APPENDIX K

Social Impact Assessment

SOCIAL IMPACT ASSESSMENT

For the Dendrobium Mine Extension Project

Provided for

ILLAWARRA METALLURGICAL COAL

Author

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SQUARE PEG SOCIAL PERFORMANCE

EXECUTIVE SUMMARY

Illawarra Coal Holdings Pty Ltd (Illawarra Metallurgical Coal [IMC]), a wholly owned subsidiary of South32 Limited is seeking approval for the Dendrobium Mine Extension Project (the Project) which would seek to extract and process up to 5.2 million tonnes per annum of run-of-mine metallurgical coal. The Project includes a new mining domain (Area 5) within the existing Consolidated Coal Lease 768 and the continuation of the existing Dendrobium Mine surface facilities at Mount Kembla, approximately 8 kilometres from Wollongong in New South Wales (NSW).

The Project would extend the operation of the Dendrobium Mine to the end of 2041, and at full development would require an additional 50 operational personnel and up to approximately 100 personnel for construction and development activities.

The continuation of the Dendrobium Mine as proposed for the Project is important to the continued financial sustainability of IMC's operations, and therefore the broader Southern Coalfield economic ecosystem. This document is the Social Impact Assessment for the Environmental Impact Statement for the Project, and has been developed in accordance with the NSW Department of Planning, Industry and Environment's *Social Impact Assessment Guideline for State Significant Projects* (Department of Planning Industry and Environment, 2021d). Drawing on qualitative primary research involving community stakeholders, secondary data and project information this document describes the potential social impacts associated with the Project, evaluates their significance and proposes mitigation, enhancement and monitoring measures.

Should the Project proceed, a range of impacts would affect the community within the primary and secondary social locality. A total of eleven impacts were identified from the qualitative research, five of which were positive and six negative. Key benefits of the Project include:

- Contribution to ongoing financial sustainability of mining and steelmaking in the Illawarra, thus supporting population stability and community sustainability.
- Sustaining Mount Kembla's identity as a traditional mining community.
- Ongoing contribution to community wellbeing and sustainability of the primary and secondary social localities.
- Continuation of approximately 700 operational employment opportunities (50 additional operational opportunities) and 100 construction employment opportunities for the Project. Continuation of employment within the Southern Coalfield economic ecosystem.
- Further opportunity to contribute to gender equality and economic reconciliation.

Negative impacts of the Project involve:

- Potential impact to Aboriginal heritage sites affecting Indigenous people.
- Potential for noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility, similar to existing conditions.
- The proposed Dendrobium Pit Top Carpark Extension potentially affects amenity and traffic in Mount Kembla.

- Potential for rail noise affecting residents along the Kemira Valley Rail Line similar to existing conditions.
- Potential for impacts to environmental values and water catchment.
- Ongoing contribution to traffic in Mount Kembla and on Cordeaux Road, Picton Road and Appin Road.

Most of these impacts represent continuations of impacts of the existing Dendrobium Mine, and as such would not lead to substantial change within the community. Three of the negative impacts – potential impacts to Aboriginal Heritage, potential impacts to environmental values and water catchments, and traffic and potential amenity impacts of a proposed Dendrobium Pit Top Carpark Extension in Mount Kembla – would on the contrary involve activities leading to new and negative experiences for the community. Mitigation measures for all these are proposed and discussed within this assessment.

By contrast, should the Project not proceed and the Dendrobium Mine cease operations, the change experienced within the primary and secondary social localities would be of a greater significance, both for positive and negative impacts. Although three negative impacts would not eventuate and amenity and traffic related impacts in the primary social locality would reduce, the socio-economic impacts of the Project not proceeding would include large job losses and impacts to businesses, industry and community within the Illawarra region. These may be of a cascading and significantly negative nature.

Although many social impacts of the Project proceeding can likely be adequately managed there is a residual concern within the broader community about impacts to water supply, and about potential impacts to Aboriginal heritage sites, particularly among Aboriginal stakeholders. The Environmental Management Strategy, including associated extraction and management plans would outline management measures for these potential impacts, however the proponent would do well to ensure these impacts are managed with a great deal of transparency to support public trust in these measures. The proponent is also advised to manage potential amenity and traffic related impacts, particularly of the proposed Dendrobium Pit Top Carpark Extension in Mount Kembla, involving the community in the process.

GLOSSARY AND ABBREVIATIONS

Term	Meaning
ABS	Australian Bureau of Statistics
ACHA	Aboriginal Cultural Heritage Assessment
CCC	Community Consultative Committee
CCL	Consolidated Coal Lease
CPP	Coal Preparation Plant
DCCC	Dendrobium Community Consultative Committee
DCEC	Dendrobium Community Enhancement Committee
DCEP	Dendrobium Community Enhancement Program
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EPL	Environment Protection Licence
ETL	Electricity Transmission Line
IAIA	International Association of Impact Assessment
ICMM	International Council on Mining and Metals
IMC	Illawarra Metallurgical Coal
IPC	Independent Planning Commission
LGA	Local Government Area
MSA	Metropolitan Special Area
Mt	million tonnes
Mtpa	million tonnes per annum
NSW	New South Wales
PKCT	Port Kembla Coal Terminal
ROM	run-of-mine
SEARs	Secretary's Environmental Assessment Requirements
SIA	Social Impact Assessment
SSI	State Significant Infrastructure

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1. INTRODUCTION

1.1 Background and Purpose

The Dendrobium Mine is an underground metallurgical coal mine situated in the Southern Coalfield of New South Wales (NSW) approximately 8 kilometres (km) west of Wollongong.

Dendrobium Coal Pty Ltd, a wholly owned subsidiary of Illawarra Coal Holdings Pty Ltd (Illawarra Metallurgical Coal [IMC]), a wholly owned subsidiary of South32 Limited (South32), is the owner and operator of the Dendrobium Mine. The Dendrobium Mine, Appin Mine and supporting operations are managed by IMC.

Development Consent DA 60-03-2001 for the Dendrobium Mine was granted by the NSW Minister for Urban Affairs and Planning under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) in November 2001.

The Dendrobium Mine extracts coal from the Wongawilli Seam (also known as the No. 3 Seam) within Consolidated Coal Lease (CCL) 768 using underground longwall mining methods. The Dendrobium Mine includes five approved underground mining domains, named Areas 1, 2, 3A, 3B and 3C. Longwall mining is currently being undertaken in Area 3B, with extraction largely complete in Areas 1, 2 and 3A (Figure 1). The Dendrobium Mine has an approved operational capacity of up to 5.2 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal until 31 December 2030.

The Dendrobium Mine provides ongoing work to approximately 650 employees and contractors from the region. Through its supply chain it further supports numerous businesses – small and large – in the Illawarra region and beyond.

IMC is seeking approval for the Dendrobium Mine Extension Project (the Project), which would support the extraction of approximately 31 million tonnes (Mt) of ROM coal from Area 5 (see Figure 2), within CCL 768. The life of the Project includes longwall mining in Area 5 up to approximately 31 December 2034, and ongoing use of existing surface facilities until 2041 (including for handling of Area 3C ROM coal).

In December 2021, the Project was declared State Significant Infrastructure (SSI) under section 5.12 of Part 5 of the EP&A Act by the NSW Minister for Planning, due to its strategic importance to the broader Southern Coalfield economic ecosystem.

The Secretary's Environmental Assessment Requirements (SEARs) for the Project were issued in December 2021. The key requirement with regards to social impacts are for the proponent to provide a Social Impact Assessment (SIA) prepared in accordance with the *Social Impact Assessment Guideline for State Significant Projects*, referred to as the *SIA Guideline* (Department of Planning Industry and Environment, 2021c).

Square Peg Social Performance has been engaged by IMC to undertake and prepare an SIA as part of the Environmental Impact Statement (EIS) for the Project. This document is the SIA Report for the EIS. It has been prepared to meet the requirements of the SEARS and in accordance with the SIA Guideline (Department of Planning Industry and Environment, 2021c), its supporting *Technical Supplement - Social Impact Assessment Guideline for State Significant Projects* (Department of Planning Industry and Environment, 2021d), referred to as the *Technical Supplement*, and *Undertaking Engagement Guidelines for State Significant Projects*, referred to as the *Engagement Guideline* (Department of Planning Industry and Environment, 2021e). In addition, relevant aspects of the Community Consultative Committee Guideline – State Significant Projects (NSW Government, 2019) have informed engagement with the Dendrobium Community Consultative Committee (DCCC) undertaken for this SIA.

In accordance with the SIA Guideline, this document reports on the second phase of the SIA, which involves assessing identified issues, developing and finalising responses and management measures. Specially, the SIA Guideline suggests that an SIA report should (Department of Planning Industry and Environment, 2021c, pp. 12, 14):

- Predict and analyse the extent and nature of likely social impacts against baseline conditions using accepted social science methods.
- Evaluate, draw attention to and prioritise the social impacts that are important to people.
- Develop appropriate and justified responses (e.g. avoidance, mitigation, and enhancement measures) to social impacts and identify and explain residual social impacts.
- Propose arrangements to monitor and manage residual social impacts, including unanticipated impacts, over the life of the Project (including post-closure phases for extractive industry projects).

This SIA Report builds on and should be read in conjunction with the SIA Scoping Report which was prepared to support the request for SEARs, and which provided an initial identification of the social locality, likely social impacts, likely affected stakeholders, and a preliminary social baseline for the Project. For ease of reading, some content from the SIA Scoping Report is repeated in this report.

1.2 Existing Dendrobium Mine and the Project

1.2.1 Existing Dendrobium Mine

Operations at the Dendrobium Mine commenced in 2002, and currently provides employment for approximately 650 personnel, mostly originating from the Wollongong Local Government Area (LGA). Product coal is used for steelmaking at the Port Kembla Steelworks, shipped to the Whyalla Steelworks or to the export market. The Dendrobium Mine – and others in the region – are thus an integral aspect of the Illawarra region's identity and history as an industrial centre, as well as an important component of the Australian steelmaking supply chain.

The Dendrobium Mine is well embedded in the local and regional community, with active community engagement, partnership and enhancement programs. Under Development Consent DA 60-03-2001, IMC is required to provide contributions (on a per tonne basis of saleable coal production) to fund developments in the local communities directly affected by the Dendrobium Mine. IMC is also required to operate and maintain a Community Consultative Committee (CCC).

The DCCC meets bi-monthly and its members include local community residents, Wollongong City Council and Wollondilly Shire Council representatives and environmental group representatives. Meetings are chaired by an independent chairperson and meeting minutes are publicly available on the IMC website. In addition to the DCCC, IMC liaises and consults with local residents through a variety of means, including:

- community newsletters;
- providing information via the website;
- participation in community events and activities;
- community perception surveys; and
- individual landholder visits or meetings.

Further, IMC operates a community feedback program enabling community members to raise issues with the operation via a 24 hour community call line and a dedicated email address. Community complaints are required to be responded to within 24 hours and are investigated by the operation. A total of 22 stakeholders lodged complaints in the 2020 financial year, with the most common complaint topics related to noise (37 per cent [%]) and rail related issues (21%). In the 2021 financial year a total of 19 stakeholders lodged complaints, with the majority of complaints relating to noise (57%) and traffic (15%) (South32, 2020b, 2021).

IMC has an active community investment program aligned with the United Nations Sustainable Development Goals and community priorities, supporting communities across four priority areas (South32, 2020a):

- **Education and leadership:** Quality education is the foundation of economic and social prosperity and supports the development of emerging and future community leaders.
- **Economic participation:** Economic opportunity and participation ensure that local and regional economies are resilient now and sustainable into the future.
- **Good health and social wellbeing:** Health and social wellbeing are integral to sustainable development and contribute to vibrant communities.
- **Natural resource resilience:** Communities that live in balance with their natural environments are resilient and sustainable.

IMC invests in the sustainability of the Wollongong area through a number of means. The Dendrobium Community Enhancement Program (DCEP) distributes the conditional community contributions to community projects in the vicinity of the Dendrobium Mine. The DCEP is overseen by the Dendrobium Community Enhancement Committee (DCEC) which consists of local community representatives and IMC representatives. In addition, IMC operates a voluntary community grants program and strategic community investment program supporting small scale as well as long term strategic community projects.

IMC is a member of the International Council of Mining and Metals (ICMM) which aims to strengthen the environmental and social performance of the mining industry. As a member, IMC has committed to operating in accordance with its ten principles. Further, IMC is a signatory to the United Nations Global Compact ten principles, has developed a strong management system for social and environmental performance, and reports regularly to the public on its performance through its Sustainable Development Reports and other regular publications (South32, 2020a). IMC is committed to reconciliation between Aboriginal and Torres Strait Islander people and non-Indigenous Australians. The company has developed an Innovate Reconciliation Action Plan, which sets out directions and actions for its reconciliation journey, including setting targets for Indigenous participation in the workforce and supply chain (South32, 2020c).

1.2.2 Project Description

The Project would include the following activities:

- longwall mining of the Bulli Seam in a new underground mining area (Area 5);
- development of underground roadways from the existing Dendrobium Mine underground mining areas (namely Area 3) to Area 5;
- use of existing Dendrobium Mine underground roadways and drifts for personnel and materials access, ventilation, dewatering and other ancillary activities related to Area 5;
- development of new surface infrastructure associated with mine ventilation and gas management and abatement, water management and other ancillary infrastructure;
- handling and processing of up to 5.2 Mtpa of ROM coal (no change from the approved Dendrobium Mine);
- extension of mining operations in Area 5 until approximately 2035;
- use of the existing Dendrobium Pit Top, Kemira Valley Coal Loading Facility, Dendrobium Coal Preparation Plant (CPP) and Dendrobium Shafts with minor upgrades and extensions until approximately 2041;
- transport of sized ROM coal from the Kemira Valley Coal Loading Facility to the Dendrobium CPP via the Kemira Valley Rail Line;
- handling and processing of coal from the Dendrobium Mine (including the Project) and IMC's Appin Mine (if required) to the Dendrobium CPP;
- delivery of coal from the Dendrobium CPP to Port Kembla for domestic use at the Port Kembla Steelworks and Liberty Primary Steel Whyalla Steelworks or export through the Port Kembla Coal Terminal (PKCT);
- transport of coal wash by road to customers for engineering purposes (e.g. civil construction fill), for other beneficial uses and for emplacement at the West Cliff Stage 3 and Stage 4 Coal Wash Emplacement;
- development and rehabilitation of the West Cliff Stage 3 Coal Wash Emplacement (noting that opportunities for beneficial use of coal wash would be maximised);
- continued use of the Cordeaux Pit Top for mining support activities such as exploration, environmental monitoring, survey, rehabilitation, administration and other ancillary activities;
- progressive development of sumps, pumps, pipelines, water storages and other water management infrastructure;

- controlled release of excess water in accordance with the conditions of Environment Protection Licence (EPL) 3241 and beneficial use;
- monitoring, rehabilitation and remediation of subsidence and other mining effects; and
- other associated infrastructure, plant, equipment and activities.

The Project would involve a construction workforce of approximately 100 personnel, and provide ongoing employment to approximately 700 mine personnel.

1.2.3 Dendrobium Mine – Plan for the Future: Coal for Steelmaking

IMC has previously sought consent for the *Dendrobium Mine – Plan for the Future: Coal for Steelmaking Project*, also known as the previous application. The previous application proposed to extract coal from the Bulli and Wongawilli Seams via longwall mining methods within areas known as Area 5 and Area 6, and proposed access from mostly existing surface infrastructure with minor extensions and modifications. Coal was proposed to be transported from the Kemira Valley Coal Loading Facility to the Dendrobium CPP via the Kemira Valley Rail Line (consistent with current arrangements).

In contrast to the previous application, the Project does not involve mining in Area 6 which would significantly reduce the potential predicted impacts to water resources, biodiversity as well as Aboriginal heritage sites within the Metropolitan Special Area (MSA) controlled by WaterNSW.

1.2.4 Comparison Between the Project and the Approved Dendrobium Mine

Table 1 provides a comparative summary of activities associated with the Project compared to the approved Dendrobium Mine.

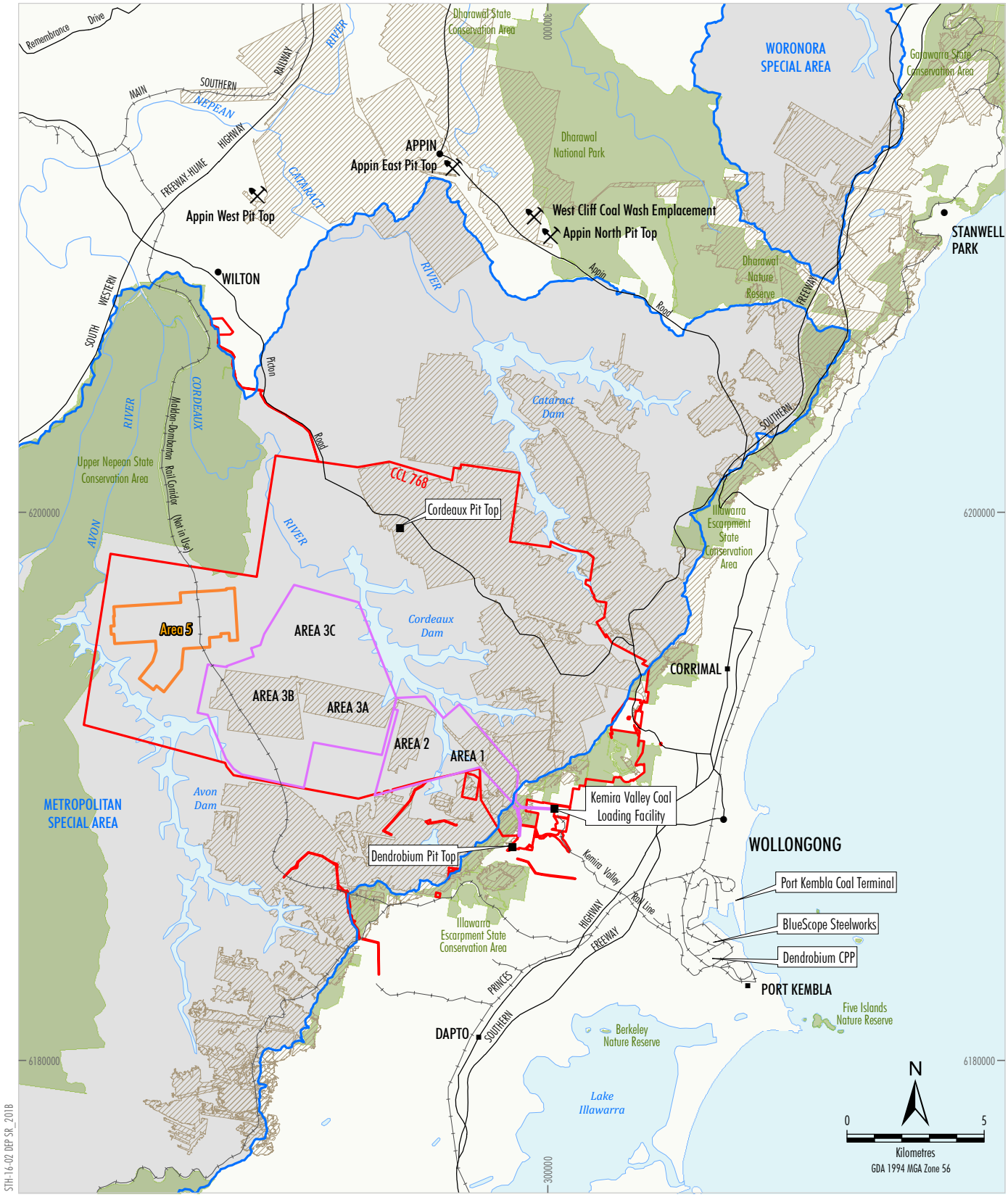
TABLE 1 SUMMARY COMPARISON OF THE APPROVED DENDROBIUM MINE AND THE PROJECT

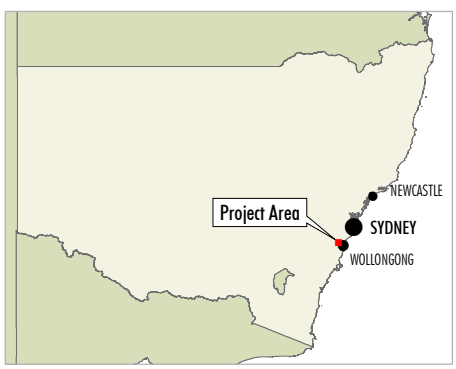
Component	Approved Dendrobium Mine (DA 60-03-2001)	Project (SSI-33143123)
Mine Life	Until 31 December 2030.	Until 31 December 2041[1].
Mining Method	Underground extraction using longwall mining methods.	No change.
Resource	Mining of the Wongawilli Seam in Areas 1, 2, 3A, 3B and 3C within CCL 768.	Approximately 31 Mt of additional ROM coal within Area 5 within CCL 768.
Annual Production	Handling and processing of up to 5.2 Mtpa of ROM coal.	No change.

[1] The Project does not include approved underground mining operations in the Wongawilli Seam in Areas 1, 2, 3A, 3B and 3C at the Dendrobium Mine and associated surface activities (such as monitoring and remediation). These activities will continue to operate in accordance with Development Consent DA 60-03-2001 (as modified).

Component	Approved Dendrobium Mine (DA 60-03-2001)	Project (SSI-33143123)
Coal Handling and Processing	Transport of coal from underground workings to the Kemira Valley Coal Loading Facility via an underground conveyor network. Sizing and stockpiling of coal at the Kemira Valley Coal Loading Facility prior to transport to the Dendrobium CPP via the Kemira Valley Rail Line, in accordance with the approved hours of operation. Processing of up to 5.2 Mtpa of sized ROM coal at the Dendrobium CPP.	No change.
Management of Mining Waste	Transportation of up to approximately 1.1 Mtpa of coal wash by road from the Dendrobium CPP to the West Cliff Stage 3 and Stage 4 Coal Wash Emplacement. Development and rehabilitation of the West Cliff Stage 3 Coal Wash Emplacement. Supply of coal wash to customers for engineering purposes (e.g. civil construction fill) or for other beneficial uses.	No change. No change. No change.
General Infrastructure	Dendrobium Pit Top. Kemira Valley Coal Loading Facility. Kemira Valley Rail Line. Dendrobium CPP. Dendrobium Shafts Nos 1, 2 and 3.	Continued use of existing infrastructure with minor upgrades and extensions. Development of new surface infrastructure associated with mine ventilation and gas management and abatement at Ventilation Shaft Site No. 5A to support underground mining operations in Area 5, and other ancillary infrastructure (including electricity transmission line to proposed mine ventilation infrastructure) and minor fire trail upgrades. Development of additional carpark facilities.
Product Transport	Delivery of product coal from the Dendrobium CPP to Port Kembla for domestic use at the Port Kembla Steelworks and Liberty Primary Steel Whyalla Steelworks or export through the PKCT.	No change.
Water Management	Water management infrastructure to separate clean, oily and dirty water. Use of a combination of recycled treated mine water and potable water purchased from Sydney Water in underground and surface operations. Release of water in accordance with the conditions of EPL 3241.	No change (with augmentations and extensions to existing water management infrastructure as required). No change (release volumes and release infrastructure to be modified as required based on Project mine inflow rates). Development of temporary water supply infrastructure for construction water supply for Ventilation Shaft Site No. 5A. Provision of offsets (funding of “indirect” offsets) for predicted surface water take as a result of the Project, that would result in a net gain to Metropolitan water supplies.

