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Victorian Energy Terminal

Powerline Environmental Study

Vopak Victoria Energy Terminal Pty Ltd

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1 Introduction

1.1 Project background

Vopak proposes to build a floating liquefied natural gas (**LNG**) import terminal to help secure energy supply as a part of Victoria's energy transition.

The aim of the Project is to provide access to a competitive new source of natural gas (peak rate of 600 mmscf/d (standard cubic feet per day) output) for households, businesses and industries in Victoria and across south-eastern Australia. It would underpin energy supply security by providing access to a large international gas market to complement local production in south-eastern Australia as Victoria transitions to a renewable energy future.

The Project would utilise a Floating Storage Re-gasification Unit (**FSRU**) moored at an existing anchorage point in Port Phillip Bay, approximately 19 km directly offshore from Avalon. The FSRU would receive LNG from import vessels, re-gasify it and supply the gas directly into the Victorian Transmission System via a new 29 km pipeline comprising of approximately 19 km of pipe under Port Phillip Bay, 1.5 km of pipe within a trenchless shore crossing and 8.5 km of pipe trenched onshore.

Before entering the Victorian Transmission System, gas quality would be monitored at a Gas Receiving Station (**GRS**) on land adjacent to the Princes Freeway (between Point Wilson Road and English Road).

A new 132kV overhead transmission line (**powerline**) (to the substation), substation (located adjacent to the GRS) and electricity cables (from the substation to the shore crossing overhead or underground and subsea from the shore crossing to the FSRU) would supply electricity for the operation of the Project. Vopak has engaged AusNet to assist with the design of the powerline.

1.2 Purpose

The purpose of the report is to:

- Provide an assessment of the broader regional context to understand the significant sensitive land use and environmental constraints between the existing AusNet terminal station in Moorabool and a proposed substation location in Point Wilson (**Section 2**) over an 18km x 30km area (the Study Area).
- Undertake an assessment of the indicative powerline corridor and two alternative corridors between the terminal station and the proposed substation location to determine a preferred corridor option for accommodating a powerline alignment for the Project (**Section 3**).

This report is intended to inform the referral of the Project under the *Environmental Effects Act 1978* (EE Act Referral) and determine at a high level the sensitive land uses and environmental values that could be impacted by the development of the powerline.

Figure 1-1 spatially illustrates the Study Area, in indicative powerline alignment, the existing Moorabool terminal station and the site in which the substation is proposed to be located. Detailed methodologies including the data sources used for each assessment are outlined in subsequent sections.



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- Legend**
- Indicative Powerline
 - Study Area
 - Moorabool Terminal Station
 - Substation Site
 - LGA

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**Vopak Victoria Energy Terminal
Assessment Areas - Overview**

Figure 1-1 Assessment Areas and indicative alignment

1.3 Assumptions and limitations

The following assumptions and limitations apply to this report:

- Planning, heritage environmental legislation is a dynamic system, and notwithstanding the advice in this assessment, planning, heritage and environmental controls are subject to change over time. The advice set out in this report is accurate at the time of writing.
- The report is based on the indicative powerline alignment provided by the engineering team on 27 July 2022 and project scope provided by Vopak on 10 August 2022. Changes to this scope would require further assessment.
- Corridors assessed in this report were based on a 400 metre wide corridor. It is assumed that the powerline would be sited within one of the corridors assessed.
- The report assumes the powerline would operate at 132kV and be above ground (poles and wires). Further assessment would be required to confirm the environmental constraints if all or sections of the powerline were underground or bored.
- Detailed fieldwork for ecology and aboriginal heritage have not been undertaken at the time of writing this report. Further fieldwork may result in the identification of additional environmental constraints.
- Further detail on the design including tower form and footprint, access tracks, right of way requirements and construction method will be required to inform detailed environmental impact assessment of the ultimate alignment.

2 Environmental Context of the Study Area

The broader environmental context of the Study Area has been assessed to identify any significant sensitive constraints. This assessment has helped to identify potential alternative powerline alignments between the substation site and Moorabool Terminal Station.

2.1 Methodology

The following sources were used to identify environmental constraints within the Study Area:

- Protected Matters Search Tool, Department of Climate Change, Energy, the Environment and Water (**DCCEEW**), to identify matters of national environmental significance or other matters protected by the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*.
- Interactive mapping tools provided by the Department of Environment, Land, Water and Planning (**DELWP**), including VicPlan, Victorian Biodiversity Atlas and NatureKit, to identify known biodiversity, the relevant zones and overlays and areas of Cultural Heritage Significance
- Victorian Heritage Database (Heritage Council of Victoria), to identify heritage places, objects and archaeological sites within the Study Area that are protected by the *Heritage Act 2017*.

Sensitive environmental constraints were ranked based on their compatibility with the development of a powerline with ratings varying between High (incompatible with a powerline) and Low (compatible with a powerline). Table 2-1 defines each rating.

A complete list of the environmental constraints and their associated ratings is provided listed in Appendix A.

