



Appendix O

Social and economic



Australian Industrial Energy

East Coast Gas Project Social Impact Assessment

November 2018

Executive summary

Project background

Australian Industrial Energy (AIE) has proposed to develop the Port Kembla Gas Terminal which involves the development of a liquefied natural gas (LNG) import terminal at Port Kembla, south of Wollongong in NSW.

NSW currently imports more than 95% of the natural gas it uses with the majority of supplies being sourced from interstate. In recent years, gas supplies to the Australian east coast market have tightened, resulting in increased natural gas prices for both industrial and domestic users. Several recent economic studies from organisations like AEMO and EnergyQuest have predicted significant future gas shortfalls for NSW as early as 2022.

The project would be the first of its kind in NSW and could provide a simple, flexible solution to the State's gas supply challenges.

Social impact assessment

A Social Impact Assessment (SIA) has been prepared to support the Environmental Impact Statement (EIS) for the proposed Port Kembla Gas Terminal. The SIA addresses the following environmental assessment requirement of the Secretary of the Department of Planning and Environment:

Social & Economic – including an assessment of the social and economic impacts and benefits of the project for the region and the State as a whole, including consideration of any increase in demand for community infrastructure and services.

The SIA has been prepared to describe the existing social environment surrounding the project site, identify and predict the potential benefits and impacts of the project on the communities in the area, and recommend mitigation measures to avoid or minimise adverse impacts and maximise benefits to the community and other stakeholders.

Existing environment

The proposed Port Kembla Gas Terminal is located within the existing Port Kembla industrial area and major port precinct. The port contributes a large part to the Illawarra regional economy from steel and manufacturing industries, which also forms part of the Port Kembla community's identity.

The local study area has been defined as Port Kembla suburb within the Wollongong local government area (LGA). The district study area comprises two neighbourhood forum areas that were formed by Wollongong City Council (independent of Council) and consulted as part of the project. The neighbourhood forum areas form the northern and southern part of the district study area and include many suburbs in the broader surrounding area of the project site. Community infrastructure roughly within one kilometre of the proposed terminal and pipeline works have been identified as these are likely accessed by residents from the local and district study areas.

Compared to Wollongong LGA, the communities of the local study area and southern part of the district study area (Neighbourhood Forum 5) were generally characterised by an older population and higher level of cultural diversity, including Indigenous people and Culturally and Linguistically Diverse (CALD) people. There were higher proportions of lone person households and one-parent families in both areas. People who required assistance with self-care, communication or mobility due to disability was also higher in both areas. These areas had higher proportions of people working in the manufacturing and construction industries.

The northern part of the district (Neighbourhood Forum 7) generally had a younger age profile, higher levels of CALD people and households with higher weekly incomes, and higher educational attainment.

Overall, the local and district study areas had higher rates of unemployment compared to Wollongong LGA.

The closest community facilities to the project site are Wollongong Golf Club and Greenhouse Park, which are both adjacent to the Port Kembla industrial area. Other community facilities within one kilometre of the project site, which includes the pipeline route, include aged care, child care, cultural facilities, education facilities and sport and recreation facilities.

The nearest residence to the project berth (101) is approximately 2km away to the north. While the majority of the pipeline route goes through industrial areas, there are some residences within around 150m of limited portions of the proposed pipeline near the tie in to the existing metering station at Cringila.

Social impact assessment

Construction of the terminal and pipeline is expected to take 10 – 12 months in total. During this period, the potential social impacts include:

- The project is expected to generate short term economic benefit in the Wollongong and Illawarra economies through \$200-250 million capital investment and creation of approximately 130-150 jobs. A proportion of the construction workforce is potentially available within Port Kembla and Wollongong LGA.
- The project would provide indirect economic benefits for local businesses supplying goods and services to the construction workforce, such as local food and beverage, retail and recreation services.
- Construction of the pipeline will take approximately six months and has the potential to temporarily change the amenity of some residential properties within around 200m of the pipeline alignment. This may include a short term, localised increase in noise and vibration, views of construction activities and potential dust, which may be a nuisance to nearby residential receivers.
- Construction would result in additional construction vehicle movements along arterial roads however given the existing industry activities and heavy vehicle traffic, the project is not expected to result in noticeable noise or traffic impacts on residents and community members.

The operational life of the project is expected to be 10-15 years, but could be extended according to demand. During this period, the potential social impacts include:

- The project is anticipated to result in 40-50 ongoing jobs. As some of these roles will be specialist floating storage and regasification unit (FSRU) roles and marine ticketed positions previously unseen in Australia, approximately half of these roles may need to be sourced from outside the region initially. However, key support roles including key functions like catering, cleaning, painting and other maintenance should be able to be sourced locally. This would slightly increase the number of jobs in the Port Kembla area and assist in the ongoing diversification of jobs, especially over time as new certification/qualification pathways are explored with local agencies to develop localised skills.
- The project would provide significant indirect economic benefits, including:

- The project's key input to the local economy is to provide a new, competitive and reliable supply of gas to local industry. This could benefit 15,000 gas reliant jobs in the Illawarra as well as other large commercial and industrial operations, which employ over 300,000 people in NSW. Securing natural gas in NSW would result in flow-on job security for these current employees.
- The project is estimated to provide more than 70% of NSW's gas needs. In addition, the FSRU has a storage capacity of approximately four petajoules. This is equivalent to approximately 10 – 12 days of emergency supply for the entire NSW economy, should there be a significant disruption to gas supplies from other sources.
- The project is expected to put downward pressure on gas prices, which could provide flow-on cost savings to businesses and the community.
- The addition of a new local source of gas could lead to more businesses moving to the industrial area. This could increase the use of the port and support the potential diversification of industrial activities in and around Port Kembla.

The operation of the facility is not expected to result in changes to the amenity of surrounding residential properties or community facilities, given the distance from residential areas, the underground nature of the pipeline and existing industrial setting of the port.

The proposal would result in minimal visual changes to the existing Port Kembla industrial area, with additional ships entering and exiting the harbour.

Recommended mitigation measures

- A contracts and procurement strategy focusing on maximising local content should be prepared to support local employment and business opportunities during construction.
- During operation the project could seek to work with interested local parties to support new qualification/certification pathways for some of the specialised roles on the FSRU.
- Stakeholder engagement prior to and during construction with key stakeholders and community is recommended to provide information about the project activities and provide a feedback mechanism for residents to contact the project.
- Potential impacts on local amenity and community values would be managed through mitigation measures identified in other technical studies and identified in the EIS, including Noise and Vibration Assessment, Air Quality Assessment, and Landscape and Visual Impact Report.
- Access and connectivity impacts would be managed through implementation of the construction traffic management plan.

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1. Introduction

1.1 Project background

AIE proposes to develop the Port Kembla Gas Terminal (the project) in Port Kembla, New South Wales (NSW). The project involves the development of a liquified natural gas (LNG) import terminal, which would be the first such import terminal in NSW and provide a simple, flexible solution to the State's gas supply challenges.

NSW currently imports more than 95% of its natural gas requirements from Victoria, South Australia and Queensland. An import terminal would enable NSW to control and secure its own direct supplies. The project has the capacity to deliver in excess of 100 petajoules of natural gas per annum to NSW. This is equivalent to more than 70% of the State's annual needs. Supply could be increased further to around 140–150 petajoules per annum through a slight increase in scheduled deliveries and pipeline upgrades.

The project consists of four key components:

- LNG carrier vessels — there are hundreds of these in operation worldwide transporting LNG from production facilities all around the world to demand centres;
- Floating Storage and Regasification Unit (FSRU) — a cape-class ocean-going vessel which would be moored at Berth 101 in Port Kembla. There are around 30 such vessels currently in operation around the world;
- Berth and wharf facilities – including landside offloading facilities to transfer natural gas from the FSRU into a natural gas pipeline located on shore; and
- Gas pipeline – a Class 900 carbon steel high-pressure pipeline connection from the berth to the existing gas transmission network.

It is envisaged that an LNG shipment will be required every two to three weeks to provide for an annual supply of up to 100 petajoules of gas. Construction will take 10 to 12 months to complete, subject to the timing of the approvals process, and therefore the terminal could be operational and have first gas by 2020.

The estimated capital cost of the development is between \$200 and \$250 million.

The project has been declared critical state significant infrastructure in accordance with Section 5.13 of the *Environmental Planning and Assessment Act, 1979* (EP&A Act) and Schedule 5 of the State Environmental Planning Policy (SEPP) State and Regional Development.

The key objectives for the project are to:

- Introduce a new source of competitively priced gas to meet predicted supply shortfalls and help put downward pressure on prices.
- Provide gas security to NSW with ability to supply more than 70% of the State's gas needs.
- Provide long term contracts to industrial users and ability to meet 100% of the State's industrial demand (manufacturers, power stations, hospitals, small businesses, etc).
- Help support the 300,000 jobs across NSW, and the 15,000 jobs in the Illawarra, which rely on the competitive, reliable supply for natural gas.
- Support the diversification and future growth of Port Kembla.

1.2 Project location

1.2.1 Port Kembla

The suburb of Port Kembla is located in the local government area (LGA) of Wollongong City Council in the Illawarra region of NSW. Port Kembla is approximately 3km south of the Wollongong city centre and 80km south of Sydney. The suburb is primarily comprised of one of the largest seaport industrial complexes in Australia that reflects Port Kembla's industrial history. To the south of the seaport the suburb also includes a commercial area, established residential areas and the culturally significant Hill 60 site which was originally an Aboriginal settlement, then used in World War II, and now is a public reserve (see Figure 1).

The Princes Motorway M1 is the main road that runs through the Wollongong LGA and connects to Sydney to the north and the A48 and A1 to the south. The Princes Motorway is connected by Five Islands Road, Masters Road and Spring Hill Road to the Port Kembla industrial site. These roads are currently heavily used by both private and freight vehicles.

There are four train stations in the suburb of Port Kembla, three of which are located within the ports industrial area. These stations are all publicly accessible, as well as utilised for the sea port industrial operations, as the rail line connects to the Illawarra Railway which runs north to Sydney and south to Canberra.

Off-road bicycle (shared path) routes in the vicinity of the site include along Port Kembla Road, Springhill Road, Five Islands Road and Old Port Road. On road bicycle routes are provided along Flinders Street.

