New South Wales Government
Independent Planning Commission

Maxwell Underground Coal Mine Project SSD-9526

Statement of Reasons for Decision

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22 December 2020

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EXECUTIVE SUMMARY

Maxwell Ventures (Management) Pty Ltd, a subsidiary of Malabar Coal Ltd, has sought planning approval to develop a new underground mine to the north of Jerrys Plains, in the Muswellbrook LGA, which would produce approximately 148 million tonnes of Run of Mine coal over 26 years.

The site has previously been the subject of extensive open cut coal mining operations (1983 to 2016). Progressive rehabilitation of the site has been undertaken since the previous owners ceased open cut operations on the Drayton Mine in 2016 when the coal resource within the approved mining area was exhausted. Key mining infrastructure at the site remains intact.

Between 2012 and 2017, two separate State significant development applications were lodged to develop the Drayton South Coal Project, an open cut coal mine, on the site. Both applications were refused by the former Planning Assessment Commission.

The Department of Planning, Industry & Environment (**DPIE**) finalised its whole-of-government assessment of this state significant development application for the proposed Maxwell Underground Coal Mine in September this year – concluding that, on balance, the impacts of the Project are manageable and the Project is approvable subject to the imposition of its recommended conditions of consent. The Independent Planning Commission is the consent authority for this SSD application as more than 50 unique public objections were made in respect of the Project.

The Minister for Planning & Public Spaces asked the Commission to conduct a public hearing into the carrying out of the Project and determine the SSD application with 12 weeks of receiving the Department's assessment report.

Under the *Environmental Planning & Assessment Act 1979*, the Commission, like all consent authorities, must consider community concerns regarding development applications. The Commission has taken into consideration the issues raised by speakers at its two-day Electronic Public Hearing in November, the written submissions it received on the Project and the submissions received by DPIE when it put the Project on exhibition.

The issues raised in public submissions greatly assisted the Commission in examining the Department's assessment critically and have contributed to the Commission's consideration of the merits and impacts of the Project.

After weighing all the evidence and considering the community's views, the Commission has determined to **approve** the Maxwell Underground Coal Mine Project, subject to stringent conditions, for the reasons outlined in this Statement of Reasons.

In making its determination the Commission has relied on material including the whole-of-government assessment conducted on its behalf by the Department. The Commission is satisfied that this assessment was undertaken in line with relevant legislation and guidelines; was informed by appropriate expertise; and addressed the mandatory relevant considerations under s 4.15 of the EP&A Act in a manner sufficient to inform the Commission's determination.

In summary, the Commission finds the:

- the Project to be a lawful and appropriate use of the land and notes the benefits associated with it being in the Hunter coalfield, close to several other mining operations and power stations, where sharing of infrastructure is possible

- the underground nature of the Project reduces the potential impacts, such as visual, air quality, noise and vibration, on surrounding land uses

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- the Project will deliver significant economic benefits for the local area, region and State, including 250 construction and 350 operational jobs

In making its determination, the Commission has assessed the application of relevant planning instruments, policies and environmental protections, and the capacity of the Project reasonably and satisfactorily to identify, avoid, mitigate and manage impacts by imposing conditions on the consent. The Commission has imposed DPIE's recommended conditions, with amendments.

Key issues covered in this Statement of Reasons are:

Water Resources

The Commission is satisfied with the groundwater modelling undertaken by the Applicant and agrees with DPIE and peer reviewer, Dr Kalf, that the Project has been suitably assessed and the groundwater model is 'fit for purpose' for this approval. The Commission is also satisfied the groundwater model achieves primarily a Class 2 confidence level under the *Australian Groundwater Modelling Guidelines* model confidence level classification table. The Commission has imposed conditions requiring the groundwater model to be updated and independently reviewed every three years, which is to be reflected in the Groundwater Management Plan for the Project. The Commission has also imposed conditions regarding the public availability of monitoring data. In terms of water access, the Commission has imposed conditions regarding water licensing, reporting on water capture, interception and extraction and requiring the Applicant to undertake borehole monitoring. The Commission finds the imposed conditions will ensure the Applicant achieves a range of water-related performance measures and that any residual impacts are appropriately monitored, mitigated, and managed with respect to water security.

Greenhouse Gas (GHG) Emissions

The Commission finds that the imposed conditions are sufficient to minimise GHG emissions from the Project, through a combination of underground storage of gases, flaring and beneficial reuse for energy generation and they require implementation of adaptive management measures for the management of GHG emissions through an Air Quality and Greenhouse Gas Management Plan. The Commission finds that, on balance, and when weighed against clause 14(1)(c) and clause 14(2) of the Mining SEPP; the relevant climate change policy framework; the objects of the EP&A Act; ESD principles; and the socio-economic benefits of the Project, the impacts associated with the GHG emissions of the Project are acceptable and consistent with the public interest.

Subsidence Impacts

The Commission finds the Subsidence Assessment undertaken by the Applicant and peer reviewed by Professor Hebblewhite meets the requirements of the SEARs and all applicable legislative requirements. The Subsidence Assessment is sufficient to predict potential subsidence impacts, which will be wholly located within land owned by the Applicant, except for Edderton Road. The imposed conditions set out subsidence performance measures to ensure the impacts on water resources, land, biodiversity and Aboriginal and historic heritage sites, infrastructure and built features are appropriately managed, monitored and mitigated. With regard to the realignment of Edderton Road, the Commission is satisfied with the subsidence management measures proposed prior to the road realignment occurring before the commencement of second workings in the Arrowfield Seam. Overall, the Commission is satisfied with the conclusions of DPIE and the Resources Regulator that the subsidence impacts of the Project can be appropriately managed and if necessary remediated under the imposed conditions.

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Rehabilitation

The Commission notes the Resources Regulator and DPIE are satisfied with the proposed rehabilitation measures subject to the imposed conditions. The Commission has imposed conditions that require the Applicant to fulfil legacy rehabilitation obligations under the former Drayton South approval (outside the disturbance area of the Project) and the relevant mining leases. The Commission is satisfied the imposed conditions establish appropriate rehabilitation objectives and provide an appropriate framework to ensure the Applicant undertakes progressive rehabilitation of the site through the life of the Project and following the closure of the mine.

Amenity Impacts

The Commission notes the concerns raised in public submissions with respect to amenity impacts, particularly noise, vibration, air quality and visual impacts. These concerns were raised particularly with specific reference to the internationally recognised thoroughbred horse studs to the south of the Project Area. The Commission finds the amenity impacts resulting from the underground mine will be significantly less than those associated with open cut mining. In consideration of the Material before it, the Commission finds the noise impacts, which will occur predominantly during the construction phase of the Project, will result in negligible exceedances of the applicable noise criteria, with the exception of four privately-owned receivers to the north. In terms of blasting impacts, the Commission notes blasting will occur during the MEA construction phase of the Project and finds the magnitude of blasting is likely to be indiscernible at the Coolmore or Godolphin Woodlands studs. Nonetheless, the Commission has imposed conditions to ensure advanced notification of blasting events is provided to sensitive receivers, and monitoring and complaints measures are implemented. In terms of air quality, the Commission finds the Project is not expected to result in additional days of air quality impact assessment criteria exceedances and the imposed conditions are sufficient to ensure appropriate air quality management measures are implemented. With regard to visual impacts, the Commission notes the design of the Project utilises existing infrastructure wherever possible and locates new infrastructure so it is obscured by the undulating topography to reduce visual impact where possible. The Commission is satisfied that residual visual impacts can be appropriately monitored and mitigated through the imposed conditions and that, subject to the conditions, the Project will have negligible impacts from a visual amenity perspective.

Biodiversity Impacts and Groundwater Dependent Ecosystems (GDEs)

The Commission is satisfied the biodiversity impacts of the Project have been measured and assessed in accordance with the relevant guidelines; the biodiversity offsets have been calculated in accordance with the relevant policy; and the imposed conditions provide for appropriate management, mitigation and monitoring of the potential biodiversity impacts of the Project. The Commission finds the site can be appropriately remediated through the life of the Project and once the mine closes. In terms of GDEs, the Commission has imposed conditions following the IESC's recommendation for ongoing monitoring and adaptive management and finds the potential GDE impacts can be adequately managed subject to the conditions imposed.

Aboriginal Cultural Heritage

The Commission is satisfied that the Aboriginal Cultural Heritage Assessment and consultation has been undertaken in accordance with the relevant guidelines. However, considering concerns raised in the submission process, it is of the view that the consultation requirements on proponents could be improved. The Commission has imposed conditions to require the preparation of an Aboriginal Cultural Heritage Management Plan, in consultation with Heritage NSW, Aboriginal Affairs NSW, and the RAPs to ensure the Applicant has proper regard to areas and items of Aboriginal cultural significance.

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Economic Impacts

The Commission considered the likely economic impacts of the Project and is satisfied that, on balance, the Project will provide a net economic benefit for the local community, region and State through increased investment and economic activity. This includes employment opportunities, royalties, tax revenue and local contributions through the proposed Voluntary Planning Agreement (**VPA**) with Muswellbrook Shire Council. The Commission finds that the underground nature of the Project and the fact that it utilises existing infrastructure is unlikely to result in significant detrimental economic impacts on the 'clean and green' reputation of the Coolmore or Godolphin Woodlands studs or on the continuing economic contribution of the Equine CIC.

In summary

Based on consideration of all issues, risks and potential impacts, and subject to appropriate conditions, the Commission finds that the Project is compliant with the objects of the EP&A Act; the principles of ecologically sustainable development; and the relevant policy framework. The Commission finds, after weighing all relevant considerations, that the Project is in the public interest.

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DEFINED TERMS

ABBREVIATION	DEFINITION
ACHMP	Aboriginal Cultural Heritage Management Plan
AIP	*NSW Aquifer Interference Policy*
Applicant	Maxwell Ventures (Management) Pty Ltd (a subsidiary of Malabar Coal Ltd)
Applicant's Submission	Applicant's submissions to the Commission, including the submission on Greenhouse Gas emissions prepared by Ashurst (dated 22 October 2020) and the submission on subsidence prepared by Malabar (dated 23 October 2020)
Application	State Significant Development Application SSD-9526
Approved Methods	*Approved Methods for Modelling and Assessment of Air Pollutants in New South Wales*
AQGGA	Air Quality and Greenhouse Gas Assessment
ARP	DPIE's Assessment Report Paragraph number
BC Act	*NSW Biodiversity Conservation Act 2016*
BCD	Biodiversity and Conservation Division of the NSW Environment, Energy and Science group in DPIE
BDAR	Biodiversity Development Assessment Report
Box Gum Woodland	*White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions*
BSAL	Biophysical Strategic Agricultural Land
CBA	Cost Benefit Analysis
CEECs	Critically Endangered Ecological Communities
Central Hunter Woodland	*Central Hunter Valley Eucalypt Forest and Woodland*
CHPP	Coal Handling and Processing Plant
CICs	Critical Industry Clusters
Commission	Independent Planning Commission of NSW
DPIE	NSW Department of Planning, Industry and Environment
DPIE's AR	DPIE's Assessment Report
DPIE Response	Department's response to the Commission (dated 5 November 2020) regarding equine impacts
EA	Economic Assessment
EECs	Endangered Ecological Communities
EIS	The Applicant's exhibited Environmental Impact Statement (undated)
EPA	NSW Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPI	Environmental Planning Instrument

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ESD	Ecologically Sustainable Development
GA	Groundwater Assessment
GDEs	Groundwater Dependent Ecosystems
GHG	Greenhouse Gas
ha	Hectare
HTBA	Hunter Thoroughbred Breeders Association
HVAQN	Hunter Valley Air Quality Network
HVEC	Hunter Valley Energy Coal Pty Ltd
IESC	Commonwealth Independent Expert Scientific Committee on Coal Seam Gas and Large Mining Development
IPM	Incremental Profile Method
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
NEPM	*National Environment Protection (Ambient Air Quality) Measure*
NRAR	National Resources Access Regulator
NSW Strategic Statement	*Strategic Statement on Coal Exploration and Mining in NSW*
Major Projects Offsets Policy	*NSW Biodiversity Offsets Policy for Major Projects 2014*
Material	The material set out in section 4.4
Mining SEPP	*State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*
Minister	Minister for Planning and Public Spaces
Minister's Request	Request from the Minister for Planning and Public Spaces on 23 September 2020, set out in paragraph 1
MJPLCA	*Muswellbrook-Jerrys Plains Landscape Conservation Area*
MLEP	*Muswellbrook Local Environmental Plan 2009*
MSC	Muswellbrook Shire Council
Mt	Million tonnes
Mtpa	Million tonnes per annum
Myall Woodland	*Hunter Valley Weeping Myall Woodland*
Project	Maxwell Underground Coal Mine Project (SSD-9526) as proposed in the Applicant's EIS, RtS, and Additional Information
Project Area	The subject site as described in paragraph 6-11
Public Hearing	The Public Hearing held by the Commission on 11 November 2020 and 13 November 2020
RAPs	Registered Aboriginal Parties
Recommended Conditions	DPIE's recommended conditions in the draft Development Consent forwarded to the Commission on 30 September 2020
Regulations	*Environmental Planning and Assessment Regulation 2000*
ROM	Run of Mine coal

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RtS	The Applicant's Response to Submissions (18 November 2019)
s4.15 Matters	Relevant matters for consideration, as provided in s 4.15(1) of the EP&A Act
SEARs	Planning Secretary's Environmental Assessment Requirements (dated 3 September 2018 and updated on 17 January 2019)
SEPP	State Environmental Planning Policy
SRD SEPP	SEPP (State and Regional Development) 2011
SRLUP	*Upper Hunter Strategic Regional Land Use Plan*
SSD	State Significant Development
Studs	The Coolmore and Godolphin Woodlands Stud properties
UHSC	Upper Hunter Shire Council
VLAMP	*Voluntary Land Acquisition and Mitigation Policy*
Voids	Three existing open cut voids (identified as the East, North and South Voids) following the conclusion of the Drayton Mine Extension Project (MP 06_0202)
VPA	Voluntary Planning Agreement *(note: the Recommended Conditions refer to the VPA as 'Planning Agreement')*

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1 INTRODUCTION

1.1 The Minister's Request

1. On 23 September 2020, the Minister for Planning and Public Spaces (**Minister**) made a request (**Minister's Request**) under section 2.9(1)(d) of the *Environmental Planning Assessment Act 1979* (**EP&A Act**), that the Independent Planning Commission of NSW (**Commission**):

    1. *Conduct a further Public Hearing into the carrying out of the Maxwell Underground Coal Mine Project (SSD 9526) prior to determining the development application for the project under the* Environmental Planning and Assessment Act 1979*, paying particular attention to:*

        a) *the Department of Planning, Industry and Environment's assessment report, including any recommended conditions of consent;*

        b) *key issues raised in public submissions during the Public Hearing; and*

        c) *any other documents or information relevant to the determination of the development application.*

    2. *Complete the Public Hearing and make its determination of the development application within 12 weeks of receiving the Department's assessment report in respect of the project, unless the Planning Secretary agrees otherwise.*

2. The Minister's Request, set out above in paragraph 1, was received by the Commission on 24 September 2020.

1.2 DPIE's Provision of its Assessment Report

3. On 30 October 2020, the NSW Department of Planning, Industry and Environment (**DPIE**) sent its Assessment Report (**DPIE AR**) including recommended conditions (**Recommended Conditions**) of consent for the state significant development application (**SSD-9526**) (**Application**) from Maxwell Ventures (Management) Pty Ltd (**Applicant**) (a subsidiary of Malabar Coal Ltd) to the NSW Independent Planning Commission (**Commission**) for determination in line with the Minister's Request. The Application seeks approval for the Maxwell Underground Coal Mine (**Project**) located in the Muswellbrook local government area (**LGA**) under section 4.38 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**). More than 50 unique public objections to the Application were received and therefore, under section 4.5(a) of the EP&A Act, the Commission is the consent authority for the Application.

4. In accordance with the Minister's Request, the determination of the Application is due 12 weeks from the referral, which is 23 December 2020.

1.3 The Commission Panel

5. Professor Mary O'Kane AC, Chair of the Commission, nominated herself as Panel Chair, and Mr John Hann, Deputy Chair of the Commission, to constitute the Commission Panel determining the Application.

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2 THE APPLICATION

2.1 The Project Area and Locality

6. DPIE's AR, dated 29 September 2020, describes the site at Chapter 1 and Assessment Report Paragraph (**ARP**) 1.1.3 as being located to the north of the Golden Highway and Hunter River and situated behind a series of ridgelines that separate Jerrys Plains and the floodplains of the Hunter River from the grazing lands and mining areas to the north and northeast. The **Project Area** is located within the Muswellbrook Shire LGA and comprises the Maxwell Infrastructure site and the Maxwell Underground site as identified in Figure 1. The Project Area map is included as Figure 2.

7. The Maxwell Infrastructure site contains the former Drayton Mine, an open cut mine that ceased operations in late 2016 and is now undergoing rehabilitation (ARP 1.1.1). The Project proposes to utilise the existing Maxwell Infrastructure site to support operations and develop a new underground operation to the southwest of the Maxwell Infrastructure site.

8. The Project Area is located within the Hunter coalfield and is near several coal mining operations (shown in figure 1). Coal mining operations in the locality are predominantly open cut operations, which primarily produce thermal coal (ARP 2.4.19). A brief summary of nearby mines is provided below:

- Mount Arthur Coal Complex
  - operated by Hunter Valley Energy Coal Pty Ltd (**HVEC**) (a subsidiary of BHP Billiton)
  - includes both open cut and underground coal mining operations producing predominantly thermal coal (currently under care and maintenance)
  - located immediately north of the Project Area.
- Spur Hill Underground Coal Project
  - application being developed by Malabar
  - SEARs issued in December 2016, but development application has not yet been lodged
  - located to the west of the Project Area.
- Bengalla Mine
  - operated by Bengalla Mining Company Pty Ltd
  - open cut mine producing thermal coal
  - located to the north of the Project Area.
- Mount Pleasant Mine
  - operated by MACH Energy Australia Pty Ltd
  - open cut mine producing thermal coal

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- located to the north of the Project Area.

- Mangoola Mine
  - operated by Mangoola Coal Operations Pty Ltd
  - open cut mine primarily producing thermal coal
  - located to the northwest of the Project Area.
- Hunter Valley Operations Complex
  - operated by Yancoal Australia Ltd and Glencore Coal Pty Ltd
  - open cut mine producing both thermal and metallurgical coal
  - located to the southeast of the Project Area.

9. The Liddell and Bayswater Power Stations are located to the east and southeast of the Project area, respectively. Both facilities are owned and operated by AGL. The Liddell Ash Dam is located immediately east of the Project Area.

10. An AGL-owned coal conveyor runs through the Project Area, via an easement in favour of AGL, to transport coal from the Mt Arthur Coal Complex to AGL's Bayswater Power Station.

11. To the south of the Project Area is land identified as Biophysical Strategic Agricultural Land (**BSAL**) under *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (**Mining SEPP**) (see paragraph 38). Parts of the Upper Hunter Equine and Viticulture Critical Industry Clusters (**CICs**) (ARP 1.2.12) are on this land.

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Figure 1 – Regional context (Source: DPIE's AR)

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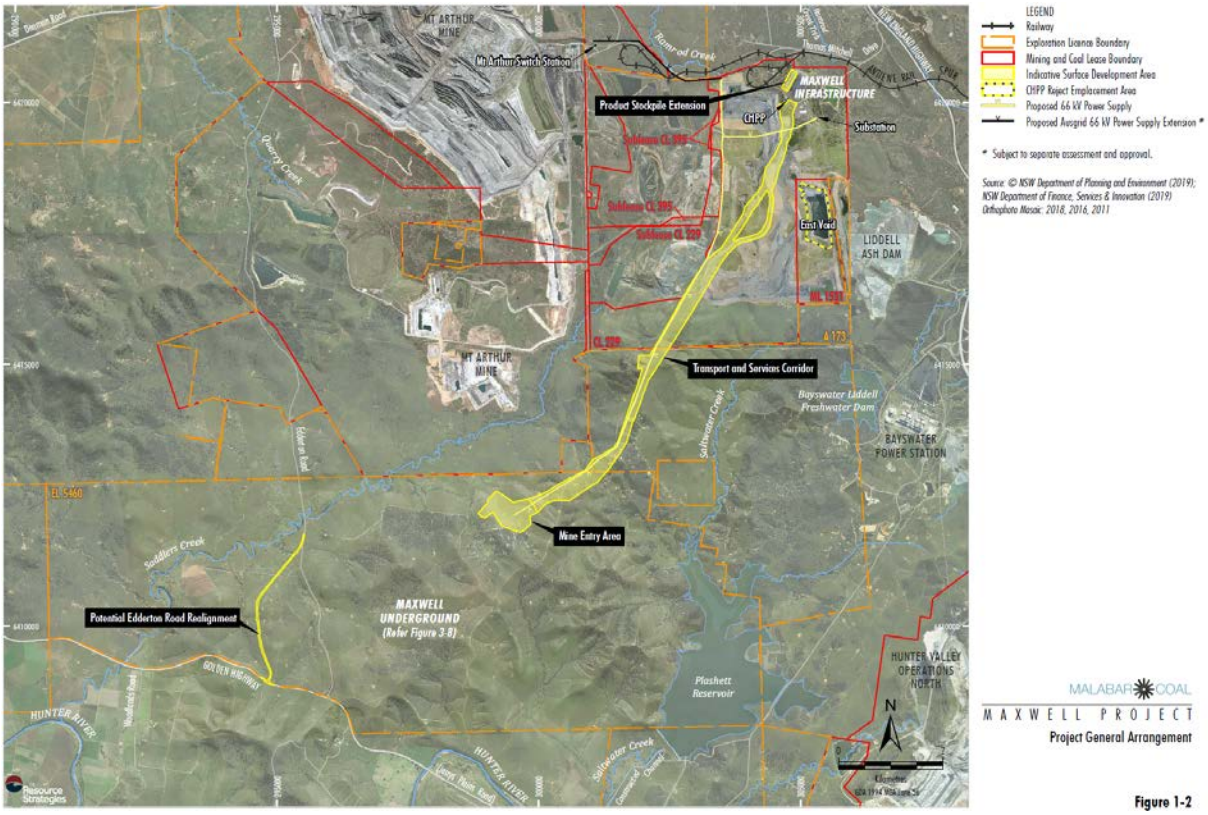
Figure 2 – Project Area map (Source: DPIE's AR)



2.2 Site History

12. Section 1.2 of DPIE's AR describes the history of the site, including open cut coal mining operations from 1983 until 2008, under a series of eight separate development consents (ARP 1.2.1).

