



SMEC INTERNAL REF: 30049113

## Report

# Casey Fields South and Devon Meadows PSP Land Capability Assessment

Client Reference No. A0580 and A2200  
Prepared for: Victorian Planning Authority  
30 July 2024

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## Executive Summary

Victorian Planning Authority (VPA) engaged SMEC to conduct a Land Capability Assessment (LCA) for the Casey Fields South and Devon Meadows Precinct Structure Plan (PSP).

The Casey Fields South and Devon Meadows PSP area is located approximately 45km southeast of the Melbourne central business district. The Precinct covers an area of approximately 536 hectares, of which the Casey Fields South (CFS) Precinct comprises approximately 275 hectares, and the Devon Meadows (DM) Precinct comprises approximately 261 hectares. The PSP site boundary is shown in Figure 1 (Appendix A). The CFS Precinct is bounded by the South Gippsland Highway to the southeast, Clyde-Fiveways Road to the east and Ballarto Road to the north. The DM Precinct is generally bounded by the South Gippsland Highway to the north and east, Worthing Road to the south and Craig Road to the west. The LCA was completed with the understanding that the Casey Fields South PSP will predominantly comprise industrial land use, and the Devon Meadows PSP will likely comprise residential and commercial land uses.

The purpose of the LCA was to:

- Provide the VPA with a preliminary understanding of geotechnical, hydrological, hydrogeological, air quality, contamination and odour conditions within the Precincts.
- Identify risks during development of the Precincts.

Provide recommendations for management of identified risks and further investigation.

The scope of the Assessment included:

- A desktop assessment of plans and previous assessment reports provided by the VPA.
- A desktop assessment of publicly available information relevant to the sites' condition in regards to contamination, air emissions, geotechnical and hydrological aspects.
- Inspections of fifty-three sites within and surrounding the Casey Fields South and Devon Meadows PSP areas.
- Preparation of a report detailing the findings of the LCA.

Some of the key findings of the Assessment, potential risks identified, and management options are summarised below.

### Contamination

- The PSP has had mixed uses over its history, including quarries, market gardens, flower nurseries, poultry farms, agricultural farms, and rural residences.
- Twenty-one properties were assessed as presenting a high potential for contamination. The current and/or former activities at these sites include sewage treatment, service stations, flower growing, and quarrying.
- Forty-one properties were assessed as presenting a medium potential for contamination. The current and/or former activities at these sites include egg farming, scrap metal recovery, and agriculture.

The following recommendations should be considered to manage the contamination risks identified:

- Completion of Preliminary Risk Screening Assessments (PRSAs) at the thirty-seven properties identified as posing a 'medium' potential for contamination and a proposed sensitive use.
- Application of an Environmental Audit Overlay (EAO) to the twenty-three properties identified as posing a 'high' potential for contamination and a proposed sensitive use.
- Completion of a hazardous materials assessment for existing properties to assess for asbestos-containing materials and lead-based paints.
- Removal of underground storage tanks (USTs) on a site-by-site basis during future site development.
- Removal of septic tanks followed by soil validation. Intrusive groundwater investigation should be considered if impacts to groundwater are likely.



- Classification and removal (if required) of stockpiles and dumped surface waste observed at sites across the PSP areas.

### Geotechnical

The following key geotechnical risks were identified:

- Ground improvement may be required in areas of excessive topsoil, fill and/or soft to firm clays, particularly in Quaternary Peaty Clay (Q5) material.
- Cemented sand is expected to be encountered within Q2 material, potentially impeding excavation progress and site drainage.
- High likelihood of variable top of rock levels and rock weathering characteristics due to the presence of Older Volcanics basalt and geological complexity from varying geologies across the site.
- Potential trafficability issues with exposure of surficial high plasticity clays of Older Volcanics and Quaternary origin to moisture.
- Potential excavatability issues with shallow rock and basalt 'floaters' requiring over-excavation and replacement with structural fill.
- Sands and non-expansive clays expected to be encountered within Quaternary and Baxter Sandstone geologies may be re-used as structural fill, depending on material characteristics and type of use.
- Settlement of future infrastructure due to nearby historic mine use, subsurface material susceptibility to settlement, scale and sensitivity of proposed structure, and any long-term or permanent dewatering for development excavations.

The following recommendation should be considered to manage the geotechnical risks identified:

- Further geotechnical site investigations are required for future design and construction stages.

### Soils

The upper subsoils throughout the PSP are expected to be non-sodic. However, sodic soils may be present at depth throughout the PSP area. The Casey Fields South portion of the PSP area is more likely to present sodic/dispersive risk particularly within and fringing the urban drainage lines.

The following recommendations should be considered:

- All land developers should be required to further investigate and identify potential existence of sodic and dispersive soils to assess vulnerability for erosion if exposed or disturbed.
- Any soil profiles with clay in topsoil or subsoil identified in the study area should be assumed as having some sodic / dispersion risk that should be managed by the developer when making development applications to Council.
- Erosion and sediment control (ESC) plans should identify effective procedures to stabilise the soils.

### Hydrogeological

The main aquifer in the PSP is the Baxter Sandstone which may be relatively permeable where coarse grained in nature and weathered; however, areas where clay content is high or it is ferruginised or silicified may reduce its permeability.

- Groundwater is expected to be encountered at shallow depths in parts of the site. Visualising Victoria Groundwater (VVG) mapping indicates depth to groundwater across majority of the PSP is <5m, with portions of depth between 5-10m concentrated in the south of the PSP and areas of 10-20m depth in the north.
- Groundwater flow directions are expected to follow topographic gradients which generally slope down from the north-west corner of site to the south-east corner of the site.
- VVG groundwater salinity mapping indicates the groundwater in the Casey Fields South and Devon Meadows PSP area ranges between 3,500-7,000 mg/L TDS over the majority of the PSP area, with a small portion of the PSP (along the north) ranging between 1,000 – 3,500 mg/L TDS.

The following recommendations should be considered:

- Installation of groundwater monitoring bores should be considered to better understand the depth to groundwater and water quality so as to inform future design and construction stages.
- Inspections of identified terrestrial groundwater dependent ecosystems (GDE) by an ecologist should occur to assess impacts that may occur from development and any mitigation measures that may be required.
- Monitoring of existing groundwater bores to confirm groundwater conditions based on the risk of the proposed land use affecting groundwater or impacts of groundwater on below-ground infrastructure.
- Due to the brackish nature of the groundwater in the PSP, it may require careful monitoring if dewatering or extraction is required during construction works within the PSP, particularly for the consideration of the disposal of water.

### Hydrological

The general topography of the site drains from north west to south east direction. The catchment are predominantly farming zone and low density residential with low impervious areas producing runoff, except for areas towards the north and west where it consist of new and established residential developments. The drainage lines are generally undefined and can be described as overland flow paths traversing roads, farmland and private low density properties.

The Planning Scheme Zone shows flood related overlays across the site including Land Subject to Inundation overlay (LSIO) and Urban Floodway Zones (UFZ). The zones and overlays indicate flooding will need to be considered and addressed in developing the site.

The following recommendation should be considered:

- Geomorphological assessment of waterways to assess their current condition and likely impacts from hydrology and hydraulics in future development. This task should be undertaken as part of the planning stage of works.

### Potential Adverse Amenity Impacts

Adverse amenity can be described as locations which have the potential to negatively impact an area through environmental disruption via excess noise, negative visual impact, or degradation of air quality, among several others.

### Air Quality/Odour

The site inspection reported observation of odours in proximity to industrial activities within the PSP area including Flower Farms / Nurseries, Poultry Farms and Construction Material Wholesalers. Dust was observed from vehicles using unsealed roads.

The following recommendation should be considered to manage the air quality risks identified:

- Prior to any land-use planning changes or upgrades, a detailed assessment of buffer zones is conducted using the VicEPA Separation Distance Guideline (Publication 1949).

### Noise

The following observations were made during site inspections:

- The South Gippsland Highway and main roads (Ballarto Road, Clyde-Five Ways Road, Craig Road, and Fisheries Road) were reported to have moderate to loud traffic noise.
- Commercial enterprises along Devon Road were reported to have low to moderate noise levels associated with machinery, vehicles and processes at these sites.

The following recommendation should be considered:

- Noise monitoring along South Gippsland Highway and other major roads in the PSP area (Ballarto Road, Clyde-Five Ways Road, Craig Road, and Fisheries Road).

This executive summary should be read in conjunction with the full report.

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# 1 Introduction

## 1.1 Background and objectives

Victorian Planning Authority (VPA) engaged SMEC Australia Pty Ltd (SMEC) to undertake a Land Capability Assessment (LCA) of the proposed Casey Fields South and Devon Meadows Precinct Structure Plan (PSP) area, hereafter referred to as the 'Casey Fields South and Devon Meadows PSP' or 'CFS and DM PSP'.

The VPA and other planning authorities prepare plans for places that enable best practice, liveable new communities.<sup>1</sup> A precinct structure plan is a high level strategic plan prepared by a planning authority that sets out the preferred spatial location of land uses and infrastructure to guide staging of development, subdivision permits, building permits and infrastructure delivery.<sup>2</sup> Informed land use planning plays a vital role in protecting the environment, human health and amenity. Precinct planning can help to avoid potential negative impacts on the community and the environment. Potential negative impacts may include noise, odour, dust, air pollutants and stormwater contamination. The nearby environment can also affect land uses, for example, from contamination from land and groundwater or landfill gas migration. Land use planning allows for risks to be identified early in the planning process and for harmful outcomes to be avoided.<sup>3</sup>

The VPA is leading the preparation of a PSP for the Casey Fields South Precinct and the Devon Meadows Precinct, working in partnership with the City of Casey, state government agencies and service authorities. The two precincts are adjacent to one another, located on the edge of the Urban Growth Boundary within the City of Casey municipality, sharing the South Gippsland Highway as a boundary<sup>4</sup>.

The Casey Fields South and Devon Meadows PSP area is located approximately 45km southeast of the Melbourne central business district. The Precinct covers an area of approximately 536 hectares, of which the Casey Fields South (CFS) Precinct comprises approximately 275 hectares, and the Devon Meadows (DM) Precinct comprises approximately 261 hectares. The PSP site boundary is shown in Figure 1 (Appendix A). The CFS Precinct is bounded by the South Gippsland Highway to the southeast, Clyde-Fiveways Road to the east and Ballarto Road to the north. The DM Precinct is generally bounded by the South Gippsland Highway to the north and east, Worthing Road to the south and Craig Road to the west. It is understood that the CFS Precinct is planned to provide industrial and employment opportunities, and the DM Precinct is likely to provide residential and commercial opportunities.

The purpose of this LCA is to assess the existing environmental conditions, and potential impacts caused by existing or past land uses, in the 'Casey Fields South and Devon Meadows PSP' study area and identify:

- Areas of potential sodic/dispersive soils;
- Potential soil and/or groundwater contamination, geotechnical and hydrological variables;
- Existing adverse amenity land uses;

and then to assess the associated effect on the viability of developing land within the study area.