The social, land use, heritage and environmental constraints identified across the Study Area were assigned a representative colour (High rating as red; Moderate rating as orange; Low rating as Green) and mapped in order to identify corridors with less interface to sensitive areas. This is shown at Figure 2-1 below.

Table 2-1 Description of Constraint Ratings

| Rating | Description of the rating |
|----------|--|
| High | Highly sensitive social, land use, heritage and environmental values that are incompatible with a powerline and should be avoided. These include: <ul style="list-style-type: none"> ■ Conservation areas and sensitive ecological reserves ■ Public parkland ■ Commonwealth land ■ Heritage places ■ Significant developments and landscapes. |
| Moderate | Social, land use, heritage and environmental values that either require further assessment or are likely to require approval. These include: <ul style="list-style-type: none"> ■ Areas of Aboriginal cultural heritage sensitivity including waterways ■ Current and future residential areas ■ Civic buildings and commercial areas ■ Green wedge areas ■ Ecological sites specifically protected under the planning scheme (site specific controls) ■ DELWP mapped native vegetation and areas where threatened flora and fauna have been recorded. |

| | |
|-----|---|
| Low | <p>Social, land use, heritage and environmental values that may be managed through standard mitigation measures. These include:</p> <ul style="list-style-type: none"> ■ Industrial and farming areas ■ Transport and utility use ■ Land reserved for road, rail and drainage ■ Land subject to flooding. |
|-----|---|

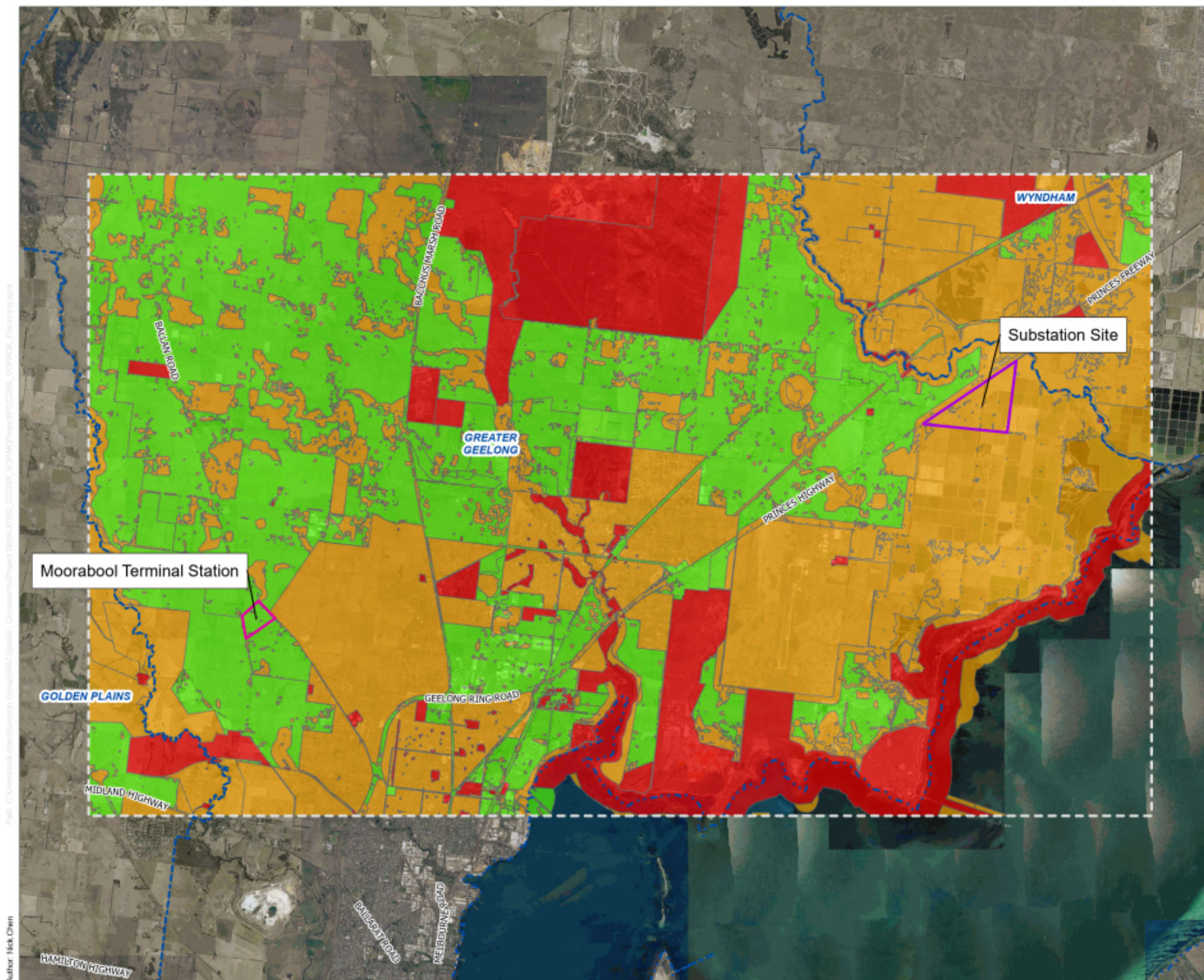
2.2 Key Findings

The constraints across the Study Area can be characterised as follows:

- The following areas are classified as **high** constraints and considered incompatible with development of a powerline:
 - Public buildings including the Correctional Programs Centre at Lara and Little River (Rothwell) Cemetery.
 - Parks, reserves and waterways including the You Yangs Regional Park, Serendip Sanctuary, Hovells Creek and Elcho Park Golf Course.
 - Coastal areas including Limeburners Bay and Port Phillip Bay Coastal Reserve.
 - Lara township by virtue of its concentration of public parkland and heritage places.
- The remainder of the Study Area comprises areas of moderate and low constraints.
 - The **moderate** constraints include low and medium density residential areas, future residential areas (zoned for urban growth) and commercial areas that are likely to be overlaid with ecology and heritage constraints. Following further assessment, some of these constraints will need to be avoided or managed carefully through the permitting phase.
 - The **low** constraints are generally defined by the farming, utility, transport and industrial zones with a lower likelihood of ecology or heritage values present. Further assessment of these areas will be required through the approval process to confirm that these areas are compatible with a powerline development 'on the ground'.

Based on Figure 2-1, the following observations can be made:

- The northern half of the Study Area is generally less constrained than the southern half of the Study Area (with the exception of the You Yangs Regional Park), as it is more rural and sparsely populated and land uses are likely to be less sensitive.
- No alignment can avoid intersection with Hovells Creek (shown as red).
- Partial collocation with existing arterial road and rail reserves and/or powerline easements appears possible and should be investigated further.
- A large industrial precinct immediately north of the Geelong Ring Road (shown in green) should be examined in further detail as a potential area to accommodate a southern powerline corridor.



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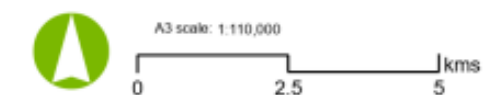
Legend

- Moorabool Terminal Station
 - Substation Site
 - Study Area
 - Local Government Area
- Constraint Rating**
- High
 - Medium
 - Low

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Vopak Victoria Energy Terminal
Constraints Map

Figure 2-1 Study Area Context

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3 Corridor Option Assessment

3.1 Assessment of Corridor Options

Three corridor options were identified:

- Northern Corridor (Option 1 and the indicative powerline alignment)
- Central Corridor (Option 2)
- Southern Corridor (Option 3).

The northern corridor (Option 1) is based on the indicative powerline alignment. The central and southern corridors (Option 2 and 3) were identified as alternative alignments that as far as possible avoid high level constraints (areas of red) and can be potentially collocated with existing infrastructure in existing reserves. These alignments are shown in Figure 3-1.

A desktop level qualitative assessment of the three corridor options used publicly available datasets, satellite and street imagery, to identify social, heritage and ecological considerations relevant to a referral under the *Environment Effects Act 1978*.

The assessment (Table 3-1) examined the following aspects of the corridor options:

- Ecological values.
- Regional landscape values.
- Residential amenity (such as visual impacts, noise and traffic).
- Displacement of non-residential land uses.
- Severance or displacement of residential land uses.
- Cultural heritage (Aboriginal and post-contact heritage).
- Beneficial uses of waterways.

The aspects were reviewed for each corridor alignment independently against the regional context and publicly available information on social, land use, heritage and ecological values. The alignment corridors were then ranked by preference against each aspect, with the least constrained identified as preferred.

The preferred option and therefore least constrained corridor alignment was then identified.



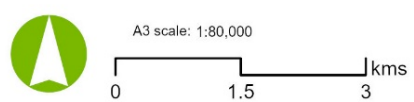
- Legend**
- Northern Corridor (Option 1)
 - Central Corridor (Option 2)
 - Southern Corridor (Option 3)
 - Moorabool Terminal Station
 - Substation Site

Source:
 ESRI (2022)
 VicMap (2022)
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 Author: Nick Chen



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Vopak Victoria Energy Terminal
Indicative Powerline Corridors