13. In 2008 approval was granted to extend the mine's open cut mining operations until 2017 under MP 06_0202, which required the surrender of all previous development consents for mining on the site, allowing operations to continue under a single, consolidated development consent (ARP 1.2.2).

14. The previous owners ceased open cut mining operations on the Drayton Mine in 2016, when the coal resource within the approved mining area was exhausted (ARP 1.2.3). Since that time, progressive rehabilitation has been undertaken but all key mine infrastructure has been kept intact, including the Coal Handling and Preparation Plant (**CHPP**), rail infrastructure, vehicular access and tracks, administration buildings and employee amenities, workshops and water management infrastructure (ARP 1.2.3).

15. DPIE's AR describes the mining history of the Maxwell Underground site at ARP 1.2.6 to 1.2.9. This site is subject to an exploration licence (EL 5460) and exploration was undertaken by the previous owner. Between 2012 and 2017, two separate state significant development applications were lodged to develop an open cut coal mine on the Site, known as the Drayton South Coal Project (ARP 1.2.9). Both applications were refused by the former Planning Assessment Commission which at the time was the relevant consent authority acting under Ministerial delegation. Consent authorities such as the Commission and the former Planning Assessment Commission must determine each individual

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application on its own merits according to the law and are not bound by earlier determinations on other development applications, even in respect of the same site.

16. On 22 December 2017 the NSW Government amended the Mining SEPP to prohibit open-cut mining at certain land at Jerrys Plains, which includes the Project site.

2.3 The Project

17. The Project is seeking to establish a new underground coal mine operation, known as the Maxwell Underground, to the southwest of the existing Maxwell Infrastructure site (Figures 1 and 2).

18. The Project will target four coal seams within the Jerrys Plains subgroup of the Wittingham Coal Measures (ARP 2.3.1), as described below. An indicative mine layout plan is shown in Figure 3.

- Whynot Seam (ARP 2.3.2):
  - Depth of cover: 40m to 180m
  - Bord and pillar extraction in two stages:

    First workings: formation of main roadways, access and ventilation and formation of panels (approx. 185m wide) emanating from the main roadways

    Second workings: partial pillar extraction to recover up to 70% of the coal resource
- Woodlands Hill, Arrowfield and Bowfield Seams (ARP 2.3.4 & 2.3.5):
  - Depth of cover: 125m to 430m
  - Longwall extraction: a total of 39 longwalls to be established
  - Each longwall panel will be approximately 305m wide (including first workings) and range from approximately 1,300m to 4,100m in length
  - First workings includes the development of main headings, longwall gate roads, related cut throughs and other workings for mine access and ventilation and second workings includes the extraction of coal from longwall panels or mini-wall panels
  - Extraction is generally proposed to occur from the shallowest to the deepest seam, but the commencement of initial longwall mining in the Woodlands Seam may occur concurrently with the completion of bord and pillar mining in other areas of the Whynot Seam.

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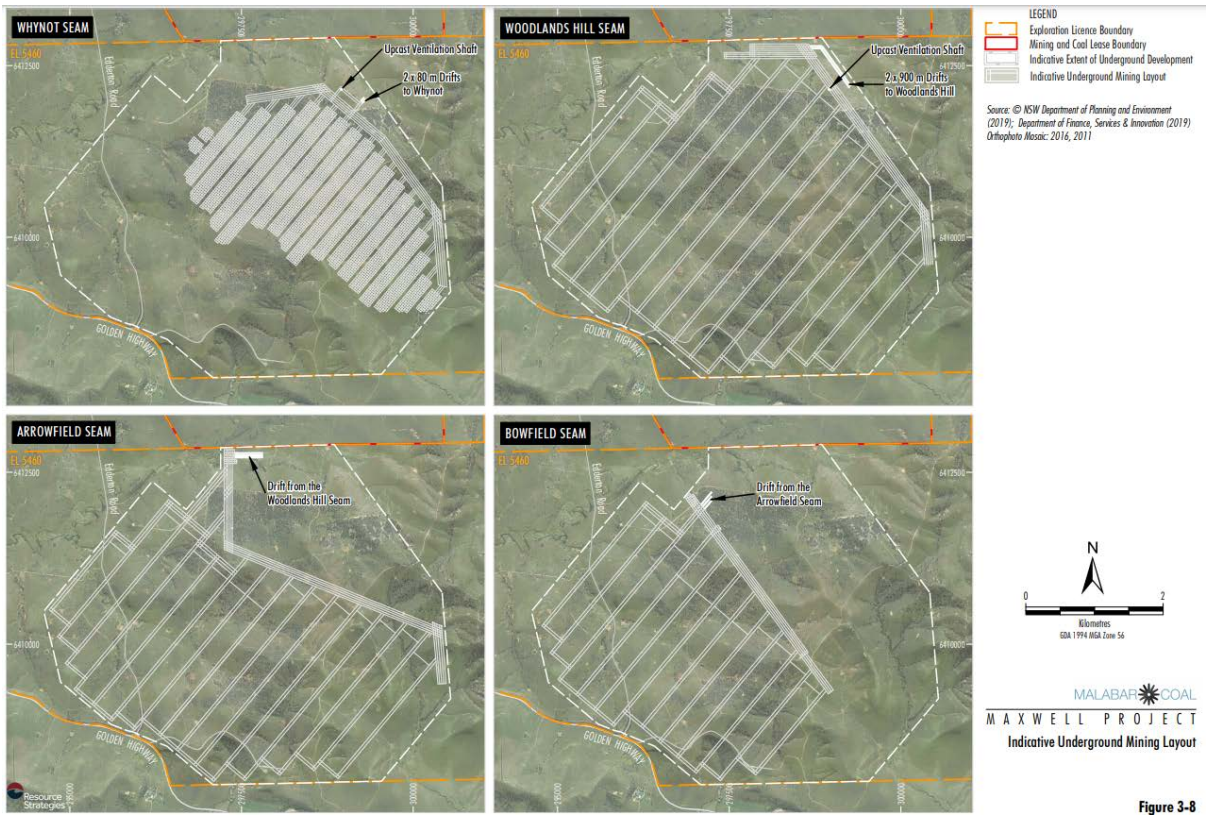
Figure 3 – Proposed underground mining layout (Source: DPIE's AR)



19. The key elements of the Project are outlined in Table 1.

Table 1 – Key Components of the Project (Source: DPIE's AR)

Project Component	Proposed
Mine Life	26 years
Coal Products	Coking coal (minimum 75 per cent) Thermal coal (maximum 25 per cent)
Total resource recovery	Approximately 148 Million tonnes (**Mt**) of Run of Mine (**ROM**) coal (which equates to approximately 124Mt of product coal) over the life of the Project.
Mining method and target seams	Bord and pillar mining (Whynot Seam) Longwall mining (Woodlands Hill, Arrowfield and Bowfield Seams)
Annual Production	Extraction and processing comprising: - A maximum rate of up to 8 Mt per annum (**Mtpa**) of ROM coal, and - An average rate of 5.7 Mtpa of ROM coal
Coal handling and preparation	Initial processing at the new underground Mine Entry Area (**MEA**) prior to transfer to the Maxwell Infrastructure site for further processing at the existing CHPP.
Product Transportation	- Up to 7 Mtpa of product coal to be transported by rail via the Antiene Rail Spur and Main Northern Railway - Up to 12 train movements or 6 trains per day - Option to transport thermal coal by conveyor to the Bayswater and/or Liddell Power Stations (subject to commercial agreement)

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Project Component	Proposed
Water Management	- Water to be sourced from groundwater inflows to new underground workings and existing Voids, recovery from tailings, surface water runoff and importation of small quantities of potable water - Water storage in existing dams and in the North and South Voids at the Maxwell Infrastructure site - Option to share water with the Mt Arthur Coal Complex or other nearby water users (subject to commercial agreement)
Gas Management	- Gases from underground mining to be drained via centralised gas management system at the MEA - Gases to be flared or used for power generation, or if methane content is insufficient, vented to the atmosphere - Option to install a gas-powered plant (up to 5 megawatts) to provide supplementary power supply on-site
Waste Management	Coarse rejects, tailings and brine to be emplaced in the existing East Void at the Maxwell Infrastructure site.
Subsidence Management	- 24-hour subsidence monitoring and maintenance on Edderton Road - Realignment of Edderton Road (see Figure 2)
Blasting	- Small blasts proposed during construction phase - Blasting of highwalls within existing mine Voids to improve final landform
Rehabilitation and Final Landform	- Continuation of rehabilitation at the Maxwell Infrastructure site - Retention of three final voids (North, East and South), with partial backfilling of the East void
Workforce	- Approximately 250 employees during construction - Approximately 350 employees during operation
Hours of Operation	24 hours per day, 7 days per week
Capital Investment Value (CIV)	$509 million
Project Infrastructure (ARP 2.2.1)	- Use of existing site access from Thomas Mitchell Drive - Construction of new MEA, including: Underground portal and mine access Conveyors, surge stockpiles and coal sizing facilities Power supply, ventilation shaft and gas management infrastructure Water treatment facilities (including a reverse osmosis plant, or similar) Administration buildings, amenities, parking, worship and storage facilities - Construction of transport and services corridor from the MEA to the existing Maxwell Infrastructure site, including an overpass over AGL's conveyor between the Mt Arthur Coal Complex and the Bayswater Power Station - Upgrades to existing facilities at the Maxwell Infrastructure site, including: extension of product coal stockpile area (total storage capacity of 500,000 tonnes) new ROM coal stockpile area additional conveyors to allow coal to bypass the CHPP - removal of redundant infrastructure

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Project Component	Proposed
Voluntary Planning Agreement	the Applicant has offered to enter into a Voluntary Planning Agreement (**VPA**), but the Commission has been advised the terms are still under negotiation – see Section 6.5.5 below for further discussion.

20. The Project will utilise the existing Drayton Rail Loop and Antiene Rail Spur, which is located to the north of the Maxwell Infrastructure site. The use of the Drayton Rail Loop and Antiene Rail Spur was managed under a shared use arrangement between the former Drayton Mine and the Mt Arthur Coal Complex under DA 106-04-00, which remains in force until 2 November 2025. DA 106-04-00 also stipulates the frequency of train movements. The Applicant is not seeking to amend DA 106-04-00 (ARP 2.4.2) for the first five years of operation and therefore rail haulage will continue to be regulated under that separate DA. The Applicant will need to lodge a separate application or modification to DA-106-40-00 to seek the continued use of the rail loop and rail spur to accommodate off site transport of coal products beyond 2025.

21. The Commission notes the location of the Project Area within the Hunter coalfield, along with the recent approval of the Maxwell Solar Project, allows for mutually beneficial interactions, for example the sharing of transportation infrastructure, potential water sharing arrangements and opportunities to emplace reject material in existing Voids.

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3 DPIE'S CONSIDERATION OF THE APPLICATION

22. Table 2 provides an overview of the key steps in DPIE's consideration of the Application.

Table 2 – Overview of Key Steps

3 September 2018	DPIE issued the Planning Secretary's Environmental Assessment Requirements (**SEARs**).
20 December 2018	Mining and Petroleum Gateway Panel granted a conditional Gateway Certificate for the Project under Part 4AA, Division 4 of the Mining SEPP
17 January 2019	SEARs reissued to incorporate recommendations of the Mining and Petroleum Gateway Panel, the Commonwealth's supplementary environmental assessment requirements and strengthened requirements regarding potential impacts on the Equine CIC following representations from Coolmore and Godolphin Woodlands studs (see section 6.2)
Undated	The Applicant lodged its Environmental Impact Statement (**EIS**) and supporting documents to DPIE
14 August 2019 to 24 September 2019	DPIE publicly exhibited the EIS (42 days). 231 submissions were received by DPIE during this period, including the following: 178 in support 51 objections 2 comments (neutral)
22 August 2019	DPIE carried out a site visit of the Maxwell Infrastructure and the Maxwell Underground sites
26 September 2019	DPIE requested the Applicant provide a response to the submissions received.
18 November 2019	The Applicant provided its Response to Submissions (**RtS**) to DPIE.
2 December 2019	DPIE requested the Applicant provide **Additional Information**
Various dates	The Applicant provided Additional Information to DPIE at various dates, as summarised at Appendix D of the DPIE AR.
23 September 2020	The Minister requested the Commission conduct a **Public Hearing** and determine the Application.
30 September 2020	DPIE sent its Assessment Report on the Project to the Commission.

23. DPIE is satisfied that the Project would comply with relevant assessment criteria, policies and guidelines, concluding "*the residual environment and social impacts of the Project can be managed under recommended conditions and a comprehensive set of management plans*" (ARP 7.1.2).

24. DPIE notes the Project is located at the interface of the coal mining, equine and viticulture industries in the Upper Hunter Valley, but "*the current underground proposal is considered to be a well designed option that would make it possible for these key industries to successfully co-exist*" (ARP 7.1.4).

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4 THE COMMISSION'S CONSIDERATION OF THE APPLICATION

4.1 DPIE's Assessment

25. Under section 4.6 of the EP&A Act, certain functions of the Commission are to be exercised by the Planning Secretary on behalf of the Commission, including "*undertaking assessments of the proposed development and providing them to the Commission (but without limiting the assessments that the Commission may undertake*" (section 4.6(b)). The Planning Secretary's assessment of the Project is set out in DPIE's AR.

26. The Commission considers that it is required to take into account DPIE's AR and pay particular attention to it in line with the Minister's Request, but that it is not bound to give DPIE's AR any more weight in its consideration than the matters it has taken into account pursuant to section 4.15 of the EP&A Act, or any other consideration relevant to its determination. To the extent that any policy outside of the EP&A Act purports to require the Commission to give DPIE's AR greater weight than the other relevant matters, the Commission has not applied that policy.

4.2 The Commission's Meetings

27. As part of its determination, the Commission met with various persons as set out in Table 3. All meeting transcripts and site inspection notes were made available on the Commission's website.

Table 3 – Commission's Meetings

Meeting	Date of Meeting	Transcript/Notes Available
DPIE	15 October 2020	26 October 2020
Applicant	15 October 2020	21 October 2020
Muswellbrook Shire Council	15 October 2020	21 October 2020
Site Inspection and Locality Tour	19 October 2020	26 October 2020
Upper Hunter Shire Council	21 October 2020	26 October 2020
Public Hearing	Day 1: 11 November 2020 and Day 2: 13 November 2020	Day 1: 12 November 2020 and Day 2: 16 November 2020

28. The Project Area is wholly within the Shire of Muswellbrook; however, the Commission provided the Upper Hunter Shire Council (**UHSC**) an opportunity to meet with the Panel. The submissions made to the Commission from UHSC at the meeting and in writing have been given the same weight as any other public submission.

4.3 Public Engagement

29. Further to the Minister's Request outlined in paragraph 1, and as identified in Table 3, the Commission conducted a two-day **Public Hearing** on Wednesday 11 November and Friday 13 November. In addition to listening to the public's views, the Commission also heard from DPIE (twice) and the Applicant at the Public Hearing. In total, 59 speakers presented to the Commission during the Public Hearing.

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30. All persons were offered the opportunity to provide written submissions to the Commission from 30 October 2020 until 5pm on 25 November 2020 (12 days after the conclusion of the Public Hearing). The Commission generally allows a period of seven days after the conclusion of the Public Hearing for providing written submissions. At the request of the Hunter Thoroughbred Breeders Association (**HTBA**) this was extended by five days. Those submitting were encouraged to comment particularly on the AR and proposed conditions of consent. The Commission received 1,176 written submissions from 1,106 submitters on the Application (summarised in Table 4), comprising:

- 732 submitters in support of the Project;
- 367 submitters objecting to the Project; and
- 7 submitters providing comments that neither supported nor objected to the Project.

31. Word frequency and clustering analysis of the submissions (after multiple submissions from each single submitter had been amalgamated) showed that the key issues raised clustered as follows:

1. Economic impacts and jobs (59%)
2. Equine and agricultural impacts resulting from air quality, noise and blasting (32%)
3. Local health and heritage impacts (5%)
4. Direct environmental and cultural impacts (4%).

Table 4: Summary of written submissions and submitters

Number of submissions and submitters		
Total submissions and submitters	**Objections**	**Support**
1,176 submissions from 1,106 submitters	367 submitters	732 submitters
Geographic distribution of submitters		
Location	**Objections [a]**	**Support [a]**
Local regional area (40% of all submitters)	40%	59%
Other NSW (60% of all submitters)	28%	71%
Public Hearing speakers	**Objections**	**Support**
58 (excluding DPIE)	40	18

Note: [a] the geographical distribution percentages do not include submitters providing comments only.

32. The Commission's consideration of the key issues in section 7 of this Statement of Reasons includes consideration of the views expressed by the public during the Public Hearing, in written submissions described above, and in the submissions submitted to DPIE when the Project was on exhibition.

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4.4 Material considered by the Commission

33. In this determination, the Commission has carefully considered the following material (**Material**) along with the other documents referred to in this Statement of Reasons:

- the SEARs, dated 3 September 2018 and 17 January 2019
- Conditional Gateway Certificate issued by the Mining and Petroleum Gateway Panel, dated 20 December 2018
- the Applicant's EIS, undated
- submissions submitted following exhibition of the EIS
- the Applicant's RTS, 18 November 2019
- the Applicant's Additional Information, various dates
- DPIE's AR, dated 29 September 2020, including material considered in that report
- DPIE's **Recommended Conditions** of consent, dated September 2020
- the material covered in the meetings with the Applicant, DPIE, Muswellbrook Shire Council, Upper Hunter Shire Council, and the site visit and locality tour
- all speaker comments made to the Commission at the two-day Public Hearing held on 11 November 2020 and 13 November 2020
- material presented at that Public Hearing
- all written comments received and accepted by the Commission in the submission period from 30 October 2020 until 5pm on 25 November 2020
- DPIE's response (**DPIE Response**) to the Commission regarding Equine Impacts, dated 5 November 2020
- the Applicant's Submissions to the Commission relating to Greenhouse Gas Emissions (prepared by Ashurst, dated 22 October 2020) and relating to subsidence (prepared by Malabar, dated 23 October 2020).

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5 STRATEGIC CONTEXT

5.1 Upper Hunter Strategic Regional Land Use Plan

34. The *Upper Hunter Strategic Regional Land Use Plan* (**SRLUP**) is a component of the Government's broader Strategic Regional Land Use Policy, which comprises initiatives to address land use conflict in regional areas, with a particular focus on managing issues relating to coal mining. The SRLUP applies to five local government areas (Singleton Muswellbrook, Dungog, Upper Hunter and Gloucester) and therefore applies to the Project Area.

35. Noting the significant contribution made to the region by agriculture, the SRLUP also notes the region contains approximately 40% of the State's identified coal reserves. The SRLUP acknowledges the challenge presented in balancing mining and agricultural interests. It identifies the Gateway process as the key policy mechanism for resolving land use conflict between mining and agricultural pursuits (addressed further in section 6.3 below).

36. The SRLUP notes the importance of the Equine CIC and mining in the region (as well as other industries such as other energy production industries and viticulture). It notes: *"The key challenges for the region revolve around maintaining and growing agricultural productivity while also supporting the development of other industries that are competing for nearby or even the same land, such as mining, coal seam gas and urban expansion. and recognises concerns that the growth of mining is placing pressure on the thoroughbred industry."*
(see https://www.planning.nsw.gov.au/-/media/Files/DPE/Plans-and-policies/strategic-regional-land-use-plan-upper-hunter-2012-09.pdf?la=en Date accessed: 3 December 2020)

37. Table 3-1 in DPIE's AR identifies key components in the SRLUP relevant to the assessment of this Project. Table 3-1 is reproduced below:

Table 5 –Key Components of the SRLUP (Source: DPIE's AR)

Policy Component	Comment
Strategic Agricultural Land Map	- The Project area includes mapped Biophysical Strategic Agricultural Land (**BSAL**) (see paragraph 38). This is addressed by DPIE at Sections 4.2 and 6.13 of DPIE's AR. - The Project Area is located to the north of mapped CIC land. DPIE provides an assessment of this at section 6.11 of DPIE's AR.
Gateway Process	Conditional Gateway Certificate issued by the Mining and Petroleum Gateway Panel on 20 December 2018
Agricultural Impact Assessment	The Applicant's EIS included an Agricultural Impact Statement, which is addressed in DPIE's AR at Section 6.13.
Aquifer Interference Policy (AIP)	The EIS provided consideration of the Project against the relevant provisions of the AIP. This is assessed by DPIE at Section 6.2 of DPIE's AR.

38. The Commission notes that BSAL is a term defined in the Mining SEPP to mean land identified on the *Strategic Agricultural Land Map* or, if a site verification certificate has been obtained, land so certified by a site verification certificate. The only function of a designation of land as BSAL is to trigger a requirement to obtain a site verification

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certificate or Gateway Certificate under the Mining SEPP. A designation of BSAL has no other legislative function, other than to trigger the Gateway process. The Applicant has obtained a conditional Gateway Certificate in respect of the Project, as set out in more detail at 6.2 of this Statement of Reasons.

39. The Commission notes that the SRLUP does not favour the mining industry or either of the CICs as preferred land uses in the area, but rather seeks to strike a balance between the industries. For the reasons set out in this Statement of Reasons, the Commission is satisfied the Project is consistent with the broad policy framework identified in the SRLUP and can coexist with other land uses in proximity to the Project Area, including the Equine and Viticulture CICs, subject to the imposed conditions.

5.2 Strategic Statement on Coal Exploration and Mining in NSW

40. In June 2020, the NSW Government released its *Strategic Statement on Coal Exploration and Mining in NSW* (**NSW Strategic Statement**), which recognises that, while many countries are transitioning away from fossil fuels to low carbon energy sources, the demand for coal in Asian markets is predicted to remain stable until at least 2040. As described at ARP 3.4.1, DPIE considers that the demand for coking coal in particular is likely to continue well beyond 2040 as steel making technology that doesn't use coal is unlikely to be commercially available for some time. Precisely when steel making technology will be commercially viable without the use of coal is to some degree uncertain. It may be commercially viable before 2040, but for now it is not.

41. The NSW Strategic Statement seeks to support investment in the NSW coal industry (ARP 3.4.2) while reducing negative impacts of mining on regional communities (ARP 3.4.3). It recognises the economic benefits of the coal industry to the State and regional areas (ARP 3.4.4).

42. The Commission has considered the objectives of the NSW Strategic Statement and supports DPIE's conclusion that the Project, being an underground coal mine targeting coking coal resources for steel making, aligns with the purpose of the NSW Strategic Statement (ARP 3.4.5). In coming to this conclusion, DPIE also notes the Project would enable the use of rehabilitated mining land at the Maxwell Infrastructure site for the development of the already approved renewable energy solar farm and for future grazing use of the subsidence areas post underground mining.

