

## Appendix C

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**REPORT****Delburn Wind Farm, Gippsland, Victoria***Desktop Assessment of Potential Geotechnical, Contaminated Land and Hydrogeological Impacts at Proposed Terminal Stations*

Submitted to:

**Delburn Wind Farm Pty. Ltd.**

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Submitted by:

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19130636-005-Rev0

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## Executive Summary

Golder Associates Pty Ltd has been engaged by Delburn Wind Farm Pty. Ltd. (an OSMI Australia Pty Ltd Company) (OSMI) to undertake an assessment of potential geotechnical, contaminated land and hydrogeological impacts associated with the a terminal station facility for the proposed Delburn Wind Farm (DWF) located in the vicinity of Delburn, about 5 km to south east of Moe in Victoria. Two location options are currently proposed for the terminal station, to the north east of the proposed DWF adjacent to and either side of Varys Track and immediately south of an existing 220 kV transmission line into which the terminal station will be connected, as indicated in Figure 1.

Relevant clauses within the state and local government planning policy framework that relate to potential geotechnical, contaminated land and hydrogeological impacts have been identified. These clauses generally relate to impacts of the proposed development to groundwater and surface water, landslide, erosion, acid sulfate soils, salinity and impacts to stone and coal resources. Impacts associated with each of these have been assessed based on a desktop study.

Construction of the proposed terminal station is expected to involve minor earthworks to level areas, the construction of pavements and laydown areas, shallow excavation for footings and drainage.

Both site options are currently used for forestry purposes. They are relatively flat with minor shallow drainage courses which drain the site east towards the Morwell River.

Published information indicates that the proposed terminal station sites are both underlain by Pliocene to Miocene age dense sands and hard clays of the Latrobe Valley Group. The soils of the Latrobe Valley Group have minor susceptibility to erosion. Notwithstanding this, given the relatively flat slopes, it is expected that erosion through construction could be managed via normal construction practices including wetting of soil to suppress dust, temporary silt barriers and drains. In the permanent condition, drainage could be provided to collect water runoff from pavements and direct it to a suitable point of discharge.

Neither of the proposed terminal station development locations are expected to encounter or disturb soils that are prone to salinity or that are potential acid sulfate soils. Overall, the potential geotechnical, hydrogeological and contaminated land impacts associated with the proposed terminal station developments are either negligible or are expected to be manageable within the requirements of the relevant planning scheme using conventional construction and operation techniques.

There are no known stone resources underlying the proposed terminal station, however a brown coal resource is located under the site between depths of 19 m and 38 m.

Additional investigation will be required to provide information to inform detailed design of the proposed terminal station. This information should be reviewed to confirm the indications of the desktop study on which this conclusion is based. If information is obtained which is contrary to the expectations arising from the desktop study, there may be a requirement to introduce additional mitigation measures. However, we expect that any measures required would comprise design and construction which is typical for developments of this type.

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## **FIGURES (attached)**

Figure 1 – Site layout showing proposed terminal station options

Figure 2 – Geological Plan

Figure 3 – Depth to Groundwater and Registered Wells

Figure 4 – Groundwater Dependent Ecosystems

## **APPENDICES**

### **APPENDIX A**

Results of Desktop Study

### **APPENDIX B**

Historical Aerial Photographs

### **APPENDIX C**

Important Information Relating to This Report

## 1.0 ENGAGEMENT

Delburn Wind Farm Pty. Ltd. (an OSMI Australia Pty. Ltd. Company) (OSMI) has engaged Golder Associates Pty Ltd (Golder) to undertake an assessment of potential geotechnical, contaminated land and hydrogeological impacts associated with terminal stations proposed as part of the Delburn Wind Farm (DWF) in the Gippsland region of Victoria. This report specifically addresses impacts relevant to state and local government planning policy frameworks in the areas of geotechnical, contaminated land and hydrogeology. Impacts considered in this report include those associated with erosion, landslip, changes to surface water runoff, groundwater impacts, salinity, natural hazards and impact to known resources.

## 2.0 BACKGROUND

### 2.1 Site description

The proposed terminal station is to be located to the north east of the proposed DWF adjacent to an existing 220 kV transmission line. Two location options are proposed, one on either side of Varys Track as indicated in Figure 1. Each of the proposed terminal station locations has a plan area of about 5 hectares, including construction laydown areas. The proposed paved areas on which the main terminal station infrastructure is located has an area of about 1.7 hectares. The site is generally flat with a gentle slope towards the east.

The terminal station locations are currently used for forestry and comprise a mixture of vegetated and recently cleared forestry areas with some adjacent open paddocks. There are several minor water courses that pass through the proposed terminal locations. These are tributaries to the Morwell River which runs to the east of the site.

### 2.2 Proposed Terminal Station

Plate 1 and Plate 2 indicate the proposed layouts of Option A and Option B of the proposed terminal station as communicated by OSMI. Based on these plans, we understand that the proposed terminal station development is expected to comprise the following elements:

- Minor earthworks to level the site for laydown areas and to prepare pavement subgrade.
- The construction of pavements.
- Surface drainage on and around the pavement and direction of the drainage to a discharge point.
- Shallow footings to support terminal station structures.
- Deep footings to support transmission lines and strain poles.
- Buried services connecting the WTG to the terminal station.



