

Technical Report L

Social and business impact assessment

Viva Energy Gas Terminal Project

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Technical Report L: Social and Business Impact Assessment

Viva Energy Gas Terminal Project Environment Effects Statement

25-Feb-2022 Viva Energy Gas Terminal Project

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Viva Energy Gas Terminal Project Environment Effects Statement

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Executive summary

This technical report provides a Social and Business Impact Assessment (SBIA) conducted to support the Environment Effects Statement (EES) for the Viva Energy Gas Terminal Project (the project).

In December 2020, the Victorian Minister for Planning determined that the project requires assessment through an EES under the *Environment Effects Act 1978* (Vic). The reasons for the decision were primarily related to the potential for significant adverse effects on the marine environment of Corio Bay and the potential for contributing to greenhouse gas emissions. Secondarily, the EES was required to assess the effects of the project on air quality, noise, land use, Aboriginal and historic heritage, native vegetation, groundwater, traffic and transport, as well as visual amenity.

In January 2021, the project was also determined to require assessment and approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* ('EPBC Act') due to the potential for the project to have a significant impact on wetlands of international importance, listed threatened species and communities, and listed migratory species. The EES process is the accredited environmental assessment process for the controlled action decision under the EPBC Act, in accordance with the bilateral agreement between the Commonwealth and Victorian governments.

Overview

Viva Energy Gas Australia Pty Ltd (Viva Energy) is planning to develop a floating gas terminal using a ship known as a Floating Storage and Regasification Unit (FSRU), which would be continuously moored at Refinery Pier in Corio Bay, Geelong. The key objective of the project is to facilitate supply of a new source of gas for the south-east Australian gas market where there is a projected supply shortfall in coming years.

The FSRU would store LNG received from visiting LNG carriers (that would moor directly adjacent to the FSRU), and regasify the LNG as required to meet industrial, commercial and residential customer demand. A 7-kilometre gas transmission pipeline would transfer the gas from the FSRU to the Victorian Transmission System (VTS) at Lara.

The gas terminal would be located adjacent to, and on, Viva Energy's Geelong Refinery in a heavily industrialised setting and would benefit from Viva Energy's experience and capability as an existing Major Hazard Facility (MHF) operator and potential synergies between the two facilities such as reuse of the FSRU seawater discharge within the refinery operations.

Methodology

This SBIA adopted the well-established impact assessment procedural steps of scoping, understanding the existing conditions, identifying the potential impacts and proposing mitigations to reduce the potential negative impacts and enhance the positive impacts. Data to support the assessment was compiled using primary and secondary sources, including other EES technical studies, desktop research, a site inspection and targeted consultation with key stakeholders.

The significance of identified social and business impacts has been assessed using both an initial risk screening to identify potential risks requiring investigation and assessment and impact assessment methods. For the risk-based method, a high, medium or low screening value was assigned to potential impacts to determine the level of assessment required to identify and investigate impacts. Potential impacts with a high or medium screening value were assessed in greater detail. For the impact-based method, potential impacts were assigned a rating based on the intensity, duration and extent of the impact, the sensitivity of the receivers and the effectiveness of proposed mitigations.

Existing conditions

The proposed project would largely be located on, and adjacent to, the existing Geelong Refinery, and within a developed port and heavily industrialised area on the western shores of Corio Bay near the Geelong suburbs of Corio, Norlane and North Shore, approximately 7 km north of the Geelong city centre. The Geelong Refinery has been operating for over 60 years and employs around 700 people, approximately 75% of whom live locally.

The socio-economic assessment of the study area identified that the community surrounding the project is very disadvantaged compared to the wider Geelong and Greater Melbourne area. In general, the

assessment showed the study area has a greater number of one-parent and one-person households; a notably higher unemployment rate and number of rental households; lower levels of tertiary education; a lower median weekly income; less access to the internet; a high reliance on welfare; and a high proportion of adults experiencing psychological distress and children with developmental vulnerabilities. The Geelong Grammar School situated to the north-east of the refinery presents as an outlier of advantage, scoring 100 out of 100, on the Australian Bureau of Statistics (ABS) Socio-Economic Indexes For Areas (SEIFA) Index of Relative Socio-economic Disadvantage (IRSD) (SEIFA, 2016), compared to the wider Study Area where North Shore, Corio and Norlane received a percentile score of 13, 4 and 2 out of 100 respectively, indicating a very high level of relative disadvantage.

The social infrastructure and community resources assessment identified that the study area is serviced by education, health and employment services, and sporting and recreation clubs and events. The majority of social infrastructure is located to the west of the project area, across the railway line and closer to the residential areas. Access to social infrastructure and community services would not be impacted by the proposal due to the siting of the project. The existing Refinery Pier exclusion zone restricts access for recreational boats in the waters close to the Pier. This zone would be expanded slightly to encompass the proposed pier extension, but foreshore access near the Pier would remain unchanged.

Construction impact assessment

The residual construction impacts include:

- Noise levels from pipeline construction activities above guideline levels (only Saturday afternoons 1pm to 5.30pm) at sensitive receivers (Geelong Grammar, Biddlecombe Avenue and School Road dwellings, and Macgregor Court, Cummins Road and Rennie Street dwellings). Residential amenity would be reduced at times and in limited cases unavoidable night time works may potentially disturb sleep for some local residents.
- Slightly larger waterside exclusion zone restricting boating movements in the immediate area of Refinery Pier interfering with the use and enjoyment of Corio Bay for fishing or boating.
- Reduced amenity (temporary visual, noise and air quality) particularly resulting from noise impacts associated with underground pipeline construction works.
- Improved household income and skills development arising from employment opportunities for the local community and positive impacts of social procurement (up to 150-200 jobs anticipated during construction).
- Temporary vehicle access restrictions, road closures, detours and reduced speed environments may cause frustration to some road users. No impacts to public transport services are expected to occur and local property access would be maintained during road closures.

Operation impact assessment

The residual operation impacts include:

- Increased worry or stress experienced by some members of the community who are fundamentally
 opposed to non-renewable energy projects, because of greenhouse gas emissions and climate
 change, or concerned about the project's potential impact on the Corio Bay marine environment.
- Increased worry or stress experienced by some members of the community who are concerned about the public safety implications of the proposal. However, safety concerns were raised during the SBIA engagement which occurred prior to the release of the safety assessment that indicates the incremental risk to adjacent land uses would be negligible. Sharing the findings of the safety technical report is anticipated to be an effective mitigation to alleviate safety concerns for neighbouring businesses and residents.
- Economic impacts to Geelong Grammar School via reduced enrolments due to safety concerns. However, safety concerns were raised during the SBIA engagement which occurred prior to the release of the safety assessment that indicates the incremental risk to adjacent land uses would be negligible. Sharing the findings of the safety technical report is anticipated to be an effective mitigation to alleviate safety concerns for neighbouring businesses and residents.

- Slightly larger waterside exclusion zone restricting boating movements in the immediate area of Refinery Pier interfering with use and enjoyment of Corio Bay for fishing and boating.
- Concern amongst members of the community that the marine environment may be negatively impacted, in turn, affecting the enjoyment and amenity in relation to activities such as fishing, boating, birdwatching and walking.
- Presence of the FSRU, LNG carrier and treatment facility may reduce the visual amenity of area, however the baseline environment, being a working port and industrial area, includes similar built form elements.
- Improved household income and skills development arising from employment opportunities for the local community and positive impacts of social procurement (50 to 70 jobs anticipated during operation).
- Increased community support through contributions to Viva Energy's Community Program, which supports not-for-profit community organisations, local sporting teams, disaster relief, awards for local volunteers and other community causes.

Decommissioning impact assessment

No impacts to the community are anticipated during the decommissioning phase. As the FSRU would depart Corio Bay once no longer in use, there would be no amenity impacts or significant redundant infrastructure at Refinery Pier.

The underground pipeline would likely remain in situ subject to landholder agreements and either be decommissioned completely or placed into care and maintenance arrangements.

Summary of mitigation measures and residual impacts

The majority of the potential social and business impacts identified in Section 7.0 received a minor negative residual impact rating. This is mostly due to the siting of the project within an existing port and industrial area, the existing amenity in the immediate vicinity, the limited number of businesses, residents and social infrastructure in close proximity to the proposal, and the effectiveness of the proposed mitigations. Two impacts received a positive rating, the potential for local employment and social procurement and increased community support through Viva Energy's Community Program. Several of the mitigations related to effective communication and provision of technical study findings, to assist in alleviating community and business concerns, particularly in relation to public safety.

Abbreviations and glossary of terms

Abbreviation/Term	Definition
ABS	Australia Bureau of Statistics
AEDC	Australian Early Development Census
DELWP	Department of Environment, Land, Water and Planning
DMG	Dredged Material Ground
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EES	Environmental Effect Statement
EMF	Environmental Management Framework
ERS	Environmental Reference Standard
FSRU	Floating Storage and Regasification Unit
GED	General Environment Duty
GIS	Geographic Information Systems
HDD	Horizontal Directional Drilling
IRSD	Index of Relative Socio-Economic Disadvantage
LNG	Liquefied Natural Gas
MHF	Major Hazard Facility
MLA	Marine Loading Arms
NSW	New South Wales
PJ	petajoules
PHIDU	Public Health Information Development Unit
ROW	Right of Way
SA1	Statistical Areas Level 1
SA2	Statistical Areas Level 2
SWI	Seawater Intake
SEIFA	Social Economic Indexes for Areas
SBIA	Social and Business Impact Assessment
SIA	Social Impact Assessment
SWP	South West Pipeline
SSC	State Suburbs
TRG	Technical Reference Group
ТМР	Traffic Management Plan
VFA	Victorian Fisheries Authority
VRCA	Victorian Regional Channels Authority
VTS	Victorian Transmission System

1.0 Introduction

This technical report provides a Social and Business Impact Assessment (SBIA) conducted to support the Environment Effects Statement (EES) for the Viva Energy Gas Terminal Project (the project).

Viva Energy Gas Australia Pty Ltd (Viva Energy) is planning to develop a gas terminal using a ship known as a floating storage and regasification unit (FSRU), which would be continuously moored at Refinery Pier in Corio Bay, Geelong. The key objective of the project is to facilitate supply of a new source of gas for the south-east Australian gas market, where there is a projected supply shortfall in coming years.

The FSRU would store liquefied natural gas (LNG) received from visiting LNG carriers (that would moor directly adjacent to the FSRU) and would convert LNG back into a gaseous state by heating the LNG using seawater (a process known as regasification) as required to meet industrial, commercial, and residential customer demand. A 7-kilometre gas transmission pipeline would transfer the gas from the FSRU to the Victorian Transmission System (VTS) at Lara.

The project would be situated adjacent to, and on, Viva Energy's Geelong Refinery, within a heavily developed port and industrial area on the western shores of Corio Bay between the Geelong suburbs of Corio and North Shore. Co-locating the project with the existing Geelong Refinery and within the Port of Geelong offers significant opportunity to minimise potential environmental effects and utilise a number of attributes that come with the port and industrial setting.

In December 2020, the Victorian Minister for Planning determined that the project requires assessment through an EES under the *Environment Effects Act 1978* (Vic). The reasons for the decision were primarily related to the potential for significant adverse effects on the marine environment of Corio Bay and the potential for contributing to greenhouse gas emissions. Secondarily, the EES was required to assess the effects of the project on air quality, noise, land use, Aboriginal and historic heritage, native vegetation, groundwater, traffic and transport, as well as visual amenity.

In January 2021 the project was also determined to require assessment and approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* ('EPBC Act') due to the potential for the project to have a significant impact on the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site (a wetland of international importance), listed threatened species and communities, and listed migratory species. The EES process is the accredited environmental assessment process for the controlled action decision under the EPBC Act in accordance with the bilateral agreement between the Commonwealth and Victorian governments.

1.1 Purpose

This social and business impact assessment identifies, assesses and characterises potential social and business impacts on individuals, groups and businesses associated with the construction, operation and decommissioning of the project to inform the preparation of the EES required for the project.

The report identifies and recommends mitigation measures to avoid, minimise and manage potential impacts which will inform the development of an Environmental Management Framework (EMF) for the project. The mitigation measures listed in the EMF would be implemented in the approvals and management plans for the project.

1.2 Why understanding social and business impacts is important

The project presents a unique set of challenges and opportunities for local businesses, residents and the wider community, particularly in Corio, Norlane and North Shore. The mix of residents, social infrastructure, recreational assets and businesses contribute to the character and lifestyle of the neighbourhood. Businesses provide significant economic benefits for local residents. As such, any potential impact that the project may have on the way in which the community operates is important to understand.

The purpose of this report is to identify and assess the impacts on the local community and businesses from the project and subsequently inform the management and mitigation of impacts during the design,

construction, operational and decommissioning phases. This assessment has been supported by consultation with a cross-section of stakeholders who are located within the study area.

1.3 Project area

The project would be located adjacent to, and on, the Geelong Refinery and Refinery Pier in the City of Greater Geelong, 75 kilometres (km) south-west of Melbourne. The project area is within a heavily developed port and industrial area on the western shores of Corio Bay between the Geelong suburbs of Corio and North Shore. The Geelong central business district is located approximately 7 km south of the project.

Corio Bay is the largest internal bay in the south-west corner of Port Phillip Bay and is a sheltered, shallow basin at the western end of the Geelong Arm with an area of 43 square kilometres (km²). The Point Wilson/Limeburners Bay section of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site is located along the northern shoreline of Corio Bay, approximately one kilometre to the north-east of the project.

The Port of Geelong has been in operation for over 150 years and is the largest industrial bulk cargo port in Victoria, attracting over 600 ship visits and handling more than 14 million tonnes of product annually. Geelong's shipping channels extend 18 nautical miles through Corio Bay from Point Richards through to Refinery Pier. Ports Victoria (formerly Victorian Regional Channels Authority) manages commercial navigation in the port waters in and around Geelong and is responsible for the safe and efficient movement of shipping, and for maintaining shipping channels and navigation aids. The channels are man-made having been deepened and widened through periodic dredging to support port trade development.

Refinery Pier is the primary location within the Port of Geelong for movement of bulk liquids. Vessels up to 265 metres in length currently utilise the four berths at Refinery Pier which service Viva Energy refinery operations. The majority of ship visits to the port are to Refinery Pier, with Viva Energy accounting for over half of the trade through the Port of Geelong.

The Geelong Refinery has been operating since 1954 with both the refinery and the co-located LyondellBasell plant being licensed Major Hazard Facilities (MHFs). A range of industrial activities are situated in the Port environs, including wood fibre processing and chemical, fertiliser and cement manufacture.

To the north of the Geelong Refinery, along the proposed underground pipeline corridor, the area is predominantly rural. There are several other existing Viva Energy-owned underground pipelines running between the refinery and the connection point to the South West Pipeline (SWP) at Lara. The proposed pipeline route follows already disturbed pipeline corridors, where possible, through a mix of land uses.

The project area is shown in Figure 1.



Figure 1 Project Overview

1.4 Project description

This section summarises the project as described in Chapter 4: *Project description*. Key components of the project include:

- Extension of the existing Refinery Pier with an approximately 570 metre (m) long angled pier arm, new berth and ancillary pier infrastructure including high pressure gas marine loading arms (MLAs) and a transfer line connecting the seawater discharge points on the FSRU to the refinery seawater intake
- Continuous mooring of an FSRU at the new Refinery Pier berth to store and convert LNG into natural gas. LNG carriers would moor alongside the FSRU and unload the LNG.
- Construction and operation of approximately 3 km of aboveground gas pipeline on the pier and within the refinery site connecting the FSRU to the new treatment facility
- Construction and operation of a treatment facility on refinery premises including injection of nitrogen and odorant (if required)
- Construction and operation of an underground gas transmission pipeline, approximately 4 km in length, connecting to the SWP at Lara.

The Refinery Pier extension would be located to the north-east of Refinery Pier No. 1. The new pier arm would be positioned to allow for sufficient clearance between an LNG carrier berthed alongside the FSRU and a vessel berthed at the existing Refinery Pier berth No. 1. Dredging of approximately 490,000 cubic metres of seabed sediment would be required to allow for the new berth pocket and swing basin.

The FSRU vessel would be up to 300m in length and 50m in breadth, with the capacity to store approximately 170 000 cubic metres (m^3) of LNG. The FSRU would receive LNG from visiting LNG carriers and store it on board in cryogenic storage tanks at about – 160 °C.

The FSRU would receive up to 160 PJ per annum (approximately 45 LNG carriers) depending on demand. The number of LNG carriers would also depend on their storage capacity, which could vary from 140,000 to 170,000 m³.

When gas is needed, the FSRU would convert the LNG back into a gaseous state by heating the LNG using seawater (a process known as regasification). The natural gas would then be transferred through the aboveground pipeline from the FSRU to the treatment facility where odorant and nitrogen would be added, where required, to meet Victorian Transmission System (VTS) gas quality specifications. Nitrogen injection would occur when any given gas cargo needs to be adjusted (diluted) to meet local specifications. Odorant is added as a safety requirement so that the normally odourless gas can be smelt when in use. From the treatment facility, the underground section of the pipeline would transfer the natural gas to the tie-in point to the SWP at Lara.

1.4.1 Key construction activities

Construction of the project would occur over a period of up to 18 months. The key construction activities relate to:

- Localised dredging of seabed sediments to enable the FSRU and LNG carriers to berth at Refinery Pier and excavation of a shallow trench for the seawater transfer pipe
- Construction of a temporary loadout facility at Lascelles Wharf
- Construction of the new pier arm and berthing infrastructure, and aboveground pipeline along Refinery Pier and through the refinery
- Construction of the treatment facility on a laydown area at the northern boundary of the refinery site
- Construction of the buried pipeline
- Construction at the tie-in-point to the SWP at Lara

There are no construction activities required for the FSRU component of the project. The vessel would be commissioned, and all production and safety systems verified prior to being brought to site.

An estimated 490,000 cubic metres (m³) of dredging would be required, over an area of approximately 12 hectares (ha), adjacent to the existing shipping channel to provide sufficient water depth at the new berth and within the swing basin for visiting LNG carriers to turn. Dredging within the new berth would be undertaken to a depth of 13.1 metres and the swing basin would be dredged to a depth of 12.7 metres. The dredging footprint is shown in Figure 1. It is planned to deposit the dredged material within the existing dredged material ground (DMG) in Port Phillip Bay to the east of Point Wilson, approximately 26 km from Refinery Pier.

The temporary loadout facility at Lascelles Wharf would be the first construction activity to take place in order to facilitate the Refinery Pier extension. This would involve the installation of 10 piles using hydraulic hammers.

Construction of the pier arm would be carried out once dredging is complete, primarily from the water using barge-mounted cranes. Steel piles would be driven into the seabed by barge-mounted cranes and pre-cast concrete and prefabricated steel components would be transported to site by barge and lifted into position. The installation of pier infrastructure such as the marine loading arms (MLAs), piping from the FSRU to the existing refinery seawater intake (SWI) and aboveground pipeline would also be undertaken from the water using barge-mounted cranes and construction support boats.