Figure 3-1 Powerline Corridor Options

Table 3-1 Assessment of Corridor Options

| Corridor Option | Ecological values | Regional landscape | Residential amenity (visual, noise, traffic) | Displacement of non-residential land uses | Severance or displacement of residential land uses | Cultural heritage (Aboriginal and post-contact) | Beneficial uses of waterways |
|-------------------------------|--|---|---|---|---|--|---|
| Northern alignment (Option 1) | <p>Much of the alignment runs through areas of low constraints however there are pockets of high constraints that would require EPBC-approval.</p> <p>Parts of the alignment runs through/along bioregion Victorian Volcanic Plain (VVP). Within these, four EVCs are modelled to occur within the proposed corridor:</p> <ul style="list-style-type: none"> Plains Grassland (EVC 132) Plains Grassy Woodland (EVC 55) Plains Grassy Wetland (EVC 125) Creekline Grassy Woodland (EVC 68) <p>These EVCs are known habitats to support grassland-dependent, EPBC-listed species such as Spiny-rice flower, Striped Legless Lizard and Golden Sun Moth.</p> <p>Records of protected flora and fauna species include:</p> <ul style="list-style-type: none"> Grey headed flying fox – EPBC (VU) and FFG (Vu) Little Egret – FFG (En) Eastern Greater Egret – FFG (Vu) Spiny-rice flower – EPBC (CR) and FFG (En) Buloke – FFG (En) <p>The end portion of the alignment runs through a Ramsar-listed wetland. The alignment does not intersect any parks.</p> <p>Given the potential presence of sensitive ecological receptors along some portions of the alignment, it is considered moderately constrained.</p> | <p>A portion of the alignment on Peak School Road intersects with a Significant Landscape Overlay near the foothills of the You Yangs,</p> <p>Given the alignment and the Significant Landscape Overlay intersect at an existing road, where the surrounding landscape has been heavily cleared, the alignment is considered lowly constrained by regional landscape.</p> | <p>Preferred</p> <p>The portion of the alignment near Moorabool Terminal Station is primarily farmland and has existing OHTLs.</p> <p>The alignment runs through existing farmland and along Peak School Road, where there are currently no OHTLs.</p> <p>The alignment does not intersect with residential areas so impacts to residential amenity in terms of noise and traffic are considered low. However, as new towers would be constructed, adversely impacting the visual amenity, this alignment is considered moderately considered.</p> | <p>Preferred</p> <p>The alignment is mainly located in mixed farming and grazing areas. Most farming activities can continue to occur under powerline however the poles and access tracks would impact farming land uses.</p> <p>The alignment also intercepts the Barwon prison and the Little River (Rothwell) cemetery.</p> | <p>Preferred</p> <p>The alignment intercepts a section of low-density residential properties along Calvert Road and eastern end of Peak School Road. The northern alignment option would displace residents in this location if selected.</p> | <p>Preferred</p> <p>The alignment intersects with four areas of cultural heritage sensitivity, along Peak School Road.</p> <p>As such and CHMP would be required, and the alignment is considered moderately constrained by cultural heritage.</p> | <p>The alignment intersects with Hovells Creek, it also intersects with land subject to inundation and Floodway Overlays.</p> <p>As the towers can be constructed and designed to avoid any waterways, floodways and land subject to inundation, beneficial uses of waterways are considered lowly constrained.</p> |
| Central alignment (Options 2) | <p>Much of the alignment runs through areas of low constraints however there are pockets of high constraints that would require EPBC-approval.</p> <p>Parts of the alignment runs through/along bioregion Victorian Volcanic Plain (VVP). Within these,</p> | <p>No Significant Landscape Overlays intersect with the alignment.</p> <p>The portion of the alignment near the corner of McIntyre Road and Old Melbourne Road is subject to inundation.</p> | <p>The portion of the alignment near Moorabool Terminal Station is primarily farmland and has existing OHTLs.</p> <p>There are also existing OHTLs along Old Melbourne Road and McIntyre Road.</p> | <p>The start of the alignment avoids displacing non-residential land uses as the alignment follows the Princess Highway and could be located within the road reserve.</p> <p>The alignment would intercept the Serendip Sanctuary which is local</p> | <p>The start of the alignment avoids displacing residential land uses as the alignment follows the Princess Highway and could be located within the road reserve.</p> <p>The alignment intercepts a section of Rural Living Zone on McIntyre Road and Windermere Road, this</p> | <p>The alignment intersects with a significant number of areas of cultural heritage sensitivity along Windermere Road, along the banks of Hovells Creek. Further, there are areas of cultural heritage sensitivity near Old Melbourne Road. Pirra Homestead on Windemere Road is a state</p> | <p>The alignment intersects with Hovells Creek, it also runs adjacent to land subject to inundation.</p> <p>As the towers can be constructed to avoid any waterways and areas subject to inundation, beneficial</p> |