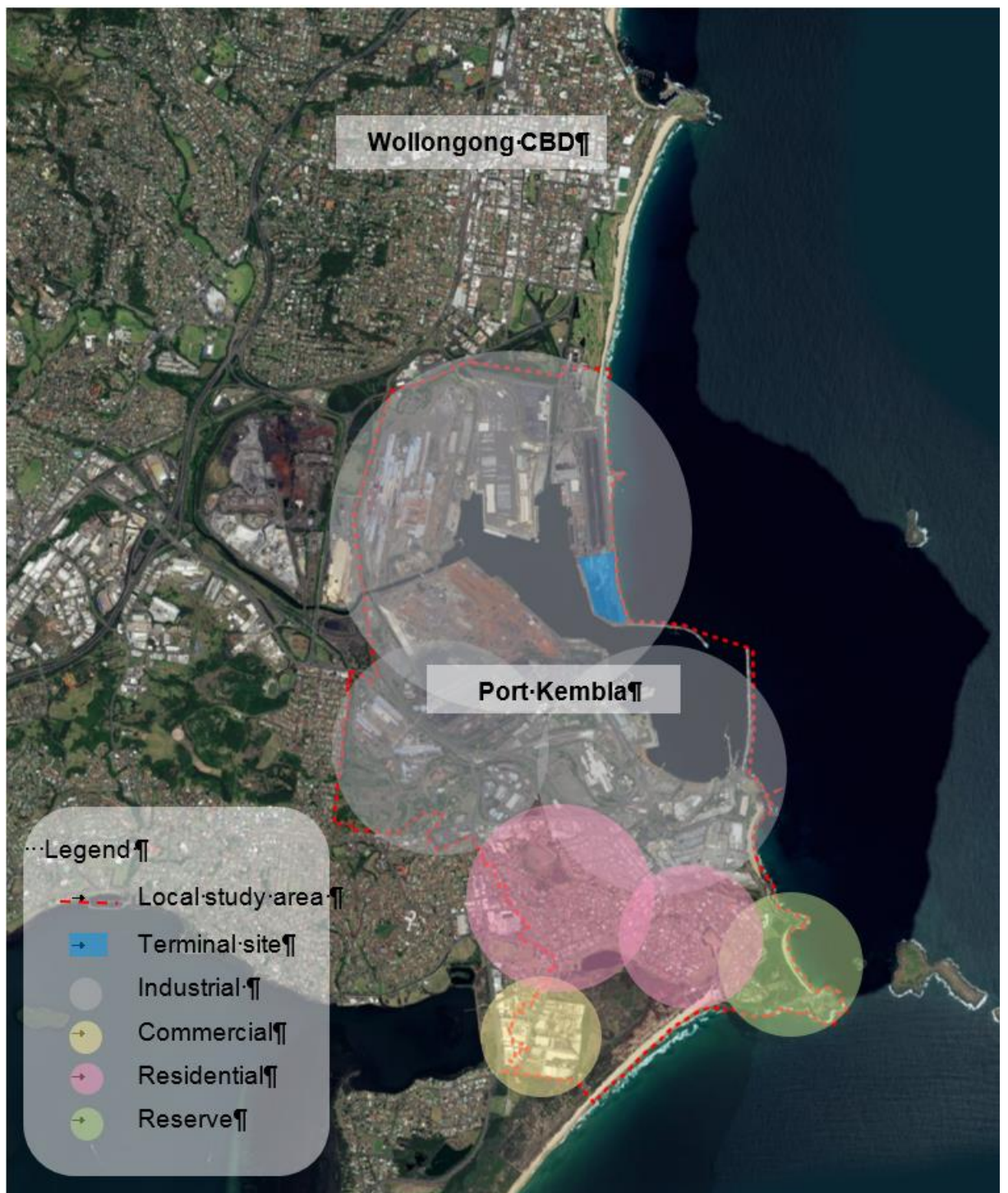


Figure 1 Port Kembla indicative land use map

1.2.2 Port Kembla Gas Terminal location

The Port Kembla Gas Terminal is proposed to be located at Berth 101 in the deep water Inner Harbour of Port Kembla (Figure 2). The Inner Harbour is an existing industrial area with a number of companies and industrial activities neighbouring Berth 101 including the Port Kembla Coal Terminal, Graincorp, TQ Holdings and Bluescope Steelworks. Port Kembla has grown to become NSW's largest motor vehicle import hub, its second largest coal export terminal, the leading grain export terminal for Southern and South-Western NSW and a significant location for the import and export of a range of other bulk liquids and cargoes. More recently, it has also been a location for day-visits for large cruise ships seeking to offer their clients a unique industrial tourism opportunity, as well as access to the rich cultural, environmental and recreational qualities of the area.



Figure 2 Proposed location of the Port Kembla Gas Terminal

1.3 Purpose and scope of this report

This report has been prepared to support the Environmental Impact Statement (EIS) for the proposed Port Kembla Gas Terminal. The EIS has been prepared to accompany the application for approval of the project, and addresses the environmental assessment requirements of the Secretary of the Department of Planning and Environment ('the Secretary's environmental assessment requirements (SEARS)').

This report documents the methods, findings, and recommendations of the Social Impact Assessment (SIA) for the design, construction and operational phases of the project specifically:

- Identifies the social area of influence including the local government areas, suburbs, communities and infrastructure likely to be affected by the project
- Describes the existing social environment of the identified area with particular reference to the project location, and activities involved in construction and operation. This will establish our social baseline from which potential impacts can be predicted
- Identifies and predicts the potential benefits and impacts on the communities and community facility infrastructure in the area
- Creates mitigation measures to avoid or minimise potential adverse impacts and maximise benefits to the community and other stakeholders

1.4 Secretary's environmental assessment requirements

The EIS must address the following specific issues with the level of assessment of likely impacts proportionate to the significance of, or degree, of impact on, the issue, within the context of the project location and the surrounding environment:

Social & Economic – including an assessment of the social and economic impacts and benefits of the project for the region and the State as a whole, including consideration of any increase in demand for community infrastructure and services.

2. Assessment methodology

2.1 Approach to the SIA

This SIA has been prepared in accordance with social impact assessment principles and methods endorsed by the International Association for Impact Assessments (Vanclay, 2003 and Vanclay F, et al, 2015) and Planning Institute of Australia (2010). The preparation of this SIA has also been guided by the objectives of Section 3 (Scoping the SIA for the EIS) and Section 4 (Preparing the SIA for the EIS) of the *Social impact assessment guideline for State significant mining, petroleum production and extractive industry development* (NSW Department of Planning and Environment, 2017), in particular:

Scoping the SIA for the EIS

- Identify and understand the potentially affected people and the project's area of social influence
- Identify the potential social risks and issues needing further investigation in the EIS.

Preparing the SIA for the EIS

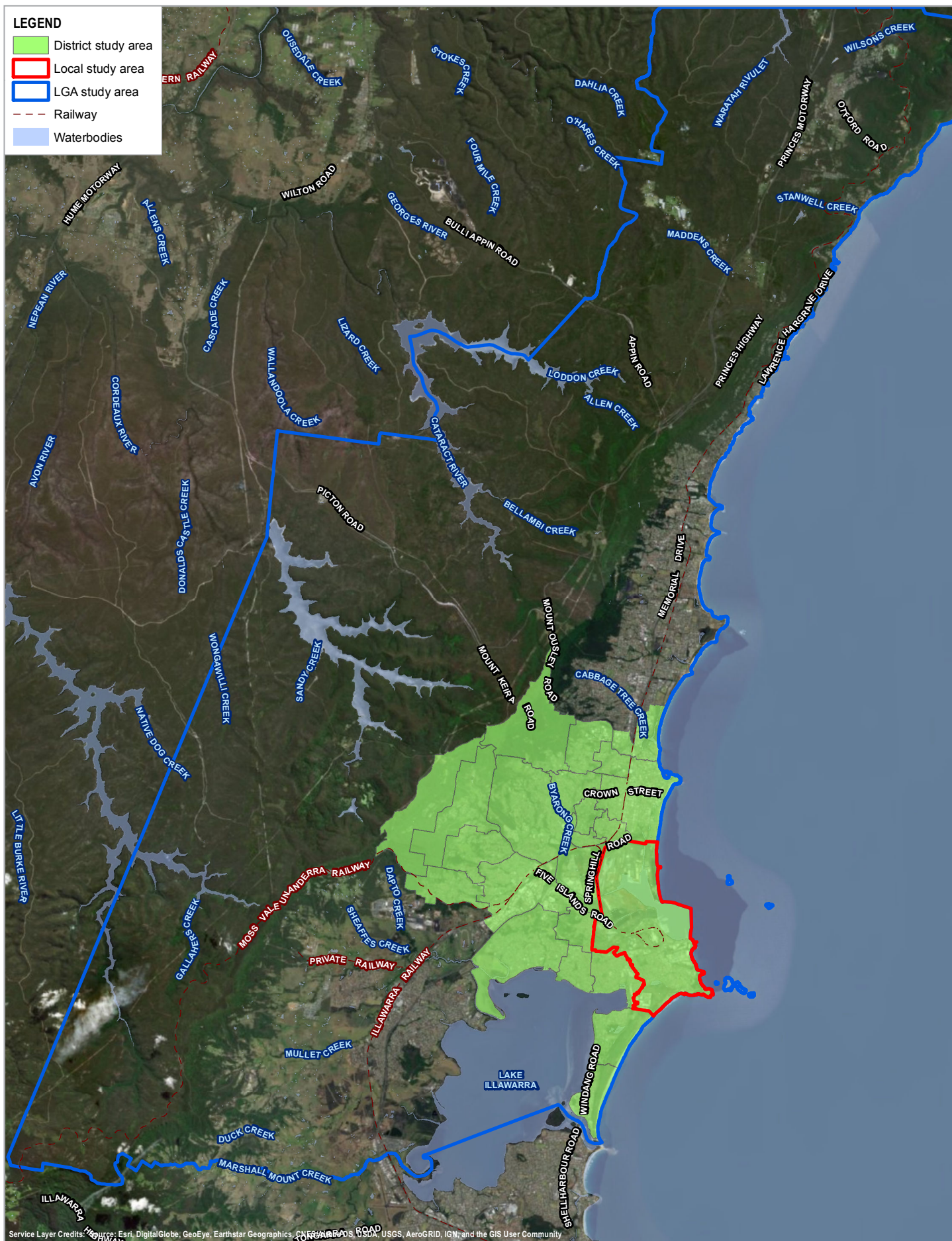
- Predict and analyse the extent and nature of potential social impacts against existing baseline conditions
- Identify and explain residual social impacts
- Propose appropriate measures to monitor and manage mitigation as well as enhancement measures.

2.2 Steps in undertaking the SIA

The assessment of the socio-economic impacts and benefits of the Port Kembla Gas Terminal has been conducted based on the following steps:

- **Determining the area of social influence for the proposal** - Based on a review of the description of the proposed Port Kembla Gas Terminal development, this SIA identified the area of social influence that may be directly or indirectly impacted by the project. Figure 3 below shows a map of the local and district study areas and Wollongong LGA.

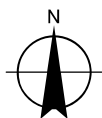
Table 1 provides a description for each of the study areas. In addition, community infrastructure roughly within one kilometre of the proposed terminal and pipeline works has been considered within the area of social influence because these are likely accessed by residents from the local and district study areas, and may be directly or indirectly impacted by the project.