Component	Approved Dendrobium Mine (DA 60-03-2001)	Project (SSI-33143123)
Workforce	Current workforce of approximately 650 operational personnel.	At full development, the Project would employ in the order of 700 operational personnel (650 existing workforce, additional 50 workforce for the Project). Up to approximately 100 personnel would also be required for construction and development activities.
Hours of Operation	Operated on a continuous basis, 24 hours per day, seven days per week. Trains do not travel on the Kemira Valley Rail Line between 11.00 pm and 6.00 am, unless written approval is obtained from the NSW Environment Protection Authority (EPA) for emergency use of the rail line. Dendrobium Mine Driver's Code of Conduct in place to limit traffic movements through the Mount Kembla Village at set times.	No change.
Community Engagement and Investment	Liaison with community through the DCCC and other means. Contribution to community through the DCEP, small grants program and strategic community investments.	No change.





LEGEND

- Dendrobium Mining Lease
- Road
- Railway
- National Park, Nature Reserve and State Conservation Area
- Historic Mine Workings
- Declared Catchment Area
- Dendrobium Underground Mining Area - Existing Mine (DA 60-03-2001)
- Dendrobium Underground Mining Area Extension Project

Source: Geoscience Australia, (2006); Department of Industry (2018); Department Finance, Services & Innovation (2018);

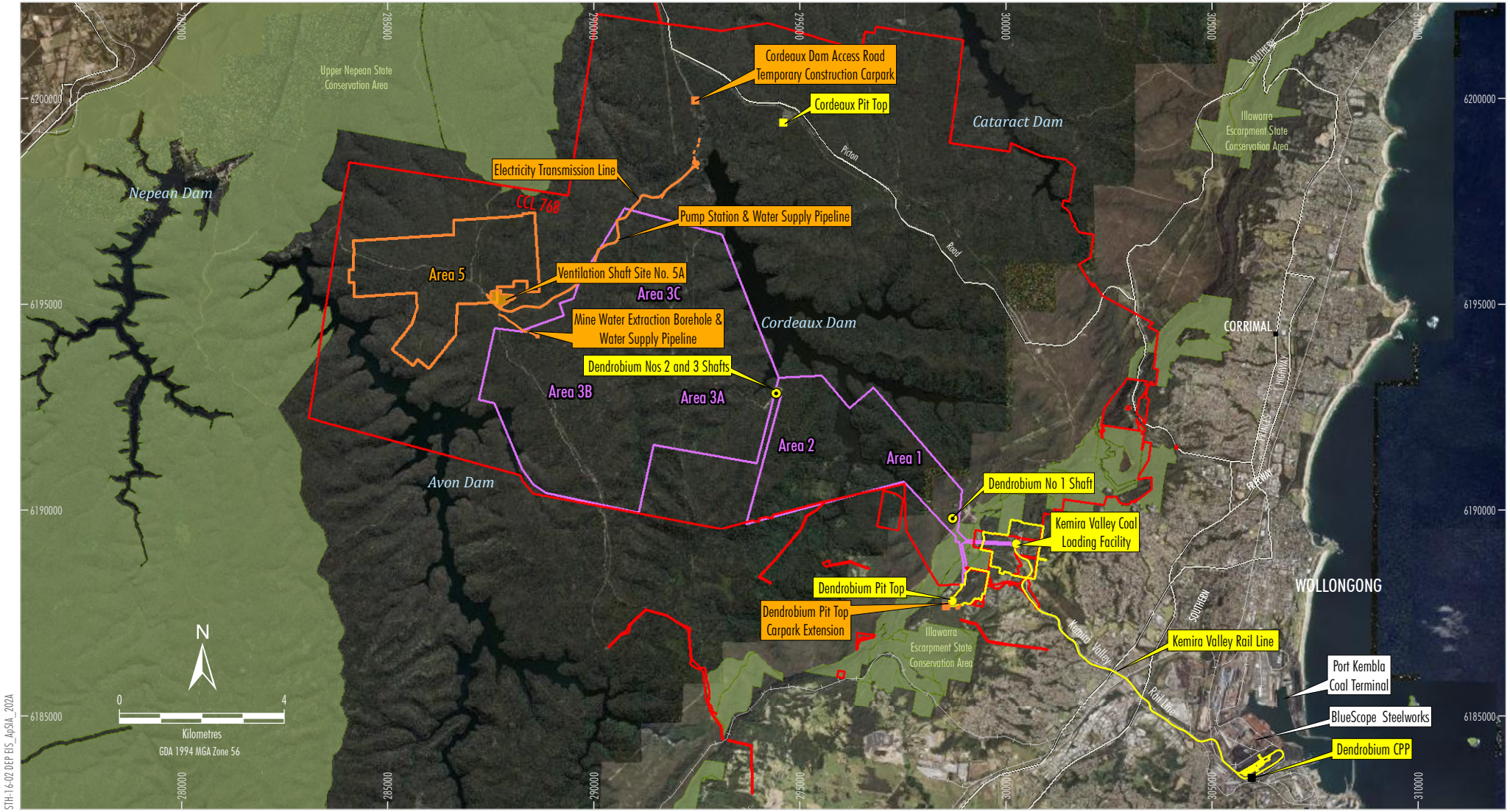
SOUTH32

Illawarra Coal

DENDROBIUM MINE

Regional Location

Figure 1



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LEGEND

- Dendrobium Mining Lease
- Road
- Railway
- National Park, Nature Reserve and State Conservation Area

Dendrobium Mine

- Dendrobium Underground Mining Area - Existing Mine (DA 60-03-2001)

Dendrobium Mine Extension Project

- Underground Mining Area
- Surface Facilities (Existing Dendrobium Mine)
- Surface Facilities (Proposed Dendrobium Mine Extension Project)

Source: Geoscience Australia, (2006); Department of Industry (2018); Department Finance, Services & Innovation (2018);

SOUTH32
Illawarra Coal

DENDROBIUM MINE

General Arrangement
Dendrobium Mine Extension Project

Figure 2

1.3 Requirements and Document Structure

Table 2 below cross-references relevant aspects of the SEARs with sections of this SIA report.

TABLE 2 RELEVANT SEARS REQUIREMENTS

Section	Secretary's Environmental Assessment Requirements	Reference in this SIA
15. Social	*Provide a Social Impact Assessment prepared in accordance with the Social Impact Assessment Guideline.*	This SIA meets this requirement. Section 2 in particular outlines the methodology followed for the preparation of this SIA.
Engagement	*During the preparation of the EIS and subsequent assessment process, you must consult with the Dendrobium Community Consultative Committee (CCC) in accordance with the Community Consultative Committee Guidelines: State Significant Projects.* *You must also consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups including the Aboriginal community and affected landowners.* *The EIS must detail the engagement undertaken and demonstrate how it was consistent with the Undertaking Engagement Guide: Guidance for State Significant Projects. The EIS must detail how issues raised and feedback provided have been considered and responded to in the project.*	Section 3 describes the stakeholder engagement that has informed this SIA, including outlining which stakeholders have been consulted. Consultation with the Aboriginal community has also been undertaken through the Aboriginal Cultural Heritage Assessment for this EIS (Niche Environment and Heritage, 2022)

This document proceeds as follows:

- Section 2 outlines the SIA methodology.
- Section 3 provides a description of the stakeholder engagement undertaken for the SIA.
- Section 4 provides a social baseline in the vicinity and of relevance to the Project.
- Section 5 provides an identification and assessment of the social impacts of the Project.
- Section 6 provides the recommended enhancement and mitigation measures and describes residual social impacts for the Project.
- Section 7 provides the recommended monitoring and management framework to be adopted for the Project.
- Section 8 provides a conclusion for the SIA.

2. METHODOLOGY

2.1 What are Social Impacts?

The methodology for this SIA has been developed following the process set out in the SIA Guideline (Department of Planning Industry and Environment, 2021c) as well as taking into account good practice SIA literature, in particular the guideline by Vanclay and colleagues issued by the International Association of Impact Assessment (IAIA) (Vanclay et al., 2015).

The SIA Guideline states that social impacts generally mean "the consequences that people experience when a new project brings change" (Department of Planning Industry and Environment, 2021c, p. 7). Similarly, the IAIA considers *social impacts* to be "all the issues associated with a planned intervention (i.e. a project) that affect or concern people, whether directly or indirectly. Specifically, a social impact is considered to be something that is experienced or felt in either a perceptual (cognitive) or a corporeal (bodily, physical) sense, at any level" (Vanclay et al., 2015, p. 2).

Various categorisations of social impacts exist, and for the purposes of this report those in the SIA Guideline have been adopted (see Table 3 below). Importantly, the definition above and the categorisation place *people* and their *experience* of *change* at the centre of the notion of social impacts (Department of Planning Industry and Environment, 2021c).

TABLE 3 SOCIAL IMPACT CATEGORIES

Impact Category	Description
Way of life	including how people live, how they get around, how they work, how they play, and how they interact each day.
Community	including composition, cohesion, character, how the community functions, resilience, and people's sense of place.
Accessibility	including how people access and use infrastructure, services and facilities, whether provided by a public, private, or not for profit organisation.
Culture	both Aboriginal and non-Aboriginal, including shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, waterways, places and buildings.
Health and wellbeing	including physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, access to open space and effects on public health.
Surroundings	including ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment, and aesthetic value and amenity.
Livelihoods	including people's capacity to sustain themselves through employment or business.
Decision-making systems	including the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

(Department of Planning Industry and Environment, 2021c, p. 19)

2.2 SIA Objectives

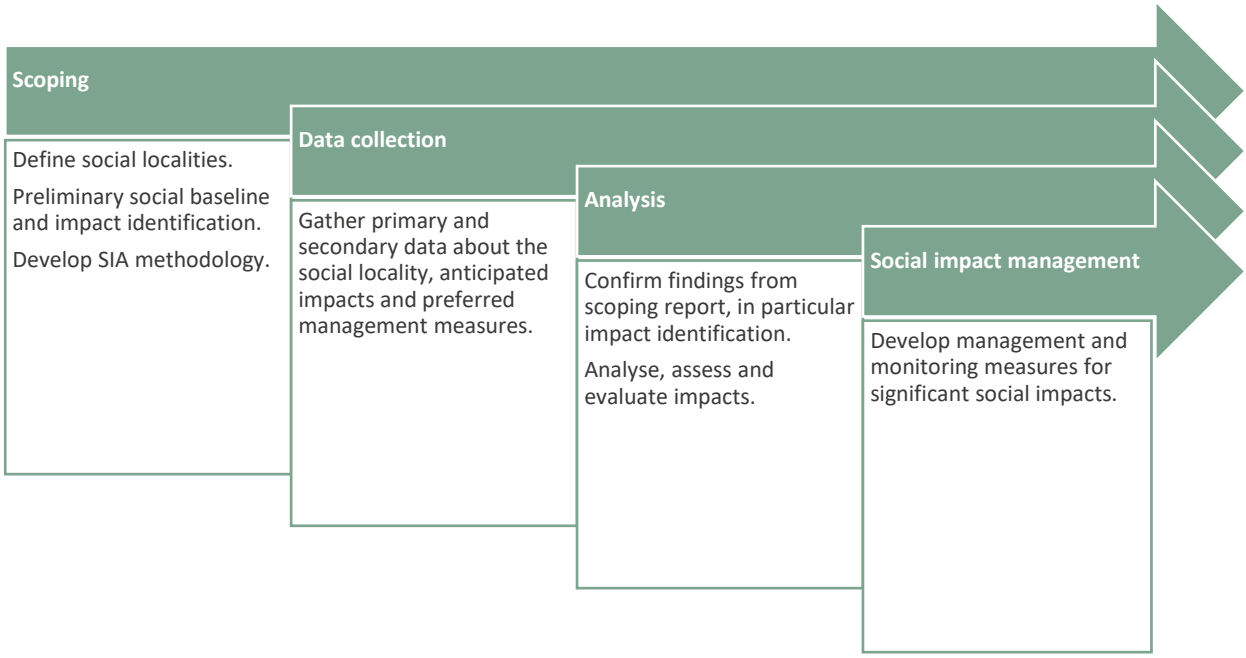
This SIA has been developed drawing on a wide variety of data sources. Commensurate with the SIA Guideline, it seeks to achieve three objectives:

1) *Support* the conclusions in the SIA Scoping Report, with regards to identified likely social impacts, and affected stakeholders.
2) *Assess and evaluate* the identified social impacts to understand their nature and extent from the perspective of those affected.
3) *Develop responses* to prioritised social impacts, including management and monitoring measures.

2.3 SIA Process

The SIA proceeded over four phases described in Figure 3 below. Although these phases unfolded largely sequentially, there was also an element of overlap particularly as the analysis and development of management measures occurred in parallel with the primary and secondary data being gathered. These phases are further elaborated below in the subsections.

FIGURE 3 SIA PROCESS



2.3.1 Scoping

The scoping process commenced in July 2021 and culminated with the completion of the SIA Scoping Report. The process involved defining a primary and secondary social locality for the Project, identifying likely affected stakeholders, providing a preliminary social baseline and impact identification. It also proposed a methodology for the remainder of the SIA. Figure 4 describes the social impacts identified during the scoping phase.

FIGURE 4 SOCIAL IMPACTS IDENTIFIED DURING THE SCOPING PHASE

Impacts for which a Standard Assessment is proposed	Impacts for which a Detailed Assessment is proposed
• Contribution to ongoing financial sustainability of mining and steelmaking in the Illawarra, thus supporting population stability and community sustainability. • Sustaining Mount Kembla's traditional identity as a mining community. • Ongoing contribution to community wellbeing and sustainability of the primary and secondary social localities. • Continuation of approximately 700 operational employment opportunities (an additional 50 for the Project) and 100 an additional construction employment opportunities, and the continuation of employment in the Southern Coalfield economic system. • Further opportunity to contribute to gender equality and economic reconciliation.	• Potential impact to Aboriginal heritage sites affecting Indigenous peoples. • Potential for noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility similar to existing conditions. • Potential for rail noise affecting residents along the Kemira Valley Rail Line similar to existing conditions. • Potential impacts to environmental values and water catchment. • Ongoing contribution to traffic in Mount Kembla, and on Cordeaux Road, Picton Road and Appin Road.

2.3.2 Data Collection

As is common in SIA methodology, a wide variety of data sources have been used in developing this SIA. These can be broadly categorised into primary data sources generated from consultation and research involving community members and stakeholders, and secondary data sources involving pre-existing data and publications. Table 4 below summarises these and Section 3 further describes the process for collecting primary data through SIA community engagement.

TABLE 4 SUMMARY OF DATA SOURCES

Primary data sources	Secondary data sources
• Interviews and meetings with 27 stakeholders, including local and regional residents, businesses, suppliers, community and economic development organisations, local government and Aboriginal representatives. • Two SIA focus groups with the DCCC • Feedback from EIS public information provision and consultation	• Data from existing operations, including complaints, reports, IMC community research and workforce data. • Project description and other specialist EIS studies. • Census and other demographic data from Australian Bureau of Statistics (ABS), and various NSW government departments • Local and regional plans and historical publications. • Publications relating to the previous application, including the SIA, public submissions and Independent Planning Commission (IPC) statement of reasons.

2.3.3 Analysis

The analysis phase of the SIA involved comprehensive review of the data gathered and included developing the social baseline (described in Section 4) and the impact analysis and evaluation (described in Section 5).

As a first step in this analysis process, the findings from the SIA Scoping Report were reviewed and confirmed drawing on additional primary and secondary data about each social impact, focussing on how it was likely to be experienced by stakeholders.

Then, the preliminary social baseline from the SIA Scoping Report was extended based on both primary and secondary data, and with two purposes in mind: first to generate an in-depth understanding of the likely affected community, and second to provide – where available and feasible – indicators against which the change associated with the identified social impacts can be measured.[2]

Finally, the identified impacts were evaluated utilising the definitions and matrix provided in the Technical Supplement[3]. The impact evaluation drew on both a 'technical' evaluation conducted by the SIA team, and the prioritisations expressed by stakeholders during the consultation process. Importantly, although the findings are likely to be robust, the social impact identification and evaluation should not be adopted as exact predictions, but rather reasonable prioritisations of which impacts are important to address in association with the Project. At this stage an assessment of cumulative social impacts was also carried out.

2.3.4 Social Impact Management

Responses to negative social impacts were developed following a hierarchy of mitigations: first seeking to identify measures to avoid the impact, then minimise or mitigate followed by consideration of other measures. For positive social impacts, measures were proposed with the intent of enhancing the potential benefits, as well as ensuring a more equitable distribution of benefits (Department of Planning Industry and Environment, 2021c, p. 24). For both positive and negative impacts, feedback from the consultation process also informed the development of mitigation and enhancement measures. As the Project provides for the continuation of existing mining operations and potential continuation of existing conditions, many of the mitigation measures would build on the existing mitigation measures. Sections 6 and 7 report on the measures for managing and monitoring social impacts.

[2] Noting that many impacts associated with the Project are unlikely to be able to measured using secondary community level indicators.
[3] These are provided in APPENDIX A for reference.

2.4 Assumptions and Limitations

All SIA processes and methodologies come with limitations and rely on certain assumptions. For this SIA study, the following should be noted:

- This SIA has been developed seeking to follow the approach and methodologies in accordance with the SIA Guideline and Technical Supplement, as well as consultation undertaken in consideration of the Engagement Guideline, and to support the EIS for the Project. Findings and conclusions should be interpreted in that context.
- All findings are based on the information available at the time of writing. It is possible that social, economic, demographic, cultural, environmental or Project-related information may change following the publication of this SIA.
- Secondary data sources have been produced using various methodologies, which themselves come with assumptions and limitations. To ensure the data is credible and robust, official (e.g. Government) sources have been prioritised, and where relevant limitations have been noted.
- Secondary social, economic and demographic data about communities are often drawn from the ABS 2016 Census as this provides a comprehensive and robust data source. As data is only available for the 2016 Census, approximately five years ago, this data may not fully represent the current state of the community. Where available, more current data sources have been used.
- The statistical data provided in the social baseline generally consists of averages or medians. It is important to note that although this data provides a description of the population in that area, it should not be inferred that it necessarily represents all social entities within these areas.
- Primary data and consultation were carried out using a qualitative approach and a strategic sampling process. This increases the depth of findings and enables the SIA to closer represent people's likely experiences of change. However, it also limits the potential to claim statistical representativeness of findings.
- This SIA has also been prepared in consideration of the extensive engagement and public consultation processes undertaken for the previous application.
- All SIAs make statements about the future; about anticipated change processes and how these may be experienced by stakeholders. There is always an element of uncertainty associated with these, and as such the findings in here should not be interpreted as exact predictions.
- Finally, the SIA process is not mechanistic, but one which relies to some extent on the judgements of the SIA practitioner. This SIA has aimed at transparently describing these judgements and the processes used at arriving at them.

3. STAKEHOLDER ENGAGEMENT FOR THE SIA

3.1 Overview, Approach and Methods

Consultation and primary data collection with community stakeholders is an important step in the SIA and permeates the analysis of all the other steps. The objectives for the SIA consultation were developed to align with the objectives in the SIA Guideline (Department of Planning, Industry and Environment, 2021c, p. 28) and are to:

- collect primary data about the potentially affected community (the social baseline);
- seek stakeholder input into social impact identification and significance assessment, particularly seeking to understand how impacts may be experienced from the stakeholder perspective;
- ensure stakeholders have an opportunity to provide feedback into project planning and design; and
- collaborate on impact evaluation and prioritisation of mitigation measures.

The consultation for this SIA has been undertaken in consideration of the Engagement Guideline (Department of Planning Industry and Environment, 2021e) and is described below.

Three consultation and community research methods were implemented for the SIA: stakeholder interviews, a focus group with the DCCC, as well as a review of findings from the comprehensive consultation undertaken for the previous application. In addition, IMC provided information to the local community and the general public about the Project via its website and newsletters. Figure 5 below summarises the opportunities for public input into the EIS and SIA for the previous application and the Project.

FIGURE 5 CONSULTATION SUMMARY: CURRENT PROJECT AND PREVIOUS APPLICATION

3.1.1 Consultation for the Previous Application

The EIS for the previous application involved extensive consultation and engagement with Government agencies, various interest groups, employees, local community residents and other stakeholders.

Table 5 below details the various opportunities communities had to provide input and comment on the EIS for the previous application, led by IMC, Department of Planning, Industry an Environment (DPIE) and the IPC.

TABLE 5 CONSULTATION FOR THE PREVIOUS APPLICATION

Consultation Method	Detail
Website and community call line	A dedicated site within the South32 website with information about the Dendrobium Mine and the previous application was provided, as well as a community call line for local residents to raise concerns or questions.
Stakeholder briefings	A large number of briefings and meetings with NSW Government departments and agencies, Commonwealth Government agencies, local governments, infrastructure owners and service providers, social infrastructure service providers and other resource companies.
Project newsletters	Letters providing information on the previous application, the SEARs and inviting the provision of feedback sent to residents and local community groups. Project specific newsletters provided.
Community information sessions	Open meetings held in May 2019 in Unanderra and Kembla Heights.
Community survey	Distributed to 900 households within the zone of influence for the Dendrobium Mine, 113 responses received.
Employee survey	Distributed to the approximately 400 existing personnel, 278 responses received.
Consultation with community groups	A range of community groups were consulted primarily to inform the SIA.
DCCC	EIS information presented at bi-monthly meetings between April 2017 and February 2019, as well as monthly sub-committee meetings.
Consultation with Registered Aboriginal Parties	17 groups registered their interest and were subsequently consulted.
DPIE public exhibition of the previous application	775 submissions received, of which 720 from the public, 39 from organisations and 16 from public authorities. 602 of the submissions were in support of the previous application, 153 objected and 19 commented.
IPC public hearing for the previous application	80 speakers presented to the IPC.
Public comments to IPC on the previous application	1,973 comments of which 1559 were unique author submissions, 260 form letters and 154 campaign emails. 1,090 of the submissions objected, 869 were in support and 14 commented.