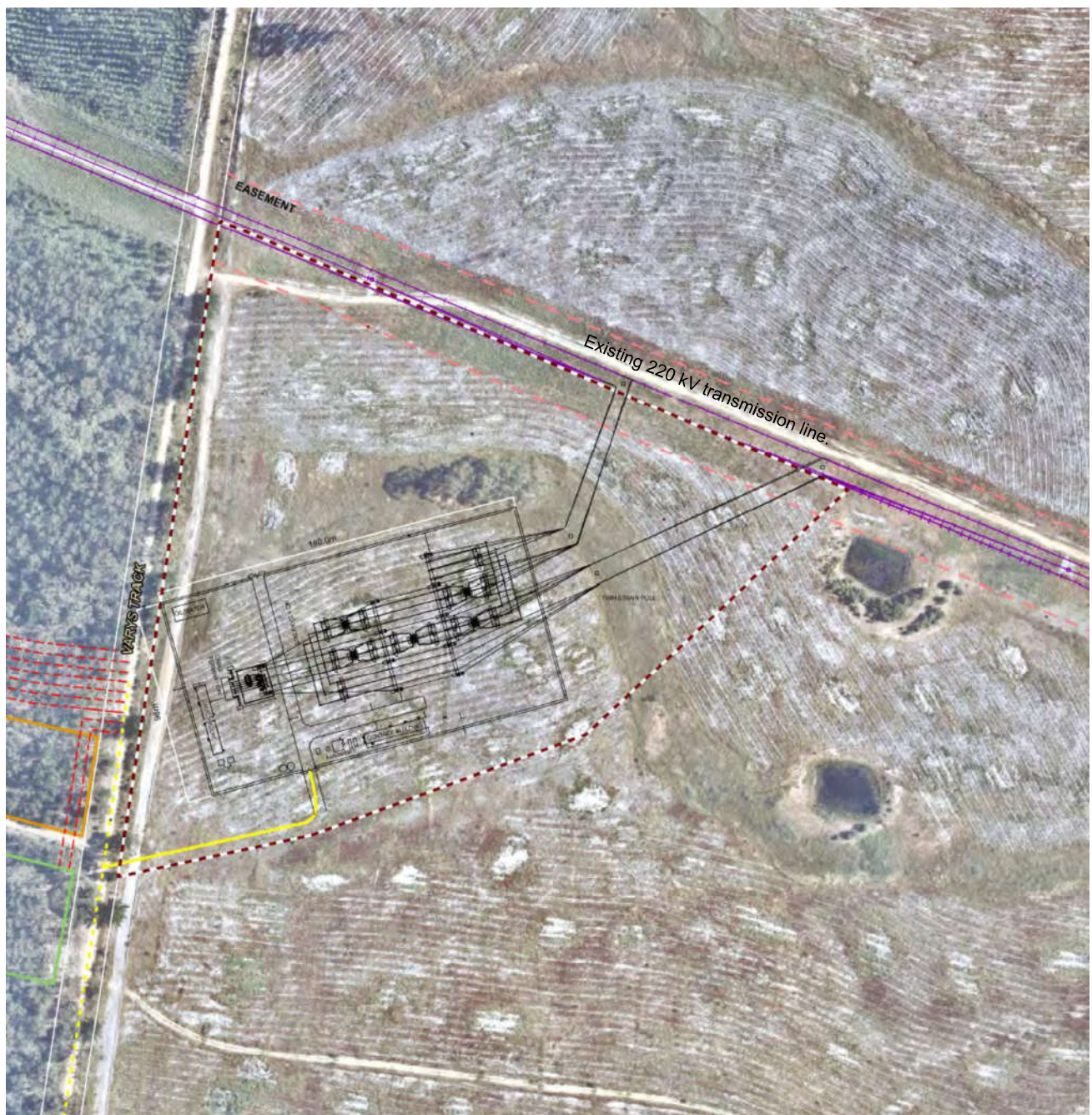


Plate 1: Proposed DWF Terminal Station, Option A



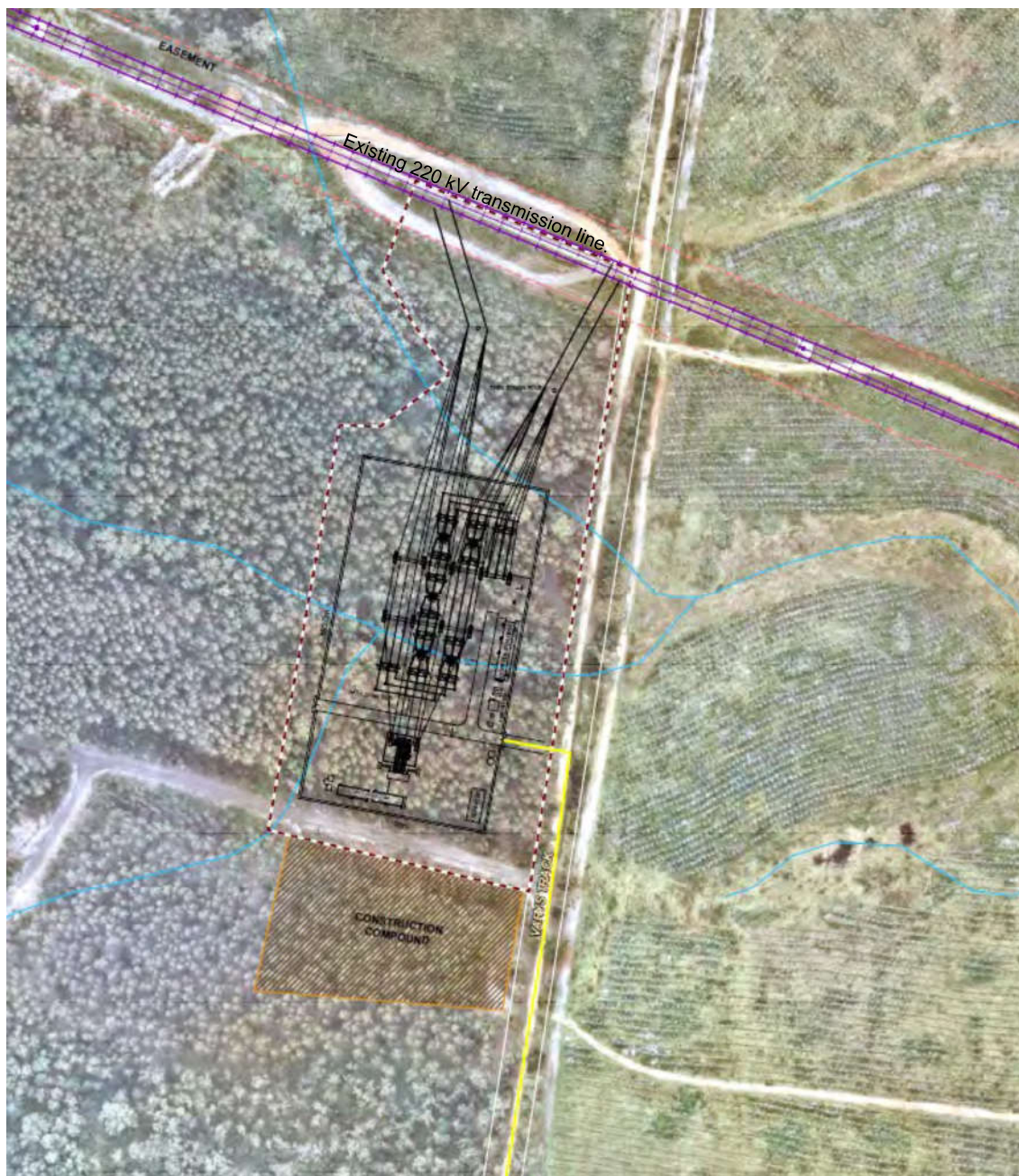


Plate 2: Proposed DWF Terminal Station, Option B

## 3.0 PLANNING POLICY FRAMEWORK

We have been provided with a memorandum prepared by Debra Butcher Consulting (DBC) (dated April 28, 2020) which sets out planning controls that are expected to apply to the broader DWF along with planning advice specific to the terminal station. The following extracts from the DBC report and advice summarise planning controls relevant to geotechnical, hydrogeological and contaminated land aspects of the proposed terminal station at both state and local government level.