The assessment comprised two stages where;

- Stage 1 involved a review of the history of land use at the site and a preliminary desktop review of information, and
- Stage 2 involved visual inspections of selected properties within the Casey Fields South and Devon Meadows PSP area, and then further desktop assessment of risks, constraints and opportunities related to potential contamination, hydrogeology, hydrology, geomorphology, geotechnical and/or adverse amenity within the PSP area.

Intrusive site investigations have not been conducted at this stage, but site inspections were conducted at 53 selected properties on 23 and 28 November 2022, primarily for the purpose of assessing potential issues relating to contamination. This report includes the findings of both the Stage 1 and 2 assessments completed.

<sup>1</sup> Precinct Structure Planning Guidelines: New Communities in Victoria (October 2021)

<sup>2</sup> Victorian Planning Authority – Guidance Note – PSP2.0 – November 2021

<sup>3</sup> <https://www.planning.vic.gov.au>

<sup>4</sup> <https://vpa.vic.gov.au/project/casey-fields-south-devon-meadows/>

## 1.2 Scope of works

The following scope of work was undertaken at the site:

- **Stage 1** – This desktop assessment stage comprised the review and collation of relevant information (including government databases and mapping, and reports provided by the City of Casey) for the purposes of identifying potential sources of contamination, hydrogeological, hydrological, geomorphological, and geotechnical issues across the Casey Fields South and Devon Meadows PSP area; and
- **Stage 2** – This assessment included the selective inspection of properties within the Casey Fields South and Devon Meadows PSP area. This stage focused on potential contamination sources which were identified to represent a high risk of contamination during the Stage 1 desktop study, and adverse amenity, including noise, dust, odour and visual amenity. General observations relating to significant land features and hydrological features identified during the desktop review were also made, where applicable.

The approach and findings of the assessment, together with supporting information, are documented within this report.

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## 2 Regulatory framework

### 2.1 Relevant legislation and policies

#### 2.1.1 Planning and Environment Act 1987 and PSP 2.0

The *Planning and Environment Act 1987* (P&E Act) was introduced to create a framework for planning the use, development and protection of land in Victoria. As a result, it sets out the procedures for preparing and making amendments to the Victorian Planning Provisions and planning schemes. This Act does not specifically prescribe the scope of planning in Victoria, rather there are specific subordinate instruments like Victorian Planning Provisions, planning schemes, regulations and Ministerial Directions which obtain legal status from the P&E Act.

Precinct structure plans are incorporated into the local planning schemes once the process is complete. The process is set out in the Precinct Structure Planning Guidelines prepared by the VPA. This guideline is based on planning for 20-minute neighbourhoods, a principle in *Plan Melbourne 2017-2050* that advocates for living locally to ensure accessible, safe and attractive local communities.

*PSP 2.0 – is part of the VPA’s PSP reform agenda, delivering outcomes focused on vision, purpose and place in partnership with landowners, agencies, councils and local communities. The PSP 2.0 process involves co-designing the PSP with key stakeholders, streamlining PSP preparation and optimising the PSP product to embrace innovation and deliver Victorian Government policy. This Guidance Note provides an overview of the key process steps for the preparation of PSPs in accordance with the VPA’s new PSP 2.0 process.*

The land capability assessment forms part of a suite of land capability studies to support early planning decisions and identify any land constraints within the precinct.

Planning authorities must satisfy themselves that the land within the PSP area is suitable for its future use.

#### 2.1.2 Ministerial Direction No. 1 – Potentially Contaminated Land

Ministerial Direction No 1 (MDN1) applies to potentially contaminated land. The purpose of the MDN1 is “to ensure that potentially contaminated land is suitable for a use which is proposed to be allowed under an amendment to a planning scheme and which could be significantly adversely affected by any contamination.”

Where land is potentially contaminated within the PSP area and is likely to be rezoned for sensitive use such as residential, education or childcare, the Planning Authority must satisfy itself that the land is suitable through an environmental audit.

#### 2.1.3 Ministerial Direction No. 19

Ministerial Direction No.19 requires planning authorities to seek early advice from the EPA when undertaking strategic planning developments and preparing planning scheme amendments that may significantly impact the environment, amenity and/or human health in Victoria.

The Ministerial Requirement for Information requires planning authorities to give the Minister for Planning the following information when applying for authorisation to prepare an amendment under sections 8A or 8B of the Planning and Environment Act 1987, or preparing an amendment under section 9 of the Planning and Environment Act 1987:

- “the written views of EPA, including any supporting information and reports”; and
- “a written explanation of how the proposed amendment addresses any issues or matters raised by EPA”.

#### 2.1.4 Planning Practice Note 30

The purpose of Planning Practice Note 30 (PPN30) is to guide planners and applicants on:

- Identifying potentially contaminated land
- The appropriate level of contamination assessment that should be conducted in different circumstances

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- The appropriate provisions in planning scheme amendments
- Appropriate conditions for planning permits

Table 2 in PPN30 lists land uses that have the potential to contaminate land, including several land uses/activities relevant to rural residential areas such as those associated with the Casey Fields South and Devon Meadows PSP area.

Table 3 of the PPN30 indicates that a PRSA is required, as a minimum, for any site that has a *medium* potential for contamination, while an Environmental Audit is recommended for sites with a *high* potential for contamination. An extract of Table 3 of PPN30 is provided below for reference.

Where land has been determined to be potentially contaminated but it is difficult or not appropriate to undertake the environmental audit system requirements at the time of the planning scheme amendment, then the application of the Environmental Audit Overlay (EAO) to the land allows deferment of these requirements. Applying the EAO ensures the requirements (to complete a PRSA and / or environmental audit) will be met in the future but does not prevent the assessment and approval of a planning scheme amendment.

Planning Proposal		Potential for Contamination	
		High	Medium
<b>Uses defined in Ministerial Direction No. 1, the EAO, and clause 13.04-15</b>			
<ul style="list-style-type: none"> <li>Sensitive uses: Residential use, childcare centre, kindergarten, pre-school centre, primary school, even if ancillary to another use.</li> <li>Children's playground</li> <li>Secondary school</li> </ul>	New use, or buildings and works associated with a new use	A	B
	Buildings and works associated with an existing use	B	B
<b>Other land use</b>			
Open space	New use, or buildings and works associated with a new or existing use	C	D
Agriculture			
Retail or office			
Industry or warehouse			

Planning Scheme Amendment		Planning Permit Application
A	PRSA or audit option applies	PRSA or audit option applies
	Proceeding directly to an audit is recommended.	Proceeding directly to an audit is recommended.
B	PRSA or audit option applies	PRSA or audit option applies
	PRSA to determine need for audit is recommended.	PRSA to determine need for audit is recommended.
C	PSI to inform need for audit is recommended	PSI to inform need for audit is recommended
D	Planning authority to document consideration of potential for contamination to impact proposal	Responsible authority to document consideration of potential for contamination to impact proposal

Note: Where land is used for more than one purpose, the most sensitive land use should be used to inform the approach to determining if an audit is required.

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## 2.1.5 Environment Protection Act 2017

The Victorian *Environment Protection Act 2017* (as amended in 2018) (EP Act) provides a legislative framework that serves to protect Victoria's environment and human health. The Act includes:

- The General Environmental Duty (GED) that applies to all Victorians. This duty is to reduce the risk of harm to human health and the environment, and from pollution and waste.
- A tiered system of EPA permissions based on the level of risk to human health and the environment.
- Significant penalties for individuals or businesses who commit environmental harm.
- Provision for Preliminary Risk Screening Assessments (PRSAs) to establish the need for an Environmental Audit.
- Provision for Environmental Audits to assess the suitability of a site for its use. Audits are conducted by EPA-accredited Environmental Auditors and can involve a desktop review of a site's history, and soil and groundwater analysis. The issue of a certificate of environmental audit indicates that the audited site can have unrestricted land use, whereas a statement of environmental audit excludes specific land uses or states that a land use is suitable under specified conditions.

## 2.2 Guidelines and standards for assessment of contaminated land

### 2.2.1 National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)

The National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) (NEPM) establishes a nationally consistent approach to the assessment of site contamination. It ensures that sound environmental management practices are upheld by regulators, Environmental Auditors, landowners, developers and industry. Guidance is provided on the assessment of site contamination, investigation levels for environmental contaminants, human health and environmental risk assessment and reporting requirements.

### 2.2.2 Australian and New Zealand Guidelines for Fresh and Marine Water Quality

The Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018) provide guidance on the management of water quality for water resources (natural and semi-natural) in Australia and New Zealand. The guidelines specify trigger values for water quality for the protection of environmental values. These values include recreation, irrigation, drinking water, and ecological values.

The ANZG (2018) guidelines replaced the previous guidelines published in 2000 (commonly referred to as the ANZECC 2000 guidelines) and have been adopted and referenced as the most contemporary guidelines in the new Environment Reference Standard.

### 2.2.3 Environment Reference Standards

The Victorian Environment Reference Standard (ERS) is a new subordinate instrument which came into effect on 1 July 2021 (alongside the amended *Environment Protection Act 2017*). The ERS is itself made up of many 'reference standards', that cover ambient air, ambient soundland, and water (surface water and groundwater).

The ERS identifies environmental values that the Victorian community want to achieve and maintain. The ERS provides a way to assess if these environmental values are being achieved, maintained, or threatened.

The *Planning and Environment Act 1987* requires planning and responsible authorities to:

- consider environmental protection in decisions,
- refer certain applications to EPA for advice on the risk of harm to human health and the environment associated with land use and development, and
- consider, where appropriate, instruments under the EP Act including the Environment Reference Standard.

## 2.2.4 Australian Standard AS1726-2017: Geotechnical Site Investigations

Australian Standard AS1726 establishes the requirements for effective geotechnical site investigations and provides a system for the description and classification of soil and rocks.

The standard addresses spatial and physical properties of rocks, soil and groundwater, but does not cover chemical and biological aspects of the investigation of contaminated ground. AS1726 applies to geotechnical site investigation of natural and filled land for new construction, maintenance of existing facilities, evaluation of post-construction performance, the assessment of failure, and broad geotechnical studies.

## 2.3 Victorian Air quality legislation and guidelines

### 2.3.1 Environmental Protection Act 2017

The Environment Protection Act 2017 (as amended by the Environment Protection Amendment Act 2018) and its subordinate legislation govern the air quality in Victoria to protect human health and the environment from pollution and waste. It defines pollution as:

*“Pollution includes any emission, discharge, deposit, disturbance or escape of – a solid, liquid or gas, or a combination of a solid, liquid or gas, including but not limited to smoke, dust, fumes or odour”.*

The introduction of GED into the Environmental Protection Act 2017 changes the focus of compliance and enforcement by allowing the consideration of risks from any pollution sources, not just those that are specifically regulated. As GED requires the risk of harm from air pollution to be minimised as far as reasonably practicable, the following matters are relevant:

- The likelihood of the risk eventuating
- The degree of harm that would result if the risk eventuated
- State of Knowledge: what the person knows, or ought reasonably to know about harm or risks of harm and any ways of eliminating or reducing those risks.