Paper Size ISO A4

0 1,000 2,000
Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56



Australian Industrial Energy
Port Kembla Gas Terminal

**Social Impact Assessment -
Study Areas**

Project No. 21-27477
Revision No. A
Date 01 Nov 2018

Figure 3

Table 1 Study areas for this SIA

Study area	Description	Census areas
Local	The local study area comprises the Port Kembla suburb, where the proposed works are likely to directly and indirectly impact surrounding residents and community members (e.g. changes to amenity, access and connectivity, community values).	Port Kembla suburb
District	<p>The district study area comprises two neighbourhood forum areas that have been targeted as part of the community consultation undertaken for the project. The neighbourhood forum areas were formed by Wollongong City Council (independent from Council) for consultation on local issues.</p> <p>The district study area includes residents and communities, where the proposed works are likely to result in indirect impacts (e.g. employment and economy, population and demographic, community values). The neighbourhood forum areas that form the district study area are shown in Figure 3.</p>	<p>Neighbourhood Forum 5 (southern part of the district) comprising suburbs of:</p> <ul style="list-style-type: none"> • Port Kembla • Primbee • Windang • Warrawong • Lake Heights • Berkeley • Cringila • Spring Hill <p>Neighbourhood Forum 7 (northern part of the district) comprising suburbs of:</p> <ul style="list-style-type: none"> • Wollongong • North Wollongong • West Wollongong • Gwynneville • Keiraville • Mangerton • Coniston • Mount Saint Thomas • Unanderra • Farmborough Heights • Cordeaux Heights • Figtree • Mount Kembla • Mount Keira • Kembla Heights
Local Government Area	The local and district study areas have been compared to Wollongong LGA. The LGA study area has also been considered due to the Critical State Significant Infrastructure status of the project, and communities are likely to experience broader indirect impacts (e.g. employment and economy, population and demographic, community values).	Wollongong LGA

- **Establishing the socio-economic baseline** - A socio-economic baseline of the community in the social study area was prepared using available demographic, community and economic data, including Australian Bureau of Statistics Census data and information from Wollongong City Council's website. The socio-economic baseline includes a review of social and economic plans and policies that are relevant to this SIA to broadly understand community values, and an audit of nearby community facilities that may be affected by the project. The baseline provides a basis for the assessment of potential socio-economic benefits and impacts.

- **Incorporating stakeholder feedback** – The SIA project team has reviewed the outcomes of project consultation activities to inform the understanding of the community's values, and potential benefits and impacts identified by community stakeholders. For the purpose of this SIA, community values are generally accepted to be the social ties established within a community, in part based around the features and qualities of the built environment that encourage these social ties and contribute to quality of life and wellbeing.
- Wollongong City Council was also engaged as part of project consultation via direct communication activities, such as one-on-one meetings and round tables. The outcomes of these engagements have been captured in the EIS Chapter 7 Stakeholder Consultation and incorporated into this SIA to further inform our understanding of the community values and potential mitigation methods. Council has been consulted and updated on the project's progress throughout the design and approvals process, and will continue to be involved in ongoing engagement throughout the development of the project.
- SIA specific consultation with Illawarra Business Chamber was undertaken to enhance the understanding of the socio-economic baseline, potential benefits and impacts, and impact management strategies for consideration.
- **Identification and assessment of the socio-economic benefits and impacts** - Based on review of the project description, socio-economic baseline, outcomes of stakeholder consultation and findings of other relevant technical reports prepared for the EIS (air quality, traffic and transport, noise and vibration, visual and landscape), this SIA has identified and assessed the socio-economic benefits and impacts using social impact assessment criteria in Table 2. This criteria has been prepared by GHD according the approach to the SIA (discussed in Section 2.1).

Table 2 Social impact assessment criteria

Criteria	Definition
Nature	<ul style="list-style-type: none"> • Positive - Impacts that result in net benefits for the community. • Negative - Impacts that result in detriments for the community or specific stakeholder groups. • Neutral - A change that does not result in a positive or negative impact but allows continuation of the usual function.
Type of impact	<ul style="list-style-type: none"> • Direct - Impacts resulting directly from social changes caused by the proposal. • Indirect - Secondary impacts that occur as a consequence of a direct impact rather than the actual proposal.
Duration	<ul style="list-style-type: none"> • Temporary – up to six months • Short term – six months to one year • Medium term – one year to five years • Long term – five years or more
Level of impact	<ul style="list-style-type: none"> • Negligible – Marginal change from the baseline conditions so no discernible effect is expected and those affected would not notice the change

Criteria	Definition
	<ul style="list-style-type: none"> • Minor – A small but measurable change from the baseline conditions. Changes are expected to be temporary and/or only affect a small number of people and those affected could be expected to easily adapt or cope with the change. • Medium – Noticeable and relatively substantial change from the baseline conditions. Changes may be longer term or temporary and affect a large number of people and affected people would need a substantial capacity to adapt or cope with the change. • Major – A change fundamentally altering the baseline conditions in the community and affecting a large number of people, and/or a moderate number of people over the long-term and those affected would have limited or no capacity to adapt to change.

- **Developing measures to enhance benefits and mitigate impacts** – This SIA provides recommended mitigation measures specific to the management of socio-economic benefits and impacts. Other technical studies from the EIS are referenced to acknowledge the findings of these studies, relevant to mitigating social impacts.

3. Existing environment

The existing environment provides a basis for the assessment of potential socio-economic benefits and impacts. This section provides a demographic summary based on ABS 2016 Census data for the identified local and district study areas for the project, in comparison to the Wollongong LGA (see Figure 3). A list of demographic indicators that were analysed is provided in Appendix A.

Relevant economic data from Wollongong City Council and 2016 Census has been used to develop an economic summary for the local and district areas. This section also includes a review of social and economic plans and policies that are relevant to this SIA to broadly understand community values, and an audit of nearby community facilities that may be affected by the proposal.

3.1 Demographic summary

3.1.1 Local study area

As discussed in Section 1.2.1, there are established residential areas to the south of the Port Kembla industrial area. The nearest residence to the project berth (101) is approximately 2km away to the north. While the majority of the pipeline route goes through industrial areas, there are some residences within around 150m of limited portions of the proposed pipeline to the south.

Compared to the Wollongong LGA, the population living in Port Kembla suburb is generally characterised by:

- A lower proportion of children under 17 years of age (19.7% compared to 21.5% for the LGA), a higher number of people in the 50-59 years (15.4% compared to 13.0% in the LGA), and a higher median age (43 compared to 39 for the LGA).
- Higher level of cultural diversity, with higher proportions of Indigenous people (3.7% compared to 2.6%), people born in Non Main English Speaking countries (20.4% compared to 15.5%), and people who speak another language other than English at home (27.9% compared to 16.8%).
- A lower proportion of family households at 66.3% (compared to 70.0% in the Wollongong LGA) and a higher proportion of lone person households at 30.6% (compared to 25.5%).
- Lower levels of couples with children (39.4% compared to 44.6%) and couples without children (34.7% compared to 36.3%).
- Significantly higher level of one-parent families in Port Kembla (24.6% compared to 17.5%).
- Slightly smaller average household size (2.4 compared to 2.6).
- A higher level of need for assistance with self-care, communication or mobility activities, due to disability (9.3% compared to 6.4%).
- Higher level of renting (34.4% compared to 31.5%). The majority of the housing stock is separate houses in both Port Kembla and Wollongong LGA (68.3% and 64.0% respectively).
- Lower household median weekly income (\$1,016 compared to \$1,339) and lower individual median weekly income (\$479 compared to \$584).

- A lower level of labour force participation (48.8% compared to 56.9%) and a higher unemployment rate (10.8% compared to 7.1%).
- Lower proportion of people who completed year 12 or equivalent (33.8% compared to 46.0%).
- Lower level of train usage (4.3% compared to 6.1%), walking (2.4% compared to 3.3%) and bus usage (1.3% compared to 2.3%) and slightly higher cycling (0.9% compared to 0.7%).
- Higher rate of travel to work by car (80.7% compared to 75.8%).
- Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD) score of 2 compared to the LGA score of 8, indicating a higher level of socio-economic disadvantage in Port Kembla. Based on the indicators above, this may be due to higher proportions of people without English skills, single parent families, low income households, unemployed persons, people with a disability, and people without educational attainment. Figure 4 shows a comparison of IRSAD scores across suburbs within the district study area.

3.1.2 District study area

The district study area comprises two neighbourhood forum areas. The nearest residence to the project berth (101) is approximately 2km away within the eastern part of the district study area. There are some residences within around 150m of the proposed pipeline within the southern part of the district study area.

A demographic summary for each neighbourhood forum area is described below.

Neighbourhood Forum 5 (southern part of the district study area)

Compared to Wollongong LGA, Neighbourhood Forum 5 is characterised by:

- An older population with higher proportion of people in the 50-85+ age brackets (40.2% compared to 36.2% for the LGA), a similar proportion of children under 17 years of age (21.3% compared to 21.5% for the LGA), and a higher median age at 42 compared to 39 for the LGA.
- Higher level of cultural diversity with
 - higher proportions of Indigenous people (4.1% compared to 2.6%)
 - people born in Non Main English Speaking countries (21.8% compared to 15.5%), and
 - people who spoke another language other than English at home (27.5% compared to 16.8%).
- A lower proportion of family households at 67.4% (compared to 70.0%). Also characterised by a higher proportion of lone person households (29.6% compared to 25.5%).
- Lower levels of couples with children (39.6% compared to 44.6%) and couples without children (34.0% compared to 36.3%).
- Higher level of one-parent families (24.7% compared to 17.5%).
- A slightly smaller average household size (2.5 compared to 2.6).
- Significantly higher level of need for assistance with self-care, communication or mobility activities, due to disability (9.4% compared to 6.4%).
- Higher level of renting (35.2% compared to 31.5%).