Installation of the 3 km above ground pipeline along the pier and through the refinery is anticipated to take 3.5 months to complete. The above ground pipeline would run along the pier to the existing pipe track east of Shell Parade within the pier foreshore compound. It would then pass through a road undercrossing to the existing refinery pipe track. The pipeline would then run north along the existing refinery pipe track to an existing laydown area where the treatment facility would be located.

The treatment facility would be located within an existing laydown area in the refinery site and cover an area of approximately 80m x 120m. Construction of the treatment facility would take 18 months and would be undertaken by specialist crews across distinct phases of work. These would include initial earthworks and civil construction, mechanical installation and electrical and instrumentation works.

The 4 km underground pipeline would be installed in stages over a 4-month period within a corridor which has been selected so as to avoid watercourses or other environmental sensitivities, where possible. Firstly, a construction right of way (ROW) would be established, clearly identified and fenced off where required. Typically, this would be between 15 and 20 m wide, and minimised where possible to reduce disturbance. Once the construction ROW is established, vegetation would be removed, and a trench excavated to a maximum depth of 2 m and a maximum width of 1 m for the pipeline to be placed. Following the placement of the pipeline, the construction ROW would be rehabilitated to its pre-existing condition as far as practicable for the purposes for which it was used immediately before the construction of that part of the pipeline.

Trenchless construction (including thrust boring or horizontal directional drilling (HDD)) would be used to install the underground pipeline in areas that are not suited to open trenching techniques, such as at intersections with major roads. Trenchless construction would involve boring or drilling a hole beneath the ground surface at a shallow angle and then pushing or pulling a welded length of pipe through the hole without disturbing the surface. It is anticipated that the maximum depth of the trenchless section would be 25 m.

The anticipated trenching, HDD and thrust bore locations are presented in Figure 2. It is possible that along the northern section of Macgregor Court the pipeline would also be constructed using HDD, however, this would be confirmed during detailed design.

Construction at the tie-in point to the SWP at Lara would be undertaken by specialist crews across the distinct phases of works, as with the treatment facility.



Figure 2 Proposed location of trenching construction techniques for the underground pipeline including open trenching, HDD and thrust boring

1.4.2 Key operation activities

The project is expected to be in operation for approximately 20 years. Key activities relating to project operation include:

- Receipt of up to 45 LNG carriers each year at Refinery Pier the number and frequency of LNG carriers arriving each year would depend on their storage capacity and gas demand
- Regasification of LNG onboard the FSRU using seawater as a heat source, which would then be reused within the refinery as cooling water
- Injection of nitrogen and odorant into the gas prior to distribution via the VTS
- Monitoring and maintenance of the pipeline easement.

1.4.3 Key decommissioning activities

The FSRU, which continues to be an ocean-going vessel throughout the operation of the project, would leave Corio Bay on completion of the project life to be used elsewhere.

It is anticipated that the Refinery Pier berth and facilities would be retained for other port related uses. The underground pipeline would likely remain in situ subject to landholder agreements and either decommissioned completely or placed into care and maintenance arrangements.

Decommissioning activities may be subject to change, subject to legislative requirements at the time and potential repurposing of the infrastructure at the end of the project.

1.4.4 Project activities relevant to the assessment

The following construction activities are relevant to the SBIA:

- Localised dredging of seabed sediments to enable the FSRU and LNG carriers to berth at Refinery Pier
- Construction of the new pier arm and berthing infrastructure, and aboveground pipeline along Refinery Pier and through the refinery. Expansion of the waterside exclusion zone to support the new pier arm and berthing infrastructure.
- Construction of the treatment facility on a laydown area at the northern boundary of the refinery site
- Construction of the underground pipeline and at the tie-in point to the SWP at Lara
- Creation of up to 150-200 jobs during construction.

The operation activities relevant to the SBIA mainly relate to the continuous mooring of the FSRU and receipt of up to 45 LNG carriers each year at the pier, and creation of 50-70 jobs to facilitate operating the gas terminal.

The decommissioning activities relevant to the SBIA include the departure (i.e., removal) of the FSRU.

2.0 Scoping requirements

The scoping requirements for the EES were issued by the Victorian Minister for Planning in July 2021. The scoping requirements set out the specific matters to be investigated in the EES and identify a set of evaluation objectives. These objectives identify the desired outcomes to be achieved in managing the potential impacts of constructing and operating the project.

The following evaluation objective is relevant to the SBIA:

• Social, economic, amenity and land use – To minimise potential adverse social, economic, amenity and land use effects at local and regional scales.

The scoping requirements of relevance to this social and business impact assessment and where they are addressed in this report and/or other technical EES reports are shown in Table 1.

Aspect	Scoping requirement	Section addressed		
Key issues	Potential for project works and	Section 7.0: Impact assessment		
	operations to affect business operations or other existing or approved facilities or land uses.	Technical report K: Transport impact assessment		
		Technical report M: <i>Land use impact</i> assessment		
	Potential for public safety risks	Section 7.0: Impact assessment		
	associated with the construction or operation of the project, including risks associated with or compounded by potential external threats.	Technical report: Safety, hazard and risk assessment		
	Potential for dust emissions resulting	Section 7.0: Impact assessment		
	from construction works and activities, including dust from potentially contaminated soil.	Technical report H: <i>Air quality impact assessment</i>		
	Potential for increases in noise and	Section 7.0: Impact assessment		
	vibration levels during project construction or operation to affect amenity adversely in adjacent existing land uses, residential and parkland areas.	Technical report I: <i>Noise and vibration impact assessment</i>		
	Potential for project construction or operation to affect local air quality adversely.	Technical report H: <i>Air quality impact</i> assessment		
	Potential for temporary or permanent	Section 7.0: Impact assessment		
	infrastructure in the project area and in its vicinity.	Technical report K: Transport impact Assessment		
		Technical report M: Land use impact assessment		
	Potential for impacts on recreational	Section 5.3.2: Sports and recreation		
	from the project.	Section 7.0: Impact assessment		
	Potential for adverse impacts on visual or landscape values.	Section 7.0: Impact assessment		

Table 1 Scoping requirements relevant to the social and business impact assessment

Aspect	Scoping requirement	Section addressed		
		Technical Report: Landscape and visual impact assessment		
Existing environment	Describe the demographic and social character of residential communities near the project.	Section 5.0: Existing conditions		
	Identify dwellings and any other potentially sensitive receivers (e.g., community centres, open spaces, etc.) that could be affected by the project potential effects on air quality, noise or vibration levels, especially vulnerable receivers including children and the elderly.	Section 5.3: Social infrastructure and community resources Technical report H: <i>Air quality impact</i> <i>assessment</i> Technical report I: <i>Noise and vibration</i> <i>impact assessment</i>		
	Identify existing and reasonably foreseeable land uses and businesses occupying land to be traversed by, adjacent to, or otherwise affected by impacts from the project.	Technical report K: Transport impact assessment Technical report M: Land use impact assessment		
	Identify strategic plans specifying or encouraging land use outcomes for land to be occupied by the project.	Section 3.0 Legislation, policy and guidelines Technical report M: <i>Land use impact</i>		
		assessment		
	Identify existing levels of recreational boating and other recreational activities in the vicinity of the project and the channels used by commercial shipping to move to and from the jetty.	Section 5.3.2: Sports and recreation		
Likely effects	Identify implications for communities,	Section 7.0: Impact assessment		
	current land uses and businesses and immediately foreseeable changes in land use.	Technical report M: Land use impact assessment		
	Describe potential impacts on	Section 5.3.2: Sports and recreation		
	recreational activities resulting from the project.	Section 7.0: Impact assessment		
Mitigation	Identify potential and proposed design	Section 7.0: Impact assessment		
measures	responses and/or other mitigation measures to avoid, reduce and/or manage any significant effects for	Section 9.0: Recommended mitigation measures		
	sensitive receivers during project construction and operation arising from	Technical report H: <i>Air quality impact assessment</i>		
	specified air pollution indicators, noise, vibration, traffic and lighting, in the	Technical report I: Noise and vibration impact assessment		
	standards and the anticipated increase in shipping traffic in Corio Bay resulting from the project.	Technical report K: Transport impact assessment		

Aspect	Scoping requirement	Section addressed		
	Identify options for mitigating impacts	Section 7.0: Impact assessment		
	from project construction or operation on potentially affected land uses, businesses and community facilities including open space.	Technical report M: <i>Land use impact</i> assessment		
Performance	Measures to manage other potentially	Section 7.0: Impact assessment		
objectives	significant effects on amenity, environmental quality and social wellbeing (including access to open	Section 9.0: Recommended mitigation measures		
	spaces) should also be addressed in the EES, including a framework for identifying and responding to emerging issues, as part of the EMF (Section 3.7).	Technical report H: <i>Air quality impact assessment</i>		
		Technical report I: Noise and vibration impact assessment		
		Technical report K: Transport impact assessment		
	Describe any further measures that are	Section 7.0: Impact assessment		
	proposed to enhance social outcomes, and either manage risks to landscape and recreational values, or enhance visual amenity outcomes both for existing land uses, residents living near the project and for visitors to the locality, to form part of the EMF (see Section	Section 9.0: Recommended mitigation measures		
		Technical report H: <i>Air quality impact</i> assessment		
		Technical report I: Noise and vibration impact assessment		
	3.7).	Technical report K: Transport impact assessment		

3.0 Legislation, policy and guidelines

A detailed review of legislation and policy at a Commonwealth, State, regional and local government level has been undertaken to determine the relevant social policies and plans which have a bearing on this SBIA. A detailed summary has been included in Appendix A. The following section provides a broad overview of the policies and plans with relevance to the SBIA.

3.1 Commonwealth Government policies and plans

Policy relating to Australia's current and future energy needs at the Commonwealth Government level includes the *Fuel Security Act 2021 (Cth)*, Australia's climate change strategies (2021) and the Australian Government's Economic and Fiscal Strategy (2021). The Federal Government recognises both the need to support a transition to renewable energy use, as well as a need to continue to support current non-renewable energy operations while the country transitions to renewables use.

As the project has the potential to impact the wetlands of international significance to the north east of the project site, the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* also has a bearing on the EES as identified in section 1.0. The wetlands create social benefits through activities such as bird watching, as well as walking, cycling, sailing and kayaking within and near the wetlands.

3.2 State Government policies and plans

State Government legislation sets out a planning framework and obligations required to minimise impacts on communities and businesses associated with the construction, operation and decommissioning of the project. Relevant acts, including the *Planning and Environment Act 1987 (Vic),* the *Pipelines Act 2005 (Vic),* the *Transport Integration Act 2010 (Vic), Marine and Coastal Act 2018 (Vic)* and the *Environment Protection Act 2017 (Vic)* cover planning and development, protecting the environment, integrating transport decision-making, and the construction and operation of pipelines.

State Government policy includes papers relevant to energy use and coastal recreation. *Victoria's Climate Change Strategy (2021)* and the *Gas Substitution Roadmap (2021)*, currently under development, broadly support economic prosperity while caring for the region's environment and quality of life, while the *Marine and Coastal Policy (2020)* and the draft *Victorian Recreational Boating Strategy (2021)* place value on the sustainable recreational use of coastal facilities, including the area surrounding the project site.

Key themes emerge in the regional plans developed by G21, a formal alliance of government, business and community organisations with a shared vision for Geelong, including the *G21 Geelong Region Plan* (2015), the *G21 Regional Growth Plan* (2013) and the *G21 Region Economic Development Strategy* (2014). The plans identify and address key regional opportunities and challenges, including significant disadvantage in the suburbs surrounding the project site, a regional dependence on non-renewable energy, and the critical nature of port infrastructure.

The priorities identified in the G21 plans align with some of the issues identified in the *Victorian public health and wellbeing plan 2019-2023* and *Plan Melbourne 2017-2050: Metropolitan Planning Strategy*, namely tackling climate change and its impact on health and wellbeing, and the need to protect state-significant industrial precincts such as the Geelong Port.

3.3 Local Government policies and plans

The *Greater Geelong Planning Scheme* (2018) is critical to ensuring the project meets required planning standards with regard to the economic and social wellbeing of society. The planning scheme sets out policies and provisions for the use, development and protection of land in Greater Geelong, whilst supporting the wider regional and State policies for development within Victoria.

A number of local plans, including *Greater Geelong: A Clever and Creative Future (2017), Our Community Plan 2021-25* and the *Social Infrastructure Plan – Generation One (2020-23)* provide a guide to community values and how members of the social and business communities might perceive the project. Identified priorities include supporting the reduction of emissions and building resilience to climate change; promoting and leveraging the competitive strengths and attractiveness of the region, globally, nationally and locally; addressing the high levels of disadvantage and unemployment in parts of the region; and easy access to open space. Environment and climate change concerns are further highlighted in the *City of Greater Geelong Environment Strategy 2020-30* and the *City of Greater Geelong Climate Change Response Plan (2021-30)*. The Climate Change Response Plan includes a municipal target of net zero greenhouse gas emissions by 2035.

The local plans further highlight high levels of socio-economic disadvantage in Corio and Norlane. The planning scheme identifies the need to improve the health and wellbeing in these suburbs. Protecting the function of significant infrastructure, such as that at Geelong Port, is seen as an opportunity to address gaps in employment and advantage.

3.4 Summary

The current legislative and policy context highlights significant health and wellbeing, economic, ecological and sustainability values for the social and business community of Victoria, Greater Geelong and the suburbs surrounding the project site.

High levels of socio-economic disadvantage in Corio and Norlane are recognised. Protecting the function of significant infrastructure, such as that at Geelong Port, is seen as an opportunity to address gaps in employment rates.

Renewable energies are seen as important in Australia's future energy mix; however, there is acknowledgement that there is a need to support a continuing role for gas while the country transitions to renewable energy sources. Overall, the policies suggest there is a need to balance the priorities of quality of life and economic prosperity with protection of the environment and adaptation to climate change.

4.0 Methodology

This section describes how the social and business impact assessment was conducted in order to understand the existing environment and potential impacts of the project on individuals, groups and businesses.

4.1 Introduction to social and business impact assessments

Social and business impact assessments involve research, analysis and assessment. They can involve a combination of qualitative and quantitative research methods and are tailored to suit the needs of specific projects. 'Impacts' generally refer to the consequences that people experience when a new project brings change to individuals, households, groups, communities or organisations.

The assessment is people centric involving assessment of a project from the perspective of people and is primarily subjective in nature. The work is often undertaken in parallel with other technical studies, including more objective technical studies such as traffic, safety and risk and noise assessments. Typically, the findings of specialist technical studies are used to inform the SBIA where the potential impacts identified in these studies are considered in the context of effects on people and communities.

The business impact assessment component focusses on impacts to business specifically, while the social impact assessment has a wider scope, incorporating a range of social elements outlined in Figure 3.



Figure 3 Social Elements of Value to People

(source: NSW Social Impact Assessment Guideline, 2021)

4.2 Approach

This SBIA adopted the well-established impact assessment procedural steps of scoping, understanding the existing conditions, identifying the potential impacts and proposing mitigations to reduce the negative impacts and enhance the positive impacts. In addition, the SBIA methodology was guided by the NSW Government SIA Guidelines (2021) in the absence of specific Victorian guidelines for a SIA. The general Victorian Guidelines for impact assessments were also considered.

The key components of the assessment methodology include:

- Scoping defining the study scope and methodology
- Profiling outlining the existing social and business conditions (baseline) and policy context
- Consultation undertaking targeted consultation to gather primary data
- Prediction and evaluation identifying and categorising the potential positive, negative and cumulative impacts for key receptors
- Mitigations proposing mitigations to reduce the potential negative impacts and enhance the positive impacts.

4.3 Research tasks and data sources:

The SBIA methodology relies on the outputs of other EES technical studies, desktop research, site inspection and targeted consultation with key stakeholders.

The following research tasks and data sources were relied upon to inform the SIA:

- Review of relevant local, regional, state and federal legislation and social policies
- Review of other EES technical studies (see section 4.10)
- Consultation with targeted stakeholders (see section 6.0)
- Analysis of relevant ABS census data
- Review of concept plans and project description provided by Viva Energy.

4.4 Study area

Any social and business impacts resulting from the project are expected to be primarily concentrated in areas close to the project. This includes the residential areas of Corio, Norlane, North Shore and parts of Lara, in particular, along Macgregor Court. Geelong Grammar School to the north-east of the refinery has boarding school students and staff who live on campus and, as such, the school has been identified as a both a key stakeholder for both social and business considerations. The primary study area for assessing potential social and business impacts is shown in Figure 4.

Potential impacts on the individuals and social groups who live outside of the study area but have a vested interest in, or use, the social and business services and resources identified within the study area have also been considered as part of this SBIA. These stakeholders include people who undertake recreational activities, such as walking, fishing and boating, in the waters and foreshore areas of Corio Bay near the project.

4.5 Existing conditions assessment method

A review of existing conditions was conducted through a combination of desktop studies and stakeholder consultation. The existing conditions assessment was divided into three parts: demographic, community resources and social infrastructure, and business environment.

4.5.1 Demographic assessment

The demographic assessment involved a review of ABS census data, Public Health Information Development Unit (PHIDU) data and Socio-Economic Indexes for Areas (SIEFA) data. The data review involved a comparison of demographic date for the defined study area with regional benchmarks to determine whether the community surrounding the project area displayed noteworthy socio-economic characteristics that may be amplified by the proposal. Stakeholders interviewed in targeted consultation also provided input as to their understanding of the high levels of disadvantage within the community (Corio, Norlane and North Shore area).

4.5.2 Community resources and social infrastructure

The community resources and social infrastructure assessment identified services considered local to the project (Corio, Norlane, North Shore and the southern end of Lara) that support the community

through charitable aid, health care or emergency services and that support quality of life and recreation. A study area was established for the purposes of the community resources and social infrastructure assessment to enable identification of the level of social and community support available in proximity to the project, including support during an emergency or health/psychological crisis and day-to-day support.

The assessment was conducted through desktop analysis using tools including the City of Greater Geelong GIS mapping for Social Infrastructure Networks and Google Maps.

4.5.3 Business environment

An assessment of the existing business environment was undertaken through desktop studies and targeted consultation by the SBIA team with businesses most likely to experience impacts due to their proximity to the project (see Section 6.0).



Figure 4 Project Study Area

4.6 Risk screening method

A risk-based screening approach was used for the EES assessment in accordance with the requirements outlined in the 'Ministerial guidelines for assessment of Environmental Effects under the *Environment Effects Act 1978 (Vic)'* (page 14). The risk screening was undertaken to ensure that the level of investigation conducted in each technical study is adequate to inform an assessment of the significance and acceptability of the potential environmental impacts of the project.

An environmental, social and economic issues risk screening tool has been used to prioritise and focus the proposed investigations, assessments and approaches to avoiding, minimising or managing potential impacts. The issue screening process involved an evaluation of the potential environmental, social and economic issues associated with the project based on the information collected through a series of initial assessments undertaken into the potential effects of the project.

The purpose of the issues screening tool was to assist in identifying:

- Significant issues, uncertainties and/or potential impacts that require more detailed characterisation and/or assessment within the EES
- Matters or potential impacts considered to be already well understood or less significant.