5.3 Regional Plans and Strategies

43. Appendix F of the DPIE AR identifies the following regional plans and strategies as being relevant to the Project:

- *Muswellbrook Shire Council Community Strategic Plan 2017-2027*
- *Land Use Development Strategy (2015)*
- *Hunter Subregion Bioregional Assessment*
- *Muswellbrook-Jerrys Plains Landscape Conservation Area (**MJPLCA**)*

44. The Commission agrees with DPIE's assessment of the Project against these strategic documents as outlined in Appendix F of DPIE's AR.

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6 STATUTORY CONTEXT

6.1 State Significant Development

45. The Project is SSD under section 4.36 of the EP&A Act and clause 8(1)(b) of *State Environmental Planning Policy (State and Regional Development) 2011* (**SRD SEPP**).

46. Under section 4.5(a) of the EP&A Act and clause 8A(1) of the SRD SEPP, the Commission is the consent authority for the Application because DPIE received more than 50 unique objections to the project during the exhibition period.

6.2 SEARs and modified SEARs

47. The SEARs for the Project were issued on 3 September 2018 and were then reissued on 17 January 2019 to incorporate the recommendations of the Mining and Petroleum Gateway Panel (paragraph 48), the Commonwealth's supplementary environmental assessment requirements and strengthened requirements regarding potential impacts on the Equine CIC (paragraph 49), following representations from the Coolmore and Godolphin Woodlands studs.

48. At ARP 4.2.3, DPIE notes the additional points recommended by the Mining and Petroleum Gateway Panel to be addressed in the EIS, including additional verification of BSAL mapping, the development of a comprehensive subsidence model, further refinement and calibration of the groundwater model and further assessment of impacts on Groundwater Dependent Ecosystems (**GDEs**).

49. In terms of additional requirements in the modified SEARs, the EIS was required to: address the suitability of the site in the context of potential land use conflicts with existing and future surrounding land uses (focusing on the existing equine CIC); describe measures that would be implemented to avoid, mitigate or minimise impacts on nearby equine and viticulture industry clusters; and address impacts on the operation and reputation of nearby equine and viticulture industry clusters.

6.3 Gateway Certificate

50. An application for a gateway certificate was made for the Project under clause 17F of the Mining SEPP as the Project Area contains land identified on the Mining SEPP's *Strategic Agricultural Land Map* as BSAL.

51. On 20 December 2018, the Mining and Petroleum Gateway Panel granted a conditional Gateway Certificate for the Project on the basis that only one of the relevant criteria under clause 17H(4)(a) of the Mining SEPP was met – namely that the Project would not significantly reduce the agricultural productivity of any BSAL by reason of any fragmentation of agricultural land uses. The balance of six relevant criteria were found to have not been met and were the subject of detailed recommendations by the Mining and Petroleum Gateway Panel.

52. Under clause 17B of the Mining SEPP, in determining the present Application the Commission must consider, among other matters, the recommendations set out in the certificate, including whether those recommendations have or have not been addressed and, if addressed, the manner in which those recommendations have been addressed.

53. The Commission has considered the material referred to in the ARP as being responsive to the recommendations of the Gateway Certificate. This includes Table A7-2 in

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Attachment 7 to the EIS, which sets out how the recommendations of the Gateway Certificate have been addressed.

54. The Commission finds that the recommendations of the conditional Gateway Certificate have all been addressed and that the manner in which the recommendations have been addressed by the assessments undertaken by the Applicant and the conditions of consent imposed by the Commission are satisfactory.

6.4 Permissibility

55. At ARP 4.3.1, DPIE identifies the Project as being located on land zoned RU1 – Primary Production and SP2 Infrastructure, as identified in the *Muswellbrook Local Environmental Plan 2009* (**MLEP**).

56. DPIE notes the Project is not permissible in either the RU1 or SP2 zones under the MLEP. However, the Project is permissible with consent on any land under clause 7(1)(a) of the Mining SEPP. Further, under clause 5(3) of the Mining SEPP, the provisions of the SEPP prevail over the MLEP.

57. In December 2017 the Mining SEPP was amended to prohibit open cut mining on the Drayton South exploration licence (the Project Area). The Commission notes the definition of open cut mining specifically excludes underground mining, and therefore underground mining is permitted with consent on the Project Area under the Mining SEPP.

58. The Commission agrees with DPIE that the Project is permissible with development consent and supports DPIE's consideration of the Mining SEPP and MLEP as set out in ARP 4.3.1 and Appendix F of DPIE's AR.

6.4.1 Voluntary Surrender of Consent under section 4.63 of the EP&A Act

59. The conditions recommended by DPIE include a requirement, proposed by the Applicant, for the Applicant to surrender the existing development consent for the Drayton Mine Extension Project (MP 06_0202) within 12 months of the date of development commencement.

60. The Commission is satisfied with DPIE's recommendation with respect to the voluntary surrender of consent and has imposed conditions to ensure any residual remediation obligations under MP06_0202 are completed.

6.4.2 Integrated and Other NSW Approvals

61. As per section 4.4 of DPIE's AR, the Commission notes that DPIE has consulted relevant public authorities responsible for integrated and other approvals and has Recommended Conditions of consent covering those aspects of the Application. The Commission is generally satisfied with those Recommended Conditions and acknowledges that the Applicant may also require other approvals to proceed which are not integrated into the SSD process, including those listed in section 4.4 of DPIE's AR.

6.4.3 Environment Protection and Biodiversity Conservation Matters

62. DPIE advises that all matters under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) have been assessed by the NSW Government, using an accredited assessment process under Part 4 of the EP&A Act and in keeping with the Bilateral Agreement between the NSW and Commonwealth Governments. As described at ARP 4.5.4, under this agreement DPIE sought advice from the Commonwealth Independent Expert Scientific Committee on Coal Seam Gas and

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Large Mining Development (**IESC**) regarding the Project's potential impacts on water resources.

63. DPIE's consideration of the IESC's technical advice is set out in Section 6 of DPIE's AR.

64. The IESC advice identified the uncertainty in predicting subsidence during multi-seam mining and the associated groundwater impacts; recommended further information be gathered with respect of potential groundwater dependent ecosystems (GDEs); made recommendations for monitoring and adaptive management measures; raised concerns about the risk of overflows from the South and East Voids; provided recommendations with respect to revegetating riparian areas; and also in relation to ongoing monitoring of the effectiveness of remediation measures to inform adaptive management processes.

65. DPIE confirms it has considered the IESC technical advice, including in the assessment of all water related impacts, and in preparing the Recommended Conditions (Appendix G).

66. The Commission is satisfied with DPIE's findings and that the IESC's recommendations have been adequately considered.

67. At ARP 4.5.1, DPIE confirms that on 12 November 2018, the Project was declared to be a "controlled action" under section 75 of the EPBC Act on the basis that the Project is likely to have a significant impact on listed threatened species and communities and water resources.

68. The Applicant subsequently sought a variation of the Controlled Action decision following a reduction in the proposed disturbance area for the Project. The variation was granted on 10 July 2019 (ARP 4.5.2).

69. DPIE's AR provides an assessment against the controlling provisions of the EPBC Act (ARP 4.5.5) and, following determination of the Application, the Project will be referred to the Commonwealth Department of Agriculture, Water and the Environment for Commonwealth determination before it may proceed (ARP 4.5.6).

6.5 Section 4.15 Matters under the EP&A Act

70. In determining this application, the Commission has taken into consideration the following matters under section 4.15(1) of the EP&A Act (**s 4.15 Matters**) that are relevant to the Application:

- the provisions of the following insofar as they apply to the land to which the Application relates:
    - environmental planning instruments; and
    - any proposed instruments; and
    - any planning agreements that have been entered into under section 7.4 of the EP&A Act, and draft planning agreements that a developer has offered to enter into under section 7.4; and
    - matters prescribed under the *Environmental Planning and Assessment Regulation 2000* (**Regulations**).
- the likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

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- the suitability of the site for development
- submissions made in accordance with the EP&A Act and Regulations; and
- the public interest.

71. DPIE considered the s 4.15 Matters at ARP 4.8.1. The Commission is satisfied with this assessment conducted on its behalf by DPIE.

72. The Commission has considered the relevant s 4.15 Matters below, noting the s 4.15 Matters are not an exhaustive statement of the matters the Commission is permitted to consider in determining the Application. To the extent that any of the material does not fall within the s 4.15 Matters, the Commission has considered that material where it is permitted to do so, having regard to the subject matter, scope and purpose of the EP&A Act.

6.5.1 Mandatory matters for consideration under State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industry) 2007

73. Part 3 of the Mining SEPP identifies mandatory matters for consideration for mining projects. DPIE provides a detailed assessment of these matters at Appendix F of the DPIE AR. The Commission is satisfied the Project meets the provisions of the Mining SEPP.

6.5.2 Relevant Environmental Planning Instruments

74. The Commission is satisfied with DPIE's assessment with respect to the Environmental Planning Instruments (**EPIs**) that are of relevance to the Application as set out in Appendix F of the AR.

6.5.3 Proposed Instruments

75. The Commission has considered relevant proposed EPIs, including the draft *State Environmental Planning Policy (Remediation of Land)* in making its determination.

6.5.4 Development Control Plans

76. Pursuant to clause 11 of the SRD SEPP, development control plans do not apply to SSD. The Commission does not consider any development control plans to be relevant to the determination of the Application.

6.5.5 Relevant Planning Agreements

MSC Comments

77. At its meeting with the Commission, MSC indicated the Applicant has offered to enter into a Voluntary Planning Agreement (**VPA**), but the terms are still under negotiation.

78. In this regard, MSC requested a change to DPIE's Recommended Condition A17 which requires the Applicant to enter into a VPA with MSC within six months of the "*commencement of construction*". At its meeting with the Commission, MSC requested this condition be amended to require a VPA to be entered into within six months of the approval of the development. MSC identified the reason for this as being because preparatory works can occur prior to the construction phase, and these works can generate an impact in terms of social and environmental considerations.

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DPIE Assessment

79. At ARP 6.9.11, DPIE notes the Applicant has engaged in negotiations with MSC regarding the terms of the VPA, but that the final terms have not yet been agreed.

80. It is understood from ARP 6.9.15 and 6.9.16 that the parties have agreed to the proposed contributions for training and employment, the engagement of an Environmental Officer and increased community contributions. However, the Commission understands that negotiations with respect to local road maintenance contributions are ongoing.

81. DPIE notes it "*considers that a fair agreement can be reached between the two parties*" (ARP 6.9.2) but acknowledges this is unlikely to occur prior to determination.

82. Therefore, the DPIE Recommended Conditions include a requirement for the VPA to be entered into within six months of commencing construction. If a VPA is not entered into within that timeframe, then within a further three months, the Applicant will be required to pay a contribution to MSC under section 7.12 of the EP&A Act, commensurate with 1% of the Capital Investment Value of the Project to be paid in annual instalments over a 10-year period (ARP 6.9.6).

Commission's Findings

83. The Commission notes that MSC and the Applicant are continuing negotiations with respect to the terms of the VPA and that neither party have put to the Commission any doubt that an acceptable VPA can be agreed upon.

84. The Commission is satisfied with DPIE's assessment. It notes MSC request with regard to DPIE's Recommended Condition A17. The Commission considered the request but finds that the obligations imposed under a development consent take effect from the date the consent is acted upon and therefore considers it 6 months from the commencement of the development to be a reasonable timeframe for the Applicant to proceed through the regulatory steps required to establish a VPA. The Commission is satisfied the imposed conditions require a suitable VPA to be entered into, or contributions paid to MSC before the community is subject to adverse impacts.

6.5.6 The Likely Impacts of the Development

85. The potential impacts of the Project have been considered in section 7 of this Statement of Reasons.

6.5.7 The Suitability of the Site for Development

86. DPIE considers the suitability of the Site at section 6.11 of DPIE's AR. The Commission is satisfied with DPIE's assessment and finds that the Project Area is suitable for the following reasons:

- the Project Area has a previous history of mining operations, there is existing mining infrastructure and existing disturbance within the Project Area and the Project Area is located near a number of other mines and power stations (see paragraphs 8, 9 and 10)
- the Project is underground, which minimises impacts such as air quality, visual, noise, blasting and emissions
- disturbance areas would be subject to a biodiversity offset strategy

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- subsidence will occur primarily within the Project Area boundaries, with the exception of Edderton Road, which is proposed to be realigned
- the proposed extraction of coal measures at the Project Area is an orderly and economic use and development of the land
- the development of the Project Area for the purpose of coal mining will provide social and economic benefits to the region and the State; and
- minimal impacts are expected on the CICs in the vicinity of the Project Area.

6.5.8 Submissions

87. Sections 4.3 and 7 of this Statement of Reasons sets out how the Commission has considered submissions in its determination of the Application.

6.5.9 The Public Interest

88. The Commission has considered the public interest in section 4.3 of this Statement of Reasons.

6.6 Additional Considerations

89. In determining this Project, the Commission has also considered policies and guidelines including:

- *NSW Aquifer Interference Policy* (**AIP**)
- *Australian Groundwater Modelling Guidelines*
- *NSW Groundwater Quality Protection Policy*
- *NSW State Groundwater Dependent Ecosystems Policy*
- *NSW Noise Policy for Industry*
- *Interim Construction Noise Guideline*
- *NSW Road Noise Policy*
- *Rail and Infrastructure Noise Guideline*
- *Voluntary Land Acquisition and Mitigation Policy*
- *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (**Approved Methods**)
- *NSW Climate Change Policy Framework*
- *Muswellbrook-Jerrys Plains Landscape Conservation Area.*

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7 CONSIDERATION OF KEY IMPACTS

7.1 Water Resources – Groundwater and Surface Water

Public Comments

90. The Project is located within a productive agricultural area that includes parts of the Equine and Viticulture CICs. Many members of the community are concerned that this Project poses significant risks to Saddlers Creek and the Hunter River, thereby jeopardising the availability of that water for existing agricultural uses.

91. The predominant matters of contention with respect to groundwater impacts relate to:

- drawdown impacts on the rivers, tributaries and aquifers, resulting in loss of water allocations, GDEs and vegetation
- exacerbation of groundwater and surface water impacts (including baseflow into the Hunter River and Saddlers Creek) during times of drought
- insufficient quality of the groundwater model, including poor calibration and monitoring
- lack of coherence between the surface water and groundwater assessments
- uncertainty about the connectivity between the aquifers and surface water – drawdown in the aquifers may affect surface water and rivers to a greater level than indicated
- concerns about proposed 'make good arrangements' for water entitlements lost by the studs when the ability for the Applicant to source and deliver any reparations during protracted drought periods and severe water licence allocation restrictions is significantly limited
- inadequate analysis of subsidence and the impacts on surface and groundwater quality and quantity; and
- concerns about the water quality in the Voids from the deposition of spoil, rejects and tailings representing a future and permanent risk to surrounding water resources.

92. Of particular concern is that if the baseflow into the Hunter River is compromised, particularly during times of drought when allocations can be cut severely, access to water is jeopardised for dependent users such as Coolmore and Godolphin Woodlands studs and will thereby have an impact on the livelihoods of those in the region.

Council Comments

93. MSC did not raise any concerns with the Commission in relation to impacts on water resources.

Applicant's Consideration

94. The Applicant's EIS included a Groundwater Assessment (**GA**) at Appendix B, a Surface Water Assessment at Appendix C, and it also addressed water resource concerns in the RtS and Additional Information provided to DPIE. The EIS concludes that the groundwater flow model achieves a primarily Class 2 result overall in accordance with the *Australian Groundwater Modelling Guidelines* model confidence level classification table. The GA was

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peer reviewed, with the peer review report by Dr Frans Kalf comprising Attachment 6 of the EIS.

95. Dr Kalf's peer review found the hydrogeological description, conceptualisation, model design, simulations and reporting are acceptable and suitable. He considered the model to be "fit for purpose". Dr Kalf recommended the model outcomes be reassessed and compared with measured responses after three years of mining.

96. The EIS notes all alluvial groundwater sources in the vicinity of the Project are mapped as 'highly productive' although the analysis of the unconsolidated alluvial sediments found that these do not satisfy the AIP requirements for 'highly productive' groundwater.

97. The Applicant also undertook an analysis of the water quality of the alluvial waters and found none of the nearby groundwater systems to be suitable for drinking water, some to be suitable for short-term irrigation (dependent on crop salt tolerance), and none to be suitable for long-term irrigation due to elevated salinity, iron and manganese.

98. The Applicant's groundwater model considered the cumulative impacts of the Project. This included historical activity at the former Drayton Mine. The model was calibrated using groundwater inflow data from initial underground mining at the Mt Arthur Mine.

99. The groundwater model was run on three scenarios for the GA, including a baseline scenario with no Project and no Mt Arthur Mine, a baseline scenario with the Mt Arthur Mine and no Project, and a predictive scenario with both the Mt Arthur Mine and the Project in operation. Comparing results from these provides an estimate of the likely cumulative impact of the Mt Arthur Mine and the Project. In addition, sensitivity analyses were undertaken to test modelled assumptions with respect to hydraulic conductivity, climate change, recharge rates and the presence of dykes.

100. The Project is predicted to result in localised drawdown of up to 8m in the Saddlers Creek alluvium, up to 4m in the Saltwater Creek alluvium and less than 0.5m in the Hunter River alluvium.

101. The predicted drawdown in the Saddlers Creek and Saltwater Creek alluvium will largely occur post mining. Due to conservative assumptions, the drawdown in the alluvium is sustained over time in the groundwater recovery model. These assumptions result in reduced potential recharge to the alluvium compared to conditions that have been observed along Saddlers Creek and therefore likely provide a conservative prediction of potential impacts on the alluvium.

102. The GA predicted there would be no change in baseflow along Saddlers Creek and Saltwater Creek.

103. The predicted drawdown in the Hunter River alluvium is expected to result in baseflow reduction within the Hunter River of up to 0.55ML/year. The GA concludes this degree of flow reduction from the Project is negligible in the context of observed historical flow rates.

104. The GA predicts that no bores in the 'highly productive' Hunter River alluvium or the Saddlers Creek alluvium are predicted to experience cumulative drawdowns greater than 2m, which is below the threshold of the AIP.

105. One privately-owned bore is predicted to experience cumulative drawdown greater than 2m as a result of the Project and the Mt Arthur Mine. However, the EIS states this privately-owned bore is understood to be relatively low-yielding and moderately saline. The yield of the bore is unlikely to be materially affected by the Project.

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106. The GA provides predicted annual groundwater volumes required to be licensed over the life of the Project and in the post-mining phase, including the Saddlers Creek, Saltwater Creek and Hunter River alluvial water sources, the Hunter River regulated water source and the Sydney Basin-North Coast Groundwater Source.

107. The EIS states the Applicant currently holds sufficient entitlements in all water sources (except for the Sydney Basin-North Coast Groundwater Source) or has demonstrated that the predicted volumetric take is negligible and therefore additional water access licences are not required. With respect to the Sydney Basin-North Coast Groundwater Source, the EIS states the Applicant is actively seeking to obtain the necessary water access licences.

108. In terms of subsidence, the GA conservatively assumes that vertical subsidence is equal to 100% of the extracted seam thickness and indicates that, if that is so, the resulting depressurisation of the Permian aquifers in the vicinity of the Project Area would extend approximately 11km.

109. The EIS notes that, post mining, the groundwater levels in the final Voids would equilibrate and remain as permanent and localised groundwater sinks. Therefore, post-mining groundwater inflows to the final Voids would be negligible.

110. The GA included rainfall recharge sensitivity analyses using the *NSW and ACT Regional Climate Modelling* for near future (2020-2039) and far future (2060-2079) to assess how major climatic changes might affect model predictions.

111. With respect to the Voids, the EIS states there is a low gradient towards the final Voids and therefore long-term groundwater inflows are predicted to be negligible.

112. The EIS also states the Project is considered to have negligible adverse impact on groundwater quality in the alluvium because, as the Permian coal measures become depressurised, flow from the Permian to the alluvium decreases. The EIS notes this can be considered beneficial as over time it reduces the inflow rate of higher salinity groundwater from the Permian to the overlying alluvium. The EIS also notes the cumulative effects with the Mt Arthur Mine area are limited to the Permian coal measures and are largely restricted to the area in the immediate vicinity of the Project and Mt Arthur Mine.

113. The EIS proposes several mitigation measures with respect to water resources, including monitoring of groundwater levels and quality, reassessment and review of the model over time, make good measures for affected groundwater users if necessary and adaptive measures in the event of identified exceedances.

114. Overall, the EIS concludes that the Project is unlikely to have a significant impact on water resources.

IESC

115. In its advice to DPIE, the IESC identified the key potential impacts from the Project, including a predicted peak drawdown in the water table of approximately 10m within the mining area, a recovery period over centuries, and reduced flow in local watercourses due to subsidence and cumulative impacts on surface and groundwater resources, water quality and ecological communities.

116. In terms of the water table drawdown, the IESC notes the extent is predicted to be within the mining area and not to extend into the Hunter River alluvium under the cumulative impact scenario.

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117. The IESC identified areas in which additional work is required to address key gaps in understanding of potential impacts and where additional undertakings are required to monitor and mitigate potential impacts.

118. The IESC advised that all surface water losses, including those associated with subsidence, should be appropriately monitored and all necessary licenses be obtained prior to the relevant water take occurring.

DPIE Assessment

119. At ARP 6.2.2, DPIE's AR notes the target coal seams at the Project Area are located within the Sydney Basin–North Coast Groundwater Source. The Hunter River and its associated alluvium are located to the south of the Project Area (ARP 6.2.3).

120. DPIE describes the water licensing framework at ARP 6.2.3 to 6.2.9.

121. DPIE accepts the peer review of the Applicant's groundwater model and concludes it is suitable and fit for purpose. DPIE confirms that while the IESC raised residual concerns regarding uncertainty in predicting subsidence and associated groundwater impacts during multi-seam mining, the GA provides a conservative assessment of likely subsidence impacts.

122. DPIE also notes the Recommended Conditions require the subsidence and groundwater models be progressively updated and refined over the life of the Project and provide for further refinement of the mine plan and for the adaptive management of unexpected subsidence and groundwater impacts (ARP 6.2.14).

123. DPIE notes the predicted cumulative depressurisation of the Permian aquifers from the Project and approved mining operations in the locality is likely to result in up to 8m of drawdown in the Saddlers Creek alluvium and up to 4m of drawdown in the Saltwater Creek alluvium (ARP 6.2.129). DPIE further notes mining-induced subsidence also has the potential to result in significant geomorphological change to unnamed streams within the underground mining area, which may pose a risk to downstream water quality.

124. At ARP 6.2.130, DPIE concludes the impacts from the Project are expected to be confined within groundwater sources and surface water catchments that have already been substantially altered by existing and approved mining operations and which do not provide significant water supplies for domestic or agricultural use.