### 3.1 State level

The proposed terminal station will be used to transmit and distribute energy generated by the Delburn Wind Farm. A terminal station sits within definition of a 'utility installation' in the Latrobe Planning Scheme. It is defined as a separate land use to that of the wind farm, notwithstanding the fact that it transmits energy from the wind farm to the electricity grid.

The Minister for Planning is the responsible authority for all new planning permit applications for renewable energy facilities that are 1 megawatt or greater as well as associated utility installations. Accordingly, the Minister for Planning is the responsible authority for Delburn Terminal Station application.

Key state level policies of the planning scheme that are of relevance to geotechnical, hydrogeological and contaminated land aspects include:

- Clause 12.03-1S River corridors, waterways, lakes and wetlands. The need to protect the environmental, cultural and landscape values of all water bodies and wetlands is recognised by this clause.
- Clause 13.01-1S Natural hazards and climate change. Seeks to identify at risk areas and consider those risks in planning and management decision making processes.
- Clause 13.04-2S Erosion and landslip. Seeks to prevent inappropriate development in unstable areas or areas prone to erosion.
- Clause 13.04-3S Salinity. Seeks to minimise the impact of salinity and rising water tables on land uses, buildings and infrastructure in rural and urban areas and areas of environmental significance.
- Clause 14.02-1S Catchment planning and management. Seeks to assist the protection and restoration of catchments, water bodies, groundwater and the marine environment including ensuring that development at or near waterways protects the environmental qualities of waterways and their instream uses. This includes the provision of appropriate setbacks to waterways.
- Clause 14.02-2S Water Quality. Seeks to ensure that land use activities are sited and designed to minimise discharge to waterways and to protect the quality of surface water and groundwater.
- Clause 14.03-1S Resource exploration and extraction. Amongst a range of strategies this clause seeks to protect the brown coal resource in Central Gippsland by ensuring that changes in use and development of land overlying coal resources do not compromise the winning or processing of coal.
- Clause 14.03-1R Resource exploration and extraction. This clause seeks to protect the Gippsland brown coal resource and associated buffer areas via a range of strategies including ensuring that development in coal resource areas does not compromise the existing or future use of the resource.

### 3.2 Local level

The proposed terminal station locations are within the municipality of Latrobe City. Relevant clauses from the Latrobe City planning policy framework which are applicable to geotechnical, hydrogeological and contaminated land issues are set out below.

- Clause 21.05-17 Stone resources. Seeks to protect significant stone resources to ensure adequate future supplies. The clause refers to protecting areas as required by the Latrobe Area Extractive Industry Interest Areas Strategy 1999 and seeks to protect extractive industry sites by separating incompatible land uses.
- Clause 21.05-3 Water. This clause seeks to protect and improve waterway health including through the provision of buffers to waterways and retention of riparian land.
- Clause 21.05-8 Coal Resources. This Clause identifies the significance of the brown coal resource in the Latrobe Valley and its role in supplying over 90 per cent of Victoria's electricity. Included as an objective is to ensure that new development is not undertaken in such a way as to compromise the effective and efficient use of existing or future infrastructure or resources such as coal resources, timber production and high-quality agricultural land. The proposed terminal stations are located within an area designated as 'Category A coal area', which indicates development of the resource is possible within 10 to 30 years.

### 3.3 Summary of planning provisions assessed in this report

Based on the planning provisions set out above, this report discusses the potential impacts of the proposed terminal station associated with:

- Erosion and landslip.
- Surface water including catchments, rivers and waterways.
- Groundwater.
- Stone resources.
- Coal resources.
- Natural hazards.
- Dry land salinity.
- Soil and groundwater contamination.
- Acid sulfate soils.

## 4.0 AIMS OF THE ASSESSMENT

In accordance with our understanding of the state and local level planning provisions, the aims of the assessment are to provide information relevant to the requirements of the applicable planning scheme as follows:

- Assess the surface topography, surrounding land use and likely subsurface conditions at the proposed terminal station sites.

- Identify potential impacts on erosion and landslip and where appropriate indicate means by which potential impacts could be mitigated.
- Identify potential impacts on surface water, including catchments, rivers and waterways and where appropriate indicate means by which potential impacts could be mitigated.
- Identify potential impacts on groundwater, and where appropriate indicate means by which potential impacts could be mitigated.
- Identify the potential for the project to impact or be impacted by contaminated land, salinity and acid sulfate soils.
- Identify the potential for the project to impact or be impacted by natural hazards, including earthquake and landslide.
- Identify potential impacts on stone resources.
- Identify potential impacts on coal resources.

Please note that consideration of cultural heritage and biodiversity protection are outside the scope of this assessment.

## 5.0 METHODOLOGY

### 5.1 General

The assessment comprised a desktop study and site walkover survey which covered the broader DWF area. This report specifically covers the proposed terminal station. Relevant aspects of the desktop study are set out in Appendix A. The information gathered in the desk study is called upon to inform the impact assessments described in Section 6.0.

### 5.2 Documents reviewed

As part of the desktop study relevant aspects of the following documents were reviewed.

#### 5.2.1 Historical information

- Historical aerial photographs of the site from 1945, 1965 and the 1980s. The historical photographs reviewed are presented in Appendix B.

#### 5.2.2 Environmental Protection Authority database

- EPA Environmental Audit database.
- EPA Priority Sites Register.
- Post Closure Pollution Abatement Notices.
- Victorian Landfill Register.

#### 5.2.3 Published geological information

- Geological Survey of Victoria (GSV) 1:250,000 scale 'Warragul' mapsheet.
- CSIRO – ASRIS Acid Sulfate Soils Probability Maps.
- Victorian Salinity Provinces, Victorian Department of Environment and Primary Industries.
- Department of Primary Industries, Victorian Coal, A 2006 Inventory of Resources, 31 August 2007.

We have also reviewed information on the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) 'Geovic' and the Visualising Victoria's Groundwater (VVG) websites.

## 6.0 IMPACT ASSESSMENT

Based on the information compiled from the desk study, the following discusses the potential impacts associated with the proposed terminal station along with measures that may be required to manage impacts and further investigation that is expected to be required to better understand the potential impacts.

### 6.1 Erosion and landslip

#### 6.1.1 Summary of findings

Figure 2 presents the geological map for the site and indicates the site to be underlain by the Latrobe Valley Group. Whilst there is landslide susceptibility in the broader area of the proposed DWF, landslide instability is associated with the Thorpdale Volcanics unit, which occurs to the west of the proposed terminal station sites.

The site is relatively flat and furthermore, is underlain by geological materials that are not typically prone to landslide.

The site walkover over the broader DWF did not reveal significant evidence for erosion and where erosion was observed it comprised minor eroded gullies on steeper slopes than are not present at the proposed terminal station sites. Given the shallow slope angles at the proposed terminal station sites, and based on comparison with erosion susceptibility elsewhere on the site, the susceptibility of the site to erosion is assessed to be very low.