GED seeks to eliminate or otherwise reduce risks of harm to human health and the environment from pollution and waste. GED applies to any person engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste. It requires that person to eliminate or otherwise reduce those risks, so far as reasonably practicable.

### 2.3.2 Subordinate legislation

Subordinate legislation is the group of tools that support the amended Environment Protection Act 2017. These tools include Environment Protection Regulations and the Environment Reference Standard (ERS). The new Regulations provide clarity and further detail for duty holders on how to fulfil their obligations through guidance documents.

The ERS comprises a set of reference standards covering four aspects of Victoria’s environment including ambient air. Part 2 of the ERS sets the ambient air quality indicators and objectives to support desirable environmental values, such as air quality that sustain life, health and well-being of humans as well as other forms of life including the protection of ecosystems and biodiversity.

Part 2 of the ERS replaces the State Environment Protection Policy (Air Quality Management) and generally adopts the standards in the NEPM AAQ with some modifications.

### 2.3.3 EPA Guidelines

#### 2.3.3.1 Separation distance guideline – Publication 1949

In December 2022 EPA released a draft update to the Separation Distance Guideline (Publication 1949). The purpose of the guideline is to support land use and development decisions that:

- protect the community from human health and amenity risks associated with unintended offsite odour and dust impacts generated by industry



- protect industry from inappropriate land use and development nearby that may constrain operations.

Separation distances are necessary to account for potential unintended offsite emissions expected as part of the day-to-day operation of industrial land uses. Such emissions may occur due to:

- the nature of the operation
- slight changes in weather conditions
- minor accidents
- minor equipment failure.

Unintended offsite emissions may still occur even when an industrial land use is operating in accordance with all relevant statutory obligations, including minimising the risk of harm to human health or the environment from pollution and waste so far as reasonably practicable. Separation distances allow unintended emissions to disperse, and in doing so, minimise human health and amenity risks for any nearby sensitive land uses.

The guideline is intended for planning authorities, responsible authorities, industry, developers, the community and EPA. It provides guidance on what to consider when preparing and assessing planning scheme amendments, planning permits and EPA permissions applications.

### 2.3.3.2 Guideline for assessing and minimising air pollution – Publication 1961

In May 2022 EPA produced new air quality guidance called “*Guideline for assessing and minimising air pollution in Victoria*” (EPA Publication 1961, 2022). The aim of Publication 1961 is to help businesses understand, assess and minimise risk from air emissions.

The guideline provides:

- a framework for assessing risks to the environment and human health from air emissions
- new air quality assessment criteria which replace the design criteria in the State Environment Protection Policy for Air Quality Management (SEPP AQM)
- modelling, monitoring and risk assessment methods
- guidance on how to minimise air emissions and manage any remaining risks.

### 2.3.3.3 Guidance for assessing odour – Publication 1883

In June 2022 EPA released “*Guidance for Assessing Odour*” (Publication 1883) that outlines how to assess odour risk posed by odour emission sources. The guidance is focused on the assessment of odour under the provisions of the *Environmental Protection Act 2017*, including the General Environmental Duty, which requires all Victorians to take precautionary and reasonable action to avoid hazards causing harm.

### 2.3.3.4 Urban Stormwater management Guidance Publications – Publication 1739.1

Uncontrolled urban stormwater runoff poses a risk to the values of waterways and bays. Publication 1739.1 (2021) is intended to help improve the management of urban stormwater in Victoria by recognising current science and the risk of harm from urban stormwater flows.

The guidance relates to stormwater run-off from urban areas in Victoria. It addresses key environmental risks associated with generating new impervious surfaces, covering pollutant loads and flow impacts on the environment. While it covers a range of environmental risks, it provides environmental objectives for only a subset of these risks.

## 3 Methodology

### 3.1 General assessment approach

#### 3.1.1 Stage 1 Assessment

A Stage 1 assessment (Phase 1 Environmental Site Assessment (ESA)) was undertaken to gather findings to be used to inform the next steps of the LCA.

The methodology consisted of a high-level desktop review of the following information sources:

- Lotsearch report (Reference: LS035757 EL)
- Sodic Soil Mapping
- EPA Victoria (Victoria Unearthed) Mapping
- Records provided by the City of Casey
- Visualising Victoria's Groundwater (VVG) Mapping
- Australian Soil Resource Information System (ASRIS) Mapping of Acid Sulfate Soils
- Groundwater Dependent Ecosystems (GDE) Atlas, Australian Bureau of Metrology
- National Pollutant Inventory (NPI) database

The information was used to assess the following site conditions:

- Sodic and Dispersive Soils
- Potential Soil and/or Groundwater Contamination
- Geotechnical and Hydrological Variables
- Existing Adverse Amenity Land Use
- Existing Noise Environment
- Potential source of Air Quality (Existing Setting)

The Stage 1 assessment seeks to identify:

- The potential source(s) of on- and off-site contamination;
- Pathways and receptors of contamination; and
- Areas of environmental concern (contamination, hydrogeological and geotechnical) which will form the basis of subsequent assessments at the site.

#### 3.1.2 Stage 2 Assessment

For this particular investigation, the site inspection works are referred to as a Stage 2 assessment.

A Draft Land Capability Assessment Report was prepared outlining findings and recommendations from the desktop review and site visit. The report includes:

- A project summary, including assessment undertaken, findings, implications of findings and recommendations.
- Recommendations for future testing and detailed investigations.
- Recommendations in relation to the location of sensitive uses and any appropriate buffers (based on legislative requirements, or 'best practice') including a map indicating the extent and location of buffers from sources of contamination, adverse amenity land uses, and geotechnical and hydrological variables.

The Land Capability Assessment Report was finalised based on review comments from the VPA.

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## 4 Precinct description

General information relating to the Casey Fields South and Devon Meadows PSP area is presented in Table 4-1 below.

*Summary of precinct description details*

**Table 4–1 Overview of Casey Fields South and Devon Meadows PSP area**

General Site information	
<b>PSP Name:</b>	Casey Fields South and Devon Meadows PSP
<b>PSP Address:</b>	<p><b>Casey Fields South Precinct</b></p> <p>bounded by the South Gippsland Highway to the southeast, Clyde-Fiveways Road to the east and Ballarto Road to the north</p> <p><b>Devon Meadows Precinct</b></p> <p>generally bounded by the South Gippsland Highway to the north and east, Worthing Road to the south and Craig Road to the west</p>
<b>Total PSP Area (m<sup>2</sup>)</b>	<p>Approximately 536 Ha</p> <ul style="list-style-type: none"> <li>Casey Fields South Precinct covers an area of about 275 ha</li> <li>Devon Meadows Precinct covers an area of about 261 ha</li> </ul>
<b>Planning Authority:</b>	City of Casey
<b>Current Planning Scheme Zones:</b>	<ul style="list-style-type: none"> <li>Urban Growth Zone (UGZ)</li> <li>Farming Zone (FZ)</li> <li>Urban Floodway Zone (UFZ)</li> </ul>
<b>Planning Scheme Overlays</b>	<ul style="list-style-type: none"> <li>Land Subject to Inundation Overlay (LSIO)</li> <li>Public Acquisition Overlay (PAO4) at 40W Craig Road and 48W Craig Road and PAO3 represents small portions of land at 32-34 and 36-38 Craig Road in Devon Meadows.</li> </ul>
<b>Current Site Uses</b>	<ul style="list-style-type: none"> <li>Industrial</li> <li>Residential (low and high density)</li> <li>Rural Living</li> <li>Commercial</li> <li>Agricultural</li> <li>Education (childcare centres and schools)</li> <li>Roads</li> </ul>
<b>Surrounding Land Use (outside of 1 km buffer):</b>	<ul style="list-style-type: none"> <li>North – Residential and commercial (Casey Stadium etc)</li> <li>South – Low-density residential and rural residential</li> <li>East – Agriculture and rural residential</li> <li>West – Residential and agricultural</li> </ul>

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## 5 Environmental setting

### 5.1 Topography

The topography of the study area is typically undulating dune fields and gently undulating to flat alluvial plains. The surface elevation of the PSP is between 21 m AHD to 54 m AHD (Lotsearch© 2022). The higher areas are associated with the undulating lands and dune fields in the west of the study area – west of Gippsland Hwy. Lower elevations are associated with the alluvial plains to the east and south of the study area (east of Gippsland Hwy) which contain various man-modified drainage lines flowing to the south east.

Elevation contours are shown in the Lotsearch report (Appendix E), and relative slopes in Figure 6 provided in Appendix A.

### 5.2 Geology

The geology of the PSP has been interpreted from Geological Geosciences Australia Geological Mapping and is summarised below, in five sections of the PSP, which are shown in Figure 5-1:

- Section 1 North: Red Bluff Sandstone (Nbr) with portion of Land dune deposits (Qd1)
- Section 1 South: Land dune deposits (Qd1) with portion of Murrindindi Supergroup (SM)
- Section 2 North: Red Bluff Sandstone (Nbr) with portion of Land dune deposits (Qd1)
- Section 2 South East: Red Bluff Sandstone (Nbr) with portion of alluvium and colluvium (Qb)
- Section 2 South West: Land dune deposits (Qd1) with portion of Red Bluff Sandstone (Nbr)

Further detail of the regional geology is provided in Section 7.2.

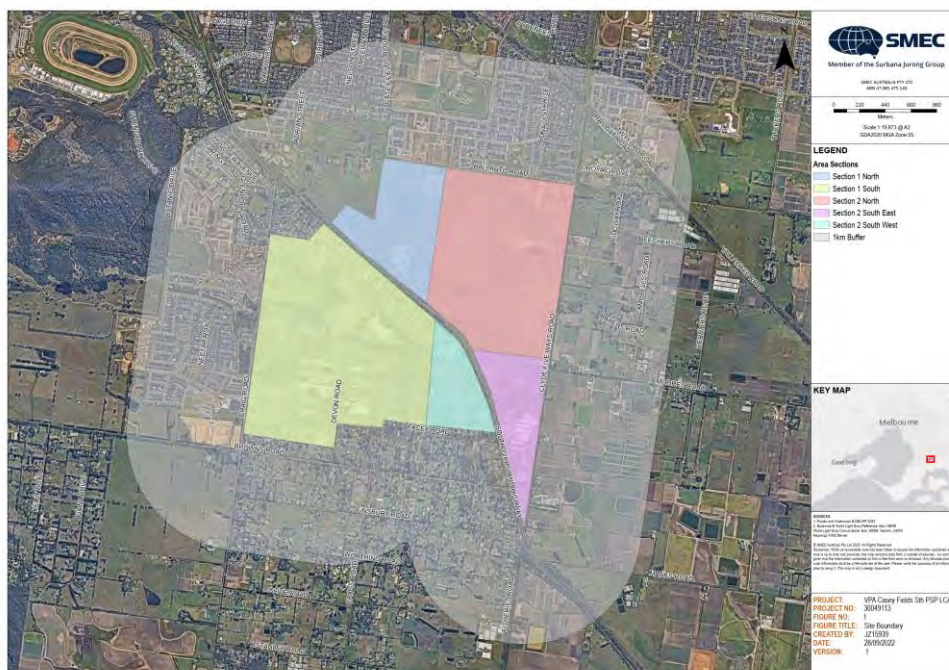


Figure 5-1 Division of the PSP into five sections for discussion.