Source: Collated from South32, DPIE and IPC (Department of Planning, Industry and Environment, 2021a; Independent Planning Commission, 2021; South32, 2019)

Many of the responses and submissions supportive of the previous application highlighted the social and economic contribution of the Dendrobium Mine to the Illawarra region, and the previous application would allow for continuation of these contributions. This extended to include the role the Dendrobium Mine played in maintaining steelmaking capability in Australia broadly. To the extent supportive submitters commented on potential impacts to water or the environment, they generally expressed satisfaction that IMC would manage these responsibly, as illustrated by the two indicative quotes from supportive public submissions to the EIS provided below:

> *"This operation in particular is critical to the economy of the Illawarra. It supports innumerable small and large businesses, as well as bringing vital highly paid jobs to the region. It must be supported."*
>
> *"Dendrobium Colliery, Illawarra Metallurgical Coal and South32 are a cornerstone of the Illawarra and are key to sustaining industry in this area. South32 are diligent operators and strive for minimal impact*

> *to environment and community. This is an important development for the Illawarra and the jobs and revenue that this project will directly and indirectly influence."*

Source: DPIE, Submissions to the EIS (Department of Planning Industry and Environment, n.d.)

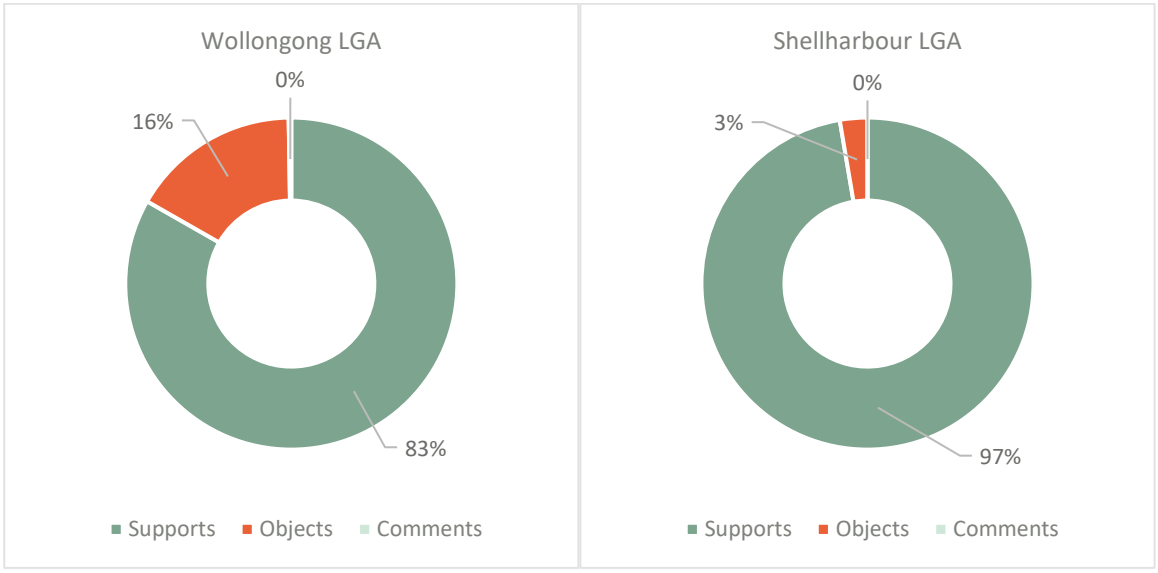
Submitters who objected to the previous application argued that it would impact on Sydney's drinking water catchment, impact Aboriginal heritage sites, and contribute to climate change, thus contributing to negative intergenerational impacts. To the extent they commented on the economic impacts, they generally argued that these positive impacts were short-term or overstated. The following quotes are from two objecting submitters to the EIS for the previous application:

> *"The precautionary principle should apply as there is a clear risk of serious or irreversible harm to Sydney's water catchment from this proposal /…/ There is no valid economic argument here."*
>
> *"This mine is a violation to the climate emergency…"*

Source: DPIE, Submissions to the EIS (Department of Planning Industry and Environment, n.d.)

Overall, the majority of public submissions on the EIS (81%) expressed support for the previous application. When analysing public submissions from the local government areas (LGAs) closest to the previous application, the proportion of supportive submissions is even greater, as shown in Figure 6 below.

FIGURE 6 PUBLIC EIS SUBMISSIONS FROM LGAS IN DIRECT VICINITY TO THE PROJECT



Source: Based on DPIE (Department of Planning Industry and Environment, n.d.)

This trend is supported in the submissions to the IPC, which noted that the majority of submissions who raised environmental and water-related issues objected to the previous application, whereas the majority of those who raised economic benefits were supportive. Commensurate with the submissions to the EIS, the IPC noted that a majority of submissions from the local area expressed support for the previous

application. Overall however, the majority of submissions – 60% of unique author submissions – objected to the previous application (Independent Planning Commission, 2021, p. 21).

3.1.2 Consultation for this SIA

Consultation for this SIA was carried out between December 2021 and February 2022. In light of the public health restrictions in place as well as a noticeable concern among many community members about increasing COVID-19 cases at the time, all consultation was carried out remotely (e.g. via telephone calls, online teleconferences, etc.). SIA consultation involved interviews, a focus group and information provision to the broader public carried out by IMC. In total 29 stakeholders contributed directly to this SIA consultation process, of which 12 were women and 17 men. Importantly, the consultation approach was guided by a qualitative methodological ethos.

Table 6 outlines all consultation events, categorised by stakeholder group. APPENDIX B contains all relevant consultation material.

TABLE 6 CONSULTATION FOR THIS SIA

Stakeholder Group	Event
Residents and businesses in the primary and secondary social locality	• 12 interviews with local residents and businesses carried out between 28 December 2021 and 2 January 2022. • Two meetings with the with DCCC: a focus group 20 January 2022, and a follow up meeting 17 February 2022. • Letter and fact sheet distributed to 3,680 households near the Dendrobium Mine on 13 January 2022.
Aboriginal people and groups	• Interviews with a Traditional Owner and a representative of the Illawarra Local Aboriginal Land Council on 24 and 27 January.
Workers, contractors and suppliers	• Interviews with four suppliers on 19, 25, and 27 January and 7 February 2022. • Interview with union representative 19th of January 2022.
Local councils	• The LGAs of Wollongong, Wollondilly, Wingecarribbee and Shellharbour were invited to participate in an SIA meeting or interview. • Wollondilly Shire Council provided written correspondence on 2 February 2022. A councillor from Wollondilly Shire Council participated in the DCCC meeting and an interview on 4 February 2022. • Interview with a representative from Wollongong City Council on 11 February 2022.
Public and private service providers and organisations	• Interview with representative of local child care centre 7th of January 2022 (also included in the first category above). • Interview with Regional Development Australia (RDA) – Illawarra on 17 January 2022.
Community organisations	• Interview with representative of a local rural fire brigade 3 March 2022. • Interview with Business Illawarra on 17 January and with I3Net on 21 January 2022.
General public	• Project website and information sheet available online from December 2021.

SIA interviews and meetings

A total of 25 interviews were carried out for the SIA, with a total of 27 participants. Stakeholders were selected following a strategic sampling process, seeking to ensure participation from all stakeholder groups described in the SIA Scoping Report, prioritising directly affected stakeholders, balancing voices representing social, cultural, environmental and economic perspectives, ensuring involvement of potentially vulnerable local residents, or where their direct involvement was not possible, organisations that represented their interest, and finally ensuring a balanced representation of males and females.

An interview protocol was developed during the scoping phase, and – as is common practice within qualitative methodologies – was used flexibly to account for the particular interests of the various respondents. Also in line with the qualitative approach, the principle of saturation guided the number of interviews conducted, meaning that data collection continued until no substantial new themes emerged.

Respondents were presented with Project information sheets, an SIA information sheet and consent form prior to the meetings and were asked to provide written or verbal consent prior to the commencement of interviews. Participants were also provided with a preliminary list of potential impacts extracted from the SIA Scoping Report which were used to guide the discussion about potential impacts.[4] Following the interview, participants were provided with notes and given an opportunity to add, delete or clarify content, to ensure the findings adequately represent the participants' information, as well as to achieve communicative validity.

Focus group

One focus group was carried out with members of the DCCC in January 2022. The purpose of the focus group was primarily to conduct a collaborative evaluation of social impacts using the framework provided in the Technical Supplement. Seven community members and the independent chairperson participated in the focus group, as well as two representatives from IMC. Participants were asked to assess the likelihood, magnitude and consequent significance rating on a set of eleven impacts that were extracted and modified from the SIA Scoping Report with one impact added based on feedback during the SIA interviews. Participants were asked to assess these from the perspective of an interested and well informed resident, and also take into account the existing and potential mitigation measures.

A second DCCC meeting in February was also dedicated to social impacts. At this meeting the findings from the focus group were presented and discussed and the members confirmed their assessment of impacts. Results from the collaborative evaluation are presented in Section 5.

[4] Information sheets, consent form and the list of potential social impacts were sent to all respondents prior the interview with two exceptions where the interviewees opted for the interview to be conducted directly when they were contacted. In those cases key content of the information sheet was shared verbally.

Information provision

In addition to the dedicated SIA consultation, IMC provided information to households near the operation and the general public during the EIS process, including a newsletter, a Project-specific website and a summary booklet about the Project available online as well as a community call line and contact email. A total of three responses were received following the distribution of the newsletter and requesting feedback regarding potential impacts.

3.2 Themes Emerging from SIA Consultation

A small number of consistent themes emerged during the consultation for the SIA, however respondents' perspectives on these varied, sometimes significantly. The following describes the most significant themes.

3.2.1 Local Residents Value Mount Kembla's Greenery, Quietness and Seclusion

Residents in Mount Kembla described how they valued the natural beauty, the seclusion, the community spirit and the uniqueness of the village. A resident commented that:

> *"It's a community rather than a suburb" (INT3)*

Others commented on the natural beauty of the area and its proximity to nature. It was described as a quiet and safe area that was defined in part by it being at the top of a hill and also surrounded by greenery in all directions. The small school in the village with its familial nature and importance as a meeting place was mentioned by several local residents.

One resident mentioned the importance of the gap between Mount Kembla and the suburbs immediately below it and how that contributed to its distinct identity.

FIGURE 7 PLAYGROUND IN MOUNT KEMBLA

Source: Image courtesy of South32

The mining heritage and the role the Dendrobium Mine and other historical operations has played in Mount Kembla's history was also frequently mentioned, as was the presence of several heritage buildings including some private dwellings. There were however diverging views among residents on how important that was today with some suggesting it did not matter to most current residents, and others noting it was very real and still defining feature of the village. One resident and local business owner in particular commented that:

> *"Mount Kembla is what it is today because of the mine" (INT19)*

3.2.2 Amenity, Traffic and the Dendrobium Pit Top Carpark Extension are Important to the Local Community

Amenity issues associated with the Dendrobium Pit Top and Kemira Valley Rail Line

Some residents in Mount Kembla, particularly those near the Dendrobium Pit Top raised concern regarding how operational noise impacted their life. A number of residents near the Kemira Valley Rail Line also described how noise from the trains impacted them. They noted that engine noise did not bother them, but occasionally when braking, trains emitted a high-pitched noise they described as squealing or screeching. One resident compared the noise to running your fingernails over a blackboard, and this particular person felt it impacted their life significantly (INT5). The frequency of the squealing noise varied, and respondents noted that it had improved as the rail operator had put in place mitigation measures, but for some it still affected their life substantially. In the context of the Kemira Valley Rail Line, coal dust was also mentioned by some residents, although it was not described as much of an issue. Other respondents' who did not feel impacted by the rail noise – including some living close to the Kemira Valley Rail Line – commented it was not a major issue in the local area.

Safety and amenity from traffic is a key issue

Residents also talked about how traffic travelling to and from the Dendrobium Mine impacted their lives, including both workforce traffic and heavy vehicles delivering goods. With regards to workforce traffic several residents noted that worst experiences were during shift changes, and how the vehicles noise impacted their lives, including at night time, which mostly affected residents near the Dendrobium Pit Top.

Another resident commented that it was mostly heavy vehicles that affect them (INT9). This particular resident lived near a waiting area where trucks stayed to wait for the right time to drive up to the Dendrobium Mine – sometimes overnight - and mentioned that they sometimes had the engines running all night causing a noise disturbance.

Residents described how this noise affected their quality of life with one mentioning how they were woken up twice per night, and another commented that a grandchild did not want to stay over at their place because of the noise from the traffic (INT1 and INT9).

Pedestrian safety was also mentioned by some locally based respondents in relation to the traffic, particularly with large trucks travelling down the steep Cordeaux Road. In relation to a sharp bend with poor visibility that was near a pedestrian crossing used by school children, one respondent commented that:

> *"It is only a matter of time before a child is going to get run over" (INT6)*

Overall, these amenity and traffic related issues appear to be top of mind for many local residents within Mount Kembla and from some in nearby suburbs, but were not raised as much by respondents from outside the primary social locality. It is also worth noting that experiences varied among the local residents, with some respondents commenting that the traffic, the train noise or operational noise were not that much of an issue whereas others thought it impacted their life significantly. Two local residents respectively commented that:

> *"The noise is terrible /…/ sometimes my house shakes." (INT13)*
>
> *"[The mine] has never really interfered with our lifestyle." (INT3)*

The community worries about the proposed Dendrobium Pit Top Carpark Extension

The Dendrobium Pit Top Carpark Extension proposed as part of the previous application also raised concern among many residents. It was mentioned that a Facebook group had been started opposing it and which had attracted a large membership in the community (although one respondent had joined mostly to keep up with the debate). Concerns related to reducing the greenery in the village, as well as a perception it would lead to increased noise and traffic when operational. Some residents commented that a very large majority of the community would be opposed to the Dendrobium Pit Top Carpark Extension being developed.

When asked about mitigation measures for these issues respondents had many different ideas, including suggesting the Dendrobium Pit Top should be relocated, that workers should be bussed to the Dendrobium Pit Top and engaging local residents more in the design and build of the Dendrobium Pit Top Carpark Extension. With regards to traffic some also suggested vegetation clearing to improve visibility and improved signage warning about approaching trucks.

3.2.3 Jobs and the Role the Dendrobium Mine plays in the Regional Economy are Important

The employment opportunities created by the Dendrobium Mine, and that would be continued by the Project was talked about by many respondents, both within the primary social locality and the broader Wollongong community. In addition to providing livelihoods to employees and their families, it was also noted that many mining jobs are relatively well paid which is important for the region as a regional priority was to retain and increase the number of high paying jobs in the area. A representative of RDA – Illawarra noted that over the five years between 2013 and 2018 the region lost 3,500 high paying jobs in the mining and manufacturing sectors, while gaining 4,000 low paying jobs in the health care and social assistance and hospitality sectors. Another aspect relating to employment was the lack of employment certainty as the previous application had been refused, and this affected mostly the contracting workforce at the Dendrobium Mine.

Many respondents talked about the negative impact to jobs should the Project not be approved, often relating it to the shock they had felt when the previous application was refused. Representatives of local industry organisations commented that the Dendrobium Mine supported between 10,000 and 14,000 jobs, which they believed would be affected in one way or another if the Project was not approved. At a more direct level, some suppliers described how cessation of operations at the Dendrobium Mine – should the Project not be approved – would substantially impact their business, including loss of employment for many of their workers. One described how work would dry up for at least 50 employees and possibly another 150 employees would be indirectly affected, another talked about their 80 employees which were servicing a contract at the Dendrobium Mine, and yet another business representative talked about how 130 employees and 30-40 subcontractors were working on contracts for the Dendrobium Mine and that they did not have any direct employment opportunities for them in the region, should the Project not be approved.

One of these business representatives commented that:

> *"Our whole presence in the Illawarra is linked to South32" (INT18)*

For these respondents, the prospect of the Project not being approved elicited fears about detrimental and far reaching effects on their businesses, their employees, subcontractors and suppliers. One business owner (INT21) commented that they had to navigate mental health impacts of the COVID-19 pandemic on their workforce, and the potential exacerbation of these impacts with the uncertainty regarding the approval of the Project.

Mining and steelmaking are intertwined and provide a source of current prosperity and bridge to future industries

Related to the employment issue was the intertwined nature of mining, steelmaking and the PKCT. Some respondents argued that these were interdependent and that the continuation of mining at the Dendrobium Mine would be crucial for the financial sustainability of the PKCT, the Port Kembla Steelworks and the other mines in the Southern Coalfield. A representative of I3Net, a regional network of firms and organisations in industry commented that:

> *"the mining and steel making industries are fundamental to our region" (INT16)*

One of the business owners commented that due to the interconnected nature of the Dendrobium Mine, Port Kembla Steelworks, PKCT and the broader industry in Illawarra, a potential mine closure would have:

> *"A cascading effect that is very concerning" (INT15)*

Further, the importance of the skilled workforce in mining and related industries was also mentioned, partly as they supported the regional capability needed to capitalise on opportunities in hydrogen, renewable energy and/or defence.

However, some respondents felt that the potential impacts to regional jobs had been exaggerated, and that the Port Kembla Steelworks and PKCT would survive without the Project. Some respondents related how Newcastle had reinvented itself after the closure of the steel industry, yet others questioned whether the lessons from Newcastle were applicable to Wollongong. Residents in the primary social locality in particular noted that not many mine workers lived in the suburbs surrounding the Dendrobium Pit Top, and therefore the potential effect on the residents of these areas would be minimal.

Beyond the economy; mining and steelmaking has shaped and continues to shape the region and its inhabitants

The impact of coal mining and steelmaking on the Illawarra region also went beyond the economic aspect. A number of respondents talked about how mining and steelmaking had shaped the region (beyond the village of Mount Kembla which is discussed above), noting that the industries had shaped the culture, identity and visual amenity of the Wollongong area. One respondent commented that:

> *"It is in the DNA of our region /…/ everybody knows someone who works or has worked in the industry" (INT16)*

Some respondents also commented on the effect of mining industry and the steelworks had on them and their families at a more personal level; how it had shaped their working lives. Two respondents commented on the importance of mining and the steelworks to their own careers and families:

> *"My grandfather worked at the steelworks, my father worked at the steelworks, I work at the mine…" (INT14)*
>
> *"It has been the cornerstone of my logistics career" (INT18)*

3.2.4 Potential Impacts on the Environment, Water Catchment and Cultural Heritage Matter to Many Stakeholders

Nearly all respondents talked about the potential impact of the Project to upland swamps, watercourses and the water catchment, and almost all of these pointed out the value of the drinking water catchment to the region, as well as to Sydney. There were however differing views as to the risk of the Project, with some stating the Project would have high and unacceptable risk, whilst others did not think it was a major risk or commented on the adequacy of IMC's environmental practices.

Beyond questions of current water security, a few respondents also discussed this impact in intergenerational terms, commenting on the foresight displayed in constructing the dams a hundred years ago, the potential impact to future generations, or in contrast arguing that over the long-term the environment tended to adapt. Some also contrasted this potential impact with the economic benefits discussed above, with (as examples) one resident pointing out that the environment is permanent whereas jobs are transient (INT3), and another thinking that potential environmental impacts were overstated, particularly in the context of the economic benefits of the Project (INT15). Wollondilly Shire Council in their correspondence referenced their submission on the SEARs for the Project, which noted the broad concerns around impacts to water sources, water supply and biodiversity, as well as reference to consideration of their *Social and Health Impact Assessment Policy*. It also pointed out that the Project has less relevance to Wollondilly Shire Council. The Wollongong City Council representative noted the community concerns for potential environmental and water quality impacts, increasing desire for the community to transition to a lower carbon economy and at the same time ensuring local job opportunities for the existing and future workforce (INT24).

Respondents from the Aboriginal community in particular talked about the potential impact the Project could have on Aboriginal heritage sites. They contextualised this conversation partly in relation to the modern capitalist system of extracting resources, and also to the exclusion of people from the Metropolitan Special Area (MSA), which had hindered access to these sites for close to one hundred years. One Aboriginal community member commented on the state of some sites and how that affected her people, mentioning that:

> *"The country needs people, and the people need country" (INT20)*

Respondents also related the integrated nature of Aboriginal knowledge, commenting that heritage sites were connected to stories and songs and dance, and damage to a part of the system would affect the whole (INT17). Other than seeking to avoid damage to heritage sites, which was their immediate priority, the two respondents from the Aboriginal community interviewed for this SIA differed in their views on employment for Indigenous people. One respondent described this as tokenistic and did not reflect a real exchange, and the other commenting on the importance of opportunities provided through employment with the Dendrobium Mine.

It should be noted an Aboriginal Cultural Heritage Assessment (ACHA) (Niche Environment and Heritage, 2022) has been prepared for Environmental Impact Statements (EIS) in accordance with the relevant consultation guidelines to address the potential impacts of the Project on Aboriginal heritage values.

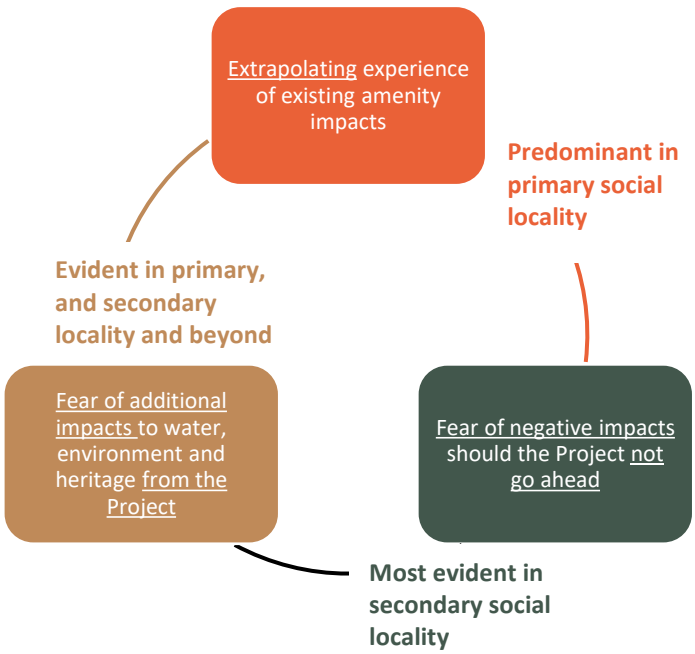
3.2.5 Stakeholder Feedback Summary

The geographic distribution of concerns

In summary, residents in the primary social locality, particularly in Mount Kembla, mostly spoke about amenity and safety related impacts: noise and dust from the Dendrobium Pit Top or coal trains along the Kemira Valley Rail Line, visual or noise impacts from the proposed Dendrobium Pit Top Carpark Extension and noise and safety impacts from mine-related traffic. There were differing views among local residents as to how much these affected their lives, as well as the significance of each issue. To the extent they talked about jobs and economic opportunities it was generally to point out that those benefits would not be attributable to their area.