125. The DPIE AR provides an analysis of groundwater bores located within a 10km radius of the Project Area, noting 62 are used for groundwater monitoring and testing, 15 are registered groundwater bores owned by mining companies and 70 are privately registered groundwater bores (ARP 6.2.29). The Project is predicted to result in drawdown of 2.3m at one privately-owned stock watering bore to the northwest of the underground mining area (ARP 6.2.30). There are two additional privately owned bores that are predicted to experience cumulative depressurisation of approximately 3m, but DPIE notes these bores are likely to be dry because the water table is located "*well below the base of each bore*" (ARP 6.2.31).

126. DPIE accepts the conclusion of the EIS that there would be no reduction in baseflows to Saddlers Creek or Saltwater Creek (ARP 6.2.25).

127. At ARP 6.11.20, DPIE notes the Project would not involve any direct extraction from the Hunter River. In terms of base flow to the Hunter River, DPIE's AR notes the predicted decline in base flows is minor and is likely to have a negligible impact on river flow or water security for other water users (ARP 6.2.27).

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128. DPIE confirmed this conclusion at the Public Hearing. While DPIE acknowledged the concerns raised in public submissions regarding the impact on Hunter River base flows, particularly during times of drought, it stated the predicted reduction in base flows to the Hunter River would be less than 0.55 megalitres of water a year, which is a relatively small amount and is not expected to be sustained over an entire year. DPIE states that the Hunter River has a *"median flow rate of around 240ML/day"* (ARP6.2.26).

129. DPIE also confirmed it has consulted the State Government's surface and groundwater experts in DPIE-Water. DPIE-Water is satisfied with both the modelling of the Project, as well as the ability of the Project to licence and account for its water extraction appropriately throughout the entire project life. Therefore, DPIE concludes it is satisfied that the Project has been appropriately modelled; has been subject to appropriate sensitivity assessment; and is fit for purpose for considering this Application.

130. DPIE considered the impacts of the Project on the stud properties and on all privately owned bores in the Jerrys Plains area. DPIE noted at the Public Hearing that

"*the impacts of the project on the actual studs themselves, and for that matter, on all privately owned bores in the Jerrys Plains area, are predicted to comply with the level 1 minimum impact criteria under the New South Wales Government's Aquifer Interference Policy. So from that perspective, the Department does not consider that there is a likelihood of impacts of the magnitude that … have been expressed occurring"* (Day 2 Transcript, page P-88).

131. Notwithstanding this, DPIE notes the recommendations of the IESC, that all surface water losses should be appropriately monitored, and all necessary licences obtained. DPIE-Water advised that all licences required for the Project must be obtained prior to the relevant water take occurring (ARP 6.2.124). The Recommended Conditions require the Applicant to ensure it has sufficient water licences at all stages of the Project and to report on all water take annually (ARP 6.2.125).

132. DPIE has recommended several conditions to minimise water impacts of the Project, including adaptive management and mitigation measures, the preparation of a Water Management Plan (Recommended Condition B42), ongoing monitoring and the provision of information to the public (Recommended Condition E17).

133. In terms of surface water, DPIE notes the MEA will reduce the Saddlers Creek catchment by 38 ha for the duration of the Project, but this area would be reinstated as part of the rehabilitated final landform following the conclusion of mining (ARP 6.2.50).

134. DPIE further notes the Project is not predicted to have any direct subsidence impacts on the Hunter River, Saddlers Creek or Saltwater Creek. DPIE indicates the Project would undermine the unnamed tributaries that flow into Saddlers and Saltwater Creeks, but these tributaries are geomorphologically resilient and are unlikely to be significantly altered by mining (ARP 6.2.51).

135. DPIE Recommended Conditions to require the Applicant to monitor and report on baseline data captured for Saddlers Creek and Saltwater Creek and any other streams that may be affected by the Project (ARP 6.2.59). DPIE concludes that impacts on stream flow can be appropriately monitored, mitigated and licensed under the Recommended Conditions (ARP 6.2.61).

136. DPIE also concludes the Project would not result in material impacts on water quality and, subject to mitigation and management measures required through the Recommended Conditions, the residual impacts of the Project on surface water quality are predicted to be minor and manageable (ARP 6.2.67).

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137. With respect to the Coolmore and Godolphin Woodlands studs, DPIE acknowledges the Project is predicted to result in depressurisation of the Permian coal measures and localised areas of drawdown in the alluvium of Saddlers Creek, Saltwater Creek and their tributaries; however, DPIE concludes these impacts would be largely localised around the mining areas and have minimal impacts to the groundwater users in the locality (ARP 6.11.21), including the stud properties.

138. With regard to the proposed water management system in the Voids, DPIE notes that reject materials generated over the Project life would be emplaced in the East Void, while the North and South Voids would be utilised for storage of surplus water. At the Public Hearing, DPIE presented material to the Commission to confirm the Voids have a significant airspace to overflow level which is in the order of 9 to 11m. DPIE notes this is far greater than any potential levels in the 'worst-case' climate scenario as described at ARP 6.2.90, in which annual rainfall would increase by 4.4%. Therefore, DPIE concluded peak water levels in all three Voids would increase by less than 0.5m and still remain below the overflow level even under worst-case climatic conditions (ARP 6.2.90).

139. At ARP 6.2.86, DPIE notes that it and the Resources Regulator consider the Applicant's proposed void management approach is reasonable for the Project. Notwithstanding this, DPIE's Recommended Conditions require the Applicant to consider options to optimise the design of the final Voids to minimise the risk of spillover or seepage from the Voids as part of a future Rehabilitation Management Plan for the Project, in consultation with the Resources Regulator.

140. Overall, DPIE considers the Project's impacts on water resources are acceptable, subject to the Recommended Conditions and the preparation of detailed management plans (ARP 6.2.132).

Commission's Findings

141. With respect to potential impacts on water resources, the Commission has considered the material outlined in paragraph 33, the material provided during the Public Hearing and submission periods and the discussion during the Commission's meetings (paragraph 27).

142. The Commission notes the assessment and modelling undertaken in the EIS and peer reviewed by Dr Kalf. The Commission agrees with DPIE's conclusions set out in paragraph 129, that the Project has been suitably assessed and modelled, and the groundwater model is fit for purpose for the assessment of this Application.

143. The Commission is also satisfied that the groundwater model primarily achieves the criteria of a Class 2 confidence model as set out by the *Australian Groundwater Modelling Guidelines* model confidence level classification table and accepted by Dr Kalf and DPIE. The Commission is also satisfied that the predicted impacts do not exceed the thresholds set out in the AIP, other than at the two dry bores referred to in paragraph 125, one non-mining related bore and four bores owned by Mt Arthur (paragraph 125). The Commission is satisfied the imposed conditions provide sufficient compensatory arrangements (see paragraph 150) with regard to these bores.

144. Objectors to the Project commissioned a groundwater expert who questioned the robustness of the Groundwater Model and the Groundwater Assessment. The Commission examined each of these concerns and finds that the EIS met the requirements of the SEARs and all applicable legislative and guideline requirements. The Commission also notes the conclusions of the IESC, DPIE-Water and DPIE and agrees that the model is adequate to predict the potential impacts on water resources in proximity to the Project Area.

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145. The Commission notes the recommendations of the IESC and DPIE and has imposed the Recommended Conditions requiring the groundwater model to be updated and independently reviewed every three years, for this requirement to be reflected in the Groundwater Management Plan, and for the monitoring data to be made available on the Applicant's website.

146. The Commission notes the concerns raised that water access during times of drought will be further compromised by the Project. Accordingly, noting the conclusions set out at paragraph 131, the Commission imposes the Recommended Conditions requiring all necessary licences required for the Project to be obtained prior to the relevant water take occurring, and for the Applicant to ensure it has sufficient water licences at all stages of the Project and to report on all water take annually. In the event that sufficient water is not available for the Project, the Commission has imposed a condition requiring the Applicant to adjust the scale of the development to match available water supply (condition B27). The Commission also notes the Project will not directly extract water from the Hunter River, as noted by DPIE (paragraph 127).

147. The Conditions imposed by the Commission also require the Applicant to report on water captured, intercepted, extracted or taken under each water licence in the Annual Review. The imposed conditions also require the Applicant to undertake shallow borehole monitoring of the Saddlers Creek alluvium where it meets the Hunter River, in line with Dr Kalf's recommendations and the IESC advice provided to DPIE.

148. In terms of water quality in the Voids and the risk of overflow, the Commission agrees with DPIE's conclusions set out at paragraph 138 and finds there is minimal risk of water escaping from the Voids into the surrounding environment.

149. The Commission finds that the conditions recommended by DPIE require the Applicant to achieve a range of water management performance measures (Table 4 of the Instrument of Consent) and ensure any impacts are appropriately monitored, mitigated and managed with respect to groundwater security. The conditions imposed by the Commission will minimise impacts on water resources to the greatest extent practicable.

150. In the event of unexpected impacts, the Commission has sought to protect water users by imposing the Recommended Conditions regarding compensatory water supply (Conditions B29 – B34).

7.2 Greenhouse gas emissions

Public Comments

151. Greenhouse gas issues were frequently raised in submissions that objected to the Project. The key concerns were that the Project will make a substantial long-term contribution to Greenhouse Gas (**GHG**) emissions and to climate change.

152. Material was presented at the Public Hearing and in written submissions that DPIE's recommended conditions do not go far enough to minimise the Scope 1 and 2 emissions from the Project and do not address Scope 3 emissions at all, which the Commission was told account for approximately 94% of the Project's total GHG emissions.

153. In relation to fugitive emissions, the Commission heard from those objecting that fugitive emissions are more than 90% of the Scope 1 emissions from the Project, and therefore the management of Scope 1 emissions is fundamentally important.

154. The Commission was urged to apply offsetting requirements for exceedances of Scope 1 and Scope 2 emissions.

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155. Submissions were also presented to the Commission that the EIS and DPIE assessment of Scope 1 and Scope 2 GHG emissions for the Project do not include all relevant emissions from construction activities (such as those associated with vegetation clearing), do not include operational emissions from post mining or legacy emissions post decommissioning, and provide insufficient details of the assumptions and methodology used to calculate the direct emissions from the mine in the form of venting.

156. The Commission was also alerted to the perceived discrepancy between the Scope 1 and 2 emissions estimates provided for this Project in comparison to another underground mines in the Hunter Valley. In summary, objectors to the Project are of the view that the Scope 1 and 2 emissions have been underestimated.

157. In reference to Scope 3 emissions, the public submissions argued that, under the Mining SEPP, the consent authority is required to have regard to the magnitude of Scope 3 emissions as a relevant consideration to the public benefit of the Project, quoting the findings of Chief Judge Preston in Gloucester Resources Limited v Minister for Planning *[Rocky Hill*].

158. One submission quoted Preston CJ in *Rocky Hill*, noting "*producing coking coal [is] not justification for GHG emissions…the GHG emissions of the project cannot therefore be justified on the basis that the project is needed in order to supply the demand for coking coal for steel production*" (Preston CJ, in UHSC submission).

Council Comments

159. MSC did not raise any specific concerns with the Commission regarding GHG emissions.

Applicant's Consideration

160. The Applicant provided an Air Quality and Greenhouse Gas Assessment (**AQGGA**) at Appendix J. The Applicant also responded to concerns regarding emissions in the RtS and Additional Information.

161. The EIS provides GHG emission predictions based on the Applicant's proposed production schedule.

162. The EIS identifies that the majority of the Scope 1 emissions would be fugitive gas emissions associated with underground mining.

163. With respect to Scope 3 emissions, which account for approximately 94% of the Project's total emissions, the majority of these result from the consumption of coal for steel making and power generation by end users.

164. The EIS assumes all of the coking coal will be exported for international use, with a small quantity of thermal coal sold domestically. The Applicant submits that Scope 3 emissions in consumer countries would be factored into GHG emissions accounting in each of those countries.

165. The Applicant has proposed implementing a range of measures to minimise the potential Scope 1 and 2 emissions from the Project, particularly the fugitive emissions from the underground workings. Measures proposed include storing gases underground within the goaf, flaring and beneficial re-use for power generation.

166. The Applicant also states equipment and process selection, design and maintenance will assist with a reduction in on-site energy consumption and thereby reduce related GHG emissions.

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167. The Applicant proposes to source electricity from renewable sources, including the Maxwell Solar Project, and commits to annual reporting of energy consumption and GHG emissions through the *National Greenhouse Gas and Energy Reporting Scheme*.

DPIE's Assessment

168. At Table 6-16 (reproduced below), DPIE provide a summary of the GHG emissions associated with the Project:

Table 6 – Estimated GHGEs over the life of the Project (Mt CO2-e) (Source: DPIE AR)

Period	Scope 1	Scope 2	Scope 3
Sources	Fugitive gases from exposed coal seams & on-site diesel consumption	On-site electricity consumption	Purchase of diesel and electricity and the transport and consumption of product coal (75% coking / 25% thermal)
Annual Average	0.37	0.04	12.1
Total	**9.9**	**1.1**	**326**

Note: Mt CO2-e = Million tonnes of carbon dioxide equivalent

169. At ARP 6.6.34, DPIE notes that, under the Mining SEPP, the consent authority must consider the findings of the AQGGA, including its assessment of downstream emissions, in determining a project. As such, DPIE has considered the findings of the AQGGA, having regard to the national and State-level commitments made under the Paris Agreement and the *NSW Climate Change Policy Framework* (ARP 6.6.35).

170. DPIE notes the established national and State policy frameworks do not seek to restrict private development in order to meet Australia's commitments under the Paris Agreement, nor do these frameworks impose any prescriptive emissions criteria that can be applied in development assessments (ARP 6.6.38).

171. DPIE discusses the environmental benefits associated with the Project's location and utilisation of existing processing and transport infrastructure, which results in a smaller environmental footprint than a new facility established elsewhere and reduces the potential emissions that would be involved in constructing completely new infrastructure.

172. DPIE notes the increasing role renewable energy sources are playing in the overall energy mix and acknowledges there is the potential for the development of coal-free steel making technologies in the long term.

173. As described at ARP 3.4.1, DPIE accepts the Applicant's contention, that the demand for coking coal in particular is likely to continue well beyond 2040 as steel making technology that doesn't use coal is unlikely to be commercially available for some time. DPIE notes this view is supported by the NSW Strategic Statement, which identifies a strong global demand for both thermal and metallurgical coal in the medium term.

174. DPIE acknowledges the predicted GHG emissions over the life of the Project and states they should be considered in the context of global impacts and weighed against the potential economic and social benefits of the Project. DPIE concludes the Recommended Conditions require the Applicant to implement all reasonable and feasible measures to optimise energy efficiency and maximise the beneficial re-use of methane on site. On balance, DPIE considers that the residual impacts of the Project are acceptable (ARP 6.6.52).

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Commission's Findings

175. The Commission accepts that the expected GHG emissions from the Project are as predicted in Appendix J of the EIS and summarised by DPIE at paragraph 168.

176. Clause 14(1)(c) of the Mining SEPP requires the Commission, "*before granting* [any] *consent*" to "*consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure… that greenhouse gases are minimised to the greatest extent practicable*". Clause 14(2) of the Mining SEPP requires the Commission, "*in determining a development application*" to "*consider an assessment of the greenhouse gas emissions (including downstream emissions) of the* [Project]*, and to do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions*".

177. The Commission finds that the Recommended Conditions are sufficient to minimise GHG emissions from the Project appropriately. As set out at ARP 6.6.30, the majority of Scope 1 emissions (over 90%) are predicted to be fugitive GHG emissions associated with underground mining. The Commission finds that the minimisation measures for these emissions under the conditions (through a combination of underground storage of gases within the goaf, flaring and beneficial re-use for energy generation) are suitable. The Commission also notes that the Applicant has committed to source power from renewable sources (such as the Maxwell Solar Project) where reasonable and feasible.

178. Submissions to the Commission specifically raised GHG emissions during the construction phase of the Project. In this regard, the Commission agrees with the analysis at ARP 6.6.40 that as the Project would use existing processing and transport infrastructure, it would have a significantly smaller GHG emissions footprint than if the relevant infrastructure had to be built anew.

179. Regarding the submissions that Scope 1 and 2 emissions of the Project have been underestimated, the Commission finds that even if the predictions are exceeded, this can be appropriately managed through the imposition of condition B23 of the Recommended Conditions. This adaptive management measure requires the management of GHG emissions through the AQGGMP and best practice management in respect of energy efficiency and minimisation of GHG emissions.

180. Regarding downstream (or Scope 3) emissions, the Commission agrees with the submissions referred to above that these must be taken into account by the Commission under the existing state of the law. The Commission notes that Scope 3 emissions will account for approximately 94% of the Project's total GHG emissions. Apart from Taiwan, each of the anticipated export markets for coal produced by the Project are signatories to the Paris Agreement (ARP 6.6.41) and have announced or adopted domestic laws or policies to achieve their emissions targets. As a consequence, almost all of the Project's Scope 3 emissions will be counted as Scope 1 emissions of the consumer countries. Australia does not require monitoring or reporting of Scope 3 emissions under the *National Greenhouse and Energy Reporting Act 2007* and does not include Scope 3 emissions in the national calculations. Therefore, in this context, counting the Scope 3 emissions would constitute double counting under the Paris Agreement, and further to this, given the Scope 3 emissions are not included in Australia's national inventory, to refuse the Project on this basis would not help Australia to achieve its commitments.

181. The Commission notes that the aim of the NSW Climate Change Policy Framework (**CCPF**) is to achieve net-zero emissions by 2050 and to ensure that NSW is more resilient to a changing climate. The Commission notes that the CCPF does not set prescriptive emission reduction standards but does set policy directions for government actions. The

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Commission also notes that in March 2020 the NSW Government released the Net Zero Plan Stage 1 2020-2030 (**Net Zero Plan**), which builds on the CCPFG and sets out a number of initiatives to deliver a 35% cut in emissions by 2030, compared to 2005 levels. The Net Zero Plan provides that *'Mining will continue to be an important part of the economy into the future and it is important that the State's actions on climate change does not undermine those businesses and the jobs and communities they support'.* The Commission finds that the approval of the Project is not inconsistent with the CCPF and Net Zero Plan and that, as set out above, the Applicant has committed to and will be required to minimise its Scope 1 emissions over which it has direct control.

182. The Commission notes the Applicant's contention that coal-free steel making technologies are unlikely to be available on a commercial scale during the life of the Project. The Commission's view is that the development of these technologies may progress more rapidly than anticipated by the Applicant. Nevertheless, the Commission notes the NSW Government's *Strategic Statement on Coal Exploration and Mining in NSW* (2020) which identified that in the medium term there will still be a strong global demand for both thermal and coking coal. Precisely when steel making technology will be commercially viable without the use of coal is uncertain. It may be commercially viable before 2040, but for now it is not.

183. Regarding the submissions made to the Commission on the *Rocky Hill* judgment, the Commission notes that each application must be determined on its individual merits and that a particular outcome on the merits of one project will not be determinative of how other applications should be determined. Nonetheless, the Commission's consideration of GHG emissions of the present Application has extended beyond merely noting that over three quarters of the coal recovered by the Project would be coking coal used in steel making and that technological alternatives to the use of coking coal are still being developed.

184. Submissions were made to the Commission urging the imposition of a condition requiring the offsetting of GHG emissions (see paragraph 154 above). The Commission notes that no applicable law or policy mandates the imposition of an offsetting requirement. In the particular circumstances of the Project, the Commission considers offsetting to be an impractical means of minimising GHG emissions and of limited utility, given that only approximately 6% of the Project's anticipated GHG emissions will be Scope 1 or 2 emissions capable of being offset by the Applicant.

185. The Commission has had regard to the likely extent of the emissions resulting from the Project, and the matters raised by DPIE in its assessment referred to in paragraphs 169 to 174 above. The Commission finds that, on balance, and when weighed against clause 14(1)(c) and clause 14(2) of the Mining SEPP, the relevant climate change policy framework, the objects of the EP&A Act, ESD principles and the socio-economic benefits of the Project, the impacts associated with the GHG emissions of the Project are acceptable and consistent with the public interest.

7.3 Subsidence Impacts

Public Comments

186. The Commission received submissions raising concerns that subsidence will have an impact on the use of major roads in the area. Of particular concern are the likely effects on Edderton Rd. For the studs it is important that this road be in good condition at all times as it is on the route between the studs and the specialist equine veterinary hospital at Scone.

187. At the Public Hearing and in written submissions, the Commission was presented with material stating the modelling provided in the EIS is based on a 'rule of thumb' 26.5 degrees angle of draw to assess the impacts of subsidence and does not identify the

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uncertainties due to multi-seam extraction. Material presented to the Commission argued that best practice modelling should include angles of draw of at least 10 to 40 degrees to assess all potential subsidence scenarios. Given this didn't occur in the EIS, it was put to the Commission that the subsidence impacts may affect an area considerably greater than predicted, including the Golden Highway, Saddlers Creek and the Hunter River alluvium in addition to the Project Area.

188. Material presented to the Commission also argues that the analysis in the EIS does not address the local geology and geotechnical properties of the Project Area.

189. Several submitters said that subsidence would permanently damage groundwater aquifers (further discussed at Section 7.1) and adversely affect items of Aboriginal cultural heritage, particularly during any remediation (further discussed at Section 7.10).

190. Submitters raised concerns that subsidence impacts are underestimated and would result in collapsed ridgelines, slopes, flats and loss of vegetation.

Council Comments

191. MSC did not raise any specific concerns with the Commission regarding subsidence matters. However, MSC had raised concerns with DPIE during the assessment period regarding traffic disruption on Edderton Road during subsidence-related maintenance (see paragraph 212).

Applicant's Consideration

192. The Applicant's EIS includes a Subsidence Assessment (**SA**) in Appendix A, which was peer reviewed by Professor Bruce Hebblewhite. Professor Hebblewhite's report is included at Attachment 6 of the EIS. The Applicant also addresses subsidence in the RtS and in additional information documentation provided to DPIE.

193. The SA applied the Incremental Profile Method (**IPM**), which draws on subsidence data from other underground coal mines in the Hunter Valley and Newcastle. Professor Hebblewhite's peer review of the SA notes IPM is the most effective method of subsidence prediction in Australia.

194. The SA includes a summary of subsidence impacts as a result of the Project, including surface cracking, changes in drainage line gradients, changes in topographic depressions, slope instability, increased erosion potential and sub-surface fracturing.

