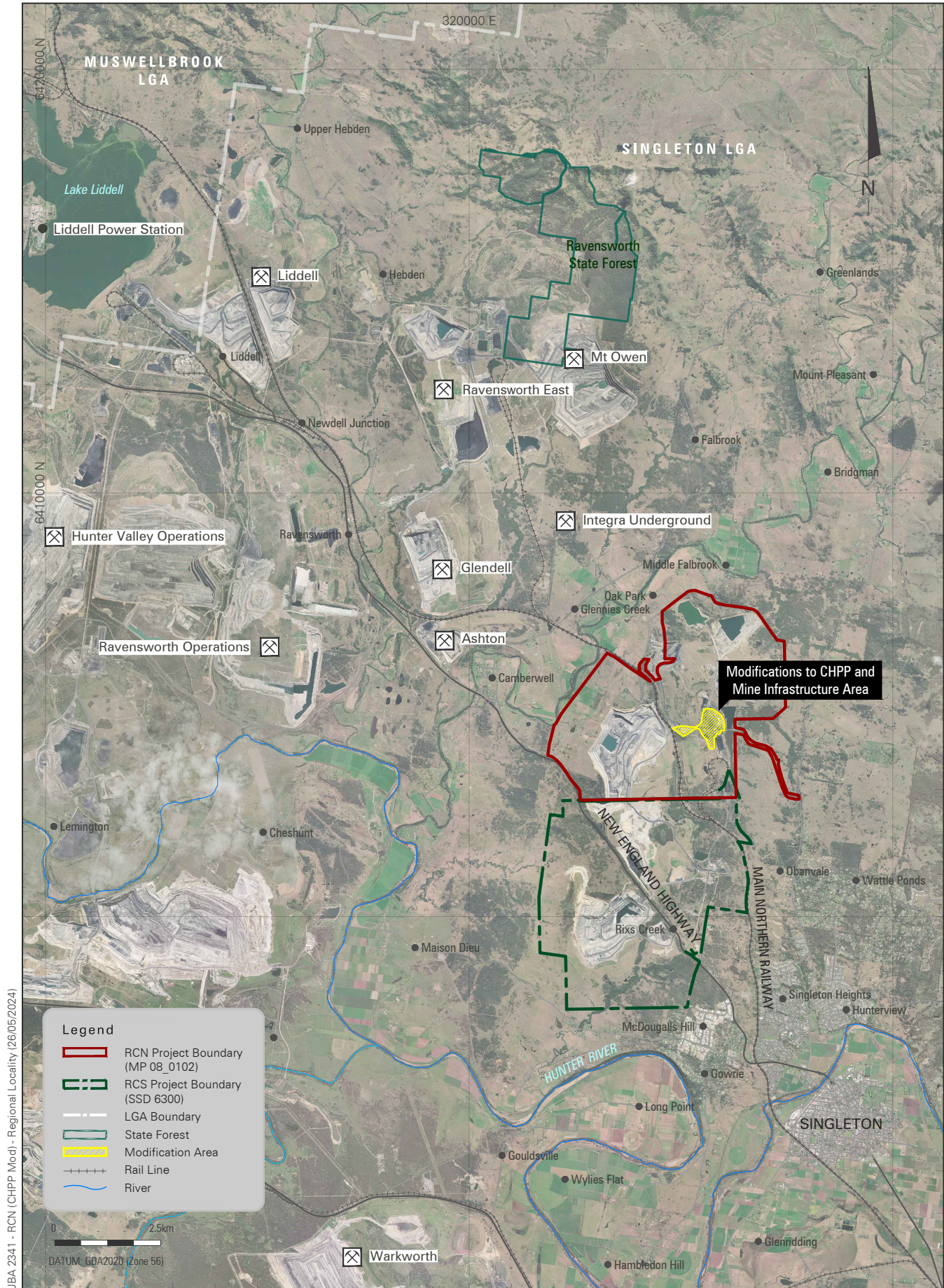
Bloomfield is seeking approval to modify MP 08\_0102 for an upgrade to the CHPP facilities, additional ROM stockpiles, continued disposal of waste tyres in pit, in pit rock crushing facility and a number of other minor infrastructure changes including a workshop extension, and substation replacement (the Modification).