| Corridor Option | Ecological values | Regional landscape | Residential amenity (visual, noise, traffic) | Displacement of non-residential land uses | Severance or displacement of residential land uses | Cultural heritage (Aboriginal and post-contact) | Beneficial uses of waterways |
|-------------------------------|---|---|--|---|---|---|---|
| | <p>four EVCs are modelled to occur within the proposed corridor:</p> <ul style="list-style-type: none"> Plains Grassland (EVC 132) Plains Grassy Woodland (EVC 55) Plains Grassy Wetland (EVC 125) Creekline Grassy Woodland (EVC 68) <p>These EVCs are known habitats to support grassland-dependent, EPBC-listed species such as Spiny-rice flower, Striped Legless Lizard and Golden Sun Moth.</p> <p>Records of protected flora and fauna species include:</p> <ul style="list-style-type: none"> Grey headed flying fox – EPBC listed (VU) and EEG listed (Vu) Little Egret – FFG listed (En) Eastern Greater Egret – FFG listed (Vu) Little Eagle – FFG listed (Vu) Musk Duck – FFG listed (Vu) Black Falcon – FFG listed (Vu) <p>The alignment also runs alongside a nature reserve – Serendip Wetlands Education Facility – on Windermere Road.</p> <p>The end portion of the alignment runs through a Ramsar-listed wetland</p> <p>Given the potential presence of sensitive ecological receptors along some portions of the alignment, it is considered moderately constrained.</p> | <p>Given towers are unlikely to be significantly impacted by flooding, this alignment is lowly constrained by the regional landscape.</p> | <p>The alignment runs along Windermere Road and McIntyre Road which run through the township of Lara. The alignment also traverses much farmland.</p> <p>The existing towers mean that residential amenity would unlikely be impacted by towers along this corridor, however, given the adverse impact construction activities would have on local traffic and noise conditions, this alignment is considered moderately constrained by residential amenity.</p> | <p>bird and wildlife sanctuary with community recreation facilities.</p> | <p>area is made up of low-density residential properties. The central alignment option would displace residents in this location if selected.</p> <p>Further west along Windermere Road and on the route down to Moorabool Terminal Station the alignment enters the Urban Grown Zone which is land identified for future residential development. The Northern & Western Geelong Growth Areas (NWGGA) Framework Plan (Geelong City Council, August 2020) and Lara West Precinct Structure Plan applies to this area and encourages residential development along the proposed central alignment.</p> | <p>significant heritage building listed on the VHR (H1723).</p> <p>As such and CHMP would be required, and the alignment is considered moderately constrained by cultural heritage.</p> | <p>uses of waterways are considered lowly constrained.</p> |
| Southern alignment (Option 3) | <p>Preferred</p> <p>Much of the alignment runs through areas of low constraints however there are pockets of high constraints that would require EPBC-approval.</p> <p>Parts of the alignment runs through/along bioregion Victorian Volcanic Plain (VVP). Within these, four EVCs are modelled to occur within the proposed corridor:</p> <ul style="list-style-type: none"> Plains Grassland (EVC 132) | <p>Preferred</p> <p>No Significant Landscape Overlays intersect with the alignment.</p> <p>The portion of the alignment along Old Melbourne Road is subject to inundation.</p> <p>Given towers are unlikely to be significantly impacted by flooding, this alignment is lowly constrained by the regional landscape.</p> | <p>The portion of the alignment near Moorabool Terminal Station is primarily farmland and has existing OHTLs.</p> <p>There are also existing small OHTLs along Heales Road, which much of the alignment runs along. This is an industrial area.</p> <p>The alignment also follows Princes Freeway, which also has OHTLs alongside it and is surrounded by farmland.</p> | <p>Much of the alignment avoids displacing non-residential land uses as the alignment follows the Princess Highway and could be located within the road reserve.</p> <p>The alignment would intercept the industrial area along Heales Road. The Heales Road reserve cannot support the powerline infrastructure therefore the industrial land would need to be used; this would displace the</p> | <p>Much of the alignment avoids displacing residential land uses as the alignment follows the Princess Highway and could be located within the road reserve.</p> <p>The alignment intercepts a section of Rural Living Zone on the western end of Heales Road, this area is made up of low-density residential properties. The southern alignment option would</p> | <p>The alignment intersects with a significant number of areas of cultural heritage sensitivity along the banks of Hovells Creek and adjacent to Ramsar Wetland: Port Philip Bay (Western Shoreline) and Bellarine Peninsula, as well as near other waterbodies.</p> <p>As such a CHMP would be required and the alignment is</p> | <p>The alignment intersects with Hovells Creek, it also intersects a non-tidal but periodically inundated waterway and runs adjacent to land subject to inundation.</p> <p>As the towers can be constructed to avoid any waterways and land subject to inundation, beneficial uses of waterways are considered lowly constrained.</p> |

| Corridor Option | Ecological values | Regional landscape | Residential amenity (visual, noise, traffic) | Displacement of non-residential land uses | Severance or displacement of residential land uses | Cultural heritage (Aboriginal and post-contact) | Beneficial uses of waterways |
|-----------------|---|--------------------|--|--|--|--|------------------------------|
| | <ul style="list-style-type: none"> ■ Plains Grassy Woodland (EVC 55) ■ Plains Grassy Wetland (EVC 125) ■ Creepline Grassy Woodland (EVC 68) <p>These EVCs are known habitats to support grassland-dependent, EPBC-listed species such as Spiny-rice flower, Striped Legless Lizard and Golden Sun Moth.</p> <p>Records of protected flora and fauna species include:</p> <ul style="list-style-type: none"> ■ Little Eagle – FFG listed (Vu) ■ White-bellied Sea-Eagle – FFG listed (Vu) ■ Great Egret - FFG listed (Vu) <p>The alignment also runs alongside the Hovells Creek Public Recreation Reserve.</p> <p>Roadside vegetation is present along the Princess Highway.</p> <p>The end portion of the alignment runs through a Ramsar-listed wetland.</p> <p>Given the potential presence of sensitive ecological receptors along some portions of the alignment, it is considered moderately constrained.</p> | | <p>As the alignment does not intersect greatly with residential areas, combined with the presence of existing towers mean the constraints on residential amenity are considered low.</p> | <p>business if this alignment were selected.</p> | <p>displace residents in this location if selected.</p> <p>Further west along Heales Road the alignment enters the Urban Grown Zone which is land identified for future residential development. The Northern & Western Geelong Growth Areas (NWGGA) Framework Plan (Geelong City Council, August 2020) applies to this area and encourages residential development along the proposed southern alignment.</p> | <p>considered moderately constrained by cultural heritage.</p> | |