By contrast, respondents and organisations from the broader Wollongong area talked more about economic benefits: the direct employment of the Dendrobium Mine, the many suppliers and contractors it supported, as well as its role in the broader coal and steelmaking economic ecosystem in the Southern Coalfield. This also extended to the role coal mining had played in shaping the identity of Wollongong as an industrial powerhouse. Economic and regional development organisations in particular pointed out the importance of the Project for the current prosperity of the region, as well as providing a bridge to a range of future industries.

FIGURE 8 THE NATURE OF FEEDBACK



Environmental impacts, and particularly potential impacts to the drinking water catchment, were mentioned by all respondents. Nearly all acknowledged the importance of the MSA for the region and

Sydney, however respondents varied in how they viewed the risks of the Project. Some respondents felt mining under any significant watercourse should not be allowed, others sought to contextualise potential water losses and yet others thought the risk was negligible and that IMC would deploy best practice management.

The nature of feedback

In seeking to further analyse the nature of respondents' feedback it seems three types of impact pathways were discussed. First, local residents in particular talked about their current experiences of the Dendrobium Mine and extrapolated these to the Project. For them, it was the *continuation* of negative amenity impacts that predominated (e.g. concerns were extrapolated from current experiences). Second, some respondents expressed a *fear that the Project would cause negative impacts* to environmental values and Aboriginal heritage, if approved. And third, respondents also talked about the loss of jobs and impacts to the economy and community in Wollongong in the absence of the Project and with the Dendrobium Mine consequently expected to close imminently. The latter thus represents a *fear of negative impacts should the Project not go ahead*.

Figure 8 illustrates this geographic and typological feedback.

4. SOCIAL BASELINE

This section sets out a social baseline for the Project, providing contextual information about the communities in the primary and secondary social locality as well as– where relevant – indicators against which social change can be measured. Importantly, the social baseline seeks to describe historical and existing features and trends in the community and has been developed to contain data that provide a relevant description of the community, particularly in relation to the Project.[5] It draws primarily on official social and economic publications and indicators and is supplemented by findings from the consultation process, where relevant.

The geographic delineations used in this social baseline are generally the primary social locality, consisting of the State Suburbs in the direct vicinity of the Dendrobium Pit Top, the Kemira Valley Rail Line and the CPP, Port Kembla Steelworks and PKCT, comprising:

- Kembla Heights;
- Mount Kembla;
- Cordeaux Heights;
- Figtree;
- Unanderra;
- Cringila;
- Spring Hill[6]; and
- Port Kembla.

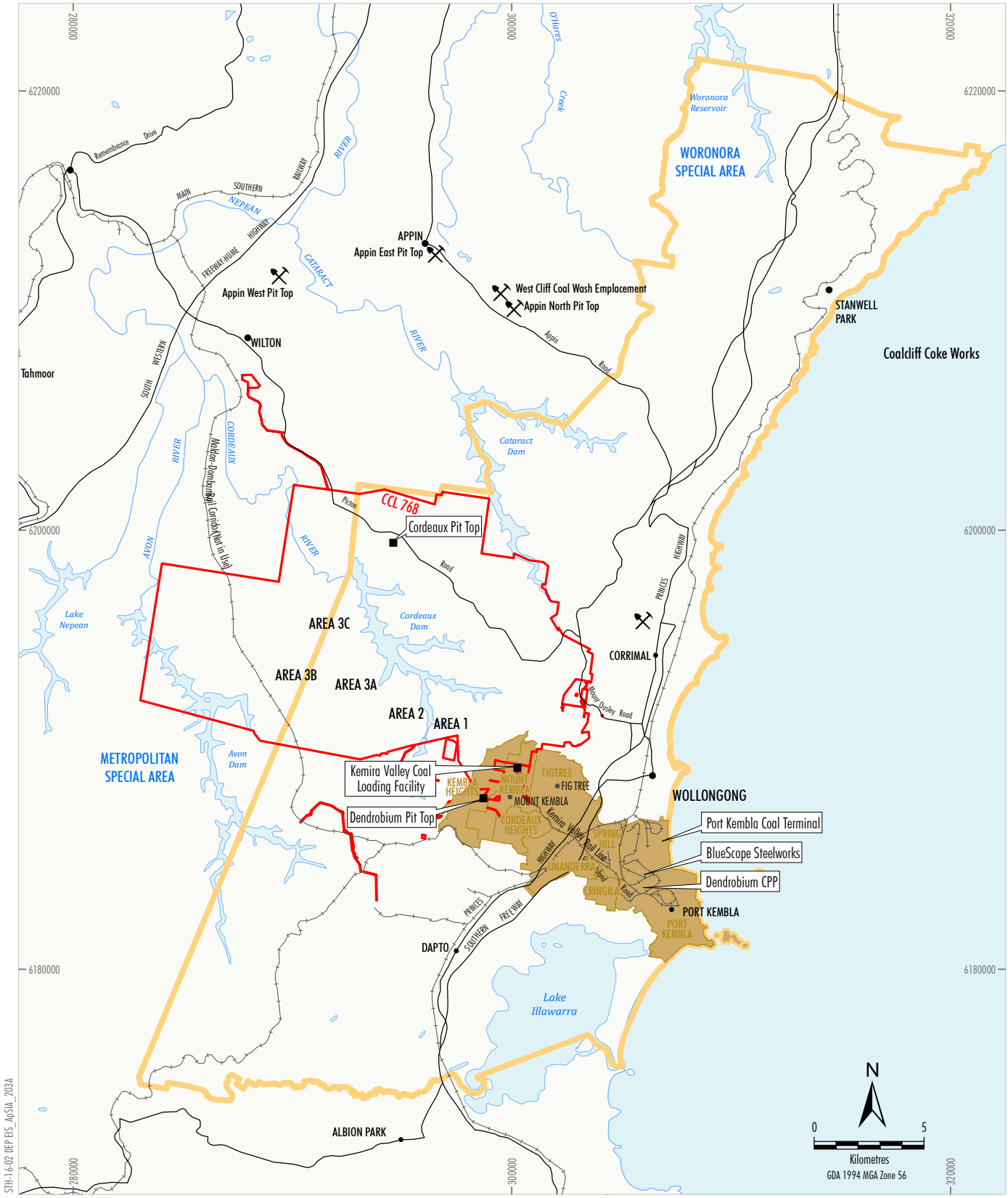
A secondary social locality comprises the Wollongong LGA (see Figure 9). Where relevant throughout Section 4 data for the primary and secondary localities are compared with NSW.

4.1 General Location and Brief History

The Project is located approximately 8 km south-west of Wollongong City near the suburbs of Mount Kembla and Kembla Heights on the Illawarra Escarpment. Wollongong is located approximately 70 km south of central Sydney and is the third largest city in NSW. It is the traditional home to Dharawal/Tharawal people who have occupied the area for at least 30,000 years. European settlement of the area commenced in the early 1800s with cedar getters accessing the area in the 1810s followed by more permanent settlements from 1815. The town of Wollongong was established in the 1830s and 1840s and the first coal mine opened in the area in 1849 at Mount Keira, followed by others at Bellambi, Woonona and over the subsequent decades. Mining at Mount Kembla commenced in 1882, and a rail line to Port Kembla was built to transport coal.

[5] An implication of this is that, for example, no detailed inventory of social infrastructure is provided, as the Project is unlikely to affect these, and further social infrastructure does not provide a defining feature of the Wollongong community.

[6] Note that Spring Hill does not have any residents and as such no data is provided herein.



LEGEND
- Dendrobium Mining Lease
- Road
- Railway
- Primary Social Locality
- Secondary Social Locality

Source: Geoscience Australia, (2006); Department of Industry (2018); Department Finance, Services & Innovation (2018);

SOUTH32
Illawarra Coal

DENDROBIUM MINE

Social Localities

Figure 9

Mount Kembla and Kembla Heights became the home of many miners, and the villages expanded to include schools, churches and a workmen's club. One of Australia's worst peacetime disasters occurred at the Mount Kembla mine where an explosion in 1902 killed 94 miners and two rescuers.

The Port Kembla Steelworks was established in 1927 and together with other heavy manufacturing industries gradually became an important driver of the economy and population growth in the area.

The Wollongong LGA was formed by amalgamation of four councils in 1947 (Wollongong City Council, 2010). The Wollongong City Council consists of three wards with four Councillors from each and a directly elected Lord Mayor (Wollongong City Council, 2021). The primary social locality is predominantly covered by Ward 2 and extends into Ward 3.

The City of Wollongong stretches along the coastline and includes a city centre, residential suburbs, beaches, Lake Illawarra to the south, and the industrial area at Port Kembla. The suburbs in the western and central part of the primary social locality are largely residential suburbs characterised by low to medium density dwellings, with Mount Kembla and Kembla Heights providing a more traditional village amenity, characterised by their proximity to the nature. By contrast, the eastern extent of the primary social locality is more characterised by the industrial area at Port Kembla (Figure 10).

FIGURE 10 PORT KEMBLA INDUSTRIAL AREA

Source: Image courtesy of South32

The *Our Wollongong 2028 Community Strategic Plan* (Wollongong City Council, 2018) sets out a vision and priorities for the region and was developed with substantial input from the community. The *Our Wollongong 2028 Community Strategic Plan* highlights the regions' achievements in revitalising the city centre in Wollongong, its cultural and community projects and events and notes that the economy is diversifying to focus on advanced manufacturing, mining services and information and communications technology. The *Our Wollongong 2028 Community Strategic Plan* sets out objectives across six goals, related to environmental protection, an innovative and sustainable economy, a creative and vibrant city, a connected, engaged and healthy community, liveability and accessible and affordable transport (Wollongong City Council, 2018).

4.2 Built and Natural Features

Key built and natural features in the Wollongong LGA – and in particular in the vicinity of the Dendrobium Mine – include the Illawarra Escarpment which stretches along the coast line and provides a natural border between Wollongong LGA and the LGAs directly to the west. The Illawarra Escarpment provides a feature of visual beauty for local residents, as well as an area for recreation through bushwalking and mountain biking (Figure 11).

The underground mining area for the Project (i.e. Area 5) is located within the MSA controlled by WaterNSW. Public access to most of the MSA is restricted and therefore public use of the land is limited to the various recreational areas and facilities open to the public. As evidenced by submissions on the EIS for the previous application and to the IPC, the value of the MSA as a source of drinking water for the Greater Sydney region and potential impacts raised concerns among stakeholders. Several Aboriginal heritage sites are also located within the MSA which are covered in detail in the ACHA for the Project (Niche Environment and Heritage, 2022).

FIGURE 11 KEMIRA VALLEY PATHWAYS

Source: Image courtesy of South32

Specifically for the Mount Kembla community (the village closest to the surface facilities for the Dendrobium Mine) residents value the natural beauty of the area, the bushland and the walks and pathways. Key built features include the heritage buildings, the public school, the Soldiers and Miners Memorial Church and Cemetery, and the walks and footpaths through the village. Several residents also noted the pub as an important meeting place for the community. Another important feature is the 'gap' or distance between the village and the suburbs at a lower elevation than Mount Kembla, which contributes to its distinct nature.

The industrial area at Port Kembla where the Dendrobium CPP is located is another key built feature in the region, providing a visual anchor point for the regional identity as an industrial powerhouse, as well as a point of employment for numerous local residents.

4.3 Demographic Profile

4.3.1 Population

At the time of the 2016 Census, Wollongong LGA had a population of 203,630 persons, making it the third largest city in NSW, after Sydney and Newcastle. The suburbs in the primary social locality had a combined population of approximately 30,000 people, with the largest suburb Figtree accounting for approximately one third of these (Table 7).

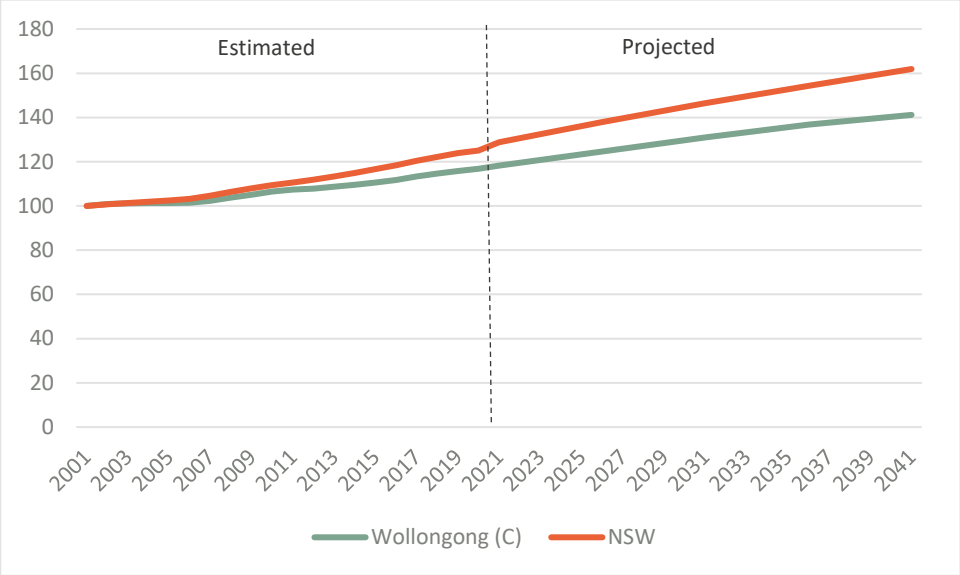
TABLE 7 KEY DEMOGRAPHIC INDICATORS

Geography	Population	Median Age	Sex Ratio
Kembla Heights	119	30	98.4
Mount Kembla	1,068	40	91.0
Figtree	11,564	40	97.7
Cordeaux Heights	4,559	39	101.9
Unanderra	5,434	43	89.9
Cringila	2,198	36	107.4
Port Kembla	5,014	43	103.5
Wollongong LGA	203,630	39	97.5
NSW	7,480,228	38	97.1

Source: ABS Census 2016 (Australian Bureau of Statistics, 2017)
Note: The sex ratio describes the number of males per 100 females.

The population in Wollongong is growing and is projected to continue to grow for the foreseeable future, albeit at a slightly slower rate in comparison to NSW. The Wollongong LGA has grown from an estimated resident population of just 188,000 in 2001 to 222,800 in 2021 and is projected to continue to grow to close to 266,000 in 2041, representing an annualised population growth rate of approximately 0.87%. By comparison, the NSW population is projected to grow to approximately 10,570,000 over the same period, an annualised growth rate of 1.21% (Australian Bureau of Statistics, 2021b; Department of Planning Industry and Environment, 2020). Figure 12 below shows the indexed actual and projected population in Wollongong and NSW between 2001 and 2041.

FIGURE 12 POPULATION, ESTIMATED AND PROJECTED (INDEXED: 2001=100)



Source: Based on ABS Regional Population and NSW DPIE Population Projections (Australian Bureau of Statistics, 2021b; Department of Planning Industry and Environment, 2020).

4.3.2 Indigenous People

At the time of the 2016 Census, there were approximately 5,300 people who were either Aboriginal or Torres Strait Islander or both within the Wollongong LGA, representing 2.6% of the population. This is slightly below the NSW proportion of 2.9%. The proportion of Indigenous people in the suburbs of the primary social locality varies from 1% in Cordeaux Heights to 3.7% in Port Kembla (Australian Bureau of Statistics, 2017).

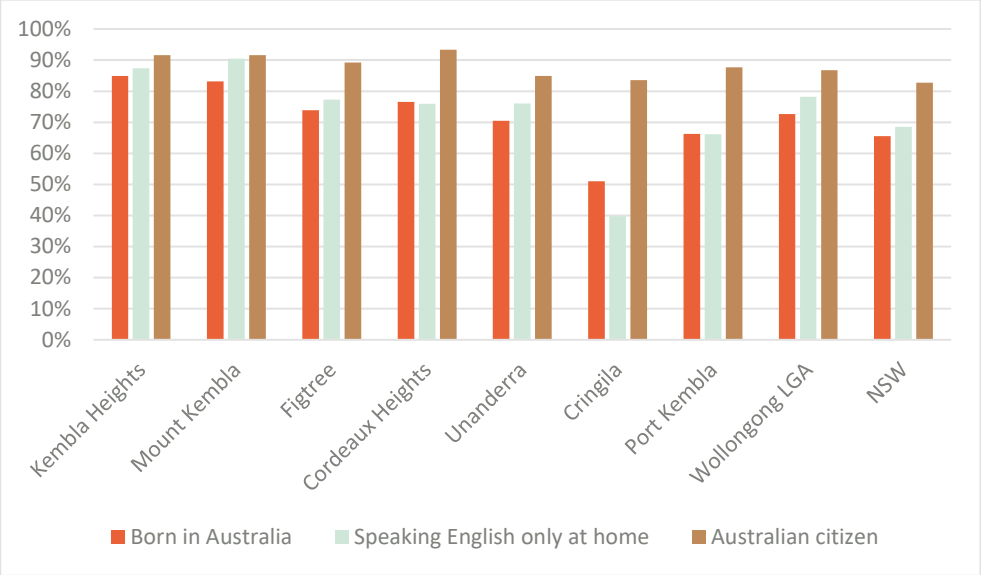
Several cultural, political and community groups exist within the Indigenous community in the Wollongong LGA. In addition to the Dharawal/Tharawal people, Indigenous people within the Wollongong LGA belong to, among others, the Yuin, Wiradjuri, Kamilaroi, Bundjalung, Dunghutti and Gumbayggir Nations (Wollongong City Council, n.d.-a).

4.3.3 Cultural Diversity

With regards to cultural diversity, most of the suburbs within the primary social locality are generally slightly more or similarly culturally homogenous compared to Wollongong LGA, with relatively high proportions of people born in Australia and who speak only English at home. During consultation, some respondents described the local area as ethnically and culturally homogenous, with a working class background, although currently undergoing a gentrification process.

Wollongong in turn is slightly more homogenous than NSW across the same indicators. By contrast, Cringila and Port Kembla at the eastern extent of the primary social locality are more culturally diverse than the Wollongong average, with lower proportions of people born in Australia (51% and 66%, respectively) and who only speak English at home (40% and 66%, respectively) (Figure 13).

FIGURE 13 CULTURAL DIVERSITY INDICATORS

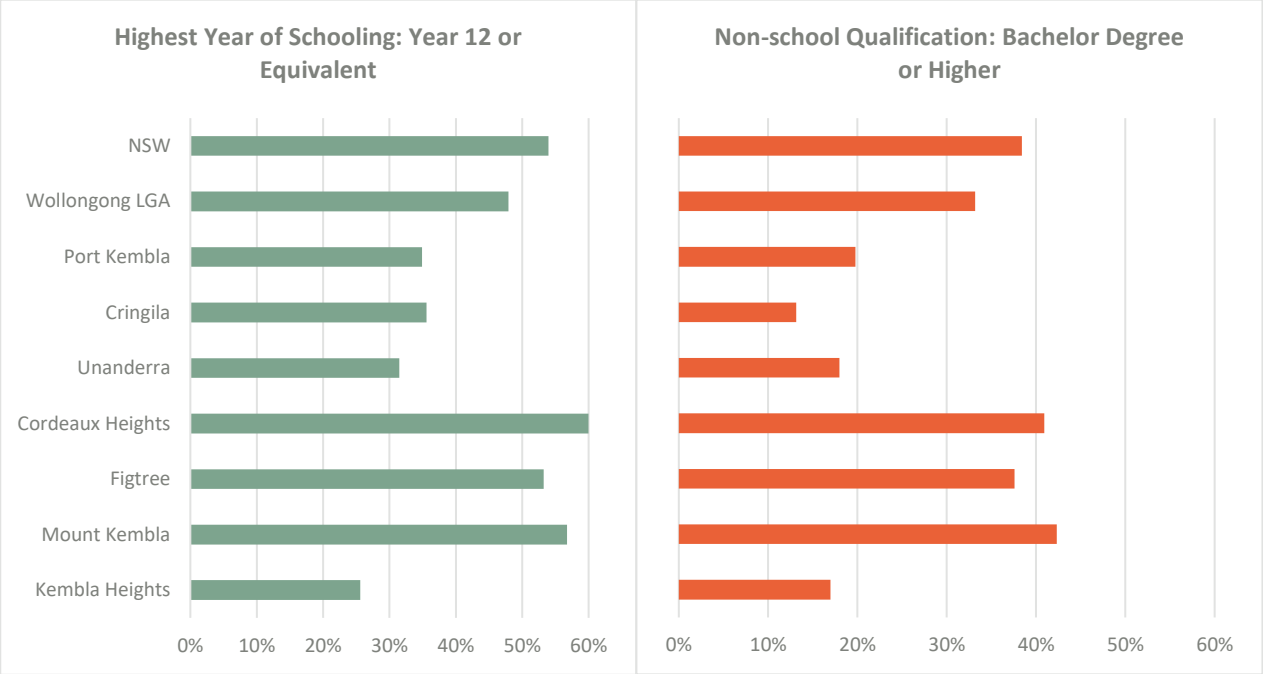


Source: Based on ABS 2016 Census (Australian Bureau of Statistics, 2017).

4.4 Education

Education levels in Wollongong LGA were slightly below those of NSW at the time of the 2016 Census, both with regards to school and non-school qualifications. Within the primary social locality, education levels varied and were below the Wollongong LGA and NSW for Port Kembla, Cringila, Unanderra and Kembla Heights, and similar to or above for Cordeaux Heights, Figtree and Mount Kembla (see Figure 14).

FIGURE 14 EDUCATION LEVELS



Source: Based on ABS 2016 Census (Australian Bureau of Statistics, 2017)
Note: Highest year of schooling year 12 or equivalent is expressed as a percentage of people 15 years or older who are no longer attending primary or secondary school, and the non-school qualification – bachelor degree or higher represents the percentage of people 15 years or older with a qualification. Note also that the values for both categories are very low for Kembla Heights and should be interpreted with caution.