A high, medium, or low screening value was assigned to potential issues to determine the level of assessment required to identify and investigate impacts.

Each potential issue was given a score (1, 2 or 3) against the categories of:

- Community and stakeholder interest
- Significance of assets, values and uses
- Potential impact (spatial, temporal and severity).

The scores were added together, or the highest score across the three contributing categories was used, to give a 'screening value' of high, medium or low, which gives an indication of the level of impact assessment that is required. Issues that were assigned a screening value of high or medium required detailed assessment in the EES at a level commensurate with them being considered primary level issues.

Issues that were assigned a screening value of low were proposed to be documented and managed with some investigation and assessment in the EES at a level commensurate with them being considered secondary level issues.

4.6.1 Criteria and consequence ratings

Risks, issues, and potential impact pathways were identified for both construction and operation of the project.

Table 2 defines the criteria and consequence ratings for each of the three categories that have been used to inform the issues screening. The sum of the scores against each of the three categories or the highest rating across any of the three contributing categories gives the 'screening value'.

Rating	Community and stakeholder interest	Significance of assets, values and uses	Potential impact (spatial, temporal and severity)
1	Low interest and perceived impact	Locally significant asset, value or use	Potential for localised, temporary impact
2	Some interest and targeted perceived impacts	Regionally significant asset, value or use	Potential for significant temporary, or localised permanent impact

Table 2 Issues screening criteria and consequence ratings

Rating	Community and stakeholder interest	Significance of assets, values and uses	Potential impact (spatial, temporal and severity)
3	Broad community and stakeholder interest or impacts	State or nationally significant asset, value or use	Potential for significant permanent impact

The screening values are then used to determine the level of assessment required as shown Table 3.

Table 3 Issue investigation categories

Screening score	Screening value	Potential consequences	Complexity of mitigation	Level of assessment
7, 8 or 9 or the highest rating across any one of the	High	Potential for elevated, longer term impacts, significant assets or values may be affected with enduring changes. Considers both impacts and benefits, or	Stringent management measures may be required	Detailed assessment required
three contributing categories is 3		Issue may not be well defined and insufficient information is available for the impact assessment, or		
		High level of community interest.		
5 or 6 or the highest rating across any one of the three contributing categories is 2	Medium	Potential for moderate level impacts, significant assets or values may be affected over an extended time frame with some resultant changes. Considers both impacts and benefits, or Issue may be moderately understood, and some information is available, however more is required for the impact assessment, or Medium level of community interest.	Standard management measures are available that can be adopted with some modification	Moderate assessment required
3 or 4 or the highest rating across any one of the three contributing categories is 1	Low	Potential for short term and localised impact. Asset or values may be temporarily affected but recovery expected, or Issue is well understood and there is enough information available for the impact assessment, or Low level of community interest.	Standard management measures are available.	Some assessment required

Further information about the risk screening process is detailed in Chapter 7: Assessment framework.

Outcomes from the risk screening process are outlined in Section 4.6.2 below.

4.6.2 Risk screening results

Table 4 provides the key potential social and business issues identified as part of the risk screening process for the project and presents the screening value for each issue.

Table 4 Social and business issues screening result

Aspect	Issue	Community & stakeholder perceived impacts	Significance of assets, values & uses	Potential impact (spatial, temporal & severity)	Screening Score	Screening Value
Construction						
Business	Potential impacts on businesses such as from road/shipping traffic, changes to access or changes to amenity	2	1	1	4	Medium
Business	Potential impacts on aquaculture activities in the bay as a result of mobilisation of sediments and contaminants	2	2	1	5	Medium
Social	Potential impact to amenity (odour, dust, noise, vibration) on communities	2	1	1	4	Medium
Social	Potential disruptions to recreational activities, such as recreational boating and fishing, due to project construction activities	2	1	1	4	Medium
Operation						
Business	Potential impact on businesses during operation such as from road/shipping traffic and amenity impacts	1	1	1	3	Low
Social	Changes to the marine environment affect recreational activities e.g. boating and fishing	3	2	2	7	High
Social	Extension to the maritime exclusion zone impacts recreational activities e.g. boating and fishing	2	1	2	5	Medium
Social	Potential amenity impacts (odour, dust, noise, vibration, lighting) on communities and community facilities including recreational areas	2	1	2	5	Medium
Social	Community concern regarding passage of LNG vessels through channel	2	2	1	6	Medium

The above screening values were used as a basis for prioritising the issues requiring attention in the SBIA.

4.7 Stakeholder engagement

Viva Energy has conducted extensive stakeholder engagement activities during 2020/21 to both inform the community about the project and to identify issues of concern to the community that should be given consideration in the EES. Engagement included materials on the Viva Energy website, use of Facebook, distribution of information bulletins/newsletters, community information sessions, project videos, stakeholder meetings and preparation of multi-lingual information reflecting the area's diverse cultural backgrounds. Regarding the SBIA component of the EES, the following engagement occurred:

 Viva Energy community information session held on 12th July 2021 included information on the SBIA and the contact details for the SBIA consultation team to enable interested parties to provide feedback on the project. A video recording of the workshop was also posted on the project website which again included contact details for the SBIA team and an invitation to participate in the assessment if interested.

Following a baseline assessment, specific stakeholders were identified for targeted consultation based on potential to be impacted, proximity to the project, demonstrated interest in the project, community connectedness and recommendations from other stakeholders. The Viva Energy engagement team provided the contact details for most stakeholders, while some were passed on from community members. Contact was made via email and/or phone to arrange interviews, and stakeholders were offered online video or voice interviews with the SBIA consultation team. Interviews were conducted from mid-July to early-September 2021. The list of stakeholders consulted and key themes identified are provided in Section 6.0. Issues raised during the consultation process are outlined in the impact assessment in Section 7.0

In accordance with the scoping requirements, a Technical Reference Group (TRG) was convened and chaired by the Department of Environment, Land, Water, and Planning (DELWP) on behalf of the Minister for Planning. The TRG has provided input throughout the EES process. EES Chapter 6: *Stakeholder and community engagement* provides a summary of the project's key engagement activities.

4.8 Impact assessment method

The assessment of potential impacts to local businesses and the community was informed by targeted stakeholder consultation, desktop assessment of the baseline conditions, initial risk screening exercise, and review of other EES technical reports.

The impact assessment was guided by NSW Government Social Impact Assessment Guideline (NSW Planning, 2021), and the Victorian Government Environment Effects Act Advisory Note: DELWP Impact Assessment Guidance (DELWP, 2021) that suggests components of the impact assessment framework could consider the magnitude, scale/extent and duration of the impacts. The impact assessment method also utilised the approach adopted in the social impact assessment for similar major projects (Public Place, 2020). This included consideration of the intensity, duration and extent of social impacts, and alignment with the DELWP Impact Assessment Guidance.

Assigning significance rating

Following identification of a potential impact and consideration of the intensity, duration and extent, as well as possible mitigations, a significance rating was assigned based on the magnitude of the impact and sensitivity of the receptor. Magnitude includes matters such the intensity, scale and duration of the impact. This can include the spatial extent of the impact, the number of receivers and the extent of the change relative to existing conditions. Sensitivity includes how a receptor may experience the impact and their ability to cope.

Assigning the significance rating of anticipated impacts involves both objective and subjective inputs. The significance rating takes into account the receptor, sensitivity, intensity, duration and extent of the impact and the likely effectiveness of the mitigation. As a result, the attribution of significance is ultimately a matter of judgement.

Further to the above, people experience change differently, and the ratings applied do not imply that all individuals would experience the same impact uniformly. However, the assessments seek to demonstrate the relative importance of impacts and draw attention to those which should be given

greatest weight in the net-benefit assessment. An overview of the impact assessment approach is provided in Table 5.

Table 5	Impact	assessment	framework

Overview							
Receptor	Potential impact	Intensity, Duration, Extent,	Mitigation	Significance Rating			
Who / what is anticipated to be receiver of the impact Sensitivity – very low to very high	Potential impact - description of the impact	Intensity – little or large change to baseline conditions Duration – approximate timeframe of the impact Extent – affects small or large number of individuals	Suggested mitigation to be adopted to enhance positive impacts and reduce negative impacts	On a scale from negligible, to minor, moderate, negative/positive, extremely negative/positive			
Guiding Matrix							
Sensitivity	Intensity	Duration	Extent	Significance Rating			
Very low sensitivity to the change – receptors can easily cope	Little to no change to the baseline conditions	Less than 3 months	Affects a small number of individuals	Negligible			
Low sensitivity to the change – receptors can cope	Noticeable change to the baseline conditions	3 months to 1 year	Affects a discrete section of a local community	Minor negative / positive			
Moderate sensitivity to the change – receptors have some ability to cope	Moderate change to baseline conditions	1 to 3 years	Affects many within a local community	Moderate negative / positive			
High sensitivity to the change – receptors have limited ability to cope	Large change to baseline conditions	3 to 10 years	Affects parties across a wider district (such as an LGA)	Negative / positive			
Very high sensitivity to the change – receptors have little to no ability to cope	Very large change to baseline conditions	Greater than 10 years	Affects parties across a wider area	Extremely negative / positive			

Source: adapted from Public Place, 2020

4.9 Assumptions and limitations

Due to the developing COVID19 situation at the time of the assessment, scheduled site inspections were not able to proceed to support the SBIA. The assumptions and limitations used to develop the SBIA, including site inspection workarounds, have been summarised below:

- Aerial imagery and site inspection data collected to conduct other EES technical studies (see Section 4.10) has been used to support the SBIA.
- Existing businesses, community resources and social infrastructure were identified through desktop assessment using aerial imagery and City of Greater Geelong GIS resources. This process was further informed by the consultation process with stakeholders and local community members.
- Demographic data sources, including ABS data, are now up to five years old and may not accurately reflect more recent demographic changes.
- The report does not assess any changes to property or business values (monetary) based on the project. That is to say, the report is not an economic assessment nor property valuation.
- Some stakeholders communicated that there wasn't enough publicly available resolved information on key issues including safety, traffic and operational ship movements at the time of undertaking the SBIA consultation to fully understand the project and anticipate impacts. These stakeholders were reminded of their opportunity to provide a submission on the project during the EES public exhibition phase in early 2022, when the technical studies that were incomplete at the time of undertaking the SBIA consultation would be available for review and comment on specific matters.

4.10 Linkages to other EES technical studies

The SBIA should be read in conjunction with the following associated EES technical studies:

- Technical Report A: Marine ecology and water quality impact assessment
- Technical Report C: Greenhouse gas impact assessment
- Technical Report D: Terrestrial ecology impact assessment
- Technical report H: Air quality impact assessment
- Technical Report I: Noise and vibration impact assessment
- Technical Report K: Transport impact assessment
- Technical Report M: Land use impact assessment
- Technical Report N: Safety, hazard and risk assessment
- Technical Report O: Aboriginal cultural heritage impact assessment
- Technical Report J: Landscape and visual impact assessment
 - Appendix A: Light spill impact assessment

5.0 Existing conditions

This section provides an understanding of the existing social and business conditions relevant to the project.

The proposed project would largely be located on, and adjacent to, the existing Geelong Refinery, and within a developed port and industrial area on the western shores of Corio Bay near the Geelong suburbs of Corio, Norlane and North Shore, approximately 7 km north of the Geelong city centre.

The existing conditions assessment is focused on the suburbs of Corio, Norlane and North Shore, and the southernmost part of Lara near the Lara City Gate pipeline station, as well as the foreshore and waterway areas of Corio Bay, and the Point Wilson / Limeburners Bay section of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. The overview below outlines components of the existing social setting referred to in more detail throughout in the SBIA. Figure 5 shows the location of the components below.

5.1.1 Urban settlements

Corio and Norlane

The Geelong Refinery and adjacent industrial area is historically a major employer in the region, and the northern residential area of Geelong, including the suburbs of Corio and Norlane, has developed to service its needs. Corio and Norlane are predominantly residential in character, with commercial activities lining major arterial roads. The typology of the suburbs is primarily detached residential dwellings, with small-scale infill. Section 5.3 includes an outline of community facilities in the suburbs.

North Shore

The suburb of North Shore is located to the south of the Geelong Refinery and includes a cluster of residential properties (see Figure 4). The suburb is separated from other residential areas by industrial land uses to the north, Abery Road and the train line to the west, and Corio Bay to the south and east. Moorpanyal Park, which traverses the southern section of the suburb, attracts visitors for its community facilities and views of Corio Bay.

Geelong Grammar School, Corio Campus

The Corio campus of Geelong Grammar School, which was built in 1914, sits to the north-east of the Geelong Refinery and industrial area. The school has up to 1,500 students, including approximately 800 boarding students. The extensive grounds include residential properties that house staff, as well as large-scale facilities that service the student cohort.

Avalon College

To the east of the project site, on the northern shore of Corio Bay, is Avalon College. The college accommodates international boarding students aged 10-17 in a rural setting by the sea. It is surrounded by agricultural land with a small residential precinct to its east along Avalon Foreshore Road. The college is located close to Avalon Airport to its north-east.

Non-Urban Area

The land to the north of School Road, Corio, and the west of Macgregor Court, Lara, is non-urban land predominantly used for conservation and agricultural purposes, including vacant land, and large-scale and hobby farms with associated dwellings. There are several other existing Viva Energy-owned and third party underground pipelines running between the refinery and the connection point at Lara VTS.









Source: Vicmap 2021 (c), Imagery - Nearmap 2021 (c

5.2 Baseline socio-economic assessment

This section provides analysis and interpretations drawn from the available socio-economic statistical data, including demographic, disadvantage and health and wellbeing indicators.

For the demographic and level of disadvantage assessments, ABS 2016 data has been assessed as the 2021 census data was not yet available. The ABS State Suburb (SSC) level data has been provided for the key suburbs of Corio, Norlane and North Shore. Statistical Area 1 (SA1) level data has been provided for Lara, where the proposed connection to the VTS is located. Data for the City of Geelong and Greater Melbourne provides a relative comparison for analysis.

For the health and wellbeing assessment, data for Corio-Norlane – ABS Statistical Area 2 (SA2) has been assessed, which includes the suburbs of Corio, Norlane and North Shore.

5.2.1 Demography

The suburbs of Corio, Norlane and North Shore accommodate populations with a relatively low socioeconomic status, when compared with wider Geelong and Greater Melbourne. To highlight this, selected demographic indicators are presented in Table 6.

Theme	Indicator	Corio SSC 20636	Norlane SSC 21948	North Shore SSC 21955	Lara VTS (SA1) 2104311	Geelong (SA4) 203	Greater Melbourne (CSA) 2GMEL
Population / Age	Population	15,296	8,306	357	352	278,929	4,485,211
	0 to 4	6.3%	6.0%	4.3%	3.2%	6.3%	6.4%
	5 to 9	6.7%	5.8%	4.1%	4.3%	6.2%	6.2%
	10 to 14	7.4%	5.9%	4.1%	13.5%	5.8%	5.7%
	15 to 19	9.4%	6.7%	3.5%	14.6%	6.0%	6.0%
	20 to 29	14%	15.2%	11.6%	9.1%	14.4%	15.5%
	30 to 39	11.7%	10.8%	14.8%	10.0%	14.4%	15.5%
	40 to 49	11.7%	12.8%	19.4%	11.4%	13.6%	13.9%
	50 to 59	12.9%	12.7%	15.4%	15.2%	12.4%	11.9%
	60 to 69	10.8%	11.1%	13.3%	8.9%	10.3%	9.3%
	70+	9.0%	13.1%	9.6%	9.7%	10.7%	9.7%
	Median Age	39	39	44	36	40	36
Households and Tenure	Household size	2.7	2.5	2	3	3	3
	Family Households	68.2%	57.7%	56.8%	82.8%	69.8%	71.7%
	Lone person Households	28.3%	37.9%	40.1%	17.2%	26.7%	23.2%
	Group Households	3.5%	4.4%	3.1%	0%	3.4%	5%
	Renting	37.6%	50.7%	41.3%	7.3%	26.2%	30%
	House owned outright	28.6%	24.9%	30.3%	46.9%	35.3%	30.4%
Families	Couple with children	37.2%	29.2%	51.6%	52.3%	43.1%	48.5%
	Couple without children	30.7%	29.8%	19.4%	37.2%	39.4%	34.5%

Table 6 Selected demographic indicators

Theme	Indicator	Corio SSC 20636	Norlane SSC 21948	North Shore SSC 21955	Lara VTS (SA1) 2104311	Geelong (SA4) 203	Greater Melbourne (CSA) 2GMEL
	One parent family	30.4%	38.0%	29%	10.5%	16.2%	15%
	Other family	1.7%	2.9%	0%	0%	1.3%	2%
Employment	Unemployment Rate	12.5%	17.9%	5.8%	5.9%	6.0%	6.8%
	Professionals	7.6%	7.3%	21.2%	10.4%	21.1%	25%
	Clerical and Administrative Workers	9.1%	9.1%	9.4%	14.1%	12.1%	13.9%
	Technicians and Trades Workers	14.6%	15.4%	16.5%	19.3%	15.1%	12.6%
	Labourers	22.4%	21.8%	10.6%	14.1%	10%	8.1%
	Machinery Operators and Drivers	13.6%	12.4%	9.4%	7.4%	5.8%	5.6%
Highest Level of Education	Completed Year 10	14.8%	12.8%	10.4%	15.3%	8.9%	6.8%
	Completed year 12	12.7%	11.6%	11.4%	15.9%	13.4%	17.2%
	Bachelor degree or higher	5.5%	4.7%	16.1%	11.3%	19.5%	27.5%
Weekly Income	Median Personal income (\$)	449	426	690	458	616	673
	Median Family income (\$)	1,075	897	1,388	1,656	1,615	1,826
	Median Household income (\$)	914	728	1,118	1,421	1,287	1,542
	Household income <\$650	31.8%	43.2%	24.8%	20%	22.3%	18.4%
	Household income >\$3,000	3.2%	1.9%	5.7%	13.3%	11.6%	17.9%
No Car	Households without a car	10%	18%	4.4%	0%	5.6%	8.7%
Internet Access	Household with internet access	73.8%	60.9%	71.1%	85.7%	81.9%	85.6%

The demographic indicators detailed in Table 6 indicate the following:

- In general, the Lara VTS SA1 within the study area displayed a demographic profile more aligned to Greater Melbourne, with less disadvantage than Corio SSC, Norlane SSC and North Shore SSC.
- North Shore SSC displayed some similar socio-economic characteristics to Melbourne, such as a high weekly median personal income (\$690), similar proportion of houses owned outright (30.3%), similar proportion of professionals (21.2%) and low unemployment rate (5.8%). This may be due to the desirable seaside housing in the North Shore drawing in a slightly different demographic.
- The median age for the study area was slightly older than Greater Melbourne (36 years old), except for Lara SA1 which recorded a median age of 36 years old. North Shore SSC recorded the highest median age of 44 years old.