### 5.3 Soils and Land Systems

The Lotsearch Report (Victorian Soil Type Mapping in Appendix E, and Figure 5-2 below) indicates a range of soil types and land systems within the study area.

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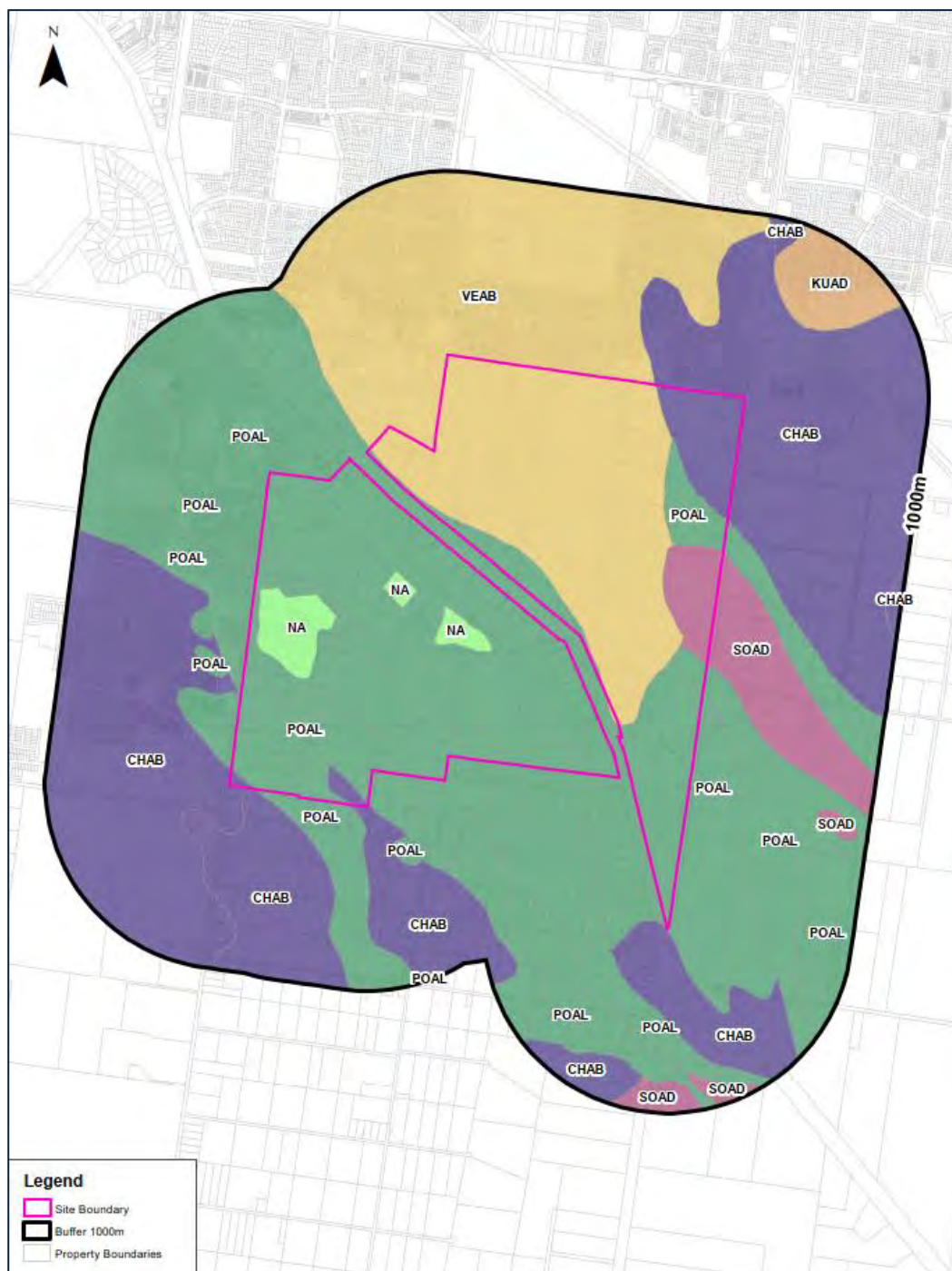


Figure 5-2 Map of soil types within 1000m of the PSP area (Lotsearch 2022. Data source: DELWP)

The soil descriptions and associated land systems associated with the Lotsearch map are summarised below:

**Table 5-1 Descriptions of soils and Landsystems in PSP area (Lotsearch© 2022)**

Soil Classification	Land System	Soil Profile description
Brown vertosols (VEAB)	Flinders clay	Clays (non-sodic at surface). Potentially dispersive and sodic at depth (lower B horizon), potentially increasing salinity with depth.
Aeric Podzols (POAL)	Cranbourne sands, Pearce Dale sandy clay loam	Deep profile sandy dune soils (non-sodic) that are rapidly drained throughout the soil profile. Sandy

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		loam surface soils (non-sodic) over medium/heavy clays (potentially sodic) within and adjacent to drainage lines.
Grey sodosols (SOAD)	Toomuc Sandy Loam and Cranbourne Sand	Sandy and sandy loam surface soils (non-sodic) with a clear change in texture between A and B Horizons, where the upper B horizon of light/medium clays is potentially sodic.
Brown Chromosols (CHAB)	Langwarrin Loam, Cranbourne Sand, Hallam Loam	Loamy and sandy surface soils (non-sodic) with a clear change in texture between A and B horizons, where the upper B horizon of medium to heavy clays is potentially sodic.

The dominant soil types in the five distinct sections of the PSP (as shown in **Figure 5-1**) are as follows:

- Section 1 North: Brown vertosols (VEAB) and portion of Aeris Podisols (POAL)
- Section 1 South: POAL and sections of unidentified soils (associated with quarries)
- Section 2 North: VEAB, POAL, Grey sodosols (SOAD), and Brown Chromosols (CHAB)
- Section 2 South East: POAL with portion of VEAB and SOAD
- Section 2 South West: POAL

Due to private land and other site-safe access constraints, the soil descriptions above were unable to be ground-truthed or validated during site inspections.

Further details of geotechnical soil characteristics are provided in Section 7.2.2.

## 5.4 Sodic and Dispersive Soils

Sodicity is a measure of the exchangeable sodium in relation to other exchangeable cations in soil and is expressed as the Exchangeable Sodium Percentage (ESP). A soil with an ESP greater than 6% is generally regarded as being a sodic soil in Australia (Northcote and Skene, 1972). ESP >6% is considered the threshold where exchangeable sodium in soil, when in contact with fresh water, potentially adversely impacts soil structure and causes clay dispersion (VPA, 2019).

The presence of sodic soils within surface soils represent the following risks to the current and future use of the sites:

- reduction in plant/crop production due to poor permeability, poor root penetration;
- loss of soil structure; and
- increased erosion risk due to rainfall impact erosion and overland flow sheet erosion on flatter plans, as well as tunnel erosion in embankments and gully erosion in steeper areas.

Due to the low permeability and dispersive nature of sodic soils, these areas are also likely to be prone to surface ponding. Freshwater that comes into contact with excavations and exposed sodic/dispersive soils tends to be persistently turbid containing colloidal particles that are difficult (very slow) to settle out. This poses a risk of highly turbid/silt laden water discharge to local surface waters.

To assess the soil sodicity within the study area, a review of published soil mapping from Victorian Resources Online (VRO)<sup>1</sup>, DELWP, and other published information (refer to Section 11 References) was conducted. Detailed soil mapping and description of land units for the Devon Meadows PSP area and surrounds is shown in Figure 5-3. This map when viewed in conjunction with the Lotsearch mapping (as well as SLR, 2021 report discussed below) can be extrapolated into the Casey Fields PSP to provide further indication of likely land systems and soil profiles.

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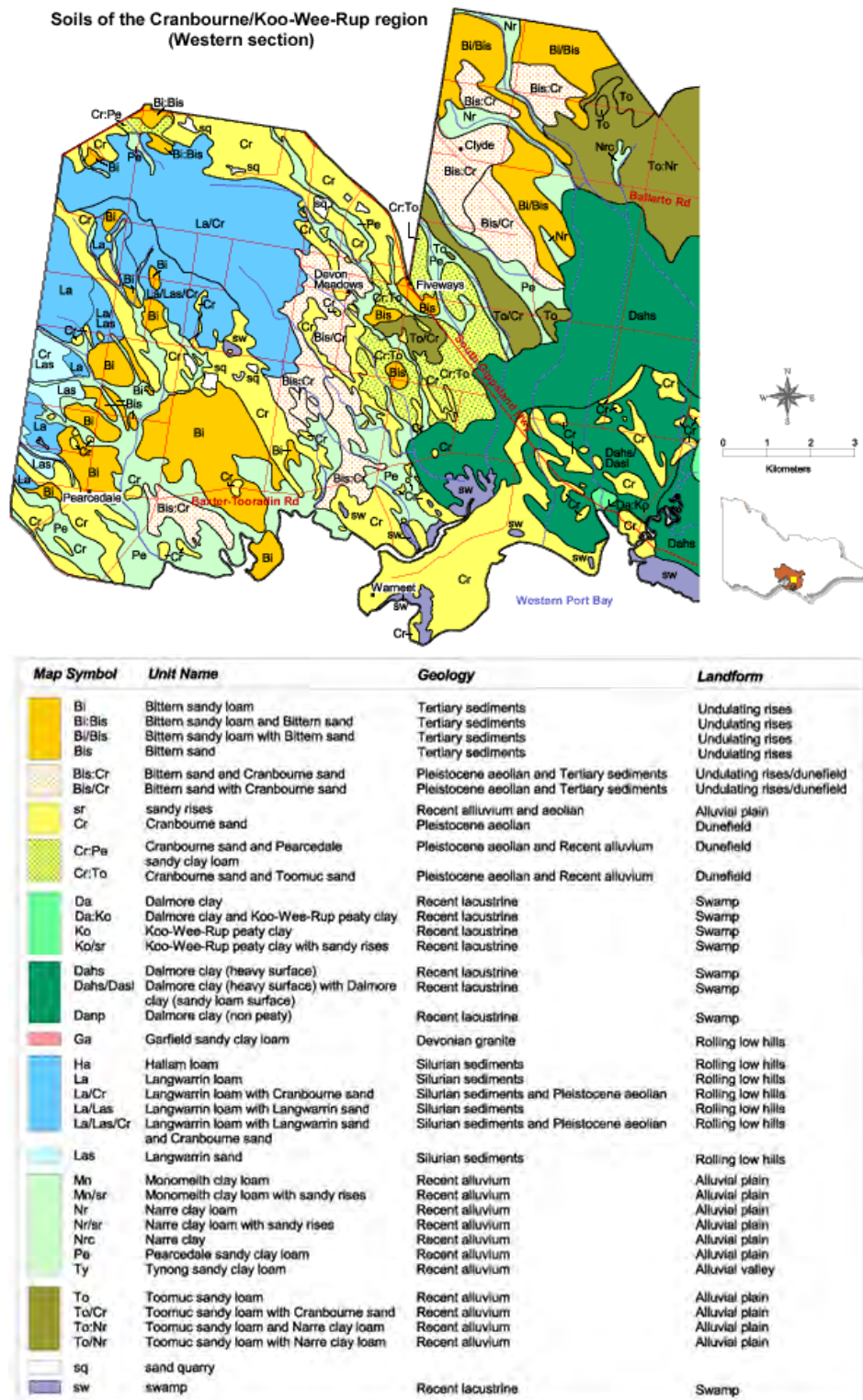


Figure 5-3 Map showing Soils of the Cranbourne – Koo Wee Rup Region – West (VRO, 2018)

In addition a review of the report: *Geotechnical, Sodic Soils, Hydrogeological, Contamination and Odour Review* of the Devon Meadows PSP (SLR, 2021) was undertaken. This report contains a detailed review of the presence and implications of sodic soils in the south and west of the study area. The findings of our investigations and assessments in the PSP are consistent with the SLR 2021 report.