3.2 Key Findings

The corridor options assessment identified the following key findings:

- Ecological receptors
 - All alignments intersect with Hovells Creek. It is assumed the structures can be constructed to avoid any waterways therefore there is no preference for the any of the alignment options.
 - All alignment options contain sensitive ecological receptors.
 - The northern alignment (Option 1) intersects with a small section of Significant Landscape Overlay near the foothills of the You Yangs. The central and southern alignment (Option 2 and 3) avoid this area.
 - Overall, the southern alignment (Option 3) has the least ecological constraints.
- Residential development
 - The central and southern alignment (Options 2 and 3) intercept regionally important areas of current and proposed residential development including the Northern and Western Geelong Growth Area.
 - The northern alignment (Option 1) intercepts some low-density residential properties in Little River however avoids any large areas of current and proposed urban growth.
 - The northern alignment (Option 1) is the preferred option and would have the least potential displacement of residential land.
- Residential amenity
 - The central and southern alignments (Option 2 and 3) would have the greatest residential amenity impacts due to their extended proximity to residential land uses.
 - The northern alignment (Option 1) is therefore the preferred option from a residential amenity perspective.
- Non-residential uses (business, industry and agriculture)
 - The central alignment (Option 2) could cause impact to Serendip Sanctuary.
 - The southern alignment (Option 3) would have the greatest impact on non-residential uses, primarily as a result of impacts to businesses within the Heales Road industrial area.
 - The northern alignment (Option 1) is the preferred option as most farming activities can continue to occur under powerline (noting however construction of the poles and establishment of the access tracks would cause a direct impact).
- Aboriginal and post-contact European Heritage
 - The northern alignment (Option 1) is the preferred option from a heritage perspective as it has the least constraints associated with Aboriginal heritage sensitivity areas and post-contact European heritage places.

Considering the information above, the northern alignment (Option 1) is the preferred option, with the central and southern alignment (Option 2 and 3) having the potential to cause greater impacts on existing and future land uses across the region.

The northern alignment (Option 1) is the alignment proposed by the Project. Constraints and opportunities associated with this alignment based on this desktop assessment is depicted in Figure 3-2 below. It is recommended that these constraints and opportunities should be investigated further through design development and detailed environmental assessment.



Legend

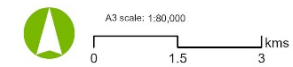
- Northern Corridor (Option 1)
- Recommended Refinement Corridor
- Moorabool Terminal Station
- Substation Option 1
- Golden Sun Moth Records
- Medium Density Residential Area
- Spiny-rice Flower Records
- Striped Legless Lizard Records
- Modelled EVC 2005
- Local Government Area
- Contour
- Watercourse

Note:
Potential constraints are annotated in **ORANGE**
Opportunities are annotated in **BLUE**

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**VOPAK LNG Terminal
Proposed Transmission Alignment**

Figure 3-2 Opportunities and Constraints Map

4 Recommendation

Based on the regional assessment and options assessment in Sections 2 and 3 respectively, it is recommended the northern alignment (Option 1) is taken forward through the design process. The more detailed assessment of this option recommends that several refinements be made to this alignment in order to avoid sensitive land uses:

- The northern alignment (Option 1) between the Western Treatment Plant and the intersection of Peak School Road and Mills Road should be adjusted to avoid the medium density residential area south of the Little River township. This may be achieved by collocating the powerline to run parallel with the proposed Avalon Airport railway reserved under PAO14.
- The remainder of the northern alignment (Option 1) should avoid sensitive land uses and landscapes, dwellings, intensive farming operations, ecological values and Aboriginal heritage values where possible. Based on the data reviewed for this report at a desktop level, should land be required outside of Peak School Road to accommodate the mid-section of the powerline, the north side of the road is preferred.

