

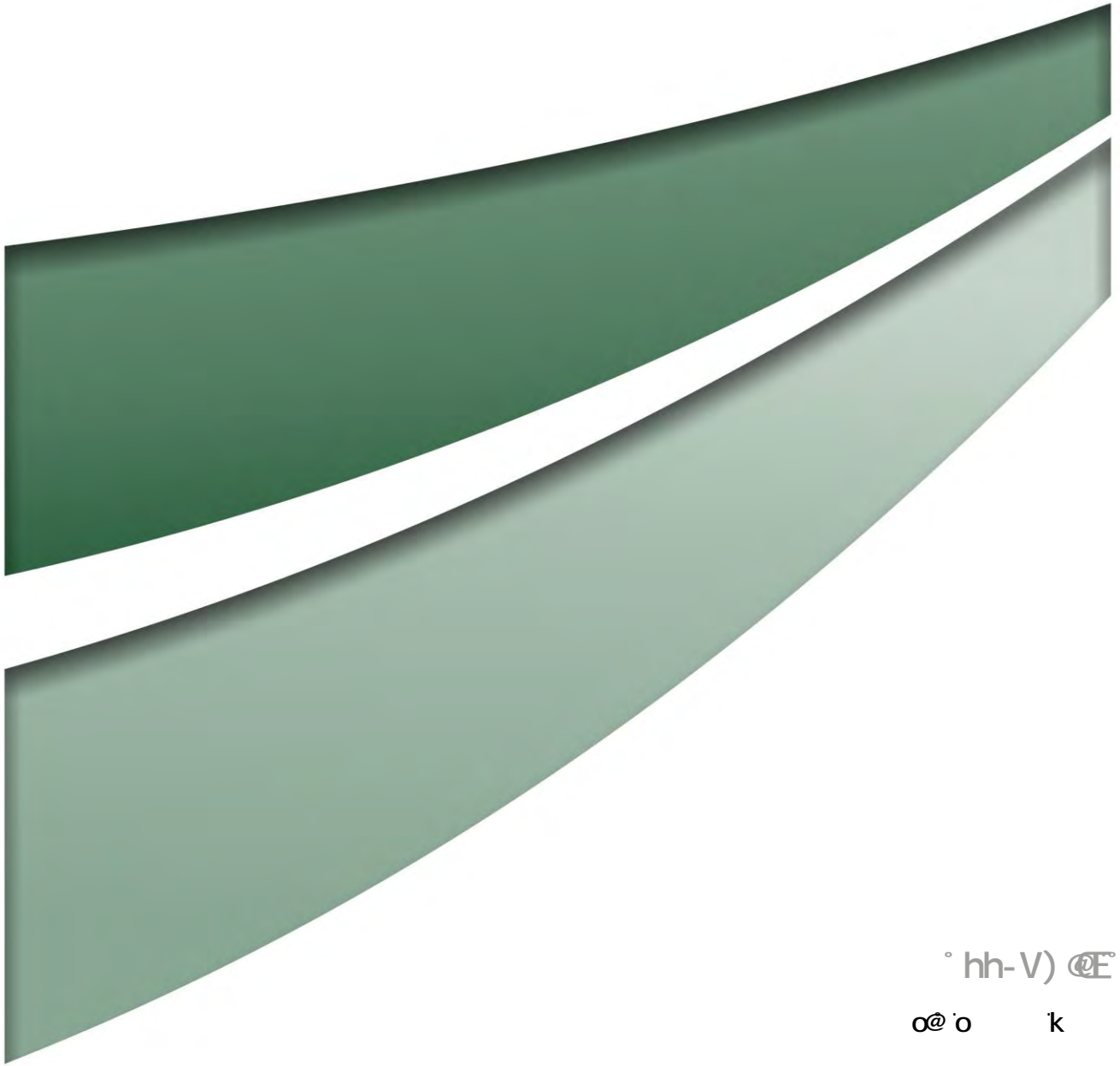


CHAIN VALLEY COLLIERY

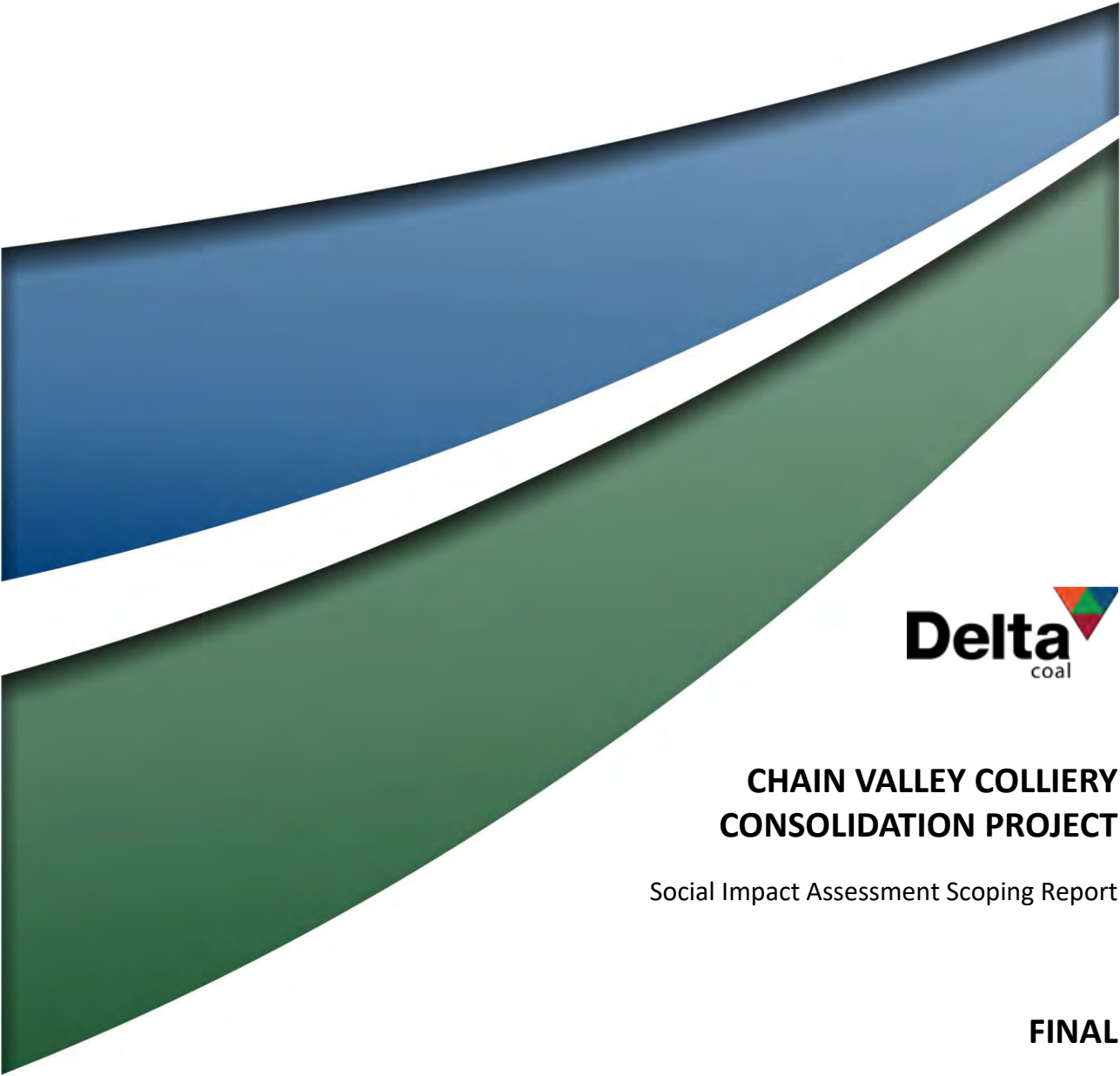
Consolidation Project

SCOPING REPORT

MARCH 2021



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**CHAIN VALLEY COLLIERY
CONSOLIDATION PROJECT**

Social Impact Assessment Scoping Report

FINAL

March 2021



CHAIN VALLEY COLLIERY CONSOLIDATION PROJECT

Social Impact Assessment Scoping Report

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
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Document Status

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	Name	Date	Name	Date
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Appendix A	Social Baseline Profile
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Abbreviations

Term	Definition
ABS	Australian Bureau of Statistics
ASR	Age Standardised Rate
CCC	Community Consultative Committee
CVC	Chain Valley Colliery
DA	Development Application
DPE	NSW Department of Planning and Environment (now DPIE)
DPIE	NSW Department of Planning, Infrastructure and Environment (previously DPE)
EL	Exploration lease
EP&A Act	Environmental Planning and Assessment Act 1979
ha	Hectare
IAIA	International Association for Impact Assessment
km	Kilometres
LGA	Local Government Area
LHD	Local Health District
MC	Mannering Colliery
ML	Mining lease
Mt	Million tonnes
Mtpa	Million tonnes per annum
NSW	New South Wales
SIA	Social Impact Assessment
SIA Guidelines	Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development (DPE 2017)
SSC	State Suburb Code
SSD	State Significant Development
State	New South Wales (unless otherwise stated)
tpa	Tonnes per annum
SCA	State Conservation Area
PEA	Preliminary Environmental Assessment
EIS	Environmental Impact Statement
RAP	Registered Aboriginal Party
Umwelt	Umwelt (Australia) Pty Limited
LALC	Local Aboriginal Land Council
DFID	Department for International Development

1.0 Introduction

This report documents the outcomes of the scoping phase of the Social Impact Assessment (SIA) undertaken by Umwelt (Australia) Pty Ltd (Umwelt) on behalf of Great Southern Energy Pty Ltd (trading as Delta Coal), and which forms part of the Scoping Report for the Chain Valley Colliery Consolidation Project (the Project).

The Project is a State significant development (SSD) and requires a SIA to be prepared to satisfy relevant NSW Government guidelines and assessment standards including, but not limited to, the Department of Planning, Industry and Environment's (DPIE) *Social Impact Assessment Guidelines for State significant mining, petroleum production and extractive industry development* (September 2017). This guideline is in the process of revision and update by DPIE and is to be applied to all SSD projects. The current social assessment incorporates any revisions associated with the revised draft guideline (October 2020).

1.1 Project Overview

Chain Valley Colliery (CVC) and Mannering Colliery (MC) are underground coal mines located on the southern shore of Lake Macquarie, New South Wales (NSW). The operations are located approximately 60 kilometres (km) south of Newcastle, within the Lake Macquarie and Central Coast local government areas (LGAs) (**Figure 1.1**). Underground mining at both CVC and MC commenced in the 1960s.

Both MC and CVC operations are owned and operated by Delta Coal. In April 2019, Delta Coal acquired Lake Coal's CVC and MC assets. Existing operations are undertaken in accordance with CVC's Development Consent SSD-5465 (as modified), and MC's Major Project Approval MP 06_0311 (as modified).

The Project provides for the consolidation of the approved mining operations at CVC and MC (including the mining of the Northern Mining Area currently under assessment as part of the CVC Mod 4 application) under a single development consent. The Project would also provide for:

- underground mining within the Eastern Mining Area (refer to **Figure 1.2**).
- the extension of the life of mine (LOM) to 2029; and
- improved alignment of the approvals with mining leases held by or subleased by Delta Coal.

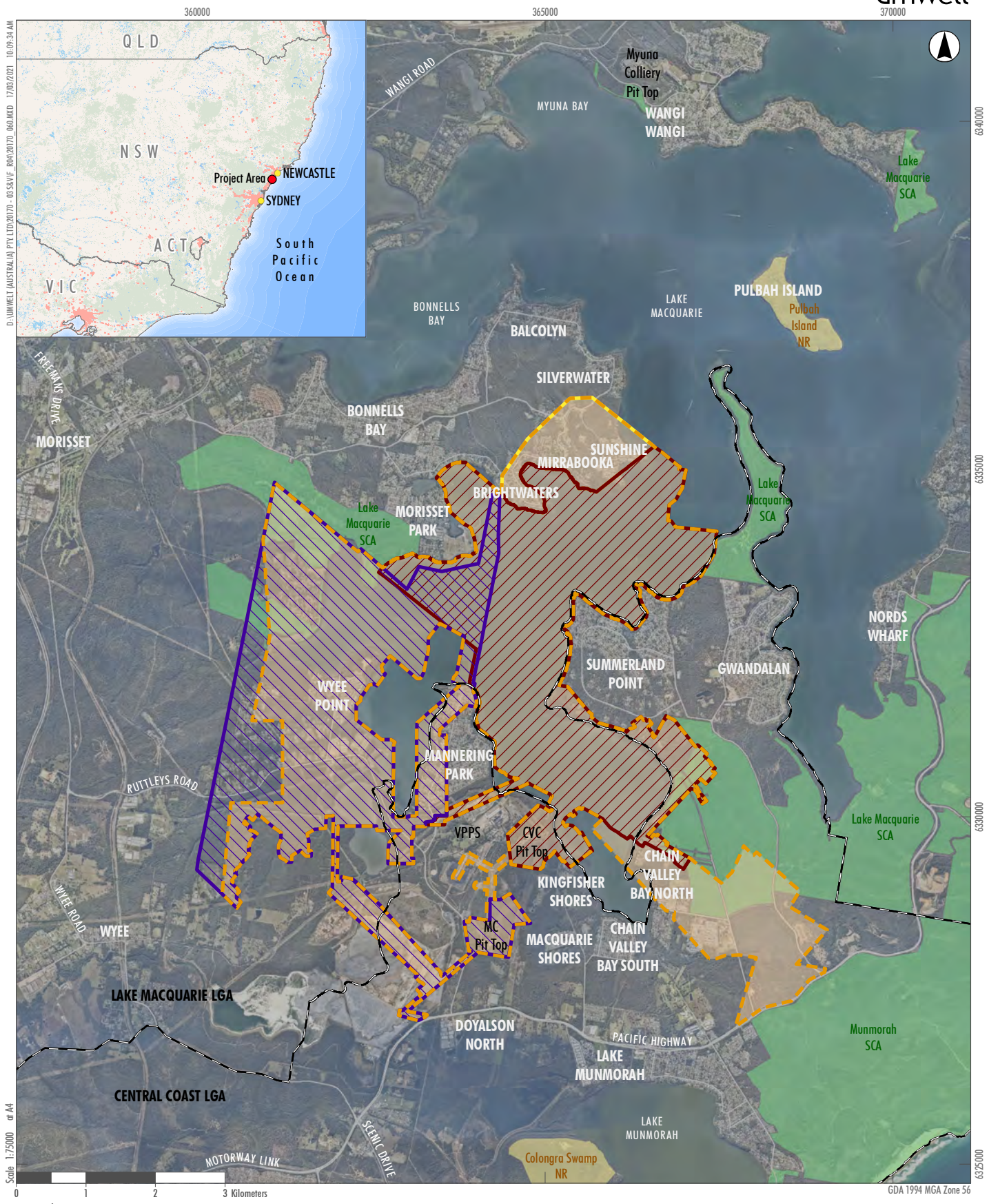
All mining operations would be undertaken within existing mining lease areas.

All mining under land areas will be limited to bord and pillar mining methods designed to be long term stable with negligible (maximum 20mm) subsidence impacts. Secondary extraction would be limited to the approved CVC and MC mining areas under Lake Macquarie including within some areas of the currently approved MC mining area (below Lake Macquarie), which are not presently approved for secondary extraction.

Delta Coal would retain the ability to bring coal to the surface at either the CVC Pit Top or MC Pit Top with the overall production capped at 2.8 Mtpa ROM Coal (a reduction from the currently approved combined production cap of 3.2Mtpa). No changes are proposed to approved coal transport arrangements other than the inclusion of an option to transfer coal from CVC to VPPS via conveyor and the ability to use trucks for coal haulage to VPPS on a temporary basis in emergencies from MC to VPPS via an internal haul road.

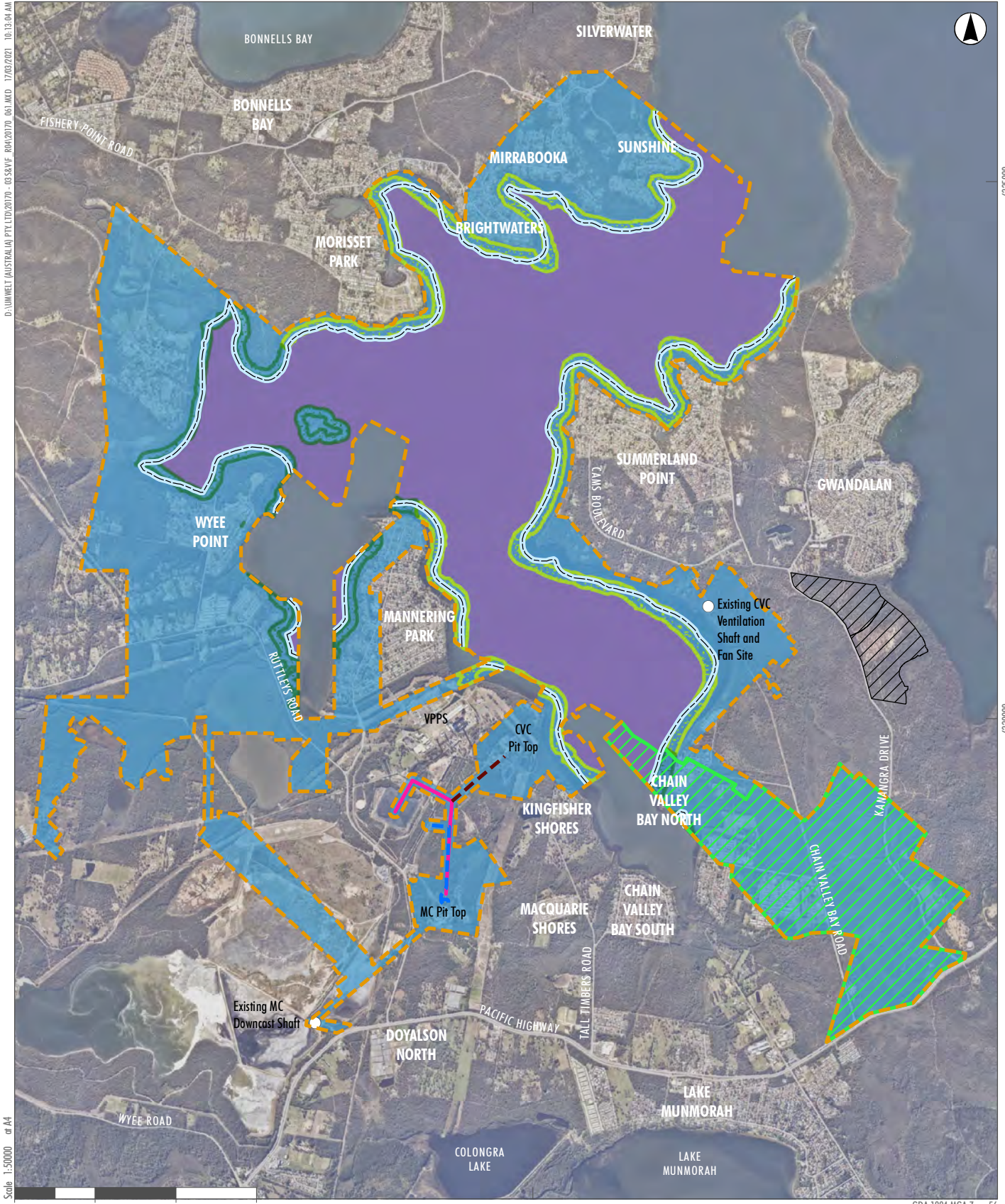
The Consolidation Project would extend the life of mining operations at CVC and MC by two years to the end of 2029. No change is proposed to the operational workforce levels across the two operations of approximately 390 employees.

Table 1.1 outlines the key aspects of the Project.



- Legend**
- Project Area
 - Modification 4 - Northern Mining Area
 - CVC Consent Boundary (SSD-5465)
 - MC Project Approval Boundary (06_0311)
 - Nature Reserve (NR)
 - State Conservation Area (SCA)
 - Local Government Area (LGA)

FIGURE 1.1
Locality and Site Context



- Scale 1:50000 at A4
- 0 750 1,500 2,250 Metres
- GDA 1994 MGA Zone 56
- Legend**
- Project Area
 - Proposed Eastern Mining Area
 - Seagrass Protection Barrier
 - Indicative Seagrass Protection Barrier
 - High Water Mark Subsidence Barrier
 - Zone A - Maximum 20 mm subsidence
 - Zone B - Maximum 780 mm subsidence
 - Existing VPPS Overland Conveyor
 - Proposed CVC Conveyor Connection
 - Proposed Mannering Emergency Haulage Route to Construction Road
 - Cragan Bay Development Area

FIGURE 1.2
Consolidation Project Overview

Table 1.1 Overview of Existing Operations and Consolidation Project

Project Component	CVC Approved Operations (assumes CVC MOD 4 approved)	MC Approved operations	Consolidation Project
Project Area	Refer to Figure 2.1 of the Main Scoping Report	Refer to Figure 2.2 of the Main Scoping Report	Consolidated Project boundary to align with adjusted MC mining tenement boundary and the inclusion of the Eastern Mining Area - refer to Figure 1.2
Mine life	Mining operations are approved until 31 December 2027	Mining operations are approved until 31 December 2027	Mining operations approved to 31 December 2029
Annual Coal Extraction	Extraction of up to 2.1 Mtpa of ROM coal	Extraction of up to 1.1 Mtpa of ROM coal	Extraction of up to 2.8 Mtpa total from all mining areas
Annual Surface Handling	Up to 1.5 Mtpa ROM coal (all production at CVC beyond the 1.5 Mtpa ROM coal surface cap to be sent to VPPS via MC).	Up to 2.1 Mtpa ROM coal	Combined handling of up to 2.8 Mtpa ROM coal from CVC or MC with the ability to handle 2.8 Mtpa ROM coal at either facility
Resource	Fassifern Seam	Fassifern and Great Northern seams	Fassifern and Great Northern Seams
Mining Method	Continuous miner (bord and pillar and pillar extraction) and miniwall mining methods Pillar extraction and miniwall mining only under lake and subject to 20 mm vertical subsidence limits on sea grass beds and foreshore areas	First workings only, including use of a herringbone bord and pillar configuration	First workings only under land areas Pillar extraction and miniwall mining limited to areas under Lake Macquarie and subject to 20 mm vertical subsidence limits on sea grass beds and foreshore areas
Underground Mining Areas	Refer to Figure 2.1 of the Main Scoping Report, consistent with Appendix 2 CVC Consent Note – CVC MOD 4 proposes to amend the CVC consent boundary to include the Northern Mining Area	Refer to Figure 2.2 of the Main Scoping Report, consistent with Appendix 2 of MC Project Approval	Consolidation of MC and CVC approved Mining Areas Extension of mining into the Great Northern Seam to the east of previous CVC mining areas – within the Eastern Mining Area – Refer to Figure 1.2

Project Component	CVC Approved Operations (assumes CVC MOD 4 approved)	MC Approved operations	Consolidation Project
Subsidence Commitments	Zone A – Maximum of 20 mm (HWMSB and SPB) Zone B - Maximum 780 mm Chain Valley Bay Mining Area multi-seam feasibility	Maximum of 20 mm subsidence	Zone A – Maximum of 20 mm subsidence Zone B – Maximum 780 mm Refer to Figure 1.2
Mine Infrastructure	Personnel-and-material drifts, ROM coal conveyor drift to MC Upcast and downcast ventilation shaft and fans Coal handling facilities for breaking, crushing, sizing and storing product coal Administration and workshop facilities Water management infrastructure	Coal crushing facility upcast and downcast ventilation shaft and fans Coal handling facilities for breaking, crushing, sizing and storing product coal Overland conveyor (from MC Pit Top to VPPS) Underground link road to CVC Administration and workshop facilities Water management infrastructure	Continued use of existing MC infrastructure Continued use of CVC infrastructure Minor upgrades to surface facilities proposed to support extended LOM and the increase to ROM throughput (including water management structures, surface to seam boreholes within the pit top area and use of temporary stockpile areas during emergencies). Construction of conveyor from CVC to VPPS. Coal handling infrastructure recently demolished at CVC will also be replaced as required. Infrastructure associated with emergency truck haulage to VPPS via internal roads and Construction Road, including road upgrades
Coal Processing	Screening and ROM coal crushing, no coal rejects are generated	Screening and ROM coal crushing, no coal rejects are generated Surface Rotary Breaker to be decommissioned	Screening and ROM coal crushing, no coal rejects are generated ROM coal to be brought to the surface at CVC or MC
Product Coal Transportation	Product coal from CVC Pit Top to VPPS via truck on private roads only (up to 1.5Mtpa)	N/A	Up to 2.8 Mtpa product coal transport from CVC to VPPS via conveyor (except during emergencies and until construction of conveyor when haulage will be via private road)

Project Component	CVC Approved Operations (assumes CVC MOD 4 approved)	MC Approved operations	Consolidation Project
	Transport product coal from approved CVC mining area to MC via the existing underground linkage up to 2.1 Mtpa, for subsequent delivery to VPPS via conveyor	Up to 2.1 Mtpa ROM coal via overland conveyor to VPPS	Up to 2.8 Mtpa product coal transport from MC to VPPS via conveyor (except during emergencies when haulage will be via private road)
	A maximum of 660,000 tpa of product coal from CVC Pit Top on public roads to the Port of Newcastle for export		No change
	A maximum of 180,000 tpa of product coal from CVC Pit Top on public roads to domestic customers (other than VPPS)		No change
Hours of Operation	24 hours per day, 7 days per week	24 hours per day, 7 days per week	No change
Site Access	Existing road access via Construction Road off Ruttleys Road	Existing road access directly from Ruttleys Road	No change to existing arrangements
Rehabilitation	Surface infrastructure will be decommissioned and the site rehabilitated following mine closure	Surface infrastructure will be decommissioned and the site rehabilitated following mine closure	No change
Workforce (Operations)	Approximately 220 FTE personnel (including approximately 40 full time equivalent contractors) Note – CVC MOD 4 currently contemplates up to 330 FTE personnel at CVC within an overall CVC/MC workforce of approximately 390.	170 FTE personnel	No change to overall Approximately 390 FTE personnel across the two operations
Workforce (Construction)	N/A	N/A	Managed within approved operational workforce limits
Water Discharge Requirements	Licensed daily discharge of up to 12.161 ML/day (EPL)	Licensed daily discharge of up to 4 ML/day (EPL)	No change

Project Component	CVC Approved Operations (assumes CVC MOD 4 approved)	MC Approved operations	Consolidation Project
Water Supply and Demand	Potable water utilised for surface facilities and underground operations (160 ML per annum) supplied by Central Coast Council from potable water supply mains	Potable water utilised for surface facilities and underground operations supplied by Central Coast Council via metered pipeline	Potable water utilised for surface facilities and underground operations supplied by Central Coast Council Additional minor water management infrastructure including pipeline linkages (potable) between VPPS and pit top facilities along existing infrastructure easements
Exploration	Exploration activities subject to Exploration Activities and Minor Surface Infrastructure Management Plan	Exploration activities subject to Exploration Activities and Minor Surface Infrastructure Management Plan	No change

2.0 Methodology

2.1 Assessment Requirements

A ‘best practice’ approach to SIA has been adopted during the scoping phase of the Project, in addressing NSW SIA Guideline requirements.