#### 6.1.2 Project implications

Based on the shallow slope angles and low prevalence to erosion assessed, the susceptibility of the proposed terminal station site to erosion is assessed to be low. We expect that erosion can be managed through normal construction and slope maintenance processes implemented in accordance with the following guidelines:

- EPA Victoria Publication – Construction Techniques for Sediment Pollution Control, May 1991.
- Environment Guidelines for Major Construction Sites (EPA Victoria, February 1996).
- Control of Erosion on Construction sites, Soil Conservation Authority.

Relevant measures to manage erosion are likely to include sheeting of unsealed roads with material of low dispersivity (crushed rock), temporary and permanent drainage, temporary and permanent silt barriers where there is a risk of erosion and sediment runoff from exposed soils, mulching and revegetation of areas temporarily cleared for construction purposes.



## 6.2 Surface water including catchments, rivers and waterways

### 6.2.1 Summary of findings

The GeoVic website indicates that the site is not located within a declared water supply catchment area and the proposed terminal station is not expected to impact a declared water supply catchment.

The Option B site will likely directly impact a minor tributary to the Morwell River, which subject to detailed hydrological studies will likely require this drainage course to either be piped under or diverted around the terminal station. The terminal station at the Option A site could be oriented in such a way that there is no direct impact upon the tributary.

### 6.2.2 Project implications

If uncontrolled erosion and sediment run off is allowed to occur at the proposed terminal station, it is conceivable that sediment run off could impact upon surface water. However, with normal erosion control measures implemented in accordance with the guidelines referenced in Section 6.1.2 including capping access roads and hardstand areas, the provision of drainage, temporary dust suppression and silt barriers during construction, we expect that erosion can be controlled and sediment retained such that the impact to surface water courses is negligible.

If the Option B site is to be pursued, a site specific study to assess hydrological and ecological impacts associated with diverting or piping the water course on this site will be required.

## 6.3 Groundwater

### 6.3.1 Summary of findings

Figure 3 presents the estimated depth to groundwater level expected at the proposed terminal station, the depth to groundwater is expected to generally be more than 20 m below ground surface. It is highly unlikely for there to be a requirement for foundations to extend to these depths and if they do, that they would have an impact on groundwater.

Figure 4 presents groundwater dependent ecosystems, noting that the Option B site could directly impact a terrestrial low potential groundwater dependent ecosystem.

### 6.3.2 Project implications

The works for the proposed terminal station are not expected to encounter groundwater and therefore not expected to have any influence on groundwater levels or quality. However, if the Option B site is pursued, site specific ecological studies may be required to assess impact on the groundwater dependent ecosystem mapped at this location, in particular if the water course here is piped or diverted and the groundwater supply to the ecosystem is altered.

## 6.4 Stone resources

### 6.4.1 Summary of findings

Boreholes drilled on the site by the SEC in 1956 and 1980 indicate that to 40 m depth, the site is underlain by predominantly clay soils and coal. These materials are not suitable as stone resources.

### 6.4.2 Implications for project

There are not expected to be any impacts to the project associated with potential stone resources underlying the terminal station.

## 6.5 Coal Resources

### 6.5.1 Summary of findings

The site is underlain by coal resources. Based on State Electricity Commission (SEC) boreholes drilled in 1956 and 1980 and the 2006 inventory of coal resources, the site is underlain by the Morwell 1 seam at a depths of between about 19 m and 38 m below ground level. Borehole 322502 is located about 100 m to the west of the Option B site and did not encounter coal suggesting the coal seam thins towards the west of Site 2. According to the Latrobe City planning scheme, these coal resources fall under a Coal resource A category, meaning that for planning purposes, it is assumed they could be mined within a 10 to 30 year time frame.

### 6.5.2 Implications for project

The site of the proposed terminal stations will conflict with coal resources. We understand that this conflict will need to be considered as part of the planning application process. Notwithstanding this, it is noted that the overburden over the coal at 19 m is relatively thick and the coal seam relatively thin.

## 6.6 Natural hazards

### 6.6.1 Summary of findings

The only natural hazard identified from the geotechnical desk study that could feasibly impact upon the site of the proposed terminal station is earthquake. The Thorpdale area has a history of low magnitude earthquakes with earthquakes up to Magnitude 5.4 having occurred within about 12 km of the proposed terminal station site based on indications of the GeoVic website.

### 6.6.2 Implications for project

The effects on structures of earthquakes of this magnitude are typically mitigated through engineering design using the methods set out in AS1170.4 – 2007 'Structural design actions Part 4: Earthquake actions in Australia'.

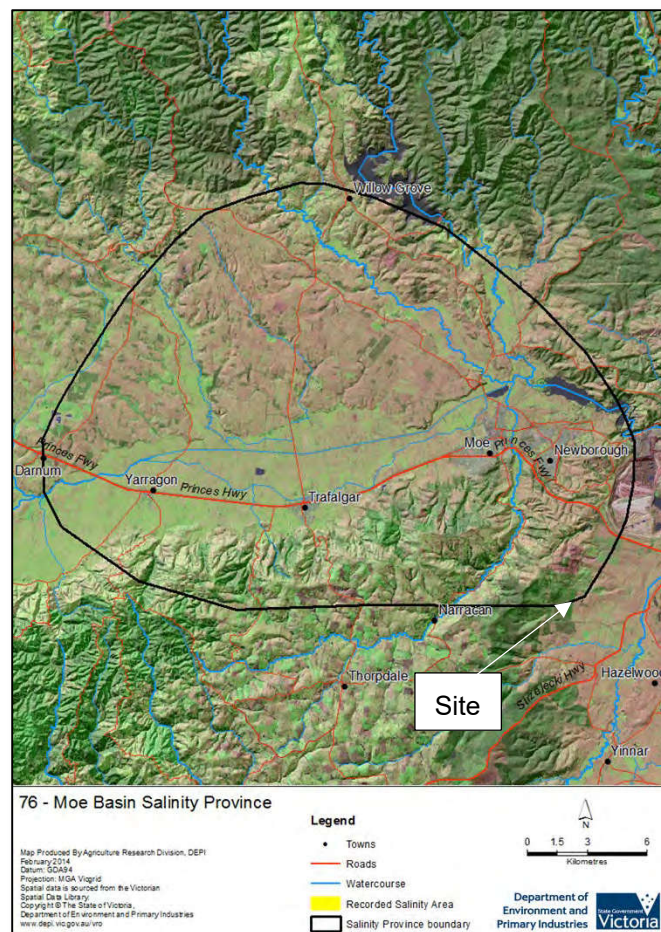
## 6.7 Dry land salinity

### 6.7.1 Summary of findings

An increase in the salt content within soils (dry land salinity) affects some areas of Australia. It occurs as a result of groundwater rising to near surface levels. Some soils within Australia have a naturally high salt content and groundwater rise can leach salts from within the soil, depositing them at higher levels in the soil profile causing impact to vegetation. Evaporation of groundwater can occur where groundwater is shallow or discharging, which can concentrate salt in the soil if the groundwater is saline. Groundwater rise can be triggered by the removal of vegetation and typically affects areas of Australia that have been cleared for agricultural purposes.