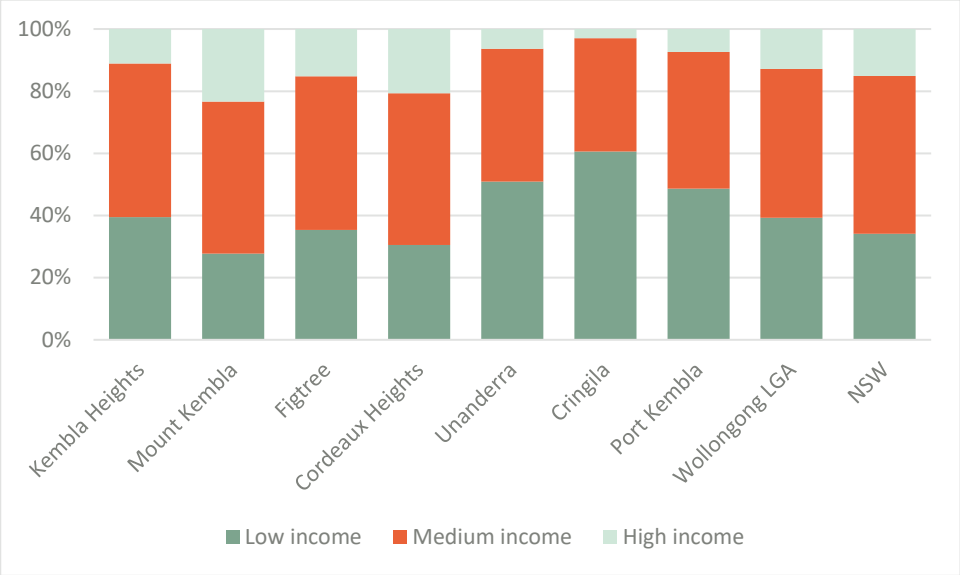
4.5 Economic Indicators

4.5.1 Income and Disadvantage

At the time of the 2016 Census, median personal incomes were below the NSW median in Kembla Heights, Figtree, Unanderra, Cringila, Port Kembla and across the Wollongong LGA, and above in Mount Kembla, and Cordeaux Heights. Further investigating personal incomes, Figure 15 shows the percentage of income earners who earned a low, medium and high income across the primary social locality. The suburbs of Unanderra, Cringila and Port Kembla had higher proportions of low income earners, and also lower proportions of people earning a high income.

The proportion of high income earners in Wollongong is slightly lower that of NSW, and conversely the proportion low income earners is slightly higher. Consultation with RDA – Illawarra confirmed an ongoing process of loss of higher paying jobs in the region, and a corresponding regional priority for retention of these jobs.

FIGURE 15 INCOME DISTRIBUTION



Source: Based on ABS 2016 Census (Australian Bureau of Statistics, 2017)
Note: Low incomes are defined here as those earning less than $500 per week, medium income as those earning between $501 and $1,749, whereas high income are those earning $1,750 and above. Totals exclude those earning no or negative incomes and where incomes are not stated.

With regards to socio-economic disadvantage, the suburbs in the primary social locality were in the 10th (Mount Kembla and Cordeaux Heights), 8th (Kembla Heights and Figtree) and 1st decile within NSW (Unanderra, Cringila and Port Kembla), meaning the former are among the least disadvantaged and the latter among the most disadvantaged suburbs within NSW. Wollongong LGA was in the 7th decile for LGAs in NSW (Australian Bureau of Statistics, 2018a).

4.5.2 Labour Market

Unemployment rates vary across the primary social locality. At the time of the 2016 Census, unemployment was highest in Cringila and Port Kembla at 12.4% and 10.8% respectively, followed by Unanderra at 8.7%. The remaining suburbs in the primary social locality all had unemployment rates below the NSW rate of 6.3%. Across the Wollongong LGA, the unemployment rate was 7.1%. Further disaggregating the unemployment data shows that female and youth unemployment are also higher in Cringila, Unanderra and Port Kembla, although the female unemployment is comparable to or lower than for the total workforce. Unemployment data for Indigenous people is available for the Wollongong LGA, and at 14.7% is comparable to NSW, albeit significantly higher than for the general population (see Table 8).

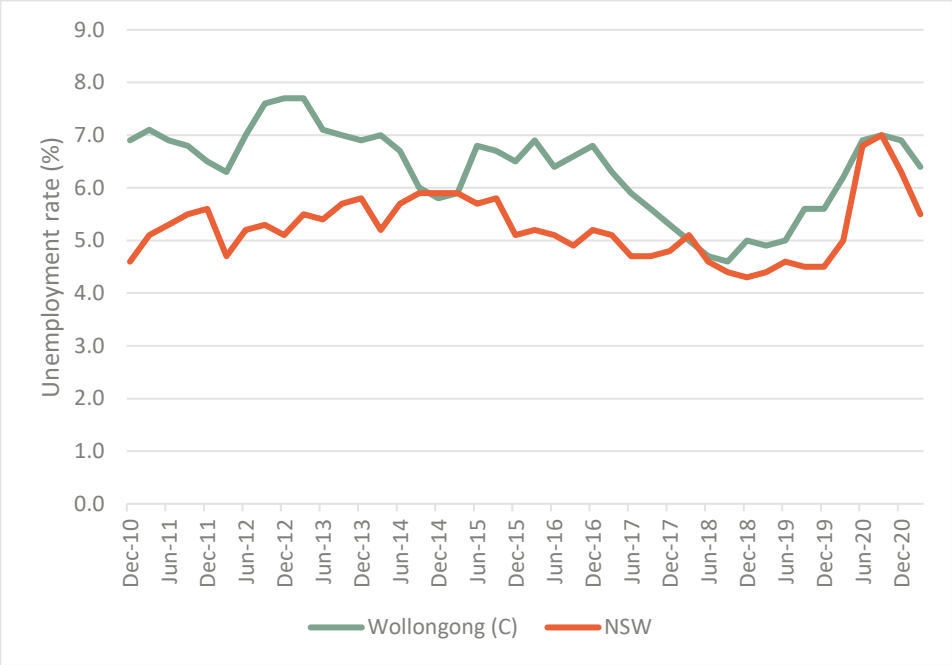
Unemployment rates in the Wollongong LGA have fluctuated over time and have in general remained slightly above the NSW rate. In March 2021, the estimated unemployment rate in the Wollongong LGA was 6.4% compared to 5.5% for NSW (see Figure 16).

TABLE 8 UNEMPLOYMENT RATES

Social Locality	Geography	General population	Youth	Females	Indigenous People
Primary Social Locality	Kembla Heights	-	-	-	-
	Mount Kembla	3.4%	-	-	-
	Figtree	5.9%	15%	5%	-
	Cordeaux Heights	5.6%	14%	5%	-
	Unanderra	8.7%	20%	7%	-
	Cringila	12.4%	18%	11%	-
	Port Kembla	10.8%	19%	9%	-
Secondary Social Locality	Wollongong LGA	7.1%	16%	7%	14.7%
State	NSW	6.3%	14%	6%	15.3%

Source: Based on ABS and Labour Market Information Portal (Australian Bureau of Statistics, 2017; Labour Market Information Portal, 2021).
Note: unemployment rates are only provided for areas where the data is likely to be reliable.

FIGURE 16 UNEMPLOYMENT TRENDS

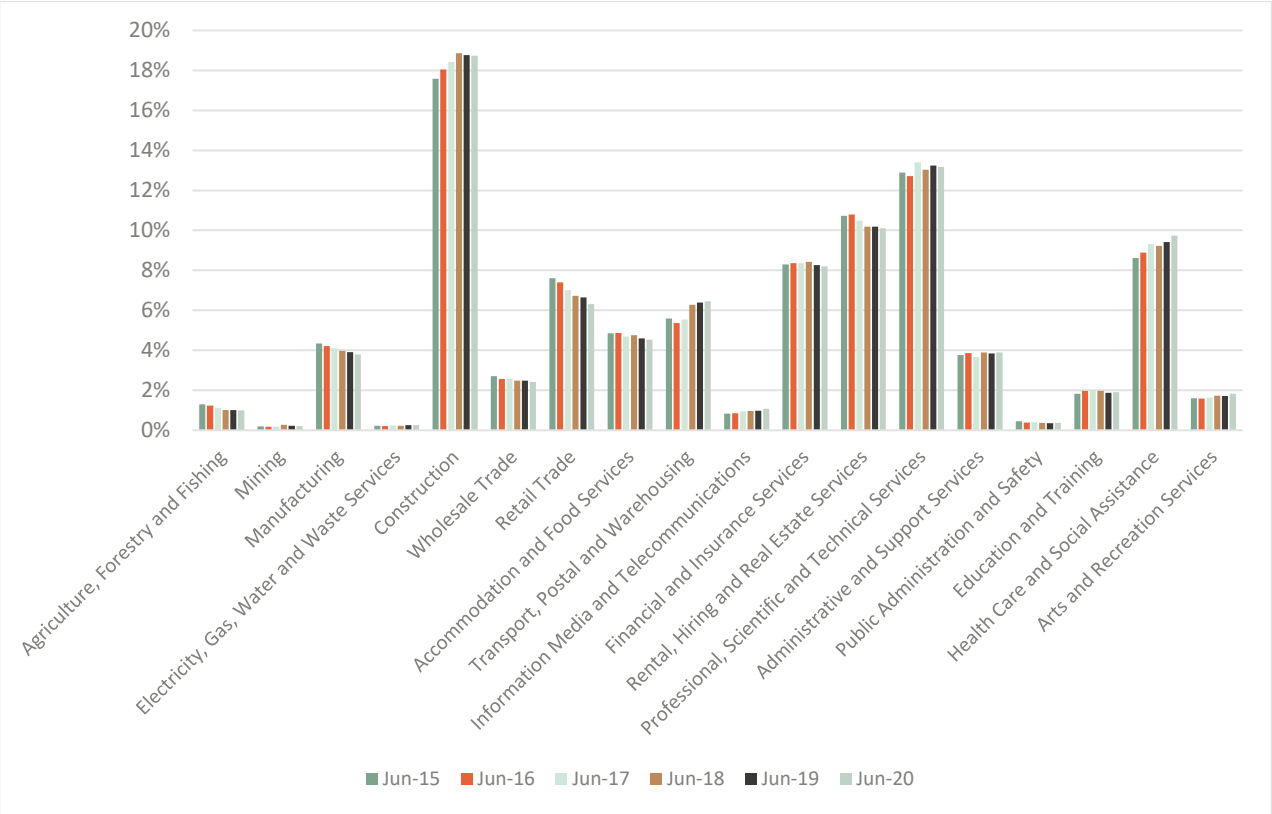


Source: Based on Labour Market Information Portal (Labour Market Information Portal, 2021).

4.5.3 Economic Structure and Priorities

Figure 17 shows businesses by sector as a proportion of all businesses in Wollongong LGA between 2015 and 2020. The largest sectors by number of businesses, are Construction, Scientific and Technical Services, and Health Care and Social Assistance. During that period, the proportion of businesses in the Construction, Health Care and Social Assistance, and Transport, Postal and Warehousing have grown the most, whereas Retail Trade, Rental Hiring and Real Estate Services and Manufacturing have recorded the largest contraction, when considered as a proportion of the total number of businesses.

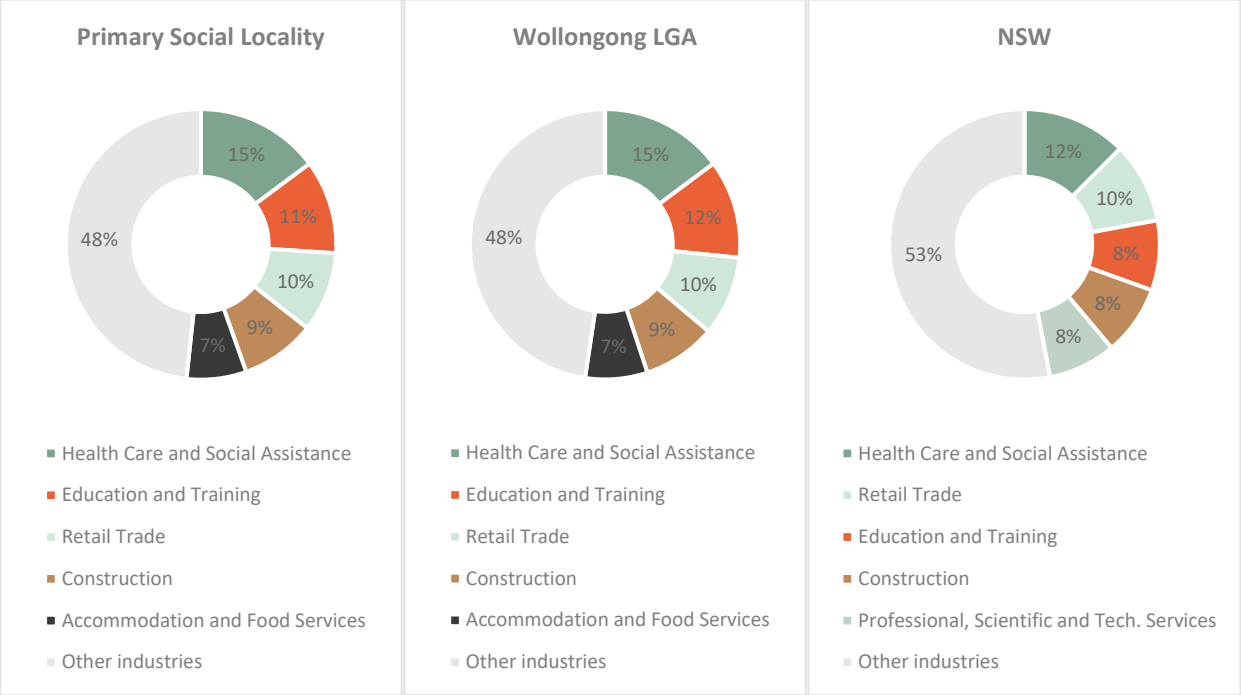
FIGURE 17 PROPORTION OF BUSINESSES BY SECTOR



Source: Based on ABS Count of Australian Business (Australian Bureau of Statistics, 2018b, 2019, 2020, 2021a).

When it comes to industries of employment, the primary and secondary social localities are both relatively similar to NSW, with the top industries being Health Care and Social Assistance, Education and Training and Retail Trade (see Figure 18). The mining industry remains an important contributor to the economy of the Wollongong LGA and the broader Illawarra region. Whilst the mining industry accounts for a relatively small portion of the region's employment (approximately 2%) it is the fifth largest industry in the Illawarra region in terms of economic output. During consultation several respondents pointed out the economic linkages and dependencies between mining, the steelmaking industry and the PKCT, as well as how these supported employment in other sectors (Australian Bureau of Statistics, 2017; RDA Illawarra, 2015).

FIGURE 18 TOP FIVE INDUSTRIES OF EMPLOYMENT



Source: Based on ABS 2016 Census (Australian Bureau of Statistics, 2017).

The *Wollongong City Council Economic Development Strategy* (Wollongong City Council, n.d.-b) targets growth within sectors in the knowledge economy, such as ICT / Tech, Financial and Insurance Services and Professional, Scientific and Technical Services. It also notes the importance of the metallurgical coal mining industry as a key aspect of the regional economy for the foreseeable future as it provides relatively stable, high paying jobs that are often full-time, as well as because of its linkages to steelmaking in the region (Wollongong City Council, n.d.-b, p. 7,43). The *Illawarra-Shoalhaven Regional Plan 2041* also sets an objective to sustainably maximise the productivity of resource lands, including for mining (Department of Planning Industry and Environment, 2021b, p. 43).

4.6 Community Connectedness and Wellbeing

Wollongong City Council undertakes regular wellbeing surveys among its population. The most recent survey is from 2021 and found relatively high levels of community engagement and connectedness[7], high personal wellbeing score, and high perceptions of liveability. Personal wellbeing was rated at 79 out of 100 for Wollongong residents, higher than the national benchmark of 76.5.

[7] Albeit declining on 2018 levels, likely to due to COVID-19 related challenges.

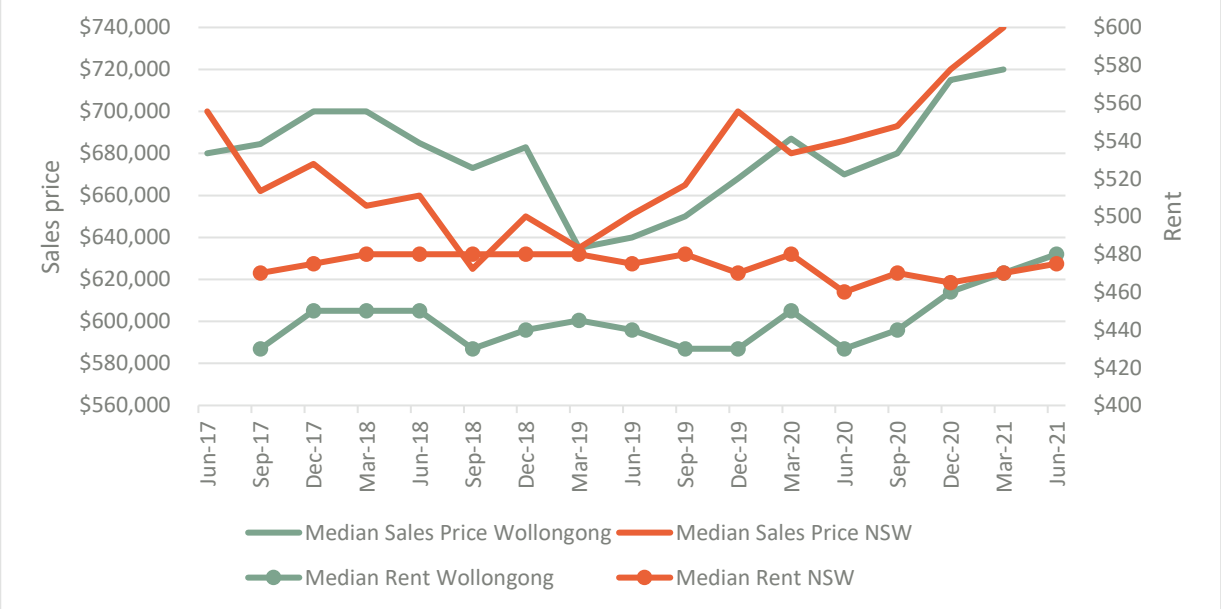
Residents generally feel part of the community (mean of 3.9 of 5), trust others in the community (3.9 of 5) and agree that Wollongong is a good place to live (4.6 of 5). Further, 40% of respondents had volunteered in the last two years. These findings suggest relatively high levels of community and social capital across the secondary social locality (IRIS Research, 2021). More granular data on volunteering is available for the State Suburbs within the primary social locality from the 2016 Census and indicates relatively high levels of volunteering across four of the five suburbs. Between 21% and 28% of the residents in Mount Kembla, Kembla Heights, Figtree and Cordeaux Heights had volunteered in the previous 12 months, higher than the NSW proportion of 18%. The suburb of Unanderra however had lower volunteering levels, at 14% (Australian Bureau of Statistics, 2017).

4.7 Housing

At the time of the 2016 Census, there were a total of 7,795 occupied private dwellings in the primary social locality and close to 74,000 in the secondary social locality. Housing costs varied, with median rents above the NSW median in Mount Kembla and Cordeaux Heights within the primary social locality, and below the NSW median in Kembla Heights, Figtree, Unanderra and across the Wollongong LGA. A relatively similar pattern is evident for median mortgage repayments (Australian Bureau of Statistics, 2017).

More recent housing data reveals a recent increase in median sales prices and rents. In the first quarter of 2021, the median sales price was $720,000 for all strata and non-strata dwellings in Wollongong. Median rents for new bonds in the following second quarter of 2021 was $480, with a total of approximately 19,400 rental bonds held. Rents and sales prices have fluctuated over the last four years, with a relatively consistent increase in sales prices since early 2019 and in rents since mid-2020 (Figure 19).

FIGURE 19 RENTS AND SALES PRICES

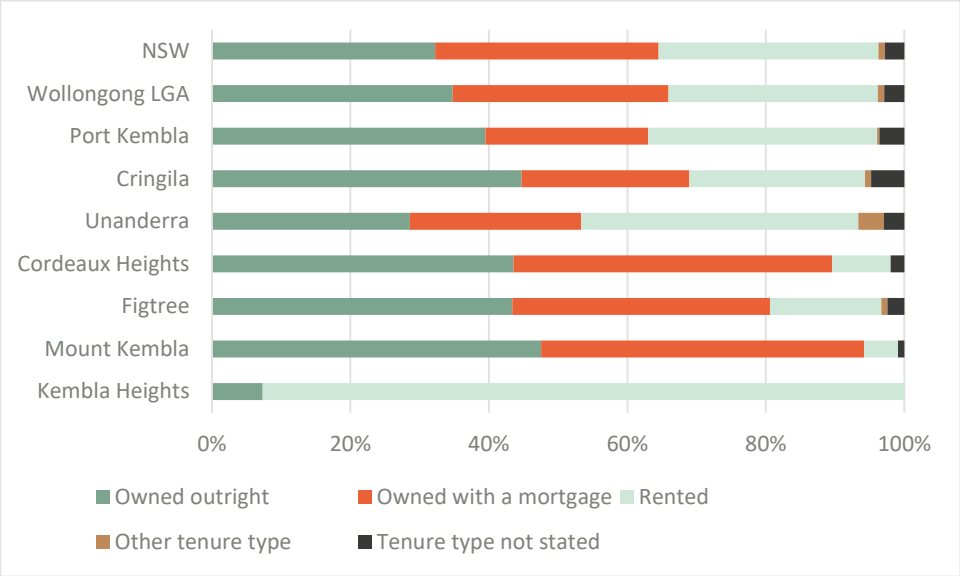


Source: Based on Rent and Sales Reports (Department of Communities and Justice, 2021).

A search of National Shelter's Rental Affordability Index for the second quarter of 2020 suggests that the postcodes 2526 and 2525 which approximate the primary social locality are considered moderately unaffordable for an average Australian rental household (SGS Economics and Planning, 2020).

Tenure types vary significantly within the primary social locality, with 97% of dwellings in Kembla Heights being rented compared to 5% in Mount Kembla[8]. Local residents explained the high proportion of rented properties in Kembla Heights with many of these being owned by IMC. The distribution of tenure types in the Wollongong LGA is comparable to that of NSW (see Figure 20).

FIGURE 20 TENURE TYPES



Source: Based on ABS (Australian Bureau of Statistics, 2017).

4.8 Relevant Social Groups

There are numerous social groups within the primary and secondary social localities, some of which may be affected by the Project. Table 9 below describes the social groups within the social localities which may be affected by the Project[9].

[8] Although the number of dwellings in the latter is very low and should be interpreted with caution.
[9] Importantly, the social groups outlined here have been construed of in relation to the Project. They may or may not correspond to groups defined by other features or processes such as self-identification. Note that this table differs slightly from the stakeholder table provided in the SIA Scoping Report, which was designed to orient the consultation sampling strategy.