The scoping phase (Phase 1) of this SIA has been conducted in accordance with the draft SIA Guideline (DPIE 2020), and as such has involved key phases of work to inform Project planning and design (refer to **Figure 2.1**), including:

- Profiling – defining the baseline social context in which the Project is based.
- Issues scoping – preliminary identification of social impacts/issues relevant to the Project, to determine the level of assessment required for the EIS, proportionate to the scale of the Project and the potential impacts of importance to the community.

Commissioning of the SIA phases early in the Project, preliminary engagement with key stakeholders and regular meetings with the Project team, will afford opportunities to effectively integrate SIA outcomes with the broader EIS.

The SIA is being led and conducted by Umwelt’s qualified and experienced social team.

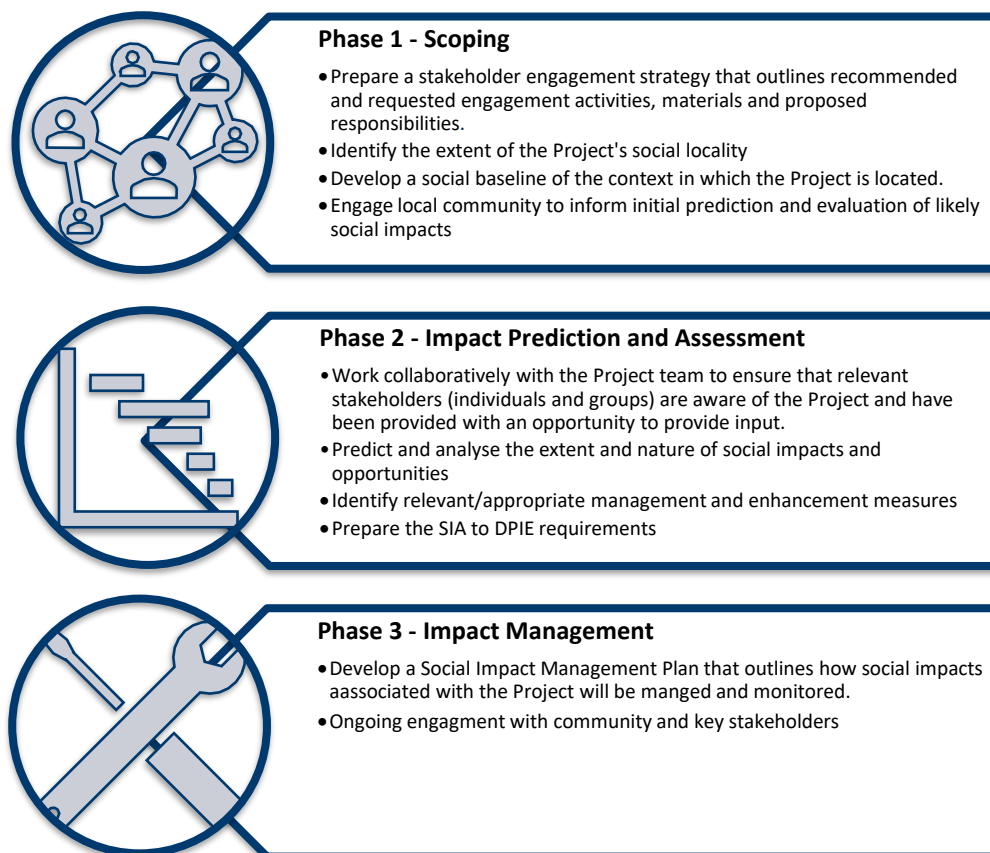


Figure 2.1 SIA Program Phases

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As outlined in **Figure 2.1**, and consistent with guideline requirements, the SIA process involves three key phases. Engagement is a key component affording input from near neighbours and local and regional stakeholders across the SIA program, but has commenced early to inform social impact prediction up front in the project scoping phase.

The broader SIA will also include a comprehensive assessment and prediction of impacts and the development of relevant strategies to mitigate any negative social impacts and enhance positive impacts associated with the Project. Consideration of how social impacts will be monitored will also be included in the final SIA.

Social impacts can involve changes to people's:



As is the case with any type of change, some individuals or groups within the community may benefit, while others may experience negative impacts. If negative impacts are predicted, it is the role of the SIA to determine how such impacts may be addressed effectively to reduce the degree of social disruption to those affected. If positive impacts are predicted, the aim of the SIA is to maximise these opportunities and identify how they might be further enhanced.

Monitoring and evaluation are also a key component of the SIA process and will identify any unanticipated impacts that may arise in the future, should the project proceed.

2.2 Preliminary Stakeholder Identification

SIA involves the cooperation and coordination of a number of 'social partners' or 'stakeholders'. As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- live nearby the resource or Project
- have an interest in the proposed action or change
- use or value a resource
- are interested in the use of the resource
- are forced to relocate because of the Project.

As part of the SIA program for the Project, various stakeholders have been identified and involved in the program to date (refer to **Figure 2.2**). The process of identifying relevant stakeholders was informed by review of a range of material including recent assessment processes for the CVC and MC operations, stakeholders identified for other projects (including the Wallarah No. 2 Project) and existing stakeholders associated with the CVC, MC and VPPS operations.

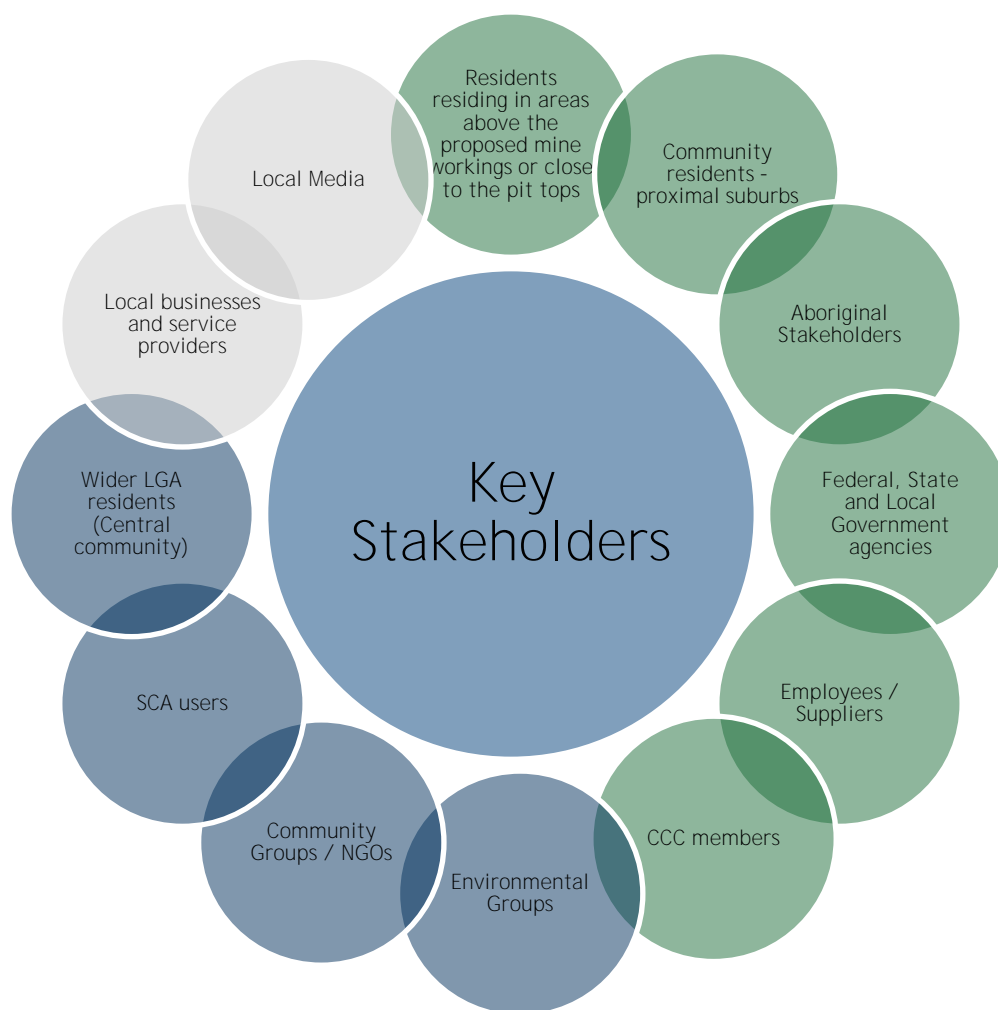


Figure 2.2 Stakeholder Groups

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Key stakeholder groups relevant to the Project are outlined in **Table 2.1**.

Stakeholders listed in **bold** were directly invited to be involved in consultation during the Scoping Phase. Subsequent phases of the SIA will seek broader involvement across the stakeholder groupings noted and will include wider community involvement as part of the broader EIS and SIA assessment process.

Table 2.1 Preliminary Identification of Project Stakeholders

Stakeholder Category	Stakeholders
Residents residing in the areas above the proposed mine workings	<p>Residents and landholders located within the Eastern Mining Area and potentially directly impacted (undermined) by the Project including:</p> <ul style="list-style-type: none"> • Selected Chain Valley Bay area (approximately 140 properties) • Valhalla Lifestyle Community • Teraglin Lakeshore Lifestyle Village
Residents residing in proximity to the pit tops	<p>Residents in closest proximity to the CVC and MC Pit Tops including:</p> <ul style="list-style-type: none"> • Macquarie Shores Home Village and Kingfisher Shores
Community residents – proximal suburbs	<p>Residents and landholders in communities surrounding the Project Area including Mannering Park, Chain Valley Bay, Kingfisher Shores, Doyalson North, Lake Munmorah, Summerland Point, Gwandalan and Catherine Hill Bay (SSCs)</p> <p>Residents and management of the Lakeside Lifestyle Community</p>
Local, State and Federal Government Agencies	<p>Department of Planning, Industry and Environment (DPIE)</p> <p>Central Coast Council</p> <p>Lake Macquarie Council</p> <p>Department of Agriculture, Water and Environment (DAWE)</p> <p>Resource Regulator</p> <p>Environment Protection Authority (EPA)</p> <p>DPIE Water</p> <p>Mining, Exploration and Geosciences (MEG)</p> <p>Natural Resources Access Regulator (NRAR)</p> <p>Biodiversity Conservation Division (BCD)</p> <p>Heritage NSW</p> <p>National Parks and Wildlife Services (NPWS)</p> <p>DPI-Fisheries</p> <p>Subsidence Advisory NSW (SA-NSW)</p> <p>Transport for NSW (TfNSW)</p>
Aboriginal stakeholders	<p>Darkinjung Local Aboriginal Land Council</p> <p>NSW Aboriginal Land Council</p> <p>Traditional Owners (TOs)</p> <p>Registered Aboriginal Parties (RAPs)</p>
Internal stakeholders	<p>Community Consultative Committee (CCC)</p> <p>Delta Coal employees, contractors, and suppliers</p>
Environmental Groups	<p>National Parks Association of NSW (Central Coast branch)</p> <p>Hunter Community Environment Centre</p> <p>Hunter Central Coast Coal Ash Community Alliance</p> <p>Community Environment Network (Landcare Wyong, Lake Macquarie and Gosford)</p>

Stakeholder Category	Stakeholders
Local community groups/ non-government organisations (NGOS)	Mannering Park Amateur Sailing Club Chain Valley Bay Progress Association Chain Valley Bay Hall Committee Country Womens Association First Mannering Park Scouts Hall Mannering Park Rural Fire Service Mannering Park Tidy Towns Group Manno Mens Shed Catherine Hill Bay Surf Life Saving Club Lake Munmorah Progress Association Summerland Point Progress Association Mannering Park Precinct Committee Mannering Park Progress Catherine Hill Bay Progress Association Gwandalan and Summerland Point Peninsula Improvement Group (GASPPIG)
Munmorah State Conservation Area (SCA) users	Community members who use or value the Munmorah SCA
Wider community	Community members in Central Coast and Lake Macquarie LGAs
Local and Regional businesses and services	Businesses and service providers in the LGAs including: Accommodation and Housing Education Health Tourism Community services Local Businesses
Local media	Central Coast Community News Central Coast Express Advocate Newcastle Herald COAST FM 96.3 ABC Radio Central Coast ABC Radio Newcastle

2.3 Community Consultation

Community engagement has been undertaken early as part of the scoping phase of the SIA, to inform Project design and development, to identify perceived issues/impacts, and to build stakeholder relationships with near neighbours and key stakeholders in proximity to the Project Area.

A range of mechanisms have been utilised to obtain the input of various stakeholder groups and are defined in **Table 2.2**.

Table 2.2 Engagement Mechanisms – Phase 1 (Scoping)

Mechanisms	Description	Targeted Stakeholder Group
Project Briefings	<p>Targeted meetings and briefings with key local, state and Commonwealth government agencies as required, including:</p> <ul style="list-style-type: none"> • DPIE • Central Coast Council • Lake Macquarie Council • DAWE 	<p>Local Government State Government Commonwealth Government</p>
Key stakeholder meetings	<p>Meetings and project briefings with key stakeholder groups including:</p> <ul style="list-style-type: none"> • CCC members • Darkinjung LALC • RAPs 	<p>CCC Aboriginal Stakeholders</p>
Project Information Sheet (CIS) (No.1) (November 2020)	<p>Development and distribution of a Project information sheet detailing the Project and providing contact details for the project team.</p> <p><i>Delivered to mailboxes in the Gwandalan, Lake Munmorah, Mannering Park, Summerland Point, Chain Valley Bay, Doyalson North, Kingfisher Shores, Brightwaters, Mirrabooka, and Sunshine suburbs.</i></p>	<p>Wider community (10,640 households)</p>
Interviews/ personal meetings	<p>Individual meetings, held via telephone, utilising a semi-structured interview guide.</p> <p>Participants were invited to be involved in interviews through the following:</p> <ul style="list-style-type: none"> • Information Sheet requesting that residents contact the Project team if they had any questions or would like to be involved in the SIA engagement program • Proactive calls to key stakeholders (including 7 CCC members and 2 Community Groups/NGOs) • Email invitation (including 10 Community Groups/ NGOs) 	<p>CCC members Local community groups / NGOs Residents residing in areas above the proposed mine workings or close to the pit tops</p>
Drop-in Community Information Session	<p>To provide stakeholders with an overview of the Project and to gather community feedback related to current and future mitigation/enhancement strategies.</p> <p>Participants were invited to attend the session via:</p> <ul style="list-style-type: none"> • Letter invitation delivered to all households in Chain Valley Bay, Kingfisher Shores and Macquarie Shore Home Village (approximately 1600 households) • Post on Chain Valley Bay <i>What's Up</i> and Kingfisher Shores Facebook pages <p>The session included a poster board display of current Project information.</p>	<p>Residents residing in areas above the proposed mine workings or close to the pit tops Community residents – proximal suburbs</p>

Mechanisms	Description	Targeted Stakeholder Group
Surveys	A survey instrument was used to capture community feedback on the Project for incorporation into the SIA Scoping report. The Survey was offered to participants to complete at the Community Information Session. In addition, informal interviews were also completed at the information session for those participants who did not want to complete the survey themselves.	Residents residing in areas above the proposed mine workings or close to the pit tops Community residents – proximal suburbs Local community groups/NGOs

Table 2.3 provides a summary of the number of stakeholders engaged during the scoping phase (November – December 2020).

Table 2.3 Consultation Statistics – Scoping Phase

Stakeholder Group	No. contacted via telephone call, email or letter invitation	No. consultations (meetings undertaken/surveys completed)
Residents residing in areas above the proposed mine workings	140 households	1
Residents in proximity to the pit tops (Macquarie Shores Home Village and Kingfisher Shores)	292 households	4
Community residents – proximal suburbs	Approximately 1170 households	7
CCC members	7	7
Local community groups/NGOs	10	2
TOTAL	1619	21

Quantitative and qualitative information collected through the engagement process has been analysed to inform the preliminary analysis of social impacts associated with the Project and is outlined in **Section 3.7**.

The next phases of the EIS and SIA programs will involve further engagement with these groups and other key stakeholders relevant to the Project as outlined in **Section 2.4**.

2.4 Phase 2 SIA Engagement Plan

The Phase 2 SIA will utilise a combination of social research methodologies to gather further information and undertake further key stakeholder and broader community engagement to inform evaluation and prediction of social impacts relating to the Project.

A range of mechanisms have been selected to facilitate and afford meaningful participation. The implementation of these mechanisms will be subject to NSW COVID restrictions at the time, with alternative mechanisms required if personal contact restrictions are in place at the time of proposed engagement.

The proposed work engagement plan for Phase 2 of the SIA is outlined in **Table 2.4**.

Table 2.4 Engagement Mechanism – Phase 2

Mechanism	Description	Target Stakeholder Group/s	Materials
Project Information Sheet No.2	Distribution of a second project related community information sheet to provide an update on the Project including summary of specialist assessment outcomes and contact details for the project team.	Wider community - to be delivered to mailboxes in the Gwandalan, Lake Munmorah, Mannering Park, Summerland Point, Chain Valley Bay, Doyalson North, Kingfisher Shores, Brightwaters, Mirrabooka, Catherine Hill Bay and Sunshine suburbs. Residents residing in areas above the proposed mine workings and close to the pit tops Community residents – proximal suburbs Community Groups/NGOs	Project Information Sheet No. 2
Telephone calls/ door knocking/ letter invitation	Proactive contact to those stakeholders to invite them to participate in an interview for the SIA Scheduling of personal interviews (face-to-face or telephone)	Residents residing in areas above the proposed mine workings and close to the pit tops. Community groups/NGOs Community members who were interviewed in the first round of engagement or have showed interest in the Project	Project Information Sheet No.2 Interview guide Q&A sheet
Personal interviews	Personal interviews used to identify Project issues and to inform Project mitigation and enhancement.	Residents residing in areas above the proposed mine workings and close to the pit tops Community residents – proximal suburbs	Interview guide CIS No.2 Q&A sheet
Project briefings	Informal and formal briefings to key government agencies as well as any key community representative groups, local business groups or political stakeholders that express an interest during the scope phase, to outline the Project and the objectives of engagement.	Employees Aboriginal stakeholders Environmental groups	Interview guide CIS No. 2 Briefing materials
Community Information Session	Informal interactive forum to communicate the progress of the Project and provide assessment outcomes. Provide an opportunity for community members to ask questions and provide feedback on the Project	Residents residing in areas above the proposed mine workings and close to the pit tops Community residents – proximal suburbs Community Groups/NGOs	Poster board displays CIS No. 2 Survey/ Interview guide

Mechanism	Description	Target Stakeholder Group/s	Materials
Employee and Supplier Survey	<p>Survey distributed to Delta Coal employees and suppliers that aims to:</p> <ul style="list-style-type: none"> demonstrate the contribution of operational project workforces and associated supplier value chains demonstrate the socio-economic contribution of operational workforces to local communities and the broader region and state due to operational presence in the area 	Employers and suppliers	TRC survey
Random Community Survey	Random community surveys to obtain the views of the broader regional community in relation to the Project.	Wider community	Survey
Website update	Regular updates to the Delta Coal website	Wider community	CIS NO. 2 Q&A sheet

3.0 Social Baseline Profile

A baseline social profile gathers knowledge from both primary and secondary data sources to increase understanding of the existing social environment in which a project is proposed.

The revised SIA Guideline (DPIE 2020) also outlines what a social baseline study should include, namely:

- an understanding of the project's social locality
- initial analysis of the defining characteristics of the communities within the project's social locality, including any vulnerable groups.

Profiling provides a comprehensive summary of the key characteristics of the people of a community or Project area and is concerned with developing a detailed understanding of the social and economic context of potentially affected communities. The revised SIA Guideline emphasises that the social baseline should be tailored to the specific project context and include meaningful data to inform the SIA. The baseline should also include analysis of any relevant data trends and provide a benchmark from which potential impacts can be assessed, and any change monitored.

For the purpose of this assessment, the following components have been considered in the development of the social baseline profile for the Project, namely:

- geographic scope – identification of the communities of interest and key stakeholders relevant to the current assessment
- governance – outline of relevant governance structures at local, State and Federal levels
- historical context – review of the history of local communities, including their culture and values, and previous experiences with underground mining
- community capital/assets – assessment of areas of vulnerability and resilience across the communities of interest
- key community values, issues and concerns – documentation of current community issues in the Central Coast and Lake Macquarie LGAs and the broader region, as identified in key planning documents, regional studies and the local media
- development context and response to change – assessment of development issues within the communities of interest and the response of local landholders and community residents to this change.

The social profile is a necessary component of the SIA and provides a foundation from which social impacts associated with the Project development may be assessed and predicted.

3.1 Social Area of Influence

This social baseline profile has been targeted to focus on the Project's social locality or social area of influence (refer to **Appendix A** for additional information).

The Project Area extends across the Lake Macquarie and Central Coast LGAs, with the CVC and MC Pit Tops located in the Central Coast LGA, and in proximity to the Lake Macquarie LGA (refer to **Figure 1.1**).

Newcastle is the nearest metropolitan centre located approximately 50 km north of the CVC Pit Top and MC Pit Top, with smaller centres located nearby at Toronto (approximately 33 km north) and Wyong (approximately 25 km south). The existing CVC and MC surface facilities are located on the southern end of Lake Macquarie, and a short distance to the coastline at Catherine Hill Bay (approximately 15 km east).