195. The SA identifies the following potential subsidence consequences:

- Hunter River and Saddlers Creek: negligible environmental consequences in terms of diversion of flows or changes in the natural drainage behaviour of pools;
- Groundwater: minimal impact on bores in local aquifers;
- Agricultural productivity: negligible long term or permanent impacts on agricultural productivity in terms of impacts on soil fertility, effective rooting depth or soil drainage on land that is labelled as BSAL;
- Slopes: minor environmental consequences in terms of cracks or compression ridges;
- Threatened species of EECs: Minor subsidence impacts such as cracking of the land surface, no significant environmental consequences to threatened species or ecological communities;

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- Aboriginal heritage sites: potential for disturbance of some open artefact sites as a result of surface cracking or subsidence remediation;

- Public roads: the Golden Highway would remain safe and serviceable, potential impact on Edderton Road for which monitoring and mitigation measures are proposed, including re-alignment (see paragraphs 201-202);

- Power lines: serviceability will be maintained through the use of preventative measures or power line relocation as necessary;

- Houses or industrial premises: none within the extent of conventional subsidence;

- Public safety: negligible additional risk.

196. The SA identifies mitigation measures to address subsidence impacts on groundwater, surface water, land resources, ecology, visual character and Aboriginal heritage. The SA also indicates that subsidence impacts on the natural and built features can be managed by the preparation and implementation of appropriate mitigation strategies.

197. The SA notes that subsidence predictions for multi-seam operations are more complex and less certain than single seam operations. The SA acknowledges that the greatest level of uncertainty of overall subsidence impacts relate to the stability of the bord and pillar workings in the Whynot Seam and the impact of mining the underlying third and fourth seams.

198. Where the prediction confidence levels are reduced, the SA recommends that updated predictions need to be made at later stages of the Project, informed by more detailed mine planning, further geotechnical assessment and ground monitoring once the mine operations commence. Noting these reduced prediction confidence levels, the SA has adopted conservative measures to predict worst case cumulative subsidence impacts and proposes an adaptive management approach for the life of the Project, including the use of monitoring, subsidence remediation methods and contingency and adjustment measures in the event of unexpected subsidence impacts.

199. Professor Hebblewhite's peer review considers the approach taken in the SA (including the angle of draw used) to be appropriate to develop initial predictions. Professor Hebblewhite also supports updated subsidence predictions being made for the life of the Project with respect to both the bord and pillar and longwall mining methods.

200. With the exception of potential impacts on Edderton Road (see paragraphs 201 and 202 below), the SA predicts the subsidence impact will be contained wholly within the Project Area boundaries and will be visually indiscernible due to the undulating topography of the locality.

201. Edderton Road is located above the proposed longwalls in the Woodlands Hill, Arrowfield and Bowfield Seams. Therefore, in its current alignment the SA identifies there is potential for localised changes in drainage, cracking and or heaving to the road surface. To address this, the Applicant proposes to realign Edderton Road prior to the secondary extraction in the underlying Arrowfield Seam (third seam). Prior to this occurring, longwall extraction beneath Edderton Road will be undertaken in one seam (Woodlands Hill Seam).

202. A number of subsidence monitoring, management and remediation measures are proposed for Edderton Road prior to the realignment, as outlined in Enclosure 3 of the Applicant's submission to the Commission regarding subsidence (dated 23 October 2020). The proposed measures include varying levels of monitoring and reporting depending on whether the longwall mining is approaching the road or is directly underneath. As the

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longwall mine approaches the road, monitoring and mitigation measures include the preparation of a Build Features Management Plan for the road, 24-hour surface monitoring of the road (through surveillance and monitoring programs to identify damage) and engaging a suitable contractor to respond to and repair damage as soon as practical.

DPIE Assessment

203. DPIE notes subsidence is one of the key issues to consider in its assessment of this Project, being a multi seam mining operation (page vi-vii of the DPIE AR). DPIE engaged with the Resources Regulator and Subsidence Advisory NSW regarding the Project.

204. DPIE notes the Resources Regulator is satisfied with the subsidence impacts of the Project (page viii of the DPIE AR) and Subsidence Advisory NSW did not raise concerns with the Project (ARP 5.3.12). However, Subsidence Advisory NSW requested it be consulted in the development of management plans for the Project, which is reflected in the Recommended Conditions.

205. The proposed impacts of vertical subsidence would reach up to 5.6m with the main impact being associated with the area where all four seams overlap (ARP 6.3.12 & 6.3.13).

206. The Commission heard from DPIE during the Public Hearing for this Project, which confirmed that, with the exception of Edderton Road, all of the predicted subsidence impacts would be contained "*entirely within the land owned by Malabar Coal and, as such, would not impact on any private landowners outside of the Project site*". (Day 1 transcript page P-10).

207. In terms of subsidence impacts on the Hunter River and Saddlers Creek, DPIE notes the longwall mining would be located at least 500m and 210m from the watercourses respectively. DPIE also notes both the Hunter River and Saddlers Creek and respective associated alluvium would remain completely outside the angles of draw for mining in all four seams (ARP 6.3.15 and 6.3.16).

208. Regarding impacts on stream channels, DPIE notes subsidence impacts may result in some localised areas of ponding, which may require the implementation of erosion controls or regrading of channel beds in affected areas (ARP 6.3.18). Fracturing of the bedrock underlying stream channels is also likely, with potential impacts including surface cracks from less than 100mm to 30mm in width (ARP 6.3.19). DPIE notes these impacts would be remediated either by infilling cracks or by regrading and recompacting affected stream beds (ARP 6.3.20).

209. As noted previously, the Project Area is located in an area of undulating topography. DPIE notes tension cracks are expected to form along the top and sides of some slopes and ridges (ARP 6.3.21). As such, DPIE notes the Applicant proposes to prepare Extraction Plans that assess slope stability in consultation with a geotechnical engineer and to undertake visual monitoring of steep slopes, remediate cracking, and implement erosion controls over the life of the Project (ARP 6.3.22).

210. DPIE notes that, while the proposed mine plan does not involve secondary extraction within 150m of the Golden Highway, the highway would still be partially located within the angle of draw for mining in the Bowfield Seam (ARP 6.3.25); however, DPIE accepts the SA conclusions that vertical subsidence in the vicinity of the Highway is predicted to be less than 20mm and will not result in detectable tilts, curvatures or strains. Notwithstanding this, DPIE notes the SA recommends an assessment of the Bowmans Crossing bridge, where the highway crosses the Hunter River, should be undertaken by a structural engineer in consultation with Transport for NSW prior to undertaking any second workings within 1.2km of the bridge (ARP 6.3.27). DPIE's Recommended Conditions reflect this.

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211. In terms of the impact to Edderton Road, DPIE notes six of the longwalls in the Woodlands Hill, Arrowfield and Bowfield Seams will directly undermine Edderton Road (ARP 6.3.28). DPIE further notes the vertical subsidence is predicted to be up to 5.1m following the extraction of the Bowfield Seam with a predicted maximum tilt of 45mm to occur following the extraction of the Arrowfield Seam. In order to address this, the Applicant proposes to undertake 24-hour monitoring and maintenance to ensure Edderton Road remains safe and serviceable at all times.

212. DPIE notes MSC's concern with this approach on the basis that ongoing repairs of the road would create excessive disruption (ARP 6.3.35). Therefore, in additional information provided to DPIE, the Applicant has committed to realign Edderton Road prior to commencing longwall mining in the Arrowfield Seam, which is expected to occur by 2032 (ARP 6.3.36). In the interim, the Applicant has also committed to undertake 24-hour monitoring of Edderton Road with a road repair crew on standby during the longwall mining in the Woodlands Hill Seam.

213. DPIE accepts the Applicant's commitments given the predicted cumulative impacts associated with mining the shallower Whynot and Woodlands Hill Seams are significantly less than those predicted for the Arrowfield and Bowfield Seams (ARP 6.3.37).

214. DPIE also accepts further mitigation measures proposed by the Applicant in terms of impacts on other infrastructure such as powerlines, including installation of additional poles or realignment of the powerlines around the mining area.

215. DPIE's Recommended Conditions require the Applicant to ensure negligible subsidence impacts on Saddlers Creek and the Hunter River, the preparation of a Subsidence Management Plan and a Water Management Plan detailing monitoring and repair measures for subsidence impacts and the completion of the Edderton Road realignment prior to commencing secondary extraction in the Arrowfield Seam.

216. DPIE concludes that it accepts the SA and the peer review. DPIE also concludes that the subsidence impacts of the Project are acceptable and "*can be appropriately managed under recommended conditions, which are consistent with the current regulatory approach for underground mines"* in the State (ARP 6.3.56).

Commission's Findings

217. The Commission has considered the material outlined in paragraph 33, the material provided during the Public Hearing and submission periods and the discussion during the Commission's meetings (paragraph 27).

218. Objectors to the Project commissioned a subsidence expert who questioned the adequacy of the SA, with particular reference to the angle of draw used to assess impacts of subsidence. The Commission examined the concerns raised in the public submissions and finds that the EIS meets the requirements of the SEARs and all applicable legislative and guideline requirements. The Commission also notes the findings in Professor Hebblewhite's peer review of the SA (paragraphs 193 and 199) and the conclusions of DPIE (paragraphs 205 to 208) and agrees that the SA is appropriate to predict the potential subsidence impacts; that the predicted subsidence will be wholly located within Malabar-owned land (except for Edderton Road); that suitable remediation measures are proposed; and any residual impacts can be appropriately monitored and mitigated through the Recommended Conditions.

219. The Commission has imposed conditions that set out subsidence performance measures to ensure the subsidence impacts to water resources, land, biodiversity, Aboriginal and

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historic heritage sites, infrastructure and built features are no greater than predicted in the EIS and assessed by DPIE.

220. The imposed conditions also require the preparation of an Extraction Plan that includes a Subsidence Monitoring Program prepared in consultation with the Resources Regulator to describe the methods for monitoring, data management and adaptive management processes.

221. With regard to the realignment of Edderton Road, the Commission is satisfied with the monitoring, management and mediation measures proposed to manage subsidence impacts prior to the road realignment before the commencement of second workings in the Arrowfield Seam (the Edderton Road realignment is discussed further at section 7.12).

222. With regard to subsidence impacts on Aboriginal Cultural Heritage, the Commission's findings on this matter are outlined at section 7.10.

223. Overall, the Commission is satisfied with the conclusions of DPIE and the Resources Regulator (paragraphs 204 and 216) that the subsidence impacts of the Project can be appropriately managed and, if necessary, remediated under the imposed conditions.

7.4 Rehabilitation

Public Comments

224. At the Public Hearing and in written submissions, the Commission was presented with material suggesting the disposal of reject material in the East Void will cause heavy metal and saline contamination of the water in the void, which will be at risk of overflow into the adjacent alluvial aquifers.

225. Further to this, the final pit Voids will be too steep to stabilise and establish suitable vegetation cover successfully.

226. The Commission heard that if the Project commences, the rehabilitation requirements under the Drayton Mine consent will be deferred.

227. Also presented to the Commission was the suggestion that the provision for rehabilitation of the site is inadequate, with the rehabilitation bond comprising less than 50% of the estimated cost of rehabilitation. In this regard, the public submissions raise concerns that there are significant under costings of the rehabilitation measures including the final landform rehabilitation, tree colonisation, remediation of spontaneous combustion and achieving the extension of the woodland biodiversity corridor.

Council Comments

228. At its meeting with the Commission (paragraph 27), MSC raised concerns that if this Project is approved the requirements of the existing Drayton Mine approval will disappear with the surrender of that consent, including the requirement for the site rehabilitation to be carried out to a standard consistent with the Drayton Wildlife Refuge (as the analogue site). MSC requested the Commission, in the event of approval, to impose a condition requiring all biodiversity rehabilitation on the Project Site to be to a standard consistent with that of the Drayton Wildlife Refuge.

229. MSC also raised concerns that there are no reference sites for pasture rehabilitation, which represents approximately 30-40% of the rehabilitation plan. Therefore, MSC requested the Commission impose a condition allowing MSC, in consultation with the Applicant, to select a relevant pasture analogue site, for example land on Wyer Lane.

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230. With regard to paragraphs 228 and 229, MSC proposed amendments to DPIE's Recommended Condition B76 to include additional rehabilitation objectives and council consultation requirements.

231. MSC also proposed amendments to DPIE's Recommended Condition B79, to include in the Rehabilitation Strategy a requirement for the Applicant to join in MSC's Standing Committee on Industrial Closures when requested to do so by MSC, which is generally five to seven years before mine closure. This Committee is tasked with productively repurposing mining land after mine closure to provide economic, employment and social benefits to the region.

Applicant's Consideration

232. The EIS includes a preliminary Rehabilitation and Mine Closure Strategy at Appendix U.

233. The EIS notes the Project Area contains three existing open cut Voids that are approved to be retained following the conclusion of the Drayton Mine Extension under MP 06_0202. That approval identified opportunities to backfill the North and East Voids (subject to commercial agreements), leaving the South Void to be retained. However, the EIS notes that the backfilling opportunities for the North and East Voids did not eventuate. In this case, MP 06_0202 allows for the retention of the three Voids as water storages.

234. The EIS identifies a conceptual final landform for the Project, which includes a partially backfilled East Void and leaves the South and North Voids as water storages.

235. The overall rehabilitation plan proposed by the Applicant includes rehabilitation of subsidence impacts, management of the Voids and the establishment of a biodiversity corridor.

236. With regard to subsidence impacts, the Applicant proposes mitigation measures for subsidence impacts on groundwater, surface water, stream geomorphology, land resources, terrestrial ecology, aquatic ecology, visual character, Aboriginal heritage and historic heritage.

237. Prior to causing any subsidence, the Applicant proposes to prepare an Extraction Plan, which would include monitoring, evaluation and performance measures and an adaptive management approach.

238. In addition to subsidence remediation, the proposed rehabilitation measures also include the following:

- landform rehabilitation: proposed 500ha of woodland and 760ha of pasture (agricultural land)
- erosion and sediment control measures
- management of spontaneous combustion hazards
- weed control and pest management
- Edderton Road realignment: explore opportunities for beneficial reuse of the road pavement, if not, the road pavement will be removed and the disused road corridor will be re-seeded to pasture

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- rehabilitation of historical mining sites: continuation of progressive rehabilitation of historical mining areas outside the proposed disturbance footprint over the life of the Project

- reshaping emplacement areas where possible to integrate with the undulating landscape and create the appearance of natural drainage lines

- biodiversity corridor: the proposed final landform retains the woodland biodiversity corridor (approved under Drayton Mine Extension) from the northeast to the southwest of the site

- voids: proposed retention of the three Voids on the basis that fully backfilling these legacy Voids is not feasible; however, partial backfilling of the East Void is possible through the emplacement of CHPP reject material generated by the Project, which will be subsequently capped and rehabilitated. The Applicant also proposes to investigate opportunities to reduce the size of the remaining Voids, including the emplacement of fly ash from the adjacent power stations and reject material from future mining operations.

- post mining: the underground mining portals and ventilation shafts would be sealed and surface infrastructure at the MEA and within the transport and services corridor would be decommissioned and removed.

DPIE's Assessment

239. DPIE's Recommended Conditions require the Applicant to rehabilitate all disturbance resulting from the Project and that of the former Drayton Mine Extension Project (MP 06_0202) outside the proposed disturbance footprint of the Project (ARP 6.12.16).

240. DPIE accepts the Applicant's proposal for progressive rehabilitation of subsidence impacts and the rehabilitation of the disused road corridor when Edderton Road is realigned. DPIE notes the 72 ha of verified BSAL on the western side of the underground mining area is separated by the existing alignment of Edderton Road. The realignment of Edderton Road will reunify the BSAL land (Table 6-21 of the DPIE AR).

241. DPIE also supports the Applicant's proposed alteration to the woodland biodiversity corridor required under MP 06_0202, which involves shifting the corridor to the east in order to accommodate the approved Maxwell Solar Project. The alteration to the corridor includes a commitment to extend the corridor in the northeast of the site; to plant 10ha of woodland to the south of the Access Dam; and to carry out additional planting progressively within the biodiversity corridor (ARP 6.12.13). DPIE notes the altered corridor will improve visual amenity and deliver other benefits (ARP 6.12.15).

242. DPIE notes the site contains three existing open cut voids (identified as the East, North and South Voids) following the conclusion of the Drayton Mine Extension Project (MP 06_0202). The approval of MP 06_0202 established the final landform and rehabilitation outcomes for the Project Area and identified opportunities for backfilling the East and North Voids subject to commercial agreements while approving the retention of the South Void. DPIE acknowledges the commercial backfilling arrangements did not eventuate and therefore the existing approval under MP 06_0202 allows the retention of all three Voids as water storages (ARP 6.12.3).

243. With respect to the final Voids, while DPIE considers the Applicant should explore all possible opportunities to reduce the size of the final Voids, it acknowledges the legacy constraints of the site and that the backfilling options identified in the EIS may not

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eventuate. Therefore, DPIE undertook its assessment on the basis that the Voids would be retained as water storages in the final landform (ARP 6.12.22).

244. DPIE concludes, after consulting with the Resources Regulator, that the rehabilitation risks can be suitably managed under the Recommended Conditions and under the conditions of the Applicant's mining leases (ARP 6.12.33).

245. DPIE further concludes that, through the preparation of a detailed Rehabilitation Strategy and Rehabilitation Management Plan, safe, sustainable and visually sympathetic rehabilitation outcomes are achievable for the Project (ARP 6.12.34).

Commission's Findings

246. The Commission notes the Resources Regulator is satisfied with the proposed rehabilitation subject to the Recommended Conditions.

247. The Commission also notes the concerns raised in public submissions and the Public Hearing about the quantum of the security deposit held by Government against this Project (and the former Drayton Mine) and notes that the Resources Regulator is responsible for setting appropriate security deposit requirements for the Project.

248. With respect to the concerns raised about the treatment of the legacy Voids, the Commission has considered the potential risk of water contamination and overflow of water from the Voids (paragraph 148) and finds there is minimal risk of surface water or groundwater escaping from the Voids into the surrounding environment.

249. In considering the Material, the Commission agrees with DPIE that the proposed rehabilitation measures are appropriate and that the Recommended Conditions (as refined by the Commission) require the Applicant to fulfill the legacy rehabilitation requirements under the Drayton South approval (outside the proposed disturbance area of the Project) and the relevant mining leases.

250. The Commission also notes that MSC requested amendments to the Recommended Conditions as outlined in paragraphs 228 to 231. The Commission has considered the proposed condition changes, in consultation with DPIE, and finds the wording of DPIE's Recommended Conditions to be suitable. The Recommended Conditions are based on contemporary standards for mining proposals throughout NSW, informed by the Resource Regulator's experience and allowing for consistent regulation and compliance enforcement. With regard to MSC's request for the conditions to require the Applicant to participate in MSC's Standing Committee on Industrial Closures, the Commission does not support this proposed change. The Commission notes this committee does not have a regulatory role in enforcing the terms of any development consent granted under the EP&A Act and is not regulated under any State government legislation. The Commission finds the imposed conditions include suitable mine closure and stakeholder engagement requirements.

251. The Commission has imposed DPIE's Recommended Conditions with respect to rehabilitation objectives, progressive rehabilitation and the preparation of a Rehabilitation Strategy and Rehabilitation Management Plan. The Commission has also imposed amendments to the Recommended Conditions to reinforce the obligations applying to rehabilitation of disturbance under the former Drayton South approval and to introduce consultation requirements with MSC.

252. The Commission is satisfied that the imposed conditions provide an appropriate framework for the rehabilitation of the site progressively throughout the life of the Project and following mine closure.

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7.5 Amenity Impacts – Noise, Vibration

Public Comments

253. One of the issues raised in many public submissions and at the Public Hearing is in relation to the potential noise and vibration impacts of the Project in terms of the impact on the equine industry.

254. In particular, representations made on behalf of the equine industry maintain blasting is a significant and unacceptable risk to operations and the safety of horses and their handlers at the Coolmore and Godolphin Woodland studs.

255. The Commission heard arguments that the noise modelling in the EIS under-predicted the operational noise, predicted that the Project will continuously exceed the NSW Noise Policy limits and utilised an outdated model.

256. Related to this were concerns about the cumulative noise impacts of mining operations in the region, encroaching on agricultural land with specialised equine and viticulture uses.

257. The public submissions identified intrusive noise impacts associated with blasting during the construction of the MEA, and the omission from the DPIE assessment of ground borne vibration, blast overpressure or noise impacts associated with blasting on human or animal comfort.

258. Submissions were put to the Commission that, due to the unknown effects of underground mining blasts on the wellbeing of thoroughbreds, this Project would present an extreme risk to equine health and jeopardise Australia's premier thoroughbred breeding industry.

259. Submissions made to the Commission state that the guidelines used to set the blasting limits imposed by DPIE (*Australian and New Zealand Environment and Conservation Council guidelines* (**ANZECC**)) are not relevant.

260. In its written submission, the UHSC raised concerns that DPIE did not undertake an analysis on equine noise impacts.

Council Comments

261. MSC did not raise any noise or vibration related concerns with the Commission.

Applicant's Consideration

262. The Applicant's EIS included a Noise Impact Assessment at Appendix I, which addressed potential impacts from blasting activities at the Project.

263. The EIS indicates that there would be some noise impacts on local residents to the north in the early years of the Project while construction activities and mining operations are occurring concurrently. The RtS states that with the implementation of appropriate mitigation measures, negligible or no exceedance of the Project noise trigger levels is predicted at all but four privately-owned receivers to the north of the Maxwell Infrastructure site.

264. In terms of blasting overpressure and vibration, the EIS notes the EPA guidelines for assessing vibration defer to the *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration* prepared by ANZEC. The Project will involve small scale blasting during the initial construction phase of the MEA and the

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transport and services corridor, as well as small blasts to improve the slope and stability of the final Void highwalls at the Maxwell Infrastructure site.

265. The EIS states the blasts would occur at least 4.5km from the boundary of the Coolmore and Godolphin Woodlands studs and would be significantly smaller than those typically used by open cut mining.

266. The proposed blasts of the final Void highwalls at the Maxwell Infrastructure site will be at least 10km away from the closest boundary of the Coolmore and Godolphin Woodlands studs.

267. Consequently, the EIS indicates the proposed blasts are predicted to remain well below all relevant overpressure and vibration criteria at privately owned properties and would be virtually undetectable at the Coolmore and Godolphin Woodlands studs.

DPIE's Assessment

268. DPIE notes sensitive noise receivers in the vicinity of the Project Area are the residents within the Antiene Rural Residential Estate located to the north of the Maxwell Infrastructure site and the Antiene Rail Spur and residences associated with the Coolmore and Godolphin Woodlands studs and Hollydene Estate.