- Except for Lara SA1, the study area recorded a higher proportion of people living alone than Geelong and Greater Melbourne. Lara SA1 recorded a lower proportion of people living alone.
- 50.7% of households in Norlane SSC were renters, notably higher than Geelong (26.2%) and Greater Melbourne (30%). Across the study area there was a higher proportion of people renting than in Geelong and Greater Melbourne, except for Lara SA1 where only 7.3% of households were renting.
- More one-parent households were recorded in the study area than in Geelong and Greater Melbourne, except for Lara SA1. Corio SSC and North Shore SSC recorded more than double the number of one-parent families – 30.4% and 38% respectively – compared with Greater Melbourne (15%), whilst Lara SA1 recorded 10.5%.
- There were lower rates of unemployment in Lara SA1 (5.9%) and North Shore SSC (5.8%), below both Geelong (6%) and Greater Melbourne (6.8%). Unemployment rates were higher in Corio SSC (12.5%) and Norlane SCC (17.9%). Nearly 1 in 5 people were unemployed in Norlane SSC, three times higher than the Geelong unemployment rate.
- There was a higher proportion of labourers, machinery operators and drivers, technicians and trades workers (blue collar workers), and a lower proportion of professionals (white collar workers) than in Greater Melbourne. Furthermore, there were lower levels of tertiary education (bachelor degree or higher) obtained in the study area than in Geelong and Greater Melbourne.
- The measures of median weekly income (household income, family income and personal income) were all lower, when compared with Greater Melbourne, with the exception of median personal income in North Shore SSC of \$690, which was \$13 higher than in Greater Melbourne. Norlane SSC recorded a median weekly personal income of \$426, nearly 40% lower than the Greater Melbourne median. Lara SA1 recorded a median weekly family and median weekly household income that was above the corresponding Geelong median, but below the Greater Melbourne median.
- Lara SA1 recorded zero households without a registered vehicle. North Shore SSC recorded 4.4% of households without a car, which was below the Geelong and Greater Melbourne benchmarks of 5.6% and 8.7% respectively. Corio SSC (10%) and Norlane SSC (18%) recorded higher proportions of households without vehicles.
- Fewer households in the study area had access to internet e.g., Norlane SSC (60.9%) than in Geelong and Greater Melbourne, with the exception of Lara SA1 where 85.7% of households had access to the internet, similar to Greater Melbourne (85.6%).


Figure 6 ABS Study Boundaries

5.2.2 Disadvantage

An analysis of the Socio-Economic Indexes for Areas (SEIFA) 2016 data has been undertaken in order to understand the level of disadvantage within the communities near the project area. Table 7 outlines the SEIFA Index of Relative Socio-Economic Disadvantage (IRSD) data within the study area, the IRSD has been presented as both a score and a percentile. The study area boundaries have been outlined in Figure 6.

The lower the SIEFA IRSD score, the higher the disadvantage. The scoring system has a mid-point of 1,000; scores above 1,000 indicate less disadvantage and those below 1,000 indicate more disadvantage. The lower the SIEFA percentile (ranging from 1-100), the higher the disadvantage.

Study Area	Corio SSC 20636	Norlane SSC 21948	North Shore SSC 21955	Lara VTS SA1 2104311	Geelong Grammar SA1 2103869	Greater Geelong (LGA)	Greater Melbourne – 2GMEL (GCCSA)
Population	15,296	8,306	357	352	809	233,429	4,485,211
SEIFA score	832	723	919	1011	1151	994	1021
Percentile	4	2	13	46	100	65	57

Table 7 SEIFA IRSD (2016)

Source: SEIFA, 2016

The SA1 which includes Geelong Grammar School (SA2103869), recorded the lowest level of disadvantage possible within the SEIFA IRSD index, recording a percentile score of 100 (Australian Bureau of Statistics, 2016). This indicates that Geelong Grammar School and its surrounding properties presents an outlier of advantage compared to the wider study area. Corio SSC received a percentile score of 4, and Norlane received a percentile score of 2, indicating a very high level of relative disadvantage within these communities.

5.2.3 Health and wellbeing

The data presented within Table 8 displays a high-level analysis of Public Health Information Development Unit (PHIDU) data in relation to the study area (Torrens University of Australia , 2014-2020). The Corio-Norlane ABS defined Statistical Area 2 (SA2) includes North Shore.

Table 8 PHIDU data

	Corio-Norlane (SA2)	City of Greater Geelong (LGA)	Greater Melbourne (GCSSA)
Children in low income, welfare dependent families (June 2017)	5682 (56.5%)	12,036 (20.4%)	166,148 (17.5%)
AEDC* development vulnerability (at least 2/5 domains**) (2018)	69 (23.9% of those assessed)	340 (10.1% of those assessed)	54,890 (9.4% of those assessed)
Can get support in times of crisis from persons outside their household (2014)	18,332 (93.1%)	193,954 (95.8%)	3,282,270 (95.3%)
Receiving unemployment benefits (June 2020)	3,374 (19%)	10,164 (5.6%)	283,576 (8.2%)
Adults who relied on government support as their main source of income in the last 2 years (2014)	11,775 (56.6%)	69,120 (32%)	802,533 (23.8%)

Corio-Norlane (SA2)	City of Greater Geelong (LGA)	Greater Melbourne (GCSSA)
292 (1.5%)	1,641 (1.2%)	57,072 (1.6%)
4,583 (21.9%)	31,042 (13.9%)	496,534 (13.1%)
5483 (25.1%)	513,585 (13.7%)	36,268 (14.9%)
	Corio-Norlane (SA2) 292 (1.5%) 4,583 (21.9%) 5483 (25.1%)	Corio-Norlane (SA2) City of Greater Geelong (LGA) 292 (1.5%) 1,641 (1.2%) 4,583 (21.9%) 31,042 (13.9%) 5483 (25.1%) 513,585 (13.7%)

There are 5 domains, physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school-based), and communication skills and general knowledge. *Based on the Kessler 10 Scale (K10)

The PHIDU data sets outlined in Table 8 demonstrate:

- A higher reliance on welfare in Corio-Norlane, both those receiving unemployment benefits and those relying on government support as their main source of income, than in Greater Geelong and Greater Melbourne
- A higher proportion of adults experiencing psychological distress and people over 15-years with fair to poor self-assessed health in Corio-Norlane than in Greater Geelong and Greater Melbourne
- A higher proportion of children with developmental vulnerabilities when compared with the Greater Geelong and Greater Melbourne benchmarks.

To summarise the baseline socio-economic assessment, the proposal is located within a very disadvantaged area when compared with wider Geelong and Greater Melbourne. It is important to understand the baseline conditions prior to assessing how the project might potentially amplify or reduce community disadvantage. A very disadvantaged area suggests a community's ability to cope with change may be limited, and due to daily challenges, the capacity to voluntarily engage with the project, including attending community information sessions, is likely to also be limited. This is to be taken into account when selecting engagement methods and assessing the intensity and extent of possible impacts, as well as the effectiveness of mitigations.

5.3 Social infrastructure and community resources

This section describes the social infrastructure and community resources within the study area that service individuals and groups who live near, or visit locations potentially affected by, the project.

Community resources and social infrastructure help to support quality of life, foster local character, support physical and mental health, and build community cohesion. For the purposes of this assessment, community resources and social infrastructure are defined as services or organisations that support health, education and childcare, community support and culture development, sport and recreation, and emergency services.

Major projects can have direct or indirect impacts on these resources through construction, operation and decommissioning phases. The study area for this assessment includes Corio, Norlane and North Shore (see Figure 7).

5.3.1 Social Infrastructure

Social infrastructure is an important consideration when assessing a major project as such projects have the potential to impact accessibility to social infrastructure, and the corresponding services provided. Restricting access to social services would further disadvantage the local community, which is already notably disadvantaged as discussed in section 5.2.

Social infrastructure is defined as the services, networks and organisations that support quality of life and wellbeing for a community.

Source: PHIDU, 2021

Figure 6 spatially highlights the location of select social infrastructure including schools, childcare centres and kindergartens, health services, job support services, sport and recreation clubs, and community and cultural clubs. The dots shown in Figure 6 indicate the location of these existing services, near the proposed project area. Some dots represent multiple services in a similar location. The details of the social infrastructure shown in Figure 6 are provided in Appendix B.

As shown by Figure 6, the majority of social infrastructure near the project is located to the west of the train line.

The social infrastructure assessment highlights that access to social infrastructure would not be impacted by the project, based on the location of existing services, with the exception of access to Geelong Grammar School which may be impacted by road closures and detours during the construction phase. These temporary impacts could be managed through a Traffic Management Plan.

The conclusion that the significant majority of social infrastructure that supports the local community is not located near the project area is a positive outcome for the local community, who are unlikely to experience a notable change to their day-to-day life as a result of the project.





5.3.2 Sports and recreation

The social infrastructure within the study area (Figure 7) includes a number of sports and recreation clubs that support the community and help to shape the local character of the area. The sporting clubs include a variety of sports including football, athletics, racing and boating. The details of the sports and recreation clubs shown in Figure 7 are provided in Appendix B.

A notable sport and recreational area is Stead Park, at the corner of Station Street and St Georges Road, Corio. Stead Park is the closest formalised, large recreational area to the project. Stead Park is located to the west of the rail line and includes hockey fields, bowling green, darts club, soccer club, baseball pitch, playground, public toilets, youth centre. and skate park.

Along with the formalised sport and recreational clubs displayed in Figure 6, there are locations near the project area that encourage and facilitate more informal social interactions and recreation. These sites include:

- Limeburners Bay / Lagoon State Nature Reserve
 - Limeburners Bay is sandy estuarine inlet characterised by open, shallow tidal water. It supports a high diversity of birdlife and is a recognised wetland of international importance (i.e., Ramsar site). A walking and cycling trail on the western side of Limeburners Bay leads to the entrance of Hovells Creek. The area includes a mangroves boardwalk and other amenities discussed in 5.3.3.
- Moorpanyal Park and Beach, North Shore
 - Moorpanyal Park includes cliff top pathways and a picnic and playground area near the beach. An annual 1,000 m open ocean swim event takes place near Moorpanyal Beach (The Moorpanyal 1000). The free event, organised by the North Shore Residents Group, has grown to support 150 swimmers competing annually since its inception in 2000.
- Bay Walk, Corio
 - Walking trail along the foreshore between the refinery seawater inlet channel and Foreshore Road.
- Hovells Creek Trail
 - Linear trail for cycling and walking that links Corio with Lara.

Consideration of sport and recreational facilities is an important matter in the SBIA as a project such as the gas terminal has the potential to have impacts on recreational infrastructure and uses. Due to the siting of sport and recreation areas generally away from the proposed project, the project is unlikely to impact accessibility to sport and recreational pursuits, particularly land-based activities. Access to waterside sport and recreational activities is discussed further below.

5.3.2.1 Boating and fishing

Corio Bay is a popular water sport location, hosting a range of different recreational and organised sporting events throughout the year. Recreational water sports activities include kite surfing, sailing, stand up paddle boarding, scuba diving, snorkelling, canoeing, kayaking and jet-skiing.

Fishing is a popular past time in the bay area, with community members and visitors fishing for both enjoyment and sustainment. Stakeholder feedback indicates that people of lower socio-economic means rely on the fishing areas in Corio Bay as a food source. Some community members fish from the foreshore in Corio and North Shore, others fish from boats and some do both.

Boat ramps near the project include:

- 1. Limeburners Point Reserve
- 2. St Helens Park
- 3. Grammar School Lagoon
- 4. Avalon boat ramp

There are also the Point Henry Beach ramps which provide access to the eastern side of Corio Bay for kayakers. Five boat clubs are present along the eastern and southern sides of Corio Bay which provide facilities for boat access through marinas, slips and berths for members. These clubs are listed in Appendix B.

There are a range of events hosted by the boating clubs with races occurring most weekends. Most notably, the Festival of Sails runs every January in Geelong attracting an estimated 100,000 visitors over the weekend. The most famous event which takes place within the festival is the Melbourne to Geelong Passage Race which is claimed to be the oldest sporting event in the Southern Hemisphere.

A 2015 survey was undertaken by Ipsos Research (Transport Safety Victoria, 2014) to determine boating behaviour on behalf of Transport Safety Victoria, based on a sample of boat users at Limeburners Point. The survey found that the main purposes for boat use in Geelong are fishing (55%) and touring or cruising (42%). A number of charter boat companies also operate out of Geelong, both for fishing and leisure purposes.

The highest priority for recreational fishers is to maintain the quality of Victoria's fisheries by preserving and maintaining waterways (VRFish, 2017). This can be achieved by increasing fish numbers and restoring their habitats. The Victorian Fisheries Authority (VFA) banned commercial net fishing in Corio Bay in April 2018 and this ban will be extended to the whole of Port Phillip Bay in 2022. These new rules will support the sustainability of the Bay for recreational fishing and create a flow on benefit for regional tourism.

Under the State Government's Target One Million plan to encourage recreational fishing, the VFA has constructed rocky reefs within Corio Bay, as shown in Figure 8, to support recreational fishing. These projects allow any category of boat or kayak to have access to reefs and are expected to assist the Marine National Parks and Port Phillip Reefs in safeguarding fishing within the region.

Figure 8 also illustrates the existing shipping channel that the proposed LNG carriers would use to access Refinery Pier.



Figure 8 Victorian Fisheries Authority Fishing Reefs in Corio Bay

Source: Victorian Fisheries Authority, 2021

The existing waterside exclusion zone surrounding Refinery Pier prevents unauthorised access into regulated waters. Boats and other water-users are prohibited from entering the defined exclusion zone for safety reasons. The existing exclusion zone and the indicative future exclusion zone are shown in Figure 9. It is proposed to expand the existing exclusion zone, primarily to the north and east, to accommodate the pier extension and FSRU.

Importantly, the proposed exclusion zone would utilise the existing foreshore fence line boundary and consequently no change to foreshore access near the refinery for fishing or recreation is proposed.



Figure 9 Exclusion zone, current and proposed

Source: Viva Energy, 2021

Consideration of boating and fishing activity in the SBIA is important as the project would involve drawing in seawater from Corio Bay for the regasification process and subsequent discharge of the seawater to Corio Bay which could have the potential to adversely impact fishing and recreational uses.

Fishing is a popular hobby in Corio Bay and contributes to the wellbeing of both locals and visitors. If the project impacts the marine environment in a way that may adversely affect fishing, this could impact quality of life. A separate marine ecology and water quality assessment has been undertaken to consider these potential impacts which are discussed further in section 7.0.

5.3.3 Environmental context

Detailed assessments of the project's environmental context and potential impacts have been undertaken as part of a separate technical studies for this EES. The environmental context of the project as it supports community wellbeing has been reviewed here.

The SBIA has been informed by a number of the specialist technical studies prepared for the EES where potential impacts on matters including marine and terrestrial ecology have been assessed in detail. The SBIA gives consideration to whether any of the potential environmental impacts and proposed mitigation measures identified in the EES studies have social or business implications.

The project is located within and adjacent to Corio Bay within the wider Port Phillip Bay area. It is also situated in close proximity to the environmentally significant area of Limeburners Bay. The Bay forms part of the Port Phillip Bay (Western Shoreline) and Bellarine Ramsar site. The area's Ramsar designation denotes it as a wetland of international environmental importance. The area also has a designation of State Significance.

Limeburners Bay provides access to the natural environment for the local community and visitors to the area through walking and cycling trails that lead around the western side of Limeburners Bay to

the entrance of Hovells Creek. The area also includes picnic facilities, public amenities, viewing points and supports disability access.

The project is not anticipated to change access to this area during construction, operation or decommissioning phases.

5.3.4 Housing and land

The majority of project infrastructure would be located on land currently owned or occupied by Viva Energy, which holds a 'Licence for Use' of Refinery Pier from GeelongPort. Infrastructure that would be located on publicly or privately held land includes the underground pipeline and associated easement. This infrastructure extends less than 3km north of Viva Energy's land boundary (see Figure 1). The ownership, usage and potential future use of this area has been assessed to determine potential social or businesses impacts of the project. The underground pipeline and easement location shown in Figure 1 is indicative.

An approximately 600m long section of the underground pipeline and easement is proposed to be located within the Corio Native Grassland Reserve. The area between Torresdale Road and Rennie Street was subdivided into residential allotments in 1929 to create the 'New Corio Estate', however, the development of a residential estate never occurred, and the subdivision was abandoned. The Princes Highway intersects the northern section of this land just south of Rennie Street.

The former subdivision is now designated as the Corio Native Grassland Reserve, established to retain and protect Plains Grassland vegetation native to the region. Ecological surveys conducted for the EES indicate that the Reserve is generally in a degraded condition with some remnant patches of native vegetation interspersed amongst predominantly exotic species. The Greater Geelong City Council has in place a voluntary land buy-back program for those allotments still owned privately.

Key residential areas within proximity to the project are:

- East of Macgregor Court, Lara, including Turnstyle Court and Cummins Road
- North Shore
- Geelong Grammar School, Corio Campus (which provides residential accommodation for boarding students and staff on site)

5.3.4.1 Summary of key social receptors

Following analysis of existing conditions in the project area, the key sensitive social receptors have been identified. As the project, with the exception of approximately 4 kilometres of underground pipeline, is located either offshore in Corio Bay and within the existing refinery site, there are considerable buffers between project infrastructure and most receptors in the study area. Due to their proximity to the project infrastructure, and potentially greater exposure to impacts, the key sensitive receptors identified are:

- Geelong Grammar School, Corio Campus (also a business receptor as detailed in Section 5.4)
- Macgregor Court, Turnstyle Court and Cummins Road residents

In general, it is considered that the separation distances from other residential areas and community facilities in the wider study area are such that adverse social impacts would be unlikely in these areas resulting in them not being identified as sensitive receptors.

However, the SBIA acknowledges that users of the project area and surrounds for activities such as recreational fishing, walking, bird watching, and the like are drawn from a wider catchment in the Geelong area and potential impacts on these uses are assessed in this study.

It is also noted that potential social and business benefits of the project such as employment and use of local businesses during construction and operation would likely flow into the wider community.

5.4 Business environment

5.4.1 Immediate area

The business environment in which the project is situated is the Port of Geelong and surrounding industrial areas. The Port of Geelong has been in operation for over 150 years and its presence has significantly shaped the character and economy of Corio, Norlane, North Shore and wider north Geelong. The Port of Geelong is Victoria's second largest port and sees the movement of over 11 million tonnes of product annually across a number of industries including oil, wood products, fertiliser and break-bulk cargo. There are a number of long-standing businesses that operate within the port area. Quantem and Incitec Pivot are closest businesses to Refinery Pier and the proposed new pier arm and berth for the FSRU.

Geelong Grammar School is located adjacent to the existing refinery site and is considered to be both a business and residential receptor in the context of potential impacts from the project. The school has operated from its existing site in Biddlecombe Avenue since 1914 and has approximately 1,500 students. The school includes boarding facilities, with some students and staff on-site 24 hours a day, 7 days a week. COVID19 travel restrictions have extended the school's occupancy period to 365 days a year due to the inability of some students to return home overseas/interstate during school holidays.