The proposed terminal station location has a very low susceptibility to dry land salinity for the following reasons:

- The Latrobe Valley Group which underlies the site is derived from fresh water sediment deposition and therefore expected to have a low sodium and potassium content. Soils derived from deposition in saline water have a much higher susceptibility, however soils with this origin are not expected to underlie the proposed terminal station.
- Development of the site does not involve widespread vegetation clearance of the type that is known to trigger groundwater rise.
- Measured dissolved chloride concentrations within the nearest groundwater well to the site is 117 mg/L, a level which is consistent with fresh water.
- Groundwater underlying the site is estimated to be more than 20 m below the ground surface.
- The proposed terminal station is on the periphery of but not within a designated salinity province, with the nearest salinity province that of the Moe Basin as indicated in Plate 3. Furthermore, based on the Victorian Department of Environment and Primary Industries, there are no recorded instances of land salinity within the Moe Basin Salinity Province.
- No Salinity Management Overlay applies to the site under the planning scheme.



**Plate 3: Moe Basin Salinity Province - Victorian Department of Environment and Primary Industries**

## 6.7.2 Implications for project

The project is not expected to be impacted by or to have an impact upon dry land salinity.

## 6.8 Soil and groundwater contamination

### 6.8.1 Summary of findings

The review of historical information has indicated that the risk of potential contamination of soil is likely to be low.

### 6.8.2 Implications for project

Assuming the adoption of good construction practices such as erosion protection of exposed cut and fill batter slopes, drainage controls and the implementation of silt fences where required, erosion of cut and fill batters is not considered to be a significant issue for the proposed terminal station taking into account the shallow site slopes. Consequently, the potential for contaminant migration, if contaminants are present at all is very low.

In the unlikely event that contaminated soil is encountered, it may need to be disposed of off-site at a facility licensed to accept the waste.

## 6.9 Acid sulfate soils

### 6.9.1 Summary of findings

The CSIRO Acid Sulfate Soils Probability map as shown in Plate 4 indicates an “extremely low probability of occurrence” at the site of the proposed terminal station.

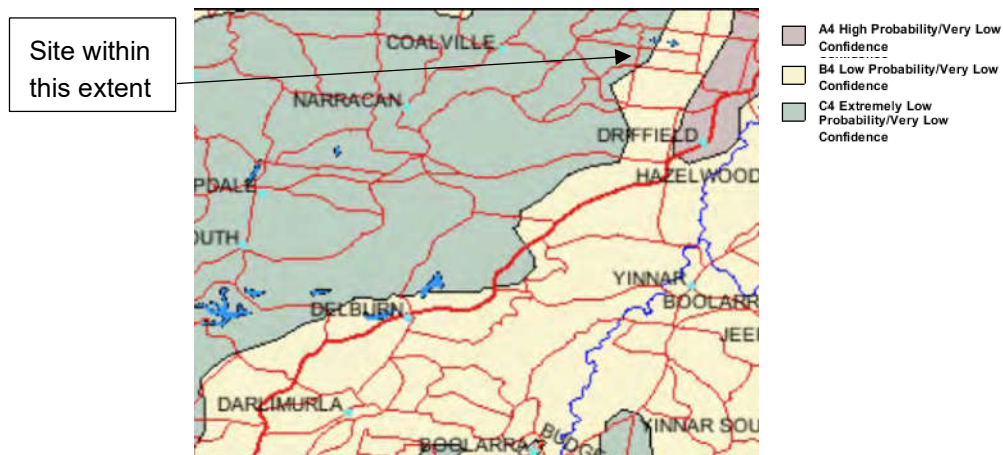


Plate 4: Acid Sulfate Spoils Probability (CSIRO Australian Soil Resource Information System)

### 6.9.2 Implications for project

No potential acid sulfate soils are expected to be disturbed by the construction of the proposed terminal station.

## 6.10 Future investigation

We recommend that future investigation for the proposed terminal station development include an array of boreholes and test pits across the areas where pavement and shallow foundations are proposed. Boreholes could be advanced to about 5 m to 10 m depth, or sufficient to provide information to inform foundation design. Test pits to 1.5 m depth could be undertaken across proposed pavements in order to obtain information to inform pavement design. Information obtained from boreholes and test pits could also be used to further assess the susceptibility of soils to erosion.

Ecological and hydrogeological studies may be required if the Option B site is selected or if there is a requirement to divert or pipe surface water.

## 7.0 SUMMARY AND CONCLUSIONS

The proposed terminal station development is expected to involve minor levelling works, and temporary excavation for footings and trenches. Sealed and unsealed pavements and hardstands are also expected to be required. The impact from the development associated with geotechnical, contaminated land and hydrogeological considerations is assessed to be very low for the following reasons:

- Infrastructure is not proposed for construction in areas that are susceptible to natural hazards including landslides.
- Excavation is not expected to extend to sufficient depth such that groundwater is encountered.
- The soils have a low susceptibility to erosion and the site has a shallow gradient. Erosion of exposed soils during construction is expected to be managed using standard construction techniques including dust suppression, silt fences and temporary drainage. Long term, crushed rock surfacing or pavement will be required on roads and hardstands to provide erosion protection. Provided erosion controls are in place and erosion is appropriately managed the impact to surface water is expected to be negligible.
- The area is not susceptible to salinity based on the groundwater level, quality and geological conditions.
- There are no potential acid sulfate soils expected to be encountered at locations where infrastructure is proposed.
- No contaminated land has been identified at the proposed development locations. Although there is some potential for contamination associated with past farming and logging activities, it is expected that contaminated land could be managed through off-site disposal to a facility licensed to receive the waste.
- The site is underlain between depths of about 19 m and 38 m by coal resources.

Based on the planning provisions set out in Section 3.0, the potential impacts of the proposed terminal station and impacts to the proposed terminal station from erosion and landslip; surface water; groundwater; stone resources; coal resources; natural hazards (e.g. earthquakes); dry land salinity; soil and groundwater contamination; and acid sulfate soils are considered to be low and manageable. This conclusion is subject to the results of the site investigations recommended in Section 6.10.

## 8.0 IMPORTANT INFORMATION

Your attention is drawn to the document 'Important information relating to this report' which is included in Appendix C of this report. The statements presented in that document are intended to inform a reader of the report about its proper use. There are important limitations as to who can use the report and how it can be



used. It is important that a reader of the report understands and has realistic expectations about those matters. The Important Information document does not alter the obligations Golder Associates has under the contract between it and its client.