**Figure 2** provides a conceptual layout of the Modification.

The Modification Application and supporting 'Rix's Creek North Modification 10' (Modification Report) (James Bailey and Associates, 2024) were submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI) for assessment on 21 June 2024. The Modification Report was placed on public exhibition from 24 July to 6 August 2024 (the exhibition period). A Submissions Report for the Modification (Xenith, 2024) was prepared to respond to the submissions received during the public exhibition period.

As part of the Submissions Report for the Modification (Xenith, 2024) in response to the submission from Environment Protection Authority (EPA), Bloomfield identified that there may be other beneficial uses of the concrete waste materials at RCM other than disposal within the open cut void as was proposed by the Modification. Bloomfield also identified that where the concrete materials are not able to be beneficially reused onsite, there may be a need to dispose of concrete waste materials offsite at a suitably licenced waste facility (as would typically be the case for this ancillary activity). Bloomfield seeks an Amendment to the Modification application to address this change to the Modification description.





JBA 2341 - RCN (CHPP Mod) - Regional Locality (26/05/2024)







## 1.2 Document Purpose and Structure

This Amendment Report has been prepared to support an application to amend the Modification under Section 113 of the *Environmental Planning & Assessment Regulation 2021* (EP&A Regulation) and with consideration of the requirements of the '*State significant development guidelines – preparing an amendment report*' (DPHI, 2022). This Amendment Report is structured as follows:

- › **Section 2** provides a description of the proposed Amendment to the Modification application;
- › **Section 3** provides an assessment of the likely impacts associated with the Amendment to the Modification;
- › **Section 4** provides an outline of the revised Modification description with consideration of the changes associated with the Amendment;
- › **Section 5** provides a conclusion, including a brief justification for the Amendment to the Modification;
- › **Section 6** outlines all referenced materials relevant to the Amendment Report; and
- › **Section 7** lists the abbreviations used throughout the Amendment Report.

## 2. Description of Amendment

*This section provides a background in respect of the aspect of the Modification to be changed along with a description of the proposed Amendment.*

### 2.1 Background

Section 3.6 of the Modification Report (JBA, 2024) provided a description of the proposed disposal of end-of-life heavy plant tyres, otherwise known as off-the-road (OTR) tyres and concrete waste materials within the open cut mining area. The disposal of concrete waste materials within the open cut mining areas was proposed as an alternative to the disposal of this waste offsite at a licensed waste facility (as would otherwise be undertaken in accordance with Schedule 3, Condition 48 of MP 08\_0102). This disposal option was identified as it provided *"the most feasible, cost effective and environmentally responsible solution for the management of this waste stream"* (Section 3.8.6 of the Modification Report).

### 2.2 Description

In response to the EPA's submission over the Modification, Bloomfield agreed with the EPA that the disposal of waste concrete within the open cut mining void may not be the most appropriate outcome for this waste material encountered at RCM. As stated within Section 4.2.1 of the Submission Report (Xenith, 2024):

*"Bloomfield has identified that there may be other beneficial uses of the concrete waste materials at RCM. The proposed mobile rock crushing plant may be able to be used to crush concrete waste materials for reuse on site. The crushed concrete material could be used in the construction of haul roads, access roads and hardstand areas. The reuse of the concrete waste materials will be undertaken in accordance with an EPA Recovered Aggregate Order and Exemption 2014. Recycling of waste concrete at RCM will be undertaken where this is feasible. If the recycling of these materials is not feasible, Bloomfield will dispose of the concrete at an offsite licenced waste facility.*

*There will be no changes to the proposed operation of the mobile rock crushing plant, as detailed in the Modification Report. The production rates of the mobile crushing plant will not be impacted by the additional processing of the waste concrete material. The mobile rock crushing facility will continue to be operated during the day period only, seven days a week for the life of the RCM as described within the Modification Report."*

This Amendment therefore seeks to formally amend the Modification application to:

- › Remove the proposal to dispose of waste concrete materials within the open cut pit as described within Section 3.6 of the Modification Report (JBA, 2024);
- › Seek approval for the use of the Mobile Rock Crushing Plant to process concrete waste materials and facilitate the beneficial reuse onsite in accordance with an EPA *Recovered Aggregate Order and Exemption 2014* (where this is feasible); and
- › Where it is not feasible for concrete waste materials encountered during operations at RCN to be beneficially utilised onsite, these waste concrete materials will be disposed of offsite at a licensed waste facility, as would typically occur for the currently approved mining operations at RCN in accordance with the Bloomfield Group Waste Management System (WMS) (Bloomfield, 2023). The WMS requires that all waste streams are monitored and recorded and measures are implemented to recycle and/or reuse where reasonable and feasible in accordance with the *Waste Avoidance and Resource Recovery Act 2001*. Section 6.5 of the WMS requires any contracted waste company to ensure that the transportation

of all waste product is carried out in accordance with EPA requirements, and that detailed records of waste movements and disposal are supplied to the relevant site.

The approximate quantity of existing concrete to be removed as part of the Modification is outlined in **Table 1** below. The approximate quantity of new concrete to be installed (and thus require removal at the end of the mine life) for the Modification is estimated to be 3,017 m<sup>3</sup>, corresponding to an estimated weight of 7,240 tonnes (t).

**Table 1 Existing Concrete to be Removed for the Modification**

Item	Location	Volume (m <sup>3</sup> )	Weight (t)	Assumption
1	RC1/RC6	135	325	Slab removed and piers cut off at tie beam level. General concrete fill assumed to be 150 mm
2	Thickener	5.39	13	Footings cut off at ground level only, based on original drawings
3	Deaeration Tank	0.38	1	Footings cut off at ground level only, based on original drawings
4	Workshop Apron Slab	243	583	Apron slab to be removed, area estimated from aerial photo, assumed 250 mm slab as per workshop slab
5	Stacker Reclaimer	251	602	
<b>Total</b>		<b>635</b>	<b>1,524</b>	

## 3. Assessment of Impacts

*This section considers the potential impacts resulting from the proposed Amendment to the Modification.*

### 3.1 Overview

The key components of the Amendment which have the potential to result in impacts beyond those previously assessed for the Modification include:

- › The use of the Mobile Rock Crushing Plant to process waste concrete materials for beneficial reuse on site (where feasible); and
- › Where the beneficial reuse of waste concrete materials is not able to be feasibly undertaken, the transport of waste concrete materials offsite to a licenced waste facility in accordance with the Bloomfield Groups Waste Management Strategy.

### 3.2 Noise & Air Quality

As identified within the Submissions Report (Xenith, 2024), the crushing and processing of waste concrete materials may (if feasible) be undertaken utilising the proposed Mobile Rock Crushing Facility and will not increase the processing rates and/or the operational hours of this facility. Accordingly, the noise and air quality impacts associated with the crushing of the waste concrete materials using the Mobile Rock Crushing Facility have already been considered for this Modification.

The additional traffic movements associated with the transport of waste concrete materials offsite has the potential to lead to noise impacts to neighbours located adjacent to public roads. However, with the short duration of these truck movements as well as local traffic levels and traffic from the existing operations, these impacts are unlikely to be discernible from the day-to-day operation of the approved mining operations at RCN.

### 3.3 Traffic

In the event that waste concrete materials associated with the Modification are not able to be feasibly reused onsite at RCN, the Amendment proposes for these waste materials to be transported to a licensed waste management facility for recycling, reuse and/or disposal. This is consistent with the requirement of Schedule 3, Condition 48 of MP 08\_0102 which requires waste generated by the RCN operations to be appropriately stored, handled and disposed of.

The transport of such waste concrete materials encountered during operations at RCN will occur utilising road registered trucks on the public road network, including Bridgman Road and the NEH. The concrete materials that are expected during the Workshop Extension works proposed by this Modification is conceptually estimated at around 635 cubic metres (approximately 1,530 tonne). In the event it is not feasible to process these materials for the beneficial reuse onsite, the transport of these quantities of concrete waste material is estimated to require between 39 and 102 truck loads leaving the site (depending upon the truck configuration required). Using a campaign of between 10 to 15 trucks per day from the site, this material will indicatively be able to be transported to a licensed waste facility over a period of less than one to up to three weeks. Such a campaign will be appropriately planned to minimise impacts on the road network. Measures to be applied for the transport activities may include: using road registered trucks and licensed drivers, ensuring adequate spacing between truck loads, minimising loaded truck movements during peak periods and avoiding sensitive school areas and school bus drop off and pick up times. Waste concrete materials can also be stockpiled and transported from site at a lower intensity in the event that further controls are required on the truck movements from site.