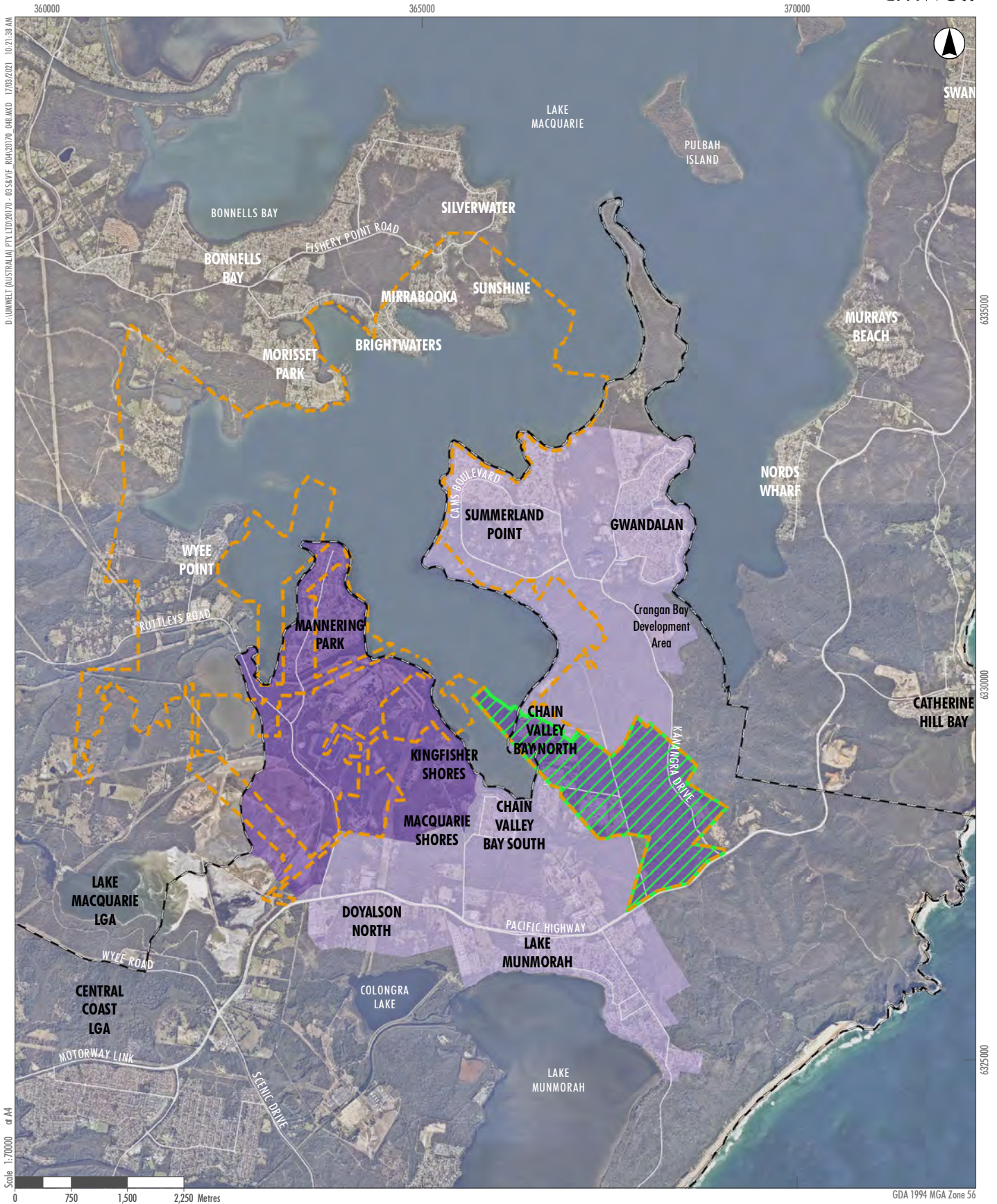
The Project Area is also located in proximity to the M1 Pacific Motorway, which links Sydney to Central Coast, Newcastle, and Hunter Regions. The M1 also forms part of a road corridor between Sydney and Brisbane. During 2020, roadworks were completed to widen sections of the M1 in the Central Coast area (Transport for NSW 2020).

The CVC/MC operations are one of three currently operating coal mines in the local area. The other mines include:

- Mandalong Underground Mine, operated by Centennial Coal Company Ltd (Lake Macquarie LGA); and
- Myuna Underground Mine, also operated by Centennial Coal Company Ltd (Lake Macquarie LGA)

The CVC and MC operations are also in proximity to two major power stations, Delta Electricity owned Vales Point Power Station (VPPS) and the Earing Power Station. Both power stations are nearing the end of their operating life with VPPS scheduled to close in 2029 and Earing Power Station in 2032.

The Project includes the continuation of existing approved operations under the CVC Consent and MC Project Approval. The Project does not propose any changes to approved mining operations under these consents that would have any material change in social impact. Considering the above the social locality for the Project, having regard for changes proposed by the Project, is identified in **Figure 3.1**, with key features of the communities summarised in **Table 3.1**.



- Legend**
- Project Area
 - Proposed Eastern Mining Area
 - Community residents - proximal suburbs
 - Residents residing in the areas above the proposed mine workings or close to the pit tops

FIGURE 3.1

Social Area of Influence

Table 3.1 Key Features of Study Communities

Social locality	Community	Project Context	Undermined historically	Key features / Context
Communities proximal to Project Area (including residents residing in areas above the proposed mine workings and close to the pit tops suburbs)	Chain Valley Bay – Central Coast LGA	Some areas to be undermined	Yes – some areas	<ul style="list-style-type: none"> On the foreshore of Lake Macquarie Areas of Chain Valley Bay South experienced significant subsidence from coal mining at Newvale Colliery in 1980s Contains three over 55 years living villages – Valhalla Lifestyle Village, Lakeside Village and Teraglin Lifestyle Village
	Mannering Park – Central Coast LGA	Location of CVC Pit Top with residential areas located to the North of VPPS Includes areas within approved MC Mining Area	Yes – some areas	<ul style="list-style-type: none"> VPPS commenced operation in 1963 CVC opened in 1962 Area includes a primary school and small number of specialty shops
	Kingfisher Shores – Central Coast LGA	In proximity to CVC Pit Top	Yes	<ul style="list-style-type: none"> Originally part of Chain Valley Bay but became its own suburb in 2007 Small suburb with approximately 76 dwellings
	Doyalson North – Central Coast LGA	In proximity to CVC and MC Pit Tops	Yes	<ul style="list-style-type: none"> Contains one over 55 years living village Macquarie Shore Home Village Borders MC Pit Top
Communities in the locality of Delta Coal’s other existing mining leases	Lake Munmorah – Central Coast LGA	Proximal to Delta Coal’s existing mining leases	Yes – some areas	<ul style="list-style-type: none"> On Lake Munmorah foreshore Contains schools, shopping centre, cafes, and key community facilities for the area Contains three over 55 years living villages: Lakeside Leisure Village; Ingenia Lifestyle Lake Munmorah and Parktree villages Proximal to Lake Munmorah SCA
	Catherine Hill Bay – Central Coast LGA	Proximal to Delta Coal’s existing mining leases	Yes – some areas	<ul style="list-style-type: none"> State Heritage Listed historic mining village Large new housing subdivision approved and currently being developed (approximately 550 residential lots) On the coastline

Social locality	Community	Project Context	Undermined historically	Key features / Context
Surrounding communities	Gwandalan – Central Coast LGA	North of the proposed Eastern Mining Area	Yes	<ul style="list-style-type: none"> On peninsular extending into Lake Macquarie Contains a primary school, small number of speciality shops and small supermarket
	Summerland Point– Central Coast LGA	North of the proposed Eastern Mining Area	Yes	<ul style="list-style-type: none"> On peninsular extending into Lake Macquarie Small number of speciality shops and small supermarket
Wider community	Central Coast LGA	LGA where the CVC and MC Pit Tops and the Eastern Mining Area are located	Some areas	<ul style="list-style-type: none"> Established as a LGA in 2016 following the amalgamation of Gosford City and Wyong Shire councils Contains popular beaches and State Conservation Areas and reserves Gosford, largest population centre containing a variety of services and facilities LGA is connected to Newcastle and Sydney via the M1, Pacific Highway and rail Large number of primary and secondary education facilities University of Newcastle campus located at Ourimbah and three TAFE campuses located at Gosford, Wyong and Ourimbah
	Lake Macquarie LGA	Neighbouring LGA where current approved CVC mining is being undertaken – note MC approved mining area is partially located within Lake Macquarie LGA however mining is not currently occurring within the approved MC mining area.	Some areas	<ul style="list-style-type: none"> Contains Lake Macquarie, Australia’s largest coastal saltwater lake Population clusters around the Lake’s foreshore LGA is connected to Newcastle and Sydney via the M1, Pacific Highway and rail Contains a range of small rural style communities through to larger and higher density suburban areas Key shopping areas include Charlestown Square, Glendale Stockland and Lake Macquarie Square Large number of primary and secondary education facilities Contain Avondale University College (Seventh-day Adventist Church)

3.2 Governance

3.2.1 Local Government



Central Coast LGA is represented by the Central Coast Council and was formed in May 2016, from the amalgamation of the former Wyong Shire and Gosford City Councils. The Council is separated into five wards that are overseen by Mayor Lisa Matthews and Deputy Mayor Jane Smith.

On 30 October 2020, the NSW Minister for Local Government, Shelley Hancock, announced the immediate suspension of the elected council for an initial period of three months, and the appointment of

former senior public servant, Dick Persson, as the new interim Administrator. The appointment of the Administrator resulted from reports that the Central Coast Council was in debt to the order of approximately \$89 million (ABC News 21 October 2020).



The Lake Macquarie LGA is represented by the Lake Macquarie City Council. The Council is separated into three wards that are overseen by Mayor Kay Fraser and Deputy Mayor Councillor Christine Buckley.

3.2.2 State Government

The Project Area is located within the boundaries of the Swansea State Electoral Division (SED), which extends from Budgewoi in the south to Jewells in the north; and from the coast to Mannering Park in the west (and the centre of Lake Macquarie). The Swansea SED is represented by the Australian Labour Party Member Yasmin Catley.

Key NSW State Government Strategies of relevance to the region and the SIA are summarised in **Table 3.2** and outline a focus on:

- maintaining environmental assets
- promoting employment and diversifying industry
- ensuring needs of growing and aging population are met (e.g. improvements in health care and increasing and diversifying housing options)

Table 3.2 Relevant NSW State Government Strategies

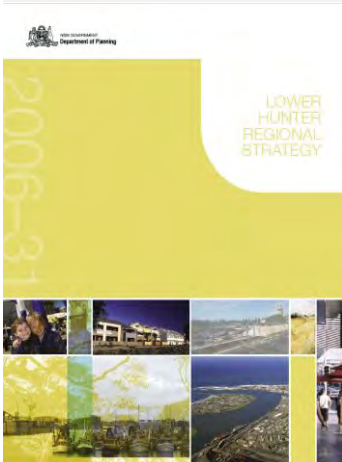
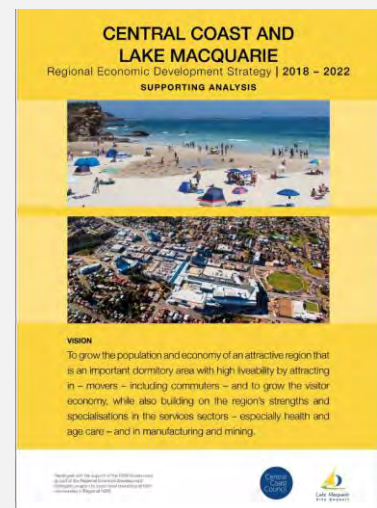


The Central Coast Regional Plan 2036 (2016) is a 20-year blueprint for the future of the Central Coast. The vision for the region is to have a healthy natural environment, a flourishing economy, and well-connected communities. The plan outlines four goals:

1. A prosperous Central Coast with more jobs close to home
2. Protect the natural environment and manage the use of agricultural and resource lands
3. Well-connected communities and attractive lifestyles, and
4. a variety of housing choice to suit needs and lifestyles.

The Central Coast Lake Macquarie Regional Economic Development Strategy (2018) outlines the joint long-term economic vision and associated strategy for the Central Coast and Lake Macquarie LGAs.

The Strategy aims to facilitate commercial, manufacturing and mining development; grow new industries and employment opportunities through improved transport links; realise economic opportunities in the health and aged-care sectors; be a highly liveable region that is attractive to both commuters and visitors; and consider regional risks and how they might be addressed.



The Lower Hunter Regional Strategy (2006) is a land use planning document that outlines the provision of sufficient, appropriately placed housing and employment land to cater for the region’s predicted growth over the 25-year period between 2006-2031.

The strategy is based on population growth projections which forecast that there will be an additional 160,000 people in the region by 2031.

Source: DPE 2016; Department of Premier and Cabinet 2018; NSW Department of Planning 2006

3.2.3 Federal Government

The Project Area is located within the Shortland Commonwealth Electoral Division (CED) which is represented by Mr Patrick Conroy (Australian Labor Party) since 2016. The Australian Labor Party is the opposition party in the Federal Parliament.

3.3 Native Title, Local Aboriginal Land Councils and Traditional Owners

The proposed Eastern Mining Area is located within Darkinjung Local Aboriginal Land Council (LALC) boundary and below land owned by Darkinjung LALC.



3.4 Historical and Regional Development Context

This section utilises several data sources to build a picture of the development context of the assessment area and develop an understanding of the process of social change and communities' response to this change over time. Specifically, this section considers:

- community events and/or developments that have had a significant impact on the region including infrastructure development
- the ongoing presence and development of mining.

3.4.1 Regionally Significant Events and Developments

There have been several significant community events in the locality in the past six years (refer to **Figure 3.2**) and a number of other project developments being considered in the area, which are located in proximity to the proposed project, and which have the potential to result in cumulative social impacts, depending upon their timing. These projects include:

- Vales Point Solar Farm, a proposed solar farm to be developed on 80 hectares of rehabilitated land owned by Delta Electricity. The project is currently going through an approvals process with the NSW Government, and if approved would expect to generate 55MW of energy and 100 construction jobs, as well as 5 ongoing positions.
- Housing development in the Chain Valley Bay area (including rezoning of Chain Valley Bay and expansion to Valhalla Lifestyle Village), the Central Coast Council approved the proposal to add another 150 manufactured homes to the Valhalla Lifestyle Village. The proposal called for Council to lodge a planning proposal with the NSW Planning Minister rezone the 10 hectare site from Environmental Management to Private Recreation.
- Mannering Park - Chain Valley Bay Pathway, driven by the Chain Valley Bay Progress Association, a waterfront shared pathway to connect the communities. Two options are currently on exhibition by the Central Coast Council to gain community feedback on their preferred option for the pathway.
- Proposed development of Darkinjung LALC Land, the Darkinjung LALC have a proposal in to rezone approximately 75 hectares of land for residential development and approximately 88 hectares of land for environmental conservation that would result in approximately 600 residential lots in Lake Munmorah.

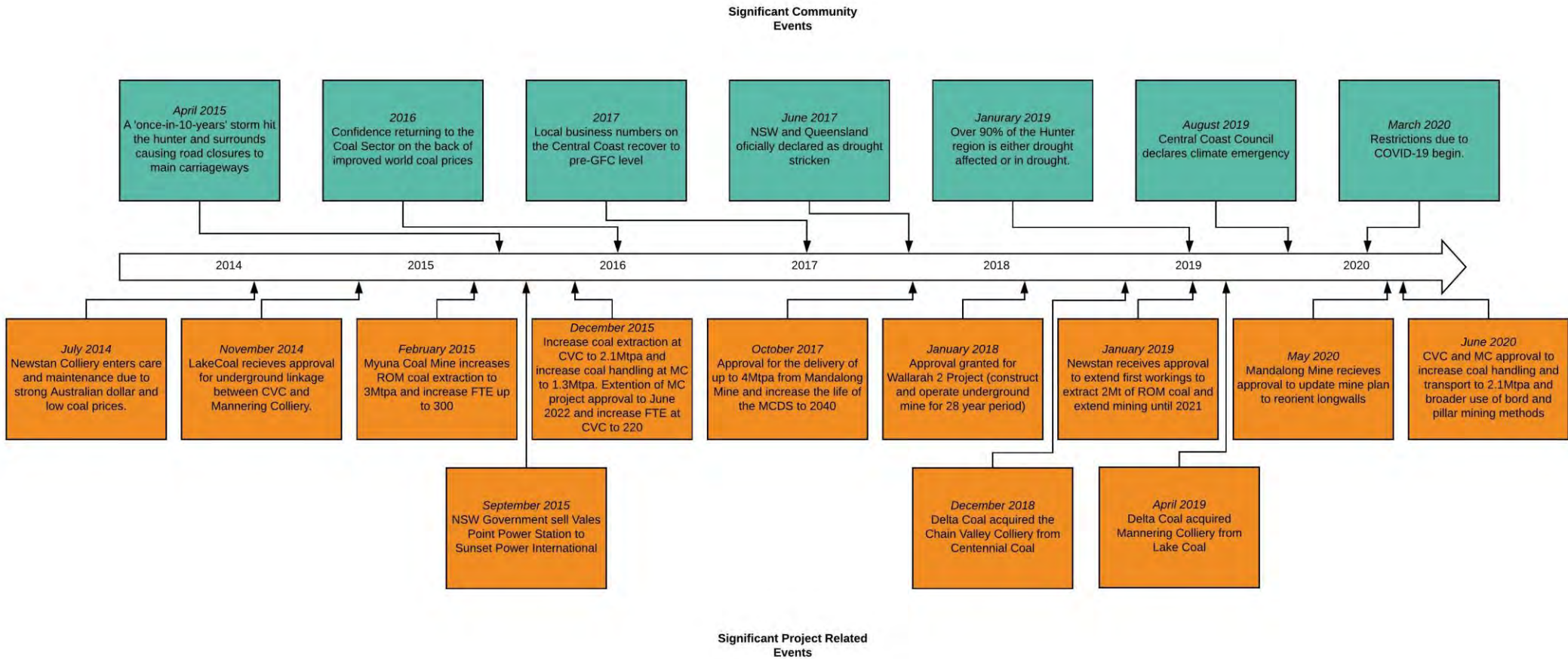


Figure 3.2 Regionally Significant Community and Project Related Events

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3.4.2 Mining History and Development

Mining has been an important industry, historically, in the economic development of the area, both within and surrounding the proposed project site. Key dates include:

- 1791 – first official recording of coal in Australia, speculated to be at Glenrock Lagoon (30km north of Project Area)
- 1791 – significant coal found on Hunter River
- 1800 – coal found at Lake Macquarie
- 1800s – mining development throughout the Lake Macquarie area and expanded into the Hunter Valley
- 1960s - CVC and MC began operations to supply VPPS (operated by J & A Brown and Abermain Seaham Collieries Ltd and was later acquired by Lake Coal Pty Ltd)
- 1963 VPPS commences operation
- Mining around Lake Macquarie continued to grow with expansion in the Hunter Valley.



CVC and MC are proximal to a number of existing mines and infrastructure (refer to **Table 3.3**) and also a number of mines that have ceased operations including Newstan Colliery, Fassifern (placed in care and maintenance in 2014), Westside Mine (closed in 2012), Munmorah State Coal Mine (closed in 2005), Newvale (closed 1990s), Wallarah Colliery, Moonee Colliery, Munmorah Colliery, Endeavour Colliery and Awaba Coal Mine (ceased operations in 2012). The closures and care and maintenance of mines in the area were because of both changes in the global coal market and life of mine end, with resources being fully extracted (refer to **Figure 3.4**).

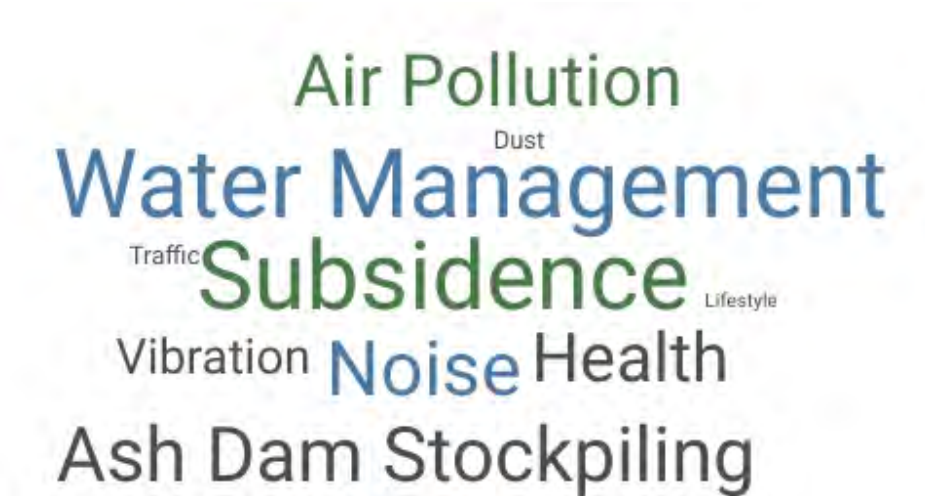
Table 3.3 Proximal Operating Mines and Infrastructure to CVC and MC Operations

Mine	Proponent	Approximate Distance from CVC	Current Approval Expiry (Year)
Mandalong Underground Mine	Centennial Coal Company Ltd	10 km north west	Mod 8 – 2040 NCS – 2045 Delta Link – 2040
Myuna Underground Mine	Centennial Coal Company Ltd	11 km north	Mod 1 – 2032 ML 1632 – 2022 ML 1370 – 2033 MPL 334 – 2036
Walarah No. 2 Mine	Wyong Areas Coal Joint Venture	9 km south	2046
Vales Point Power Station	Sunset Power International (trading as Delta Electricity)	500 m north west	2029
Eraring Power Station	Origin Energy	11 km north	2032

Both the CVC and MC operations specifically, have had several modifications in the last ten years, with submissions received from the broader public and the local community. The submissions have largely shown support for the operations, focusing on:

- employment opportunities and job security
- flow on effects to local suppliers
- efficiencies between the two mines

However, there were also some grounds for opposition from the community, with themes in objections summarised in the following graphic:



The area has a history of subsidence associated with historical and more recent mining operations, with this a key ongoing concern for residents. In summary:

- Mining under Lake Macquarie has caused major subsidence in the past and many past incidents have not been resolved (Centennial Coal 1992).
- In 1988, an anomalous ground movement caused 2.3 m of subsidence beneath the Pacific Highway at Doyalson. The subsidence was a result of a longwall mining induced collapse of pillar remnants in a higher previously mined seam (Commonwealth of Australia 2014).
- There was a major subsidence event at Newvale Colliery in the 1980s which caused substantial impacts to properties and the foreshore in the Chain Valley Bay area (discussed further in **Section 4.1.1**)

Review of local media highlights additional community concern in relation to industry presence and mining in the area:

- noise, particulate matter and greenhouse gas emissions from VPPS and Eraring Power station
- concerns regarding dust and other issues related to ash dams associated with VPPS
- Water impacts, including impacts to drinking water supply from Wallarah 2 Coal Project (9km south of the Project Area)

- Community raised concerns about Centennial Coal’s Myuna Colliery, in Wangi Wangi, in relation to air quality, climate change and a desire to see investment in renewable forms of energy.

There have also been positive steps in repurposing or utilising disturbed areas associated with the mines and power stations in the area. This includes research being undertaken by the University of Wollongong in a salt marsh within Chain Valley Bay, where a subsidence area has resulted in a change that has effectively simulated rapid sea-level rise (Newcastle Herald 7 Mar 2019); and the repurposing of the old ash dam at Vales Point Power Station into a 55MW solar farm (Central Coast Newspaper 24 Oct 2019).

Through exploration of past and current mining proposals, it is evident that the social impacts of mining are a key area of interest at a community level. While mining projects can result in significant positive economic benefits, they also have the potential to impact the social amenity of proximal landholders and communities due to experience of environmental impacts such as subsidence, dust, noise and traffic impacts.

3.5 Sustainable Livelihoods Approach – Community Capitals

In the development of the social baseline profile, the Sustainable Livelihoods Approach (Department for International Development [DFID] 1999) has been utilised to provide a comprehensive understanding of the communities of interest to the operation, and to evaluate their resilience and sensitivity to change.

According to the framework, people seek to maintain their livelihood within a context of vulnerability. Specifically, threats to their livelihood include shocks (such as sudden onsets of natural disasters, health problems, conflicts, and economic crises), trends (for instance, those relating to the economy, health, resources, and governance) and seasonality (such as cyclical fluctuations in prices or employment). People draw upon these assets to build and maintain their livelihood.

A livelihood is considered sustainable ‘...when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base’.

The DFID approach draws on broad categories of community capitals as a fundamental basis to identifying and further enhancing community capacity and resilience. This methodology has been further developed by Coakes and Sadler (2011) to reflect the five capitals approach - human, social, natural, physical, and economic/financial. The vulnerability of each capital area can be assessed through the selection of a suite of socio-economic indicators specific to each capital area to assess a community’s vulnerability to change or conversely their adaptive capacity; and has been widely applied with a natural resource management context, including mining. Elements of each capital area are further outlined in **Figure 3.3**.