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The review indicated that the PSP area is expected to have a limited occurrence of sodic soils. The PSP study area appears to be south and north east of the Acidic Sodic Soil areas as shown in the mapping extract of major sodic soil classes from VRO (Figure 5-4 below).

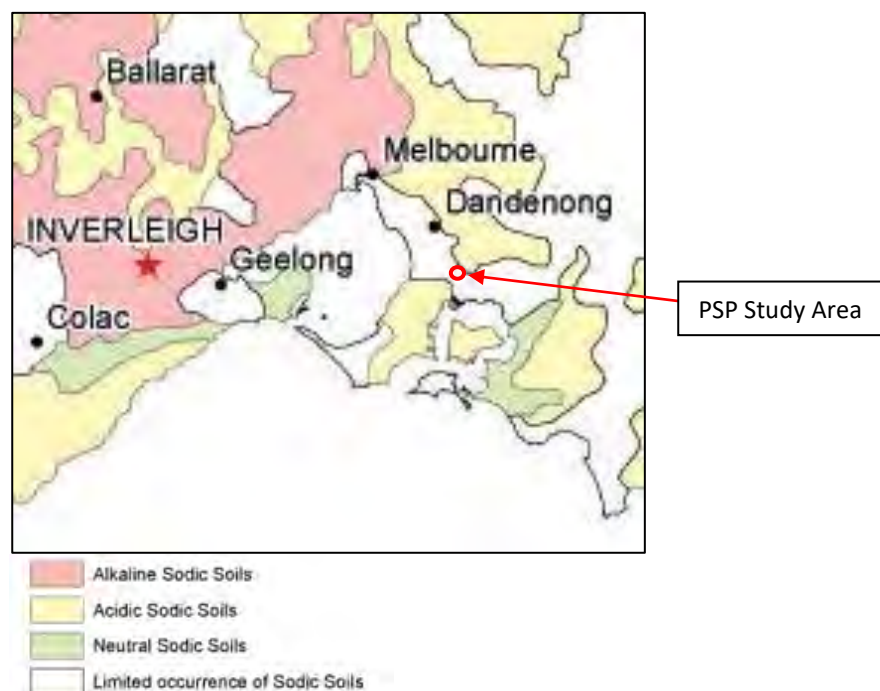


Figure 5-4 Map showing major sodic soil classes of Victoria (VRO). The red circle represents the approximate site location.

The VRO mapping, SLR report and Lotsearch report in combination indicate that most of the Casey Field South PSP's (ie. North and east of Gippsland Hwy) topsoils are Flinders clay, likely overlain with Pearcedale sands, Toomuc sandy loam, and Cranbourne sands along the east boundary of the PSP area. As described in Section 5.3, grey sodosols, which potentially have dispersive deeper subsoils, are likely present in the north and south-east portions of the Casey Fields South PSP (DELWP, 2022).

The majority of Devon Meadow PSP's (i.e. south and west of Gippsland Hwy) topsoils are non-sodic deep profile sands in the Alluvial Plains and Dunefields (see Figure 5-3). Pearcedale Sandy Clay loams are present within or on the fringe of low-lying drainage lines, which may have subsoils that behave like sodic soils (though these are expected to be isolated cases).

Sodic and dispersive soil profiles are widely distributed all across Victoria and the greater Melbourne urban growth area, but as indicated by published VRO mapping (Figure 5-4) are more prevalent in the northern suburbs and just to the south of the study area. Table 5-2 describes the typical soil profile (VRO, 2018) of soil types mapped within the PSP area. Given the limited scope of the site inspections and in-accessibility of the private lands across the PSP study area to validate soil types and conditions, the soil profiles with any clay in topsoil or subsoil should be assumed as having sodic/dispersion risk (precautionary approach).

**Table 5-2 Soil types and descriptions of soils within the PSP area**

PSP	Soil type	Typical soil profile (VRO)	Landform
Devon Meadows	Cranbourne sands	0 – 1.1m: sand 1.1 m continuing: sands and sandy clays at a variable depth	Dunefield
	Pearcedale sandy clay loam	0 – 4m: sandy clay loam 4 m continuing: medium to heavy clay	Alluvial plain
	Toomuc sandy loam	0 – 600mm: loam/sand	Alluvial plain

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		600mm – 1.4m: light or medium clay becoming medium to heavy clay	
	Bittern Sands	0 – 700mm sandy loam to loamy sand 700mm – 1.4m: light or medium clay becoming medium to sandy clay	Undulating rises
<b>Casey Fields South</b>	Cranbourne sands	0 – 1.1m: sand 1.1 m continuing: sands and sandy clays at a variable depth	Dunefield
	Flinders clay	0 – 300mm: clay loams or sandy clay loams 300mm continuing: medium to heavy clays	Rolling low hills
	Pearcedale sandy clay loam	0 – 4m: sandy clay loam 4 m continuing: medium to heavy clay	Alluvial plain
	Toomuc sandy loam	0 – 600mm: loam/sand 600mm – 1.4m: light or medium clay becoming medium to heavy clay	Alluvial plain

The upper subsoils throughout the PSP are expected to be non-sodic, as shown in Figure 6, Appendix A. However, based on the desktop review findings, sodic soils may be present at depth throughout the PSP area. The Casey Fields South PSP has a large proportion of Flinders Clay in the lower alluvial plains area, which is expected to have a layer of sandy clay loam over medium/heavy clay at relatively shallow depth. These soils are less permeable and likely more sodic at depth than surrounding soil profiles in the study area. Therefore, this portion of the PSP area is more likely to present sodic/dispersive risk particularly within and fringing the urban drainage lines.

There is risk of soil erosion and sediment pollution if sodic soils (where present) are exposed, stockpiled and where water from sodic soil runoff, excavations or ponding on surface is allowed to drain offsite in an uncontrolled manner. Urban development and construction involving ground disturbance and vegetation removal, can expose sodic/dispersive soils to water and wind erosion. If underlying clays are exposed during works, these soils will require careful management to prevent sediment pollution loads in runoff and drainage to local drainage lines.

Erosion and sediment pollution risks are able to be routinely managed by the construction industry, and the best practice measures are well documented in industry and EPA guidance. Any soil profiles identified in the study area having clay in topsoil or subsoil should be assumed as having some sodic / dispersion risk that should be appropriately managed by the developer at time of making planning and development applications to Council. The developer should demonstrate management of construction sites in accord with Industry Sediment and Pollution control codes (eg. IECA Best Practice Erosion and Sediment Control Guidance, VPA's Engineering Design and Construction Manual for subdivision in Growth Areas – Addendum 19-01 Sodic and Dispersive Soils (currently in Draft)), and EPA Victoria Guidance including EPA Construction techniques for sediment pollution control (Pub 275) including development of Erosion and sediment control (ESC) Plans as part of CEMPs.

## 5.5 Acid Sulfate Soil - ASRIS Mapping

Australian Soil Resource Information System (ASRIS) mapping for Acid Sulfate Soils classes the PSP area and surrounds as Cq(p4) an “Extremely Low (1-5%)” probability of occurrence of acid sulfate soils (Figure 5-5).

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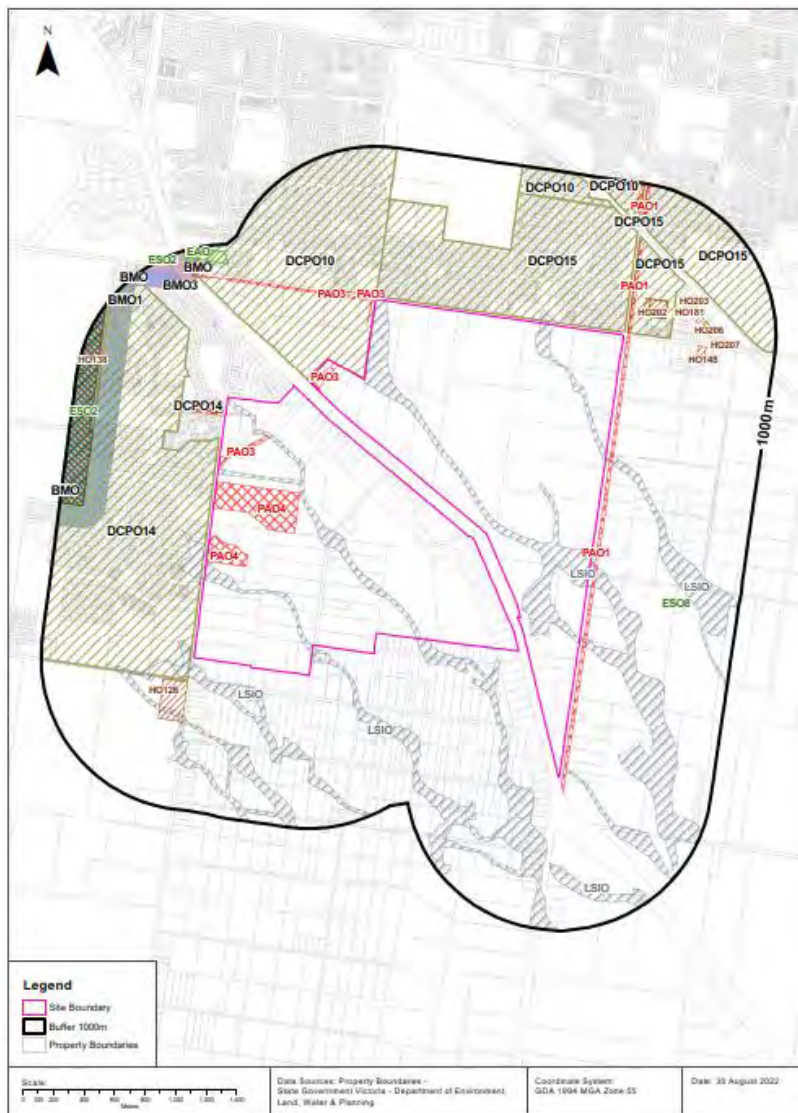


Figure 5-6 Land Subject to Inundation Overlays (LSIO) shown above

The City of Casey Planning Scheme Overlays (Land Management) indicates multiple urban drainage lines orientated northwest to southeast across the entire site that align with the Land Subject to Inundation Overlay (Figure 5-6). The project site borders Royal Cranbourne Botanic Gardens to the northwest that is subject to a Bushfire Management Overlay.