269. DPIE notes that, during the first four years of the Project, seven receivers to the north of the site would be expected to experience marginal exceedances of between 3 and 5 dB above the project special noise limits and a further eight receivers would experience negligible exceedances of 1 to 2 dB above the project specific noise limits (ARP 6.5.24 to 6.5.26). As the predicted exceedances at these residences would be either negligible in nature or temporary impacts associated with construction activities, mitigation under the *Voluntary Land Acquisition and Mitigation Policy* (**VLAMP**) would only be required for four receivers who are predicted to experience sustained operational noise levels between 3 and 5 dB over the project specific noise limits. The Department notes that all four of these receivers already have mitigation rights under the current Drayton Mine approval due to the noise impacts associated with the former mining operation (ARP 6.5.25).

270. With respect to the impacts on northern receivers, DPIE notes that, given mining activities have been occurring at the Project Area since 1983, the Project would not materially change the nature of noise for residences to the north relative to what has been experienced over the last four decades (ARP 6.5.12).

271. Given the distance and presence of intervening topographic features, the Project is not predicted to exceed any noise criteria for privately-owned receivers to the south. Project noise levels at the Coolmore and Godolphin Woodlands studs are predicted to remain at or below 27 dB(A) in the first year of operations and at or below 24 dB(A) at all other times during operations, while project noise levels at Arrowfield Estate (a locally listed heritage item located at Hollydene Estate winery and owned by neighbouring Coolmore stud) were predicted to remain at or below 20 dB(A) at all times. These operational noise levels are expected to be inaudible above background noise, including road traffic on the Golden Highway (ARP 6.5.19 to 6.5.20).

272. DPIE's AR concludes that DPIE and the EPA are satisfied that the noise impacts of the Project can be managed under the Recommended Conditions and an Environment Protection Licence for the site, which would require the Applicant to implement best practice noise management, including real-time monitoring and the application of proactive and reactive measures in response to adverse meteorological conditions (DPIE AR page ix).

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273. With respect to the potential blasting impacts of the Project on the Equine CIC and the Coolmore and Godolphin Woodlands Studs in particular, the Commission requested further advice from DPIE.

274. DPIE provided a written response dated 5 November 2020 (**DPIE Response**). In preparing its response, DPIE sought further clarification from the Applicant. DPIE confirmed that the blasting during the construction phase of the Project would have a substantially lower Maximum Instantaneous Charge (**MIC**) than existing open cut mines in the locality. DPIE notes the impacts would remain below the relevant ANZECC criteria for human annoyance and the impacts would remain below the existing overpressure and vibration levels recorded at the boundaries of the stud properties due to blasting events at the existing Hunter Valley Operations Complex and Mt Arthur Coal Complex.

275. In preparing its response, DPIE sought advice from the NSW Department of Primary Industries Biosecurity and Food Safety, Animal Welfare and Animal Biosecurity units (collectively **DPI**). DPI confirms it supports DPIE's conclusions, advising DPI "*do not foresee any animal welfare issues from the noise/vibration associated with blasting*". DPI recommended the Applicant incorporate notification requirements into monitoring and blasting programs and monitor any observable impacts on horse behaviour.

276. Therefore, in its letter to the Commission, DPIE confirms it considers the magnitude of blasting impacts associated with the Project is unlikely to be noticeable at the Coolmore and Godolphin Woodlands studs and would be no greater than that of existing mining complexes operating in the locality.

277. DPIE's Recommended Conditions require the Applicant to take all reasonable steps to minimise blasting impacts on nearby residences and livestock, establish blast notification and complaints systems and implement monitoring measures at sensitive receivers. The Recommended Conditions also include a requirement for the Blast Management Plan for the site, approved under the Drayton Mine consent, to be updated.

278. For the reasons set out above, DPIE concludes the blasting impacts are not considered to pose a significant risk to horse health and safety.

279. The DPIE AR also notes that NSW Health did not object to the Project (ARP 5.3.9).

Commission's Findings

280. The Commission notes that there were concerns raised at the Public Hearing and in written submissions regarding the potential noise impacts from the Project, particularly with respect to the southern receivers (including the Coolmore and Godolphin Woodlands studs).

281. With respect to the noise impacts on the northern receivers (residents in the Antiene Rural Residential Estate), the Commission agrees with DPIE's conclusion set out at paragraphs 269 and 270, that while some exceedances of operational noise levels are predicted to occur at private residences to the north, these residences have coexisted with the former Drayton Mine over many years and, where appropriate, will be afforded mitigation rights in accordance with the VLAMP.

282. The Commission also agrees with DPIE's conclusions about the noise impacts on the southern receivers, as set out in paragraph 271, that the Project is not predicted to exceed any noise criteria for privately-owned receivers to the south and the operational noise levels are expected to be inaudible above background noise, including road traffic on the Golden Highway.

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283. The Commission notes the concerns raised that sudden blasting events will potentially adversely affect the thoroughbred horses at the Coolmore and Godolphin Woodlands studs. The Commission has examined the concerns raised and finds the Applicant and DPIE have undertaken an appropriate assessment of potential blasting impacts. The Commission accepts the advice of DPIE and DPI, as set out in paragraphs 274 to 276, that the magnitude of blasting is likely to be indiscernible at the stud properties and the risk of equine impacts from blasting is low.

284. Notwithstanding this, the Commission has imposed the conditions recommended by DPIE to ensure advanced notification of blasting events for sensitive receivers and the implementation of monitoring and complaints measures. The Commission has also imposed the Recommended Conditions to ensure the noise and vibration data are publicly available.

7.6 Amenity Impacts – Air Quality

Public Comments

285. The Commission was presented with many submissions objecting to the Project on the basis it will have adverse impacts on equine health resulting from air quality. Many of these submissions raised concerns that the air quality impact assessments undertaken by the Applicant and DPIE are based on human health criteria, but neglect to consider the impact on equine health.

286. The Commission heard from the public that the ambient air quality already exceeds the *National Environment Protection (Ambient Air Quality) Measure* (**NEPM**) health criteria. Concerns were raised that the particulate matter arising from the Project such as construction works, wind erosion of exposed areas, dozers on the ROM coal and product stockpiles and transport emissions will exacerbate air pollution issues in the region and have adverse impacts on human and equine health.

287. Also of concern is the haul road transporting coal from the MEA to the Maxwell Infrastructure site, which will initially be unsealed. In this regard, the Commission was encouraged to require the haul road to be sealed prior to the commencement of the first workings, construction works and mining operations.

288. Objectors to the Project put to the Commission that the equine respiratory tract appears to be highly sensitive to particulate material, with dust causing inflammation. In this regard, further coal mining activities, such as that proposed in this Application, will worsen the poor air quality in the region and will increase dust deposition in the paddocks of grazing horses. The Commission heard how horses exposed to high levels of coal dust can develop pneumoconiosis.

289. In terms of human health, submissions were made to the Commission raising concerns about the cumulative impact of the Project on air quality. Air quality monitoring data in Muswellbrook over the past five years were presented to the Commission to illustrate that air quality in the Hunter Valley is increasingly of concern, even in circumstances where approved mines in the region are operating under capacity. It was put to the Commission that if the approved mines operated at their maximum approved extraction rates, the air quality would frequently exceed health criteria. Therefore, there is no capacity in terms of air quality for the currently approved mines in the locality let alone this Project.

290. The Commission heard that air pollution in the Hunter Valley has significant health implications, causing adverse respiratory health, impacts on pre-term and birth weight, and impacts on mental health.

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291. The Commission also heard concerns that the DPIE assessment dismissed air quality concerns in favour of social and economic factors.

292. The UHSC raised concerns about air quality at its meeting with, and in its written submission to the Commission. UHSC stated there has been a clear trend of deteriorating air quality in the region since the Hunter Valley Air Quality Network (**HVAQN**) began in 2012, and the last four years have been the worst on record. UHSC said that data measured by the HVAQN shows Muswellbrook monitors exceeded the PM_{10} NEPM standards for the last 2 years and $PM_{2.5}$ standards for all years since the introduction of the network.

Council Comments

293. At the meeting between MSC and the Commission, the Commission noted MSC raised concerns with DPIE during its assessment of this Project regarding the timing for the sealing of the haul road. The Commission asked MSC if it had any residual concerns about dust management after reviewing the Recommended Conditions. MSC confirmed it is satisfied with DPIE's AR and Recommended Conditions in this regard.

Applicant's Consideration

294. The EIS included an Air Quality and Greenhouse Gas Assessment at Appendix J, which was prepared in accordance with the EPA's *Approved Methods for Modelling and Assessment of Air Pollutants in New South Wales* (**Approved Methods**) and had regard to VLAMP.

295. The AQGGA included dispersion modelling for three operational scenarios: Years 1, 3 and 4. Years 1 and 3 represent the early stages of mining operations and concurrent construction activities and Year 4 represents the worst-case operational impacts, with underground mining operations at maximum capacity.

296. The AQGGA also provided a cumulative assessment of the air quality impacts of the Project, including emissions from the Mount Arthur Coal Complex, the Bengalla Mine and Hunter Valley Operations North. The AQGGA also includes the continuing operation of the Liddell Power Station over the life of the Project.

297. The Year 4 modelled cumulative scenario includes the maximum predicted PM_{10} and $PM_{2.5}$ levels. However, even in the worst-case scenario, no exceedances (of the Approved Methods or VLAMP) were predicted to occur at any privately-owned receivers or over more than 25% of privately owned land in the vicinity of the Project Area.

298. The Applicant proposes dust mitigation measures, including the enclosure of the ROM coal hopper and CHPP, and regular maintenance of unsealed surfaces (including the haul road), water sprays at unloading and transfer points at the CHPP, water spraying to stabilise stockpiles and the progressive rehabilitation of disturbed areas. The Applicant also proposes real time air quality monitoring and adaptive mitigation response measures.

DPIE's Assessment

299. DPIE notes the AQGGA includes the Liddell Power Station, which is likely to be closed in 2023. Therefore, DPIE notes the air quality predictions are likely to be conservative from 2024 (ARP 6.8.11).

300. DPIE notes the findings of the AQGGA as described at paragraph 297, accepting that under worst case Project operational conditions, no exceedances of the air quality criteria are predicted to occur at any privately-owned receivers or over more than 25% of any

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privately-owned land within the vicinity of the Project Area. Consequently, no mitigation or acquisition rights are applicable under the VLAMP (ARP 6.6.13).

301. At ARP 6.6.14, DPIE notes the AQGGA has assessed compliance with 24-hour criteria for particulate matter on a project-alone basis rather than a cumulative basis, in compliance with the provisions of VLAMP. However, noting the concerns raised in submissions about potential cumulative 24-hour particulate matter levels, DPIE considered the cumulative regional air quality levels over the proposed Project life. DPIE concludes that, while the cumulative regional air quality levels would experience occasional days of PM_{10} exceedances, these impacts are almost exclusively driven by background air quality levels.

302. DPIE further notes the Project itself would contribute a very minor amount of PM_{10} (0.6 $\mu g/m^3$ or less) at any privately-owned receiver and is not predicted to result in any additional days of exceedances (ARP 6.6.15).

303. DPIE also considered the occurrence of spontaneous combustion events, which have occurred at the Maxwell Infrastructure site sporadically since the 1980s. DPIE accepts the Applicant's current monitoring and management regime for spontaneous combustion risks, which will continue over the life of the Project, to the satisfaction of the Resources Regulator.

304. With respect to potential impacts on the Equine or Viticulture CICs, DPIE notes that the AQGGA indicates the Project's contribution to PM_{10} and $PM_{2.5}$ concentrations at the Coolmore and Godolphin Woodlands studs and at Hollydene Estate would be minimal and would cause a negligible increase in dust deposition levels (ARP 6.2.22). Further to this, in the context of the separation distance to the studs and the intervening terrain, DPIE considers that dust emissions from the Project are likely to have a negligible impact on the CICs.

305. In the DPIE Response, DPIE confirmed these findings, concluding the Project is expected: "*to result in nil to negligible impacts on the existing air quality environment within the Equine CIC, would comfortably comply with relevant human health criteria and would not pose any discernible risk to horse health or the operation of the thoroughbred studs*."

306. DPIE and the EPA are satisfied with the proposal with respect to air quality management, stating impacts can be managed and mitigated under the Recommended Conditions, which establish a range of safeguards to minimise air quality impacts on sensitive receivers (ARP 6.6.25 to 6.6.28). Mitigation and management measures required through the Recommended Conditions include sealing the haul road within 12 months of commencing first workings at the mine, implementing best practice dust management and real time air quality monitoring.

307. At ARP 5.3.9, the DPIE AR notes NSW Health did not raise any specific concerns regarding the Project. In its submission to DPIE, NSW Health provided the following comments:

"*Hunter New England Population Health has reviewed the EIS for the Maxwell Underground Coal Mine, paying particular attention to Air Quality, Noise, Surface Water, and Groundwater and other issues that may impact on public health. Due to the proposed coal mine being underground, and most above ground infrastructure existing already, the EIS indicates that the Project will have minimal additional impact on public health*".

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Commission's Findings

308. The Commission notes the objections to the Project on the basis of air quality, particularly in the context of the ambient Upper Hunter air quality and with respect to the potential impact on equine health.

309. The Commission notes, under the EPA's Approved Methods, in some locations, existing ambient air pollutant concentrations may exceed the impact assessment criteria from time to time. In such circumstances, it must be demonstrated that no additional exceedances of the impact assessment criteria will occur as a result of the proposed activity and that best management practices will be implemented to minimise emissions of air pollutants as far as is practical. In this regard, the Commission is satisfied with DPIE's conclusions set out at paragraphs 300 to 302, that the Project will not cause any additional days of exceedances.

310. The Commission further notes DPIE, EPA, NSW Health and DPI are satisfied with the Project from an air quality perspective, subject to the Recommended Conditions. The Commission has imposed conditions requiring all feasible measures be implemented to minimise dust emissions from the Project and a comprehensive air quality management system to be developed utilising predictive forecasting and real time monitoring. The Commission has also imposed a condition requiring the haul road to be sealed within 6 months of the commencement of first workings to limit dust impacts from coal transport in the initial phases of the Project. The Commission is therefore satisfied that the requirements of the Approved Methods are achieved (paragraph 309).

311. With respect to potential impacts on the Coolmore and Godolphin Woodlands studs, the Commission accepts DPIE's conclusion set out in paragraph 305, that the Project is expected to result in nil to negligible impacts on the existing air quality environment within the Equine CIC. The Commission notes DPI has also examined this issue and concludes the proposed mitigation measures are sufficient to address animal welfare concerns in relation to air quality (as indicated in the DPIE Response).

7.7 Amenity Impacts – Visual

Public Comments

312. While some submissions to the Commission raised visual amenity as a concern, others acknowledged that "*certain negative elements of the previous (open cut) proposals are no longer present, in particular visual aspects…*"

313. Those who objected to the Project on the basis of visual amenity raised issues with the cumulative impacts of the mines in the locality, and with the visual presence encroaching closer to agricultural, equine and viticultural interests.

314. Of particular concern is the reputational impact that clearly visible mining operations will have on the success of the Equine CIC which promotes itself as providing a "clean and green" environment for breeding elite equine athletes.

315. The Commission also heard submissions of support for the Project that identified that the underground nature of the Project will alleviate any visual impact the mine may have on the locality.

316. Supporters of the Project note the rehabilitation outcome being undertaken by the Applicant will deliver a better outcome for the area and a "*far more visually appealing final landform*."

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317. The submissions in support of the Project made to the Commission also described the benefits, from a visual amenity perspective, of the Project design, including the location of the MEA behind ridge lines and utilising existing infrastructure thereby minimising new and potentially visible infrastructure.

318. At its meeting with the Commission, UHSC raised concerns about the cumulative impact of mining operations on the rural amenity of the locality.

Council Comments

319. MSC did not raise any concerns relating to the visual impacts of the Project.

Applicant's Consideration

320. The Applicant addressed visual impact in its EIS at Appendix N and also in the RtS.

321. The EIS provides a Visual Impact Assessment of direct and indirect visual impacts of the existing Maxwell Infrastructure site, the new MEA, the product stockpile extension, the transport and services corridor and the Edderton Road realignment from potential receivers.

322. The EIS identifies a number of visual mitigation measures incorporated by the Applicant in the design of the Project, including:

- locating the mine underground;
- utilising existing infrastructure at the Maxwell Infrastructure site;
- positioning the mine entry area in a natural depression, which encloses most operational components within natural topography;
- ongoing rehabilitation at the Maxwell Infrastructure site;
- use of compatible tones for building and cladding colours (such colours would include tonal variations of existing colours in the surrounding landscape); and
- landscaping at the mine entry area to create tonal variations when viewed from the air.

323. With respect to the Maxwell Underground site, the EIS concludes the Project would be of inherently low visual impact because the mining operation is underground.

324. The EIS analysed the potential impact of the MEA from key locations, including Edderton Homestead on Edderton Road, along Edderton Road, elevated locations on the Coolmore and Godolphin Woodlands studs and from the air (i.e. when arriving or departing the studs by aircraft). The EIS notes the MEA has been located in a natural valley within undulating topography that limits most views into the operational MEA, reducing the potential for visual impacts.

325. The EIS finds that from Edderton Road the MEA, coal stockpiles and some coal loading facilities and infrastructure will be visible for a 600m portion of the road (approximately 3km away), from a moving vehicle.

326. The EIS also finds the MEA would not be visible from any area on the Coolmore or Godolphin Woodlands studs, including the elevated locations on those properties.

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327. The EIS further finds night lighting from the MEA and transport and services corridor would contribute to the existing sky glow in the region, but this would have localised effects in an area with few sensitive receptors. Further afield, the distance would reduce any visual impacts as the Project will minimally contribute to the prevalent sky glow in the area.

328. The EIS finds the visual impact associated with the additions to the Maxwell Infrastructure site will be minimal. All changes occur within the existing site boundary and the Project boundaries are screened by topography in all directions. Vegetation and the Mt Arthur Mine also screen views to any new components from Thomas Mitchell Drive.

329. The EIS also considered the potential impacts from the Edderton Road realignment, noting any visual impacts would be localised and would be limited to the construction phase of the road realignment. These impacts would be reduced to low following the rehabilitation of disturbed areas, and, when the rehabilitated areas become established, the EIS concludes the impact would be insignificant.

DPIE's Assessment

330. DPIE's assessment of the visual impact of the Project included a consideration of the existing landscape of the locality, noting it is highly industrialised to the north, east and west, including the Mt Arthur Coal Complex to the west and the Liddell Power Station to the east (ARP 6.8.2).

331. DPIE further notes the proposed extension of stockpiling areas, upgrading of mine infrastructure and the installation of a new transmission line would largely occur within existing disturbed areas and views to these areas from the north and the Lake Liddell Recreation Area are screened by dense vegetation (ARP 6.8.3).

332. On this basis, DPIE's assessment of visual impact mainly focused on views of the Maxwell Underground site from key properties to the south (ARP 6.8.4). DPIE considers the key visual components of the Project to be the MEA, including the ROM coal stockpiles (up to 25m high) and coal handling infrastructure, and the transport and services corridor, including the sealed road, overland ROM coal conveyor, water pipelines and electricity transmission line (ARP 6.8.14). Additionally, there is potential for night lighting impacts associated with the 24-hour operation of the Project (ARP 6.8.16).

333. DPIE notes the landscape to the south and west of the Project Area constitutes the *Muswellbrook-Jerrys Plains Landscape Conservation Area* (**MJPLCA**), which was listed by the National Trust of Australia in 1985 because of its aesthetic significance (ARP 6.8.5), which is also central to the Equine and Viticulture CIC.

334. DPIE notes the MEA is located approximately 4.5km north and northeast of the Coolmore and Godolphin Woodlands studs respectively (ARP 6.8.8). DPIE also notes the Project would be visible from one location on Edderton Road but would not be visible from Hollydene Estate or the Golden Highway (ARP 6.8.9).

335. Overall, DPIE concludes the Project has been designed to minimise potential visual impacts on the surrounding locality given the underground nature of the operations and the undulating topography (ARP 6.8.28).

336. DPIE notes components of the transport and services corridor will be visible from the highest vantage points at the Coolmore and Godolphin Woodlands studs; however, given the separation distance, these components will be difficult to perceive and will not "*materially alter the visual character of the landscape*" (ARP 6.8.29).

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337. DPIE finds the visual impact associated with the alignment of Edderton Road will be minimal and limited to construction-related impacts. DPIE notes, once complete, the new road alignment will be in keeping with the visual character of the area (ARP 6.8.17).

338. In terms of visibility from the existing Edderton Road, DPIE finds views of the MEA and transport and services corridor will be available for a distance of approximately 3.8km, but will be fleeting because vehicles typically travel at approximately 80km/hr in this location. (ARP 6.8.23).

339. DPIE concludes the visual impacts of the Project are "*likely to be negligible*" (ARP 6.8.29).

340. Notwithstanding, noting the concerns raised by sensitive receptors, DPIE has Recommended Conditions requiring the Applicant to take reasonable measures to minimise visual impacts, including directing lighting downward, designing works and structures to blend into the surrounding landscape, and providing screen landscaping where appropriate (ARP 6.8.26). The Recommended Conditions also require the preparation of a detailed Visual Impact Management Plan that includes measures to minimise night-lighting impacts and a landscaping strategy to establish and maintain screening trees (ARP 6.8.27).

Commission's Findings

341. The Commission has considered the visual assessments undertaken by the Applicant and DPIE, which notes that the Applicant has sought to locate new infrastructure for the Project so it is obscured by the undulating topography of the land and screens any residual visual impacts as far as practicable.

342. The Commission notes the concerns raised in public submissions regarding the potential for the visual impacts of the mine to compromise the 'clean and green' reputation of the Coolmore or Godolphin Woodlands studs. The Commission also notes the submissions of support for the Project on the basis of visual impact, that the Project design is appropriate and will not compromise visual amenity.

343. The Commission notes the aesthetic significance of the landscape to the south and west of the Project Area under the MJPLCA. The Commission agrees with DPIE's conclusions set out at paragraphs 334 to 339, that the Project is likely to result in negligible visual impacts and will not materially alter the visual landscape of the locality.

344. The Commission has imposed DPIE's Recommended Conditions described at paragraph 340 to ensure any residual potential impacts are appropriately monitored and managed.

345. The Commission is satisfied the Project is appropriate and will have negligible impacts from a visual amenity perspective.

7.8 Biodiversity impacts

Public Comments

346. During the Public Hearing and in written submissions, the Commission was presented with concerns that the EIS does not adequately address the likely biodiversity impacts or provide an appropriate strategy to offset any residual impacts in accordance with the Biodiversity Offset Scheme.

347. Submissions made to the Commission said that there are three Critically Endangered Ecological Communities (**CEECs**) present in the Project Area.