Using the Capitals framework outlined above, the following sections summarises key community strengths and vulnerabilities of the study areas with additional detailed information provided in **Appendix A**.

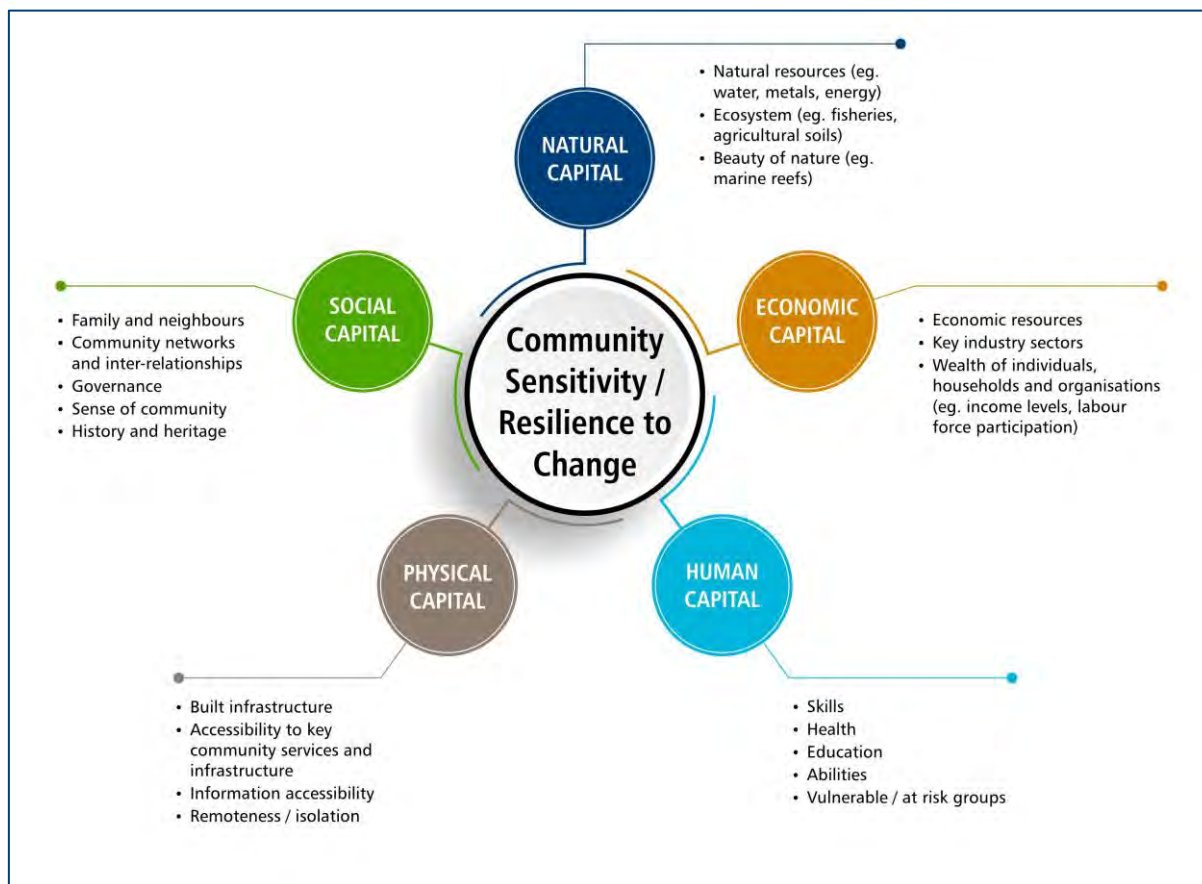


Figure 3.3 Capital Framework (adapted from Coakes and Sadler 2011)

3.5.1 Natural Capital

Natural capital refers to the natural assets and resources that contribute to community strength and sustainability. Natural capital can include resources such as minerals, productive agricultural soil, presence of oil and gas and forests which provide commercial and practical benefit to the community. Natural capital can also include other environmental assets that generate tourism or provide other social, cultural, and recreational value, such as waterways or lakes.

As summary of the natural capital in Central Coast and Lake Macquarie LGAs is provided below, with some of these assets shown in **Figure 3.4**.



Deep coal seams, surface gravel, sand, sandstone and other construction material resources

Mineral and energy resources support over \$180 million annually



Lake Macquarie – largest saltwater lake in the southern hemisphere.

Popular for recreational activities including swimming, fishing, boating, kayaking and stand-up paddle boarding.

Hosts sailing and yacht races, with many yacht clubs in the vicinity.

Foreshore areas are also popular for parks, picnic areas and walking and cycling trails

During engagement participants noted that they valued the lake:

Lake - recreation

Pristine lake - no pollution

Peaceful area, lake on doorstep

Lake Macquarie SCA – approx. 650 hectares of bushland in six separate areas of Lake Macquarie foreshore. The portion of the SCA in closest proximity to the Project Area, is near Chain Valley Bay and is mainly used by anglers and locals.



Munmorah SCA – approx. 1,563 hectares along 12km of coastline. The Munmorah SCA is located to the east of the Eastern Mining Area and is not within the Project Area.

Popular for walking, picnicking, camping, swimming, surfing, and fishing and contains several picnic areas, walking trails and lookouts.

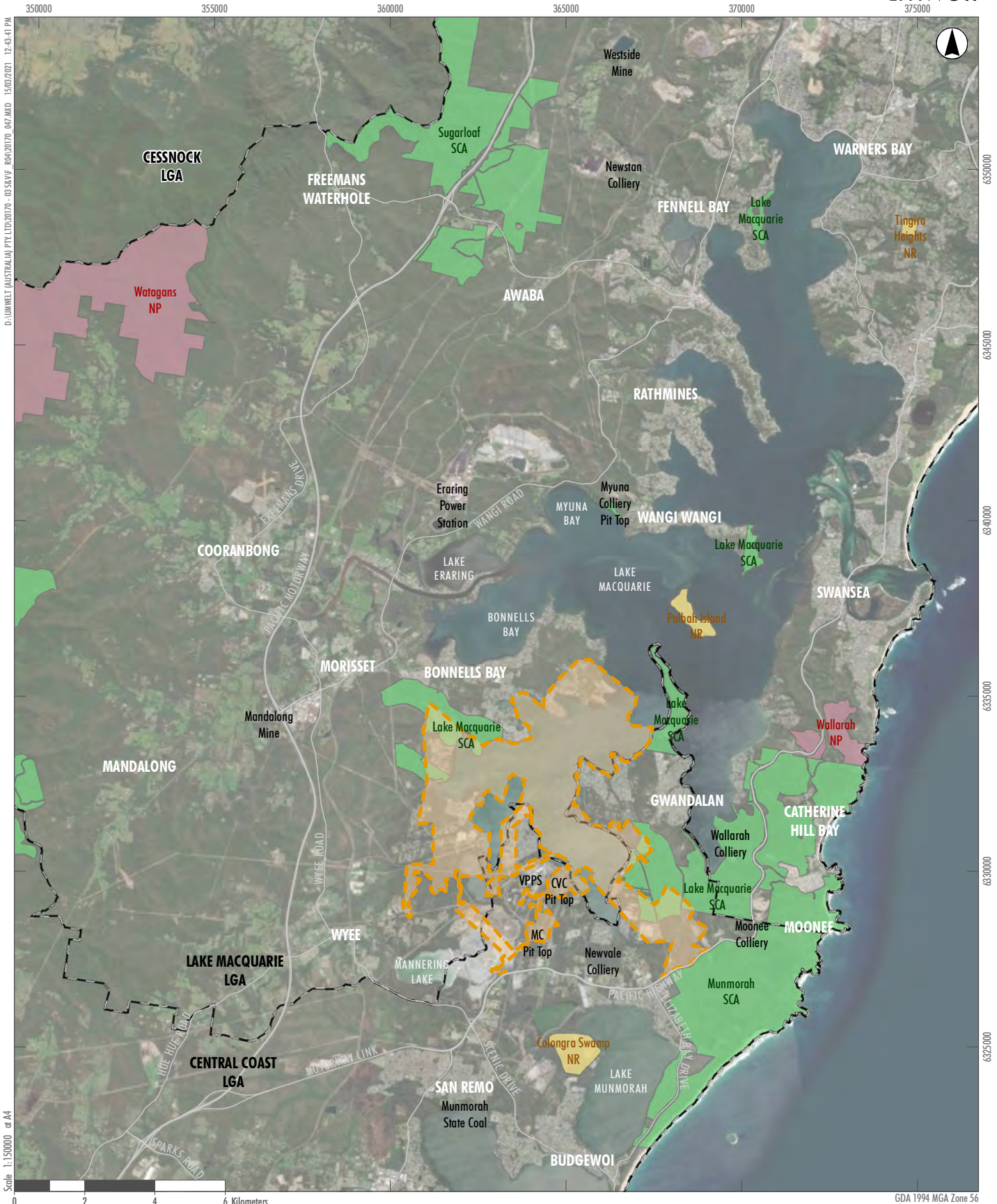
Agricultural land in the west of the Central Coast LGA that supports \$150 million annually.



Water resources – major rivers and estuaries including Brisbane Waters and part of the Hawkesbury Nepean River, over 75km of beach and headlands, coastal lagoons, and lakes (Tuggerah Lake, Lake Munmorah and Lake Macquarie).



Variety of **national parks, conservation areas and nature reserves** (as shown in **Figure 3.4**).



- Scale 1:150000 at A4
- Legend**
- Project Area
 - Local Government Area (LGA)
 - National Park (NP)
 - Nature Reserve (NR)
 - State Conservation Area (SCA)

FIGURE 3.4


Natural Capital Areas in Central Coast and Lake Macquarie Region


Image Source: Nearmap (May 2019) Data source: Delta Coal

3.5.2 Human Capital

The status of a community's human capital is assessed by considering population size, age distribution, education and skills, general population health and the prevalence of at-risk groups within the community.


The following provides a summary of the key characteristics of the study areas from a human capital perspective (refer to **Appendix A**):


- 
 - Growing population in the Central Coast LGA and Lake Macquarie LGA since 2006, with the Central Coast having a higher growth rate than Lake Macquarie. Population growth is expected to continue in both LGAs (between 2016 and 2041), particularly in age groups over 75 years contributing to an aging population (refer to **Figure 3.5**).

- 
 - All study areas have an older median age than the NSW average (38 years), with Doyalson North having the oldest median age (72 years), likely due to the presence of multiple retirement villages across the LGAs.

- A higher than state average proportion of Indigenous population.

- Low levels of secondary and tertiary education across the communities in comparison to NSW. This may be due to historic employment in mining in the region, that provides apprenticeship or traineeship opportunities resulting in certificate level qualifications.

- 
 - Of those undertaking tertiary studies across the study areas, the majority studied engineering and related technologies and management and commerce. The exception is Kingfisher Shores and Central Coast LGA, where management and commerce were the top fields of study.

- 
 - Health data (PHIDU 2020) suggests that when compared to NSW, Lake Macquarie LGA and the Central Coast have higher rates of asthma and higher rates of mental health and behavioural problems. However, residents in the area generally see themselves to be in good health.

- A higher number of residents in the Central Coast LGA experienced barriers to accessing healthcare in comparison with the Lake Macquarie LGA and the state (PHIDU 2020).

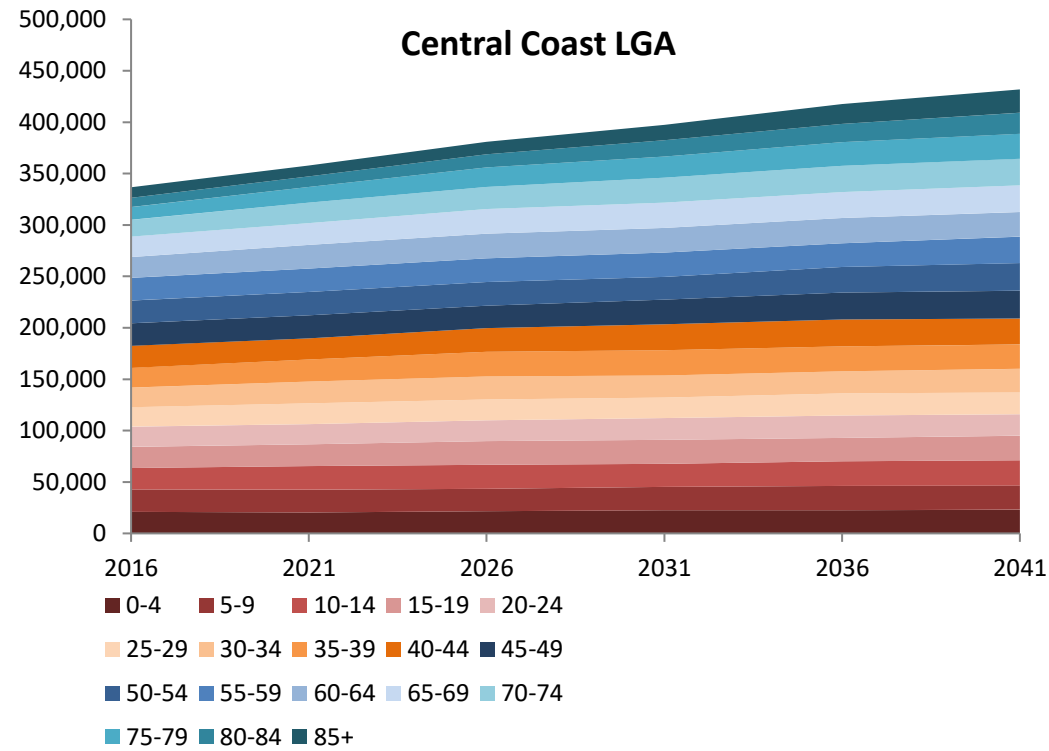
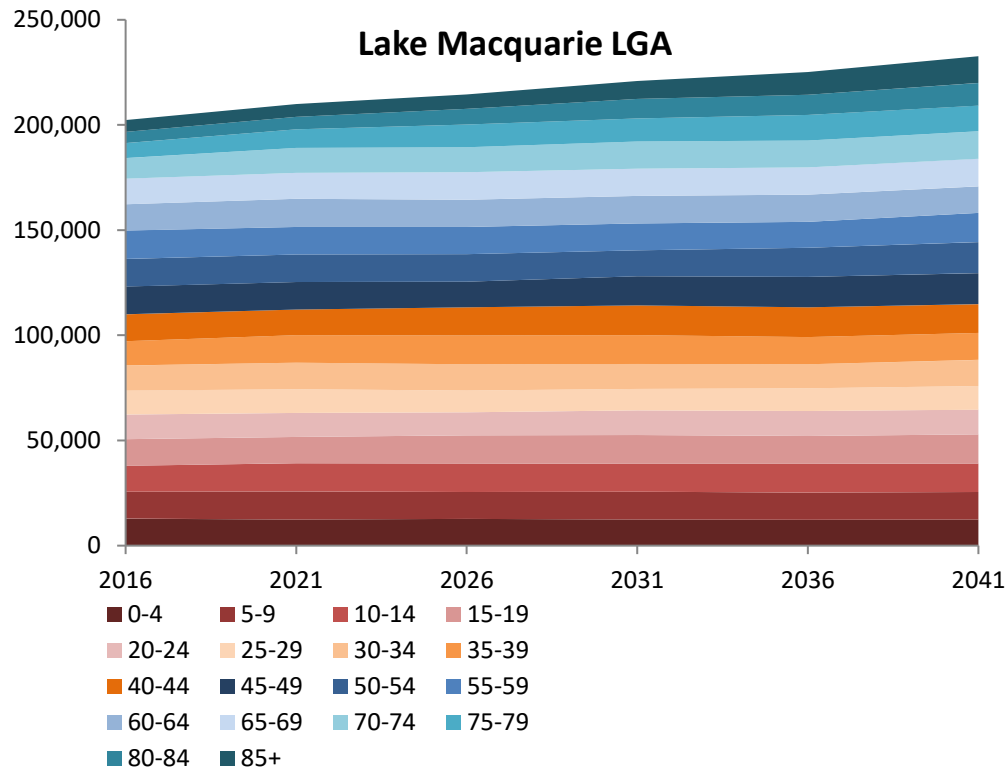


Figure 3.5 Population Change in Lake Macquarie LGA and Central Coast LGA

Source: NSW Government (2019)

3.5.3 Social Capital

Various indicators can be used to assess social capital. Such indicators include the level of volunteering, population mobility, crime rates, and the demographic composition of the community, such as the percentage of people born overseas, language proficiency etc.

The following dot points provides a summary of the key characteristics of the study areas from a social capital perspective (refer to **Appendix A**):

- A lower than State average proportion of the population (14%) with a different address one year prior to the 2016 Census in Kingfisher Shores (11%), Doyalson North (7%), Chain Valley Bay (11%) and Lake Munmorah (11%), suggesting lower mobility. However, the level of mobility in the year preceding the 2016 Census in Catherine Hill Bay was higher than NSW.
- The mobility of residents in both the Central Coast and Lake Macquarie LGAs, over both one year and five years, is higher than in NSW, this reflects a trend noted in the media of the working age population relocating from Sydney due to the accessibility of the region to Sydney, as well as lower house prices (refer to **Appendix A**).
- There are a lower than state average number of family households in Chain Valley Bay, Doyalson North, Lake Munmorah and Catherine Hill Bay (refer to **Appendix A**).
- There is a significantly higher level of volunteerism in Catherine Hill Bay, compared to broader NSW, both LGAs and across the other proximal communities, with Doyalson North having the lowest proportion of volunteers (refer to **Appendix A**).



Engagement undertaken for the Scoping Report attests to strong social capital in the study areas. When residents were asked to describe their community and what they valued about the area in which they live, responses included the natural beauty of the area (in particular the Lake); the village lifestyle; and levels of community cohesion and support:

Lovely little village, on the peninsula, Summerland Point is on the other side of the peninsula - we're joined with them as communities, beautiful lake. Different from Sydney, it's like going back to childhood where I grew up in a small village in England

The northern end of the former Wyong Council LGA, now part of Central Coast Council (now under administration), always had a very good sense of community. Possibly because they made the effort and referred to the area as the 'forgotten north'. The sense of community is very strong within the local area and there exists a partnership with people in adjoining postcodes. The history to this was the sentiment that in the old Wyong Shire, everything went to The Entrance, nothing made it past Toukley. The fact the two councils of Wyong and Gosford merged greatly increased that view.

Sense of community, the lake - difficult to imagine a better spot and view than the lake, lifelong friends, support structure.

Community, unique community in Mannering Park, long term locals, lots of community groups. Biggest group is the Mannering Park Tidy Towns.

We look after ourselves - always help each other out, close-knit community, active Lions Club at Summerland Point



3.5.4 Economic Capital

Examining a community's economic capital involves consideration of several indicators, including industry and employment, workforce participation and unemployment, income levels and cost of living pressures, such as weekly rent or mortgage repayments.

The following provides a summary of the key characteristics of the study areas from an economic capital perspective (refer to **Appendix A**):

- Unemployment rates are comparable or higher than NSW in all communities except Doyalson North. These observations are consistent with an ageing population.
- A number of residents in both LGAs work outside the area, with many commuting to Newcastle and Sydney.
- All study communities have a lower than state average median weekly household income.
- Catherine Hill Bay has the highest median monthly mortgage repayment of all the study communities (\$2,167 compared to \$1,986 in NSW), consistent with higher costs associated with the new housing estate in the south of the suburb. All other communities have monthly mortgage repayments below the NSW average.



- Median weekly rental costs across all suburbs are lower than the NSW average of \$430.
- At the LGA level, Lake Macquarie has a slightly higher median weekly household income than the Central Coast LGA (\$1,310 and \$1,256 respectively), and both LGAs have experienced a significant increase in household income since 2006.

- Similarly, rental and mortgage costs have risen in both LGAs since 2006 alongside household income. Living costs have risen at a higher rate than household income, resulting in a consistent rise in the cost of living in both LGAs (i.e., the proportion of the median weekly rent cost out of median weekly household income).



- Top industries of employment include construction, health care and social assistance, retail trade, manufacturing, education and training, and accommodation and food services (refer to **Appendix A**).

- Employment in mining in the area has decreased since 1990s and as of 2016 (ABS) represented a small proportion of employment in Lake Macquarie (2.6%) and Central Coast LGAs (0.5%) (refer to **Appendix A**).

- Mining was one of only five industries in the Central Coast – Lake Macquarie Region that experienced a decline in the proportion of workers employed in the industry between 2011-2016 (refer to **Figure 3.6**).



- Coal mining was the largest exporting industry in the region, accounting for \$1,159 million in exports in the 2015-16 financial year (NSW Government, 2018).

The importance of coal mining to the area, in a historical sense but also due to the changing nature of the area, was noted during engagement:

The major employment in the earlier days came from the mining industry and power generation. A lot of these people are third generation ex industry. There are new people coming to the area, some without prior knowledge of existing mining operations. The cost of housing is cheaper, although some big residential developments are going in with a higher price tag. The sentiment still prevails about lack of adequate services and isolation, Mum's stuck at home whilst the Dad is either driving up the Hunter Valley or to Sydney for work.

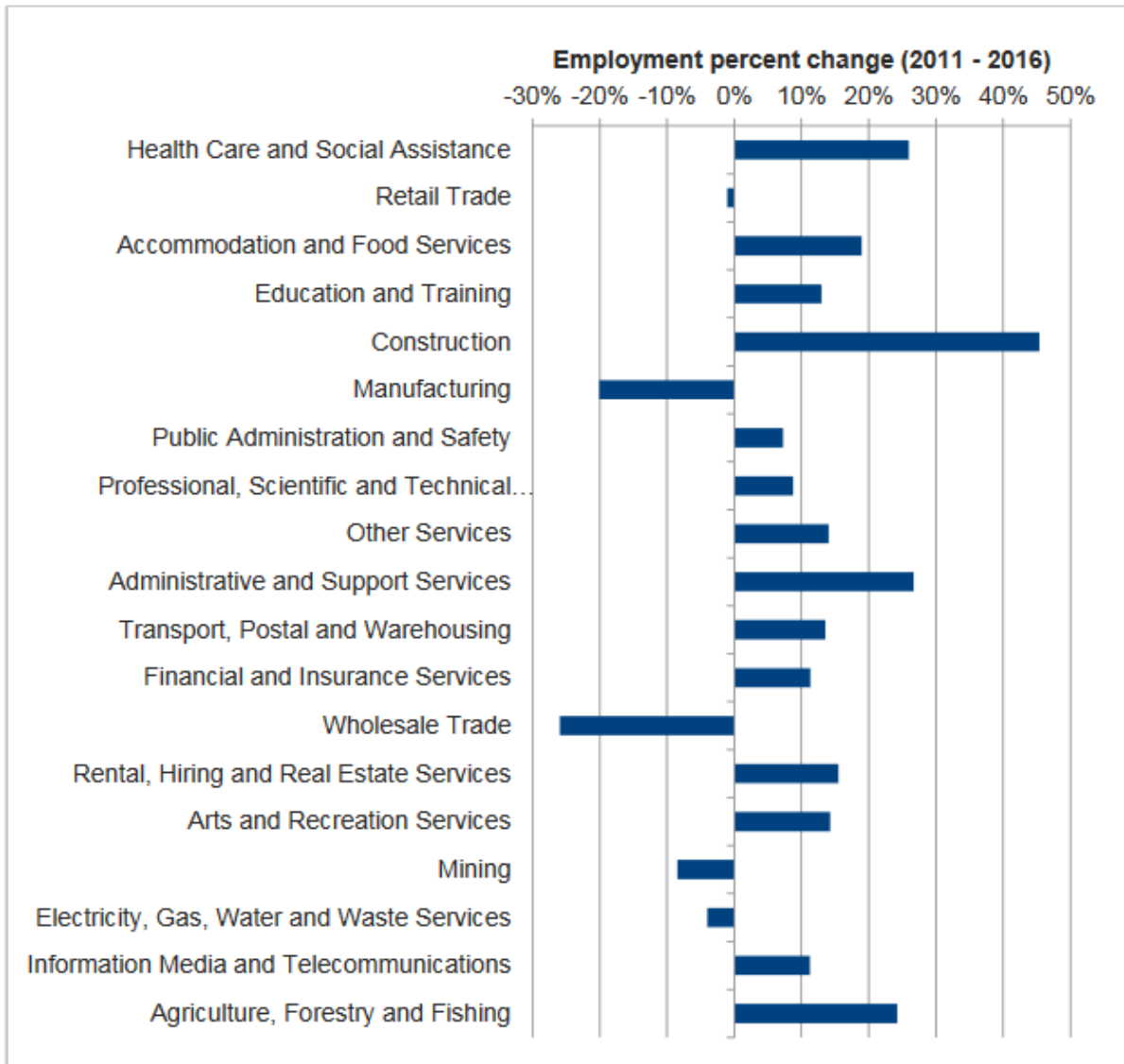


Figure 3.6 Employment Percentage Change

Source: (NSW Government, 2018)

3.5.5 Physical Capital

Physical or built capital includes provision of infrastructure and services to the community. Within this capital area, it is important to consider the type, quality, and degree of access to public, built and community infrastructure (including amenities, services, and utilities) and housing and accommodation.