5.4.2 Surrounding area

The surrounding business environment is characterised by large-scale retail stores to the north and south of the project area along Princes Highway, some dining and hotel establishments to the west of the project area across Princes Highway. Due to the separation distances from the project, these businesses are unlikely to experience adverse impacts from the project. There are also aquaculture businesses in the wider Port Phillip Bay area which rely on a healthy marine environment to operate.

5.4.3 Key businesses

There are four key business stakeholders located in close proximity to the project that could potentially be impacted by the project. Figure 10 shows the indictive location of these four key stakeholders in relation to Refinery Pier. A brief summary of their business operations is provided below.

GeelongPort

GeelongPort is the operator of Lascelles Wharf and Refinery Pier. The company also manages Corio Quay which is located at the southernmost point of the suburb of North Shore. The Port of Geelong handles a range of products, most notably crude oil, woodchips, fertiliser and bulk cargo.

GeelongPort, in partnership with the Spirit of Tasmania (operated by TT-Line), is relocating the launching point of the ferry service between Victoria and Tasmania from Melbourne to Geelong to a new purpose-built terminal at Corio Quay. While the TT Line ferry service is not considered likely to experience adverse impacts from the project, vehicle traffic generated by the project and Spirit of Tasmania ferry passengers during potentially overlapping construction periods or during operation, have been considered as part of the Traffic Impact Assessment in the EES (see Section 4.10).

Incitec Pivot - 150 St Georges Rd, North Shore

Incitec Pivot is an agricultural business which operates a large fertiliser precinct adjoining the Lascelles Wharf facility to the south of the of Refinery Pier. Within the Incitec Pivot facility there are administration offices, manufacturing plants, storage and despatch warehouses and laboratories. The company also has associated sites within the region which support the operation of the port facilities.

Quantem - 40 Wharf Rd, Corio

Quantem is a large corporation operating in Australia and New Zealand which specialises in bulk liquid storage and logistical services. Its facilities are located directly south of Refinery Pier and the business utilises the pier and associated port facilities for product receipt and distribution.

Geelong Grammar School Corio Campus - 50 Biddlecombe Ave, Corio

Addressed in Section 5.1.1.



Figure 10 Key businesses

6.0 Stakeholder engagement findings

6.1 Overview of interviews

Table 9 lists the stakeholders involved in the SBIA interviews in alphabetical order. One to two interviews per stakeholder group were held to discuss concerns, opportunities and possible mitigations. The duration of each meeting was approximately one hour.

The discussions with stakeholders were informative and stakeholders are thanked for their time and input.

Table 9 Stakeholder engagement register

Stakeholder Name	Focus (social and/or business matters)	Number of meetings	Number of attendees
City of Greater Geelong	Social	2	3
Committee for Geelong	Social	2	1
Geelong Chamber of Commerce	Business	1	1
Geelong Grammar School	Social and businesses	2	1, 2
GeelongPort	Business	2	1
Geelong Sustainability*	Social	1	3
Geoff Wilson (experienced local fisherman)	Social	1	1
Give Where You Live	Social	1	1
G21	Social and businesses	2	1
Incitec Pivot	Business	1	3
Northern Futures	Social	2	1
North Shore Residents Group	Social	1	3
Ports Victoria	Business	1	1
Quantem	Business	1	1
Wadawurrung Traditional Owners Aboriginal Corporation	Social	2	5, 1

*Input from an attendee at the Geelong Sustainability discussion was also made on behalf of Norlane Community Initiatives

6.2 Key themes

The key themes of the discussions with stakeholders related to safety, future use of gas and potential impacts to the marine environment.

Safety

For both local residents and nearby businesses, perceptions of safety were a critical issue. In particular, the operation of the gas facility and pipeline in close proximity to the Geelong refinery was seen as having the potential to increase the risk of a major disaster. Concerns included:

- That events at the refinery or the pipeline/FSRU would be magnified more than would have been the case if they were standalone facilities
- That the co-location of sensitive energy assets would make the site a more likely target for acts of terrorism or violence

- The separation distance between the FSRU and nearby residents would not meet United States standards for similar facilities
- That safety concerns related to the gas terminal would result in reduced residential property values in nearby areas such as North Shore.

For some stakeholders, safety concerns were considered to potentially impact their mental wellbeing as the level of concern was very high, whilst others were less concerned with safety and more concerned about the environmental impacts of a gas project. It should be noted that at the time of undertaking the SBIA engagement the safety technical report and marine ecology technical report were in development and not publicly available. In the absence of further information, some stakeholders were assuming the worst with regard to safety implications, and this was causing angst for some community members.

For Geelong Grammar School, the safety concerns had a number of elements, including:

- Safety of students in the event of a serious incident at the FSRU/pipeline and/or refinery. The school has a strong duty of care towards its students, and because of the large boarding community, there are students and staff on site 24 hours a day. Any significant safety issues, even if unlikely, are perceived to potentially jeopardise student and staff wellbeing.
- Impact on enrolments. The school is concerned that this project, and the concerns about safety
 associated with it, could result in lower enrolments. The school has indicated that some parents
 have already expressed concern about the project, although at this stage it is unclear to what
 extent this could translate into reduced enrolments should the project be approved.

Environment

There was concern from several stakeholders about the use of a non-renewable energy source as a pillar of the project. The concern related to the environmental impacts associated with using gas as an energy source and the preference for renewable energy sources to be utilised to meet the predicted gas supply shortfall in south-east Australia. Some stakeholders accepted that gas could be part of the overall transition towards renewable energy predominance in the future, while others were concerned about the climate change implications of a non-renewable energy source.

Some stakeholders also mentioned concern regarding the marine environment and the potential negative implications the project may have for the nearby Ramsar wetlands and surrounding area. At the time of conducting the SBIA consultation the ecology technical reports were not publicly available.

7.0 Impact assessment

Social and business impacts can be positive or negative and occur at any stage of a project including construction, operation and decommissioning. Social impacts are generally those that affect how people live in their homes, how people work, travel, experience their surrounding environment and engage with the community, and people's health, both mental and physical. Business impacts are those that may result in changed access conditions, changes to level of public exposure, loss of revenue or changes to the way a business operates day-to-day.

Impacts of the project have been identified through consideration of inputs including:

- Stakeholder consultation
- Social setting and socio-economic characteristics of the study area
- Other technical assessments being undertaken as part of the EES
- Scoping requirements identified in the EES Scoping Document

The NSW Department of Planning, Industry and Environment's Social Impact Assessment Guideline 2021 recommends the following categories are used to identify potential social impacts:

- Way of life: including how people live, work and play, and how they interact each day
- Community: including composition, cohesion, character and people's sense of place
- Accessibility: including how people access and use public or private infrastructure, services and facilities
- **Culture**: both Indigenous and non-Indigenous, shared values, customs and connections to the environment
- **Health and wellbeing**: including physical and mental health, especially for vulnerable people, psychological stress resulting from financial or other pressures and changes to overall health
- **Surroundings**: including ecosystem and environmental considerations such as shade, public safety and security, access to and use of the natural and built environment and aesthetic value and amenity.
- **Livelihoods**: including people's capacity to sustain themselves through employment or business, whether they experience personal breach or disadvantage, and the distributive equity of impacts and benefits.
- **Decision-making system**: including whether people can make informed decisions, can meaningfully influence decisions and access complaint, remedy and grievance mechanisms.

The above matters have been considered when undertaking the impact assessment.

7.1.1 Impact assessment framework

The impact assessment has been divided into two parts to help better communicate the issues, impacts and mitigations specific to these areas:

- 1. Gas Terminal
 - Includes dredging, the temporary loadout facility at Lascelles Wharf, pier extension, seawater transfer pipe connecting the FSRU discharge to the refinery cooling water intake, treatment facility, FSRU and LNG carriers.
- 2. Pipeline
 - Includes the aboveground and underground pipeline sections.

The assessment focuses on the construction and operational phases, as there are minimal to no social or business implications during the decommissioning phase. The assessment first identifies and details the issues, then summaries the impacts and possible mitigations in a table. The definition of issue, impact and mitigation as intended in this assessment are detailed as:

- Issues these are the concerns, risks and other matters identified through consultation and research.
- Impacts based on the issues raised and evidence available, these are the potential social and business impacts associated with the works.
- Mitigations the key mitigations to avoid or minimise negative impacts, developed thorough consultation, research and assessment.

If an issue would not result in impacts, for example if other technical reports considered the issue to be of minor consequence following a detailed assessment, the issue did not generally proceed to the impact and mitigation section, unless the community concern was particularly high, in which case, it was included in the associated table.

The assessment includes an overall impact rating, from negligible to extreme, following the methodology outlined in section 4.7.

Social and business issues, impacts and mitigations are discussed collectively in the following assessment.

7.2 Construction phase

7.2.1 Gas terminal

Construction works associated with the gas terminal would include localised dredging, the construction of a temporary loadout facility at Lascelles Wharf, construction of a new pier arm at Refinery Pier, trenching and installation of the seawater transfer pipe, and construction of the treatment facility. Construction works would take up to 18 months to complete. Issues identified during the social and business impact assessment included the following:

- Access for recreational boating/fishing the localised dredging and pier construction works would limit boating movements in the immediate area. It is noted however that boating access near Refinery Pier is already restricted due to an existing exclusion zone. This exclusion zone would be slightly extended as a result of the project.
- Access to Refinery Pier some stakeholders were concerned about maintaining access to berths No.1 to No.4 during construction. The localised dredging and pier extension would be located to the north-east and south of the existing berths and is not anticipated to impact access. The limited number of car parking spaces near the pier gatehouse would be monitored by the project team to ensure car parks remain a shared space for port users.
- Aboriginal Cultural Heritage concern was raised by some stakeholders about the potential for the dredging works to uncover Indigenous artefacts. An Aboriginal cultural heritage study including a desktop and field assessment was completed for the project. It was determined that the gas terminal works area does not contain Aboriginal cultural heritage places or values, as the majority of the area has been substantially disturbed including the area at the northern boundary of the refinery where the treatment facility would be located. A Cultural Heritage Management Plan (CHMP) would be prepared and implemented for the construction and operation of the project and would provide a framework for managing potential harm to artefacts and places of Aboriginal cultural significance. See Technical Report O: *Aboriginal cultural heritage impact assessment* for further information
- Noise localised dredging would operate 24/7 for up to four months. Dredging is undertaken as part of construction however is assessed under the Environment Protection Regulations operational noise limits as per EPA Publication 691. Noise levels from the dredging activity are not predicted to exceed the operational noise limits at any noise sensitive receiver during daytime, evening or night-time periods. However, during times of adverse (southerly direction) wind conditions noise levels have been predicted to reach the night noise limits at certain locations (Avalon College and rural dwellings). Management and mitigation measures have been recommended to minimise potential adverse impacts under these weather conditions. See Technical Report I: Noise and vibration impact assessment for further information.
- Noise Predicted noise levels from pier extension, pipeline (on the pier) and ancillary infrastructure, temporary loadout facility, seawater transfer pipe and treatment facility construction activities are unlikely to cause disturbance at the noise sensitive receivers during the daytime period and are also below guideline levels for the evening and weekend periods. See Technical Report I: *Noise and vibration impact assessment* for further information.
- Traffic dredging and pier construction would not generate material traffic volumes during their respective construction phases, with workers, plant and materials primarily transported via boat. Construction of the treatment facility has the potential to temporarily impact the road network through increased vehicle and truck movements. Traffic impacts during construction would be relatively minor and would be managed through the implementation of standard traffic management measures which would be incorporated into a Traffic Management Plan (TMP). See Technical Report K: *Transport impact assessment* for further information
- Visual amenity construction activities would be visible from a number of locations, including clear line of sight from School Road and Geelong Grammar School as the closest sensitive receptors located approximately 1.7km away. There were also concerns about the visual amenity for recreational users of the Corio Bay area, who would potentially be impacted by the construction of the pier extension. See Technical Report J: *Landscape and visual impact assessment* for further information

- Light spill the light spill from construction activities would include lighting to support the dredging and pier extension. The impact of the addition of lighting to support the project is anticipated to be minor given the existing level of light spill in the industrial and port setting of the project.
- Marine ecology the dredging proposal would include the removal of 490,000 m³ of sediment adjacent to the existing channel for a new berth and swing basin, plus an additional 8,800 m³ of sediment to install a transfer pipe. The size of the proposed dredging program would be similar to the annual maintenance dredging program by the Port of Melbourne. The effects of dredging would be localised to the proposed dredging area and the spoil disposal site. It is likely that the refinery seawater intake would draw in more turbid seawater during the dredging program, and a silt curtain between the dredging and the intake and nearby seagrass beds is proposed to minimise the effects. In addition, there would be no dredging during spring to avoid high growth periods of seagrass and phytoplankton and to avoid periods when key species of fish are in larval or juvenile stages. See Technical Report A: *Marine ecology and water quality impact assessment* for further information
- Safety while the project would not be introducing any new or unique construction hazards that are not already encountered on all major infrastructure projects, there would be a range of construction hazards associated with the gas terminal, such as working over water and in the vicinity of moving equipment, construction barges and other vessels. Such hazards would require management during construction. See Technical Report N: *Safety, hazard and risk assessment* for further information
- Employment construction of the project would generate up to 150-200 jobs. A number of the
 jobs would be sourced locally, however, some project construction activities would be highly
 specialised and would require specialised construction crews sourced from outside the local area.

Table 10 below summarises the receptor, potential impact, intensity, duration and extent of the impact, possible mitigation and residual rating of the identified construction issues.

Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
Water based recreation and sports Sensitivity: Very low	Access - restricted waterside access in the immediate area.	Little change 1 to 3 years Affects a discrete section of a local community	Consult with recreational fishing groups and nearby water sport clubs to ensure they are informed of the expanded waterside exclusion zone and the schedule of construction works.	Minor - negative
Port Users Sensitivity: Low	Access - potential loss of car parking near the Pier.	Little change 1 to 3 years Affects a small number of individuals	Consult with users of Refinery Pier as part of the Traffic Management Plan.	Negligible
Geelong Grammar School, Avalon College	Visual impacts – construction activities would be visible from School Road, Geelong Grammar School, Avalon College and other locations.	Noticeable change 1 to 3 years Affects a	No mitigations recommended as part of the visual impact assessment. Industry standard best	Minor - negative
Sensitivity: Moderate	Access – sporting activities from Geelong Grammar (sailing and rowing) would not be disrupted	discrete section of a local community	practice measures to manage noise are identified in Technical	

Table 10 Construction impact summary – gas terminal

Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
	by the construction process due to manoeuvrability, and main location around the school foreshore, approximately 1.7km from the construction area. Noise – the distance between the school and the treatment facility, dredging and pier construction sites would mean that noise is expected to be minimised. Light spill - the light spill impacts to Geelong Grammar School would be minor given the separation distance and existing presence of lighting within the industrial and port setting of the project.		Report I: <i>Noise and</i> <i>vibration impact</i> assessment. Further, businesses must manage their environmental risk under the General Environmental Duty (GED) requirements outlined in the <i>Environment</i> <i>Protectional Act 2017</i> <i>(Vic).</i> Mitigation measures will be adopted to reduce the risk of harm from noise to human health and the environment so far as reasonably practicable.	
Foreshore users near Refinery Pier Sensitivity: Moderate	Noise - There would be some noise impacts in the immediate area.	Noticeable change 1 to 3 years Affects a discrete section of a local community	Ensure information regarding the construction schedule is available to interested community members or stakeholders to allow them to plan ahead and select an alternative location during the temporary construction phase	Minor - negative
People fishing in the area, birdwatching or enjoying the marine environment near Limeburners Bay and surrounds Sensitivity: Low	Marine Ecology – Potential for turbid water during dredging to affect amenity and fish breeding, leading to changes in people's enjoyment of the marine environment.	Noticeable change 1 to 3 years Affects parties across a wider district	 Adoption of the recommended mitigations measures in Technical Report A: <i>Marine ecology and water quality impact assessment,</i> namely: No dredging to occur during fish breeding period in spring. Silt curtain to be installed between the dredging and refinery intake / inshore seagrass beds 	Minor - negative
Local residents and businesses Sensitivity: Moderate	Employment - Improved household incomes arising from employment opportunities for the local community. Note: employment and procurement benefits are not exclusive to the construction phase of the project. However, these matters have been	Noticeable to moderate change 1 to 3 years Discrete section of local community	Prepare and implement an employment plan with a commitment to prioritise employing locals from northern Geelong, Indigenous groups and individuals from disadvantaged or low socio-economic backgrounds to enhance	Minor to moderate – positive

Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
	considered holistically and detailed here for to avoid duplication as the mitigations		the employment benefits to the local community	
	are the same for all phases of the project.		Prepare and implement a procurement plan to focus on utilising local businesses as much as possible	
			Partner with local not-for- profit community groups to assist with social procurement and employment of locals (i.e., Northern Futures, Give Where you Live)	

7.2.2 Pipeline

This section summarises the potential impacts from the construction of the onshore gas pipeline (aboveground and underground segments) over an approximate four-month period. Issues identified during the social and business impact assessment included the following:

- Traffic the project has the potential to temporarily impact the road network during the
 construction phase through temporary road closures (potential temporary road closure on Shell
 Parade, adjacent to the refinery at the existing culvert under the road), increased heavy and light
 vehicle movements and impeded access. Traffic impacts during construction would be relatively
 minor and would be managed through the implementation of standard traffic management
 measures which would be incorporated into a Traffic Management Plan (TMP). See Technical
 Report K: Transport impact assessment for further information
- Access Geelong Grammar School expressed concerns about truck volumes and any temporary road closures or delays during the construction process. Traffic for events at the school can bank up as far as the roundabout at School Road and Shell Parade. Consideration would be given to a cessation or modification of works when Geelong Grammar School has a scheduled event of this scale
- Access walking and cycling: the existing public cycling and walking paths near Refinery Pier may be temporarily impacted by the proposed aboveground pipeline construction works. Noting the low socio-economic characteristics of the surrounding community and the poor health outcomes identified in Section 5.2, there is a high need to maintain access to existing assets that promote physical activity and mental wellbeing. Construction impacts in these areas would be of short duration
- Aboriginal Cultural Heritage concern was raised by some stakeholders about the potential for the ground disturbance works to uncover Indigenous artefacts. An Aboriginal cultural heritage study including a desktop and field assessment was completed for the project. As a result of the detailed fieldwork assessment undertaken, one new sub-surface artefact scatter in the northernmost portion of the pipeline works area was identified. Harm to this new Aboriginal place would be avoided through the implementation of a protection zone. In addition, all construction works would be undertaken in accordance with the conditions set out in the CHMP to avoid and minimise harm. See Technical Report O: Aboriginal cultural heritage impact assessment for further information
- Noise Horizontal directional drilling is expected to result in adverse noise impacts at certain locations Geelong Grammar, Biddlecombe Avenue and School Road dwellings, and Macgregor Court, Cummins Road and Rennie Street dwellings. In addition to general good practice

techniques recommended in MM-NV01 and MM-NV02, on-site mitigation including temporary noise walls and specific equipment mitigation measures have been recommended for trenchless construction works located in the vicinity of noise sensitive receivers (MM-NV07). Noise monitoring is recommended to verify the noise levels at the closest sensitive receivers during these stages of construction See Technical Report I: Noise and vibration impact assessment for further information.