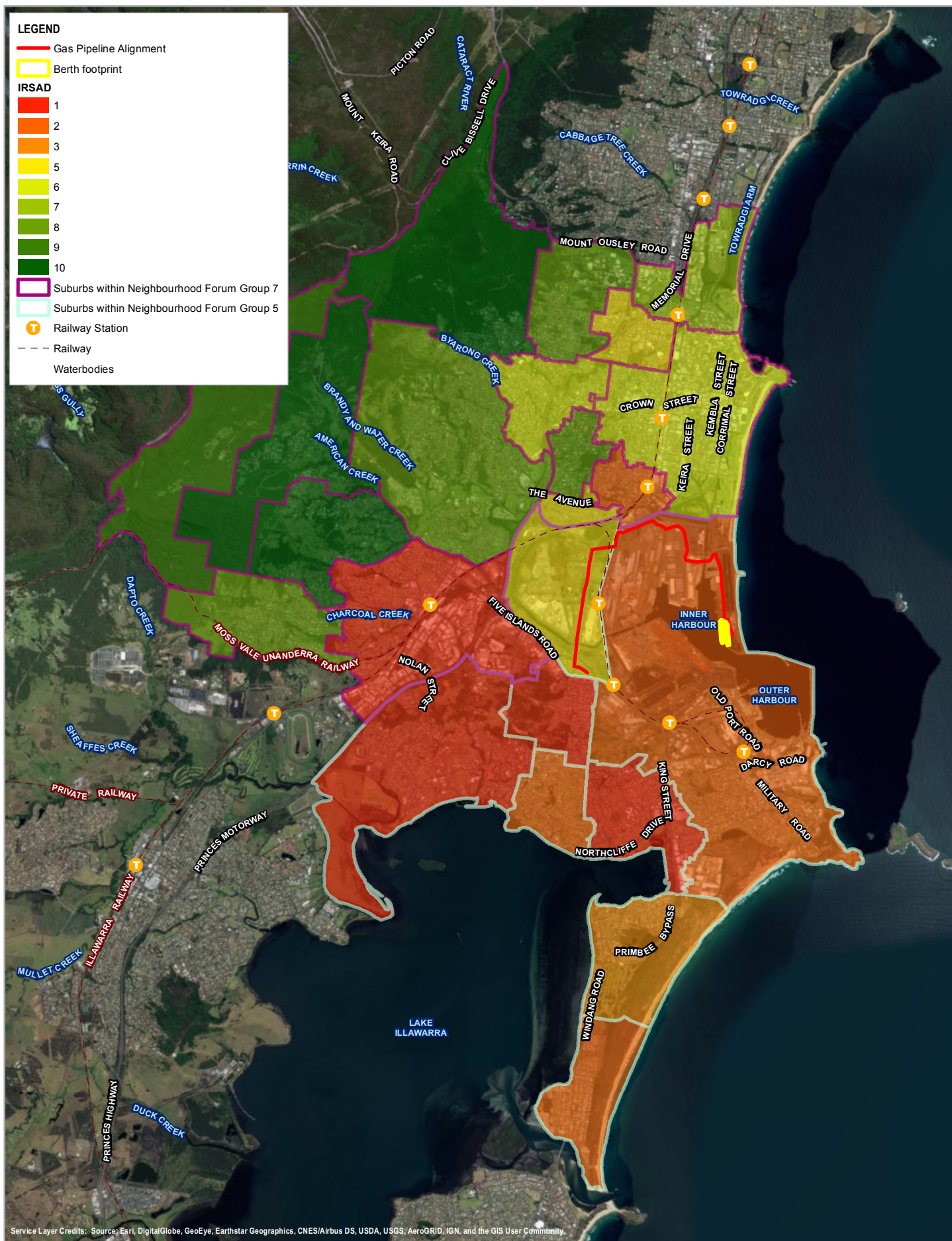
- The majority of the housing stock is separate houses in both Forum 5/6 and Wollongong LGA (72.6% in Forum 5/6 and 64.0% in the LGA).
- Lower household median weekly income in Forum 5/6 (\$974 compared to \$1,339 in LGA) and lower individual median weekly income (\$468 compared to \$584).
- A lower level of labour force participation (46.9% compared to 56.9%) and a higher unemployment rate (10.1% compared to 7.1%).
- Lower proportions of people with year 12 (or equivalent) qualification (31.5% compared to 46.0%).
- Lower level of train usage in both Forums (3.2% compared to 6.1%) and same bus usage (2.3% in both). Slightly lower cycling (0.3% compared to 0.7% in the LGA) and lower walking (1.8% compared to 3.3%).
- Higher rate of travel to work by car (80.8% compared to 75.8%).
- IRSAD score of 2 compared to 8, indicating a higher level of socio-economic disadvantage in neighbourhood forum group 5/6. Based on the indicators above, this may be due to higher proportions of people without English skills, single parent families, low income households, unemployed persons, people with a disability, and people without educational attainment. Figure 4 shows a comparison of IRSAD scores across suburbs within the district study area.

Neighbourhood Forum 7 (northern part of the district study area)

Compared to Wollongong LGA, Forum Group 7 was characterised by:

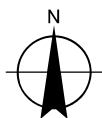
- A significantly higher proportion of people aged 18-34 years (29.9% compared to 23.3% in the LGA), and a lower median age of 36 compared to 39 for the LGA, which may be attributed to the University of Wollongong which is located within this area. Forum group 7 also has a lower percentage of children under 17 years of age (18.6% compared to 21.5% for the LGA).
- Lower proportions of Indigenous people (1.6% compared to 2.6%).
- Higher proportion of people born in Non Main English Speaking countries (21.1% for Forum 7 compared to 15.5%) and larger proportion of people who spoke another language other than English at home (23.4% compared to 16.8%).
- Lower proportion of family households (67.4% compared to 70.0%). Higher proportion of lone person households at 27.0% compared to 25.5% in the LGA.
- Lower levels of couples with children (42.9% compared to 44.6%) and higher levels of couples without children (39.4% compared to 36.3%).
- Lower level of one-parent families (15.5% compared to 17.5%).
- Slightly smaller average household size (2.5 compared to 2.6).
- Lower level of need for assistance with self-care, communication or mobility activities, due to disability (5.6% compared to 6.4%).
- Higher level of renting (35.2% compared to 31.5%).
- Lower proportion of separate houses (51.8% compared to 64.0%). Forum 7 has a considerable proportion of flats, units or apartments at 29.1%.
- Higher household median weekly income (\$1,419 compared to \$1,339) and slightly higher individual median weekly income (\$595 compared to \$584).

- A higher level of labour force participation (57.1% compared to 56.9) and a higher unemployment rate (8.2% compared to 7.1%).
- Higher proportions of people with year 12 (or equivalent) qualification (54.7% compared to 46.0%).
- Lower level of train usage (5.3% compared to 6.1%) and lower bus usage (3.4% compared to 2.3%). Slightly higher cycling (1.0% compared to 0.7%) and walking (6.2% compared to 3.3%).
- Lower rate of travel to work by car (72.3% compared to 75.8%).
- IRSAD score of 7 compared to 8, indicating a consistent level of socio-economic advantage with the Wollongong LGA. Figure 4 shows a comparison of IRSAD scores across suburbs within the district study area.



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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56



Australian Industrial Energy
Port Kembla Gas Terminal

Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD) score heat map

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Figure 4

3.2 Economic summary

Port Kembla is home to one of NSW's three major ports, contributing approximately \$418 million to the Illawarra regional economy each year (Remplan Economy, 2018). According to the *Wollongong 2013-2020 Economic Development Strategy*, annual trade through Port Kembla in the 2011/12 financial year increased from \$4 billion to \$13.6 billion (Wollongong City Council, 2013).

While the port has traditionally served as a bulk goods facility supporting the local steel industry handling iron ore, it is now the largest motor vehicle import hub in the state, as well as the principal port for grain export in southern NSW (Wollongong City Council, 2013). The port sustains over 3,800 jobs in the area, contributing \$839 million in gross economic output and \$239 million in household income to the regional economy each year (Wollongong City Council, 2013).

Based on 2016 Census data, there were higher proportions of people working in manufacturing in both the local study area and Neighbourhood Forum 5 (12% and 11.3% respectively) and construction industries (17.7% and 18.9% respectively) compared to the LGA (9.1% for manufacturing and 15.4% for construction). This was also reflected in the higher proportions of technicians and trades workers in both areas (17.3% and 17.1% respectively) compared to the LGA (14.8%). There was also a higher percentage of machinery operators and drivers in the local study area (8.3% compared to 6.2% in the LGA), and higher percentage of labourers in Neighbourhood Forum 5 (14.8% compared to 8.8% in the LGA).

While steel and other manufacturing industries remain an essential part of Wollongong's economy, there has been a recent shift to a more service based economy (Remplan Economy, 2018). As a result, some of Wollongong's key industry sectors now include information technology, tourism, health and aged care, as well as education and research (Remplan Economy, 2018). These employment types are reflected particularly in Neighbourhood Forum 7, where there are higher proportions of workers in the professional, scientific and technical services (7.6% compared to 6.4%), education and training (8.9% compared to 7.1%) and health care and social assistance (7.2% compared to 6.1%).

Based on 2016 Census data, the local study area and Neighbourhood Forum 5 had lower levels of labour force participation (48.8% and 46.9% respectively), compared to Neighbourhood Forum 7 (57.1%) and Wollongong LGA (56.9%). The local study area and both Neighbourhood Forum areas had higher rates of unemployment (10.8%, 10.1% and 8.2% respectively) than the Wollongong LGA (7.1%).

3.3 Social policy context

Relevant socio-economic plans and strategies have been reviewed to broadly understand community values and issues. Where possible, plans and strategies that specifically relate to or involve Port Kembla and the surrounding local and district study areas have been identified.

3.3.1 NSW Ports' 30 Year Master Plan

NSW Ports' role is to manage Port Kembla, as well as Port Botany and the Enfield and Cooks River intermodal terminals, in a way that allows its customers to efficiently service the needs of the people and businesses of NSW while minimising environmental and social impacts. The *NSW Port's 30 Year Master Plan* outlines areas of growth and actions required to meet the needs of NSW over the next 30 years with a long-term sustainability focus. Five key focus areas for sustainability have been identified to support port growth, these include: transport and logistics, development and land use planning, local environmental outcomes, resource conservation and efficiency, and stakeholder consultation and relations.

Port Kembla is identified as NSW's port of growth and a key economic driver in the Illawarra region as NSW's largest motor vehicle import hub; largest grain export terminal; second largest coal export port, and; its capacity for diversification and increased volume.

The master plan estimates that both Port Kembla and Port Botany combined could more than double their bulk liquids trade from 5.1 million to 10.8 million kilolitres over the next 30 years amongst increases in various other trades. The Port Kembla Gas Terminal would significantly contribute to this growth at Port Kembla. However, the master plan also recognises the need to mitigate urban encroachment issues through strategic planning and maintenance of open space and business buffers between industrial and port operations and surrounding residential areas.

3.3.2 Wollongong 2028 Community Strategic Plan (2018)

Wollongong City Council adopted their refreshed *Wollongong 2028 Community Strategic Plan* in June 2018. This plan has built on the previous *Wollongong 2022 Community Strategic Plan* (2012) that had identified the vision and goals for the community which have been retained with minor amendments and updates. This community strategy details the ways in which Wollongong City Council plans to achieve the priorities and aspirations to overcome the identified challenges for the region, including economy, population growth, waste management, climate change, infrastructure, flooding, affordable housing and social issues.

Some goals identified in the plan that are relevant to this SIA include nurturing an innovative and sustainable economy and protecting the environment. As the regional capital of the Illawarra region, Wollongong is looking to support a diversifying economic base beyond traditional industries that provide local employment opportunities. Wollongong is also striving to protect, manage and improve its environment, waterways and terrestrial areas by reducing its ecological footprint and greenhouse gas emissions.

3.3.3 Wollongong Economic Development Strategy 2013 – 2020

Wollongong City Council is dedicated to promoting Wollongong as "open for business". Council is supporting sustainable economic growth for Wollongong through supporting business expansion and attracting investment. The Strategy supports the *Wollongong 2028 Community Strategic Plan* with a key focus on creating more jobs to reduce unemployment, the average commute and increase diversity.

3.3.4 Port Kembla 2505 Revitalisation Plan

The *Port Kembla 2505 Revitalisation Plan* outlines the vision and strategic direction to guide the revitalisation of the Port Kembla suburb. This plan has been developed to address the concerns of viability for the suburb stemming from a low projected increase in residential population growth (4.1%) and decline in the number of workers involved in heavy industrial manufacturing in the immediate vicinity despite the proximity to the industrial port.

It is noted that the industrial port is guided by the 'Three Ports State Environmental Planning Policy' (SEPP). The plan recognises that the Port, which makes up 69% of the land area of the suburb, has regional significance and is marked for planned growth. There is a need for the growing Port and industry to be balanced with those of the neighbouring resident population; and managed pro-actively and transparently, and for clearer delineation between industrial lands and residential homes.