TABLE 9 SOCIAL GROUPS WHICH MAY BE AFFECTED BY THE PROJECT

Social Group	Delineation and Relevance to the Project
Local Residents	Residents and their organisations in the suburbs near the Dendrobium Mine, largely approximated by the primary social locality. Among these, the residents within a reasonable proximity of the Dendrobium Pit Top, near the Kemira Valley Rail Line and Cordeaux Road are most likely to directly experience the Project. This social group also includes residents within the secondary social locality who may experience the indirect and cumulative effects of the Project, particularly effects of an economic nature.
Indigenous People	Indigenous people who are residents within the primary or secondary social locality and / or have an interest in that area. It includes the Aboriginal stakeholders who were registered as Registered Aboriginal parties for the ACHA for the Project.
Dendrobium Mine Workforce and their families	Approximately 650 employees and contractors working at the existing Dendrobium Mine and their families, for whom the Project is likely to provide certainty on continued employment. The majority of these are residents of Wollongong LGA with most of the remainder in the surrounding LGAs.
Businesses within the Illawarra coal and steelmaking ecosystem, their employees and their families	The employees and families within IMC's broader operations in the Illawarra, other mines in the region, at the Port Kembla Steelworks and PKCT, as well as the numerous businesses who supply to these. These are spread across the secondary social locality and beyond.
Council and other service and infrastructure providers	Organisations that represent residents in the primary or secondary social localities, and who provide public and social services and infrastructure to these.

In addition to these social groups there are stakeholders outside of the social localities who are likely to hold an interest in the Project, including environmental organisations and some residents within the Greater Sydney Area and who are likely concerned about potential impacts on the Sydney drinking water catchment (as evidenced in submissions on the previous application, discussed in Section 3.1.1), and the broader Australian mining and steelmaking industry and supply chain.

4.9 Summary of Baseline

The social baseline can be summarised as:

- The Wollongong LGA is located on Dharawal land and in a region with strong historical, cultural and economic connections to the mining and steelmaking industries, where mining is seen as an important part of the economy for the near future, and where diversification into highly skilled sectors such as ICT, advanced manufacturing and mining services is prioritised.
- As the third largest city in NSW, the social and demographic make-up of the area is generally similar to that of NSW, although some stakeholders commented on the relatively lower income levels and a subsequent need to prioritise generation of high paying jobs.

- Defining built and natural features in the region include the Illawarra Escarpment, the beaches, and the industrial area at Port Kembla. The MSA controlled by WaterNSW appears valued by people within the social localities and beyond as a source of drinking water for the Greater Sydney area, as well as the location of several Aboriginal heritage sites.
- The suburbs in the primary social locality are generally culturally homogenous, relatively affluent and characterised by relatively high education levels, low unemployment and lower relative disadvantage.
- Particularly within Mount Kembla – the village closest to the Dendrobium Mine – the population is described as homogenous, with a working class background, but one which is undergoing a gentrification process. Residents value the leafy, quiet and safe village oriented lifestyle in the area.
- Within the primary social locality the suburbs of Unanderra and Cringila have higher levels of cultural diversity, lower incomes, lower education levels and higher degrees of relative disadvantage.

5. IMPACT ASSESSMENT AND PREDICTION

5.1 Overview

The Project is expected to lead to a range of social impacts, some of which may be experienced positively and others negatively by various stakeholders.

Ten potential social impacts were identified during the scoping phase based on an analysis of the Project description and the extensive feedback from consultation on the previous application. Following consultation for this SIA, one social impact relating to amenity impacts of the Dendrobium Pit Top Carpark Extension was added, as some local residents highlighted it warranted separate assessment.

No impacts were identified exclusively in the 'way of life', 'health and wellbeing' or 'decision making systems' categories, noting however that some of the impacts described below could also fit these categories[10]. Potential impacts emanating from population growth associated with the Project, such as those related to housing and pressure on social infrastructure were considered immaterial due to the number of additional employees during both construction and operations being relatively minor in the context of the total Wollongong LGA population and housing markets.

All potential social impacts were analysed and evaluated by the SIA lead author following the process and framework set out in the Technical Supplement. This process seeks to analyse and describe each impact with a focus on how various stakeholder groups may experience them, and taking into account existing mitigation measures for existing impacts being experienced[11]. In the sections below this evaluation is ordered by the categorisation provided in the SIA Guideline.

It is important to consider this SIA does not represent exact predictions, as social change is frequently a dynamic, unpredictable and recursive process. To colourise – at least to some degree – this inherent uncertainty, this analysis is supplemented with the collaborative impact assessment carried out by the DCCC, which is presented in parallel throughout Section 5. Importantly also, as noted in Section 2, SIA is a practice that places *people* and their *experience of change* at the centre of the assessment. Many of the impacts discussed below represent continuations of existing experiences, and as such the *change* associated with these is likely to be minimal. This is reflected in the magnitude assessment for these impacts.

[10] The SIA Guidelines acknowledge that impacts may fit in multiple categories but suggests "neatly" categorising these is less important than identifying and assessing them (Department of Planning Industry and Environment, 2021c, p. 19).

[11] It is common to assess social impacts *before* mitigation or enhancement measures are applied to arrive at an inherent significance rating. In this case, most impacts of the Project are continuation of existing conditions for which there are mitigation measures already in place. As these influence stakeholders' current experiences of the impact, it is impossible to disentangle the impact and the mitigation measure, and hence extant mitigation measures have been included in the assessment.

Section 5 describes potential impacts of the Project (e.g. if approved), followed by impacts should the Project not proceed (e.g. if not approved). Section 5 also considers intergenerational equity aspects for these impacts, potential cumulative and combined impacts, followed by a discussion about mine closure.

5.2 Impact Assessment for the Project

5.2.1 Impacts to Community

Contribution to ongoing financial sustainability of mining and steelmaking in the Illawarra, thus supporting population stability and community sustainability.

The Project would likely support the ongoing financial sustainability of mining and steelmaking in the Illawarra region. Several stakeholders described the intertwined nature of the coal mines, steelmaking and the PKCT and discussed these both in terms of the impact to community if upwards of 14,000 jobs were affected as well as at an individual and family level as employees would have to seek work elsewhere.

This ongoing impact also had a cultural aspect, as the Dendrobium Mine, other mines in the region and the Port Kembla Steelworks had contributed to shaping the identity of Wollongong.

Whilst there were divergent views on how important or widespread this impact would be, most acknowledged there would be an impact. Applying the SIA Guideline tools it seems *almost certain* that this impact would eventuate, at least to some extent. Given its geographic extent, its extent over multiple dimensions, its duration of the life of the Project and beyond, and its importance to several stakeholders the magnitude of this impact is considered *major*. Consequently, the impact significance would be *very high*. The DCCC assigned this impact a rating of *likely*, *moderate* and *high*.

Sustaining Mount Kembla's traditional identity as a mining community.

Through the Dendrobium Mine's ongoing presence in the area, the Project would continue to contribute to Mount Kembla's traditional identity as a mining community. Whilst the historic value of the Dendrobium Mine to the community identity was acknowledged by many respondents, there were more divergent views about the role it played today, particularly as few mine workers were living in the area.

As such, whilst it is *possible* that this impact will occur, its magnitude is best assessed as *minimal*, leading to a *low* impact significance rating. The DCCC rated this impact as *unlikely* and *minor*, also leading to a *low* significance.

Ongoing contribution to community wellbeing and sustainability of the primary and secondary social localities.

The Project, through the DCEP and other investments in the community, has the potential to support projects that contribute to sustainability and wellbeing. Residents in the primary social locality talked about some of the projects the DCEP had supported and the value they offered the community, although they often also suggested ways to improve the governance of the program. Beyond the primary social locality, IMC's involvement in the broader Wollongong community was also sometimes mentioned as a positive. Some stakeholders, although noting the value of these projects, also commented that IMC was not the only entity that supported community projects and that these would not stand or fall with IMC's contribution.

Applying the SIA Guideline tools, this impact is *almost certain* to occur although its magnitude is considered *minimal*, resulting in a significance rating of *low*. The DCCC focus group rated this impact *almost certain* and *minor*, resulting in a *medium* significance.

5.2.2 Impacts to Livelihoods

Continuation of approximately 700 operational employment opportunities (50 additional operational opportunities) and 100 construction employment opportunities. Continuation of employment within the Southern Coalfield economic ecosystem.

Construction of the Project would require approximately 100 workers over a two year period. There are numerous workers and businesses within the secondary social locality or the broader Illawarra region with capabilities to deliver some of the construction work required. Notwithstanding, some specialist roles would be sourced from outside the region. For these, a range of different roster and accommodation options are likely to eventuate, depending on the role.

The exact composition of the construction workforce is not available at this stage. The SIA for the previous application assumed approximately 30% of the workforce would be sourced from outside the secondary social locality (Elliott Whiteing Social Planning Solutions, 2019). If that assumption holds approximately 70 residents within the primary social locality would find work for the construction associated with the Project.

The Project would require approximately 700 operational workers, including employees and contractors. These are likely to mostly consist of continuing roles, thus providing increased certainty of employment for the Dendrobium Mine workforce for a long period of time. The operational workforce requirements represent a slight increase compared to existing operations (e.g. additional 50 employees) and is related, at least partly, to increased need for underground roadway development and gas drainage work in Area 5. This impact would thus benefit existing employees, contractors and their families, as well as a number of new employees and contractors. As noted above, the majority of existing employees reside within the Wollongong LGA, and most of the remainder in the broader Illawarra region. As such, it is likely that large majority of the benefits associated with operational employment would be accrued within this region.

Beyond the direct employment associated with the construction and operations of the Project, it is further anticipated to contribute to continued employment within the coal and steelmaking economic ecosystem within the Southern Coalfield. Some stakeholders noted the Dendrobium Mine supporting additional jobs indirectly. As noted above, these are generally well paid and highly skilled roles thus providing community and economic stability.

The Economic Assessment for the Project (Appendix L of the EIS) considers further the quantum of economic value that is likely to accrue from the Project, as well as indirect and induced economic effects (EY, 2022).

In summary, the impacts associated with employment are likely to be of a long duration, a broad extent and, in light of the importance of stable employment for individual, family and community wellbeing, likely to be of high importance to many stakeholders. Considering there being a degree of uncertainty around how far the indirect effects of this impact would spread, its likelihood has been assessed as *almost certain*, and the magnitude as *major*, resulting in a significance rating of *very high*. By contrast, the DCCC members rated this impact as *almost certain* and *minor*, resulting in a *medium* significance.

In this context, it should be noted that the most stakeholders expressed the significance of the negative impacts should the Project not proceed, rather than a positive of proceeding with the Project.

Further opportunity to contribute to gender equality and economic reconciliation.

The Project would also provide further opportunity for IMC to contribute to gender equality and economic reconciliation. As noted above, IMC is committed to advancing gender equality within its operations, and consultation with the union representative noted that the number of women in underground roles had increased recently.

Additionally, South32 is currently approximately mid-way through implementing its *Innovate Reconciliation Action Plan*, which has set corporate targets for Indigenous employment and business participation to increase with 5% and 10% year on year, respectively (South32, 2020c).

IMC has set targets for female and Indigenous employment for the Project at 10% and 2.5% of the workforce, respectively. Should this target be reached, approximately 70 females and 18 Indigenous persons would find ongoing work within the Project. Assessing the likelihood and magnitude of this change it seems *likely* it would occur and the magnitude being *minor*, resulting in a significance assessment of *medium*. The DCCC assessed this impact as *possible* and *minor*, also resulting in a medium rating.

5.2.3 Impacts to Culture

Potential impact to Aboriginal heritage sites affecting Indigenous people.
IMC has proposed a Project design that would not longwall mine beneath previously identified high archaeological (scientific) significance Aboriginal heritage sites. The proposed design for the Project also reduces the number of Aboriginal heritage sites that would be directly mined beneath compared to the previous application. The ACHA (Niche Environment and Heritage, 2022) for the Project identified 31 Aboriginal heritage sites which may be affected by the Project, with six of these directly above the longwall mining areas (all of low archaeological [scientific] significance). The potential for harm to these sites was assessed varyingly depending on the nature of the site and its location in relation to the Project, but overall the likelihood was considered *rare* to *unlikely*.

From a social impact perspective (i.e. relating to the human experience of potential cultural and spiritual loss) (Department of Planning Industry and Environment, 2021c) Aboriginal stakeholders described the integrated nature of their belief and knowledge system, how heritage sites are connected to stories and song and dance, and thus the cultural significance of these sites, and the sadness they experienced when observing damage to heritage sites. It should also be noted that feedback received on the ACHA from the Registered Aboriginal Parties noted all Aboriginal heritage sites are considered to be of high cultural significance to the Aboriginal community.

IMC has an existing cultural heritage management plan which contains commitments, actions and protocols for addressing potential impacts to cultural heritage, including through monitoring, engagement and participation with Indigenous stakeholders.

Considering the findings from the ACHA it seems *unlikely* that the Project would cause impact to these sites. However, feedback from the consultation process suggests that sites are highly valued in the context of culture and knowledge systems, and the potential impact would have an intergenerational aspect. The impact magnitude is therefore considered to be *major*, resulting in a significance rating of *medium*. The DCCC assessed this impact as *possible* and *moderate*, also resulting in a significance rating of *medium*.

5.2.4 Impacts to Surroundings

Potential for noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility similar to existing conditions.
The Project would lead to a continuing potential for noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and the Kemira Valley Coal Loading Facility. Noise in particular was a frequently mentioned topic during consultation, with dust generally being less of a concern.

The Noise and Blasting Assessment (Appendix J of the EIS) (Renzo Tonin & Associates, 2022) noted that the noise sources that may affect private receivers were largely unchanged from the existing operations at the Dendrobium Mine. With regards to construction noise it identified that – following the completion of the Dendrobium Pit Top Carpark Extension construction – three privately owned receivers were predicted to exceed the standard hours criterion in the *NSW Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009). Relating to operational noise, five privately owned receivers were predicted to experience negligible or marginal exceedances of relevant Project-specific noise trigger levels and one privately owned receiver was predicted to experience night-time average noise levels slightly above the sleep disturbance assessment level; however, this exceedance was considered negligible (2 dB(A)). The predicted maximum noise levels were within the applicable assessment level. The assessment concluded that with the current self-imposed night time restrictions, the likelihood of sleep disturbance events was limited. Traffic noise was predicted to be within current criteria (Renzo Tonin & Associates, 2022). The Air Quality and Greenhouse Gas Assessments (Appendix I of the EIS) found that no sensitive receptors in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility would experience exceedances of current NSW air quality criteria (Ramboll, 2022).

Notwithstanding these assessments, residents in Mount Kembla described how the operational noise from the Dendrobium Pit Top as well as from workforce traffic, particularly at shift changes, affected their quality of life and in some cases disturbed their sleep. Noise complaints is one of the more common community complaints topics for the existing Dendrobium Mine. In 2020 the Dendrobium Mine received a total of 48 noise complaints, representing 37% of all complaints received. Three dust related complaints were received in the same period, representing 2% of all complaints. In 2021, a total of 97 noise complaints (57% of all complaints) and three dust related complaints (2% of all complaints) were lodged with IMC. It should however be noted that some residents close to the Dendrobium Pit Top commented that it did not affect their life in any substantial way. It should also be noted that a small number of stakeholders account for most of the dust and noise complaints, indicating that the impact is not very widespread but intensely felt among the affected residents. There has been no indication that affected stakeholders are likely to belong to a particularly vulnerable group.

The Dendrobium Mine has an existing Noise Management Plan (NMP) and Air Quality Management Plan (AQMP) which would potentially be updated to further address this impact. IMC is implementing a number of dust mitigation measures, including using an extractor fan at the loading facility, and profiling and spraying the loaded coal with water. Dust from stockpiled coal is managed through automated spraying and modifying stockpile sizes to limit dust emissions.

In summary, taking into account the relatively few affected stakeholders, the extent of this impact is small, however the intensity high and duration relatively long. Overall, however, the extent and level of noise impacts are likely to remain similar to current experiences. As such, the likelihood of this occurring is *likely*, and the magnitude *minimal*, resulting in a significance rating of *low*. The DCCC rated this impact *likely* and *minor* and thus a significance of *medium*.

The proposed Dendrobium Pit Top Carpark Extension affects amenity and traffic in Mount Kembla

The Project would involve construction of a Dendrobium Pit Top Carpark Extension near the Dendrobium Pit Top catering for employees and contractors to the Dendrobium Mine. The Dendrobium Pit Top Carpark Extension is proposed to be 0.4ha and cater for 100 to 120 vehicles. There was a large degree of community concern about this Dendrobium Pit Top Carpark Extension mentioned during the consultation process and also evidenced by the creation of the 'community not carparks' Facebook group. Concerns involved the potential for noise from the construction of the Dendrobium Pit Top Carpark Extension as well as from traffic during operations, but also that clearing would reduce the greenery in the suburb, something residents valued highly. IMC has confirmed that approximately 0.17 ha of the proposed 0.4 ha Dendrobium Pit Top Carpark Extension is currently native vegetation.

Impacts from the construction and operation of the Dendrobium Pit Top Carpark Extension would last the duration of the Project. Although the impact would not be felt outside of Mount Kembla or Kembla Heights, it appears there is a genuine and widespread concern about it within this suburb, indicating it may affect something people value highly. As such, the likelihood of this impact is considered to be *likely* and the magnitude *moderate*, resulting in a *high* significance rating. The DCCC rated this impact *almost certain* and *moderate* and thus a significance of *high*.

Potential for rail noise affecting residents along the Kemira Valley Rail Line similar to existing conditions.

The Project would lead to a continued potential for rail noise to affect residents along the Kemira Valley Rail Line. In particular, it is the screeching or squealing noise from trains braking which affects some residents. It should be noted that this noise occurs occasionally, and not for all trains at all times.

The Kemira Valley Rail Line traverses an area comprising the suburbs of Mount Kembla, Figtree, Cordeaux Heights, Unanderra, Cringila Spring Hill and Port Kembla within the primary social locality. Although there are several thousands of residents within these suburbs, only those residences and facilities located relatively close to the Kemira Valley Rail Line and in certain locations, are likely to experience this impact. Currently there are approximately ten train trips originating from the Dendrobium Mine per day, meaning twenty train movements per day. It is anticipated that this train traffic volume would be similar for the Project, and as such the experience of the impact is unlikely to intensify.

Consultation with stakeholders revealed that this impact was felt intensely by a small number of stakeholders. IMC has worked together with the rail operator to address rail related noise, and some respondents acknowledged that the noise issues had reduced as various mitigation measures had been put in place. IMC's existing NMP contains measures to address rail noise. This would be updated if required for the Project.

The Noise and Blasting Assessment for the Project has investigated rail noise in detail, including identifying that with regards to rail noise, and as a legacy site, the Dendrobium Mine is predicted to be compliant with the conditions for rail haulage impact assessment. There would nevertheless be a number of dwellings where criteria under the current NSW Rail Infrastructure Noise Guideline would be exceeded (Renzo Tonin & Associates, 2022).

In summary, a relatively small number of stakeholders within a close vicinity of the Kemira Valley Rail Line are expected to experience this impact, and as such the extent is relatively contained. However, judging by the number of complaints, it appears the intensity is relatively high. Noise levels are however unlikely to materially change compared to existing conditions. As this impact may persist for the life of the Project, its duration is relatively long. In summary, this impact is therefore assessed to be *likely* to occur, and the magnitude *minimal*, resulting in a significance rating of *low*. By contrast, the DCCC rated this impact as *almost certain* and *moderate*, resulting in a *high* significance rating.

Potential for impacts to environmental values and water catchment.

The underground mine plan for the Project comprises longwall mining within the MSA, however compared to the previous application longwall mining is reduced by approximately 60% and would not occur within 400 m of named watercourses and 1,000 m from dam walls (i.e. Avon and Cordeaux Dam walls). Predicted surface water loss impacts are anticipated to be reduced by approximately 60% compared to the previous application.

Impacts to water and environmental values remain important community concerns in the primary and secondary social localities and beyond. Potential impacts to environmental values and the water catchment within the MSA was also a key concern among submitters to the IPC for the previous application. Of the 1,559 unique author submissions 41.4% addressed environmental issues and 22.9% addressed water. The vast majority of these objected to the previous application (Independent Planning Commission, 2021, p. 42). Consultation for this SIA confirm that this concern remains among the community, although some respondents commented on positives of the reduced footprint of the Project compared to the previous application. Although nearly all respondents mentioned the importance of the MSA as a source of water supply, the view on the risk from the Project varied. Some respondents thought mining in the MSA should not be allowed at all, others thought the risks were overstated, and others took a middle ground pointing out the importance of minimising impacts and robust monitoring.

Although potential impact to surface water was frequently mentioned during consultation, other environmental values also featured, including potential impacts to upland swamps and wildlife.

The Groundwater Assessment (Appendix B of the EIS) (Watershed HydroGeo, 2022) and Surface Water Assessment (Appendix C of the EIS) (ATC Williams, 2022) for the EIS assess these impacts in detail. The groundwater modelling predicted that the Project would result in a 78% reduction in predicted peak surface water losses compared to the previous application. Notwithstanding this reduction, there is a large interest within the community about environmental impacts, particularly relating to water. This impact is therefore *likely* to occur, and its magnitude is *major*, taking into account the high community interest and concern, the potential widespread extent and long duration of the impact. This results in a *high* significance assessment. The DCCC rated this impact as *almost certain* and *major*, resulting in a *very high* significance.

5.2.5 Impacts to Accessibility

Ongoing contribution to traffic in Mount Kembla, and on Cordeaux Road, Picton Road and Appin Road.
The Project would lead to an ongoing contribution to traffic in Mount Kembla, on Cordeaux Road, Picton Road and Appin Road, both during construction and operation of the Project.

Traffic is one of the key concerns among residents in Mount Kembla Village in particular and it relates both to noise – particularly around shift changes and from heavy vehicles – and potential safety hazards of heavy vehicles travelling down Cordeaux Road. Respondents talked about how traffic noise affected their daily life, their sleep, and also their social life. Whilst this was a strong concern from some respondents during consultation, and partly related to the proposed Dendrobium Pit Top Carpark Extension discussed above, it is worth noting that concerns around traffic did not feature heavily among complaints lodged in the past.

The Road Transport Assessment (Appendix H of the EIS) (The Transport Planning Partnership, 2022) carried out as part of the EIS has studied traffic generation and traffic impacts in detail. It assessed that the Project would generate additional traffic during construction and some during operation, although operational traffic is only slightly increased compared to existing conditions. Overall, the assessment concludes that traffic related impacts with regards to capacity, efficiency and safety are likely to be acceptable (The Transport Planning Partnership, 2022). The Noise and Blasting Assessment for this Project assessed road traffic noise for the Years 2023 and 2037 along Cordeaux Road east of Mount Kembla and found it to comply with relevant criteria (Renzo Tonin & Associates, 2022).

The Dendrobium Mine operates under an existing Traffic Management Plan, with existing traffic measures including a curfew for heavy vehicles and a Dendrobium Mine Driver's Code of Conduct. Some contractors also travel to the Dendrobium Mine via a bus provided by IMC partly to reduce traffic.