- Noise: During pipeline hydrotesting some periods of noisy works at night will be unavoidable. The location of the hydrotesting is at least 800 metres from the nearest noise sensitive receivers, therefore, short-term construction noise levels due to hydrotesting are unlikely to be noticeable or cause a significant impact. See Technical Report I: Noise and vibration impact assessment for further information.
- Vibration: Construction vibration effects on sensitive structures and human comfort were
 assessed for equipment that can cause high levels of vibration. While the current construction
 methodology is not predicted to have vibration impacts, maintaining the recommended safe
 working distances during construction would ensure that human disturbance and potential
 structural damage due to vibration are avoided. See Technical Report I: Noise and vibration
 impact assessment for further.
- Dust the construction process has the potential to emit dust emissions towards sensitive receptors, in particular, Geelong Grammar School and the residents in Macgregor Court. With the application of industry standard mitigation measures such as watering of access roads and modifying work practices during extreme wind events within a Construction Environmental Management Plan (CEMP), these impacts would be manageable and would be unlikely to cause nuisance to residents and the school. See Technical Report H: *Air quality impact assessment*.
- Safety concern was raised regarding increased truck movement along Shell Parade particularly between Refinery Pier and Foreshore Road, due to the proximity of the road to a well utilised community bike path. The TMP will seek to minimise potential conflicts between existing vehicular and active transport modes in this area. See Technical Report K: *Transport impact assessment* for further information

Table 11 below summarises the receptor, potential impact, intensity, duration and extent of the impact, possible mitigation and residual rating of the identified construction issues.

Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
Locals or tourists using the cycling and walking path near Refinery Pier Sensitivity: Moderate	Traffic - the existing public cycling and walking path near Refinery Pier may be impacted by the proposed pipeline construction works and access restricted.	Noticeable change 3 months to 1 year Affects a discrete section of a local community	During development of the TMP, and construction works, ensure access to the cycling and walking path, or an appropriate detour, is provided at all times to maintain access for people who ride or walk along the foreshore near Refinery Pier.	Negligible
Road users passing through School Road and Shell Parade, Geelong Grammar School	Traffic – the temporary road detours and reduced speed environment may cause some minor delay and frustration for road users in proximity of the works. It is noted that specific events held at Geelong Grammar School sometimes	Noticeable to moderate change 1 to 3 years Affects a discrete section	Adopt all management and mitigation measures identified in the TMP to reduce traffic impacts. Consult regularly with sensitive receptors to ensure they are given due notice of the detours.	Minor, negative

Table 11	Construction	impact	summary -	pipeline
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Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
Sensitivity: Low	result in bank ups of traffic along the local road network.	of a local community	contact personnel and expected date of completion.	
			Consideration could be given to a short-term cessation or modification of construction activities in the event that Geelong Grammar School hold a major event.	
Geelong Grammar School, Biddlecomb e Avenue and School Road dwellings, Macgregor Court, Cummins Road and Rennie Street dwellings Sensitivity: High	The temporary night works may impact the mood and/or sleep quality of sensitive receptors and reduce wellbeing during these times.	Moderate change 3 months to 1 year Affects a discrete section of a local community	Adopt all management and mitigation measures identified in the noise impact assessment to minimise potential adverse impact of these activities to nearby noise sensitive receptors so far as reasonably practicable (see Technical Report I: <i>Noise and vibration impact</i> <i>assessment</i>). Consult regularly with sensitive receptors to ensure they are given due notice of the construction timeframes, contact personnel details and expected date of completion. Seek to avoid scheduling noisy works during important times for sensitive receptors (i.e., avoid year 12 exams). Attempt to carry out potentially impactful activities during school baliday pariade	Moderate, negative

7.3 Operational phase

7.3.1 Gas terminal

The operation of the FSRU is anticipated to occur over an approximately 20-year timeframe. Operation issues identified during the social and business impact assessment included the following:

Safety – the movement of LNG carriers through a narrow shipping channel to the FSRU and the
regasification process concerned some community members and businesses. Concerns centred
on the potential very small risk of injury or death in nearby areas should a 'worse-case-scenario'
event occur. While concern from some members of the community was high, the gas terminal
would result in localised incremental risks in and around the FSRU and LNG carrier locations.
The incremental risk near the shoreline, to the nearby North Shore residential land uses and other

adjacent land uses would be negligible, and it is noted that the existing risk to these areas from the refinery Major Hazard Facility classification is 1 to 2 orders of magnitude higher than the risk from the gas terminal. See Technical Report N: *Safety and hazard risk assessment* for further information

- Safety some community stakeholders were concerned that internationally registered LNG carriers accessing the FSRU may be operated under safety standards less rigorous than Australian standards. Viva Energy has confirmed that all vessels accessing the FSRU would be required to comply with Australian safety standards and a further, more rigorous set of standards set by Viva Energy
- Safety Exposure from the odorant, and treatment facility risk were all analysed as part of Technical Report N: Safety hazard and risk assessment. The report concluded that the hazard, safety and risk impacts on adjacent and nearby land uses are expected to be limited and would not be disproportionate to those already experienced by the Geelong Refinery.
- Greenhouse gas emissions there was concern from several stakeholders about the project supporting the use of a non-renewable energy source. The concern related to the environmental impacts associated with using gas as an energy source and the preference for renewable energy sources to be utilised to meet the predicted energy supply shortfall in south-east Australia. In addition, some stakeholders felt that the project operation would result in a misalignment with the City of Greater Geelong's municipal-wide target of net zero greenhouse gas emissions by 2035 and the Victorian Government long-term target of net zero greenhouse gas emissions by 2050. The project is one of many proposed projects related to Viva Energy's broader vision of transitioning the refinery site to a diversified 'Energy Hub.' This project would assist in the transition to a lower carbon economy and would play a crucial role in managing the forecast gas shortfall by mid-2020 in south-east Australia and managing the intermittency of renewable energy such as wind and solar. The greenhouse gas emissions based on open loop, closed loop and combined loop modes of FSRU operation. See Technical Report C: *Greenhouse gas impact assessment* for further information.
- Marine ecology the refinery currently uses approximately 350,000 m³ per day of seawater for cooling purposes and discharges this water back into Corio Bay at approximately 8°C to 10°C warmer than ambient seawater temperature through four existing discharge outlets. Chlorine is added to the seawater to prevent biofouling in pipes and equipment at the refinery and approximately 0.057 grams per cubic metre of residual chlorine is discharged into Corio Bay through the four existing discharge outlets. This has been occurring for over 60 years and marine monitoring conducted as part of the EES development shows that Corio Bay has good water quality and a diverse range of marine life that has adapted to the conditions of the bay. With the introduction of the project, seawater discharged from the FSRU would be reused in the refinery for cooling water purposes resulting in a net reduction in the refinery discharge temperature. There would be negligible change in chlorine discharges with the introduction of the project and the chlorine concentration and temperature change would be within ANZG limits. The primary productivity of Corio Bay (plankton and larvae) could be reduced by 0.06% in the operation phase due to the increased depth in the dredged berth and swing basin and as a result of drawing in seawater from Corio Bay for use in the FSRU. The potential impacts on recreational fishing, aquaculture businesses, the food chain for marine and terrestrial species and enjoyment of Limeburner's Bay for recreation as a result of the project are anticipated to be negligible. See Technical Report A: Marine ecology and water quality impact assessment for further information
- Terrestrial ecology negligible impact to birdlife in the area near the project, including the Ramsar wetland. See Technical Report D: *Terrestrial ecology impact assessment* for further information.
- Visual amenity the pier extension, FSRU and LNG carriers (when moored and in transit in Corio Bay – up to 45 per year) would be visible from several vistas around the bay and intensify the existing industrial character of the area. The FSRU and visiting LNG carriers and lighting associated with the project would have a minor impact on sensitive receptors given the separation distance and the existing presence of lighting in the industrial environment. The treatment facility would be located near School Road, which is the main entry to the Geelong Grammar School

Corio Campus. It is noted that location of the treatment facility would be within the existing refinery grounds, and against a backdrop of bright lighting at the refinery which would significantly reduce light spill issues. The treatment facility would be visible from School Road; however, advanced native trees would be planted to screen the view of the treatment facility from the road. See Technical Report J: *Landscape and visual impact assessment* for further information.

- Noise key noise sources associated with operational activities include the FSRU regasification boiler exhaust, FSRU engine exhaust, LNG carrier engine exhaust, tugboat exhausts, marine loading arms. All modelled scenarios are predicted to comply with the Environment Protection Regulation noise limits at all nearby sensitive receivers. The noise limits for the night period (10am to 7am) are the most stringent criteria, and operational activities that comply with this criterion would also comply with the day and evening noise limits. All measures to reduce potential noise and vibration impacts during operation so far as reasonably practicable would be implemented. This would include the selection of best available technology during detailed design and noise and vibration monitoring to evaluate performance and undertake corrective actions where required. See Technical Report I: Noise and vibration impact assessment for further information.
- Vibration operational vibration produced by the project is not expected to result in human disturbance or structural damage. See Technical Report I: *Noise and vibration impact assessment* for further information.
- Traffic the main traffic generation would come from trucks visiting the facility to deliver nitrogen (sometimes added to the gas to ensure compliance with local standards) and from periodic maintenance activities. Transport impacts identified in the operational phase of the project are considered negligible for the road network and intersection capacity due to the relatively low traffic volumes. See Technical Report K: *Transport impact assessment* for further information.
- Access recreational fishing: the existing Refinery Pier exclusion zone is proposed to be expanded. Boaters can easily move around the exclusion zone. No change to foreshore access would be proposed. Up to 45 LNG ships in Corio Bay would result in an approximate 5% increase in movements. Geelong Grammar School uses Corio Bay for sporting activities, mainly rowing and sailing. It is not envisaged that these activities would be disrupted as a result of the expanded exclusion zone.
- Access there would be minor impacts to the existing Refinery Pier No.1 during the operational phase. The berth No.1 users are Viva Energy and Quantem. Quantem utilises Refinery Pier No. 1 approximately 5 times per year. Viva Energy confirmed there would be restriction to the use of the berth while the LNG carrier is manoeuvring in and out of the new berth. There would be no restriction to ships using the berth while the LNG carrier is alongside the FSRU as the cargo unloading process could be paused if needed. The unloading process would take up to 36 hours. These impacts would be managed through engagement and communication with Quantem and appropriate scheduling.
- Employment approximately 50 to 70 employees would be required to operate the FRSU on a 24/7 basis, providing a positive community benefit from the project where locals are employed or upskilled. The project would leverage existing refinery personnel for inspection and maintenance services
- Community program Viva Energy is already heavily involved in supporting community programs and have a well-established Community Program that delivers positive outcomes to the Geelong community. Benefits from the program include supporting non-for-profit community organisations, local sporting teams, disaster relief, awards for local volunteers and other community causes. The project contributes to the ongoing viability of the Geelong Refinery operations and would result in increased contributions to the Community Program and associated community benefits.

Table 12 below summarises the receptor, potential impact, intensity, duration and extent of the impact, possible mitigation and residual rating of the identified operation issues.

Table 12 Operation impact summary – gas terminal

Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
Local residents and businesses near the FSRU and LNG carrier Sensitivity: High	Increased stress experienced by some residents and businesses, particularly in nearby areas such as North Shore, who are worried that the presence of the FSRU and visiting LNG carriers pose a risk to public safety.	Moderate change Greater than 10 years Affects a discrete section of a local community	Share the results of the Technical Report N: Safety hazard and risk assessment, which confirms that the incremental risk to North Shore residential area and other adjacent land uses would be negligible	Minor, negative
Local community, wider community, City of Greater Geelong, environment al groups Sensitivity: Moderate	The project causes worry and stress to people who are fundamentally opposed to non- renewable energy sources and the associated climate change implications. Greenhouse gas emissions are a key issue for some local community members and environmental groups. The project results in misalignment between the Geelong municipal-wide target of net zero emissions by 2035. The greenhouse gas report details that FSRU operations would contribute 0.05% to 0.2% of Victoria's annual greenhouse gas emissions. While Chapter 15: <i>Sustainability</i> also outlines Viva Energy's broader commitments to sustainability, some stakeholders may continue to fundamentally not support a gas project and the operation of the Gas Terminal may cause agitation and frustration for some stakeholders.	Noticeable to Moderate change Greater than 10 years Affects parties across a wider area	Adopt the greenhouse gas reduction mitigation measures outlined Technical Report C: <i>Greenhouse gas impact</i> <i>assessment</i> . Consult regularly to confirm how the emissions are being reduced. Viva Energy to demonstrate how the business is aligning with state and national targets, this would reduce concern and demonstrate alignment with local and state government targets.	Minor to Moderate - negative impact
Geelong Grammar School Sensitivity: Moderate	Potential economic impact to Geelong Grammar School through lower enrolments. Geelong Grammar School and the refinery have co-existed for many decades. The refinery is classified as a Major Hazard Facility and has several safety provisions including significant	Noticeable to Moderate change Greater than 10 years Affects a discrete section of a local	Presentation of the risk contours from Technical Report N: Safety hazard and risk assessment which demonstrate no additional risks to Geelong Grammar School. Share information about the safety and safety provisions of the facility	Minor - negative

Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
	the site is managed effectively and no substantial risk is presented to Geelong Grammar School.		and its operations – including experience from overseas – this would assist in better understanding and planning around risks and allow prospective parents concerns to be alleviated.	
Geelong Grammar School Road users Sensitivity: Low	Visual impact: The FSRU is a large ship, approximately 300m long and would be visible from Geelong Grammar School. Geelong Grammar School is located approximately 1.7km away from the FSRU site. Seeing a large ship in an existing Port is not anticipated to cause notable impacts to Geelong Grammar School operation, students or staff. Large ships move in and out of Refinery Pier berths currently. The continuous presence of the FSRU (for approximately 20 years) is a more enduring presence than visiting ships but is not inconsistent with the port and industrial setting of the project. The treatment facility would be visible from School Road; however, the view of the treatment facility is not inconsistent with the refinery backdrop and setting. The existing refinery site includes structures of a similar size and scale (as well as larger structures) and there is existing lighting as part of the industrial area. People travelling along School Road may see the treatment facility in passing. The presence of the treatment facility and its visibility is not anticipated to impact road movements, activities at Geelong Grammar School or generally affect the enjoyment of the area	Noticeable change Greater than 10 years Affects a discrete section of a local community	Screen planting of advanced native trees along the boundary of School Road to screen the view of the treatment facility from the road.	Minor – negative

Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
Quantem, GeelongPort Sensitivity: Very low	Delays to ship movements to Refinery Pier No. 1 while the LNG carrier is manoeuvring in and out of the new berth. Viva Energy is the main user of Refinery Pier No.1, Quantem uses the berth infrequently, approximately 5 ships per year. There would be no restriction to ships using Refinery Pier No. 1 while the LNG carrier is alongside the FSRU.	Noticeable change Greater than 10 years Affects a small number of individuals	The existing 'Business as Usual' arrangement between Viva Energy and Quantem can be utilised to mitigate potential conflict between the LNG carrier and ships at Refinery Pier No.1 through clear communication, advanced notification and scheduling.	Negligible
People fishing in the area, birdwatching or enjoying the marine environment near Limeburners Bay and surrounds Sensitivity: Moderate	Potential ecological impacts to the health of the waterway (fish stocks, bird life, Ramsar wetland values) and enjoyment of environmentally sensitive areas such as Limeburner's Bay reduce the ability of locals and tourist to enjoy the natural environment. EES studies indicate that the marine environment offshore from the existing refinery discharges is healthy with no evidence of adverse impacts from residual chlorine and warmer water. As the FSRU discharge water recycled through the refinery for cooling water will be of very similar quality, no adverse impacts are anticipated on the food chain, marine and terrestrial species including migratory waders. Technical Report A: <i>Marine ecology and water quality</i> <i>impact assessment</i> indicated that the warm water and chlorine plumes from the project would dissipate locally and not reach the Ramsar wetland areas north of the project site. While the expanded waterside exclusion zone will slightly restrict boating movements in the immediate vicinity of the Pier, the impacts will be minimal and therefore locals and tourist	Little change Greater than 10 years Affects parties across a wider district	No mitigations are recommended.	Negligible

Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
	are unlikely to notice a change to the environment as a result of the project.			
Aquaculture Businesses Sensitivity: Moderate	Potential economic impacts to aquaculture businesses in Port Phillip Bay if the operational phase of the project resulted in adverse marine impacts including impacts on the food chain. Technical Report A: <i>Marine</i> <i>ecology and water quality</i> <i>impact assessment</i> concluded that during operations, the primary productivity of Corio Bay could be reduced by 7 tonnes of carbon/yr (0.06%) as a result of greater channel depths and minor entrainment of plankton and larvae into the FSRU water intake. As the nearest aquaculture sites are some distance from Corio Bay and located in Port Phillip Bay, no adverse impacts on aquaculture species and economic returns would be expected.	Little change Greater than 10 years Affects parties across a wider district	No mitigations are recommended.	Negligible
Local community Sensitivity: Moderate	Increased community support through increased contributions to Viva Energy's Community Program which supports not-for- profit community organisations, local sporting teams, disaster relief, awards for local volunteers and other community causes.	Noticeable change, Greater than 10 years Affects a discrete section of a local community	Continue to promote the positive outcomes of Viva Energy's Community Program online, and confirm the increased contributions from the project	Minor, positive

7.3.2 Pipeline

The operation of the pipeline is anticipated to occur over an approximately 20-year timeframe. Operation issues identified during the social and business impact assessment included the following:

- Noise the noise study conducted for the EES indicated that operation of the pipeline component of the project would not generate adverse noise impacts at nearby houses or Geelong Grammar School. See Technical Report I: *Noise and vibration impact assessment* for further information
- Vibration operational vibration produced by the project is not expected to result in human disturbance or structural damage. Vibration impacts to above or below ground infrastructure would be controlled by engineering design requirements. See Technical Report I: Noise and vibration impact assessment for further information

• Safety - a pipeline worst-case scenario rupture was analysed as part of Technical Report N: Safety hazard and risk assessment. The report concluded that the hazard, safety and risk impacts on adjacent and nearby land uses are expected to be limited. The underground pipeline would be designed to comply with the most sensitive criteria for safe location of pipelines in proximity to residential areas.

Table 13 below summarises the receptor, potential impact, intensity, duration and extent of the impact, possible mitigation and residual rating of the identified operation issues.

Receptor and sensitivity	Potential impact	Intensity, duration, extent	Mitigation	Rating
People living near the pipeline or frequently visiting areas near the pipeline Sensitivity: Moderate	Increased worry or stress caused by the addition of a new gas pipeline and fears regarding a leak or damage to the pipe. A pipeline worst-case scenario rupture was analysed as part of Technical Report N: Safety hazard and risk assessment. The report concluded that the hazard, safety and risk impacts on adjacent and nearby land uses are expected to be limited and not disproportionate to those already experienced due to the Geelong Refinery.	Little change Greater than 10 years Affects a discrete section of a local community	Share the results of Technical Report N: Safety hazard and risk assessment widely. Emphasise to concerned stakeholders that underground gas pipelines near sensitive uses are commonplace in Australia and operate safely.	Minor, negative

Table 13 Operation impact summary – pipeline

7.4 Decommissioning phase

No impacts to the community are anticipated during the decommissioning phase. As the FSRU can sail out of Corio Bay once no longer in use, there will be no amenity impacts or redundant infrastructure at Refinery Pier.