Appendix A

Constraint Table

| Discipline | Constraint ¹ | Description | Constraint rating (Low, Moderate, High) | Dataset |
|---------------------|---|--|---|-------------------|
| Planning / land use | <p>Public Acquisition Overlay – Schedule 8 – Western Grassland Reserves (PAO8) (Wyndham)</p> <p>Heritage Overlays – Multiple schedules (HO)</p> <p>Significant Landscape Overlay – Schedule 1 - Foothills of The You Yangs (SLO1)</p> <p>Specific Controls Overlay – Schedule 1 – Cherry Creek Youth Justice Redevelopment Project, Incorporated Document, August 2018 (SCO1)</p> <p>Specific Controls Overlay – Schedule 3 – Specialist Training Facility Incorporated Document, June 2019 (SCO3)</p> | <p>These overlays are associated with heritage places, significant environmental constraints and approved developments that are incompatible. The Project is not suitable to be undertaken within these areas.</p> | High | Planning Overlays |
| Planning / land use | <p>Design and Development Overlay – Schedule 29 - Lara Town Centre Expansion Area (DDO29)</p> <p>Design and Development Overlay – Schedule 34 - Low Density Residential Zone Precinct at Curletts Road, Forest Road North, Osterlund Court and Windermere Road, Lara (DDO34)</p> <p>Vegetation Protection Overlay – Schedule 1- Significant Roadsides and Linear Reserves (VPO1)</p> <p>Environmental Significance Overlay – Schedule 1 - Areas of Flora and Fauna Habitat and Of Geological and Natural Interest (ESO1)</p> <p>Environmental Significance Overlay – Schedule 1 - Waterway Corridors (ESO1) (Wyndham)</p> <p>Environmental Significance Overlay – Schedule 3 - Mt Misery Creek, Surface Hill - Smythesdale, Klein and Swanston Road Area, Dereel, Swamp Road - Dereel, Yarrowee Creek, Teesdale Reserve, Moorabool Valley, Sutherland Creek, Meredith, Steiglitz (ESO3) (Golden Plains)</p> | <p>These overlays present environmental and design constraints that may impact the Project. The design may need to be refined to align with the objectives of the overlays.</p> | Moderate | Planning Overlays |
| Planning / land use | <p>Development Contributions Plan Overlay – Schedule 7 - Lara West Development Contributions Plan (DCPO7)</p> <p>Design and Development Overlay – Schedule 7 - Heales Road Industrial Estate Environs (DDO7)</p> <p>Design and Development Overlay – Schedule 18- Geelong Ring Road Employment Precinct (DDO18)</p> <p>Design and Development Overlay – Schedule 20 - Industrial 1, 2 And 3 Zones (DDO20)</p> <p>Design Plan Overlay - all schedules (DPO)</p> <p>Environmental Significance Overlay – Schedule 2 - High Value Wetlands And Associated Habitat Protection (ESO2)</p> <p>Environmental Significance Overlay – Schedule 4 - Grasslands Within the Werribee Plains Hinterland (ESO4)</p> | <p>These overlays identify environmental and design constraints that are deemed to be of a low risk to the Project.</p> | Low | Planning Overlays |

¹ Environmental Overlays which protect broad areas or regions are classified as a Moderate constraint, as detailed field assessment is required to determine the presence and location of ecological values within these overlays. Environmental Overlays which protect discrete areas are classified as a High constraint as the likelihood of ecological values being present within the small area is considered as higher.

| Discipline | Constraint ¹ | Description | Constraint rating (Low, Moderate, High) | Dataset |
|---------------------|--|--|---|----------------|
| | <p>Environmental Significance Overlay – Schedule 5 - Grasslands Within the Werribee Plains Hinterland (ESO5) (Wyndham)</p> <p>Restructure Plan Overlay – Schedule 1 - New Station Estate Restructure Plan, July 2010 (Amended December 2017) (RO1)</p> <p>Public Acquisition Overlay – Schedule 4 – Proposed Road (no category) (PAO4)</p> <p>Public Acquisition Overlay – Schedule 3 – Proposed Road Category 1 (PAO3)</p> <p>Public Acquisition Overlay – Schedule 10 – Outer Metropolitan Ring / E6 Transport Corridor (PAO10)</p> <p>Public Acquisition Overlay – Schedule 5 – Outer Metropolitan Ring / E6 Transport Corridor (PAO5) (Wyndham)</p> <p>Public Acquisition Overlay – Schedule 14 – Railway (PAO14)</p> <p>Public Acquisition Overlay – Schedule 13 – Proposed Drainage Infrastructure and Road (no category) (PAO13)</p> <p>Salinity Management Overlay (SMO)</p> <p>Floodway Overlay (FO)</p> <p>Land Subject to Inundation Overlay (LSIO)</p> <p>Special Building Overlay (SBO)</p> <p>Bushfire Management Overlay (BMO)</p> <p>Environmental Audit Overlay (EAO)</p> | | | |
| Planning / land use | <p>Rural Conservation Zone (RCZ)</p> <p>Public Conservation and Resource Zone (PCRZ)</p> <p>Urban Floodway Zone (UFZ)</p> <p>Public Park and Recreation Zone (PPRZ)</p> <p>Commonwealth Land Not Controlled by Planning Scheme</p> <p>Special Use Zone - Schedule 1 -Environmental Wetlands, Salt Production and Land-Based Aquaculture Activities (SUZ1)</p> <p>Public Use Zone - Cemetery/Crematorium (PUZ5)</p> <p>Special Use Zone - Schedule 9 - Correctional Programs Centre at Lara (SUZ9)</p> <p>Commonwealth Land</p> | <p>These zones are associated with parks, resources, conservation, floodway and Commonwealth land. The powerline would create land use conflict, environmental impacts and is not suitable in these locations.</p> <p>Commonwealth land has also been included in this ranking.</p> | High | Planning Zones |
| Planning / land use | <p>Township Zone (TZ)</p> <p>Low Density Residential Zone (LDRZ)</p> <p>Urban Growth Zone (UGZ)</p> <p>General Residential Zone (GRZ)</p> <p>Commercial 1 Zone (C1Z)</p> <p>Commercial 2 Zone (C2Z)</p> <p>Rural Living Zone (RLZ)</p> <p>Public Use Zone – Education (PUZ2)</p> <p>Public Use Zone - Local Government (PUZ6)</p> <p>Public Use Zone - Other Public Use (PUZ7)</p> | <p>These zones are associated with commercial uses, residential areas or land within an already defined specific use.</p> <p>Commercial and residential land uses generally comprise of dwellings and operational businesses using most of the land parcel meaning the potential for a larger impact on the use of the land. Further to this, commercial and residential areas are medium density surrounded by rural living. The introduction of a new powerline may change the landscape.</p> <p>Specific uses generally support public infrastructure such as education facilities and local infrastructure essential for the local community. The introduction of a new powerline may impact the use of the land and access to such amenities.</p> | Moderate | Planning Zones |