Further discussion of site topography is provided in Section 7.2.5.

## 5.7 Regional Geomorphology

The site is located north of Western Port Bay with a surface geology of sand dunes partially overlying Baxter sandstone.

## 5.8 Regional Hydrogeology

### 5.8.1 Overview of regional hydrogeology

A review of the regional hydrogeology of the area indicates that the main aquifers present include:

- Baxter Sandstone
- Older Volcanics

The Baxter Sandstone is the primary groundwater resource for the area with the Older Volcanics being less extensive. These aquifer systems are described in the Port Phillip and Westernport Groundwater Flow Systems as GFS10 and GFS7, respectively (Dahlhaus et al, 2004).

The Baxter Sandstone is included as part of the Brighton Group which forms an extensive aquifer across most of the southeastern Melbourne suburbs. The Brighton Group sediments (including the Baxter Formation towards Westernport area) form part of an extensive sand sheet that was deposited by a retreating sea during the Pliocene. The relatively thin veneer of gravels, sands, silts and clays layer is exposed in the southeastern Melbourne suburbs, the Mornington Peninsula and French Island. The aquifer permeability can be affected by being extensively ferruginised or silicified in some areas.

The Older Volcanics is a basalt and therefore potentially may weather into a clay which will affect its permeability. At depth, the basalt will be less weathered, and groundwater would be expected to be present in fracture systems.

Recharge to the Baxter Formation predominantly occurs via infiltration where outcrop or subcrops occur. Recharge to the Old Volcanics occurs where outcrop occurs or from cross-formation flow at depth.

Aquifer conditions for both the Baxter Formation and the Old Volcanics are unconfined to semi-confined.

Regional groundwater flow in the vicinity of the site is expected to be towards Western Port Bay which lies to the southeast.

## 5.8.2 Groundwater quality

VVG groundwater salinity mapping indicates the groundwater in the Casey Fields South and Devon Meadows PSP area ranges between 3,500-7,000 mg/L TDS over the majority of the PSP area, with a small portion of the PSP (along the north) ranging between 1,000 - 3,500 mg/L TDS.

The environmental value of groundwater is classed into segments, as defined in the Environment Reference Standard (Victorian Government, 2021). Based on the salinity data provided in the VGG, the environmental value of groundwater in the PSP is classed into Segment A2 (601 – 1,200 mg/L TDS) and Segment B (1,201 – 3,100 mg/L TDS).

The brackish nature of the groundwater in the PSP may require careful monitoring if dewatering or extraction is required, particularly for the consideration of the disposal of water. The aggressivity of groundwater cannot be assessed with available data; groundwater quality sampling is recommended to understand the potential for groundwater impact on below-ground infrastructure, if required.

## 5.8.3 Groundwater dependent ecosystems

The GDE Atlas (Bureau of Meteorology, 2022) identifies a number of Terrestrial GDE within the PSP (refer to Figure 5-7). The majority of the identified Terrestrial GDE are located in Devon Meadows, south of South Gippsland Highway and classified as 'High Potential GDE' or 'Moderate Potential GDE' from national assessment. No Aquatic GDE are recorded in the PSP. No subterranean GDE have been analysed in the PSP study area.

Terrestrial GDE are areas where terrestrial vegetation relies on the availability of shallow groundwater. The Terrestrial GDE may require careful monitoring if dewatering or extraction is required in the PSP.

Terrestrial Inflow dependent ecosystems (IDE) identifies vegetation ecosystems that are likely to use a water source in addition to rainfall, such as water stored in the unsaturated zone, surface water or groundwater. Figure 5-8 shows that the PSP has areas which are recognised as 'Highly Likely' to be IDE.

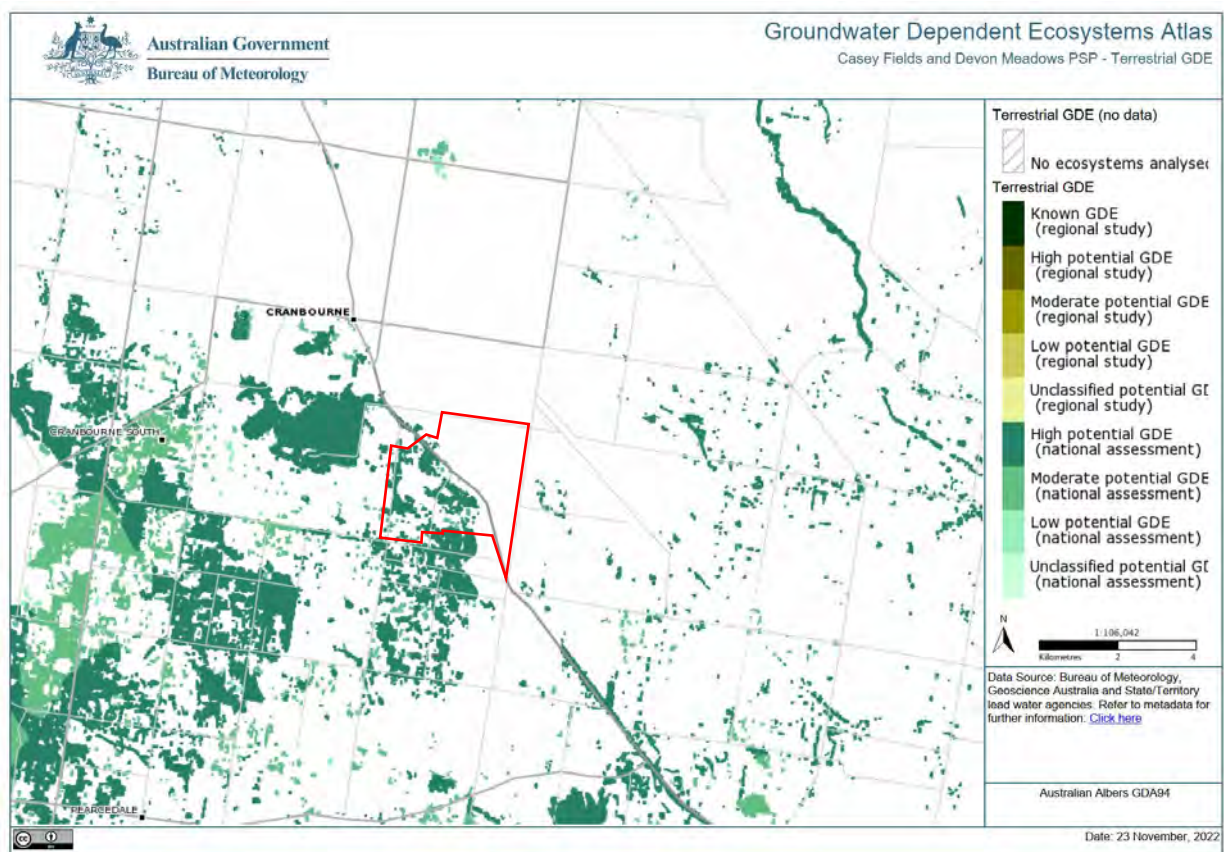


Figure 5-7 Terrestrial Groundwater Ecosystems (Bureau of Meteorology) – Regional map

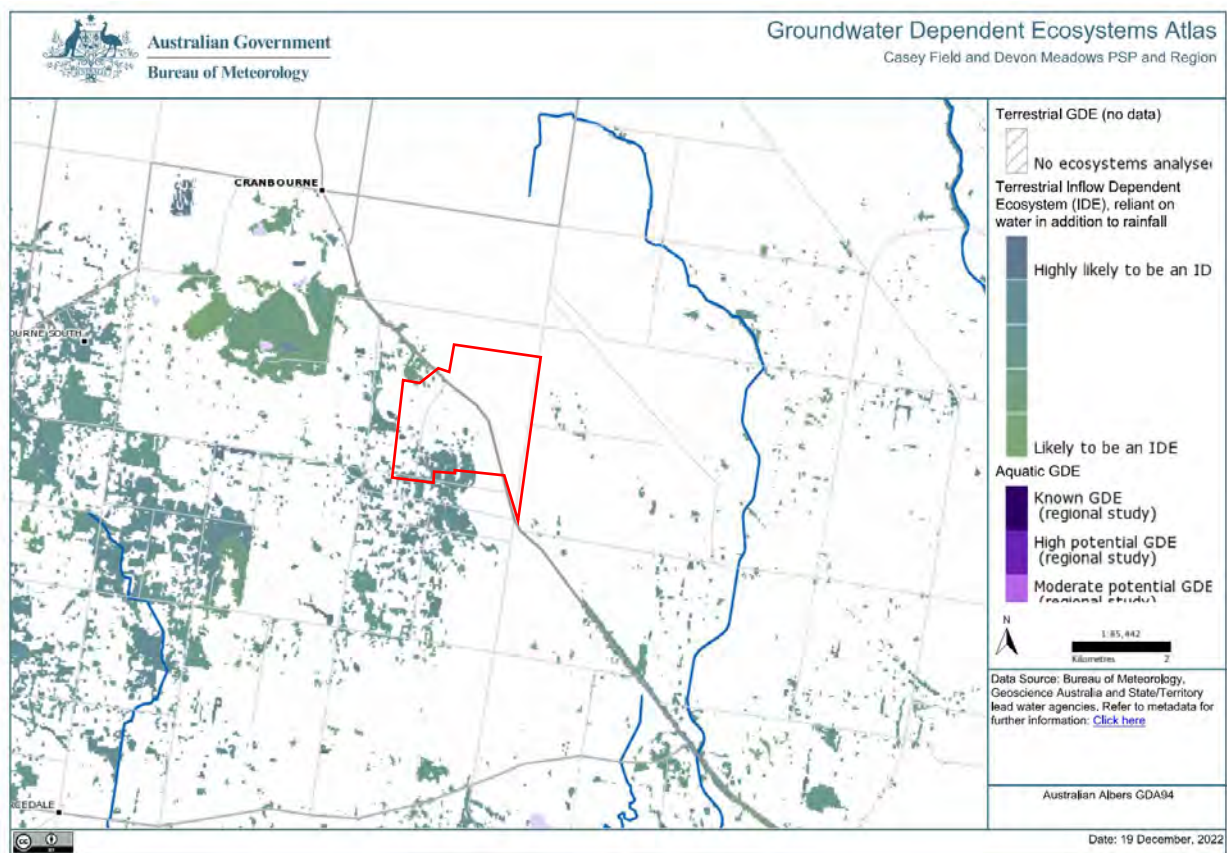


Figure 5-8 Likelihood of inflow-dependent ecosystems within the PSP area.