3.4 Community infrastructure

Based on a review of community infrastructure within the local and district study area, there are no community facilities located within one kilometre of the terminal site. The following section therefore focuses on community infrastructure that fall within a one kilometre radius of the

proposed pipeline works. These facilities and services are likely accessed by residents from the local and district study areas, and may be directly or indirectly impacted by the pipeline. It is noted that the closest residence to the project berth (101) is approximately 2km away to the north, while there are some residences within 150m of the proposed pipeline to the south.

Community infrastructure facilities and services located within one kilometre of the proposed pipeline include aged care, child care, cultural facilities, education facilities and sport and recreation facilities. There are no health and emergency services within a one kilometre radius of the proposed works, as seen in Figure 7. The community infrastructure that is located within one kilometre of the proposed pipeline works are detailed in Table 3 and the following maps.

Table 3 Social infrastructure within one kilometre of proposed works

ID	Name	Description
Community facilities (refer to Figure 5)		
1	Coniston Nursing Home	The Coniston residential care home is located approximately 800m north-west of the proposed pipeline and accommodates up to 60 residents at a time. The residents vary in levels of dependency and care needs.
2	Alphababies Essential Childcare	The Alphababies Essential Childcare is located approximately 800m north of the proposed pipeline. The centre provides long day-care services for children from babies through to primary school age, including children with special needs.
3	Cringila Childrens House	Cringila Childrens House is located approximately 350m south of the proposed pipeline. The centre provides day-care services from 7:30am to 5:30pm for children from 12 months to preschool age.
4	Kenny Street Community Preschool	Kenny Street Community Preschool is located approximately 350m north of the proposed pipeline. The centre provides day-care services from 7am to 6pm for children from 0 to 5 years of age.
8	Coniston Community Centre	The Coniston Community centre is located approximately 450m north of the proposed pipeline. The centre is a registered charity that provides low cost office space for community groups and businesses. The centre also has multiple rooms for hire.
11	Turkish Sports & Social Lounge	The Turkish Sports & Social Lounge is located approximately 150m south of the proposed pipeline. The lounge is a social centre for the local Turkish community, open from 10:30am to 5pm.
16	Islamic Science & Cultural Arts	The Islamic Science & Cultural Arts is located approximately 250m south of the proposed pipeline.
Education (refer to Figure 6)		
9	Coniston Public School	The Coniston Public School is located approximately 400m north of the proposed pipeline. The primary school has a relatively small, but culturally diverse student population providing 7 regular classes and 3 special education (Emotional Disturbance) classes.
10	Cringila Public School	The Cringila Public School is located approximately 800m south of the proposed pipeline. The primary school has a relatively small, but culturally diverse student population, offering English learning classes.
Open space, sport and recreation (refer to Figure 8)		
4	Cringila Park	Cringila Park is located 900m south of the proposed pipeline. The park is a reserve for rehabilitated

ID	Name	Description
		remnants of rainforest with walking trails and Baseball fields.
9	Greenhouse Park	Greenhouse Park is located 100m north of the proposed pipeline. The park is an old builders' tip that is being transformed into an Eco Park with walking trails, lookouts, and habitats for native birds and wildlife.
12	JJ Kelly Park	JJ Kelly Park is located 500m north of the proposed pipeline. The park has mixed-use sporting fields (rugby, soccer, cricket) and a dog training facility
13	John Crehan Park	John Crehan Park is located 400m south-west of the proposed pipeline. The park is a multi-use stadium that can accommodate up to 7,500 people.
18	Peace Grove	Peace Grove park is located 500m north of the proposed pipeline within JJ Kelly Park.
22	Wollongong Golf Club	Wollongong Golf Club is located 600m north of the proposed pipeline.

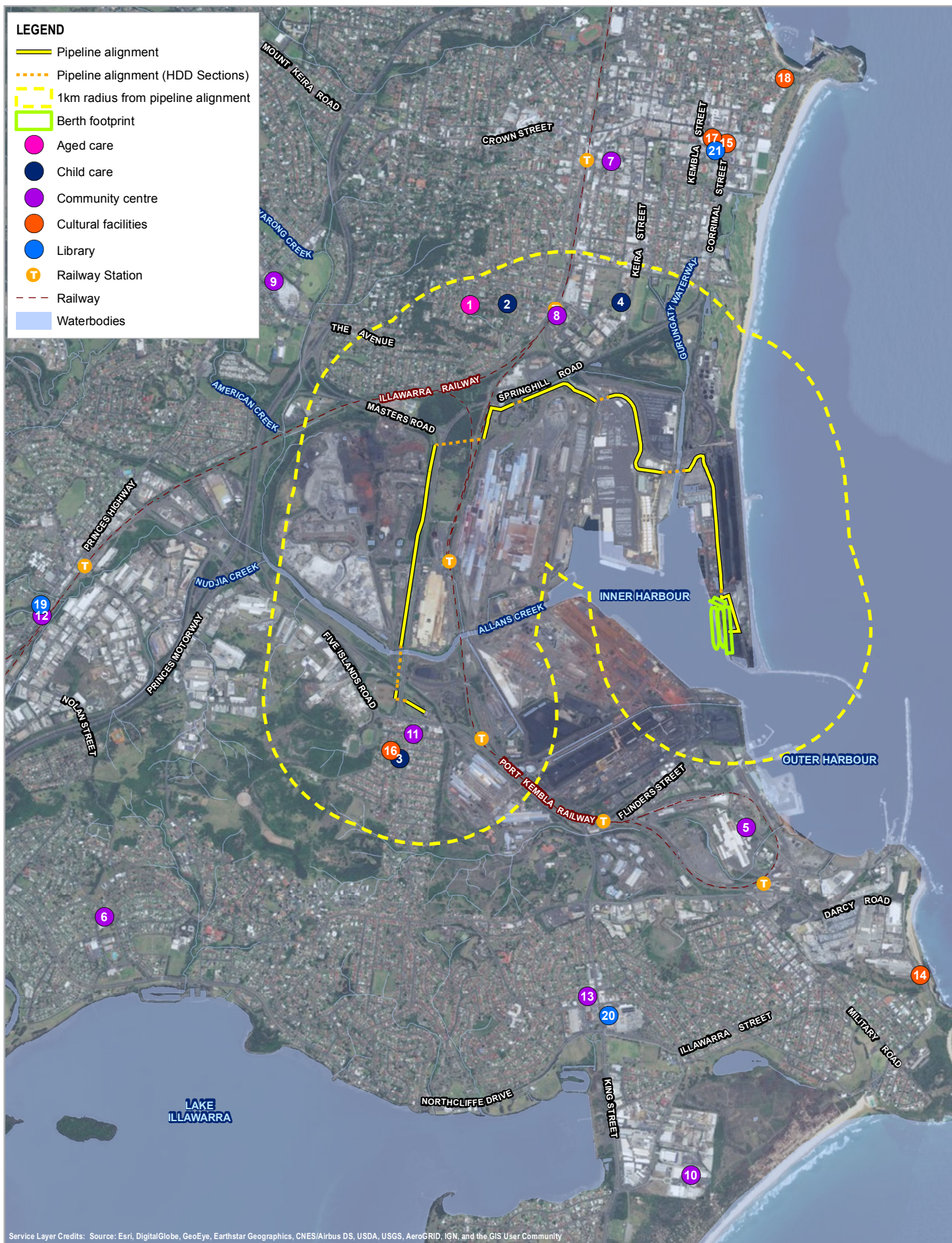
Community infrastructure that is located outside of one kilometre from the proposed pipeline works is shown on Figure 5 to Figure 8. It is important to take this infrastructure into consideration as many of the services and facilities are regional and cater to a wide population, therefore may experience indirect impacts from the proposed works. Social infrastructure located outside of one kilometre from the proposed works are listed below in Table 4:

Table 4 Social Infrastructure outside one kilometre of proposed works

Type	ID	Facility Name	Suburb
Community Facilities (refer to Figure 5)			
Community centre	5	BaptistCare Port Kembla Community Centre	Port Kembla
Community centre	6	Berkeley Neighbourhood Centre	Berkeley
Community centre	7	Community Gateway	Wollongong
Community centre	9	Figtree Community Hall	Figtree
Community centre	10	Hope Centre	Warrawong
Community centre	12	Unanderra Community Centre	Unanderra
Community centre	13	Warrawong Community Centre	Warrawong
Cultural facilities	14	Breakwater Battery Museum	Port Kembla
Cultural facilities	15	Illawarra Performing Arts Centre	Wollongong
Cultural facilities	17	Lower Town Hall	Wollongong
Cultural facilities	18	Old Court House Wollongong	Wollongong
Library	19	Unanderra Branch Library	Unanderra
Library	20	Warrawong District Library	Warrawong
Library	21	Wollongong Central Library	Wollongong
Education (refer to Figure 6)			
Combined school	1	The Illawarra Grammar School	Mangerton
High school	2	Figtree High School	Figtree
High school	3	Five Islands Secondary College	Port Kembla
High school	4	Illawarra Sports High School	Berkeley
High school	5	St Mary Star of the Sea College	Wollongong
High school	6	Warrawong High School	Warrawong
Primary school	7	Berkeley Public School	Berkeley
Primary school	8	Berkeley West Public School	Berkeley
Primary school	11	Figtree Public School	Figtree

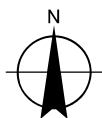
Type	ID	Facility Name	Suburb
Primary school	12	Kemblawarra Public School and Preschool	Port Kembla
Primary school	13	Lake Heights Public School	Lake Heights
Primary school	14	Mount St Thomas Public School	Wollongong
Primary school	15	Port Kembla Public School	Port Kembla
Primary school	16	Primbee Public School	Primbee
Primary school	17	Warrawong Public School	Warrawong
Primary school	18	Wollongong Public School	Wollongong
Primary school	19	Wollongong West Public School	West Wollongong
Health and Emergency Services (refer to Figure 7)			
Emergency services	1	Fire and Rescue NSW Unanderra Fire Station	Unanderra
Emergency services	2	Fire and Rescue NSW Warrawong Fire Station	Warrawong
Emergency services	3	Fire and Rescue NSW Wollongong Fire Station	Wollongong
Emergency services	4	Illawarra District Ambulance	West Wollongong
Emergency services	5	Port Kembla Police Station	Port Kembla
Emergency services	6	Port Kembla Warrawong Ambulance	Warrawong
Emergency services	7	Port Kembla Water Police	Port Kembla
Emergency services	8	SES Wollongong	Wollongong
Emergency services	9	Wollongong Police Station	Wollongong
Health	10	Figtree Private Hospital	Figtree
Health	11	Port Kembla Hospital	Warrawong
Health	12	South Coast Private, Mental Health Hospital	Wollongong
Health	13	Wollongong Hospital	Wollongong
Health	14	Wollongong Private Hospital	Wollongong
Open Space, Sport and Recreation (refer to Figure 8)			
Open space, sport and recreation	1	Albert Butler Park	Primbee
Open space, sport and recreation	2	Beatson Park	Wollongong
Open space, sport and recreation	3	Brownlee Park	Mangerton
Open space, sport and recreation	5	Figtree Oval	Figtree
Open space, sport and recreation	6	Figtree Park	Figtree
Open space, sport and recreation	7	Flagstaff Hill Park	Wollongong
Open space, sport and recreation	8	Flagstaff Park	Warrawong
Open space, sport and recreation	10	Harry Graham Park	West Wollongong
Open space, sport and recreation	11	Holborn Park	Berkeley
Open space, sport and recreation	14	Lang Park	Wollongong