| Discipline | Constraint ¹ | Description | Constraint rating (Low, Moderate, High) | Dataset |
|---------------------|---|--|---|--|
| | Green Wedge Zone (GWZ) Rural Activity Zone (RAZ) Special Use Zone - Schedule 4 - Geelong Showgrounds and Racecourse, And Beckley Park (SUZ4) Special Use Zone - Schedule 11 - Avalon Airport (SUZ11) Special Use Zone – Schedule 12 - Lara Energetic Materials Manufacturing Plant (SUZ12) Special Use Zone - Schedule 17 - Chisholm Road Prison Project, Lara (PUZ17) | | | |
| Planning / land use | Port Zone (PZ) Industrial 1 Zone (IN1Z) Industrial 2 Zone (IN2Z) Industrial 3 Zone (IN3Z) Farming Zone (FZ) Special Use Zone - Schedule 16 - Privately Owned Utility Installations (SUZ16) Transport Zone 1 - State Transport Infrastructure (TRZ1) Transport Zone 2 - Principal Road Network (TRZ2) Transport Zone 3 - Significant Municipal Road (TRZ3) Public Use Zone - Service and Utility (PUZ1) Special Use Zone - Schedule 7 - Earth and Energy Resources Industry (SUZ7) | These zones are associated with industrial, utilities, roads and farming uses. A powerline would be suitable in these locations because its land use is compatible with existing land uses in these zones. | Low | Planning Zones |
| Ecology | Current DELWP mapped wetlands | The DELWP mapping has identified current wetlands within Corridor. DELWP mapped current wetlands are treated as native vegetation. Any removal of native vegetation would require a permit under Clause 52.17 (Native Vegetation) and assessment as per the <i>Guidelines for the removal, destruction or lopping of native vegetation (DELWP, 2017)</i> . | Moderate | Wetland Current |
| Ecology | VBA Species Survey Records | Threatened Fauna and Flora are within the Study Area. | Moderate | VBA Flora/Fauna Records |
| Ecology | Native Vegetation | Small, disconnected areas of native vegetation are modelled by DELWP to occur in the Study Area. | Moderate | 2005EVCs |
| Historical Heritage | Victorian Heritage Register (VHR) and Victorian Heritage Inventory (VHI) | Many Victorian Heritage Register (VHR) and Victorian Heritage Inventory (VHI) sites are within the Study Area. | High | Victorian Heritage Register (VHR) and Victorian Heritage Inventory (VHI) |
| Historical Heritage | Commonwealth Heritage Place | Point Wilson is an important part of the Western Port Phillip Bay Ramsar Area, an internationally significant wetland that provides habitat for many migratory and resident wading birds and waterfowl. The Point Wilson Defence Area is a productive and diverse wetland and saltmarsh habitat supporting many shorebirds. The Point Wilson Defence Natural Area is a Commonwealth Heritage listed place. | High | Commonwealth Heritage Place |
| Aboriginal Heritage | Area of Cultural Heritage Sensitivity (CHS) - Waterway | Many waterways run through the Study Area (Little River, Hovells Creek, Moorabool River, Cowies Creek and Sutherland Creek). Under the Aboriginal Heritage Regulations 2018 (the Regs) a named waterway is an area of CHS if significant ground disturbance (as defined by the Regs) has not occurred at the location. Other areas of CHS included in the Study Area includes wetlands and scattered places. | Moderate | Areas of CHS |

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