The study communities can be characterised as having a wide range of community services (refer to **Appendix A**):



- Urban communities have access to a range of services and facilities including schools, shopping and community services.
- A wide range of health services are available in the Central Coast and Lake Macquarie LGAs with referral hospitals and specialist services primarily accessed from Gosford or Newcastle.
- Both LGAs are in proximity to the M1 Pacific Motorway and Sydney-Brisbane rail line providing access to Sydney, Newcastle and other major cities, however during engagement one participant noted due to the large number of people who commute from the area to work in Sydney or Newcastle, this often causes congestion and delays on roads and public transport.

A lot of people go to Wyee/Morisset to get train & work to Sydney. Roads are extremely busy from south and north of an afternoon - people traveling to Sydney and Newcastle.



- Both LGAs appear to be adequately serviced in relation to aged care places.
- There are seven over 55 years living villages in proximity to the Eastern Mining Area (refer to **Figure 3.7**)
- Both LGAs have facilities and services for over 55s including learning centres, seniors' centres and seniors events, with one engagement participant noting the area was an 'ideal place for older people'.

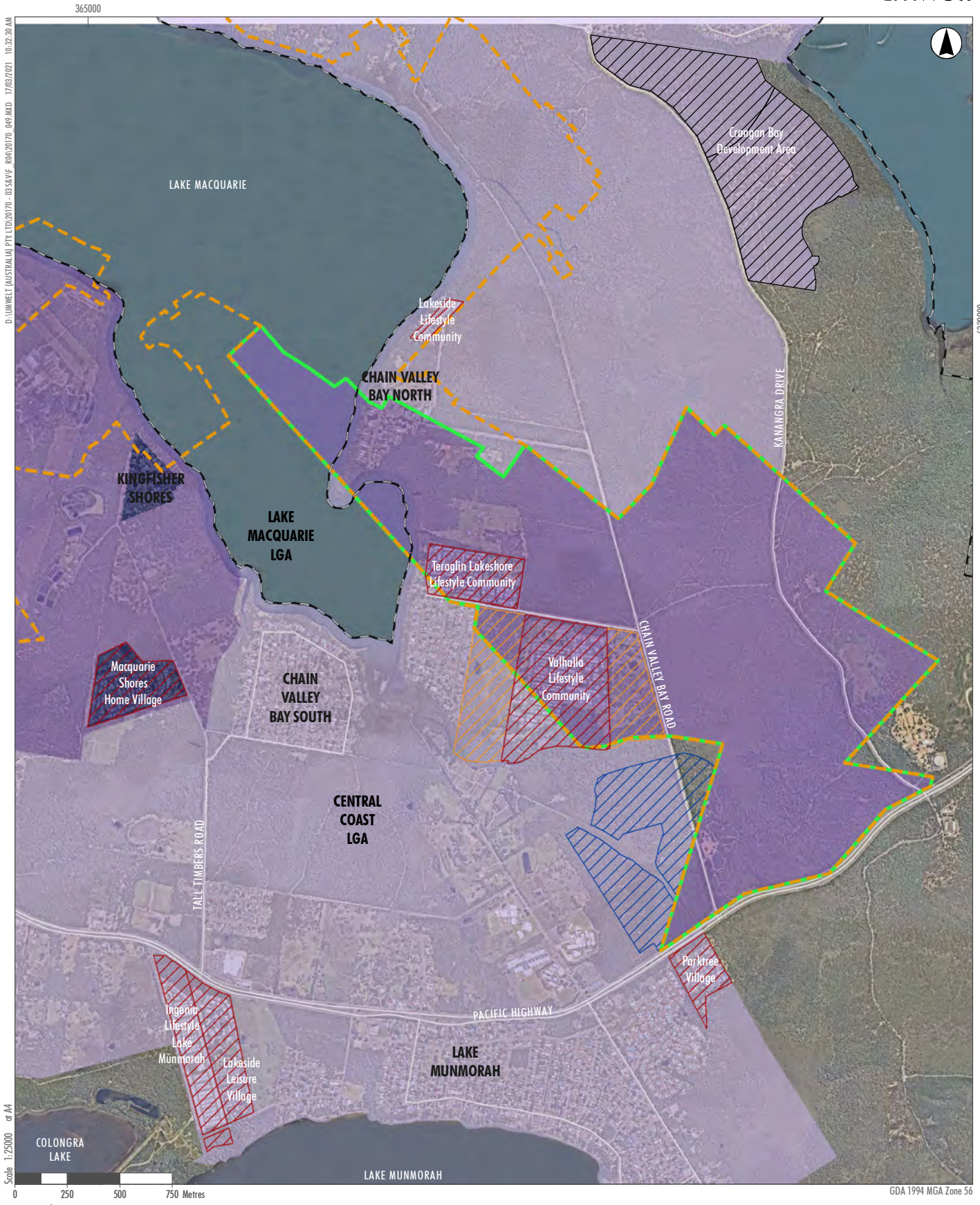
Community members appear to value access to services and facilities and nearby cities:

Great for recreation, all the facilities we want - Wyong hospital, John Hunter hospital, shopping amenities ... Younger people - employment an issue, schools not an issue - there are plenty of schools

I'm attached to it, nice place, local services are good - hospitals and things, everything we want here.

Ease of access to facilities, only short distance to get train to Sydney, cinemas, theatres close, fantastic beaches

Community members also noted that while there was currently adequate infrastructure and services to cope with the current population, that new infrastructure and services may be required to accommodate an influx in population.



- Legend**
- Project Area
 - Proposed Eastern Mining Area
 - Local Government Area (LGA)
 - Lifestyle_Communities_mga56
 - Proposed Valhalla Residential Rezoning
 - Proposed Darkinjung Residential Rezoning
 - Crangan Bay Development Area
 - Community residences - proximal suburbs
 - Residences in areas above Proposed Mine Workings
 - Residence in close proximity to Pit Tops

FIGURE 3.7
Lifestyle Communities

3.6 Local Challenges and Opportunities

The following sections outline the key challenges and opportunities for the LGAs that host the project. The need for additional residential accommodation for growing populations in both LGAs, and the focus on maintaining the natural areas and biodiversity of the areas are slightly conflictual with the project, however, the project continues to provide economic benefits to the communities, particularly in the face of a decline in the Sydney/ Newcastle economy mentioned by both Councils.

3.6.1 Central Coast Council

A number of the Central Coast Council's strategies and plans (refer to **Appendix A**) were reviewed to identify the challenges and opportunities for the LGA, as noted below, with a summary of these challenges and opportunities provided in **Table 3.4**.

Table 3.4 Central Coast LGA Challenges and Opportunities

Challenges	Capital Area	Opportunities
<ul style="list-style-type: none"> Additional accommodation required for projected growth in the region (41,500 new homes) Increasing congestion on M1 Rail congestion for passengers and freight Lack of infrastructure for food manufacturing Failure to improve internal transport networks 	Physical	<ul style="list-style-type: none"> Investment in infrastructure to meet the diverse needs of the growing community to serve future generations Ensuring new development is sustainable, equitable and provides affordable housing Promote healthy living and ensure sport, leisure, recreation and aquatic facilities and open spaces are well maintained and activated Lake Munmorah as future town centre
<ul style="list-style-type: none"> Conserving the environment and keeping it free from pollution considering an increasing population. The coastal region is vulnerable to climate change - need to address, and implement frameworks that address, climate change. 	Natural	<ul style="list-style-type: none"> To be a highly liveable region that is attractive to both commuters and visitors Educate the community on the value and importance of natural areas, biodiversity and encourage community involvement in caring for our natural environment
<ul style="list-style-type: none"> Public Policy – reduced investment in health 	Social	<ul style="list-style-type: none"> Laid-back family friendly environment is one of the coast's best features

Challenges	Capital Area	Opportunities
<ul style="list-style-type: none"> • Industry diversification and business and employment growth • Decline in manufacturing due to competition • Cost of production increases e.g. electricity for manufacturing • Barriers to rezoning and development • Regulatory disincentives for mining investment • Tourism – failure to build market awareness and competition • Tourism – failure to provide appropriate infrastructure • Commodity price cycles for coal • Decline in the Sydney/Newcastle economy 	Economic	<ul style="list-style-type: none"> • Realise economic opportunity in health care and aged-care sectors • Facilitate commercial, manufacturing and mining development • Grow new industries and employment opportunities through improved transport links
<ul style="list-style-type: none"> • Ageing population 	Human	<ul style="list-style-type: none"> • Invest in health care solutions including infrastructure, services and preventative programs to keep people well for longer

Sources: One-Central Coast (2018), Lake Macquarie and Central Coast REDS (2018), Central Coast Positive Ageing Strategy (2020)

3.6.2 Lake Macquarie City Council

Lake Macquarie City Council’s relevant strategies and plans (refer to **Appendix A**) were also reviewed to identify the challenges and opportunities due to proximity to the Project Area. A summary of these challenges and opportunities are provided in Table 3.4:

Table 3.3 Lake Macquarie LGA Challenges and Opportunities

Challenges	Capital Area	Opportunities
<ul style="list-style-type: none"> • Decline in housing affordability • Additional accommodation needed for projected growth in the region (13,700 dwellings by 2036 including 1,825 social/affordable housing and 6,926 Aboriginal and Torres Strait Islander households) • Increasing congestion on M1 • Rail congestion for passengers and freight • Lack of infrastructure for food manufacturing • Failure to improve internal transport networks 	Physical	<ul style="list-style-type: none"> • Investing in infrastructure to meet the diverse needs of the growing community and future generations • Ensuring new development is sustainable, equitable and provides affordable housing • Promote healthy living and ensure sport, leisure, recreation and aquatic facilities and open spaces are well maintained and activated

Challenges	Capital Area	Opportunities
<ul style="list-style-type: none"> • Long-term preservation and enhancement of natural assets considering an increasing population. • The coastal region is vulnerable to climate change. 	Natural	<ul style="list-style-type: none"> • Natural resource base is a strong attraction for locals and visitors. • Educate the community on the value and importance of natural areas, biodiversity and encourage community involvement in caring for our natural environment
<ul style="list-style-type: none"> • Public Policy – reduced investment in health 	Social	<ul style="list-style-type: none"> • Ensure Lake Macquarie remains highly liveable where everyone feels a great sense of wellbeing. • Access to quality services, vibrant places and inclusive events. • Improved public transport and walking and cycling networks to make these viable and attractive options for residents.
<ul style="list-style-type: none"> • Industry diversification and business and employment growth • Barriers to rezoning and development • Tourism – build market awareness and competition • Tourism – providing appropriate infrastructure • Decline in the Sydney/Newcastle economy 	Economic	<ul style="list-style-type: none"> • Foster a diverse economy that compliments the unique character of the region and enhances the existing strong sense of place. • Harness new technologies. • Grow new industries and employment opportunities through improved transport links
<ul style="list-style-type: none"> • Ageing and growing population 	Human	<ul style="list-style-type: none"> • Invest in health care solutions including infrastructure, services and preventative programs to keep people well for longer

Sources: *Our Future in Focus (2017)*, *Lake Macquarie and Central Coast REDS (2018)*, *Let's Thrive (2020)*, *Aging Population Plan (2018)*

3.6.3 Community needs

During engagement for the Scoping Report, participants were asked to identify any community needs. As illustrated in **Figure 3.8**, the most frequently raised community needs related to community infrastructure, including additional footpaths to link villages and communities, improvements to roads and public transport services, and additional recreational infrastructure, including parks, sporting fields, skate parks and children's playgrounds.

Other suggestions included the need for additional medical and health services, additional protection for natural areas and rehabilitation of areas post mining and post closure of the VPPS.

Given that there are new housing developments planned for the area, some participants noted that the community may require additional infrastructure and services to cope with the likely influx of new residents.

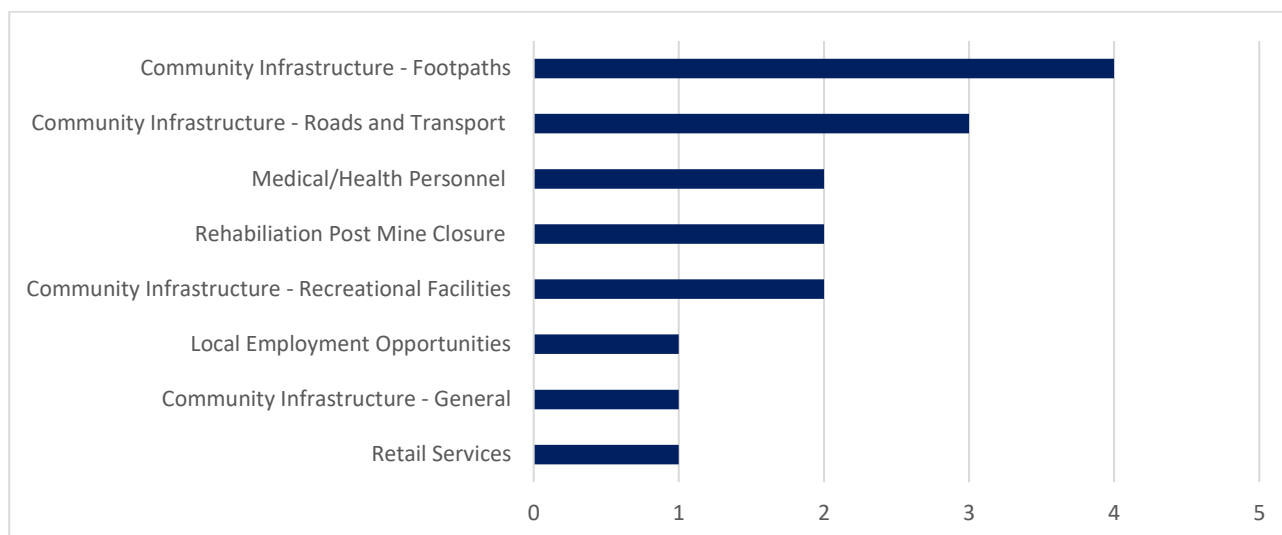


Figure 3.8 Community Needs

n=8, multiple responses allowed

3.7 Capitals Summary

The information contained in the profile section has been gathered from a range of secondary data sources including the ABS and PHIDU, local government strategic and action plans and State government plans. This data is used to provide an understanding of the social context in which the Project is located, including the Lake Macquarie and Central Coast LGAs, and the suburbs of relevance to the Project.

This profile has highlighted a number of key strengths and vulnerabilities arising from the capital's assessment that will be important in shaping the ongoing engagement program for the Project and in the assessment of social impacts. A summary of key characteristics is provided below, (refer to **Appendix A** for a summary by study area):

- Rich in natural capital, including national parks and reserves, lakes, and minerals (including coal); however there is potential for land use conflicts.
- An older median age than the NSW average.
- A higher than state average proportion of Indigenous population.
- Lower levels of education across communities.
- Mining has been historically significant in the economic and community development of the area, but this is changing.
- Improvements in infrastructure, transport and housing have made the area more affordable and desirable for different demographics including older populations who are no longer in the workforce or who may be reaching retirement age; as well as families attracted by the lower housing costs and the ability to commute outside of the area for work.
- The population has lower median household incomes.
- Housing is affordable.

- There is a strong sense of community, as identified by engagement participants.
- Additional community infrastructure is required to cope with the growing population.

Considering the above, it is important that the SIA and engagement program is informed by an understanding of the communities and the vulnerable groups (including the elderly and Indigenous population) to ensure accessibility and appropriateness of the mechanisms and tools selected, as well as considering the social impacts that might be experienced or heightened by these groups.

The World Health Organisation (WHO) defines vulnerability as:

the degree to which a population, individual or organization is unable to anticipate, cope with, resist and recover from the impacts of significant change (WHO, 2002)

Both the WHO and more recently, Vanclay Esteves, Aucamp, & Franks (2015), have outlined characteristics of vulnerable individuals/groups as:

Children, pregnant women, elderly people, malnourished people, and people who are ill or immunocompromised, that are particularly vulnerable when a disaster strikes, and take a relatively high share of the disease burden associated with emergencies' (WHO, 2002)

Further definitions consider vulnerable groups to include:

... Indigenous peoples, ethnic minorities, migrants, disabled people, the homeless, the poor, those struggling with substance abuse, and isolated elderly people (Vanclay, Esteves, Aucamp, & Franks, 2015).

Similarly, the presence of new residents/families in the area suggests that this stakeholder group may have limited knowledge of the history of mining in the area and may require additional information relating to mining impacts. Families that have young children, may also be more concerned about potential health impacts associated with mining in the area.

The community also appears to have a strong sense of community, with low mobility and strong community connections and networks.

4.0 Perceived and likely Social Impacts

This section documents the likely and perceived impacts (both positive and negative) in relation to the Project, as identified through engagement with key stakeholders and the community, consulted in the Scoping Phase of the SIA in November and December 2020. The section also draws on previous engagement undertaken by Delta Coal and relevant outcomes of the social baseline study and other relevant projects in the area (refer to **Section 3.0**).

A summary of the key social impacts to be further considered in the SIA and EIS is outlined in **Figure 4.1**.

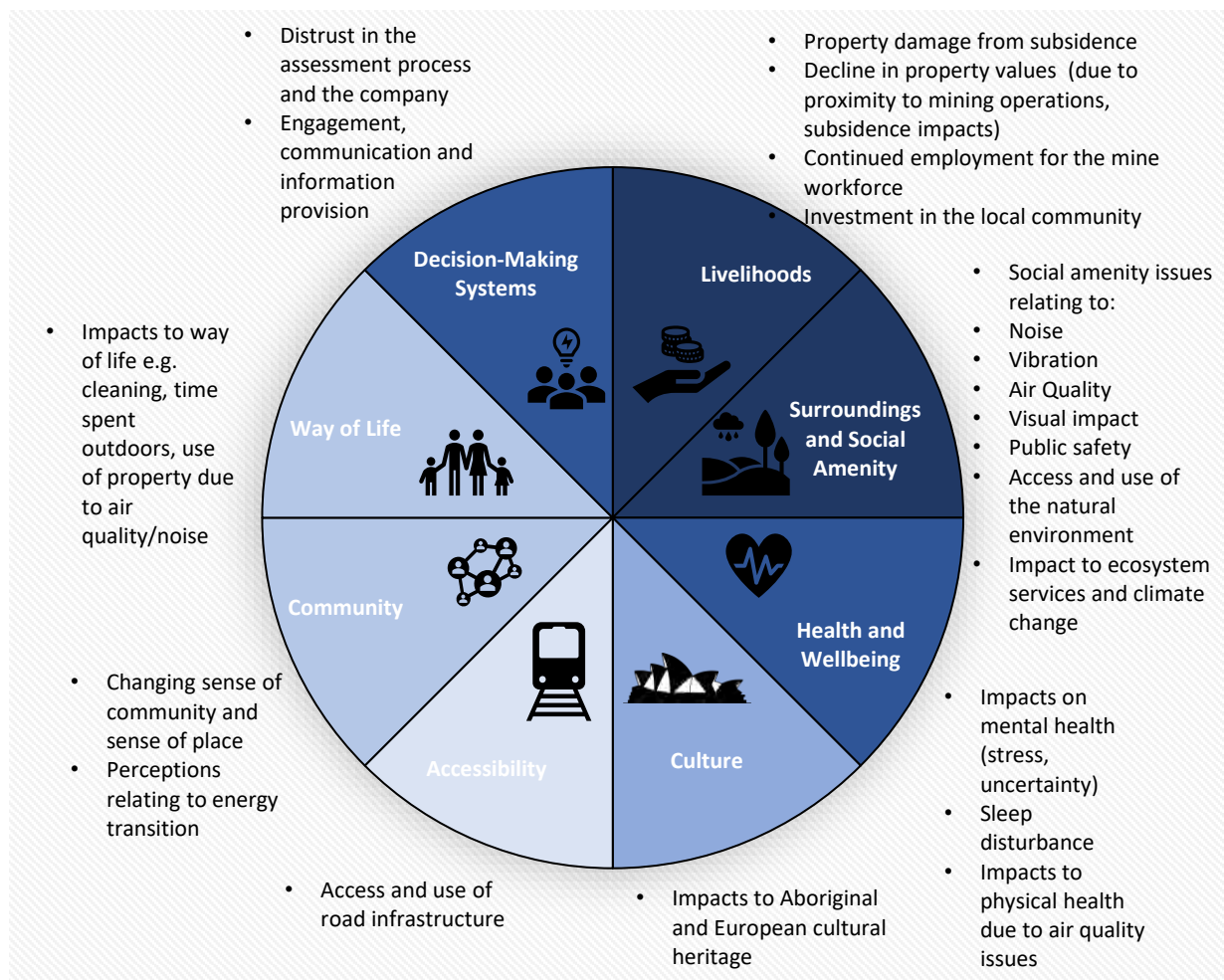


Figure 4.1 Summary of Perceived and Likely Social Impacts

4.1 Livelihoods

Livelihood impacts relate to people's capacity to sustain themselves through employment or business, when they experience financial disadvantage, and the distributive equity of impacts and benefits. In relation to the Project, key livelihood impacts raised by participants related to:

- property damage due to the potential for subsidence associated with mining activities; and flow on impacts to property value
- continued employment for workers
- continued investment in the local community

4.1.1 Property Damage and Property Value

Impacts relating to property, was a key concern raised by participants, particularly those in the Chain Valley Bay area. Several participants noted past experiences of subsidence impacts in Chain Valley Bay (South) in the 1980s and 1990s; where secondary mine workings undertaken at the Newvale Colliery, resulted in 'a sudden and 'unplanned' subsidence event of over 820mm' (Shirley Consulting Engineers 2017). As a result of the large ground settlement, extensive damage occurred to some properties and infrastructure within the Chain Valley Bay area.

Remedial works was undertaken by the Mine Subsidence Board (now Subsidence Advisory NSW), in 1990 and 1991. However, these works were seen to cause massive disruption for residents as they faced years of remediation works in and around their homes. Given the ongoing nature of the subsidence, cracks and building damage continued to occur with a number of residents taking legal action against the Mine Subsidence Board; with the Board failing to accept claims by residents for the ongoing effects observed after the remedial work was complete. The matter underwent a lengthy court and appeal process but was finally resolved in 2011 with the Mine Subsidence Board accepting liability for repairs as determined by an independent panel (Shirley Consulting Engineers 2017).

I am a subsidence survivor, the whole estate sunk ... Every single house was a battle, with many years of negotiation before they were fixed.

The proposed Project will not be using secondary extraction methods and will only utilise first working extraction methods under land areas, with a maximum of 20mm of subsidence predicted in the proposed Eastern Mining Area.

However, given the historical experience of the community, a number of participants raised subsidence as a key concern; with issues centring around subsidence causing potential damage to property such as cracks and structural damage to homes and pools; resulting in a reduction in property value and equity issues. One participant noted that they were considering extensions to their property but were concerned that the project and any potential property damage may result in a reduction in their property value.

Key concern is subsidence under Chain Valley Bay.

When we moved here we heard stories of houses falling down.

Concerned about property values decreasing.

Property devaluation, possible damage to property.

Negative, as it will impact residential areas and sections of foreshore.

While participants recognised that the Subsidence Advisory body was in place to remediate and compensate residents that may experience subsidence impacts, there was still a high level of concern expressed. The basis of this concern related to the historical struggles previously experienced with the Mine Subsidence Board and subsequent court proceedings. It was also noted that previous interactions had resulted in increased levels of stress and uncertainty for those affected, with in some cases, residents experiencing breakdowns in family relationships.

It's still going to happen. Who will pay to fix it if it subsidizes?

No guarantees of how or how quickly potential damages will be addressed or compensated by the company. Delta Coal may be willing to take the financial risk, but I do not accept any of the potential risk associated with the planned activity.

Can be traumatic. [Previous events in the 1980s and 1990s] caused lots of family stress, mental health issues, some ended in divorce, some residents moved out of the area because of it, some were contemplating suicide.