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348. The Commission was provided with material saying there is a lack of detailed information about the soil characteristics in the areas of CEECs and the proposed biodiversity offset site. Concerns were raised that, if the necessary soil and habitat conditions are not available to grow the species proposed, there is a high risk of failure.

349. Objectors to the Project also raised concerns about the impact of subsidence and soil cracking on Endangered Ecological Communities (**EECs**) due to changes to water infiltration and water access for EECs.

Council Comments

350. At its meeting with the Commission, MSC raised concerns about the impact of the Project on the Pine Donkey Orchid (***Diuris tricolor***). MSC provided a submission to the Commission outlining concerns noting the geographic distribution of the species is restricted to Muswellbrook within an area of less than 50 square kilometres. Therefore, the cumulative impact on this species from the Project and other existing mines in the locality will result in significant habitat loss.

351. MSC requested the Commission amend Recommended Condition B49 with respect to biodiversity credits, to ensure MSC is consulted in respect of any contemplated reduction in the biodiversity credit requirements for the Pine Donkey Orchid imposed on the Applicant by conditions B47 and B48.

Applicant's Consideration

352. The Applicant's EIS included a Biodiversity Development Assessment Report (**BDAR**) at Appendix E, which assesses the terrestrial ecology and an Aquatic Ecology and Stygofauna Assessment at Appendix F, which assesses the aquatic ecology within the Project Area.

353. The EIS includes flora and fauna surveys between 2017 and 2019, and also draws on historical surveys conducted in 2007, 2009, 2012 and 2015, in support of the previous Drayton South Coal Mine projects.

354. The EIS states the Project Area has been extensively modified and fragmented by previous mining operations and historical activity. The Project Area consists predominantly of derived native grassland and scattered areas of remnant woodland.

355. The Project will result in a total surface disturbance area of 311 ha, comprising 26.6 ha of native woodland vegetation, 136 ha of derived native grassland, 64.7 ha of rehabilitated woodland, pasture and planted trees and 94 ha of land previously cleared for mining infrastructure.

356. Indirect impacts have also been identified through subsidence impacts, comprising 1,784.7 ha of native vegetation (including 477.2 ha of woodland and 1,307.5 ha of derived native grassland) and 7.3 ha of planted trees.

357. In terms of flora, the Project is identified as affecting *White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (**Box Gum Woodland**), the *Central Hunter Valley Eucalypt Forest and Woodland* (**Central Hunter Woodland**) and the *Hunter Valley Weeping Myall Woodland* (**Myall Woodland**).

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358. The Box Gum Woodland and the Myall Woodland are listed CEECs under the BC Act and EBPC Act and the Central Hunter Woodland is listed as an EEC under the BC Act and a CEEC under the EBPC Act.

359. In terms of fauna, the Project is identified as affecting the Pink Legless Lizard and the Striped Legless Lizard through the clearing of suitable breeding and foraging habitat.

360. In order to reduce impacts from the Project, the Applicant has proposed a number of mitigation measures, including the following:

- Establishing Environment Protection Areas for certain sensitive species;
- Engaging a suitably qualified person to undertake pre-clearance surveys and remain on-site during clearing of vegetation and rocky areas to capture and release native fauna;
- Developing a vegetation clearance protocol;
- Salvaging and re-using potential habitat features, including tree hollows and bush rocks;
- Managing spontaneous combustion risks in accordance with an approved management plan;
- Establishing a woodland corridor as part of the post-mining landform;
- Monitoring subsidence and remediating surface cracking; and
- Offsetting residual impacts.

DPIE's Assessment

361. The Project was determined to be a controlled action under the EPBC Act in November 2018, and, as such, has been assessed pursuant to the bilateral agreement between the State and Commonwealth governments.

362. During DPIE's assessment and in consultation with its Environment, Energy and Science - Biodiversity and Conservation Division (**BCD**), DPIE requested further flora and fauna surveys be undertaken by the Applicant.

363. With respect to the Pine Donkey Orchid, DPIE has recommended a condition that requires the Applicant to manage actively any plants that may out-compete this species within a fenced 'Environment Protection Area' (ARP 6.4.53).

364. DPIE is satisfied that the proposed biodiversity corridor will improve habitat connectivity within the Project Area (ARP 6.4.38).

365. DPIE and its BCD are satisfied with the final surveys undertaken. In consultation with BCD, DPIE has Recommended Conditions that represent a precautionary approach to the assessment, through adaptive management and offsetting impacts of all known and potentially occurring threatened flora and fauna within the Project Area (ARP 6.4.29). DPIE has Recommended Conditions requiring the Applicant to offset residual biodiversity impacts in accordance with the Biodiversity Offset Scheme (6.4.61), and concludes, subject to the Recommended Conditions, the Project is unlikely to have a significant impact on threatened flora and fauna (ARP 6.4.30).

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Commission's Findings

366. The Commission recognises that BCD and DPIE more generally are satisfied with the Project and BCD raises no objection subject to the Recommended Conditions being imposed.

367. The Commission is satisfied with DPIE's findings that the biodiversity survey has been undertaken in accordance with the applicable guidelines. The Commission has imposed DPIE's Recommended Conditions requiring the Applicant to protect and maintain the Drayton Wildlife Refuge and the Northern Offset Area, to establish and maintain the Southern Offset Area, and in relation to biodiversity offsetting.

368. The Commission heard submissions that raised concerns with the biodiversity offsetting approach, but the Commission notes it has no role in setting biodiversity offsetting policy. The Commission is satisfied with DPIE's assessment that the biodiversity offsets have been calculated in accordance with the applicable policies and has imposed the Recommended Condition regarding the timing for retiring biodiversity offsets.

369. The Commission notes the request by MSC to amend Recommended Condition B49 with respect to biodiversity credits, to ensure MSC is consulted in respect of any contemplated reduction in the biodiversity credit requirements for the Pine Donkey Orchid. The Commission supports this request and has imposed the amended condition accordingly.

370. Overall, the Commission is satisfied that the imposed conditions provide for the appropriate management, mitigation and monitoring of the potential biodiversity impacts of the Project.

7.9 Groundwater Dependent Ecosystems

Public Comments

371. Public submitters raised concerns with the Commission that the drawdown impacts from the Project on the Saddlers Creek, Saltwater Creek and Hunter River alluvium will result in a consequential loss of GDEs.

Applicant's Consideration

372. The EIS provides a GDE impact assessment within Appendix V. The EIS states there are no 'high priority' GDEs (as defined in the relevant water sharing plans) in the vicinity of the Project.

373. The EIS references the Groundwater Dependent Ecosystem Atlas and identifies the following potential aquatic and terrestrial GDEs in the vicinity of the Project:

- Aquatic habitat within the Hunter River is mapped as having high potential for groundwater interaction.
- Aquatic habitat within Saddlers Creek is mapped as having moderate to high potential for groundwater interaction.
- Terrestrial vegetation along the Hunter River and Saddlers Creek is mapped as having low potential for groundwater interaction.
- The majority of the remaining terrestrial vegetation in the vicinity of the Project is mapped as having low potential for groundwater interaction.

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374. The Applicant's EIS states the depth to groundwater within the Maxwell Underground area is typically greater than 20 m. Accordingly, the terrestrial vegetation within the Maxwell Underground area is not considered groundwater dependent.

375. The EIS identified the following potential GDEs in proximity to the Site:

- stygofauna in the Hunter River and Saddlers Creek alluvium; and
- Swamp Oak Forest along Saddlers Creek, Saltwater Creek and the lower sections of their tributaries.

376. The EIS identifies negligible reduction in baseflow predicted for Saddlers Creek or Saltwater Creek (paragraph 102). Consequently, it is unlikely that the predicted Project groundwater drawdown would adversely affect the Swamp Oak along either Saddlers or Saltwater Creeks.

IESC

377. Following its review of the GA, the IESC recommended the Applicant provide further evidence on the presence of terrestrial vegetation within the predicted extent of groundwater drawdown.

378. IESC also recommended the Applicant prepare an ecohydrological conceptual model to illustrate the potential impact from predicted water quality and quantity changes within the Project Area and downstream. IESC advised this model should be used to inform a risk assessment for the Project, which includes the cumulative impacts under a range of climatic scenarios and includes adaptive management measures.

DPIE's Assessment

379. In relation to the IESC's advice, DPIE is satisfied the EIS included an appropriate assessment of GDEs, incorporating mapping of the depth of the water table and hydrographs of Swamp Oak Forest along Saddlers Creek. DPIE accepts the EIS findings that the approximate depth to groundwater along the Saddlers Creek alluvium range is between 3 to 10m and Swamp Oak trees along the creek lines may have a root depth of up to 4.5m (ARP 6.4.39).

380. DPIE accepts the findings of the GA and BDAR that the predicted drawdown in the Saddlers Creek and Saltwater Creek alluvium is unlikely to affect Swamp Oak Forest along the creek lines adversely (ARP 6.4.20).

381. DPIE concludes that it considers that risks to groundwater dependent vegetation in the vicinity of the Project Area are minimal. Notwithstanding this, DPIE supports the IESC's recommendation for ongoing monitoring and adaptive management and has reflected this in the Recommended Conditions (ARP 6.4.41).

Commission's Findings

382. The Commission notes the concerns raised in public submissions with respect to potential impacts on GDEs. The Commission also notes the recommendations made by the IESC.

383. The Commission is satisfied with DPIE's assessment of potential impacts on GDEs, and notes the Recommended Conditions include the IESC recommendation for ongoing monitoring and adaptive management.

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384. The Commission is satisfied that the potential impacts can be adequately managed, subject to the conditions imposed.

7.10 Aboriginal Cultural Heritage

Public Comments

385. The Commission received several objections to the Project based on impacts on Aboriginal cultural heritage and the incremental loss of the cultural landscape with progressive mine approvals.

386. Material presented to the Commission suggests the EIS did not address the impact of the Project on the native title claimed area of the Wonnarua people or consider the impacts of the Project on a potential massacre site south of Mt Arthur.

387. Concerns were also raised regarding the consultation with Registered Aboriginal Parties (**RAPs**) undertaken for the Project and raised concerns that the Applicant had not fulfilled its statutory obligations with respect to native title under relevant State and Commonwealth legislation.

388. The objections also submitted that the Aboriginal cultural heritage assessment focuses on physical artefacts but overlooks the wider cultural landscape connections and the interplay between these elements, noting important ceremonial and song lines are in proximity to the Project Area.

389. At the Public Hearing, the Commission was provided with material from the public saying the Project will result in significant and potentially irreversible damage to subsurface physical Aboriginal archaeology through subsidence itself and the management of that subsidence as well as its rehabilitation.

390. Comments at the Public Hearing and submissions for and against the Project made to the Commission note the Project Area holds intangible Aboriginal cultural values, which are associated and connected with an extensive area of highly sensitive landforms. Some submissions objecting said no major assessment of these has been made. The cultural significance for Aboriginal people is not just the artefact sites themselves, but the broader cultural landscape and landscape features, including Mount Arthur, the Hunter River and Saddlers Creek and the connections between them – which include both the Project Area and its broader locality.

391. In addition to this, the submissions identify that, if implemented, actions for biodiversity management, subsidence management and rehabilitation will result in impacts on Aboriginal heritage items.

392. At the Public Hearing the Commission also heard submissions of support for the Project on the basis of the employment opportunities for Aboriginal people and the facilitation of programs allowing indigenous employees to learn about their culture. When asked, one of these supporter groups identified that disturbance of the artefacts was not a major issue.

Applicant's Consideration

393. The EIS included an Aboriginal Cultural Heritage Assessment Report (**ACHR**) at Appendix G, which draws from historical archaeological assessments undertaken between 1980 and 2012 and includes contemporary surveys undertaken in August and October 2018.

394. The EIS identifies 275 Aboriginal sites within the Project Area, comprising over 4,000 stone artefacts. The Project would result in direct disturbance of 39 open artefact sites, with two

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of these considered to have moderate scientific significance and the remaining sites considered to have low scientific significance. The ACHR also noted advice from RAPs concerning "*conflict, including massacres of Aboriginal people*" in the region of the study area, with Mr Arthur noted as a massacre location. The general consensus of informants interviewed is that there was a mass shooting of Aboriginal people in the area known as "The Pocket" in the 1820s, although no physical evidence of this appears to remain.

395. The EIS identifies subsidence cracking and associated remediation may cause additional indirect impacts on a number of the remaining 236 sites located above the underground mine area. Of these sites, two are stone quarries identified as having high scientific significance, both of which are outside the predicted extent of conventional subsidence, and the remaining sites are considered to have low or moderate scientific significance.

396. The EIS predicts the Project would reduce the region's potential open artefact resource by approximately 0.18%.

397. The EIS proposes the following measures to manage impacts on identified Aboriginal sites:

- Surface collection and salvage of significant sites that would be directly affected by the Project;
- Monitoring of all sites with high and moderate significance within the underground mining area;
- Collection of surface artefacts with high and moderate significance and excavation and salvage of potential archaeological deposits in the event of subsidence impacts such as cracking.

398. The Applicant proposes to establish a workforce target of 10% indigenous workers and to engage with local Aboriginal groups to monitor and mitigate impacts.

DPIE's Assessment

399. DPIE consulted with BCD and Heritage NSW with regard to Aboriginal cultural heritage matters. BCD advised that it is satisfied with the Aboriginal Cultural Heritage Report and recommended that an Aboriginal Cultural Heritage Management Plan (**ACHMP**) be prepared for the Project, in consultation with RAPs, prior to any ground disturbance occurring. Heritage NSW advised it is also satisfied with the Recommended Conditions as they relate to Aboriginal cultural heritage matters.

400. DPIE notes, given all proposed surface infrastructure would be removed post-mining, that the Project is unlikely to have a significant long-term impact on the cultural landscape (ARP 6.13.1).

401. DPIE considers that the Aboriginal cultural heritage impacts of the Project are likely to be minimal and could be suitably managed under the Recommended Conditions. The Recommended Conditions include requirements to monitor sensitive sites, such as the previously recorded location of the quarry site and to minimise potential Aboriginal cultural heritage impacts through the preparation of the ACHMP.

Commission's Findings

402. As set out in paragraph 399, DPIE notes BCD and Heritage NSW are satisfied with the assessment of Aboriginal cultural heritage in the EIS and are also satisfied with the Recommended Conditions. In consideration of this material, the Commission is satisfied that the Aboriginal Cultural Heritage Assessment has been undertaken in accordance with the relevant guidelines.

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403. Government agencies identified that all of the correct protocols were followed, including the consultation requirements. The Commission notes concerns about the consultation process undertaken by the Applicant but concludes the consultation was undertaken in accordance with Government requirements and is therefore adequate for the purpose of this determination.

404. The Commission is satisfied that the Recommended Conditions with respect to the preparation of an ACHMP, required to be prepared in consultation with Heritage NSW and RAPs, is an appropriate mechanism to guide and monitor the development of the Project and provide appropriate protection and remediation measures for subsidence impacts.

405. Further to this, the Commission notes the programs offered by the Applicant regarding access to the land and opportunities to share culture and traditions.

406. The Commission has imposed a strengthened condition requiring the Applicant to consult with NSW Aboriginal Affairs, in addition to Heritage NSW and the RAPs.

7.11 Economic impacts

Public Comments

407. Objectors to this Project urged the Commission to consider the consequences of the Project's predicted economic benefits being overstated and not being achieved.

408. The Commission heard how, if the predicted economic benefits of the Project are unrealistic, unachievable or overstated, a decision to approve the Project will have fundamental long-term consequences on the environment and community.

409. In this regard, material has been put to the Commission that the Cost Benefit Analysis (**CBA**) is dependent on assumptions regarding coal quality, coal price, operational costs, capital costs, operating output and employment figures; however, insufficient information has been provided to verify these assumptions. Objectors also stated the CBA does not sufficiently include legacy or cumulative impacts of the mine.

410. Objectors raised concerns that there are significant uncertainties with respect to the demand and consequent price for coal between now and 2050. These objectors encouraged the Commission to seek and publish independent expert advice on this matter.

411. The Commission received submissions that the Applicant's Economic Assessment provides a best-case scenario; however, if some conservative, realistic assumptions were made to the CBA to account for market uncertainties, the outcome is no net public benefit. Therefore, the economic analysis is not sufficient to justify the environmental and social costs that this Project will generate.

412. It was suggested that the number of approved but undeveloped mines in the Hunter Valley - when looked at in the context of the current production slow-downs and low coal prices - indicates that the existing levels of demand for these coal products are already being met, indeed exceeded by the local mining industry.

413. In its submission to the Commission, the UHSC raised concerns that the economic assurances given by the Applicant are not achievable and the assumptions and justifications provided in the EIS cannot be substantiated.

414. Further to this, submissions stated that the purported economic benefits of this Project are dependent on matters which cannot be secured by the conditions of consent and of which the Commission cannot be certain.

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415. The submissions also raised concerns that externalities have not been appropriately reflected in the CBA, including the value of GHG emissions. The Scope 1 and 2 emissions are stated to have been underestimated and the value ($/tCO$_2$) applied to GHG emissions is low.

416. The Commission also received submissions that there is an economic impact from the damaged reputation to the Equine CIC and particularly the Coolmore and Godolphin Woodlands studs as a result of the ongoing mine projects. Material presented to the Commission indicates investors have elected to invest elsewhere due to the ongoing uncertainty with respect to the cumulative creep of mines closer to the Equine CIC and uncertainty about the impact on horses.

417. The Commission has also received many submissions of support for the Project based on economic and employment grounds.

418. Supporters of the Project cite increased employment opportunities in the region, supporting local employment, employment programs for Aboriginal people and ongoing training and skill development opportunities.

419. The Commission heard the Project will generate economic benefits for the wider community, for local suppliers and when local employees utilise goods and services in the region.

420. The Commission heard from supporters that the Project will provide for economic diversification through securing additional mining jobs in the region; however, the Commission also heard from objectors that the Project will compromise economic diversification by the risks it places on other industries (particularly the Equine CIC)

Council Comments

421. At its meeting with the Commission, MSC stated that there are significant economic benefits associated with the Project but raised concerns that these benefits should not be put before environmental and social impacts.

422. MSC also noted that a VPA is under negotiation with the Applicant, which will provide additional economic benefits for the community.

Applicant's Consideration

423. The Applicant's EIS included an Economic Assessment (**EA**) at Appendix M. The EIS states the EA was prepared in accordance with the *Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals* and the accompanying technical notes. The EA predicted the Project would generate incremental benefits to NSW in the order of $1.034 billion, including:

- A net producer surplus of $524 million
- Royalties of $342 million; and
- Company income tax of $168 million.

424. A CBA was included in the EA and estimated the environmental, social and transport costs of the Project would be in the order of $65 million. The majority of these costs (approximately 80%) relate to Scope 1 and 2 GHG emissions generated by the Project. The remaining costs relate to air quality, noise, traffic impacts (including potential delays

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on Edderton Road) and the sterilisation of potential grazing land (including land to be occupied by mine infrastructure and land set aside for biodiversity offsetting purposes).

425. The CBA did not identify any costs associated with impacts on water resources, the reason being, the EIS states, that the Project is not predicted to change the beneficial use category of groundwater in the vicinity. The CBA also did not quantify the Project's potential visual, subsidence or heritage impacts. The EA concluded these impacts would need to generate costs of $105 million per year to negate the benefits of the Project.

426. Overall, the CBA found the Project is expected to generate net benefits to NSW of over $1 billion. The EA also estimates the Project would increase Gross State Product by $3.33 billion and Regional Gross Product by $3.10 billion over the life of the Project.

427. The CBA included a sensitivity analysis that applied alternative discount rates and accounted for sustained decreases in export coal prices. Under all modelled scenarios, the CBA predicts the Project to result in a net benefit for NSW.

428. In terms of employment, the EIS predicts the Project will generate up to 250 FTE jobs during construction. The operational jobs are predicted to peak at 430 FTE in 2023, with an average of 350 FTE jobs between 2021 and 2030 and a slow decline in operational jobs to the end of the Project.

429. The EA estimates the Project would employ 42 local residents per year through the establishment phase and 121 local residents per year through the operational phase.

DPIE's Assessment

430. DPIE notes the CBA was prepared in accordance with the NSW Government *Guidelines for the Economic Assessment of the of Mining and Coal Seam Gas Proposals* (ARP 6.10.1) and that the consideration of the costs associated with the GHG emissions is consistent with the Technical Notes supporting those Guidelines (ARP 6.10.2).

431. In terms of the CBA referred to in paragraphs 424 to 427, DPIE notes that, based on its assessment of the visual, subsidence and heritage impacts of the Project, it is highly unlikely that these impacts will generate a cost of $105 million per year and agrees that under all modelled scenarios the Project is expected to result in a net benefit for NSW (ARP 6.10.6).

432. Overall, DPIE considers the EA provides an appropriate assessment of the likely economic impacts of the Project and that the Project would yield significant benefits to the local, regional and State economies. DPIE concludes the Project's benefits "heavily outweigh its potential costs" (ARP 6.10.12).

Commission's Findings

433. The Commission notes the numerous submissions received pertaining to the broader coal market, in particular the demand for metallurgical coal.

434. The Commission notes the consent authority must consider the likely economic impacts of the Project under s 4.15(b) of the EP&A Act and the economic welfare of the locality and the State under the Mining SEPP.

435. The Commission accepts that the expected economic benefits from the Project are as summarised in paragraphs 431 and 432, The Commission has considered the evidence provided by the Applicant, DPIE's AR and the public submissions and finds, on balance, that the Project will provide a net economic benefit for the local community, region and the

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State through investment and economic activity and is unlikely to affect significantly the operations of the Equine CIC, including the Coolmore and Godolphin Woodlands studs.

436. The Commission notes that the Coolmore and Godolphin Woodlands studs are located in proximity to an existing mining/industrial area and that significant investments in the Coolmore and Godolphin Woodlands studs have continued to be made despite the operations of the Mt Arthur/former Drayton mines. The underground nature of the Project and the fact that it utilises existing infrastructure is unlikely to result in significant economic impacts on the 'clean and green' reputation of the studs and therefore the continuing economic contribution of the Equine CIC.

437. The Commission also finds that the Project will result in direct benefits to the locality through the VPA and job creation.

438. With respect to the VPA, the Commission has imposed conditions requiring a VPA to be entered into within six months of the commencement of development. In the event that this does not occur, within a further three months, the Applicant will be required to pay a contribution to MSC under section 7.12 of the EP&A Act, commensurate with 1% of the Capital Investment Value of the Project to be paid in annual instalments over a 10-year period (paragraph 82).

439. In response to concerns about the Project becoming a stranded asset in the event of significant market and demand change, the Commission is satisfied the Recommended Conditions provide appropriate protection and rehabilitation obligations to ensure the Project is decommissioned appropriately or managed appropriately in care and maintenance.