### 3.4 Other Impacts

The beneficial reuse of concrete waste materials onsite provides an optimal and efficient use of these waste materials to improve the quality of haul roads, access roads and hardstand areas (if this is feasible at the time). This approach would:

- › Improve the maintenance and operation costs of the haul roads, particularly during prolonged periods of wet weather;
- › Minimise diesel usage (and associated greenhouse gas emissions) associated with the traffic movements (both in importing equivalent materials onsite for the construction in roads/hardstand areas as well as avoiding the need to transport these materials offsite to a licenced waste disposal facility); and
- › Materially reduce waste transport and disposal costs.

In the event that this approach is not feasible, the waste concrete materials will be transported to a licensed waste facility. Whilst this approach comes at a material cost to Bloomfield (in transport and waste disposal fees), the concrete waste materials will be able to be processed by the licensed waste facility for other beneficial uses external to the RCN mine.

If the waste concrete materials are able to be beneficially utilised onsite at RCN generally in accordance with the EPA *Recovered Aggregate Order and Exemption 2014*, the materials used in the formation of hardstands, haul roads or other uses will remain insitu for the life of RCN. These concrete materials will be prepared and applied for onsite use if the material meets the concentration limits as specified in Table 1 of the EPA *Recovered Aggregate Order and Exemption 2014*. In the event that this waste material does not meet the concentration limits of the Order, these materials will not feasibly be able to be reused onsite and will be disposed of at an approved licensed facility as described in **Section 2.2**. Depending upon the final mine closure rehabilitation program in the area where these materials are used, these aggregate materials may either remain insitu, or be collected and rehandled with other road base materials and emplaced with other overburden materials as part of the mine closure process. Bloomfield is committed to developing and implementing a management plan and associated operational procedures prior to the reuse of waste concrete materials onsite. This is to ensure that measures are in place to demonstrate compliance with the relevant provisions of the EPA *Recovered Aggregate Order and Exemption 2014* for materials which are beneficially reused onsite.

## 4. Updated Modification Description

With the Amendment to the Modification Application to revise the proposed management of waste concrete materials in response to the EPA Submission over the Modification, the Modification description largely remains consistent with that described within Section 3 of the Modification Report (JBA, 2024).

With the Amendment applied, the Modification is seeking approval for the following elements:

- › Coal handling and process changes; including installation of new processing equipment on the ROM stockpiles areas and within the CHPP;
- › Additional ROM stockpiles to provide increased stockpiling capacity within the approved area of disturbance at RCN;
- › Upgrade to the RCN CHPP to include tailings dewatering facilities and an increased capacity of the thickener to enable the co-disposal of partially dried tailings materials with overburden;
- › Extension to the RCN Workshop;
- › In pit crusher for the processing of rock materials (and waste concrete) for internal road base and other onsite purposes;
- › Replacement of the Substation and installation of a switching station;
- › Disposal of heavy vehicle waste tyres in-pit;
- › Where feasible, the beneficial reuse and recycling of waste concrete materials encountered during operations at the RCM for use in the construction of haul roads and hardstand areas;
- › Transport of concrete waste materials not able to be feasibly reused onsite to an appropriately licensed waste facility (consistent with the requirements under Condition 48 of MP 08\_0102); and
- › Administrative changes to conditions to MP 08\_0102 which have minimal environmental impacts.



## 5. Conclusion

This Amendment Report describes the Amendments to the Modification being sought to MP 08\_0102 which entails the following:

- › Remove the proposal to dispose of waste concrete materials within the open cut pit as described within Section 3.6 of the Modification Report (JBA, 2024);
- › Seek approval for the use of the Mobile Rock Crushing Plant to be used to process concrete waste materials to facilitate the beneficial reuse onsite in accordance with an EPA *Recovered Aggregate Order and Exemption 2014* (where this is feasible); and
- › Where it is not feasible for concrete waste materials encountered during operations at RCN to be beneficially utilised onsite, these waste concrete materials will be transported offsite to a licensed waste facility for recycling, reuse and/or disposal, as would typically occur for the currently approved mining operations at RCN.