Similarly, one participant raised concerns that while the Project is only seeking approval for first workings under residential areas, it was felt that there were no guarantees that this would not change in the future, and additional mining impacts may be experienced.

Mining under residential areas I would totally oppose. First workings mining would be minimal subsidence and that would be acceptable. But there is no control over what happens in the future. What if they decide to use second workings in the future?

4.1.2 Employment

When asked about the positive impacts of the Project, participants acknowledged that the Project would ensure continued employment for the mine workforce. While there will be no increase in workforce numbers as a result of the Project, as a result of an extension to approved mining, approximately 390 FTE personnel (across MC and CVC operations) would maintain employment for an additional two years, until 2029; with continued procurement of contractors and suppliers.

Not against the mine, we don't want it to close. It's good for jobs but there needs to be a compromise.

Generates employment

Mainly employment

Will there be extra jobs?

4.1.3 Community Investment and Contributions

Some participants also acknowledged that the Project would also benefit the community through affording continued community investment. One participant noted that they were expecting additional money to be allocated to the fund, given extension of the operation.

Continuation of community funding from the mine

Continued community investment and grants. Good for community groups that are NFPs.

Community investment – 3 cents on the tonne, expecting more now that they are expanding and will be extracting more (coal)

As a condition of the existing CVC Consent Delta Coal have entered into a Voluntary Planning Agreement (VPA) with Central Coast Council, that requires the company to contribute \$0.035 for each tonne of coal produced into a community fund. The fund is administered by the Council and is used to fund not-for-profit organisations to deliver projects that improve community infrastructure within Summerland Point, Gwandalan, Chain Valley Bay and Mannering Park.

Applications must meet one or more of the following criteria:

- increase in community participation through creating vibrant neighbourhoods and public spaces
- increased opportunities for recreation and leisure
- increase in arts and culture, celebrations and events.
- enabling start up social enterprises.
- enhanced sense of local identity.
- increase in promotion of green spaces and the environment.
- building strong and innovative community infrastructure

As of 2019, over \$130,000 has been spent through the fund on community Projects, with an additional approximately \$83,000 available to be allocated in 2020. **Table 4.1** and **Table 4.2** outline the successful Projects that were funded throughout 2018 and 2019. As noted, there was an expectation by some stakeholders, that this contribution would continue or potentially be increased.

Table 4.1 Projects Funding through Delta Coal VPA – 2019

Project Title	Organisation	Amount
Sailability Safety RIB	Mannering Park Amateur Sailing Club Inc	\$17,237.00
Cinema Under the Stars Community Event	Northern Lakes Neighbourhood Centre	\$4,657.00
Welcome Wall Up grade	Mannering Park Tidy Towns Group Inc	\$664.00
Keep it clean keep it green	Mannering Park Tidy Towns Group Inc	\$6,475.00
Volunteers Support Pack	Mannering Park Amateur Sailing Club Inc	\$6,931.00
3 Phase Converter	Manno Mens Shed Inc.	\$4,400.00
Classroom Laptop	Mannering Park Public School P &C	\$5,877.00
Out n About	Southlake's Incorporated	\$2,150.00
	TOTAL	\$48,391.00

Source: Central Coast Council Presentation, CCC meeting September 2020

Table 4.2 Project Funded through Delta Coal's VPA – 2018

Project Title	Organisation	Amount
Restoration of The Community Hall Pelican Statue.	Mannering Park Tidy Towns Group Inc	\$967.16
Health for all our community	Mannering Park Tidy Towns Group Inc	\$29,920.00
Jetty Solar Lighting Project	Mannering Park Tidy Towns Group Inc	\$9,696.00
Out and About	Southlake's Incorporated	\$941.95
"Big Fun Up North" Project - Continued	Uniting NSW	\$6,866.60
Materials to build 30 Art Display stands size 2400mmx1220mmx4mm	Lions Club of Gwandalan Inc	\$5,039.00
CVB North Playground Covered Picnic Table	Chain Valley Bay Progress Association Incorporated	\$6,300.00
Supply and install double length picnic tables x 3	Gwandalan and Summerland Point Peninsula Improvement Group Incorporated	\$24,500.00
Lockable Cage for Beach Wheelchair at Joshua Porter Reserve	Chain Valley Bay Progress Association Incorporated	\$1,600.00
	TOTAL	\$85,830.71

Source: Central Coast Council Presentation, CCC meeting September 2020

4.2 Surroundings and Social Amenity Impacts

As outlined in the revised SIA Guideline (DPIE 2020), impacts on surroundings relate to 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.

During consultation in the scoping phase, impacts to surroundings were raised by a number of participants as of concern in relation to the Project. These impacts are further categorised in the following sub-sections.

4.2.1 Social Amenity

Impacts to social amenity raised by participants related to impacts on amenity as a result of noise, vibration, visual impacts of surface infrastructure and dust/air quality; with these concerns particularly noted by residents in close proximity to the CVC and MC Pit Tops. These impacts are further described below:

- impacts on amenity from underground operations including disturbances from noise and vibration (i.e. sleep disturbance, annoyance), and potential damage to property (discussed in **Section 4.3**).
- changes to social amenity due to dust and air quality
- changes to visual amenity due to visibility of surface infrastructure.

There was a general feeling among community members, that such impacts would continue to be experienced with continued mining.

Concerns were also noted that the additional proposed overland conveyor may cause increased noise impacts, with one community member suggesting that the conveyor should be underground to minimise noise impacts.

We hear the rattling and rumbling from underground

Local noise increase from additional conveyors, coal stockpiling and coal crushing

Doors shake and rattle

We already can hear it, hear it constantly

One resident raised the cumulative impact associated with noise from operations, suggesting that while Delta Coal may currently comply with noise criteria for their operations, this is not considered in conjunction with noise from VPPS.

Power station can make as much noise as possible ... They only comply because they have a directional noise logger, so it only picks up Mannering Colliery and not the power station.

Impacts relating to the **aesthetic value** of the area were also raised. While some participants in proximity to the pit tops noted that their visual amenity is already being impacted given views of chimneys / stacks from VPPS and other surface infrastructure; other residents noted concerns about the potential location of additional surface infrastructure including vent shafts / fans and whether these would be visible from their properties.

[Concerned about the] visual amenity of the above ground infrastructure

Can see the [VPPS] chimneys

Dust, and its impacts on social amenity and way of life was also raised as a concern during consultation. Concerns related to the additional cleaning and maintenance required at residential properties due to the presence of coal dust. It was felt that the Project would see a continuation of these impacts for local residents.

Dust – especially when there is a westerly wind, the dust washes over everything. We have to have our roof cleaned soon and don't want to get it done as it will be a waste.

I get black dust all over my house. The veranda is painted white and now it has all this black all over it.

The social amenity impacts that have been identified during the engagement process, are consistent with historical issues that have been identified during an analysis of complaints from CVC and MC operations. This analysis indicates that many complaints over the last two years have been related to noise (92.4% of all complaints).

All but one of the complaints received, related to operational noise being experienced between 8pm and 10am (with the majority being experienced between 12 midnight and 7am) with reference to noise from the MC. These complaints were made by residents of the Macquarie Shores Retirement Village, which is located approximately 700 metres from the MC Pit Top. CVC also received one noise complaint in 2020 from a resident of Kingfisher Shores, located approximately 500 metres from the CVC Pit Top.

Table 4.3 2019 and 2020 CVC and MC complaints

Complaint Issue	2019	2020	Total
Noise	42 (89.4%)	43 (95.6%)	85 (92.4%)
Dust	2 (4.3%)	0	2 (2.2%)
Vibration	1 (2.1%)	2 (4.4%)	3 (3.3%)
Light	2 (4.3%)	0	2 (2.2%)
Total	47	45	92

Source: Delta Coal (2020)

In addition, during engagement, a number of participants outlined that as the Project is an underground operation, and will predominately be servicing the VPPS via conveyors (not via road), there would be **minimal additional impacts on social amenity** as a result of noise, dust, increased traffic and visual impacts; with a further resident noting that changes made to the operation, including relocating the crusher and stockpiles underground and enclosing the conveyor, had reduced the impacts for neighbours living in close proximity to the pit tops.

No disadvantage - underground so doesn't impose on households or roads.

No more than current impact.

No coal coming up through Chain Valley Bay route, hell of a difference to the community - nothing will be dumped up top.

Crusher was put underground, no noise anymore.

Conveyor system closed underground on Ruttleys Road, no dust is good.

Supplying VPPS with coal, less traffic on the roads.

4.2.2 Public Safety and Road Access and Use

Impacts on road access and use and potential public safety impacts were also raised by participants during engagement.

The Project will primarily involve supplying coal to the VPPS, however, CVC is currently approved to transfer up to 660,000 tpa to the Port of Newcastle by road for export and up to 180,000 tpa to other domestic sources by road, options that will be retained as part of the Project.

The Project does not propose to change the current mode of coal transport used at MC and CVC, with the project preferencing the use of an overland conveyor for coal to be transferred to the VPPS, rather than road haulage. All ROM coal transferred to the VPPS would be via conveyor except during emergencies when truck haulage would be permitted. Emergency truck haulage would be via internal haul roads and small sections of Construction Road.

Despite these options being discussed, engagement participants raised a number of concerns relating to the use of public roads for coal haulage, and the subsequent impacts to road condition and safety of road users, particularly the elderly and/or young drivers. It was suggested that pavement condition particularly on key roads such as Ruttleys Road may deteriorate with any increase in traffic, particularly coal trucks. One participant noted that coal truck drivers would often drive unsafely causing increased concerns for road users.

Ruttleys road- and pavement condition. Road will degrade more quickly with the coal trucks.

Coal truck drivers aren't great are they?

If they do truck it - the community won't like it. I'm an ex-truck driver and they just don't like it. Damage to roads, and safety. Young ones don't worry but older generation still majority in the area, more and more younger families coming with new housing developments. Once they start seeing trucks will they notice the mine again.

Road traffic is concern, [I am] concerned as my daughter is driving the roads and concerned about her safety.

4.2.3 Surroundings - Access and Use of the Natural Environment

Given the proximity of the Project to Lake Macquarie and the importance and value placed on the Lake by surrounding communities, potential impacts to the Lake were raised as a key concern by community members. Participants were concerned that the Project and existing underground operations may cause water levels within the lake to decrease. Some participants were also concerned that the Project may cause an increase in pollution within the Lake, with some outlining that there was already existing pollution due to the presence of mining and the power stations. Other participants raised questions relating to the underground workings and potential connection with the lake.

I have been at the property for 3 years and I have noticed that the low tides are lower than they used to be.

Will the water level in the lake reduce?

Lake - health of the lake, biggest concern - heavy metal contamination in lake from coal ash dams.

Coal seam collapse, lake disappearing – but not that worried. Lots of safety things to stop that sort of Water is an issue – it's in the news the scientists are saying there are metals in the lake from the company using the water to cool the turbines. I wouldn't want to eat the fish out of the lake.

The expansion of the mine could lead to further environmental damage by subsidence and air pollution

Will the mine shafts fill with water? What will the impact be to the lake, will the water level decrease?

4.2.4 Impacts to Ecosystem Services and Climate Change

While impacts to ecosystem services and climate change were not specifically raised by stakeholders during engagement, participants did acknowledge that the Project would result in continuation of the mining operation and noted the connection between the operations and the power station, viewing the two companies and the impacts of the operations as synonymous.

For instance, when asked about top-of-mind association with Delta Coal, the most common response received was 'power station' and 'coal mine', with multiple responses allowed. Other responses related to the quality of the coal (*high quality, low sulphur*) or the physical/geographical location of the operation (*Chain Valley Bay, Mannering Park*).

Other stakeholders saw the Project more positively, noting that the Project would extend the life of the power station and would result in lower emissions, due to the higher quality coal provided by the operation.

Coal produced here has less sulphur - means that emissions are low in sulphur content. This needs to be told to the people at large. It's time we heard positive things about the coal industry. A number of stakeholders, also acknowledged the historical impacts that mining has had on the area, suggesting that mining activities have had a number of longer-term impacts on the environment. However, due to increased regulation and more rigorous assessment processes, it was expressed that the impacts of mining are being reduced and better managed.

Mines ... have had a major impact historically, can't hide that impact anymore. I think coal will come to an end, but it's still there at the moment and it's what we've got. Starting to see the impact no regulations/ environmental studies had - coal ash damns. Rules and regulations mean it is a lot safer [now]. Infrastructure underground is good - trying to make it better. I believe it's being managed well to an extent, EPA tell us they are under criteria. Better than it was. Stockpiles underground now.

However, a number of stakeholders felt there was a need for better rehabilitation post mining.

Rehabilitation of mining sites and waste product (coal ash) landfill sites from the by-product of burning the additional coal.

4.3 Health and Wellbeing

Health and wellbeing impacts include impacts to both physical and mental health, and may include psychological stress resulting from financial and/or other pressures, and changes to individual and public health. During the engagement process, participants raised health and wellbeing concerns in relation to:

- cumulative impacts of air quality on health, especially for more vulnerable groups within the community e.g. young children, the elderly
- sleep disturbance, as a result of noise and/or vibration
- increased stress relating to uncertainty regarding Project impacts

Participants noted concerns relating to the **cumulative impacts of air quality** and coal dust on health, particularly respiratory health. While participants did not necessarily raise concerns that the Project would exacerbate air quality issues, they noted that they already have concerns about the existing air quality in the locality, particularly given that black coal dust is often visible at their properties.

Participants also raised concerns about the impacts of dust on vulnerable groups such as children and those already suffering from respiratory illnesses such as asthma, with one resident suggesting that the area had higher rates of asthma in children.

Coal dust is an issue. We have to think about the younger generation – lots of young people and kids in Chain Valley Bay, can you just imagine them living in an unhealthy environment.

Health and wellbeing - both kids have asthma and I know of others

I am also concerned about the current and future impacts on my health of coal dust.

Concerned about existing air quality around the area. Want to know what the existing air quality around the area is like – what is the background level?

Coal dust is a concern, see black soot on the car and concerned about what we are breathing in. I can put up with the soot but concerned for the young people. I'd like to think the health of people is more important than big business.

Health and wellbeing concern also included experience of increased **psychological stress** due to **uncertainty** regarding the future of the Project; and how the Project may impact on their quality of life, sense of community and amenity.

How do you know what the impact will be, how do you know what impact you will have on people?

Impacts of noise and vibration on **sleep disturbance** were also raised. One stakeholder noted that they were already experiencing sleep disturbance due to noise and would often hear ‘thumping’ or ‘vibrations’ late at night or early in the morning from operations at MC. Impacts of noise were also linked to mental health impacts and seen as of particular importance due to the elderly population in the area.

Mental health is a key concern. I do hope that your report will address the concern of the impact of noise on the mental health of elderly pensioners living in the community... the elderly have digital hearing aids, so they are more sensitive to noise.

Sleepless nights... We have sleep disturbance [from] noise... particularly when crushing coal at Mannering Colliery and transporting it over the overland conveyor to VPPS.

4.4 Culture and Community

While not specifically raised as an impact by participants in the scoping phase of engagement, impacts to Aboriginal cultural heritage and historic (post European settlement); sense of community and sense of place, are likely to be of importance in relation to the Project.

Aboriginal cultural heritage and historic heritage are managed in accordance with the Delta Coal Heritage Management Plan. All mining undertaken under land areas will be designed to be long term stable with negligible ($\leq 20\text{mm}$) subsidence impacts; and it is not expected that mining operations will impact on any Aboriginal sites. However, the construction of the CVC to VPPS conveyor and upgrade of the MC emergency haul route have potential to impact on sites that may be present in areas of proposed construction.

An Aboriginal Cultural Heritage Assessment (to be undertaken in consultation with the relevant Aboriginal Stakeholders) and a Historic Heritage Assessment will be conducted for the Project and will involve the identification of any required management strategies to avoid harm and where it cannot be avoided, to minimise or mitigate harm. Proactive targeted engagement with relevant Indigenous representatives will be important given the greater vulnerability this stakeholder group.

In relation to European heritage, there are no listed heritage items within the vicinity of the proposed infrastructure or the proposed Eastern Mining Area.

Impacts on **sense of community and sense of place** may also be of concern to the community given the proximity of the Project to key areas of community and cultural significance, including Lake Macquarie and foreshore areas, and the SCA’s; and because of the in-migration of new residents to the area.

As previously identified in **Section 3.0**, these aspects of the area are highly valued by the community and are important to their lifestyle and way of life. Concerns that the Project may impact on the Lake (as discussed in **Section 4.2.3**), can therefore be understood as also impacting on resident’s sense of place, and their use of the environment for recreation. Engagement and Decision-Making Systems

Decision-making systems impacts relate to whether people experience procedural fairness, can make informed decisions about a project, can meaningfully influence decisions, and can access complaint, remedy and grievance mechanisms.

During engagement for the Project, participants raised several impacts relating to engagement and decision-making systems, specifically:

- distrust in the assessment process and the company (Delta Coal)
- process of engagement, communication, and information provision.

One participant noted that there is a lack of trust within the community that the information provided by Delta Coal is accurate and that the company will effectively manage their impacts to minimise the impact on the community. In addition, participants noted that they felt the Project would go ahead regardless of what they said or thought.

There is no trust, absolutely no trust. Delta Coal have more of a social responsibility, and they need to be looking at putting the community before profit. We are asking the company to mitigate as much as possible... The community is powerless.

In relation to engagement and information provision, one participant noted that ‘*Communication isn’t very forth coming, community isn’t very informed*’, however, other participants noted more positive experiences with the company.

Respond well to complaints, [and provide] honest information.

Delta does a good job communicating, always been able to reach them and they have always answered my questions.

They are doing everything they can, spreading information, allowing people to come and ask questions.

Big turnaround in terms of keeping community informed/ involved.

Delta is pretty good at keeping us up to date - they are good at letter box dropping.

Similarly, the proposed Project was seen to provide a mechanism to update the mine’s activities under one consent, in line with current environmental standards.

Consolidate two projects into one consent. Less confusion for broader community. Updates both mines’ approvals to current standard.

In relation to engagement during the scoping phase, feedback from the community suggested that a number of people did not feel informed about the Project, had not received information sheets, and wanted further information about the Project. In addition, others felt that the Information Session was not very well advertised and suggested using local Facebook sites as a way of improving communication with the community.

The information session held in November 2020 at the Chain Valley Bay Community Hall was advertised through a letterbox drop invitation that was delivered to all properties within the Eastern Mining Area (Chain Valley Bay (North), Teraglin Lakeshore Lifestyle Community, Valhalla Lifestyle Community and Lakeside Lifestyle Community), to NPWS, DLALC and properties in Chain Valley Bay (South), Kingfisher Shores, and the Macquarie Shores Lifestyle Village. In addition, given feedback from the community in the lead up to the session, the information session was also advertised on the Chain Valley Bay What’s Up and Kingfisher Shores Facebook sites.

When asked about the most beneficial aspects of the information session, participants noted:

Informal discussion with Delta staff.

I got to talk with someone face to face who was willing to try and address my concerns.

Time and knowledge of the team to explain various aspects of the project

For the Project team to provide Project plans and updates, relay outcomes of impact assessment studies and to build relationships with stakeholders, confirmation was sought from engagement participants as to their preferences in relation to ongoing engagement and communication with the company and the Project team in Phase 2 of the SIA. As outlined in **Figure 4.2**, newsletters were the most frequently identified communication method, followed by email and social media. Participants noted that the GASSPIG, Mannering Park, Chain Valley Bay What’s Up and Kingfisher Shores Facebook sites were mechanisms readily used by the community to access information on upcoming events and community news. Some participants noted that there are many elderly residents in the community who may not have access to mobile phone or emails.

Regarding the existing CCC for the operations, some participants felt that information was not forthcoming from CCC members, *‘CCC doesn’t share the information with the rest of the village’*, while a further participant felt that CCC members *‘always pass the information on from the CCC meetings [that we] post on local noticeboards’*.

One participant suggested that Delta Coal’s regular newsletter could feature a profile on the CCC members, so that the community would be able to recognise them and know who they should contact with any issues.

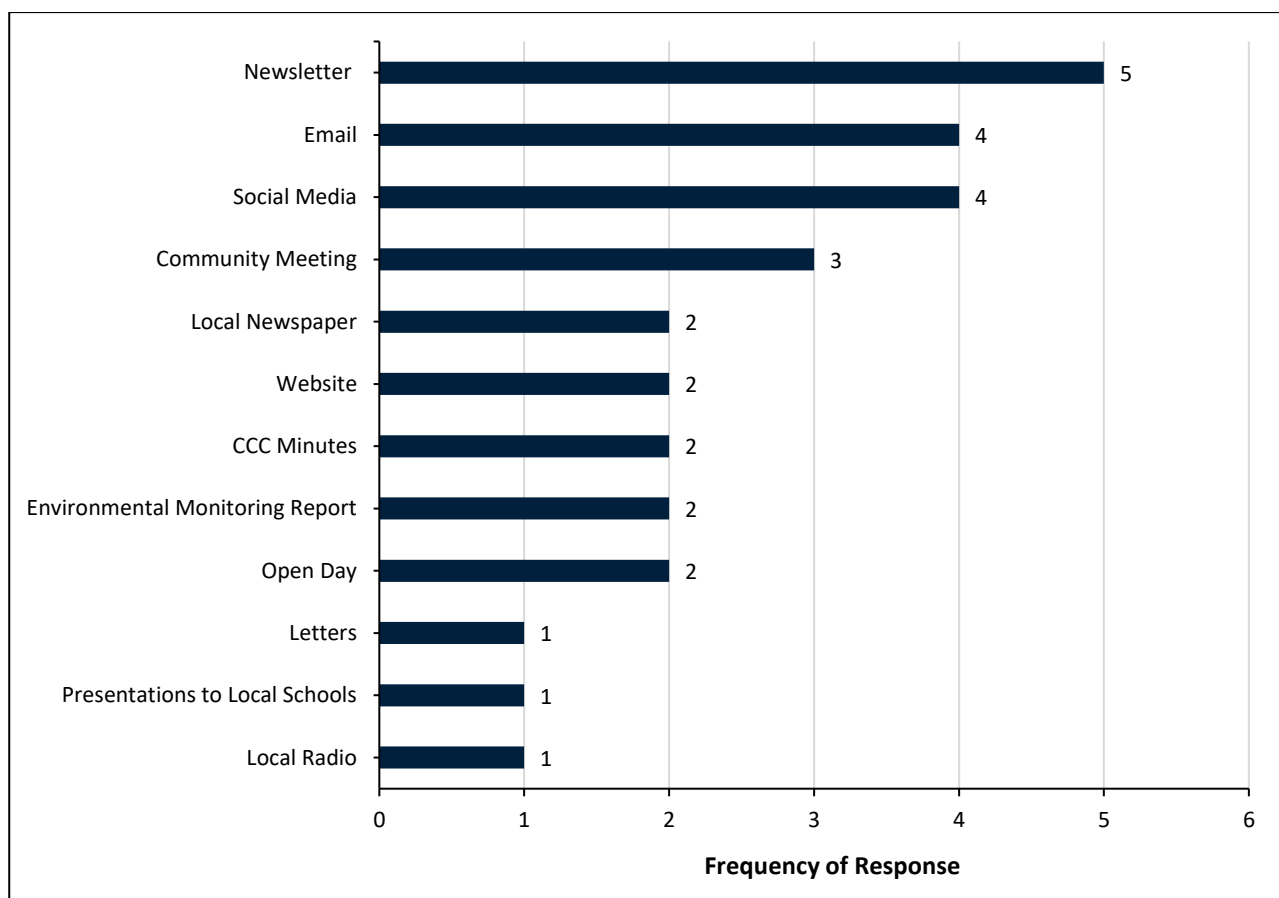


Figure 4.2 Engagement Preference

n=13, note multiple responses allowed

Source: Umwelt, 2021

When asked what additional information they would like to receive about the Consolidation Project, the following types of information were identified:

- more positive news relating to the Project, Delta Coal and coal mining in general
- air monitoring data and monitoring locations
- air quality mitigation strategies
- historical examples of property damage and remediation works that were undertaken
- updates on the progress of the EIS and SIA
- extraction plans
- information on subsidence modelling and mitigation
- further detail on the conveyor that will be constructed and predicted noise impacts for residents

Further consultation will be undertaken through the second phase of the impact assessment, to further understand community views on the project and to share outcomes of the technical assessment studies. A variety of engagement mechanisms will be utilised to target key stakeholders that have been identified through the SIA including:

- vulnerable groups (Aboriginal stakeholders and older community members)
- landholders who may be potentially impacted – particularly those located above the defined mining area
- community members or groups that may have an interest in the Project.