Type	ID	Facility Name	Suburb
Open space, sport and recreation	15	MM Beach	Port Kembla
Open space, sport and recreation	16	MacCabe Park	Wollongong
Open space, sport and recreation	17	Osborne Park	Wollongong
Open space, sport and recreation	19	Port Kembla Heritage Park	Port Kembla
Open space, sport and recreation	20	Roy Johanson Park	West Wollongong
Open space, sport and recreation	21	Wiseman Park	Gwynneville



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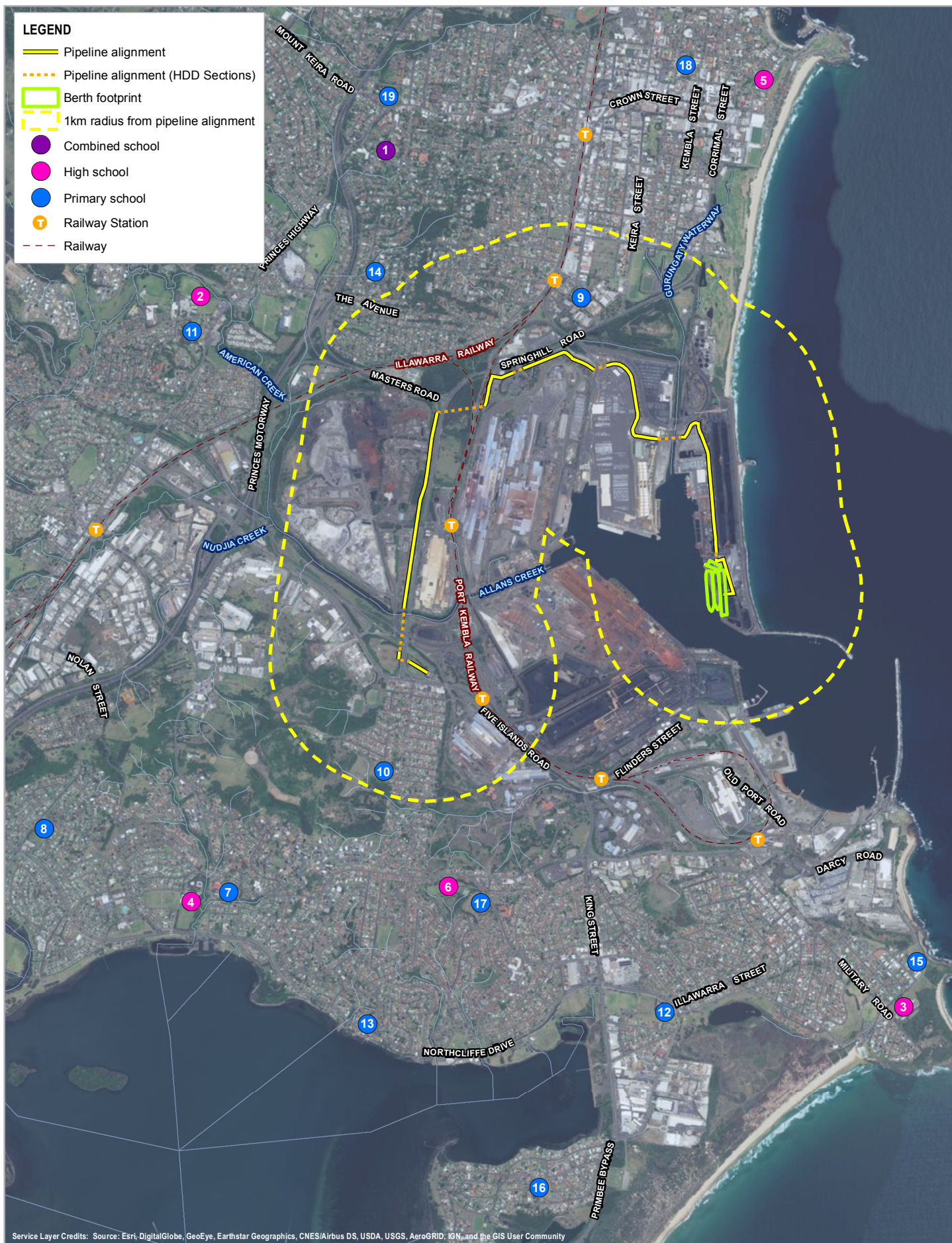


Australian Industrial Energy
Port Kembla Gas Terminal

Social Infrastructure -
Community Facilities

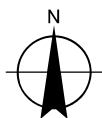
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Figure 5



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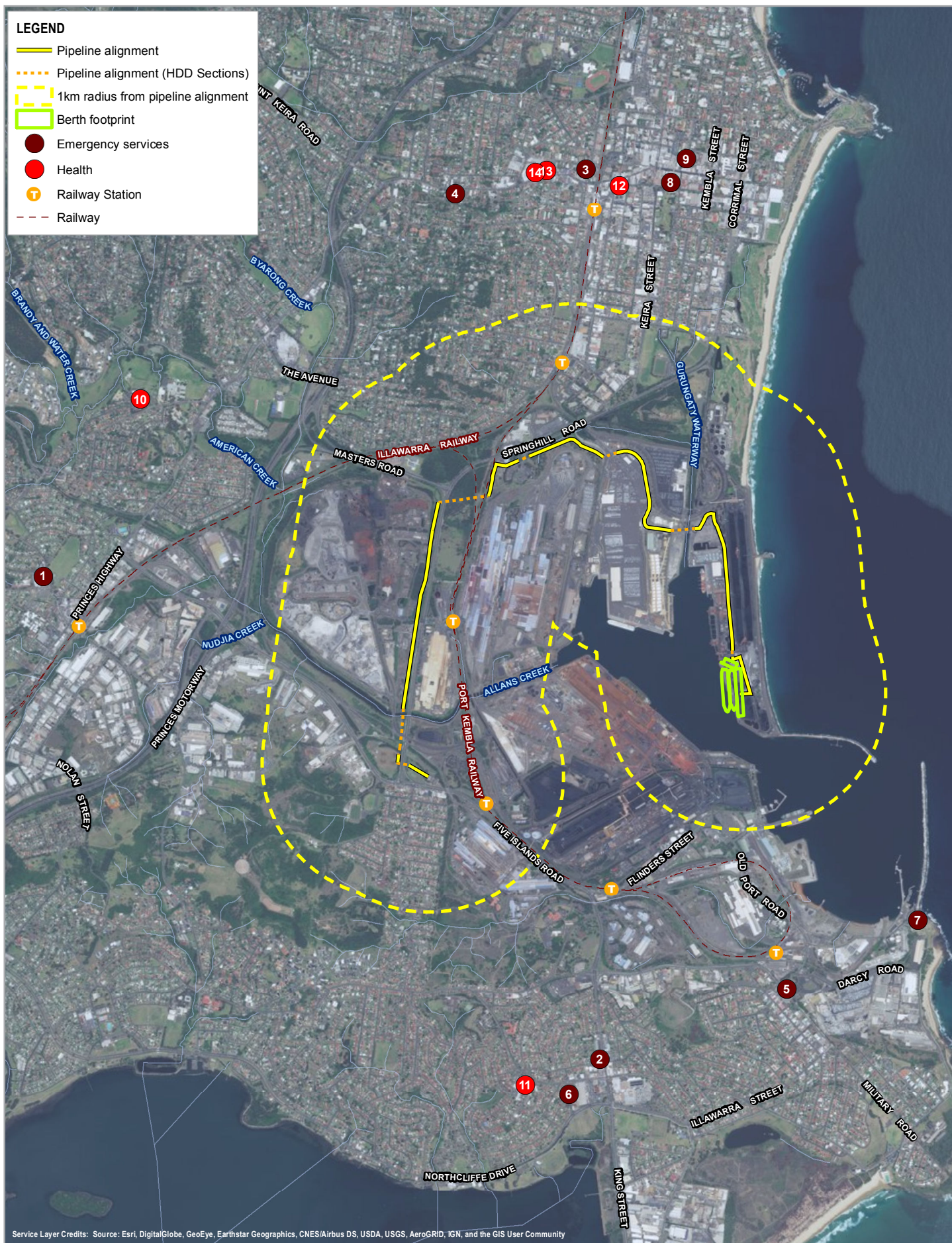


Australian Industrial Energy
Port Kembla Gas Terminal

Social Infrastructure -
Education

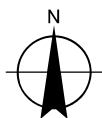
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Figure 6



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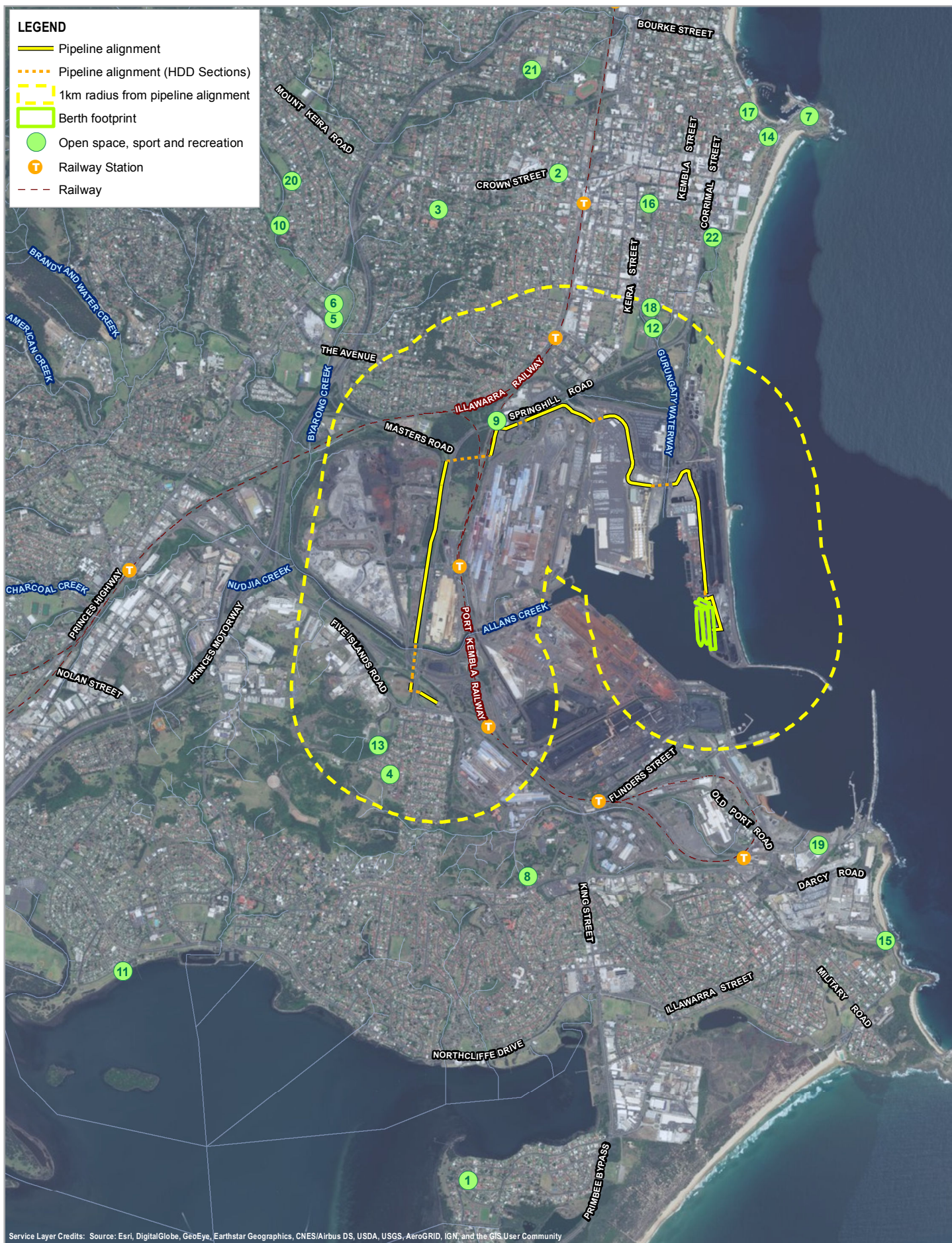