In this context it is reasonable to conclude that the extent, severity, intensity and level of concern around this impact are relatively low. By contrast, the duration of the impact is relatively long; the life of the Project. It thus seems *likely* that this impact would eventuate, and its magnitude is *minimal* resulting in a *low* impact significance. The DCCC rated this impact as *almost certain* and *moderate*, resulting in a *high* impact significance.

5.2.6 Summary of Impact Significance

Table 10 summarises the impact significance assessment by describing – for each impact – the Project phase it is likely to occur within, likely affected stakeholders, impact category, its nature, likelihood, magnitude and the consequent significance. As the Project is an extension of an existing operation, the table also outlines whether the impact is likely to represent an extension in time only (and no change in intensity) or also represents a change in scope or scale compared to existing conditions. Further background to the magnitude assessment is provided in Appendix C, which outlines the assessed dimensions of social impact magnitude.

TABLE 10 IMPACT SIGNIFICANCE – WITH THE PROJECT

Potential Social Impacts	Phase	Nature of change	Potentially Affected Stakeholders	Impact Category	Nature	Likelihood	Magnitude	Significance
Contribution to ongoing financial sustainability of mining and steelmaking in the Illawarra, thus supporting population stability and community sustainability.	Construction, operations	Extension in time only	Residents, employees and businesses within the primary and secondary social localities.	Community	Positive	Almost certain	Major	Very High
Sustaining Mount Kembla's traditional identity as a mining community.	Construction, operations	Extension in time only	Residents in Mount Kembla within the primary social locality.	Community	Positive	Possible	Minimal	Low
Ongoing contribution to community wellbeing and sustainability of the primary and secondary social localities.	Construction, operations	Extension in time only	Residents and community groups within the primary and secondary social localities.	Community	Positive	Almost certain	Minimal	Low
Continuation of approximately 700 operational employment opportunities and 100 construction employment opportunities. Continuation of employment within the Southern Coalfield economic ecosystem.	Construction, operations	Extension in time and change in scope or scale	Existing and new employees with IMC, contractors and firms within the Southern Coalfield economic ecosystem, as well as their families.	Livelihoods	Positive	Almost Certain	Major	Very High
Further opportunity to contribute to gender equality and economic reconciliation.	Construction, operations	Extension in time only	Existing and prospective female and Indigenous employees.	Livelihoods	Positive	Likely	Minor	Medium
Potential impact to Aboriginal heritage sites affecting Indigenous people.	Operations	Extension in time and change in scope or scale	Aboriginal people, all Australians.	Culture	Negative	Unlikely	Major	Medium

Potential Social Impacts	Phase	Nature of change	Potentially Affected Stakeholders	Impact Category	Nature	Likelihood	Magnitude	Significance
Potential for noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility similar to existing conditions.	Operations	Extension in time only	Residents near the Dendrobium Pit Top and Kemira Valley Coal Loading Facility within the primary social locality.	Surroundings	Negative	Likely	Minimal	Low
The Dendrobium Pit Top Carpark Extension potentially affects amenity and traffic in Mount Kembla.	Construction, operations	Extension in time and change in scope or scale	Residents near the Dendrobium Pit Top Carpark Extension, in Mount Kembla and Kembla Heights, within the primary social locality.	Surroundings	Negative	Likely	Moderate	High
Potential for rail noise affecting residents along the Kemira Valley Rail Line similar to existing conditions.	Operations	Extension in time only	Residents in proximity to the Kemira Valley Rail Line within the primary social locality.	Surroundings	Negative	Likely	Minimal	Low
Potential for impacts to environmental values and water catchment.	Operations	Extension in time and change in scope or scale	Residents within the primary and secondary social locality and supplied by the MSA Water users.	Surroundings	Negative	Likely	Major	High
Ongoing contribution to traffic in Mount Kembla, and on Cordeaux Road, Picton Road and Appin Road.	Construction, operations	Extension in time only	Residents in proximity to Cordeaux Road, Picton Road and Appin Road.	Accessibility	Negative	Likely	Minimal	Low

5.3 Impacts should the Project Not Proceed

Should the Project not proceed, mining operations would cease. As discussed above, many of the impacts of the Project proceeding are continuation of existing impacts of the Dendrobium Mine. By contrast, impacts of the Project not proceeding would in many cases represent a larger degree of change to the potentially impacted communities, both with regards to negative and positive impacts.

Table 11 summarises the impact assessment should the Project not proceed. Compared to Table 10 above, three potential impacts are not included, as they would not be realised should the Project not proceed:

- Potential impacts to Aboriginal heritage sites affecting Indigenous people.
- The Dendrobium Pit Top Carpark Extension affects amenity and traffic in Mount Kembla.
- Potential for impacts to environmental values and water catchment.

Remaining impacts are currently ongoing and for these the Project not proceeding would generally represent a reduction or loss of existing experiences. Appendix C provides further detail on the assessed dimensions of impact magnitude.

TABLE 11 IMPACT SIGNIFICANCE – SHOULD THE PROJECT NOT PROCEED

Potential Social Impacts	Potentially Affected Stakeholders	Impact Category	Nature	Likelihood	Magnitude	Significance
Reduced contribution to ongoing financial sustainability of mining and steelmaking in the Illawarra, thus potentially impacting population stability and community sustainability	Residents, employees and businesses within the primary and secondary social localities.	Community	Negative	Almost certain	Major	Very High
Reduced opportunity to sustain Mount Kembla's traditional identity as a mining community.	Residents in Mount Kembla within the primary social locality.	Community	Negative	Likely	Minimal	Low
Reduced contribution to community wellbeing and sustainability of the primary and secondary social localities.	Residents and community groups within the primary and secondary social localities.	Community	Negative	Almost certain	Minor	Medium
Loss of approximately 650 operational employment opportunities. *Reduced* employment within the Southern Coalfield economic ecosystem.	Existing and new employees with IMC, contractors and firms within the Southern Coalfield economic ecosystem, as well as their families.	Livelihoods	Negative	Almost certain	Major	Very High
Reduced opportunity to contribute to gender equality and economic reconciliation.	Existing and prospective female and Indigenous employees.	Livelihoods	Negative	Almost certain	Minor	Medium
Reduction in noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility.	Residents near the Dendrobium Pit Top and Kemira Valley Coal Loading Facility within the primary social locality.	Surroundings	Positive	Almost certain	Minor	Medium
Reduction in rail noise affecting residents along the Kemira Valley Rail Line.	Residents in proximity to the Kemira Valley Rail Line within the primary social locality.	Surroundings	Positive	Almost certain	Minor	Medium
Reduction in traffic in Mount Kembla, and on Cordeaux Road, Picton Road and Appin Road.	Residents in proximity to these roads.	Accessibility	Positive	Almost certain	Minor	Medium

5.4 Intergenerational Equity Considerations

Intergenerational equity is considered a guiding principle for an SIA and has been defined as meaning that projects or other interventions "should be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs" (Vanclay, 2003, p. 10).

With regards to the impacts identified for the Project, three in particular display an intergenerational aspect:

- The potential for harm to Aboriginal heritage sites may impact future generations' ability to connect with these sites.
- The potential for impact to water and environmental values may extend beyond the life of the Project into future generations.
- The potential for direct and cascading job losses across the Southern Coalfield economic ecosystem may contribute to increased socio-economic disadvantage for future generations, should the Project not proceed.

Importantly, the intergenerational nature of these impacts also extends back in time, with several stakeholders commenting on the historical aspects of each of these.

Whilst not identified and assessed as a social impact in itself, the greenhouse gas emissions and associated potential climate change effects associated with the Project also display intergenerational aspects. This impact is discussed further in the Air Quality and Greenhouse Gas Assessments for this EIS (Appendix I)(Ramboll, 2022).

The potential for these intergenerational impacts has been captured in the magnitude assessment of these impacts described above. However, it should be noted that intergenerational equity goes beyond the extension of an impact into future generations, and also includes the potential to compromise the ability for the future generations to meet their needs, which is arguably a high threshold. Whilst experiences of these impacts may extend into future generations, it does not mean that their ability to meet their needs would be compromised by them.

5.5 Cumulative and Combined Impacts

The Project, in conjunction with other proposed or approved developments, may contribute to cumulative social impacts. The Scoping Report identified a number of developments where a potential for cumulative social impacts may occur, due to there being a potential overlap between social impacts of the Project and the other developments.

Overall, cumulative impact did not feature significantly in consultation feedback, with most respondents not discussing it at all, suggesting the concern about cumulative impacts is limited.

Table 12 outlines the developments with a potential for interaction with the Project, with respect to social impacts. As most of these developments, as well as the existing Dendrobium Mine, are already in operation it seems unlikely a noticeable change would occur in relation to the Project across most social impacts. With regards to local amenity issues including noise and dust from the Dendrobium Pit Top, Kemira Valley Coal Loading Facility and Kemira Valley Rail Line as well as local traffic impacts, it seems unlikely cumulative effects would eventuate due to the distance between the developments. Potential negative socio-economic impacts such as unsustainable demand for workforce, housing or social infrastructure also are unlikely due to the large population size of the secondary social locality. In summary, the likelihood of cumulative social impacts materially affecting people is considered very low across most dimensions.

The main exception to this is the potential negative and cascading impact of the Project not proceeding. A number of respondents described how they feared this would lead to the potential closure of the PKCT, which would see other exporting mining operations in the region becoming unviable and thus also face early closure. This would also impact the Port Kembla Steelworks albeit likely to a lesser degree. A consequence of this cascading impact would be large-scale loss of employment, potentially affecting the livelihoods and community of multiple people in the Illawarra region.

There was also a cumulative aspect to the potential impacts to water sources within the MSA, discussed by many stakeholders. The potential for cumulative effects of this nature is discussed in the Economic Assessment (EY, 2022) and Surface Water Assessment (ATC Williams, 2022) and Groundwater Assessment (Watershed HydroGeo, 2022).

With regards to traffic, two issues with a cumulative nature are possible. The Wollongong City Council representative mentioned a community concern around the volume of heavy traffic near Port Kembla and on major arterial roads such as Mt Ousley, and the Project would be one contributor to this, although the Project induced change would be negligible. Also, the proposed mountain bike tracks on the Illawarra Escarpment currently being investigated by NSW National Parks and Wildlife Service (NSW National Parks and Wildlife Service, 2021) also elicited concern among community members in the primary social locality, with one aspect being the potential for increased traffic in Mount Kembla.

TABLE 12 POTENTIAL FOR CUMULATIVE IMPACT

Development	Approximate Distance from the Project	Indicative Timing / Overlap	Potential for Cumulative Social Impact
Dendrobium Mine	-	Operational (approval for underground mining until 2030) (Development Consent DA 60-03-2001)	The Project would allow for the continuation of mining operations at the Dendrobium Mine and consequently the early closure of the Dendrobium Mine should it not proceed.
Tahmoor South Coal Project	6 km north-west	Operational (approval for underground mining to 2033) (Development Consent SSD-8445)	**Livelihoods:** potential cumulative loss of employment should the Project not proceed. **Surrounds:** potential cumulative impact to water and environmental values.
Russell Vale Colliery	5 km north-east	Operational (approval for underground mining to 2027) (Project Approval MP 09_01013)	**Livelihoods:** potential cumulative loss of employment should the Project not proceed. **Surrounds:** potential cumulative impact to water and environmental values.
Proposed Modification to Wongawilli Colliery	Directly south	Response to Submissions phase at time of Scoping Report lodgement	**Livelihoods:** potential cumulative loss of employment should the Project not proceed. **Surrounds:** potential cumulative impact to water and environmental values.
Appin Mine and West Cliff	12 km north	Operational (approval for underground mining to 2041) (Project Approval PA 08_0150)	**Livelihoods:** potential cumulative loss of employment should the Project not proceed. **Surrounds:** potential cumulative impact to water and environmental values.
Metropolitan Mine	25 km north-east	Operational (approval for underground mining to 2032) (Project Approval PA 08_0149)	**Livelihoods:** potential cumulative loss of employment should the Project not proceed. **Surrounds:** potential cumulative impact to water and environmental values.
Proposed BlueScope Port Kembla Steelworks Blast Furnace No 6 Reline	22 km south-east	N/A	**Livelihoods:** potential cumulative loss of employment should the Project not proceed. **Accessibility:** Potential for increased traffic near Port Kembla.

With regards to combined social impacts (i.e. the experience of multiple impacts from the same development) (Department of Planning Industry and Environment, 2021d, p. 8), some residents in the primary social locality talked about multiple types of amenity impacts, including noise from workforce traffic and noise from the Dendrobium Pit Top, as well as noise from coal trains and coal dust. However, most respondents also pointed out that one of these was 'worst', and the other did not affect their lives nearly as much. As such, it seems the risk of material combined social impacts affecting residents is present, albeit low.

5.6 Impacts of Mine Closure

The Project would only slightly change the social impacts associated with mine closure compared to the mine closure of the existing Dendrobium Mine, with the main change being delaying the potential mine closure until 2041. There would likely be different social, economic and demographic conditions at the delayed time of mine closure, compared to if closure should the Project not proceed. The conditions at this time are difficult to predict at present, however it seems likely that the current population growth trend in the secondary social locality continues, and if the stated economic diversification aspirations of the area are successful, it seems possible negative socio-economic impacts of mine closure would be reduced.

The anticipated social impacts of mine closure are generally:

- Loss of direct and indirect employment and business opportunities within the Southern Coalfield economic ecosystem. It should be noted it is possible this impact would be less severe should the Project proceed and the economic development and diversification strategies of the region are successful as this would lead to other potential employment opportunities in relevant industries at the time of mine closure.
- Potential impacts to the financial sustainability of mining, steelmaking and the PKCT.
- Loss of community spend through the DCEP and other community investments.
- Reduction in traffic in Mt Kembla and on Cordeaux Road, Picton Road and Appin Road.
- Reduction in operational noise and dust from the Dendrobium Pit Top, Dendrobium Pit Top Carpark Extension, Kemira Valley Coal Loading Facility and Kemira Valley Rail Line.
- Temporary noise, dust, traffic and other amenity impacts associated with decommissioning activities.

In addition, the consultation process revealed a concern within the Mount Kembla community about the future land use of the land that is currently owned by IMC. Stakeholders noted that IMC was a significant landholder in the area, and there was a concern that mine closure would lead to increased residential development in the area.

The detail and extent of these, and other potential social impacts associated with mine closure (should the Project be approved) would be progressively detailed in a Mine Closure Plan which would be reviewed and updated over the life of the Project in consultation with community stakeholders.

Further information on rehabilitation and mine closure planning for the Project is provided in the Main Text of the EIS.

6. SOCIAL IMPACT MITIGATION, ENHANCEMENT AND RESIDUAL IMPACTS

A number of measures to mitigate negative social impacts and enhance benefits have been proposed and are outlined in Table 13 below. These measures have been developed drawing on input provided in the SIA consultation process, on input from the SIA for the previous application and the proposed design and mitigation measures for the Project.

Importantly, and as previously mentioned above, many impacts represent continuation of ongoing operational impacts for which IMC already has existing mitigation measures in place. Some of these mitigation measures have been relatively successful in reducing impacts, with the mitigation measures implemented to address brake squealing from trains often mentioned. In that context, as these mitigation measures form part of the Project design and would continue to be implemented, it is not expected to materially reduce significance ratings for the potential social impacts.

TABLE 13 MITIGATION AND ENHANCEMENT MEASURES

Potential Social Impacts	Evaluated Significance	Existing Mitigation and Enhancement Measures	Proposed Mitigation and Enhancement Measures	Residual Impact Significance		
				Likelihood	Magnitude	Significance
Contribution to ongoing financial sustainability of mining and steelmaking in the Illawarra, thus supporting population stability and community sustainability.	Very High	The Project and associated supply and purchase arrangements contribute to this benefit.	• The Project would allow for continuation of this benefit until 2041.	Almost Certain	Major	Very High
Sustaining Mount Kembla's traditional identity as a mining community.	Low	The DCEP supports projects that contribute to community sustainability on a saleable tonne basis .	• The Project would allow for the continuation of the Dendrobium Mine until 2041. • IMC would maintain the DCEP for the life of the Project, including supporting projects that may maintain the heritage of Mount Kembla Village.	Possible	Minimal	Low
Ongoing contribution to community wellbeing and sustainability of the primary and secondary social localities.	Low	The DCEP supports projects that contribute to community sustainability on a saleable tonne basis.	• IMC will maintain the DCEP for the life of the Project, including supporting projects that contribute to community sustainability within the primary social locality.	Almost certain	Minimal	Low

Potential Social Impacts	Evaluated Significance	Existing Mitigation and Enhancement Measures	Proposed Mitigation and Enhancement Measures	Residual Impact Significance		
				Likelihood	Magnitude	Significance
Continuation of approximately 700 operational employment opportunities (50 additional operational opportunities) and 100 construction employment opportunities. Continuation of employment within the Southern Coalfield economic ecosystem.	Very High	IMC implements existing employment, contracting and training strategies.	• The mitigation measures outlined below would allow for the equitable distribution of this benefit. • IMC would further continue its existing employment, contracting and training strategies for the Project, including continuation of existing apprenticeship and graduate traineeship programs.	Almost Certain	Major	Very High

Potential Social Impacts	Evaluated Significance	Existing Mitigation and Enhancement Measures	Proposed Mitigation and Enhancement Measures	Residual Impact Significance		
				Likelihood	Magnitude	Significance
Further opportunity to contribute to gender equality and economic reconciliation.	Medium	IMC implements South32's existing diversity and inclusion policy and Innovate Reconciliation Action Plan.	• IMC would continue to implement South32's diversity and inclusion policy, and has set a goal target of 10% female representation in the workforce. • IMC would establish strategies to achieve Indigenous participation in the Project's workforce and supply chains, supporting the key objective of improving Indigenous community well-being through greater economic participation. • IMC would also support Indigenous community and economic well-being initiatives that benefit the communities in which the Dendrobium Mine operates. • IMC has set a target of 2.5% Indigenous representation in the workforce. • South32 would review and update its Reconciliation Action Plan, including for IMC. • IMC would also identify and engage with Indigenous businesses during the construction and operational phases of the Project.	Likely	Minor	Medium

Potential impact to Aboriginal heritage sites affecting Indigenous people.	Medium	IMC has an Aboriginal Heritage Management Plan in place for the existing Dendrobium Mine.	• Project design avoids longwall mining beneath identified high archaeological (scientific) significance Aboriginal heritage sites.
			• An Aboriginal Heritage Management Plan would be developed for the Project. Key aspects of the plan include protocols for:
			  ○ Involvements of registered Aboriginal parties in cultural heritage works.
			  ○ Communication between IMC and registered Aboriginal parties.
			  ○ Cultural heritage awareness training for relevant employees and contractors.
				Unlikely	Major	Medium

Potential Social Impacts	Evaluated Significance	Existing Mitigation and Enhancement Measures	Proposed Mitigation and Enhancement Measures	Residual Impact Significance		
				Likelihood	Magnitude	Significance
Potential for noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility similar to existing conditions.	Low	IMC implements the existing Air Quality Management Plan and existing Noise Management Plan	• IMC would review and update the existing Air Quality Management Plan and Noise Management Plan as required for the Project. • IMC would provide access to dust monitoring for concerned households in Mount Kembla and Cordeaux Heights, to provide reassurance about the potential for health issues due to coal dust. • IMC would continue to proactively engage with residents predicted to be impacted by noise and dust. • IMC would implement standard construction noise management techniques and consult with nearby neighbours during the duration of construction activities predicted to experience impacts. • IMC would continue to implement the Dendrobium Mine Driver's Code of Conduct.	Likely	Minimal	Low
The proposed Dendrobium Pit Top Carpark Extension affects amenity and traffic in Mount Kembla	High		• IMC would engage with the Mount Kembla community about Dendrobium Pit Top Carpark Extension needs, design, construction and mitigation measures to reduce potential impacts on amenity. • IMC would consider continuing the bus service to the Dendrobium Pit Top for contractors.	Likely	Minor	Medium
Potential for rail noise affecting residents along the Kemira Valley Rail Line similar to existing conditions.	Low		• IMC will maintain rail noise mitigation initiatives (e.g. installation of modified brake shoes) throughout the life of the Project, review ongoing performance and implement any additional mitigation measures as deemed appropriate in consultation with stakeholders.	Likely	Minimal	Low

Potential Social Impacts	Evaluated Significance	Existing Mitigation and Enhancement Measures	Proposed Mitigation and Enhancement Measures	Residual Impact Significance		
				Likelihood	Magnitude	Significance
Potential for impacts to environmental values and water catchment.	High		• Project design (e.g. setback from dam walls and named watercourses). • IMC has committed to entering into an agreement with the NSW government to offset water quantity and quality impacts during and post-mining for the Project. • Further, IMC would provide clear, accessible and independently sourced information to the local community about management and monitoring of subsidence and groundwater impacts in the lead up to Project execution.	Likely	Moderate	High
Ongoing contribution to traffic in Mount Kembla, and on Cordeaux Road, Picton Road and Appin Road.	Low	IMC implements an existing Traffic Management Plan including a Driver's Code of Conduct and heavy vehicle curfews.	• IMC would, if required, review and update its existing Traffic Management Plan. • IMC would continue to implement the Dendrobium Mine Driver's Code of Conduct and heavy vehicle curfews. • IMC would consider further options to reduce workforce traffic, such as extending its minibus service for contractors and encouraging vehicle pooling.	Likely	Minimal	Low

7. MONITORING FRAMEWORK

Table 14 below outlines the proposed monitoring framework for the Project. It has been developed to align with the proposed framework outlined in the Technical Supplement (Department of Planning Industry and Environment, 2021d, p. 19) and for each impact it describes a desired outcome, a target, the methodology or data source, frequency of monitoring and responsibility.

Findings from the monitoring framework would be shared on the IMC website, through its Annual Reviews, potentially other publications, and to the DCCC as relevant. The monitoring framework would form one part of the IMC's program for adaptive management of impacts, which would also include ongoing implementation of the community engagement program, the community complaints hotline, and additional targeted research into social impacts or opportunities or community perceptions if needed.

Implementation of the management and monitoring program, as well as the extent and degree to which social impacts eventuate would also be subject to regular internal reviews in accordance with IMC's adaptive management framework.