5.0 Preliminary Social Impact Evaluation and Management

The scoping phase has identified key issues of relevance to near neighbours and key stakeholders in relation to the Project. **Table 5.1** outlines the key impacts to be considered as part of the broader SIA/EIS assessment.

Based on engagement with the community during the scoping phase, and current understanding of the Project, a preliminary evaluation of likely social impacts has been developed, which will be confirmed during subsequent phases of the SIA.

Table 5.1 Preliminary Evaluation of Likely Social Impacts

Social Impact theme	Impact description	Potential Impact on People	Project Aspect	Extent	Duration	Affected parties
Livelihood	Concerns in relation to property values due to presence of mining and potential property damage	<ul style="list-style-type: none"> Potential financial loss because of property damage caused by subsidence impacts Increased stress relating to the process off remediation – based on historical experiences. 	Subsidence impacts	Project Area	Project life	Residents residing in areas above the proposed mine workings
	Employment	<ul style="list-style-type: none"> Maintenance of livelihood and income through continued employment Indirect expenditure 	Economic outcomes	Central Coast and Lake Macquarie LGAs	Project life	Employees, contractors and suppliers
						Local businesses
						Wider LGA community
	Investment in the local community	<ul style="list-style-type: none"> Potential for improvement to community infrastructure and services 	Economic outcomes	Central Coast and Lake Macquarie LGAs	Project life	Community residents – proximal suburbs
						Community groups/NGOs
Wider LGA community						
Surroundings and social amenity	Social amenity impacts due to operational noise and vibration from pit top and underground operations	<ul style="list-style-type: none"> Loss of amenity Noise emissions that are audible from key receptor points and diminish quality of life/ sense of serenity Vibrations from underground operations are felt at key receptors and diminishing quality of life/social amenity Ongoing background noise/vibration that increases stress of community members 	Pit top operations Conveyors	Manning Park Doyalson North Kingfisher Shores	Project Life	Residents close to the pit top
						Community residents – proximal suburbs
						Wider LGA communities

Social Impact theme	Impact description	Potential Impact on People	Project Aspect	Extent	Duration	Affected parties
	Impact of air quality / dust from pit top operations	<ul style="list-style-type: none"> Overall loss of amenity resulting from environmental impacts from pit top operations Impacts to way of life (e.g., cleaning, time spent outdoors, use of property) 	Pit top operations	Central Coast and Lake Macquarie LGAs	Project life	Residents close to the pit top
						Community residents – proximal suburbs
						Wider LGA Communities
	Impact to aesthetic value or visual amenity because of surface infrastructure	<ul style="list-style-type: none"> Changes to views and visual amenity due to presence of surface infrastructure 	Surface infrastructure	Central Coast and Lake Macquarie LGAs	Project life	Residents close to the pit top
						Community residents – proximal suburbs
						Wider LGA Communities
	Public safety and road access and use	<ul style="list-style-type: none"> Increased traffic (particularly trucks) impacting on public safety Decreased sense of safety on roads Increased congestions and traffic delays 	Product haulage by road	Central Coast and Lake Macquarie LGAs	Project life	Community residents – proximal suburbs
						Road users
	Access and use of the natural environment	<ul style="list-style-type: none"> Loss of environmental values Changes to Lake access and use 	Presence of the Project	Project Area Lake Macquarie and foreshore	Ongoing	Community residents – proximal suburbs
						Wider LGA Communities
Impacts to ecosystem services and climate change	<ul style="list-style-type: none"> Reduced emissions and contribution to climate change due to higher quality coal 	Presence of the Project Supply of coal to VPPS	Central Coast and Lake Macquarie LGAs	Ongoing	Wider LGA Communities	

Social Impact theme	Impact description	Potential Impact on People	Project Aspect	Extent	Duration	Affected parties
		<ul style="list-style-type: none"> Contribution to climate change through VPPS emissions Changes in societal or public perceptions of climate change 	Presence of the Project Supply of coal to VPPS	Central Coast and Lake Macquarie LGAs	Ongoing	Wider LGA Communities
		<ul style="list-style-type: none"> Opportunities to improve environmental values for surrounding communities post mining through improved rehabilitation 	Rehabilitation	Central Coast and Lake Macquarie LGAs	Ongoing	Community residents – proximal suburbs
						Wider LGA Communities
Health and wellbeing	Impact to mental health as a result of the Project	<ul style="list-style-type: none"> Fears associated with the Project i.e. uncertainty Increased levels of anxiety and stress Impacts on quality / way of life (e.g. sleep disturbance) 	Presence of the Project	Central Coast and Lake Macquarie LGAs	Project life	Residents residing in areas above the proposed mine workings
						Residents close to the pit top
						Community residents – proximal suburbs
						Wider LGA Communities
	Noise and vibration causing sleep disturbance	<ul style="list-style-type: none"> Sleep disturbance from noise and vibration 	Pit top operations Conveyors Underground operations	Central Coast and Lake Macquarie LGAs	Project life	Residents residing in areas above the proposed mine workings
						Residents close to the pit top
						Community residents – proximal suburbs
	Impact to physical health	<ul style="list-style-type: none"> Impacts to physical health due to air quality (e.g., risk of asthma and respiratory conditions) 	Pit top operations Supply of coal to VPPS	Central Coast and Lake Macquarie LGAs	Project life	Residents residing in areas above the proposed mine workings
Residents close to the pit top						

Social Impact theme	Impact description	Potential Impact on People	Project Aspect	Extent	Duration	Affected parties
		<ul style="list-style-type: none"> Cumulative impacts of air quality on health 				Community residents – proximal suburbs Wider LGA Communities
Community and Culture	Impacts to Aboriginal and European cultural heritage	<ul style="list-style-type: none"> Loss of cultural values 	Subsidence	Project Area	Ongoing	Aboriginal community
	Impacts to sense of community and sense of place	<ul style="list-style-type: none"> Loss of sense of community and sense of place Loss of community values Changes to way of life/lifestyle 	Presence of the Project	Central Coast and Lake Macquarie LGAs	Ongoing	Community residents – proximal suburbs
Engagement and decision making	Distrust in the assessment process and the company	<ul style="list-style-type: none"> Community distrust in the engagement and project assessment process 	Engagement process	Central Coast and Lake Macquarie LGAs	Project life	Residents residing in areas above the proposed mine workings
						Residents close to the pit top
						Community residents – proximal suburbs
	Engagement, communication and information provision	<ul style="list-style-type: none"> Lack of ability to impact on decision making processes Inadequate information to make informed decision 	Engagement process	Central Coast and Lake Macquarie LGAs		Residents residing in areas above the proposed mine workings Residents close to the pit top Community residents – proximal suburbs

Further SIA and technical environmental impact studies relating to the above will be undertaken as part of the EIS and will address perceptions of impact raised by key stakeholders in the scoping phase. Subsequent phases of the SIA program will involve the following key activities:

- a detailed update of the baseline social profile to ensure that baseline data relevant to the impacts identified is obtained
- further validation of the area of social influence utilising updated operational profile data
- provision of feedback to near neighbours and key stakeholders on the outcomes of the issues raised in the scoping phase and communication of the Project Secretary’s Environmental Assessment Requirements (SEARs) (once issued) and an outline of the next steps in the assessment process
- further engagement with near neighbours and other key stakeholders on key impact areas as noted above. This will involve feedback on the outcomes of assessment studies and will provide opportunities for input to the development of appropriate mitigation and enhancement measures to address significant social impacts and residual effects.
- assessment and evaluation of social impacts – against existing baseline conditions

During the early engagement process, a number of suggested strategies for addressing project impacts have been proposed by stakeholders and are summarised in **Table 5.2**. These will be further explored in subsequent phases of the SIA and EIS.

Table 5.2 Strategies Identified by Participants During the Scoping Phase to Address Key Project Impacts

Impact/Opportunity Area	Strategies
Social amenity	<ul style="list-style-type: none"> • Underground conveyors and coal crushing to reduce impact
Public safety and road access and use	<ul style="list-style-type: none"> • Remove option for road haulage
Access and use of natural environment	<ul style="list-style-type: none"> • Limit mining under the foreshore
Impacts to ecosystem services and climate change	<ul style="list-style-type: none"> • Commitment to rehabilitate areas associated with Delta Coal and VPPS, including the ash dam • Return mining area to natural bushland • Progressive decommissioning and removal of infrastructure • Limit to existing life of mine agreement • Increase use of renewables (solar and wind)
Livelihood	<ul style="list-style-type: none"> • No mining under residential areas, with full extraction in areas without houses (including bushland) • Support for local initiatives e.g., community garden • Compensation e.g., subsidised electricity or solar panels • Purchase of properties within the Eastern Mining Area • Guarantee no subsidence / damage for properties within the Eastern Mining Area

Impact/Opportunity Area	Strategies
Health and wellbeing	<ul style="list-style-type: none"> • Provide monitoring results and data relating to air quality impacts, including location of monitors
Engagement and Decision-Making Systems	<ul style="list-style-type: none"> • Profile CCC members in newsletter to increase community awareness of the CCC and its role • Advertise community fund • Provide community with information relating to: <ul style="list-style-type: none"> ○ Outcomes of environmental assessments ○ More positive news relating to the Project, Delta Coal and coal mining in general ○ Air monitoring data and monitoring locations ○ Air quality mitigation strategies ○ Updates on the progress of the EIS and SIA ○ Extraction plans ○ Information on subsidence modelling and mitigation

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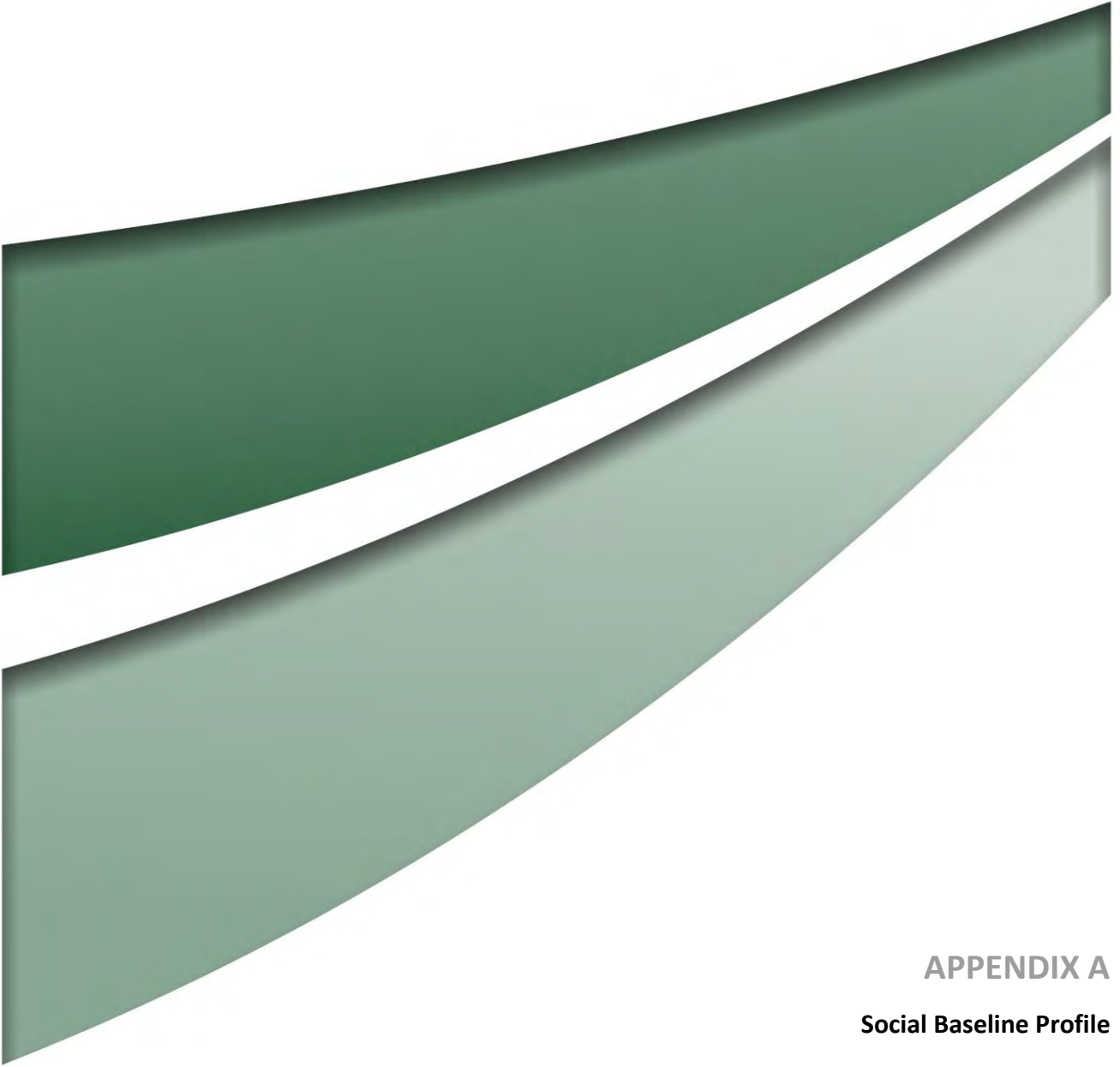
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APPENDIX A
Social Baseline Profile

Social Baseline Profile

Demographic Analysis and Collection

A key component in the development of the social baseline profile for the assessment has been the collation, interpretation and analysis of demographic data. Analyses undertaken relate to:

- **Social Indicator** identification and selection to afford appropriate assessment of social impacts relating to the Project.
- **Comparative analysis** across the different localities identified as being relevant to the Project including Central Coast and Lake Macquarie LGAs and NSW State.

Socio-economic characteristics of the relevant localities are largely based on State Suburb Code (SSC) and LGA levels of analysis and informed by data available from ABS Census data and other social indicator data sources as relevant.

At the LGA level, longitudinal analysis has been undertaken of ABS Census data from 2006, 2011 and 2016, and Social Health Atlas indicators from 2011, 2016 and 2020, to afford an analysis of trends within the community.

Table A1.1 provides a summary list of data sets that have been used to inform this section.

Table A1.1 Data Sources

Source	Content
Australian Bureau of Statistics (ABS)	<p>2006, 2011, and 2016 General Community and Time Series and Profile data for:</p> <p>State Suburbs (SSCs) of:</p> <ul style="list-style-type: none"> • Mannering Park • Kingfisher Shores • Chain Valley Bay • Doyalson North • Lake Munmorah • Summerland Point • Gwandalan • Catherine Hill Bay <p>Local Government Areas (LGA) of Central Coast and Lake Macquarie</p> <p>State of New South Wales (STE)</p>
The Public Health Information Development Unit (PHIDU), Torrens University Australia	<p>2011, 2016 and 2020 releases of public health data through the Social Health Atlas (New South Wales). Data within the Social Health Atlas is collated from a range of sources</p> <p>http://phidu.torrens.edu.au/social-health-atlases</p>

Source	Content
Local and State Government Reports	<ul style="list-style-type: none"> • One – Central Coast (Community Strategic Plan 2018-2028) • Central Coast and Lake Macquarie Regional Economic Development Strategy 2018–2022: Supporting Analysis • North Wyong Structure Plan • Greater Lake Munmorah Structure Plan (draft) • Central Coast Regional Plan 2036 (2016) • Lower Hunter Regional Strategy (2006-2031) • Our Future in Focus – Lake Macquarie City Community Strategic Plan (2017-2027) • Shaping the Future – Lake Macquarie City Local Strategic Planning Statement 2020 • Supporting Over 55s in the City – Ageing Population Plan (2018 - 2022) • Let’s Thrive – Lake Macquarie City Housing Strategy 2020

It should be noted that due to the ABS’ (2016) recent update of the Australian Statistical Geography Standard (ASGS), the statistical boundaries of a number of relevant communities (SSCs) have been changed. As a result of these changes, timeseries data has been provided at the LGA level only.

It should also be noted that the ABS demographic data may be skewed for smaller populations, such as Catherine Hill Bay and Kingfisher Shores. The ABS quotes that ‘*small random adjustments have been made to all cell values to protect the confidentiality of data, which may cause the sum of rows or columns to differ by small amounts from the table totals*’. In small populations, each person greatly impacts the area’s data making it more difficult to undertake comparisons.

Social Area of Influence Definition

This social baseline profile has been targeted to focus on the Project’s social locality or social area of influence.

The revised SIA guideline states that the social locality is defined by:

- *the scale and nature of the project*; its associated activities including ancillary works and infrastructure; potential direct and indirect impacts (for example, transport and logistics corridors or property acquisitions); and potential cumulative impacts
- *who may be affected by the project*; how they may be affected; their social, cultural and demographic characteristics; their relevant interests and values; the things that differentiate groups (such as cultural diversity) as well as things that they have in common; and the broader community interest
- *whether any vulnerable or marginalised people may be affected by the project*, including people on low incomes; people living with disabilities, chronic medical conditions or in poor health requiring access to services; culturally and linguistically diverse communities; people who are homeless or in insecure housing; people who are unable or unwilling to represent themselves or other vulnerable people such as elderly people, children or single-parent households
- *built or natural features on or near the project that could be affected, and the intangible values that people may associate with these features*, such as a sense of place or belonging, rural character, community cohesion and connection to Country

- *relevant social, cultural, demographic trends or social change processes* occurring now or in the past near the project site and in the broader region – such as how Aboriginal people engage in area (past and present), rental affordability trends, changing employment patterns, shifting land uses or population and demographic changes – and how people have felt or experienced these changes
- *the history of the proposed project and the area*, and any similar experiences people near the project have had, including change prior to, or created by, the planning assessment process; how people reacted to early discussions; and how these discussions and other experiences affected the broader community

Community Capitals Summary

Using the Capitals framework, the following **Table A1.2** summarises key statistics sourced from the ABS census general community profiles for 2006, 2011 and 2016, as well as PHIDU reports from 2011, 2016 and 2020. Additional data is provided below to support the Social baseline profile in **Section 3.5**.

Table A1.2 Capitals Summary Table (2006 - 2016)

	Manning Park SSC	Kingfisher Shores SSC	Chain Valley Bay SSC	Doyalson North SSC	Lake Munmorah SSC	Summerland Point SSC	Gwandalan SSC	Catherine Hill Bay SSC	Central Coast LGA ¹				Lake Macquarie LGA				NSW
	2016	2016	2016	2016	2016	2016	2016	2016	2006	2011	2016	Change	2006	2011	2016	Change	2016
Human Capital																	
Population																	
Population Size	2,472	163	2,459	384	5,248	2,493	3,273	162	297,957	312,182	327,736	↑	183,142	189,005	197,371	↑	7,480,231
Population Change (%)	-	-	-	-	-	-	-	-	-	4.6	4.7	↑	-	3.1	4.2	↑	-
Median Age	41	44	56	72	48	45	43	49	40	41	42	↑	40	41	42	↑	38
Indigenous Population (%)	6	7	4	2	4	4	6	5	2	3	4	↑	2	3	4	↑	3
Age: 0-14 (%)	19	18	14	3	16	18	18	20	20	19	18	↓	20	19	18	↓	19
Age: 15-34 (%)	24	21	17	8	21	20	23	14	23	23	22	↓	23	23	23	-	27
Age: 35-54 (%)	26	28	18	6	22	25	25	32	27	27	25	↓	28	27	25	↓	26
Age: 55+ (%)	31	39	52	85	41	37	34	41	30	31	34	↑	29	32	34	↑	28
Education																	
Year 10 highest year of schooling (%)	44	40	43	39	42	42	43	38	-	-	34	-	30	35	40	↑	23
Year 12 highest year of schooling (%)	31	41	28	18	33	34	33	44	-	-	46	-	36	35	33	↓	59

¹ Data for a number of indicators is only available at the Central Coast LGA level for 2016 as

	Manning Park SSC	Kingfisher Shores SSC	Chain Valley Bay SSC	Doyalson North SSC	Lake Munmorah SSC	Summerland Point SSC	Gwandalan SSC	Catherine Hill Bay SSC	Central Coast LGA ¹				Lake Macquarie LGA				NSW
	2016	2016	2016	2016	2016	2016	2016	2016	2006	2011	2016	Change	2006	2011	2016	Change	2016
Bachelor degree (%)	6	13	5	2	6	6	6	12	7	9	10	↑	8	10	11	↑	26
Certificate (%)	27	36	27	25	28	29	32	24	21	23	24	↑	22	24	26	↑	30
Economic Capital																	
Proportion of the labour force employed full-time (%)	53	55	52	48	55	53	58	47	56	56	55	↓	56	57	55	↓	59
Proportion of the labour force employed part-time (%)	33	28	34	48	34	32	31	28	31	31	33	↑	31	32	33	↑	37
Proportion of the labour force who are unemployed (%)	8	6	7	5	8	10	7	10	7	7	7	-	7	5	7	-	6
Median household income (\$/week)	1,187	1,275	844	666	1,004	1,126	1,258	1,416	855	1,000	1,256	↑	921	1,114	1,310	↑	1,486
Median mortgage repayment (\$/month)	1,465	1,820	1,517	1,083	1,600	1,560	1,625	2167	1,500	1,820	1,750	↑	1,300	1,733	1,733	↑	1,986
Median rent for a 3-bed house (\$/week)	340	315	320	150	320	350	335	315	200	270	350	↑	185	255	320	↑	430

	Manning Park SSC	Kingfisher Shores SSC	Chain Valley Bay SSC	Doyalson North SSC	Lake Munmorah SSC	Summerland Point SSC	Gwandalan SSC	Catherine Hill Bay SSC	Central Coast LGA ¹				Lake Macquarie LGA				NSW
	2016	2016	2016	2016	2016	2016	2016	2016	2006	2011	2016	Change	2006	2011	2016	Change	2016
Median rent as a proportion of median household income (weekly)	28	24	38	22	32	31	27	22	23	27	28	↑	20	23	24	↑	29
Social Capital																	
Mobility																	
Proportion of population with a different address 1 year ago (%)	13%	11	11	7	11	13	13	18	17	16	16	↓	15	15	15	-	14
Proportion of population with a different address 5 years ago (%)	37	39	34	30	35	40	41	33	45	43	44	↓	39	38	40	↑	39
Social Cohesion																	
Proportion of single parent families (%)	13	14	8	3	8	9	9	8	-	-	10	-	9	9	8	↓	16
Proportion of population aged 15+ who volunteer (%)	13	16	15	12	15	13	15	24	-	-	17	-	17	16	18	↑	18
Proportion of population born overseas (%)	8	12	13	21	11	12	10	10	13	14	15	↑	9	10	10	↑	30

	Manning Park SSC	Kingfisher Shores SSC	Chain Valley Bay SSC	Doyalson North SSC	Lake Munmorah SSC	Summerland Point SSC	Gwandalan SSC	Catherine Hill Bay SSC	Central Coast LGA ¹				Lake Macquarie LGA				NSW
	2016	2016	2016	2016	2016	2016	2016	2016	2006	2011	2016	Change	2006	2011	2016	Change	2016
Proportion of family households (%)	74	77	67	49	69	73	76	66	68	68	67	↓	73	72	71	↓	72
Proportion of group households (%)	3	0	2	2	2	3	3	5	3	3	3	-	2	2	2	-	4
Proportion of lone person households (%)	23	18	30	49	28	24	20	28	25	26	25	-	22	23	23	↓	24
Physical Capital																	
Household Type																	
Proportion of occupied private dwellings that are free-standing houses (%)	95	102	99	100	98	97	98	100	81	79	78	↓	87	86	85	↓	67
Household Tenure																	
Proportion of occupied private dwellings that are fully owned (%)	33	21	60	79	48	42	36	41	35	34	33	↓	39	38	37	↓	33
Proportion of occupied private dwellings that are being purchased/ owned by a mortgage (%)	38	41	26	3	32	34	42	13	32	33	33	↑	33	35	35	↑	33

	Manning Park SSC	Kingfisher Shores SSC	Chain Valley Bay SSC	Doyalson North SSC	Lake Munmorah SSC	Summerland Point SSC	Gwandalan SSC	Catherine Hill Bay SSC	Central Coast LGA ¹				Lake Macquarie LGA				NSW
	2016	2016	2016	2016	2016	2016	2016	2016	2006	2011	2016	Change	2006	2011	2016	Change	2016
Proportion of occupied private dwellings that are being rented (%)	26	27	11	12	17	21	19	36	25	26	26	↑	22	23	22	-	21
Proportion of households in mortgage stress (%) ²	-	-	-	-	-	-	-	-	-	-	9	-	8	9	8	-	10
Proportion of households in rental stress (%) ³	-	-	-	-	-	-	-	-	-	-	35	-	30	30	34	↑	28

Source: ABS Census General Community Profiles (2006, 2011 and 2016); PHIDU (2011, 2016, 2020)

² A family is considered to be in mortgage stress if they are in a low-income bracket and pay more than 30% of their income on mortgage repayments.