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## 5.9 National Pollutant Inventory

A search of the National Pollutant Inventory (NPI) database ([www.npi.gov.au](http://www.npi.gov.au)) for the Casey Fields South and Devon Meadows PSP area showed there were no industrial premises that trigger the thresholds to report their annual emissions to NPI (Figure 5-9). The closest facility that reports its emissions to NPI is the Clyde Feedmill (red pin on Figure 5-9) which is located approximately 1.5km east of Clyde-Five Ways Road.



Figure 5-9 NPI database search for the Casey Fields South and Devon Meadows PSP area (black shaded area)

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## 6 Information review

This section summarises the various sources of information, records and reports reviewed as part of the Stage 1 desktop assessment.

The desktop assessment of potential soil and/or groundwater contamination included a review of the following key information sources:

- City of Casey Records
- EPA Victoria Records
- Lotsearch® Records

### 6.1 City of Casey records

**Table 6-1 Summary and significance interpretation of records received from the City of Casey**

Information	Property Address and Description of Land Use	Significance
Summary of current PSP Land Uses	22 Properties - Rural residential, Turning Point Family Church and Lighthouse Christian College, BP petrol station, grazing, vegetable and flower market gardens.	When assessed against the Victorian Department of Environment, Land, Water and Planning, <i>Potential Contaminated Land, Planning Practice Note 30</i> , July 2021. The PSP contains a number of land uses which represent a potential contamination risk ranging from <i>High</i> to <i>Low</i> as listed below for each property.
Council contaminated land assessment register	<ul style="list-style-type: none"> <li>• <b>1360 Ballarto Road</b> – potentially contaminated due to current and historic use as a market garden and flower farm, down gradient to a chicken broiler.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>1370 Ballarto Road</b> – potentially contaminated due to current and historic use as a market garden and flower farm, down gradient to a chicken broiler.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>1470 Ballarto Road</b> – former agricultural activities and market gardens, septic tank onsite, current concrete batching plant and landscape gardening and trade supplies.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>1490 Ballarto Road</b> – historic market gardens, currently a BP petrol station.</li> </ul>	High potential for contamination
	<ul style="list-style-type: none"> <li>• <b>255 Clyde-Five Ways Road</b> – potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>251 Clyde-Five Ways Road</b> – potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed built in 1980.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>245 Clyde-Five Ways Road</b> – potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed built in 1980.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>235 Clyde-Five Ways Road</b> – potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed built in 1980.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>215 Clyde-Five Ways Road</b> – potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed built in 1980.</li> </ul>	Medium potential for contamination

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Information	Property Address and Description of Land Use	Significance
Council contaminated land assessment register	<ul style="list-style-type: none"> <li>• <b>165 Clyde-Five Ways Road</b> – potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>1715 South Gippsland Highway</b> - potentially occurring agricultural activities (i.e. market gardening). Agricultural grazing, market gardens/agricultural cropping with farmhouse and large dam.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>35 Devon Road</b> - potentially contaminated due to previous use for extractive industries in the 80's and 90's. Machinery shed built on site in 1981. A tip is possibly located somewhere onsite.</li> </ul>	High potential for contamination
	<ul style="list-style-type: none"> <li>• <b>55 Devon Road</b> - Was previously part of parcel CA29 located to the west of this site used for extractive industries in the 80's and 90's. Permit granted for a machinery shed associated with the sand washing plant in 1981. A tip was possibly located somewhere on this site.</li> </ul>	High potential for contamination
	<ul style="list-style-type: none"> <li>• <b>40W Craig Road</b> - potentially contaminated due to previous sand extraction (Frank Vella Sands Supply Site) and processing since the 1970's. A Soil Contamination Assessment completed for the site identified areas requiring remediation.</li> </ul>	High potential for contamination
	<ul style="list-style-type: none"> <li>• <b>42 Craig Road</b> - potentially contaminated due to previous sand extraction (Frank Vella Sands Supply Site) and processing since the 1970's. A Soil Contamination Assessment completed for the site identified areas requiring remediation.</li> </ul>	High potential for contamination
	<ul style="list-style-type: none"> <li>• <b>48W Craig Road</b> - potentially contaminated due to previous sand extraction (Frank Vella Sands Supply Site) and processing since the 1970's. A Soil Contamination Assessment completed for the site identified areas requiring remediation.</li> </ul>	High potential for contamination
	<ul style="list-style-type: none"> <li>• <b>44-46 Craig Road</b> - potentially contaminated due to previous sand extraction (Frank Vella Sands Supply Site) and processing since the 1970's. A Soil Contamination Assessment completed for the site identified areas requiring remediation.</li> </ul>	High potential for contamination
	<ul style="list-style-type: none"> <li>• <b>60 Devon Road</b> – potentially contaminated due to operating a sand quarry since 1970. In 1978 they applied for second sand drying and treatment plant.</li> </ul>	High potential for contamination
	<ul style="list-style-type: none"> <li>• <b>100 Devon Road</b> – potentially contaminated due to operating a poultry farm since the 1970's.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>1930 South Gippsland Highway</b> - potentially contaminated due to the site was used to manufacture concrete products such as septic tanks and pits since 1971, permit granted in 1977.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>95 Devon Road</b> - Former poultry farm.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>1945 South Gippsland Highway</b> – potentially contaminated due to land use as a plant nursery. Planning permit submitted in 2019 to establish a green waste recycling and transfer station.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li>• <b>2025 South Gippsland Highway</b> – potentially contaminated due to current petrol station and storage of fuel.</li> </ul>	High potential for contamination
	<ul style="list-style-type: none"> <li>• <b>1985 South Gippsland Highway</b> - In 1972 the site requested to manufacture pallets and store sawdust. May have used and stored chemicals to treat timber.</li> </ul>	High potential for contamination

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Information	Property Address and Description of Land Use	Significance
Council contaminated land assessment register	<ul style="list-style-type: none"> <li><b>180 Clyde-Five Ways Road</b> - Site used as a market garden since the 1960's with a machinery shed built in 1978. Use of pesticides and herbicides and storage of fuels/solvents at the site for machinery.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li><b>40 Bakers Road</b> - The site was permitted to operate as a wholesale nursery in 1980. Application of pesticides/herbicides may have occurred.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li><b>65 Campbells Road</b> - 24-08-1973 - council does not object to an extension to the existing poultry farm. Lot 10, LP53114 Cnr Bakers and Campbell Roads.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li><b>24 Bakers Road</b> - Permit granted to establish a machinery shed on the site in 1980.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li><b>1760 Ballarto Road</b> - Permit granted in 1980 to establish a machinery shed.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li><b>90 Clyde-Five Ways</b> - Road Machinery shed built in 1978, the site was used as a market garden.</li> </ul>	Medium potential for contamination
	<ul style="list-style-type: none"> <li><b>225 Manks Road</b> - Site is listed on the EPA Priority Sites Register as of 2020. Industrial waste has been dumped at the site. Requires assessment and/or clean up.</li> </ul>	High potential for contamination. It is noted that this site is approximately 2.5 km outside the PSP area.
Other Council information	<p>No landfill buffers within PSP.</p> <p>No Environmental audit overlays (EAO) within PSP.</p> <p>No Environmental significance overlays (ESO) within PSP.</p>	N/A
Historical aerial images (council records)	<ul style="list-style-type: none"> <li><b>1939</b> – the PSP was undeveloped paddocks with some tree vegetation in the northeast area and south east area of the PSP. South Gippsland Highway, Clyde-Five Ways Road were present.</li> <li><b>1960</b> – the PSP was generally unchanged, a house and sheds are present at 255 Clyde-Five Ways Road.</li> <li><b>1972</b> – Ballarto Road is now present to the north of the PSP. Most of the vegetation in the northeast has been removed. Properties at 1470 Ballarto Road and 165 Clyde-Five Ways Road are used for market gardens with dams. A small building and dam are present at 215 Clyde-Five Ways Road. A house and shed are present at 1805 South Gippsland Highway. Small sheds, areas of grass slashing and fences are present indicating the land is widely used for grazing.</li> <li><b>1985</b> – 285 and 275 Clyde-Five Ways Road are now both market gardens. Most properties have a rural residential house, sheds, and some properties have dams.</li> <li><b>1991</b> – the PSP is relatively unchanged. 1360 Ballarto Road has two large greenhouses and a dam.</li> <li><b>2000</b> – 1360 Ballarto Road built more greenhouses, 1370 Ballarto Road, 1470 Ballarto Road, 251 Clyde-Five Ways Road added commercial greenhouses. 1845 South Gippsland Highway have a large oval running track.</li> <li><b>2010</b> – 235 Clyde-Five Ways Road and 1805 South Gippsland Highway are residential properties with many small paddocks with animal shelters. The Turning Point Family Church is present at 1785 South Gippsland Highway, the land for the Christian College has been cleared. 1370 Ballarto Road extended their greenhouses.</li> <li><b>2020</b> – the greenhouses at 1370 Ballarto Road have been partially demolished. The Lighthouse Christian College is completed. 1470</li> </ul>	N/A

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Information	Property Address and Description of Land Use	Significance
	Ballarto Road appears to be a concrete batching plant. 235 Clyde-Five Ways Road is no longer covered in small paddocks and animal shelters.	
<i>Councils description of potential sources of contaminated land</i>	<ul style="list-style-type: none"> <li>• <i>Septic tanks</i></li> <li>• <i>Use and storage of fuel and chemicals associated with machinery sheds and agricultural practices</i></li> <li>• <i>Use of pesticide and herbicide on market gardens</i></li> <li>• <i>Use of pesticides around rural residential properties for pest control</i></li> <li>• <i>Backfilling of former dams</i></li> <li>• <i>Unregulated landfills or buried farm waste</i></li> </ul>	Land uses range from <i>High to Low</i> risk rating for potential contamination.

Source: City of Casey

## 6.2 Historical review of aerial photographs

The Lotsearch® Report (Lotsearch® Report Reference: LS035757 EL), divided the site into five sections. The five areas are shown in Figure 2 (Appendix A).

A review of historical aerial images included within the Lotsearch® report was undertaken, with a summary of each photograph and any change in landscape summarised in Table 6-2 below.

**Table 6–2: Summary of Aerial Photographs**

Date of Aerial Photograph	Description of the PSP	
	Section 1	Section 2
1939	Scattered farmland and properties around the edges of the PSP area. Dense vegetation covering most of the area. South Gippsland Hwy, Craig Road, Ballarto and Devon Road visible.	Mostly cleared land with scattered housing along Clyde-Five Ways Road. Dense vegetation within the South and East edges. Ballarto Road, South Gippsland Hwy and Clyde-Five Ways Road visible.
1956	Increased housing and development of the land. Potential Quarry visible.	Increased housing, potential agricultural buildings and development of land for agricultural means along Clyde-Five Ways Road. Still mostly cleared land.
1960	Increased development of land into housing and potential agricultural land. Devon Road now connecting Ballarto Road and Browns Road. Another potential Quarry visible.	Increased development of land along South-Gippsland Hwy and Clyde-Five Ways Road. Still mostly cleared land.
1962	Increased development of land, increased housing.	Increased development of land along Clyde-Five Ways Road. More agricultural land and farm dams.
1968	Increased development of land, increased housing. New circular paths visible in the East and South. Potential quarries changing in size.	Major development of land west cleared with circular Road development and agricultural land. Existing agricultural land along Clyde-Five Ways Road expanded.
1974	Increased agricultural land. Large building in - potential quarry on the East side. Car yard along South Gippsland Hwy.	Increased agricultural land and farm dams along Clyde-Five Ways Road. Additional housing along South-Gippsland hwy.
1979	Increased agricultural land. Water bodies present in potential quarry along the east. Oval shaped paths extended. Increased housing.	Additional housing, land clearing and agricultural land.
1981	Potential quarry along west expanded. Additional large building at potential quarry along east.	Increased agricultural land and landscaping.
1985	Potential Quarries increase size, new potential quarry joined to previous two. Increased land clearing and agricultural land.	Increased agricultural land, land clearing and a few additional houses.