## Signature Page

**Golder Associates Pty Ltd**

A handwritten signature in black ink, appearing to read 'Darren Paul', written in a cursive style.

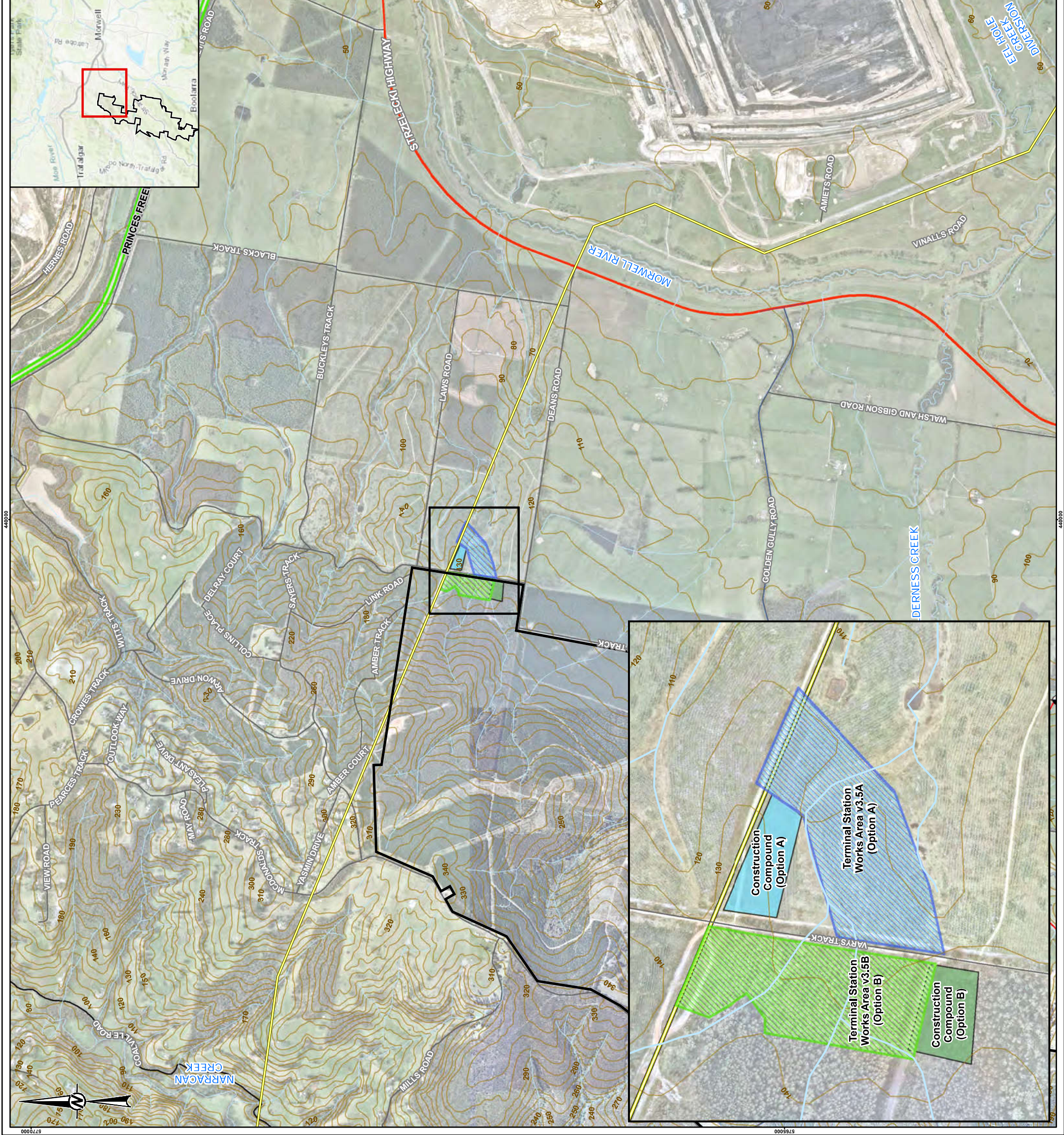
Darren Paul  
*Principal*

DRP/DA/drp

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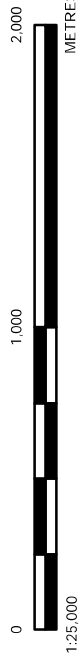
[https://golderassociates.sharepoint.com/sites/115925/project files/6 deliverables/19130636-005-r/19130636-005-r-rev0.docx](https://golderassociates.sharepoint.com/sites/115925/project%20files/6%20deliverables/19130636-005-r/19130636-005-r-rev0.docx)





LEGEND

- WTG
- Project Boundary
- VVG Bores
- 10 m Elevation Contour (m AHD)
- Reticulation
- Roads
  - Freeway
  - Highway
  - Local Road
  - Sealed Road
  - Other Road
  - Track
- Proposed Terminal Station Options
  - Terminal Station Works Area - Option A
  - Construction Compound - Option A
  - Terminal Station Works Area - Option B
  - Construction Compound - Option B
  - 220 kV High Voltage Line



NOTES  
1. PROJECTION: GDA 1994 MGA ZONE 55.

REFERENCE(S)  
1. KEY MAP AND IMAGERY SOURCED FROM ESRI ONLINE BASEMAPS.  
2. ROAD & PROPERTY DATA © THE STATE OF VICTORIA, DEPARTMENT OF ENVIRONMENT, LAND, WATER & PLANNING, 2017.

CLIENT  
DELBURN WIND FARM PTY. LTD.