³ A family is considered to be in rental stress if they are in a low-income bracket and pay more than 30% of their income on rental repayments.

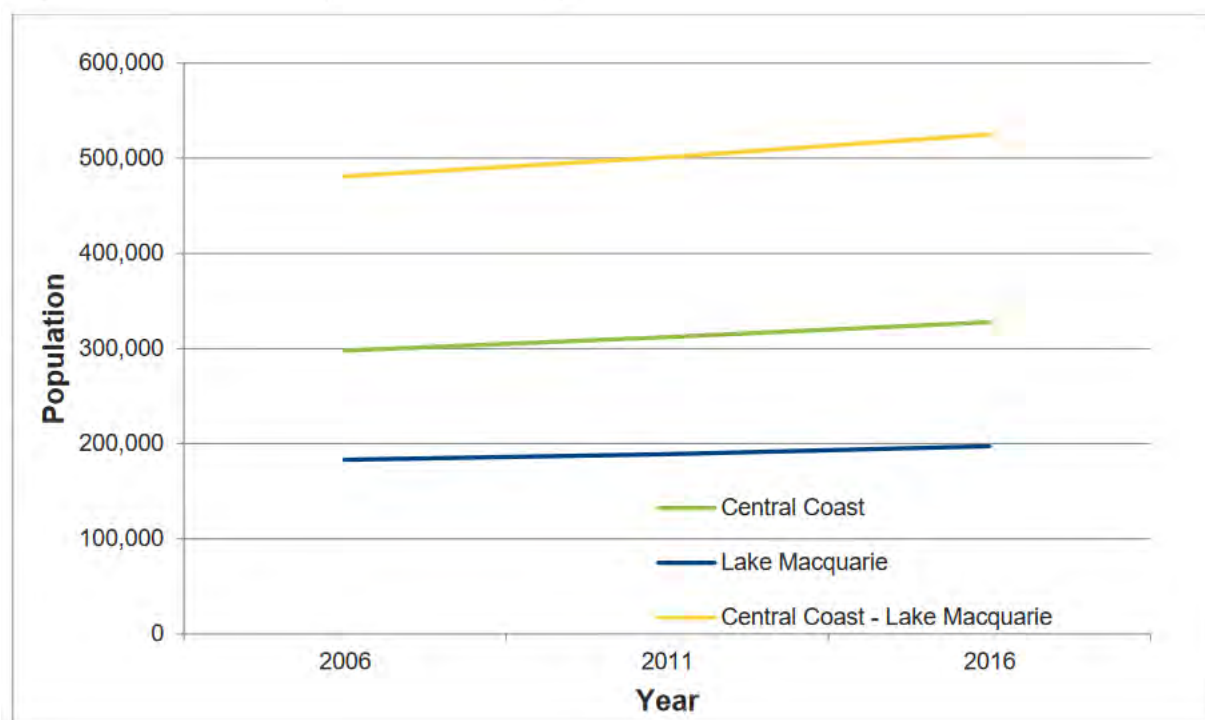
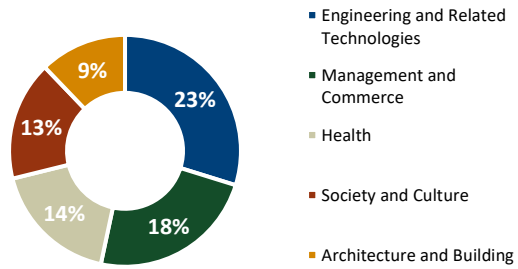


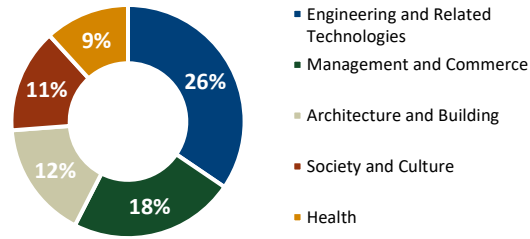
Figure A1.1 Historic Change in Population

Source: (NSW Government, 2018)

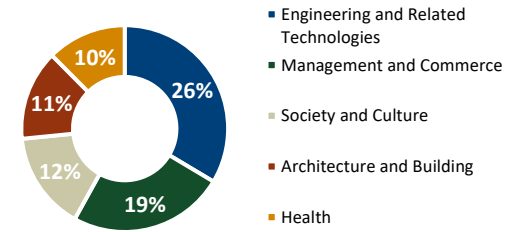
Manning Park



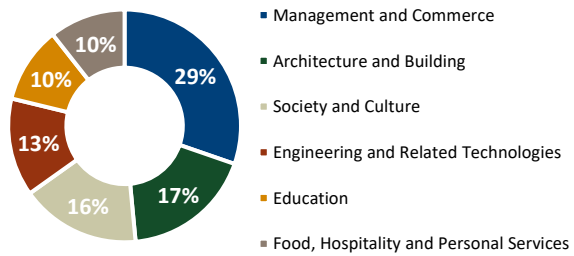
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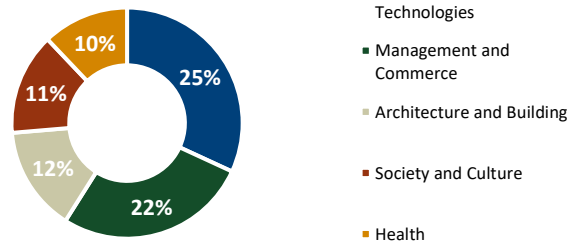
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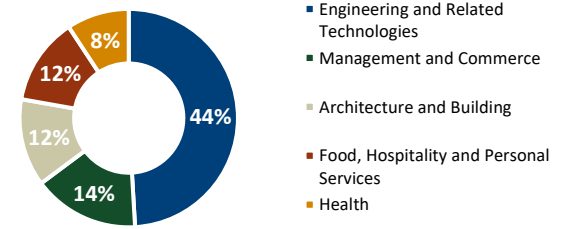
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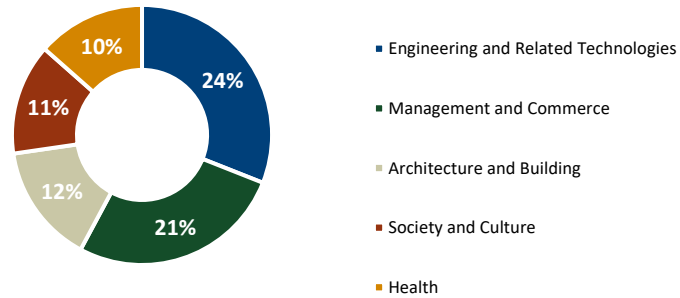
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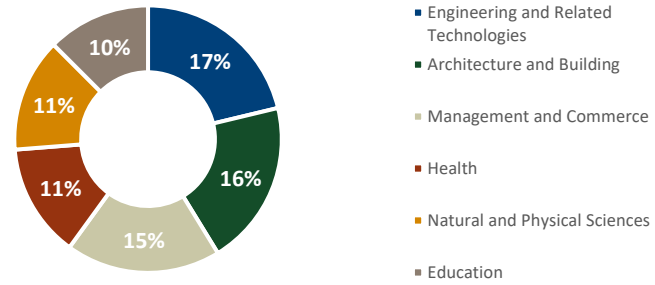
Doyalson North



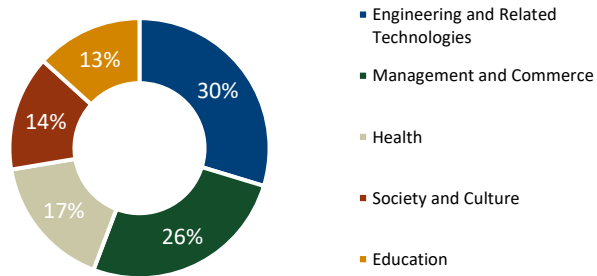
Lake Munmorah



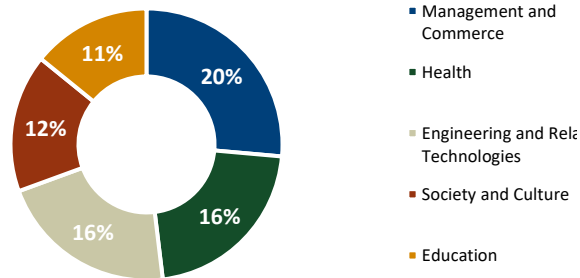
Catherine Hill Bay



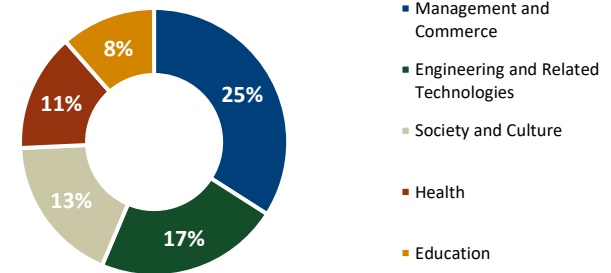
Lake Macquarie LGA



Central Coast LGA



NSW



FigureA1.2 Top Fields of Study

Table A1.3 Work Location within the Central Coast - Lake Macquarie Region

Category	No.	%
Live and work in the area	141,109	64
Live in the area, but work outside	66,532	30
Work location unknown	13,195	6
Total employed residents	220,836	100

Source: (NSW Government, 2018)

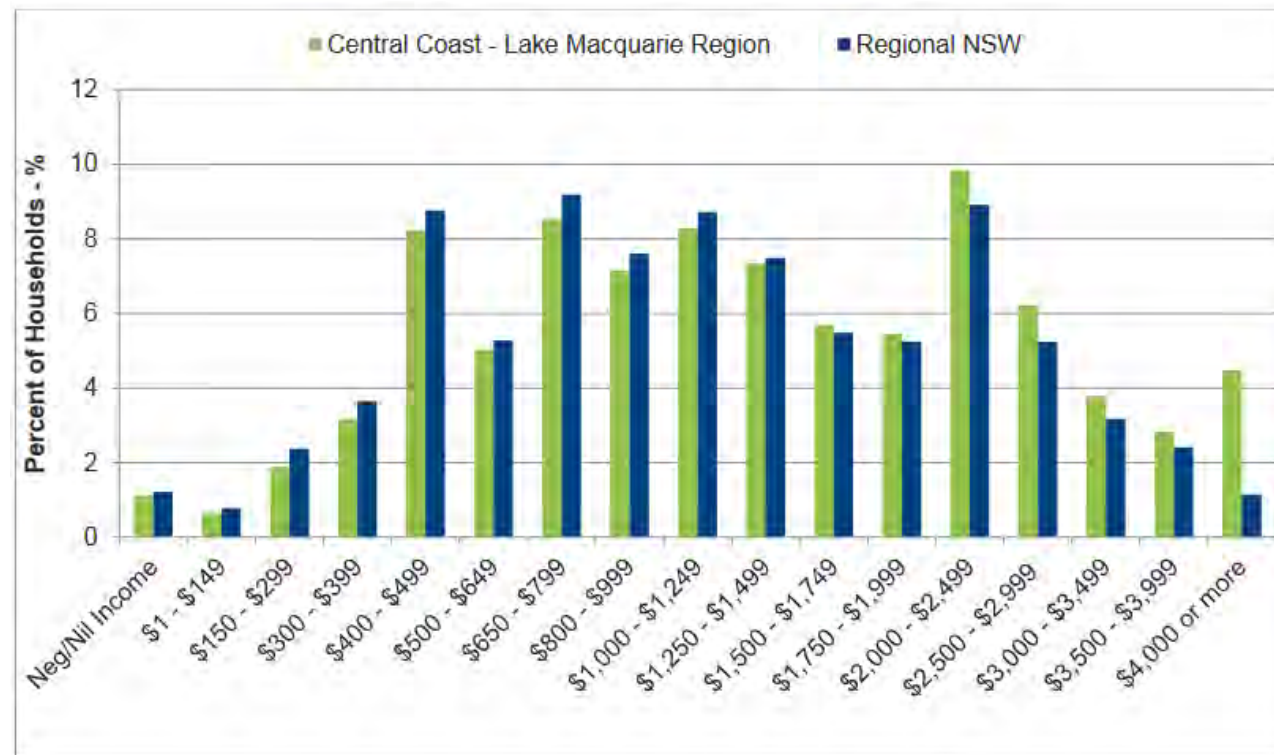


Figure A1.3 Weekly Household Income Distribution

Source: (NSW Government, 2018)

Table A1.4 Top Industries of Employment

	Manning Park SSC	Kingfisher Shores SSC	Chain Valley Bay SSC	Doyalson North SSC	Lake Munmorah SSC	Summerland Point SSC	Gwandalan SSC	Catherin Hill Bay SSC	Central Coast LGA			Lake Macquarie LGA			NSW
	2016	2016	2016	2016	2016	2016	2016	2016	2006	2011	2016	2006	2011	2016	2016
Top 3 industries of employment	Health care and social assistance (12.9%)	Retail trade (15.6%)	Construction (15.6%)	Construction (25.4%)	Construction (14.6%)	Construction (15.3%)	Construction (16.1%)	Health care and social assistance (17.9%)	-	-	Health care and social assistance (15.3%)	Health care and social assistance (13.1%)	Health care and social assistance (14.5%)	Health care and social assistance (16.8%)	Health care and social assistance (12.5%)
	Construction (12.8%)	Construction (14.5%)	Health care and social assistance (14.8%)	Retail trade (11.9%)	Health care and social assistance (14.4%)	Health care and social assistance (14.5%)	Health care and social assistance (14.2%)	Construction (13.4%)	-	-	Construction (11.3%)	Retail trade (12.8%)	Retail trade (11.7%)	Retail trade (10.4%) Manufacturing (10.4%)	Retail trade (9.7%)
	Retail trade (11.7%)	Manufacturing (7.9%) Education and training (7.9%)	Retail trade (12.3%)	Health care and social assistance (8.5%)	Retail trade (11.5%)	Retail trade (12.5%)	Retail trade (11.8%)	Accommodation and food services (11.9%)	-	-	Retail trade (11.1%)	Manufacturing (11.1%)	Manufacturing (10.3%)	Education and Training (8.9%)	Construction (8.4%) Education and training (8.4%)

Source: ABS Census Community Profiles – 2006, 2011, 2016

Table A1.5 Employment in Mining

Employment in Mining	1991	1996	2001	2006	2011	2016
Lake Macquarie LGA	4.4%	3.3%	2.0%	1.9%	2.6%	2.6%
Central Coast LGA	-	-	-	0.3%	0.5%	0.5%
Wyang Statistical Area 3	1.5%	1.0%	0.5%	0.4%	0.7%	0.7%

Table A1.6 Summary of Infrastructure and Services

Service	Manning Park SSC	Kingfisher Shores SSC	Chain Valley Bay SSC	Doyalson North SSC	Lake Munmorah SSC	Summerland Point SSC	Gwandalan SSC
Schools	1 primary	0	0	0	2 primary 1 secondary	0	1 primary
Childcare	2	0	1	0	2	0	3
Fire Services	1	0	0	0	1	0	1
Police Stations	0	0	0	0	0	0	0

Table A1.7 Residential aged care places

Indicator	Central Coast LGA	Lake Macquarie LGA	NSW
Residential aged care places per 1,000 population aged 70 years and over (2016)	75.6	84.0	83.4

Source: PHIDU, January 2020 release.

Table A1.8 Health Facilities in the Central Coast and Lake Macquarie LGAs

Facility	Suburb/location
Gosford Hospital	Gosford
Tuggerah Lakes Private Hospital	Kanwal
Gosford Private Hospital	North Gosford
Wyang Public Hospital	Wyang
Berkeley Vale Private Hospital	Berkeley Vale
Central Coast Day Hospital	Erina
Woy Woy Public Hospital	Woy Woy
Lake Macquarie Private Hospital	Gateshead

Local Issues and Opportunities

Central Coast Council

A number of the Central Coast Council's strategies and plans were reviewed to identify the challenges and opportunities for the LGA, as noted below, with a summary of these challenges and opportunities provided in **Table 3.4**:

- **One – Central Coast - the Community Strategic Plan (2018-2028 – CC CSP)** for the Central Coast LGA and defines the community's vision and roadmap for the future. The CC CSP was developed around five themes, each with focus areas, that were identified through community consultation and reflect the needs and values of the region. The themes included: belonging, smart, green, responsible and liveable.
- **The Central Coast and Lake Macquarie Regional Economic Development Strategy 2018–2022: Supporting Analysis** (Department of Premier and Cabinet 2018) outlines the joint long-term economic vision and associated strategy for the Central Coast and Lake Macquarie LGAs. The Strategy aims to facilitate commercial, manufacturing and mining development; grow new industries and employment opportunities through improved transport links; realise economic opportunities in the health and aged-care sectors; be a highly liveable region that is attractive to both commuters and visitors; and take into account regional risks and how they might be addressed.
- **The Central Coast Positive Ageing Strategy (2020)** – in which the Central Coast Council notes that the LGA is an attractive place for older people to retire. Council outline the responsibility that they have in supporting elderly residents, particularly in response to the added challenges of 2020 – bushfires, storms and COVID-19. The Strategy has four focus areas: social connections and participation, being better informed and tech savvy, staying health and active, and age-friendly places and spaces.

Central Coast Council has developed a draft Urban Spatial Plan (2020) to establish a framework that will guide the future growth and development in the LGA to 2036. The key initiatives identified for the Urban Spatial Plan included centres and corridors, housing, environment, infrastructure (public schools, transport, water and sewer), open space and community (open space, community facilities), and economics (Central Coast Council, 2020).

Lake Munmorah was identified as a potential future town centre within the Urban Spatial Plan with the priorities being to:

- Enable new small business start-ups and Smart Work Hub opportunities to locate in the town centre
- Establish civic and integrated facilities within the future town centre
- Facilitate vibrant and safe future town centres with employment close to home through effective, responsible, and integrated land use planning.

One public comment on the Social Pinpoint site, where the Plan was exhibited, noted that the Gwandalan, Chain Valley Bay and Mannering Park area would be more effectively managed by Lake Macquarie Council due to the suburbs fronting the Lake.

Lake Macquarie City Council

Lake Macquarie City Council's relevant strategies and plans were also reviewed to identify the challenges and opportunities due to the proximity to CVC. A summary of these challenges and opportunities are provided in **Table 3.4**:

- **Our Future in Focus – Lake Macquarie City Community Strategic Plan (2017-2027 – Lake Mac CSP):** is the 'blueprint that captures the ideas, priorities and aspirations' of the Lake Macquarie community. The Lake Mac CSP identified seven key areas/values, that were identified through extensive community consultation and emphasises fostering a diverse economy while protecting and enhancing the environment. The key areas/values are Unique Landscape, Lifestyle and Wellbeing, Mobility and Access, Diverse Economy, Connected Communities, Creativity and Shared Decision-Making.
- **Shaping the Future – Lake Macquarie City Local Strategic Planning Statement:** provides the long-term vision and planning priorities that will guide the evolution of Lake Macquarie City. The goal of the plan is that 'Lake Mac in 2050 will be one of the most productive, adaptable, sustainable and liveable places in Australia'. The plan outlines catalyst and future growth and future growth investigation areas including Wyee, approximately 5km west of CVC.
- **The Central Coast and Lake Macquarie Regional Economic Development Strategy 2018–2022: Supporting Analysis** (Department of Premier and Cabinet, 2018) outlines the joint long-term economic vision and associated strategy for the Central Coast and Lake Macquarie LGAs. The Strategy aims to facilitate commercial, manufacturing and mining development; grow new industries and employment opportunities through improved transport links; realise economic opportunities in the health and aged-care sectors; be a highly liveable region that is attractive to both commuters and visitors; and take into account regional risks and how they might be addressed.
- **Supporting Over 55s in the City – Ageing Population Plan (2018 - 2022):** Around one third of Lake Macquarie's population is over 55 and the Aging population plan aims to ensure that services and facilities are adequate to support older members of the community now and into the future. Three priority areas were identified: Providing information to the community on aged care services and activities; Improving infrastructure and the built environment; and Advocating for older people to improve service delivery.
- **Let's Thrive – Lake Macquarie City Housing Strategy 2020:** provides a long-term approach to the design and delivery of quality housing in and around Lake Macquarie centres and neighbourhoods. The aspirations for the strategy included:
 - Address population growth while protecting the unique environment (community)
 - Not a strong focus on big apartment blocks (community)
 - Allow flexibility (housing industry)
 - Address barriers to medium density housing developments (housing industry)
 - Cater for and support affordable housing in various forms (community housing)
 - Clear direction to meet Lake Macquarie's social and community housing needs (community housing).

Key Strengths and Vulnerabilities for Study Communities

Table A1.9 Key Strengths and Vulnerabilities for Study Communities

Social locality	Community	Strengths	Vulnerabilities
Communities proximal to the Consolidation Project Area (including residents residing in areas above the proposed mine workings and close to the pit tops)	Chain Valley Bay	<ul style="list-style-type: none"> Affordable housing (mortgage and rental costs) Lower mobility / strong sense of community High rates of home ownership Proximity to Lake Macquarie Strong sense of community Lake foreshore 	<ul style="list-style-type: none"> Aging population Lower education levels Lower median household income Three over 55s living villages Limited services in the suburb Historic impacts of mining / subsidence
	Manning Park	<ul style="list-style-type: none"> Higher proportion of Indigenous population Affordable housing (mortgage and rental costs) High proportion of family households 	<ul style="list-style-type: none"> Aging population (although median age is 41 which is the youngest of the study areas) Lower education levels Higher unemployment Managing impacts of VPPS and CVC / MC operations
	Kingfisher Shores	<ul style="list-style-type: none"> Higher proportion of Indigenous population High proportion of family households 	<ul style="list-style-type: none"> Small population Aging population Lower levels of education Lower median household income
	Doyalson North	<ul style="list-style-type: none"> Lower rates of unemployment Affordable housing (mortgage and rental costs) Low level of mobility Very high rates of home ownership 	<ul style="list-style-type: none"> Median age of 72 years Low level of education (18% who have completed year 12) Higher rates of part-time employment Median household income less than half of that of NSW High rates of lone person households Managing impacts of VPPS and CVC / MC operations
Communities in the locality of Delta Coal's other existing mining leases	Lake Munmorah	<ul style="list-style-type: none"> Higher unemployment rates Affordable housing (mortgage and rental costs) Low mobility High rates of home ownership Proximal to Munmorah SCA and Lake Munmorah 	<ul style="list-style-type: none"> Aging population Low level of education Lower median household income
	Catherine Hill Bay	<ul style="list-style-type: none"> Median income comparable to NSW 	<ul style="list-style-type: none"> Aging population Small population

Social locality	Community	Strengths	Vulnerabilities
		<ul style="list-style-type: none"> • Lower rental costs • Higher proportion of volunteers • High rates of home ownership • New housing development 	<ul style="list-style-type: none"> • Low level of education • High rates of unemployment • Higher median mortgage rates • Higher rates of mobility
Surrounding communities	Gwandalan	<ul style="list-style-type: none"> • Higher proportion of Indigenous population • Higher rates of Certificate level education • Higher proportion of the population employed full time (compared with other study areas) • Affordable housing (mortgage and rental costs) • High proportion of family households • Proximity to lake foreshore 	<ul style="list-style-type: none"> • Aging population • Low level of education • Lower median household income
	Summerland Point	<ul style="list-style-type: none"> • Affordable housing (mortgage and rental costs) • High proportion of family households • High rates of home ownership • Proximity to lake foreshore 	<ul style="list-style-type: none"> • Aging population • Low level of education • High unemployment rate • Lower median household income
Wider community	Central Coast LGA	<ul style="list-style-type: none"> • Growing population • Increasing median household income • Affordable housing (mortgage and rental costs) • Decreasing mobility • Wide range of services and facilities • Well connected to other cities including Newcastle and Sydney 	<ul style="list-style-type: none"> • Aging population • Lower levels of education than NSW • Decreasing proportion of population employed full time • Council currently under administration • Community and transport infrastructure may come under increasing pressures as population increases
	Lake Macquarie LGA	<ul style="list-style-type: none"> • Growing population • Increasing median household income • Affordable housing (mortgage and rental costs) • High rates of home ownership • Lake Macquarie, key community value and natural asset 	<ul style="list-style-type: none"> • Aging population • Lower levels of education than NSW • Decreasing proportion of population employed full time • Increasing rates of rental stress