TABLE 14 MONITORING FRAMEWORK

Impact	Desired Outcome	Target	Methodology / Data Source	Frequency	Responsibility
Contribution to ongoing financial sustainability of mining and steelmaking in the Illawarra, thus supporting population stability and community sustainability.	Project supports businesses from the region.	Increasing spend with businesses in the Illawarra.	IMC procurement register	Annually	IMC Procurement Team
Sustaining Mount Kembla's traditional identity as a mining community.	Project contributes to village heritage.	Financial support provided to heritage projects.	IMC community investment register	Annually	IMC Community Team
Ongoing contribution to community wellbeing and sustainability of the primary and secondary social localities.	Project supports initiatives which contribute to community wellbeing and sustainability.	Financial support provided to relevant projects.	IMC community investment register	Annually	IMC Community Team
Continuation of approximately 700 operational employment opportunities (50 additional operational opportunities) and 100 construction employment opportunities. Continuation of employment within the Southern Coalfield economic ecosystem.	Project maximises employment within the Illawarra.	Majority of construction and operational workers reside in the Illawarra.	IMC HR register Construction supplier reports	Annually and at completion of construction	IMC HR and Procurement Teams
Further opportunity to contribute to gender equality and economic reconciliation.	Project maximises female and Indigenous employment.	10% female participation in workforce 2.5% Indigenous participation in workforce.	IMC HR register	Annually	IMC HR Team
Potential impact to Aboriginal heritage sites affecting Indigenous people.	Refer to the ACHA and existing Aboriginal Heritage Management Plan for relevant outcomes, targets and methodologies.				

Impact	Desired Outcome	Target	Methodology / Data Source	Frequency	Responsibility
Potential for noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility similar to existing conditions.	Noise and dust impacts are minimised.	Noise and dust complaints decrease over time.	IMC complaints register	Annually	IMC Community Team
The Dendrobium Pit Top Carpark Extension affects amenity and traffic in Mount Kembla.	The Dendrobium Pit Top Carpark Extension is developed and operated in a way that mitigates impacts on the Mount Kembla community.	Dendrobium Pit Top Carpark Extension solution, mitigates amenity impacts and seeks to address community concerns regarding traffic safety where practical.	Community survey DCCC	Annually during construction	IMC Community Team
Potential for rail noise affecting residents along the Kemira Valley Rail Line similar to existing conditions.	Rail noise impacts are minimised.	Rail noise related complaints decrease over time.	IMC complaints register	Annually	IMC Community Team
Potential for impacts to environmental values and water catchment.	Refer to the Groundwater Assessment, Surface Water Assessment and Environmental Management Strategy for relevant outcomes, targets and methodologies for monitoring water and environmental impacts.				
Ongoing contribution to traffic in Mount Kembla, and on Cordeaux Road, Picton Road and Appin Road.	Traffic impacts are minimised. No Project-related traffic serious incidents occur.	Traffic related complaints decrease over time. No incidents.	IMC complaints register IMC incident register	Annually	IMC Community and Health / Safety Teams

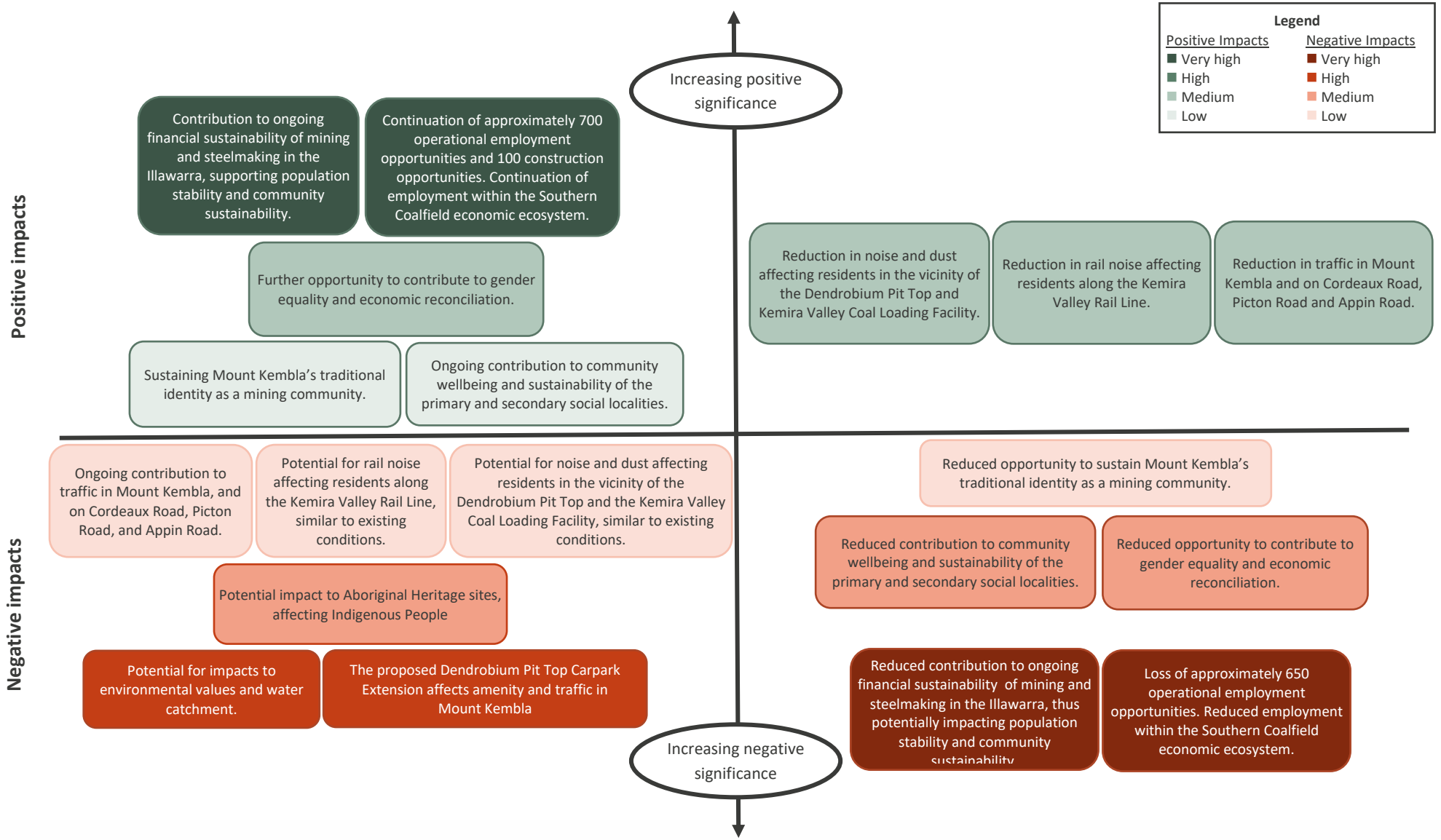
8. CONCLUSION

This SIA has identified, described and assessed eleven social impacts associated with the Project. Five of the social impacts were positive (e.g. benefits) with two classified as very high significance, one classified as medium and two classified as low. Six negative impacts were identified including, two were classified as high, one classified as medium and three classified as low.

In comparison, should the Project not proceed (i.e. not approved), eight social impacts were identified. Five of the social impacts were negative should the Project not proceed with two classified as very high, two classified as medium and one low. The three positive impacts of the project not proceeding were all rated medium significance.

Overall, the social change to the primary and secondary social locality of the Project not proceeding is larger than if the Project was approved and continued operations at the existing Dendrobium Mine. The primary social locality are likely to experience ameliorated local amenity and the secondary social locality may potentially experience cascading loss of jobs and business opportunities if the Project was not approved. Figure 21 illustrates the residual significance of impacts with the Project proceeding, as well as without the Project. Should the Project proceed, a concern in the broader community remains about potential impacts to water quality and quantity, and IMC would continue to transparently address and monitor these potential impacts. In Mount Kembla within the primary social locality concerns about the Dendrobium Pit Top Carpark Extension appear widespread, and engaging with the community around its design, construction and use should be a priority for IMC. A comprehensive management and monitoring framework has been proposed as part of this SIA.

FIGURE 21 SUMMARY OF IMPACT SIGNIFICANCE ASSESSMENT



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APPENDIX A Impact Assessment Tools and Definitions

The following tables and figures are drawn from the Technical Supplement to the SIA Guideline (Department of Planning Industry and Environment, 2021d, pp. 12–13).

FIGURE 22 SOCIAL IMPACT SIGNIFICANCE MATRIX

		Magnitude Level				
		1. Minimal	2. Minor	3. Moderate	4. Major	5. Transformational
Likelihood Level	A. Almost certain	Low	Medium	High	Very High	Very High
	B. Likely	Low	Medium	High	High	Very High
	C. Possible	Low	Medium	Medium	High	High
	D. Unlikely	Low	Low	Medium	Medium	High
	E. Very Unlikely	Low	Low	Low	Medium	Medium

TABLE 15 DEFINING LIKELIHOOD LEVELS OF SOCIAL IMPACT

Likelihood Level	Meaning
Almost certain	definite or almost definitely expected (e.g. has happened on similar projects)
Likely	high probability
Possible	medium probability
Unlikely	low probability
Very unlikely	Improbable or remote probability

TABLE 16 DIMENSIONS OF SOCIAL IMPACT MAGNITUDE

Characteristic		Details needed to enable assessment
Magnitude	Extent	Who specifically is expected to be affected (directly, indirectly and / or cumulatively), including any potentially vulnerable people? Which location(s) and people are affected (e.g. near neighbours, local, regional)?
	Duration	When is the social impact expected to occur? Will it be time-limited (e.g. over particular project phases) or permanent?
	Severity or scale	What is the likely scale or degree of change (e.g. mild, moderate, severe)?
	Sensitivity or importance	How sensitive/vulnerable (or how adaptable/resilient) are affected people to the impact, or (for positive impacts) how important is it to them? This might depend on the value they attach to the matter; whether it is rare/unique or replaceable; the extent to which it is tied to their identity; and their capacity to cope with or adapt to change.
	Level of concern/ interest	How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and / or intensity.

TABLE 17 DEFINING MAGNITUDE LEVELS FOR SOCIAL IMPACTS

Magnitude Level	Meaning and Examples
Transformational	Substantial change experienced in community wellbeing, livelihood, infrastructure, services, health and / or heritage values; permanent displacement or addition of at least 20% of a community.
Major	Substantial deterioration / improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration / improvement to something that people value highly, either lasting for an extensive time or affecting a group of people.
Minor	Mild deterioration / improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	No noticeable change experienced by people in the locality.

TABLE 18 SOCIAL IMPACT CATEGORIES

Impact Category	Description
way of life	including how people live, how they get around, how they work, how they play, and how they interact each day.
community	including composition, cohesion, character, how the community functions and people's sense of place.
accessibility,	including how people access and use infrastructure, services and facilities, whether provided by a public, private or not-for-profit organisation.
culture	both Aboriginal and non-Aboriginal, including shared beliefs, customs, values and stories, and connections to Country, land, waterways, places and buildings.
health and wellbeing	including physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, and changes to public health overall.
surroundings	including ecosystem services such as shade, pollution control, and erosion control, public safety and security, access to and use of the natural and built environment, and aesthetic value and amenity.
livelihoods	including people's capacity to sustain themselves through employment or business, whether they experience personal breach or disadvantage, and the distributive equity of impacts and benefits.
decision-making systems	particularly whether people experience procedural fairness, can make informed decisions, can meaningfully influence decisions, and can access complaint, remedy and grievance mechanisms.

APPENDIX B Consultation Material

INFORMATION SHEET: DENDROBIUM MINE EXTENSION PROJECT – SOCIAL IMPACT ASSESSMENT

Thank you for your interest in the Social Impact Assessment (SIA) for the Dendrobium Mine Extension Project (the Project). South32 is seeking Infrastructure Approval for this project which would involve longwall mining from Area 5 within the Bulli Seam and utilise mostly existing and slightly modified surface facilities. The Project would extract 5.2 million tonnes of run-of-mine coal per annum for steelmaking in Australia and the export market and extend the life of the Dendrobium Mine until 2041.

South32 is preparing an Environmental Impact Statement (EIS) for the Project, including an SIA. The SIA is being developed in accordance with the Department of Planning, Industry, Environment's (DPIE) SIA guidelines which are available at their website: https://www.planning.nsw.gov.au/Policy-and-Legislation/Under-review-and-new-Policy-and-Legislation/Social-Impact-Assessment

The SIA will identify, analyse and evaluate the potential impacts to people that may be associated with the Project. South32 has engaged Square Peg Social Performance Pty Ltd, a specialist social performance consultancy, to conduct the SIA. Reports from the SIA will be published on the DPIE website, and there will be an opportunity for the public to make submissions in relation to these.

Your participation is important

We are seeking your input to the SIA. Your participation may involve contributing to an interview, meeting or focus group. You will be asked questions about your community, the people who live there, your thoughts on the Project, how you think it will affect people, and what you think is most important to manage in relation to the Project.

When it comes to your participation, we would like you to note the following:

1) It is entirely voluntary to participate, and you can choose to withdraw at any time for any reason without any consequence for yourself. Should you wish to withdraw the information you have provided will be deleted and your information will not be used in the SIA.
2) Our conversation may, with your consent, be audio-recorded and transcribed and we will take notes. Notes and transcripts will be stored in our password protected cloud server.
3) Notes and transcripts will be kept confidential by Square Peg Social Performance and business partners working on this SIA and will not be shared with any other organisations. We may engage a transcription provider to transcribe audio recordings.
4) Your information may be cited or referred to in any SIA report or related material for the purpose of the Project only.
5) Your name will not be disclosed in any published reports. The name of the organisation you represent (if applicable) will be mentioned, and statements you make may be attributed to it, if you give us permission to do so.
6) We will send you a summary of our conversation and ask you to review it. You can also request to see the transcript from our conversation (if recorded) and any quotes attributed to you in the final reports.

If you have any questions or concerns in relation to this SIA you are welcome to contact Daniel Holm at Square Peg Social Performance, daniel.holm@square-peg.com.au) or Amanda Silarski at South32 (amanda.silarski@south32.net).

CONSENT FORM: PLEASE COMPLETE APPLICABLE SECTIONS BELOW

I, _____ have read this information sheet and consent form and agree to participate in the SIA for the Project.

_____ _____

Signature Date

Do you consent for the information you provide to be attributed to the organisation you represent, are a member of or work for?

☐ Yes ☐ No ☐ Not Applicable

Name of organisation: _____

Do you consent to the conversation being recorded and transcribed?

☐ Yes ☐ No ☐ Not Applicable

If you would like to review transcripts, quotes or statements from our conversation prior to these being published in an SIA report, please indicate below:

☐ I would like to review the transcripts from our conversation.

☐ I would like to review any quotes or statements emanating from me prior to publication in any report.

☐ I do not need to review transcripts, quotes or statements prior to publication.

POTENTIAL SOCIAL IMPACTS

To support our discussion we have prepared a list of potential social impacts that were identified in the scoping report for the project which we would like to hear your thoughts on. Please note that this is a preliminary list only, and if there are other potential issues or impacts you would like to discuss there will be opportunity to do that as well. Please also note these are *potential* impacts only, and there is no certainty that any will eventuate.

Social impacts are the consequences that people experience when a project brings change (NSW SIA Guidelines)

- Contribution to ongoing viability of mining and steelmaking in the Illawarra region, thus supporting population stability and community sustainability.
- Sustaining Mount Kembla's traditional identity as a mining community.
- Ongoing contribution to community wellbeing and sustainability within Wollongong LGA and the suburbs near the mine and Kemira Valley Rail Line.
- Continuation of the existing Dendrobium Mine workforce of 650 employees and creation of approximately 50 additional operational employment opportunities and 100 construction employment opportunities, as well as supporting the continuation of employment within the Southern Coalfield economic ecosystem.
- Further opportunity to contribute to gender equality and economic reconciliation.
- Potential impact to Aboriginal heritage sites affecting Indigenous peoples.
- Potential impact to environmental values and water catchment.
- Potential for noise and dust impacting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility (similar to current levels).
- Potential for rail noise impacting residents along the Kemira Valley Rail Line (similar to current levels).
- Ongoing contribution to traffic in Mount Kembla, and on Cordeaux Road, Picton Road and Appin Road.

APPENDIX C Dimensions of Impact Magnitude

TABLE 19 SOCIAL IMPACT MAGNITUDE – PROJECT PROCEEDING

Impact	Extent	Duration	Severity or Scale	Intensity or importance	Level of concern / interest	Magnitude
Contribution to ongoing financial sustainability of mining and steelmaking in the Illawarra, thus supporting population stability and community sustainability	Large – affects many stakeholders across the Illawarra	Medium – life of the Project	Small – no noticeable change predicted	Very high –is very important to local economy	High – key concern among some stakeholders	Major
Sustaining Mount Kembla's traditional identity as a mining community.	Small – residents in Mount Kembla	Medium – life of the Project	Small – no noticeable change predicted	Medium – appears important to small portion of community	Medium	Minimal
Ongoing contribution to community wellbeing and sustainability of the primary and secondary social localities.	Small – primarily residents in primary social locality	Medium – life of the Project	Small – no noticeable change predicted	Low – appears of low importance to most stakeholders	Low	Minimal
Continuation of approximately 700 operational employment opportunities (50 additional operational opportunities) and 100 construction employment opportunities. Continuation of employment within the Southern Coalfield economic ecosystem.	Large – affects large number of employees and families	Medium – life of the Project	Small – mostly cont. of existing employment and some additional roles	Very High – Very important to some stakeholders	Very High among many stakeholders	Major
Further opportunity to contribute to gender equality and economic reconciliation.	Small – relatively small number of people affected	Medium – life of the Project	Small	Medium – may positively affect stakeholders with a degree of vulnerability	Medium – not a major concern for most stakeholders	Minor
Potential impact to Aboriginal heritage sites affecting Indigenous people.	Medium – although the number of sites is small, it affects a larger group of people	Long – if impacts occur harm may be permanent and with an inter-generational aspect	Moderate – direct harm may be small but cultural / spiritual loss may be noticeable	Moderate – potential sites are generally not of high scientific significance, although important to Aboriginal people	High among Aboriginal people	Major

Impact	Extent	Duration	Severity or Scale	Intensity or importance	Level of concern / interest	Magnitude
Potential for noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility similar to existing conditions.	Small – residents near the Dendrobium Pit Top and Kemira Valley Coal Loading Facility	Medium – life of the Project	No material change predicted	Medium – important to affected residents	High among some residents	Minimal
The proposed Dendrobium Pit Top Carpark Extension affects amenity and traffic in Mount Kembla.	Small – residents in Mount Kembla	Medium – life of the Project	Mild – minor land clearing and traffic impacts	High – important to residents	High among many residents	Moderate
Potential for rail noise affecting residents along the Kemira Valley Rail Line similar to existing conditions.	Small – some residents near Kemira Valley Rail Line	Medium – life of the Project	No material change predicted	Medium – important to affected residents	High among some residents	Minimal
Potential for impacts to environmental values and water catchment.	High – may impact stakeholders beyond the primary and secondary social localities	Long – impacts may extend beyond the life of the Project	Large – impact may affect access to drinking water as well as a valued environment	High – important to residents within secondary social locality and beyond	High level of concern among many stake-holders	Major
Ongoing contribution to traffic in Mount Kembla, and on Cordeaux Road, Picton Road and Appin Road.	Small - Residents near roads	Medium – life of the Project	No material change predicted	Medium – important to near neighbours	High among some residents	Minimal

TABLE 20 DIMENSIONS OF SOCIAL IMPACT MAGNITUDE – PROJECT NOT PROCEEDING

Impact	Extent	Duration	Severity or Scale	Intensity or importance	Level of concern / interest	Magnitude
Reduced contribution to ongoing financial sustainability of mining and steelmaking in the Illawarra, thus potentially impacting population stability and community sustainability.	Large – affects many stakeholders across the Illawarra	Potentially long-term impact	Potentially large if PKCT, other mines and steelworks are affected	High – appears important to many stakeholders	High – key concern among some stakeholders	Major
Reduced opportunity to sustain Mount Kembla's traditional identity as a mining community.	Small – residents in Mount Kembla	Long – permanent Project-related reduction	Small – limited noticeable change predicted	Medium – appears important to small portion of community	Medium	Minimal
Reduced contribution to community wellbeing and sustainability of the primary and secondary social localities.	Small – primarily residents in primary social locality	Long – permanent Project-related reduction	Small – minor noticeable change	Low – appears of low importance to most stakeholders	Low	Minor
Loss of approximately 650 operational employment opportunities. *Reduced* employment within the Southern Coalfield economic ecosystem.	Large – affects large number of employees and families	Long – permanent Project-related loss	Large – large number of job losses expected	High importance and value to many stakeholders	High among many stakeholders	Major
Reduced opportunity to contribute to gender equality and economic reconciliation.	Small – relatively small number of people affected	Long – permanent Project-related reduction	Small	Medium – may affect some stakeholders with a degree of vulnerability	Medium – not a major concern for most stakeholders	Minor

Impact	Extent	Duration	Severity or Scale	Intensity or importance	Level of concern / interest	Magnitude
Reduction in noise and dust affecting residents in the vicinity of the Dendrobium Pit Top and Kemira Valley Coal Loading Facility.	Small – residents near the Dendrobium Pit Top and Kemira Valley Coal Loading Facility	Long – permanent reduction	Medium – noticeable change for affected stakeholders	Medium – important to affected residents	High among some residents	Minor
Reduction in rail noise affecting residents along the Kemira Valley Rail Line.	Small – some residents near Kemira Valley Rail Line	Long – permanent reduction	Medium – noticeable change for affected stakeholders	Medium – important to affected residents	High among some residents	Minor
Reduction in traffic in Mount Kembla, and on Cordeaux Road, Picton Road and Appin Road.	Small - Residents near roads	Long – permanent Project-related reduction (although background traffic may increase over time)	Medium – noticeable change for affected stakeholders	Medium – important to near neighbours	High among some residents	Minor

DOCUMENT PROPERTIES

Version	Purpose	Issued	Contributors	Approver
1.0	Final Version	4/4/2022	Daniel Holm	Daniel Holm

DECLARATION

The lead author of this SIA Report is Lars Daniel Holm (Daniel). Daniel is the director and principal consultant of Square Peg Social Performance. He holds a master's degree in political science from Uppsala University in Sweden and has approximately 15 years of professional experience in the field of social impact assessment, social performance, social policy and communications, and is a member of the International Association of Impact Assessment. Daniel has contributed to or led more than fifteen SIA's or other projects studying community and stakeholder experiences of projects or policy interventions. He is currently undertaking PhD studies at the University of Queensland.

In submitting this SIA Report the following declarations are made:

- This SIA Report contains all information deemed relevant for the purposes of meeting the requirements set out in the Social Impact Assessment Guideline for State Significant Projects (Department of Planning Industry and Environment, 2021c).
- None of the information presented herein is to the knowledge of the lead author false or misleading.
- The lead author is aware of and has endeavoured to abide by the ethical principles and considerations outlined in the National Statement on Ethical Conduct in Human Research (National Health and Medical Research Council, 2018) and the Principles for ethical research involving humans: ethical professional practice in impact assessment Part I (Vanclay et al., 2013).
- The qualifications, experience and professional memberships of the lead author are set out in the paragraph above.

Signed and dated:

4/4/2022

Lars Daniel Holm