It is anticipated that the Refinery Pier berth and facilities would be retained for other port related uses. This may result in some minor positive impacts business impacts for Port users, depending on the demand for berths at Refinery Pier in 2042 and beyond.

The underground pipeline would likely remain in situ subject to landholder agreements and either decommissioned completely or placed into care and maintenance arrangements.

8.0 Summary and conclusion

The majority of the potential social and business impacts identified in Section 7.0 received a minor negative residual impact rating. The low impact ratings are primarily due to the siting of the FSRU within an existing port and industrial area, which already has significantly reduced amenity values, and the limited number of businesses, residents and social infrastructure in proximity to the proposal. It is noted that the existing refinery has considerable buffer areas around its operations as a result of its Major Hazard Facility classification and that the separation distances from sensitive receivers markedly reduce potential social impacts. These factors, combined with the ability to implement effective mitigation measures, has resulted in most social impacts being considered negligible or minor. Two impacts received a positive rating, namely, the potential for local employment and social procurement, and increased contributions to Viva Energy's Community Program. Several of the mitigations proposed are related to effective communication and sharing of technical information with key stakeholders and the community to assist in alleviating community and business concerns, particularly in relation to public safety.

8.1 Residual impacts assessment

The residual construction impacts would include:

- Noise levels from pipeline construction activities above the guideline levels (only Saturday
 afternoons 1pm to 5.30pm) at sensitive receivers (Geelong Grammar, Biddlecombe Avenue and
 School Road dwellings, Macgregor Court, Cummins Road and Rennie Street dwellings).
 Residential amenity would be reduced at times and in limited cases unavoidable night time works
 may potentially disturb sleep for some local residents.
- Slightly larger waterside exclusion zone restricting boating movements in the immediate area of Refinery Pier interfering with the use and enjoyment of Corio Bay for fishing or boating.
- Reduced amenity (temporary visual, noise and air quality impacts), particularly the noise impacts associated with the underground pipeline works.
- Improved household income and skills development arising from employment opportunities for the local community and positive impacts of social procurement.
- Temporary vehicle access restrictions, road closures (potential temporary road closure on Shell Parade, adjacent to the refinery at the existing culvert under the road), detours, and reduced speed environments may cause frustration to some road users. No impacts to public transport services are expected to occur and local property access would be maintained during potential lane closures on Macgregor Court.

The residual operation impacts would include:

- Increased worry or stress experienced by some members of the community who are fundamentally opposed to non-renewable energy projects because of greenhouse gas emissions and climate change or concerned about the project's potential impact on the Corio Bay marine environment.
- Increased worry or stress experienced by some members of the community concerned about the
 public safety implications of the proposal. However, safety concerns were raised during the
 community engagement which occurred prior to the release of the safety technical report, that
 indicated the incremental risk to adjacent land uses would be negligible. Sharing the result of the
 safety technical report is anticipated to be an effective mitigation to alleviate safety concerns for
 businesses and residents.
- Economic impacts to Geelong Grammar School via reduced enrolments due to safety concerns. However, safety concerns were raised during the community engagement which occurred prior to the release of the safety technical report that indicated the incremental risk to adjacent land uses would be negligible. Sharing the result of the safety technical report is anticipated to be an effective mitigation to alleviate safety concerns for businesses and residents
- Slightly larger waterside exclusion zone would restrict boating movements in the immediate area of Refinery Pier interfering with use and enjoyment of Corio Bay for fishing and boating.

- Concern that the marine environment may be negatively impacted, in turn, affecting the enjoyment and amenity of the community in relation to activities such as fishing, boating, birdwatching, and walking
- Visual impact of the FSRU, LNG carrier and treatment facility may reduce the amenity of area, however the existing environment being a working port and industrial area includes similar built form elements
- Improved household income and skills development arising from employment opportunities for the local community and positive impacts of social procurement
- Increased community support through increased contributions to Viva Energy's Community Program which supports not-for-profit community organisations, local sporting teams, disaster relief, awards for local volunteers and other community causes.

8.2 Conclusion

The primary concerns expressed by community members and businesses related to human safety, the marine environment and greenhouse gases and climate change. While there was recognition of the existing industrial and port setting of the area, and the existing refinery Major Hazard Facility classification, some community members and businesses felt that the project would amplify the cumulative risk to physical safety and this caused worry and stress. Stakeholders were eager for Viva Energy to demonstrate compliance with the highest possible safety standards for a project of this nature.

As a result of the perceived risk to safety, there was some concern the proposal may negatively impact property values in the surrounding area, and student enrolments at Geelong Grammar School.

At the time of undertaking the SBIA consultation, the safety report was in development and consequently some interested community members and businesses were highly concerned about the potential for the land uses surrounding the FSRU to be exposed to additional and cumulative safety risks. However, the EES Safety studies indicate that the incremental risk near the shoreline, to the nearby North Shore residential areas and other adjacent land uses would be negligible. The level of risk at Refinery Pier, along the pipeline route and nearby public land use resulting from a major incident is within the acceptable regulatory thresholds. The safety, hazard and risk impacts on the adjacent and nearby land users during Gas Terminal Project operations are expected to be limited and not disproportionate to those already experienced due to the current operations of product movements across Refinery Pier, as well as the operation of the Geelong Refinery.

There was concern from several stakeholders that the project would support the ongoing use of gas as an energy source. The concern related to the environmental impacts associated with using gas and the preference for renewable energy sources such solar or wind to be utilised to meet the predicted energy shortfall in south-east Australia. Some stakeholders accepted that gas could be part of the overall transition towards renewable energy predominance in the future, while others did not. The Federal Government recognises the need to continue to support current non-renewable energy operations while the country transitions to increased use of renewables. Both the State and Federal Government have committed to net-zero emissions by 2050, and the City of Greater Geelong municipal net-zero emissions target is 2035.

While EES Chapter 15: *Sustainability*, also outlines Viva Energy's broader commitments to sustainability, some stakeholders may continue to fundamentally not support the project.

The construction phase of the project will result in some short-term noise impacts to sensitive receivers (dwelling occupants) at Geelong Grammar School and the residences near Macgregor Court. Noise impacts as part of the underground pipeline works are the main impact to residents during the construction phase and while the works are temporary, they may result in reduced sleep quality.

Recreational fishing and aquaculture impacts are anticipated to be negligible. The existing Refinery Pier exclusion zone is proposed to be expanded slightly to the north-east and the south. Boaters can easily move around the exclusion zone. No change to foreshore access is proposed for fishing, walking or cycling.

The marine impact assessment conducted for the EES demonstrated that the existing refinery cooling water intake and discharge which contains warm water and residual chlorine and have been in place for more than 50 years, have not had an adverse impact on the marine environment. As the proposed discharge from the project, which involves recycling of the FSRU discharge water through the refinery for cooling water purposes, is very similar to the current and longstanding discharge, adverse impacts are not anticipated for recreational fishing and aquaculture.

The social impact assessment highlights that access to social infrastructure should not be impacted by the project, as the significant majority of social infrastructure that supports the local community is not located near the project area.

There would be very minor impacts to Refinery Pier No. 1 access during the operational phase when the LNG carriers are manoeuvring to the new berth. The impacts can be managed effectively through scheduling and advance notice, and these measures are undertaken currently to avoid shipping delays between various Refinery Pier users.

The project is anticipated to result in up to 150-200 jobs during construction and 50-70 during operation. Some stakeholders spoke of their strong preference for locals to be offered jobs and local businesses to be prioritised. The opportunity to upskill locals and support low-income households will provide positive outcomes for the community.

9.0 Recommended mitigation measures

Some of the mitigation measures listed in the impact assessment in section 7.0 are sourced from other technical reports as they directly relate to specialist assessment such as marine ecology, visual impact, noise and traffic. Mitigation measures sourced from other technical reports are not listed below to avoid duplication. The mitigation measures exclusive to this report are listed in Table 14.

Table 14 Mitigation measures

Mitigation measure ID	Mitigation measure	Project phase
MM SB01	 Consultative mechanism for information and enquiries A consultative mechanism will be developed: to make information on changes to the waterside exclusion zone available to the community and stakeholders (in particular recreational fishing and boating clubs) to make details of the construction schedule (in particular disruptions to the road network) available to the community and stakeholders to make the results of environmental monitoring available to the community to make information relating to potential risks to human health and safety available to the community and stakeholders, as required for residents to make enquires, lodge complaints etc. during construction and operation 	Construction Operation
MM SB02	Consultation and arrangements with Quantem 'Business as Usual' arrangement between Viva Energy and Quantem will continue to minimise potential scheduling conflicts between the LNG carrier and ships at Refinery Pier No. 1 through clear communication, advanced notification and scheduling.	Operation
MM SB03	Employment plan An employment plan will be prepared and implemented with a commitment to prioritise employing locals from northern Geelong, Indigenous groups and individuals from disadvantaged or low socio-economic backgrounds to enhance the employment benefits to the local community	Construction Operation
MM SB04	Social procurement plan A social procurement plan will be prepared and implemented to focus on utilising local businesses as much as possible. Viva Energy will partner with local not-for-profit community groups to assist with social procurement and employment of locals (i.e., Northern Futures, Give Where you Live)	Construction Operation

9.1 Performance monitoring

Performance monitoring measures for social and business matters are likely to include the following:

- A direct contact number for local residents and businesses to contact a Viva Energy staff member should they experience concerns during the project.
- Stakeholder management database / register to log any community or business complaints or enquiries during the construction and operation phases.
- Regular discussions with, or surveys of, interested community members or businesses to understand their views on Viva Energy's performance as the project progresses i.e. pulse surveys.
- A commitment to hiring local people during the construction and operational phase and make public the outcomes of local employment and social procurement processes.

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SBIA Legislation and Policy Summary

Table 15 Primary environmental legislation and associated information

Legislation/ policy	Description	Implications for the project	Approval required
Commonwealth			
Legislation			
Environment Protection and Biodiversity Conservation Act 1999 (Cth) and Regulations 2000 (Australian Government, 1999)	Provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places.	Wetlands of international significance are located to the north of the project site. Matters of national and international environment significance are important to all Australians and, therefore, the community in the vicinity of the project site.	Yes
Fuel Security Act 2021 (Cth) (Australian Government, 2021)	Establishes a minimum stockholding obligation for corporate entities that undertake certain activities (broadly, importing and refining) in relation to certain transport fuels to hold a minimum quantity of those fuels nationally; and enable a production payment for refinery operators to provide an adjustable cent per litre payment to refineries in return for a commitment to continue refining until at least 30 June 2027.	In June 2021, Viva Energy was awarded a fuel security services payment through the Act to help maintain operations until 30 June 2027. The funding is expected to help retain 1,250 jobs across the Geelong Refinery and at Ampol's Brisbane refinery, and create another 1,750 construction jobs.	No
Policy	•		1
Australia's climate change strategies (Department of Industry, Science, Energy and Resources, 2021)	The Department of Industry, Science, Energy and Resources administers the Australian Government's domestic actions to reduce Australia's greenhouse gas emissions and meet the country's obligations under the Paris Agreement. Actions include a long-term Emissions Reduction Strategy which is under development and set for delivery at the 26 th United Nations Framework Convention on Climate Change climate summit in Glasgow in November 2021, and Australia's Technology Investment Roadmap which aims to accelerate	Federal Government climate change strategies and programs support a continuing role for gas while the country transitions to renewable energy sources. Currently, gas is an affordable and reliable energy source, particularly for the manufacturing industry which boosts employment.	No
Legislation/ policy	Description	Implications for the project	Approval required
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	development and commercialisation of new and emerging low emissions technologies.		
Australian Government's Economic and Fiscal Strategy (Commonwealth of Australia, 2021)	The Economic and Fiscal Strategy identified as part of the 2021-22 Budget aims to secure the country's economic recovery from the COVID-19 pandemic by supporting strong and sustainable private sector led growth and job creation.	The Strategy includes a key goal to keep energy secure, affordable and reliable. Gas is recognised as a vital element of economic resilience and means to deliver affordable and reliable power for consumers in the nation's electricity markets.	No
State			
Legislation			
Planning and Environment Act 1987 (Vic) (State Government of Victoria, 2021)	Sets out the statutory framework for the use, development and protection of land in Victoria, and provides for the preparation of planning schemes in each municipality consistent with the Victoria Planning Provisions and procedures by which planning schemes may be amended and planning permits obtained to govern land use and development.	Relevant due to the potential impacts on landowners, specifically where pipeline construction has the potential to disrupt the way in which owners utilise and develop their land for business or personal purposes.	Yes
<i>Pipelines Act</i> 2005 (Vic) (State Government of Victoria, 2005)	The primary act governing the construction and operation of pipelines in Victoria. The Act covers 'high transmission' pipelines for the conveyance of gas, oil and other substances.	The Pipelines Act intends that responsible authorities consider several relevant 'Principles of sustainable development', including that long and short-term economic, environmental, social and equity considerations should be effectively integrated into decision-making.	Yes
		The Act requires that landowner and business interests are an integral part of the planning and design process for pipelines and provides for compensation where appropriate.	
<i>Transport</i> <i>Integration Act</i> <i>2010 (Vic)</i> (State Government of Victoria, 2010)	Provides a legislative framework for transport in Victoria. The Act seeks to integrate land use and transport planning and decision-making by applying the framework to land use agencies whose decisions can significantly impact on transport.	People who live, work and own businesses within the vicinity of the project can reasonably expect to be considered and consulted on traffic implications of the project. The recommendations of Technical Report K: <i>Transport impact assessment</i> are considered in this regard.	No

		required
Aims to protect Victoria's air, water and land by adopting a 'general environment duty' (GED) which imposes a broad obligation on entities and individuals to take proactive steps to minimise risks of harm to human health and the environment from pollution or waste. The Environment Protection Authority administers the Environment Protection Act and subordinate legislation.	The GED requires all reasonably practicable steps be taken to minimise impacts from the construction and operation of the project.	Yes
The state's roadmap to net-zero emissions and a climate resilient Victoria by 2050.	The Strategy supports economic prosperity while caring for the region's environment and quality of life.	No
To achieve the set targets, the Strategy includes relevant actions to:		
 transition the state to a clean energy future that will create jobs, cut costs for households and businesses and strengthen the energy system 		
• support Victorian businesses and communities to cut emissions and thrive in a net-zero emissions future.		
The Victorian Government is developing a Gas Substitution Roadmap to help achieve the state's interim gas energy targets and navigate the path to net-zero emissions. The <i>Gas Substitution Roadmap Consultation</i> <i>Paper</i> (2021) sets out how the Victorian gas system currently works; how natural gas is used in Victoria; decarbonisation pathways for the gas sector; and gas industry transition issues and challenges. It is likely that a combination of the following decarbonisation pathways will be used to reach Victoria's emissions reduction targets:	Throughout the transition to fully sustainable alternative energy sources, the State Government's key priorities include maintaining energy affordability, security, reliability and safety for consumers, and creating clean energy jobs and new skills over the coming decades.	No
improving energy efficiencyelectrification		
	 sims to protect Victoria's air, water and land by adopting a general environment duty' (GED) which imposes a broad bligation on entities and individuals to take proactive teps to minimise risks of harm to human health and the environment from pollution or waste. The Environment ²rotection Authority administers the Environment ²rotection Act and subordinate legislation. The state's roadmap to net-zero emissions and a climate esilient Victoria by 2050. To achieve the set targets, the Strategy includes relevant factors to: transition the state to a clean energy future that will create jobs, cut costs for households and businesses and strengthen the energy system support Victorian businesses and communities to cut emissions and thrive in a net-zero emissions future. The Victorian Government is developing a Gas Substitution Roadmap to help achieve the state's interim gas energy targets and navigate the path to net-zero emissions. The Gas Substitution Roadmap Consultation Paper (2021) sets out how the Victorian gas system surrently works; how natural gas is used in Victoria; decarbonisation pathways for the gas sector; and gas ndustry transition issues and challenges. It is likely that a combination of the following decarbonisation pathways will be used to reach Victoria's emissions reduction targets: improving energy efficiency electrification 	 The GED requires all reasonably practicable steps be taken to minimise impacts from the construction and operation of the project. The GED requires all reasonably practicable steps be taken to minimise risks of harm to human health and the invironment from pollution or waste. The Environment 'rotection Act and subordinate legislation. The state's roadmap to net-zero emissions and a climate esilient Victoria by 2050. The state strates, the Strategy includes relevant citors to: transition the state to a clean energy future that will create jobs, cut costs for households and businesses and strengthen the energy system support Victorian businesses and communities to cut emissions and neive in a net-zero emissions future. The Victoria Government is developing a Gas Substitution Roadmap to help achieve the state's interim gas energy targets and navigate the path to net-zero minissions future. The Gas Substitution Roadmap to help achieve the state's interim garenergy targets and navigate the path to net-zero minissions future. The Gas Substitution Roadmap consultation aga system aurrently works; how natural gas is used in Victoria; lecationisation pathways for the gas sector; and gas ndustry transition pathways for the gas sector; and gas ndustry transition to fully gestand navigates. It is likely that a combination of the following decarbonisation pathways will be used to reach Victoria's emissions reduction targets: improving energy efficiency electrification

Legislation/ policy	Description	Implications for the project	Approval required
	 substituting natural gas with hydrogen substituting natural gas with biogas emerging technologies addressing fugitive emissions. 		
<i>Marine and Coastal Policy</i> (State Government of Victoria, 2020)	Sets objectives and guiding principles for the planning and management of the state's marine and coastal environment. Chapter 10 of the policy – Recreation and tourism – outlines an intended outcome that the marine and coastal environment hosts a diverse range of recreation and tourism experiences that are strategically planned and located to be safe and sustainable now and in the future.	 Highlights the following contextual factors relevant to the project: Victorians and visitors place a high value on the recreational use of the marine and coastal environment Recreation is a key economic driver for the State Marine and coastal recreation fosters a sense of stewardship and provides community-wide health benefits. The project should align with policy 10.1 to enable a diversity of sustainable recreational uses and activities. 	No
Draft Victorian Recreational Boating Strategy (State Government of Victoria, 2021)	The State is developing an overarching vision and plan to improve recreational boating in Victoria. It will address long-standing issues in the sector and underpin prioritisation of future boating investment. Population increase across Melbourne and surrounding suburbs and demographic changes are likely to place greater pressures on boating facilities.	Feedback from the consultation process undertaken as part of the development of the Strategy identified priorities for eight districts across Victoria. Boating priorities for the Port Phillip and Western Port district, which encompasses the City of Greater Geelong, included reducing congestion, facility renewal, new facilities and access.	No
Victorian public health and wellbeing plan 2019-2023 (State Government of Victoria, 2019)	This Plan is the primary mechanism through which the Victorian Government works to achieve the vision of all Victorians enjoying the highest attainable standards of health, wellbeing and participation at every age.	 The Plan sets 10 priorities for public health and wellbeing, two of which have relevance to this SBIA: tackling climate change and its impact on health improving mental wellbeing. 	No
G21 Geelong Region Plan	G21 is the formal alliance of government, business and community organisations working together to improve people's lives in the Geelong region. It covers the	Identifies that the region's dependence on non-renewable energy for industrial, residential and transportation purposes must be addressed not only for environmental reasons, but also for social and economic	No