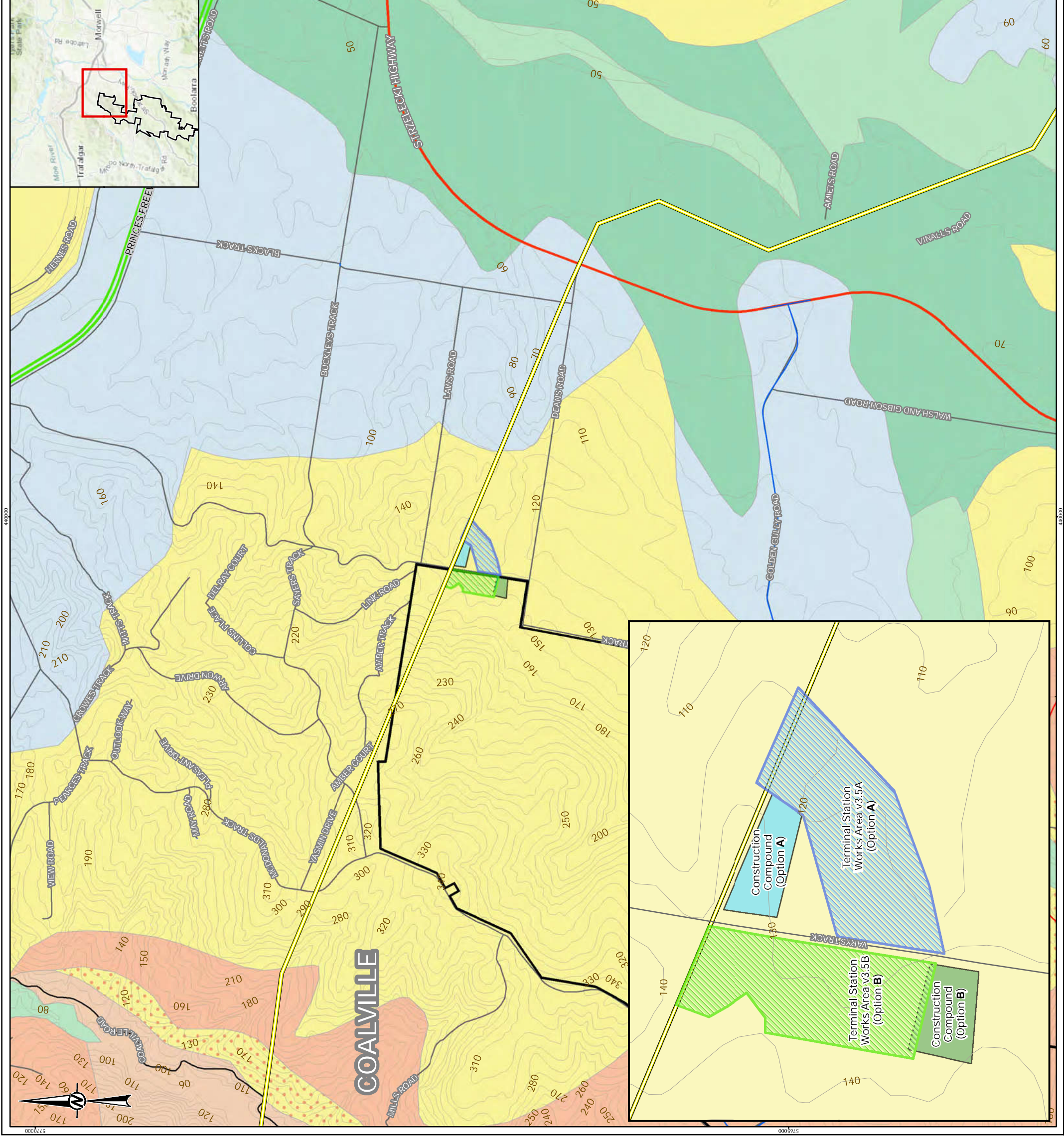
PROJECT  
DESKTOP ASSESSMENT OF GEOTECHNICAL,  
CONTAMINATED LAND AND HYDROLOGICAL CONSTRAINTS

TITLE  
SITE LAYOUT SHOWING PROPOSED TERMINAL STATION  
OPTIONS

CONSULTANT	YYYY-MM-DD	2020-10-15
DESIGNED		
PREPARED	MAH	
REVIEWED	DRP	
APPROVED	DRP	







LEGEND

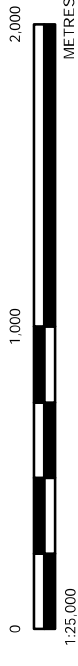
- Project Boundary
- VVG Bores
- WTG
- 10 m Elevation Contour (m AHD)
- Roads
  - Freeway
  - Highway
  - Local Road
  - Sealed Road
  - Other Road
  - Reticulation

Surface Geology

- Thorpdale Volcanics (-Put)
- Latrobe Valley Group (-Pv)
- Childers Formation (-Pvc)
- Sirzelecki Group (Ksw)
- Incised colluvium (Nc1)
- Haunted Hills Formation (Nlh)
- Howqua Chert (Oah)
- Sand, silt, clay, gravel of Recent alluvial flats (Qa1)
- Alluvial terrace deposits (Qa2)

Proposed Terminal Station Options

- Terminal Station Works Area - Option A
- Construction Compound - Option A
- Terminal Station Works Area - Option B
- Construction Compound - Option B
- 220 kV High Voltage Line



NOTE(S)  
1. PROJECTION: GDA 1994 MGA ZONE 55.

REFERENCE(S)  
1. KEY MAP AND IMAGERY SOURCED FROM ESRI ONLINE BASEMAPS.  
2. ROAD & PROPERTY DATA © THE STATE OF VICTORIA, DEPARTMENT OF ENVIRONMENT, LAND, WATER & PLANNING, 2017.