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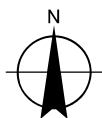
**Social Infrastructure -
Health and Emergency Services**

Figure 7



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Map Projection: Transverse Mercator
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Grid: GDA 1994 MGA Zone 56



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Port Kembla Gas Terminal

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Social Infrastructure -
Open Space, Sport and Recreation

Figure 8

4. Consultation

4.1 SIA consultation

4.1.1 Wollongong City Council

As outlined in Section 2.2 of this report, Wollongong City Council was engaged as part of project consultation activities. Council was regularly consulted and updated on the project's progress throughout the design and approvals process in order to obtain their feedback, and inputs on any concerns, challenges and also opportunities. The outcomes of these engagement activities with Council were reviewed and informed the understanding of the communities values, aspirations and concerns, as well as potential mitigation methods. Council will continue to be involved in ongoing engagement throughout the development of the project.

4.1.2 Meeting with Illawarra Business Chamber

To inform the preparation of the baseline and impact assessment a telephone meeting was conducted with a representative of the Illawarra Business Chamber on 24 September 2018. The telephone meeting informed the understanding of the existing environment and potential social impacts from the proposal during construction and operation. The following table provides a summary of the meeting.

Table 5 Summary of meeting with Illawarra Business Chamber

Topic	Summary points
Existing environment	<ul style="list-style-type: none">• The Port Kembla industrial area is the heart of traditional sectors of steel making, heavy manufacturing and mining. Significant primary produce moves through the port and local businesses are likely tied to large manufacturers such as Bluescope Steel• The local and regional economy is very much tied to the presence of industry. There is general support from the business community for the proposal• The Business Chamber is interested in leveraging off NSW Ports to help grow the Wollongong and Illawarra economy• There are surplus industrial lands within the Port Kembla industrial area that could be better utilised. The project represents better use of this land. There are also other opportunities for expansion of Port Kembla for the manufacturing sector• A large number of people commute out of the Illawarra for work, including construction workers travelling to Sydney
Construction impacts	<ul style="list-style-type: none">• Construction of the proposal is expected to have a minimal impact on the workforce• Construction workers are likely to be available in the local area
Operational impacts	<ul style="list-style-type: none">• Operation is expected to have a minimal impact on the workforce as it is only expected to offer 30-50 permanent positions.• It would benefit businesses and community through the cheaper supply of natural gas

Topic	Summary points
	<ul style="list-style-type: none"> If industrial type businesses moved into surplus industrial lands, this could increase use of the port and allow businesses to access cheaper gas

4.2 EIS consultation

This SIA has considered the outcomes of the stakeholder and community consultation undertaken by AIE with support from GHD's Community Engagement Team on activities specific to the preparation of the EIS. Stakeholder and community consultation activities were divided into two categories of 'key stakeholders' and 'community'. Key stakeholders included local chambers of commerce, the port authority, local and state government and neighbourhood forum groups. Community stakeholders included local businesses, surrounding residents, schools, sporting/recreational groups, and the wider Wollongong community.

Engagement with key stakeholders provided an opportunity to inform them about the project, to answer their questions and obtain their feedback and inputs on any concerns, challenges and also opportunities. Engagement activities with key stakeholders included:

- Focus meetings and workshops
- Presentations
- Direct phone calls and emails

Engagement with the community was undertaken to raise awareness, provide information and answer questions community members may have regarding the proposed development and the Critical State Significant Infrastructure (CSSI) approvals process. Engagement activities with the community included:

- Newsletters and letterbox drops
- Establishment of a project website with factsheets, comprehensive FAQs and email enquiry function
- 1800 call line and email
- Newspaper adverts
- Community Information sessions

This section summarises the outcomes of the AIE consultation relevant to this SIA. Table 6 below summarises the key themes and issues related to social and economic impacts.

Table 6 Stakeholder and community consultation key themes and issues

Key themes	Issues
Feedback from key stakeholders	
Community values	<ul style="list-style-type: none"> Manufacturing and industry are seen as an integral part of the region's identity The community is proud of Port Kembla as a growing regional port - with strong interest in growing its operations (energy, cruise ships etc.). The Port Kembla Gas Terminal project is seen as a good fit. Concern about safety related to hazards (e.g. explosion).

Key themes	Issues
Employment and economy	<ul style="list-style-type: none"> • There was stakeholder interest in local employment and procurement opportunities from the proposal. • General concern that increased energy costs would result in loss of jobs. • Concern about the project regarding the economic rationale for importing gas when Australia is a big exporter. • Interest in potential longer term opportunities for the terminal like LNG bunkering and tolling beyond the proposed project's life-span (i.e. reuse of the facilities once the gas terminal ceases operations)
Amenity and character	<ul style="list-style-type: none"> • Concern regarding whether the import terminal will have on-shore facilities which are visible from the look-out.
Access and connectivity	<ul style="list-style-type: none"> • Concern about increased trucks during operation for transportation of LNG. Concern about whether Seawall Rd would need to be closed to public access (surfers and fishermen/anglers).
Community feedback	
Employment and economy	<ul style="list-style-type: none"> • Need for more ongoing permanent jobs. • Community interest in local employment and opportunities for local business to support the operations.
Amenity and character	<ul style="list-style-type: none"> • Concern about more trucks on the already heavily utilised roads during construction.
Community values	<ul style="list-style-type: none"> • Concern about the environment regarding operation impacting the surrounding water temperature and marine life. • Concern about safety related to hazards (e.g. explosion).

5. Social impact assessment

This section assesses the potential social impacts of the proposal during both the 10 – 12 month construction phase and the longer term operation of the project. The proposal's key features are described in Section 1 of this report.

5.1 Construction impacts

5.1.1 Employment and economy

It is estimated that the project would result in a \$200-250 million capital investment, which would contribute to the Wollongong and Illawarra economies. During construction, approximately 130-150 jobs would be created.

As discussed in Section 3.2, there are higher proportions of people within Port Kembla and the southern part of the district working in manufacturing and construction industries. There were also higher rates of unemployment in these areas. Data from the social baseline (Section 3.2) and stakeholder consultation undertaken for the SIA (Section 4.1) indicates that a proportion of the workforce is potentially available within Port Kembla and Wollongong. Given the skills and experience in the area with existing industry activities, this would generate job prospects for both Port Kembla and Wollongong residents, generally in line with economic objectives identified in the policy review (Section 3.3) and stakeholder and community feedback received during AIE consultation (Section 4) for increased local access to job opportunities.

The proposal would also provide opportunities for local businesses supplying goods and services to the construction workforce. Construction workers would create some demand for local food and beverage, retail and recreation services close to the Port Kembla industrial area. During construction, the proposal is expected to generate a short term positive economic impact in the local economy.

5.1.2 Population and demographic impacts

It is anticipated that around 130-150 workers would be required for the construction of the proposal. As identified in SIA consultation (Section 4.1), many workers currently commute out of the Illawarra Region for work, including construction workers. Through the projects contracts and procurement strategy, the project would seek to maximise local content during construction, however this will ultimately be determined based upon the contractor selected. The scale of the construction program is unlikely to lead to changes in the resident population.

5.1.3 Amenity and character

Amenity and character refers to the noise, air quality, and visual amenity of the area provide for the enjoyment of residents. As mentioned in the social baseline (Section 3.2), the nearest residences to the project berth (101) are approximately 2km away to the north and within 150m of the proposed pipeline to the south. According to the Noise and Vibration Impact Assessment, noise at these locations are influenced by industrial noise from the port and road traffic noise. Further, residences in the north experience noise from rail operations.

Construction of the import terminal is expected to take 10 to 12 months to complete. Given the distance between the terminal site and closest residential receivers (around 2km away), construction is not expected to result in changes to residential amenity, such as noise, vibration, visual or air quality impacts.

The closest community facilities are Wollongong Golf Club and Greenhouse Park, which are both adjacent to the Port Kembla industrial area. Given that the surrounding amenity of these

facilities is influenced by the existing industrial area with elevated background noise levels and views onto industrial land, changes to the amenity of community members that use these facilities is expected to be negligible.

Construction of the pipeline will take about six months to complete and will be constructed in sections, so amenity impacts would be temporary and localised according to where the pipeline work is underway. Unlike the terminal site, at some points, the location of the pipeline alignment is within about 150 m of residential properties. Due to this proximity, pipeline construction has the potential to temporarily change the amenity of some residential properties by increasing dust, noise and vibration and through views of construction activities.

These amenity changes from the construction of the pipeline have the potential to disturb some residents when using outdoor areas, such as backyards and balconies. Minor dust may also be generated during excavation for the pipeline which has potential to be a nuisance to nearby residential receivers.

Construction activities are expected outside standard construction hours to achieve the required construction program and minimise disruption to local transport networks. According to the Noise and Vibration Impact Assessment, construction of the pipeline outside of standard hours would result in elevated noise to residential properties within 300m of the pipeline alignment. This may reduce the amenity of nearby residents using outdoor areas during the evening and night.

The Noise and Vibration Assessment states that sleep disturbance impacts on nearby residents are not expected from the construction of the pipeline.. Noise levels could be further reduced by partially or fully closing windows. Closing windows could reduce the flow of breezes through homes, which could be a nuisance to some residents. However, this is expected to be temporary and localised according to where the pipeline work is underway.

Construction would result in a daily average of 225 light and 236 heavy vehicle movements using Springhill Road, Five Islands Road, Flinders Street, Princes Motorway, Port Kembla Road, Masters Road and Old Port Road. The existing Port Kembla industrial area generates existing heavy vehicle traffic on these arterial roads. Given this, the proposal is not expected to result in noticeable noise impacts on residents and community members.

5.1.4 Access and connectivity

Construction traffic would include heavy vehicle movements using Springhill Road, Five Islands Road, Flinders Street, Princes Motorway, Port Kembla Road, Masters Road and Old Port Road. According to the Traffic and Transport Assessment, the existing road network is expected to continue to operate at a good level of service with minimal impact on local or regional community access and connectivity, including public transport services, pedestrians and cyclists. Partial road closures would be required on internal roads operated by the Port Kembla Coal Terminal and NSW Ports. Directional drilling would be adopted to traverse the public road and rail networks to ensure minimal disruption to transport networks.