The changes to the Modification as described within this Amendment Report follow the lodgement of the Submissions Report (Xenith, 2024) which responded to a submission from the EPA that raised concerns over the disposal of waste concrete materials within the open cut pit.

The Modification following the Amendment will facilitate the following improvements to operations at RCN:

- › Upgrades to the RCN CHPP to improve the efficiency of processing ROM coal extracted from RCN and RCS mines;
- › The installation of a thickener and an SBC Plant to reduce the water content of the tailings materials allowing for tailings to be conveyed with reject material to the new reject bin for co-disposal with overburden. The implementation of this process will lead to a reduced reliance on the requirement to dispose tailing within tailings storage facilities in the future;
- › The extension of an existing ROM coal stockpile and the further construction of an additional ROM coal stockpile to maintain uninterrupted CHPP operations and provide desired capacities;
- › Additional workshop bays to allow greater numbers of plant and machinery to be maintained within the workshop. The underground hydrocarbon piping system will also further increase maintenance efficiency and reduce the potential for spills entering the environment;
- › The introduction of a mobile rock crushing plant to allow RCM to process rock materials gathered during mining activities and waste concrete materials into various sizes for various uses around site;
- › The replacement of the existing substation (that has reached its end-of-life) to support current and future operations at RCN;
- › The disposal of waste OTR tyres in-pit to reduce waste clutter and the associated risks and hazards attributed to the storage of OTR tyres onsite;
- › The beneficial reuse and recycling of waste concrete materials encountered during operations at the RCM for use in the construction of haul roads and hardstand areas;
- › In the event that beneficial reuse and recycling of waste concrete materials is not feasible, the transport of these materials to a licensed waste facility;
- › Administrative changes to conditions to MP 08\_0102 which will have minimal environmental impact.

The changes sought by the Modification have the potential of increasing operational efficiency at RCN, whilst staying within approved criterion specified in MP 08\_0102. As such greater benefits can be achieved from improved efficiency of operations.

The potential environmental impacts of the Modification are summarised in Section 6 of the Modification Report, within the responses to agency submissions and in relation to the Amendment to the Modification application within **Section 3** of this Amendment Report. The environmental impact assessments conducted for the Modification have determined that any impacts resulting from the Modification will be minor, align

with the principles of ESD and not have additional material impacts beyond those currently approved for RCN under MP 08\_0102.

The findings presented confirm that the Modification will involve minimal environmental impacts and therefore can appropriately be granted under Section 4.55(1A) of the EP&A Act.

The key aspects of the approved RCN will remain unchanged by the Modification, including (but not limited to):

- › Fleet numbers;
- › Size of the workforce;
- › Project Boundary and Disturbance Area Boundary;
- › Negligible impacts to biodiversity values;
- › No change to mining methods, mining rates, processing rates, transport rates and hours of operation; and
- › Duration of mining operations.

Given the Modification will not significantly increase the environmental impacts of the approved development, the potential benefits of the Modification therefore outweigh its environmental costs. Furthermore, as the key aspects of the approved development are unaffected by the Modification, the Modification can therefore be acknowledged as being in the public interest and will not affect the merits of the approved development.

## 6. References

- › Department of Planning, Housing and Infrastructure (2022), *State significant development guidelines – preparing an amendment report*.
- › James Bailey & Associates (2024), *Rix's Creek North Modification 10: Modification Report*.
- › Xenith Consulting (2024), *Rix's Creek North Modification 10: Submissions Report*.
- › The Bloomfield Group (2023), *Waste Management System*.

## 7. Abbreviations

Term	Definition
Bloomfield Collieries Pty Ltd	Bloomfield
CHPP	Coal Handling and Preparation Plant
DPHI	NSW Department of Planning, Housing and Infrastructure
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	Environmental Protection Authority
ESD	Ecologically Sustainable Development
km	Kilometre
Modification Report	The Modification Application and supporting Rix's Creek North Modification 10
MP	Project Approval
Mt	Million tonnes
Mtpa	Million tonnes per annum
NEH	New England Highway
OTR	Off-the-road
RCM	Rix's Creek Mine
RCN	Rix's Creek North
RCS	Rix's Creek South
ROM	Run of Mine
the Modification	Modification 10 to MP 08_0102
WMS	Bloomfield Group Waste Management System