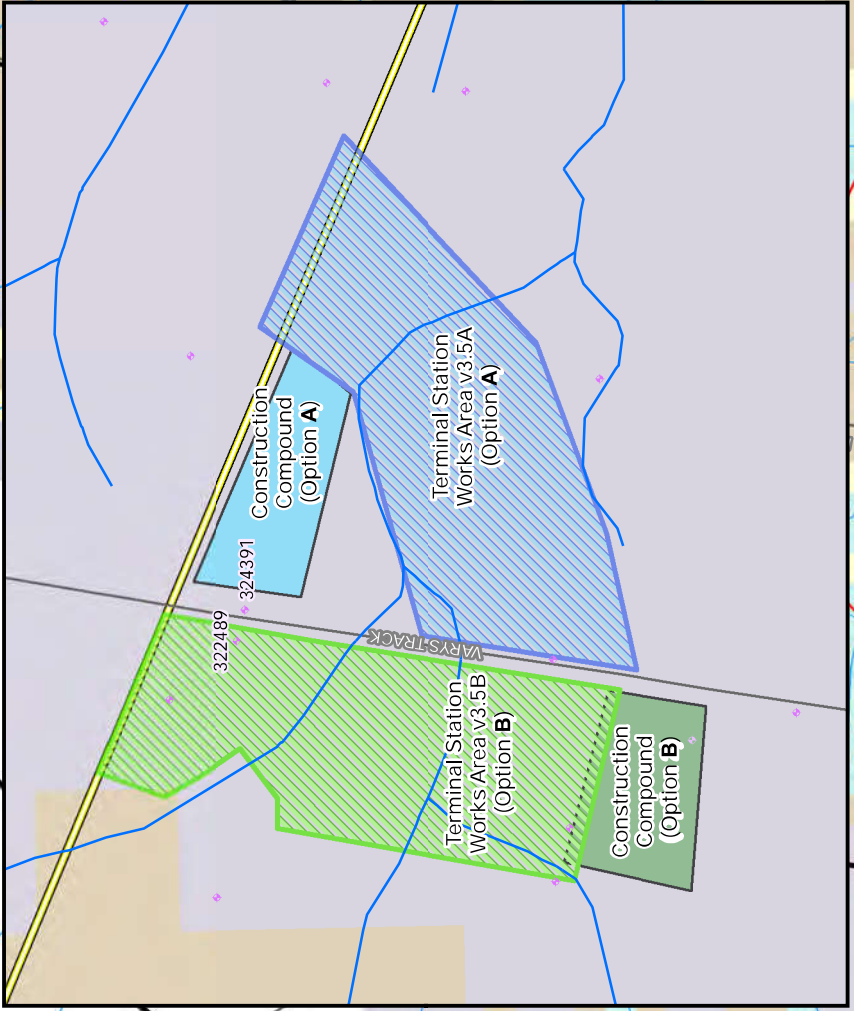
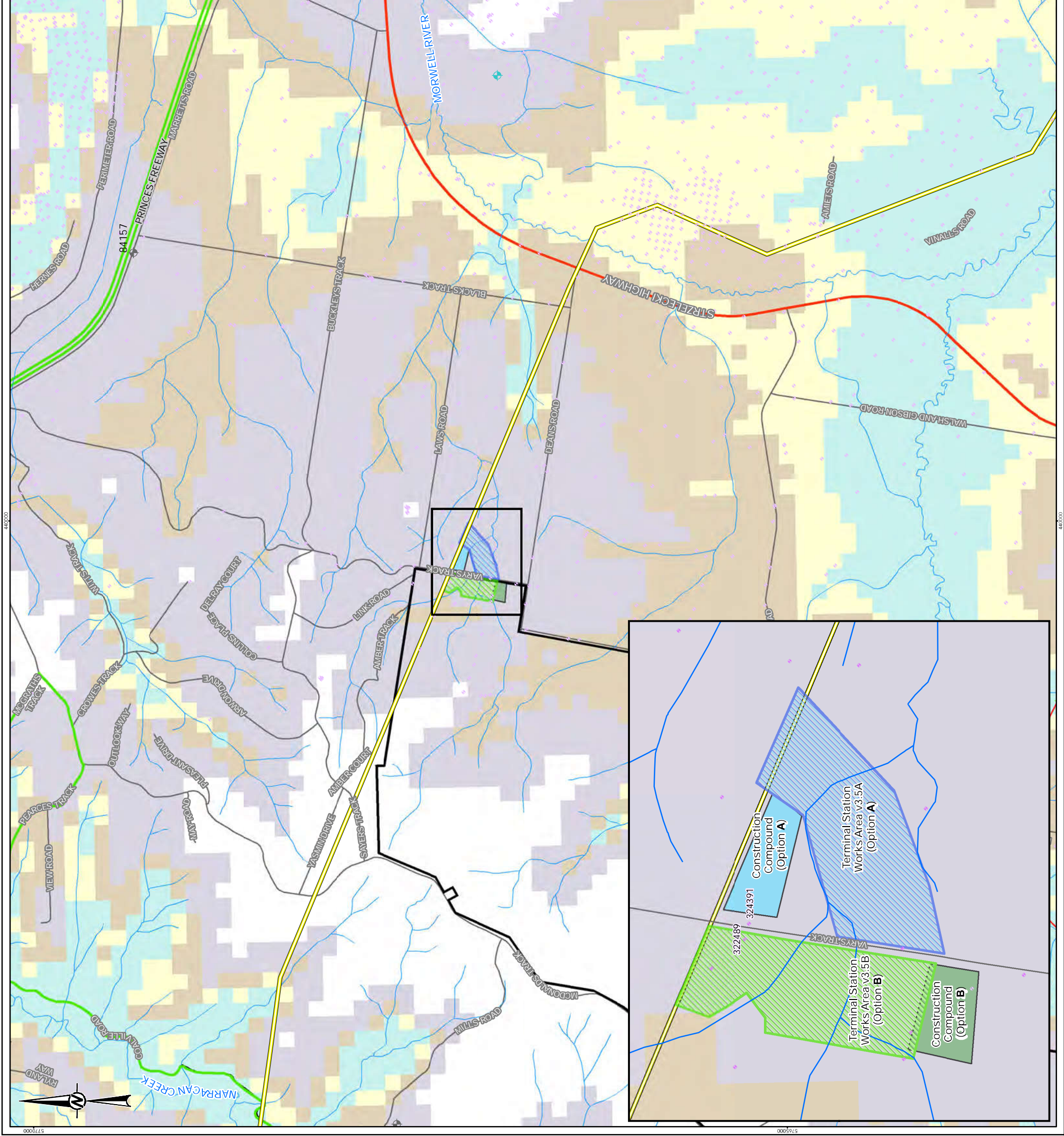
CLIENT  
DELBURN WIND FARM PTY. LTD.

PROJECT  
DESKTOP ASSESSMENT OF GEOTECHNICAL,  
CONTAMINATED LAND AND HYDROLOGICAL CONSTRAINTS  
TITLE  
GEOLOGICAL PLAN

CONSULTANT	YYYY-MM-DD	2020-10-15
DESIGNED	-	
PREPARED	MAH	
REVIEWED	DRP	
APPROVED	DRP	







LEGEND

- Registered Wells

Unknown
- Use Type

Stock/Domestic

Irrigation

Dairy

Investigation/Observation

Dewatering

SEC
- ProjectBoundary

Groundwater Management Areas

Watercourse
- Roads

Freeway

Highway

Local Road

Sealed Road

Other Road

Track
- Depth to groundwater (m)

0 - 5

5 - 10

10 - 20

20 - 50

>50
- Proposed Terminal Station Options

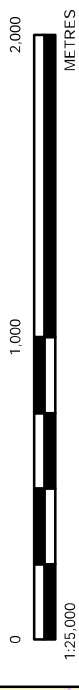
Terminal Station Works Area - Option A

Construction Compound - Option A

Terminal Station Works Area - Option B

Construction Compound - Option B

220 kV High Voltage Line



NOTES

1. PROJECTION: GDA 1994 MGA ZONE 55.

REFERENCE(S)

1. ROAD & PROPERTY DATA © THE STATE OF VICTORIA, DEPARTMENT OF ENVIRONMENT, LAND, WATER & PLANNING, 2017.

2. PROPOSED TERMINAL STATION OPTIONS PROVIDED BY CLIENT.

CLIENT

DELBURN WIND FARM PTY. LTD.

PROJECT

DESKTOP ASSESSMENT OF GEOTECHNICAL, CONTAMINATED LAND AND HYDROLOGICAL CONSTRAINTS

TITLE

DEPTH TO GROUNDWATER AND REGISTERED WELLS

CONSULTANT	YYYY-MM-DD	2020-10-15
DESIGNED		-
PREPARED	MAH	
REVIEWED	DRP	
APPROVED	DRP	