Construction workforce car parking would be provided at the construction sites with limited on-street parking, therefore minimal impact on car parking is expected on community members.

Access to Seawall Road (to the east of the facility) is expected to remain open during construction, which was noted during AIE consultation (Section 4) as important for the access of fishermen and surfers. Therefore, community access to the public boat ramp would be maintained.

5.2 Operational impacts

5.2.1 Employment and economy

The project is anticipated to result in 40-50 ongoing jobs. As some of these roles will be specialist floating storage and regasification unit (FSRU) roles and marine ticketed positions previously unseen in Australia, approximately half of these roles may need to be sourced from outside the region initially. However, key support roles including key functions like catering, cleaning, painting and other maintenance should be able to be sourced locally. This would slightly increase the number of jobs in the Port Kembla area and assist in the ongoing diversification of jobs, especially over time as new certification/qualification pathways are explored with local agencies to develop localised skills. This is generally in line with community values identified during AIE consultation (Section 4), where there was community interest in growing the Port Kembla industrial area. There was also community interest to provide local access to job opportunities during operation.

The project would lead to significant indirect economic benefits to the Port Kembla and Illawarra economies

The project's key input to the local economy is to provide a reliable and cost effective supply of gas to industry. The project's target consumers are large commercial and industrial operations, which are estimated to employ over 300,000 people in NSW. This includes 15,000 gas reliant jobs in the Illawarra. Securing a new source of competitive natural gas in NSW could result in flow-on job security for these current employees.

Given NSW reliance on natural gas supplies from South Australia, Victoria and Queensland, this project could provide significant economic benefit to NSW gas users. The project is estimated to provide capacity for more than 70% of NSW's gas needs. In addition, the FSRU has a storage capacity of approximately four petajoules. This is equivalent to approximately 10 – 12 days of emergency supply for the entire NSW economy, should there be a significant disruption to gas supplies from other sources.

The project is expected to put downward pressure on gas prices, which could provide flow-on cost savings to businesses and the community.

According to SIA consultation, (Section 4.1), the addition of a new local source of gas could lead to more businesses moving to the industrial area. This could increase the use of the port and support the potential diversification of industrial activities in and around Port Kembla.

5.2.2 Amenity and character

The proposal would result in minimal visual changes to the existing Port Kembla industrial area. The project would consist of a permanently moored FSRU (similar in size and appearance to the carriers currently using the Port), and visiting LNG carriers that would tether alongside the FSRU once or twice each month. The Landscape and Visual Impact Assessment highlights that Port Kembla creates a defining characteristic skyline of the steel industry and port. Similarly, it is a significant feature to view from the surrounding residential areas, due to the contrast in scale within the urban fabric in a relatively confined space. Although the terminal would be visible from parts of the coast near the harbour, it is not expected to impact views of residents and the community as magnitude of change is considered minimal. The project would result in the addition of two new large vessels, however these would not be uncharacteristic to the industrial setting and the terminal is visually consistent with the existing Port facilities.

The operation of the terminal facility is not expected to result in changes to the amenity of surrounding residential properties or community facilities, given existing industrial noise from the port and road traffic and distance from the terminal.

5.2.3 Access and connectivity

The project includes a pipeline connection to the existing east coast gas network, which eliminates the need for operational vehicle movements for the transport of gas. Operational vehicle movements by ongoing staff would therefore be easily integrated within the local transport network.

Access to Seawall Road would not be impacted during operation and therefore, community access to the public boat ramp would be maintained.

As a result, access and connectivity impacts are not expected on local and regional communities, which were noted during AIE consultation (Section 4) as community concerns.

5.2.4 Community values

The proposal would introduce a new industrial land use at Port Kembla.. During AIE consultation (Section 4), concern was raised about whether the project would represent a safety hazard to workers, other Port tenants, surrounding residents and community..

A detailed hazard study has been completed as part of the EIS to demonstrate there is minimal risk to the surrounding community associated with operation of the project.

6. Recommended mitigation measures

A range of mitigation and management measures developed in various technical studies and chapters in the EIS together will assist in avoiding and/or managing social impacts identified and described in Section 5. Recommended measures are summarised in the following table.

Table 7 Recommended mitigation measures

Category	Mitigation or management
Employment and economy	A contracting and procurement strategy focusing on maximising local content will be prepared to support local employment and business opportunities during construction. During operation the project should seek to work with interested local parties to support new qualification/certification pathways for some of the specialised roles on the FSRU.
Local amenity and community values	Potential impacts on local amenity and community values, especially during construction, would be managed through mitigation measures identified in other technical studies and identified in the EIS, including: <ul style="list-style-type: none"> • Noise and Vibration Assessment • Air Quality Assessment • Landscape and Visual Impact Report
Access and connectivity	Access and connectivity impacts would be managed through implementation of the construction traffic management plan.
Stakeholder engagement	Stakeholder engagement prior to and during construction with key stakeholders, including Wollongong Council, and community is recommended to provide information about the project activities and provide a feedback mechanism for residents to contact the project.

7. Conclusion

The SIA has identified that most of the potential social impacts of the project would be temporary and negligible on residents and community during construction. Construction may also result in short term economic benefits, with the potential for longer term economic benefits during operation.

During construction, the potential social impacts include:

- The project is expected to generate short term economic benefit in the Wollongong and Illawarra economies through \$200-250 million capital investment and creation of approximately 130-150 jobs. A proportion of the workforce is potentially available within Port Kembla and Wollongong LGA.
- The project would provide indirect economic benefits for local businesses supplying goods and services to the construction workforce, such as local food and beverage, retail and recreation services.
- Construction of the pipeline has the potential to temporarily change the amenity of some residential properties roughly within 150m of the alignment. This may include increase in noise and vibration, views of construction activities and potential dust, which may be a nuisance to nearby residential receivers.
- Construction would result in additional construction vehicle movements however given the existing industry activities and heavy vehicle traffic on arterial roads, the project is not expected to result in noticeable noise or traffic impacts on residents and community members.

During operation, the potential social impacts include:

- The project is anticipated to result in 40-50 ongoing jobs. This would slightly increase the number of jobs in the Port Kembla area and assist in the ongoing diversification of jobs in the area. Due to the nature of the project being the first of its kind in NSW, it is likely that a proportion of the operational jobs would at least initially be sourced from outside the region.
- The project would provide significant indirect economic benefits, including:
 - The project's key input to the local economy is to provide a new, competitive and supply of natural gas to local industry. This could benefit 15,000 gas reliant jobs in the Illawarra as well as other large commercial and industrial operations, which employ over 300,000 people in NSW.
 - The project is estimated to provide more than 70% of NSW's gas needs. In addition, the FSRU has a storage capacity of approximately 4 petajoules. This is equivalent to approximately 10 – 12 days of emergency supply for the entire NSW economy, should there be a significant disruption to gas supplies from other sources. which could meet the .
 - The project is expected to put downward pressure on gas prices, which could provide flow-on cost savings to businesses and the community
 - The addition of a new local source of gas could lead to more businesses moving to the industrial area. This could increase the use of the port and support the potential diversification of industrial activities in and around Port Kembla...

The operation of the facility is not expected to result in changes to the amenity of surrounding residential properties or community facilities, given the distance from

residential areas, the underground nature of the pipeline and existing industrial setting of the port.

The proposal would result in minimal visual changes to the existing Port Kembla industrial area, with additional ships entering and exiting the harbour. The SIA considers that potential impacts on local amenity, access and connectivity would be minimal and could be managed through mitigation measures identified in other technical studies and identified in the EIS, including Noise and Vibration Assessment, Air Quality Assessment, Traffic and Transport Assessment, and Landscape and Visual Impact Report.

In addition to these, the SIA recommends that a contracting and procurement strategy focusing on maximising local content will be prepared to support local employment and business opportunities during construction. During operation the project should seek to work with interested local parties to support new qualification/certification pathways for some of the specialised roles on the FSRU.. The SIA also recommends AIE's current stakeholder engagement regime continue prior to and during construction of the project. This engagement will provide key stakeholders and the community with information about the project activities and provide a feedback mechanism for residents to contact the project team.

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Appendices

Appendix A - Demographic profiles for Port Kembla, Neighbourhood Forum areas and Wollongong LGA

Indicator	Port Kembla	Forum 5/6	Forum 7	Wollongong LGA
Total population	5,014	27,710	67,748	203,630
Age				
Median age	43	42	36	39
Under 18 years	19.7%	21.3%	18.6%	21.5%
Cultural Diversity				
Indigenous persons	3.7%	4.1%	1.6%	2.6%
Persons born in Non Main English Speaking countries	20.4%	21.8%	21.1%	15.5%
Language spoken at home other than English	27.9%	27.5%	23.4%	16.8%
Household Characteristics				
Family households	66.3%	67.4%	64.9%	70.0%
Lone person households	30.6%	29.6%	27.0%	25.5%
Group household	3.1%	3.0%	8.1%	4.5%
Average household size	2.4	2.5	2.5	2.6
Family Characteristics				
Couple family with children	39.4%	39.6%	42.9%	44.6%
Couple family without children	34.7%	34.0%	39.4%	36.3%
One parent family	24.6%	24.7%	15.5%	17.5%
Other family	1.8%	2.0%	2.2%	1.6%
Other Characteristics				
Need for assistance	9.3%	9.4%	5.6%	6.4%
Dwelling Characteristics and Tenure Type				
Fully owned	41.1%	40.7%	33.5%	36.2%
Owned with a mortgage	24.4%	24.1%	28.1%	32.4%
Rented (total)	34.4%	35.2%	38.4%	31.5%
Renting State or territory housing authority	22.6%	33.7%	16.8%	23.7%
Length of residence				
Lived at same address 1 year ago	80.5%	80.3%	74.2%	78.8%
Lived at same address 5 years ago	58.9%	58.3%	48.9%	54.9%
Employment and Income				
Median household income (\$/weekly)	\$479	\$468	\$595	\$584
Median individual income (\$/weekly)	\$1,016	\$974	\$1,419	\$1,339
Labour force participation	48.8%	46.9%	57.1%	56.9%
Unemployed persons	10.8%	10.1%	8.2%	7.1%
Education Status				
Completion of year 12 (or equivalent)	33.8%	31.5%	54.7%	46.0%
Transport				
Households without a motor vehicle	15.4%	14.4%	10.7%	9.5%
Households with one or more motor vehicles	84.6%	85.6%	89.3%	90.5%
Train	4.3%	3.2%	5.3%	6.1%
Bus	1.3%	2.3%	3.4%	2.3%
Car (as driver or passenger)	87.2%	88.0%	78.4%	81.6%
Cycling	0.9%	0.3%	1.0%	0.7%
Walked only	2.4%	1.8%	6.2%	3.3%
Socio Economic Indicator for Areas				
*SEIFA Decile (IRSAD)	2	2	7	8

* SEIFA Deciles (IRSAD): all areas are ordered from lowest to highest score, then the lowest 10% of areas are given a decile number of 1, the next lowest 10% of areas are given a decile number 2 and so on, up to the highest 10% of areas which are given a decile number of 10. A score of 1 indicates relative disadvantage while a score of 10 indicates relative advantage.

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