Legislation/ policy	Description	Implications for the project	Approval required
(Geelong Region Alliance, 2014)	municipalities of City of Greater Geelong, Colac Otway Shire, Surf Coast Shire, Borough of Queenscliffe and the southern portion of Golden Plains Shire.	reasons. The report suggests that while the region has made some purposeful steps towards innovative energy provision, many opportunities are yet to be fully explored.	
	The <i>G21 Geelong Region Plan</i> is the region's strategic framework supporting the vision for the region to 2050. The Plan identifies and addresses the challenges the region will face in areas such as environment, settlement, land use, community cohesion and the economy.	Further, addresses disadvantage in the region. The suburb of Corio is identified as having the lowest disadvantage, economic resources and education and killed occupation status in the region, and the Plan encourages whole of region support for projects designed to directly address disadvantage in target groups or geographic locations.	
<i>G21 Regional</i> <i>Growth Plan</i> (Geelong Region Alliance, 2013)	 The <i>G21 Regional Growth Plan</i> provides broad direction for regional land use and development. The Plan builds on the <i>Geelong Region Plan</i> through: the development of principles for managing growth acknowledging the key role played by the region's strategic assets bringing together the planned level of growth from adopted local structure plans as developed by the G21 councils identifying potential areas where the region could grow beyond the planned growth to reach a population of 500,000 and beyond providing a high-level overview of major infrastructure 	The suburbs of Corio and Norlane are recognised in the plan as areas that should be targeted for infill and higher density housing. This increased density surrounding the project site needs to be considered in assessing the impacts of the project. The Plan further anticipates that at least 80,000 jobs will be required to support and facilitate predicted regional population growth.	No
G21 Region Economic Development Strategy (Geelong Region Alliance, 2014)	Identifies key initiatives that are critical in driving beneficial socio-economic growth for the region.	Geelong Port is identified as a regional competitive advantage and focus area for critical infrastructure.	No
Plan Melbourne 2017-2050:	The Victorian Government's overarching strategic plan for metropolitan Melbourne and its surrounding areas,	Plan Melbourne is relevant to the evaluation of the project and the Plan Scheme Amendment required to facilitate it. In particular, the PSA deliv	ning /ers on

Legislation/ policy	Description	Implications for the project Approval required
<i>Metropolitan</i> <i>Planning Strategy</i> (State Government of Victoria, 2017)	including Geelong. It sets out directions, initiatives and actions land use, transport and infrastructure.	policies within Plan Melbourne that recognise the need to protect state-significant industrial precincts such as the Geelong Port.
		Further, increasing the number and diversity of jobs closer to where people live is seen to make Melbourne, and the state more generally, more productive and competitive.
Local		
Legislation		
Greater Geelong Planning Scheme (2018) (State Government of Victoria, 2021)	Sets out policies and provisions for the use, development and protection of land in Greater Geelong, whilst	Ensuring the project meets required planning application standards with regards to the economic and social wellbeing of society.
	supporting the wider regional and State policies for development within Victoria.	Geelong Port is recognised in the scheme as a vitally important resource for the city's economy. The scheme aims to safeguard the port as a focal point for
	The Planning Scheme identifies Geelong as a major regional city and Victoria's 'second city', and aims to support long-term growth options that build on existing infrastructure and new investigation areas for further development. The core focus for Geelong is to increase economic diversity and employment opportunities through support for new and innovative opportunities balanced with support for industries that utilise skills within the region. The Viva Energy Refinery is acknowledged as a major and historical employer for the region.	infrastructure development and economic prosperity within south-west Victoria.
		The scheme further aims to improve the health and wellbeing of people living in the suburbs of Corio and Norlane which surround the project site.
Policy		
Greater Geelong: A Clever and Creative Future	Sets a 30-year community vision for Greater Geelong that, by 2047, the municipality will be internationally recognised as a clever and creative city-region that is forward-looking, enterprising and adaptive, and a city that cares for its	The document highlights community values which provide a guide to how the community might perceive the project. Those values include:
(City of Greater Geelong, 2017)		A range of employment opportunities
	Community aspirations include the following:	 Easy access to open space Sustainable development that responds to climate change

Legislation/ policy	Description	Implications for the project	Approval required
	An inclusive, diverse, healthy and socially connected community	Design that makes best use of technology for better and more sus living	tainable
	 A prosperous economy that supports jobs and aducation apportunities 	Economically healthy and environmentally responsible businesses	;
	Sustainable development that supports population	Clean energy solutions	
	growth and protects the natural environment	Attracting renewable energy industries to the region	
	Development and implementation of sustainable	Innovative approaches and resilience to climate change	
	solutions.	The community adopting sustainable practices.	
		Port infrastructure is considered to be one of the foundations for a clev creative City-region.	/er and
		The alignment between the project and community aspirations and val considered in assessing the social and business impacts of the project	lues is t.
Our Community Plan 2021-25Guides Greater Geelong's resources to deliver infrastructure, services and programs to the community to		The Community Plan sets out health and wellbeing, sustainability, and priorities for the region.	leconomic
(City of Greater Geelong, 2021)	ensure the social, economic and environmental sustainability of the region.	The suburbs of Corio and Norlane, which abut the project site, are identified two of three areas within Geelong that have the highest disadvantage their SEIFA score.	ntified as according to
		Community consultation undertaken as part of the development of the the environment and climate change, and access to public open space significant priorities for the community.	Plan shows e, are
		Other priorities outlined in the plan include:	
		• Support our community and region to reduce emissions and build to climate change	resilience
		Promote and leverage the competitive strengths and attractivenes region, globally, nationally and locally	s of our
		Address high levels of unemployment in targeted areas of our region	ion

Legislation/ policy	Description	Implications for the project Approval required
		The strength of the alignment between the project and community priorities is considered in assessing the impacts of the project.
Social Infrastructure Plan – Generation One: 2020-23 (City of Greater Geelong, 2020)	Brings together all the relevant strategies, policies, plans, technical reports, data and community insights to provide a collective and considered view of social infrastructure and service priorities across Greater Geelong. The Plan recognises that good infrastructure is not an end in itself, but an enabler of better social, economic and environmental outcomes.	 The plan recognises the value, importance and significant community affiliation with public open spaces, including beaches and foreshore. One of 13 Social Infrastructure Network Reports – <i>Aquatics and Leisure</i> (City of Greater Geelong, 2020) highlights the Bay as a playground for those who like to be out on, in or near water for fishing, boating and swimming, and that access can limit use. These preferences for access to open spaces need to be considered in assessing the impact of the project on the community.
Draft City of Greater Geelong Climate Change Response Plan 2021-30 (City of Greater Geelong, 2021)	Identifies how Greater Geelong will support community and business efforts to reduce emissions and adapt to the likely impacts of a changing climate.	This plan highlights that the environment and climate change are significant priorities for residents and they're looking for leadership on these issues. Assessment of the project should consider how it aligns with the City of Greater Geelong municipal's target to achieve net zero emissions by 2035.
City of Greater Geelong Environment Strategy 2020-30 (City of Greater Geelong, 2020)	Describes the actions the City of Greater Geelong is taking to protect the region's environment and reduce the region's environmental footprint.	The focus of this strategy is to improve the health of our local environment, while simultaneously striving to protect the lifestyle we all enjoy.
Port of Geelong Port Development Strategy (Victorian Regional	Supports the effective growth and development of the port of Geelong.	The strategy identifies the Port of Geelong to be the state's largest gateway for international bulk trade, where current trade is centred on servicing Victoria's fuel needs and agricultural industries. The strategy refers to the port's most recent assessment of economic impact undertaken in 2016-17. At this time, direct employment (full-time equivalents) was

Legislation/ policy	Description	Implications for the project	Approval required
Channels Authority, 2018)	estimated to be 988 in the region, and corresponding household income million.		e was \$74
		The impact of the port on the social and business communities needs t balanced against competing objectives for the diversification and expan port.	o be Ision of the
GeelongPort Environment	Presents a forward vision (to become Australia's most environmentally sustainable bulk port) and commitment to	Assessing alignment between the project and the environmental outcome of the managers of port assets. This includes:	nes set by
Strategy (Geelong Port, 2019)	facilities.	Corio Bay residents and visitors enjoy waterfront spaces for passiv active recreation	e and
,		Corio Bay and waterfront economies are thriving.	
GrainCorp Environment Policy (GrainCorp, 2020)	Presents the company's aim to minimise the environmental impact of their operations through a range of commitments.	Assessing alignment between the values of the community and those of management.	of port

Appendix **B**

Social Infrastructure

Appendix B Social Infrastructure

The Table below was compiled from a desktop assessment that extracted data from the City of Greater Geelong Community Directory and Google Maps. The Community Directory includes information about community organisations, groups, clubs, services and facilities based in the municipality. For more information visit: <u>Geelong Community Directory - City of Greater Geelong (geelongaustralia.com.au)</u>

Receptor	Location	Relevant Activity
Sports and Recreation C	Clubs	
Geelong Soccer Club	Stead Park Station St, Norlane	 Social and sporting events during the week and on weekends Varying peaks based on after- school sports and weekend sports
Hockey Geelong, Geelong Darts Club and Norlane Bowling Club, Corio (all located in Stead Park)	Stead Park, Norlane	 Social and sporting events during the week and on weekends Varying peaks based on after- school sports and weekend sports
North Shore Football Club, Norlane	Windsor Park, Rose Ave, Norlane	 Social and sporting events during the week and on weekends Varying peaks based on after- school sports and weekend sports
Geelong Greyhound Racing Club, Corio	Beckley Park, Broderick Rd, Corio	Social and sporting events, largely based on weekends
Geelong Karting Club, Corio	Geelong Ring Rd, Corio	Social and sporting events, largely based on weekends
Geelong Buccaneers Football Club, Corio and Geelong Rams Rugby League Club, Corio (same grounds)	93 Hendy St, Corio	 Social and sporting events during the week and on weekends Varying peaks based on after- school sports and weekend sports
Corio Football Club, Corio	Purnell Rd, Corio	 Social and sporting events during the week and on weekends Varying peaks based on after- school sports and weekend sports
Corio Cricket Club, Corio	Purnell Rd, Corio	 Social and sporting events during the week and on weekends Varying peaks based on after- school sports and weekend sports
Corio Little Athletics, Corio	Goldsworthy Reserve, Goldsworthy Rd, Corio	 Social and sporting events during the week and on weekends

Receptor	Location	Relevant Activity
		 Varying peaks based on after- school sports and weekend sports
Waterworld Leisure Centre, Norlane	1/15 Cox Rd, Norlane	 Public pool and aquatic centre Varying peaks through the week and on Saturdays
Balmoral Quay Marina	17 Lumb Pl, Rippleside	30 berth marina for private moorings
Royal Geelong Yacht Club	25 Eastern Beach Rd, Geelong	 Annual calendar of regattas held from the Yacht Club Learn to Sail programs Private yacht mooring and sailing activities
Geelong Western Beach Boat Club	79-90 Western Foreshore Rd, Geelong	 Social/organised boating activities 120 swing mooring spaces Slip facilities for recreational boating
Lagoon Boat Club Marina	Foreshore Rd, Corio	 Closest recreational boating area and slip to the project area Small marina and launch for recreational vessels Location north of the project area means that vessels would need to pass the FSRU and pier should they want to exit the bay
Geelong Trailable Yacht Club	40 Mackey St, North Geelong	 Annual calendar of weekend racing events Slip facilities
Community and Cultura	l Clubs	•
The German Club, Norlane	The Blvd, Norlane	Restaurant and bar
The Filipino Club, Norlane	1/28-64 The Blvd, Norlane	Social, cultural, educational and recreational activities
The Spanish Club, Norlane	The Blvd, Norlane VIC	Social, cultural, educational and recreational activities
Croatian Community Centre, Corio	172/182 Cox Rd, Corio	Community-based centre for the Croatian ethnic community
The Salvation Army Northside Community Centre, Corio	92 Cox Rd, Corio	Community support services
Norlane Community Centre, Norlane	39A Rose Ave, Norlane	Community support services
Norlane Child and Family Centre, Norlane	52-56 Gerbera Ave, Norlane	 Family and child health centre School holiday programs Family support services

Receptor	Location	Relevant Activity		
Norlane RSL Subbranch, Norlane	29/30 Rose Ave, Norlane	 Club for returned service league members Community events 		
Yooringa Senior Community Centre, Norlane	55 Yooringa Ave, Norlane	Drop-in centre providing social support and recreational activities for people aged over 55 years		
The Fort Youth Centre, Norlane	Crn Melbourne and St Georges Rd, Norlane	Drop-in centre providing social support and recreational activities for people 12-25 years in age		
Cloverdale Community Centre, Corio	167-169 Purnell Rd, Corio	Service offering social, educational, recreational and support activities for the local community		
Rosewall Neighbourhood Centre, Corio	36 Sharland Rd, Corio	Community based neighbourhood centre offering education and social support programs		
Diversitat Northern Community Hub	25-41 Arunga Avenue, Norlane	A registered charity and a not-for- profit community service organisation with a focus on supporting the multicultural community and disadvantage across the region.		
Schools		· · · · · ·		
Geelong Grammar	50 Biddlecombe Ave, Corio	An independent Anglican co- educational boarding and day school of approx. 1,500 students		
Avalon College	480 Avalon Road, Lara	An independent English Language school providing education for international students aged 10-17.		
Northern Bay College	Goldsworthy Campus – 3-5 Goldsworthy Rd, Corio Hendy Campus – 38 Hendy St, Corio Peacock Campus – Peacock Ave, Norlane West Tallis Campus – 57 Tallis St, Norlane Wexford Campus – 1 Wexford Ct, Corio	A Prep to Year 12 multi-campus state school with approx. 1,900 students, delivering across 5 sites in Corio and Norlane.		
St Francis Xavier School	143 Bacchus March Rd, Corio	A Prep to Year 6 Catholic school of approx. 180 students.		
St Thomas Aquinas Primary School, Norlane	51 Plume St, Norlane	A Prep to Year 6 Catholic school.		
Childcare Centres & Kin	Childcare Centres & Kindergartens			
Cheeky Clouds Early Learning Centre	3-5 Purnell Rd, Corio	An early education centre providing care for children from 6 weeks to 6 years old.		
Happy Feet Early Learning Centre	6-12 Plantation Rd, Corio	An early education centre providing care for children from 0 to 5 years old.		

Receptor	Location	Relevant Activity
ILO Norlane Early Education Centre	11 Gerbera Ave, Norlane	An early education centre providing care for children from 6 weeks to 5 years old.
Kids World Early Learning Centre	24/28 Bellnore Dr, Norlane	An early education centre providing care for up to 140 children across two centres in Norlane and Werribee.
Korayn Birralee Family Centre	146 Purnell Rd, Corio	A child and family centre providing children and families access to a range of early childhood and family support services including daycare, kindergarten, maternal health care and parenting programs.
Northern Bay College Family Learning Centre	5-25 Goldsworthy Rd, Corio	Family learning centre delivering a kindergarten service, childcare, family centre and young parents' program.
Waterworld Leisure Centre & Occasional Care	1/15 Cox Rd, Norlane	Childcare services for people using the leisure centre facilities.
William Hovell Preschool Centre	28 Hendy St, Corio	A preschool centre delivering an education program for children aged 3-5 years.
Health Services		
Advance Healthcare Geelong	86 Princess Highway, Norlane	Healthcare service offering support for injuries.
Barwon Health Community Vaccination Hub	2-30 North Shore Rd, Norlane	Regional health service providing COVID-19 vaccinations.
Barwon Health North	155 Princess Highway, Norlane	A health facility delivering an urgent care centre, medical imaging, renal dialysis, midwives clinic and mental health support.
Corio Bay Medical Centre	15 Goulburn Ave, Corio	Medical centre specialising in general practice with special interest in refugee health.
Corio Community Dental Services	2 Gellibrand St, Corio	Community dental service providing dental care to eligible Health Care and Pension Card holders and their dependents.
Corio Community Health Centre	2 Gellibrand St, Corio	Community health centre providing health and wellbeing services.
First Point Medical Centre	28-32 Cox Rd, Corio	Medical centre offering a range of health and wellbeing services.
Labuan Square Medical Centre	19 Labuan Square, Norlane	General practice service.
Maternal & Child Health Centre, Corio	138 Purnell Rd, Corio	A free service providing child and health development, infant feeding and parenting support and advice for all families with children from birth to school age.

Receptor	Location	Relevant Activity
Maternal & Child Health Centre, Norlane	52-56 Gerbera Ave, Norlane	A free service providing child and health development, infant feeding and parenting support and advice for all families with children from birth to school age.
Myhealth Corio Medical Centre	Corio Shopping Centre, Bacchus Marsh Rd & Purnell Rd, Corio	Family-oriented medical centre offering a range of health and wellbeing services.
Northern Bay Health	Corio Medical Centre – 1 Bacchus Rd, Corio Plantation Medical Clinic – 14 Plantation Rd, Corio Bell Post Medical Centre – Bell Post Shopping Centre, Norlane	A network of three general practices and a diabetes clinic operating across the northern suburbs of Geelong.
Norlane Medical Centre	49 Princes Highway, Norlane	General practice service.
Rosewall T.O.W.N Club	36 Sharland Rd, Corio	Service encouraging people to take weight off naturally.
SalvoConnect	91-95 Goldsworthy Rd, Corio	Residential drug and alcohol dependence treatment service.
Wathaurong Aboriginal Co-Operative	62 Morgan St, Corio	A co-operative delivering health, housing, education, employment and cultural services for Aboriginal families living or in transit in Wathaurong's traditional boundaries.
Job support services		
Centrelink	Corio Village Shopping Centre, Purnell Rd, Corio	Australian Government service providing health, social and welfare payments and services.
MatchWorks, Corio	Corio Village Shopping Centre, Purnell Rd, Corio	Not-for-profit organisation providing employment and community services.
OCTEC Employment Service	Corio Village Shopping Centre, Purnell Rd, Corio	Not-for-profit organisation providing employment and community services.
WCIG	Corio Village Shopping Centre, Purnell Rd, Corio	Not-for-profit organisation providing employment and community services.
WISE Employment	1/45 Robin Ave, Norlane	Not-for-profit organisation providing employment and community services.
Workskil Australia	Corio Village Shopping Centre, Purnell Rd, Corio	Not-for-profit organisation providing employment and community services.
Diversitat	25-41 Arunga Avenue, Norlane	Not-for-profit organisation providing employment and community services.