440. The Commission notes that it is the responsibility of the NSW Resources Regulator to ensure that land disturbed by exploration and mining activities is returned to a safe, stable and sustainable land use. All exploration and mining title holders are required to lodge a security deposit with the Resources Regulator that covers the full rehabilitation costs. This requirement ensures that the NSW Government does not incur financial liabilities in the event of a title holder defaulting on its rehabilitation obligations.

7.12 Traffic and Transport

Public Comments

441. The Commission received several submissions outlining how Edderton Road is a critical transport route between the Coolmore and Godolphin Woodlands studs and Scone, where the equine hospital is located, and the Godolphin Kelvinside property. Therefore, any impact to Edderton Road presents a significant impact to the studs' operations, particularly during the breeding season (between September and December each year).

442. Objectors raised concerns that transport delays along Edderton Road resulting from the Project will cause health and safety impacts for people and livestock, adding risks and liabilities to the existing operations in the vicinity. These concerns are exacerbated during emergencies, when ambulances carrying livestock requiring urgent care and surgery need unencumbered access along Edderton Road.

Council Comments

443. MSC did not raise any residual concerns with the Commission regarding the traffic or transport arrangements for the Project.

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Applicant's Consideration

444. The EIS included a Road Transport Assessment for the Project, included as Appendix K, which was prepared in accordance with the *NSW Guide to Traffic Generating Developments* and provides an assessment of the potential and cumulative impacts of the Project on the road network in the vicinity.

445. The EIS concluded that the existing road network can satisfactorily accommodate the forecast traffic demands resulting from the Project without any specific additional road upgrade requirements.

446. However, due to expected subsidence impacts, the Applicant will realign a portion of Edderton Road, in consultation with MSC and DPIE. Until the realignment occurs, the Applicant has committed to manage subsidence impacts on Edderton Road by undertaking 24-hour monitoring of the road during the extraction of the first two coal seams (Whynot and Woodlands Hill seams) and repairing the road in its current alignment as necessary.

447. The Edderton Road realignment is proposed prior to commencing secondary extraction in the third seam (Arrowfield Seam).

448. The Applicant also proposes to upgrade the Saddlers Creek crossing on Edderton Road.

449. The EIS notes the Thomas Mitchell Drive/Denman Road intersection is going to be upgraded as part of the Mount Arthur Mine approval (MP 09_0062).

DPIE's Assessment

450. At ARP 6.7.6 to 6.7.15, DPIE notes planned changes to the existing road network. These include the upgrade of the Thomas Mitchell Drive and Denman Road intersection.

451. With regard to traffic impacts along Thomas Mitchell Drive, DPIE notes the 2015 *Thomas Mitchell Drive Contributions Study*, which assesses and identifies the proportionate contribution of each mining operation to the upgrading and maintenance of Thomas Mitchell Drive (ARP 6.7.6).

452. At ARP 6.7.7, DPIE notes the Thomas Mitchell Drive/Denman Road intersection upgrade is required to be undertaken by the Mount Arthur Mine complex operator, Hunter Valley Energy Coal Pty Ltd (**HVEC**). DPIE also notes HVEC has commenced the initial scoping and design work for the intersection upgrade, with a view to completing the upgrade by December 2022 (ARP 6.7.10).

453. While HVEC is required to undertake, or provide initial funding for the upgrade, other mines that utilise the intersection are required to pay a proportionate contribution toward the upgrade costs, consistent with the *Thomas Mitchell Drive Contributions Study*. As a major mining operation on Thomas Mitchell Drive, DPIE states that, if the Project is approved, the Applicant will also be required to pay a contribution to HVEC (ARP 6.7.9). This is reflected in the Recommended Conditions.

454. In the interim, until the intersection is upgraded, DPIE has Recommended Conditions requiring the Applicant to avoid using the intersection, where practicable (ARP 6.7.11).

455. Under the Mount Arthur Coal Complex approval (MP 09_0062), HVEC is also required to realign the northern portion of Edderton Road and its intersection with Denman Road, approximately 2.5km to the west (ARP 6.7.12).

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456. While this realignment is separate from the Project, DPIE assessed the relative timing and cumulative impact of these upgrades (ARP 6.7.13). In this regard, DPIE notes HVEC has already constructed the northern Edderton Road realignment and is nearing completion of the remainder.

457. Given the Applicant will be required to construct the southern realignment of Edderton Road prior to commencing longwall mining in the Arrowfield Seam (approximately 2032), DPIE is satisfied these separate road construction activities would not overlap (ARP 6.7.15).

458. Also, in relation to Edderton Road, DPIE considered the impact on the Equine CIC. DPIE notes the southern realignment of Edderton Road will increase the travel time along this transport route by 66 seconds. This combined with the HVEC's northern realignment equates to a total increased travel time of 2 minutes and 39 seconds (ARP 6.7.39). DPIE states that, to minimise traffic delays associated with the construction of the new southern realignment, the existing alignment of Edderton Road would remain open until the new alignment is fully constructed (ARP 6.7.39).

459. DPIE concludes that these minor increases in travel times are unlikely to increase the risk in the event of an emergency significantly. DPIE also concludes the increase in traffic time will be significantly offset by the overall improvement in pavement condition, road safety and the upgrade of the Saddlers Creek crossing (ARP 6.7.42).

460. DPIE also considered the predicted traffic impacts (ARP 6.7.22 to 6.7.34), proposed traffic arrangements (ARP 6.7.20 to 6.7.21) and subsidence impacts of the Project on the local road network. DPIE concludes, subject to the proposed subsidence management and realignment works being undertaken, the Project would not result in unacceptable impacts to road users (ARP 6.7.45).

461. DPIE has recommended conditions requiring the Applicant to prepare a Traffic Management Plan, contribute to the upgrading and maintenance of Thomas Mitchell Drive and minimise disruption to road users during the ongoing repair and eventual realignment of Edderton Road (ARP 6.7.47). DPIE concludes the traffic impacts associated with the Project can be appropriately managed through the Recommended Conditions (ARP 6.7.48).

Commission's Findings

462. The Commission is satisfied with DPIE's assessment of the anticipated traffic impacts of the Project, that the Project will not result in unacceptable impacts to road users.

463. The Commission has imposed the Recommended Conditions to ensure traffic and transport matters are appropriately monitored and managed through the life of the Project.

464. With regard to the realignment of Edderton Road, the Commission is satisfied this can occur with minimal disruption to existing users, and ultimately will improve the experience of road users through the improved road condition on completion. The Commission has amended the Recommended Conditions to specify rehabilitation objectives for the existing alignment of Edderton Road.

7.13 Other issues

465. There was a range of other issues raised in the submissions received by the Commission. A number of the more frequently raised issues are discussed briefly in the following pages.

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7.13.1 *Historic Heritage items*

466. DPIE note the Maxwell Infrastructure site contains three historic heritage items of local significance, including stockyards and a burial site. None of these items will be affected by the Project (Table 6-21 in the DPIE AR).

467. DPIE also notes there are no listed historic heritage items within the footprint of the underground mining area.

468. A number of historic homesteads are located in proximity to the Project Area, including the Plashett Homestead to the southeast, Bowfield Homestead to the west and Edderton Homestead to the northwest. There are also a number of homesteads located to the south and southwest, associated with the Coolmore and Godolphin Woodlands studs and Hollydene Estate winery.

469. DPIE states the Project is not predicted to result in any detectable subsidence or blasting impacts at any of the historic homesteads in the locality. In terms of visual impacts, the MEA and transport corridor will be visible from Edderton Homestead, but the Applicant proposes to mitigate these impacts through screen planting.

470. The Commission notes MSC did not raise any concerns to the Commission about any listed historic heritage items.

471. Through consideration of the Material, the Commission finds the impacts of the Project on historic heritage is likely to be minimal, and residual impacts can be managed and mitigated through the imposed conditions, which seek to minimise visual impacts on Edderton House and maintain historic records of the Drayton Mine for public viewing.

7.13.2 *Social Impacts*

472. The Commission received submissions raising both positive and negative social impacts associated with the Project.

473. The positive social impacts raised with the Commission include support for local businesses and community organisations, local employment opportunities, investment in the Hunter region and flow on social benefits from mining royalties, local contributions and company taxes.

474. The negative social impacts raised with the Commission include concerns about uncertainty created for the equine industry by the cumulative environmental impacts from mining in the region and health and amenity impacts.

475. DPIE advises the Project is predicted to comply with all applicable assessment criteria with respect to water resources, air quality, noise, blasting and visual impacts. On balance, DPIE considers the Project to represent a net social benefit for the community, subject to the Recommended Conditions (ARP 6.9.10).

476. The Commission agrees with DPIE's assessment that there are unlikely to be any significant negative social impacts, however, the Commission has imposed DPIE's Recommended Condition requiring the Applicant to prepare a Social Impact Management Plan in consultation with MSC and key stakeholders to outline adaptive strategies to avoid, minimise and mitigate any potentially negative social impacts.

477. The Commission has also imposed the Recommended Condition requiring the Applicant to enter into a VPA within six months of commencement of development. If the Applicant

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does not enter into a VPA within this timeframe, it will need to pay a contribution to MSC (paragraph 82).

478. The Commission notes NSW Health did not raise any specific concerns with DPIE regarding the project from a public health perspective (ARP 5.2.9)

7.13.3 *Impact on Agricultural Land (including Equine & Viticulture CICs)*

479. In the preceding paragraphs of this Statement of Reasons, the Commission has already considered land use compatibility as it is affected by various matters including air quality, noise, blasting, visual amenity, subsidence, rehabilitation, and water supply.

480. The Commission heard submissions objecting to the Project on the basis that it poses a risk to the "clean and green" reputation of the studs; however, the Commission notes that the Coolmore and Godolphin Woodlands studs are located in proximity to an existing mining/industrial area and that significant investments in the Coolmore and Godolphin Woodlands studs have continued to be made despite the operations of the Mt Arthur/former Drayton mines. The Commission finds the underground nature of the Project and the fact that it utilises existing infrastructure is unlikely to result in significant reputational impacts on the Equine CIC. Even assuming that the preferred use and the land use trend of the Equine and Viticulture CIC land is that it continues to be used for its present purposes, the Commission finds that the viability of the Equine and Viticulture CICs is unlikely to be demonstrably affected by the approval of the Application subject to the imposed conditions.

481. On the basis of the preceding sections of this Statement of Reasons, the Commission finds the potential impacts to be negligible or imperceptible at the surrounding agricultural receivers, including at the Coolmore and Godolphin Woodlands studs. The Commission is of the view that the imposed conditions are suitable to avoid, monitor, mitigate and manage any residual risks and that the underground nature of the Project minimises the risks posed by previous mining proposals at the Site.

482. The imposed conditions require the Applicant to engage with key landholders in the vicinity of the Project Area for the life of the Project through the Community Consultative Committee and during the preparation of key management plans.

483. Subject to the implementation of these conditions, the Commission agrees with DPIE's conclusions at ARP 6.11.29, that the Project is "*unlikely to have any demonstratable impact on the reputation and viability of the Equine and Viticulture CICs*".

7.13.4 *Issues relating to SEARs*

484. The Secretary's Environmental Assessment Requirements (**SEARs**) are issued by DPIE to guide the preparation of the EIS for State Significant Developments. The Commission heard from speakers at the Public Hearing that the SEARs were not adequately addressed in the EIS and that the lack of compliance with the SEARs is a significant and material deficiency of this application.

485. Consistent with the process envisaged under the relevant legislation, the Commission notes DPIE reviewed the EIS for compliance with the SEARs prior to the public exhibition period and also sought additional information in relation to a broad range of technical issues from the Applicant as well as liaising with other Government departments and agencies. The Commission is therefore satisfied that the EIS did adequately address the SEARs as required and that DPIE conducted further relevant investigations and consultation following the exhibition of the EIS in 2019.

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486. In terms of the updated SEARs requiring the EIS to address the potential impacts on the Equine and Viticulture CICs, the Commission is satisfied the EIS and DPIE assessment has been undertaken in accordance with all relevant guidelines and policies and the potential impacts on the Equine and Viticulture CICs and land use conflicts have been minimised as much as practicable. The Commission is satisfied that any residual impacts can be appropriately monitored, managed and mitigated through the imposed conditions.

7.14 Objects of the EP&A Act and Public Interest

7.14.1 *Objects of the EP&A Act*

487. The Commission has assessed the Project against the relevant Objects of the EP&A Act and is satisfied with DPIE's consideration of the Objects of the EP&A Act as set out in Appendix F of DPIE's AR.

488. The Commission is of the view that the extraction of coal as part of the Project is an efficient use of the land and represents a suitably managed use of the State's natural resources. The Commission is satisfied with DPIE's assessment outlined in DPIE's AR and finds that the Project will provide ongoing socio-economic benefits to the people of NSW, and substantial new employment opportunities for members of the local community (paragraph 437) and it will not result in unacceptable or unreasonable impacts on the agricultural uses in the locality, including the Equine CIC. Therefore, the Project accords with Object (a).

489. The Commission is satisfied with the assessment undertaken in Appendix F of DPIE's AR and is of the view that the Project can be carried out in a manner that is consistent with the principles of ESD as set out in Section 7.14.2, thereby satisfying Object (b).

490. The Commission finds the Project is a permissible land use under the Mining SEPP, involves the expansion of an existing coal mine site, utilising existing infrastructure and can be carried out in an orderly and economic manner, subject to the conditions imposed, and thus achieves Object (c).

491. The conditions imposed by the Commission seek to avoid serious or irreversible damage; avoid, minimise and manage potential impacts on biodiversity and heritage; and offset residual biodiversity impacts in accordance with the NSW and Commonwealth Government Policies. The Commission is satisfied Object (e) is achieved.

492. The Commission is satisfied with DPIE's assessment and is of the view that the potential impacts on culturally significant resources can be managed and mitigated in consultation with key stakeholders under the conditions, thereby satisfying Object (f).

493. The Commission notes that DPIE consulted with the EPA, BCD, DPIE-Water, EES, NSW Health, MSC, UHSC and other government agencies and has carefully considered all responses in its assessment. The Commission notes that DPIE publicly exhibited the Application and the Commission held a two-day Public Hearing to hear the public's views on the Project and accepted submissions on the Project and the AR and Recommended Conditions for a period of 26 days. The Commission is satisfied Objects (i) and (j) are met.

494. For the reasons set out above, the Commission is of the view that the Project is in accordance with the Objects of the EP&A Act.

7.14.2 *The Public Interest*

495. Through the Public Hearing and submissions process, the Commission received a large number of submissions made in objection to the Project. Objections were submitted by

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directly affected community members, other individuals, experts, interest groups (notably the HTBA), and from within the local area and across NSW.

496. Through the Public Hearing and submissions process, the Commission received a large number of submissions made in support of the Project. Submissions in support were submitted by directly affected community members, other individuals, experts, interest groups and bodies. Most of them were from the local area.

Ecologically Sustainable Development.

497. The Commission was encouraged in public submissions to refuse the Application on the grounds it does not satisfy the principles of ESD. It was submitted that a range of potential risks to the environment and the Equine CIC triggered or engaged the precautionary principle in a way that the proportionate response to those risks was said to be a determination of the Project by a refusal. As outlined in Section 7 of this Statement of Reasons, the Commission does not agree that the potential risks of the Project warrant a refusal.

498. Section 4.15 of the EP&A Act sets out matters that the Commission, as the consent authority, is bound to take into account to the extent they are relevant to the determination of the Project. Included in the relevant matters are the likely impacts of the Project, including "environmental impacts" (s 4.15(1)(b)), and the "public interest" (s 4.15(1)(e)).

499. The principles of ESD are relevant to the Commission's determination on an assessment of the "Key Impacts" (see from 7.1). This is reinforced by the objects of the EP&A Act which include the facilitation of ESD (s 1.3(b)), and the protection of the environment (s 1.3(e)).

500. The EP&A Act adopts the definition of ESD found in the *Protection of the Environment Administration Act 1991*, as follows:

> *ecologically sustainable development requires the effective integration of social, economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the implementation of the following principles and programs:*
>
> *(a) the precautionary principle…*
> *(b) inter-generational equity…*
> *(c) conservation of biological diversity and ecological integrity…. and*
> *(d) improved valuation, pricing and incentive mechanisms*.

501. The Commission has given consideration to the principles of ESD in its assessment of each of the "Key Impacts" as set out in Section 7. The aspects of ESD considered include those set out in the paragraphs immediately following.

(a) the precautionary principle;

502. The precautionary principle is triggered where both of the following preconditions are satisfied:

b. There is a threat of serious or irreversible environmental damage; and

c. There is scientific uncertainty as to the environmental damage.

503. The Commission has considered the evidence before it with respect to the potential for serious or irreversible harm, predominantly in association with impacts on water resources,

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greenhouse gas emissions, biodiversity and Aboriginal cultural heritage. Based on the material before it, the Commission is of the view that the risk of the Project causing serious or irreversible environmental damage is low. The low level of the threat is such that the Commission does not consider that a proportionate response – in light of the benefits of the Project – would be refusal of the Project. All threats or risks to the environment that have been raised in the material and submissions before the Commission are capable of being mitigated and monitored by the conditions the Commission has imposed on the Project.

504. The Commission acknowledges that there is a degree of uncertainty relating to the Project's impacts due to the nature of groundwater and subsidence impact modelling; however, the Commission is satisfied that the range and magnitude of the potential impacts has been appropriately categorised and assessed. The Commission has sought to reduce adverse impacts through the imposed conditions. The Commission considers the monitoring and adaptive management approach recommended by DPIE and imposed in the conditions is appropriate to reduce or mitigate these impacts.

(b) inter-generational equity;

505. There are three principles that underpin intergenerational equity, namely the conservation of options (maintain the natural and cultural diversity), the conservation of quality (maintain the quality of the earth) and the conservation of access (maintain access to the natural and cultural resources of the earth).

506. The Commission finds that, on balance, the social and economic benefits of the Project would benefit both current and future generations. The Commission is satisfied that the appropriate remediation obligations have been set for the life of the Project and after mining ceases.

507. The Commission is satisfied the imposed conditions provide appropriate mechanisms for the identification, avoidance and management of potential risks.

508. The Commission also finds that the Project includes appropriate measures for minimising and managing Scope 1 and 2 GHG emissions to the greatest extent practicable. The Commission notes that Scope 3 emissions become the consumer countries' Scope 1 and 2 emissions and would be accounted for under the Paris Agreement (or equivalent) in their respective national commitments.

509. The Commission has considered the material before it and for the reasons set out above. The Commission finds that intergenerational equity has been appropriately considered and addressed.

(c) conservation of biological diversity and ecological integrity

510. The Commission finds that any potential biodiversity impacts would be reasonably mitigated and/or offset to enable the long-term biodiversity outcomes to be achieved for the region. The imposed conditions provide appropriate mechanisms by which to identify, avoid and mitigate biodiversity impacts and require all residual biodiversity impacts to be offset in accordance with government policy.

(d) improved valuation, pricing and incentive mechanisms

511. The Commission is satisfied that under the imposed conditions, the Applicant is liable for any costs associated with mitigating and/or offsetting the impacts of the Project and for compensating landowners in the event of damage or losses associated with the Project.

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512. In summary, the Commission finds that the Project is consistent with the Objects of the EP&A Act, the Public Interest and the principles of ESD, because the Project, if approved, would achieve an appropriate balance between relevant environmental, economic and social considerations.

513. The Commission finds that, on balance, and when weighed against the relevant climate change policy framework, objects of the EP&A Act, ESD principles and socio-economic benefits, the potential impacts associated with the Project are manageable, and the risks of adverse impacts on the environment are low. The likely benefits of the Project warrant the conclusion that an appropriately conditioned approval is in the public interest.

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8 CONCLUSION: THE COMMISSION'S FINDINGS AND DETERMINATION

514. The views of the community were expressed through public submissions and comments received (as part of exhibition process and as part of the Commission's determination process), as well as in oral presentations to the Commission at the Public Hearing (section 4.3). The public submissions have greatly assisted the Commission in examining DPIE's assessment critically and reaching a determination. The Commission has considered these submissions in weighing, among other factors, the assessed merits of the Project; the relevant planning instruments, policies and environmental protections; the impacts of the Project; and the capacity to avoid, monitor, mitigate and manage these impacts reasonably and satisfactorily by imposing stringent conditions on the consent.

515. Based on its consideration of the Material before it (section 4.4), the Commission has determined to approve the Project. The reasons for the Commission's position (outlined in Section 7 above) are summarised as follows:

- The Project is a legal and appropriate use of the land under the applicable EPIs
- The Project Area is located in the Hunter coalfield in proximity to several mining operations and power stations and can therefore benefit from the use of shared infrastructure
- The underground nature of the Project minimises the impact of issues such as air quality, visual impact, noise and vibration and is therefore unlikely to result in significant impacts on sensitive receivers including the Coolmore and Godolphin Woodlands studs or the Equine CIC more broadly
- The Scope 1 and 2 GHG emissions can be minimised as far as practicable
- The Commission is satisfied the Project includes appropriate remediation and biodiversity management and offsetting
- The Commission has determined the conditions requiring the preparation of management plans to address impacts such as air quality and greenhouse gas emissions, water, subsidence, biodiversity, Aboriginal cultural heritage, waste, bushfire, and rehabilitation are appropriate mechanisms to provide a rigorous framework for monitoring, management, mitigation and reporting on the various impacts associated with the Project
- The Commission is satisfied the conditions imposed provide an effective, enforceable framework for adaptive management of the various issues
- The imposed conditions will ensure the Applicant engages with the community, relevant Commonwealth and State government agencies and MSC in preparing the management plans and the ongoing operations of the Project
- The Commission is satisfied the imposed conditions require the Applicant to make all relevant information publicly available in an easily accessible form as soon as possible
- The Project will deliver significant economic benefits for the local area, region and State through employment opportunities, royalties and tax revenue for the NSW Government and direct funding for local infrastructure and community projects through the VPA
- Based on a consideration of all issues, risks and potential impacts, and subject to appropriate conditions the Commission is satisfied the Project is in the public interest.

516. Following its detailed deliberations, the Commission concludes the Project is in the public interest and that any negative impacts can be effectively mitigated with strict conditions. As set out above in paragraph 515, the Commission has determined that the consent should be **granted** subject to conditions, which are designed to:

- prevent, minimise and/or offset adverse environmental impacts

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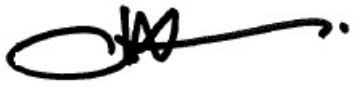
- set standards and performance measures for acceptable environmental performance
- require regular monitoring and reporting; and
- provide for the on-going environmental management of the development.

517. The reasons for the Decision are given in this Statement of Reasons for Decision dated 22 December 2020.

Mary O'Kane (Chair)
Chair of the Commission



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