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Date of Aerial Photograph	Description of the PSP	
	Section 1	Section 2
1989	Additional large building in potential quarry on the East side. Water body in newest potential quarry location. Agricultural land in North Section. White sheds on some agricultural land.	Circular path visible along Clyde-Five Ways Road, minor change in landscaped trees and agricultural land.
1991	Additional housing and expansion of existing agricultural locations. Additional water bodies at potential quarry sites.	Some construction development at Southern tip of Section.
2009	Expansion of potential quarry site in the west. Additional land clearing and agricultural land. Increased white sheds amongst existing agricultural land. Expansion of agricultural land in North. Large building with carpark built next to car yard.	Truck stop, potential petrol station at Southern tip. Upgrades to existing buildings to larger sizes. Large white construction at North-West corner. Uniform Small white squares on agricultural land in East. Additional housing, and new oval shaped path visible. Numerous white Sheds appearing on existing agricultural lands.
2014	Closure of west potential quarry returned to cleared land. Increased expansion of agricultural land in North.	Location with large number of trucks visible in South. Additional housing, and agricultural areas. White sheds on agricultural lands increase in numbers.
2022	Rectangle containers present in former west quarry, and green coverage on water body. Buildings present in newest potential quarry. Several buildings in North with an Oval and carpark indicating potential School. Oval shaped paths overgrown with vegetation along East. Looped track present in cleared land on West.	Shop (maybe petrol station) in North-East corner. White squares gone; agricultural land returned to cleared land.

## 6.3 EPA Victoria records

A review of the EPA Victoria contaminated land mapping tool (Victoria Unearthed) for the area of the PSP and buffer zone, along with the Lotsearch® Report and several potential soil and water contamination locations were revealed. These locations are summarised in Table 6–3: Summary of locations of potential soil or groundwater contamination below.

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Table 6–3: Summary of locations of potential soil or groundwater contamination

Site Address	Description	Information Source	Significance/Findings
Lot 2 Devon Road (within PSP) 1780 South Gippsland Highway, Devon Meadows, as defined by Lot 2 on Plan of Subdivision 433426Y, Parish of Sherwood	A 53x certificate audit (Audit 58675-1) was undertaken for the area on 29 November 2005.	EPA Victoria Unearthed	At the time of the audit the auditor concluded that soil contamination at the site has not occurred that would impact upon any beneficial use that may be made of the site, and that the risk of groundwater contamination is low, the auditor concluded that it is appropriate to issue a Certificate of Environmental Audit for this site. That the site is suitable for the following range of land uses: <ul style="list-style-type: none"> <li>• Maintenance of Ecosystems;</li> <li>• Parks and reserves;</li> <li>• Agriculture;</li> <li>• Recreation / open space;</li> <li>• Sensitive use – high density;</li> <li>• Sensitive use – other;</li> <li>• Commercial; and</li> <li>• Industrial.</li> </ul>
1591 South Gippsland Highway (877m North West of PSP)	A 53x statement (74974-1) undertaken on 16 November 2018.	EPA Victoria Unearthed	The audit concluded on the basis that some beneficial uses of land and groundwater are precluded, the Auditor is unable to issue a Certificate of Environmental Audit for the site in its current condition, the reasons for which are presented in the environmental audit report.
1591 South Gippsland Highway (877m North West of PSP)	EPA Groundwater restriction zone, restricting use of drinking water, irrigation of crops, recreational water usage and livestock water supply. (74974-1)	Lotsearch®	Accordingly, the Auditor has reviewed the environmental assessment data for the subject site and formed an opinion that the site is conditionally suitable for the proposed low-density residential development. A Statement of Environmental Audit has therefore been issued to that effect. The site is suitable for the beneficial uses associated with: <ul style="list-style-type: none"> <li>• Sensitive use (other);</li> <li>• Sensitive use (high-density residential);</li> <li>• Recreation / open space;</li> <li>• Commercial; and</li> <li>• Industrial.</li> </ul> Subject to the following conditions
Eastern Treatment Plant Dual Pipe Scheme (849m North East of PSP)	Subject to Audit recommendations	Lotsearch®	Report not sighted
Forest area within State Dandenong Forest Management Area (891m West of PSP)	Subject to Audit recommendations	Lotsearch®	Report not sighted

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## 6.4 Australian Heritage Databases

### 6.4.1 Historical Title Search

Certificates of title were reviewed to discern information on the current and historical land uses within the CFS and DM PSP area (Appendix E Lotsearch report LS035757).

A review of the titles showed that the PSP has had mixed uses over its history, including:

- sand extraction (quarries) along Devon Road (35 – 60) and Craig Road (40W-48W).
- market gardens and flower nurseries,
- poultry farms,
- other agricultural farms, and
- rural residences.

There has been an active motor garage and service station at 2025 South Gippsland Highway, Clyde (on the corner Clyde-Five Ways Road and South Gippsland Highway) and currently trading as “7-Eleven Five Ways”. Sites associated with “mining and extractive industries” are summarised in Section 7.2.6.

Current title documents suggest the CFS and DM PSP area is still used for sand extraction (quarries), market gardens, flower nurseries, poultry farms, other agricultural farms, and rural residences. Current titles are shown in Figure 5 (Appendix A).

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## 6.4.2 Cultural Heritage

Lotsearch reported 45 sites of Cultural Heritage Sensitivity as specified in Division 3 of Part 2 in the Victorian Aboriginal Heritage Regulations 2018, within the dataset buffer. Site 23600 overlays most of the Devon Meadows PSP and overlays with land dune deposits (Qd1). Six other sites are with the PSP, and the others sit outside the PSP but within the 1,000m buffer of the dataset. These sites are 28438, 29201, 29552, 29290, 30215 and 30639. All sites identified by Lotsearch are shown in Figure 6-1 below.

**Cultural Heritage Sensitivity**  
Devon Road, Cranbourne East, VIC 3977



Figure 6-1: Areas of cultural heritage sensitivity in and surrounding the PSP area.

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## 7 Site characterisation

### 7.1 Site contamination assessment

The desktop study (Stage 1 assessment) was inconclusive and based on the findings of the desktop assessment the following properties listed in Appendix C recommended as the target of the site inspection.

A drive-over inspection of the Casey Fields South/Devon Meadows study area and surrounds was conducted by SMEC on 23 and 28 November 2022 between 8am and 5pm.

The fieldwork was conducted with consideration of the following EPA guidance and Environmental Reference standards:

- EPA Publication 1881 Guidance to field odour surveillance
- EPA Publication 1883 Guidance for Assessing odour (June 2022)
- EPA Publication 1961 Guideline for Assessing and Minimising Air Pollution in Victoria (Feb 2022)
- EPA Publication 1826.4 Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues
- EPA Publication 1518 Recommended separation distances for industrial residual air emissions
- Victorian Government Gazette Environmental reference standard.

#### 7.1.1 Visual inspections

SMEC conducted a drive-over tour on public roads through the CFS and DM PSP and undertook closer inspections on foot using public road reserves and public open spaces. Access to private properties was only undertaken by SMEC field staff with permission of owners/occupiers of properties.

Fifty-three sites within the CFS and DM PSP were assessed for odour, fume, gas/fuel/rubber smells, smoke, dust, steam, noise, vibration and other potential aesthetic impacts (e.g. litter). The weather conditions were also recorded. These observations and photos of the properties are summarised in Appendix C. Properties of interest were examined from roadways and publicly accessible areas.

##### 7.1.1.1 Agricultural land use

A significant portion of the land within and surrounding the CFS and DM PSP has been used for agricultural purposes, such as crops and grazing, for an extensive period. These agricultural activities have the potential to cause land contamination from metals, pesticides, herbicides, fungicides, nutrients, and biological contaminants.

Septic tanks can be fairly common on agricultural sites, however, it is difficult to identify underground tanks during a visual inspection. Leakages from these septic tank systems can release biological contaminants (pathogens) and nutrients.

General agricultural use and septic tank usage are considered to pose a 'low' to 'medium' contamination potential to a site and surrounding land. Contamination risk ratings for properties inspected within and surrounding the CFS and DM PSP are presented in Appendix D.

##### 7.1.1.2 Farm residences and associated buildings

Farm residences and associated buildings were observed at numerous sites within and surrounding the CFS and DM PSP area. These buildings were found to house operational and non-operational farm machinery, materials, vehicles, oils and lubricants for machinery maintenance, and agricultural chemicals such as herbicides, fungicides, chlorine, and pest bait. The most likely sources of contamination from these items are spillages of oils, lubricants, and agricultural chemicals onto the soil.

Several old, degraded farmhouses and sheds observed during the site inspections are considered potentially asbestos-containing. While undisturbed, asbestos poses a low risk to human health and the environment. During demolition works, sanding, and abrasion of asbestos-containing materials, the fibres can become suspended in the air.

### 7.1.1.3 Imported fill, fly-tipped waste and stockpiled material

Without undertaking intrusive investigations of the sites within and surrounding the CFS and DM PSP, it can be difficult to identify the presence of imported fill. Fill material is most commonly found in areas where construction and development works have been undertaken.

Surface waste suspected of being illegally dumped, as well as stockpiled material, was observed on several sites.

A map of the contamination potential of investigated sites is in Figure 3, Appendix A. Descriptions and further recommendations for site investigations are presented in Appendix D.

## 7.2 Geotechnical assessment

### 7.2.1 Regional Geology

With reference to the Geological Survey of Victoria's Cranbourne 1967 1:63,360 map sheet, shallow natural materials across the project site is expected to primarily consist of Quaternary siliceous sand dunes and sheets (Q2) in Section 1 South and Section 2 South West and Tertiary Baxter Sandstone (Tb) in Section 1 North, Section 2 North and Section 2 South East.

Silurian Sandstone (S) is expected to underly Q2 materials and surface towards the southwest side of Section 1 South. Quaternary Peaty Clays (Q5) may be encountered near-surface surrounding water courses that stretch north-west to south-east through Section 1 North, Section 2 North and Section 2 South East. Some Tertiary Older Volcanics (Tob) may be encountered on the north edge of Section 1 North.

Online interactive map resource GeoVic generally agrees with the Geological Survey of Victoria's Cranbourne map sheet showing inland dune deposits toward the south west of site and Red Bluff Sandstone (which includes Baxter Sandstone) on the north east side of site.

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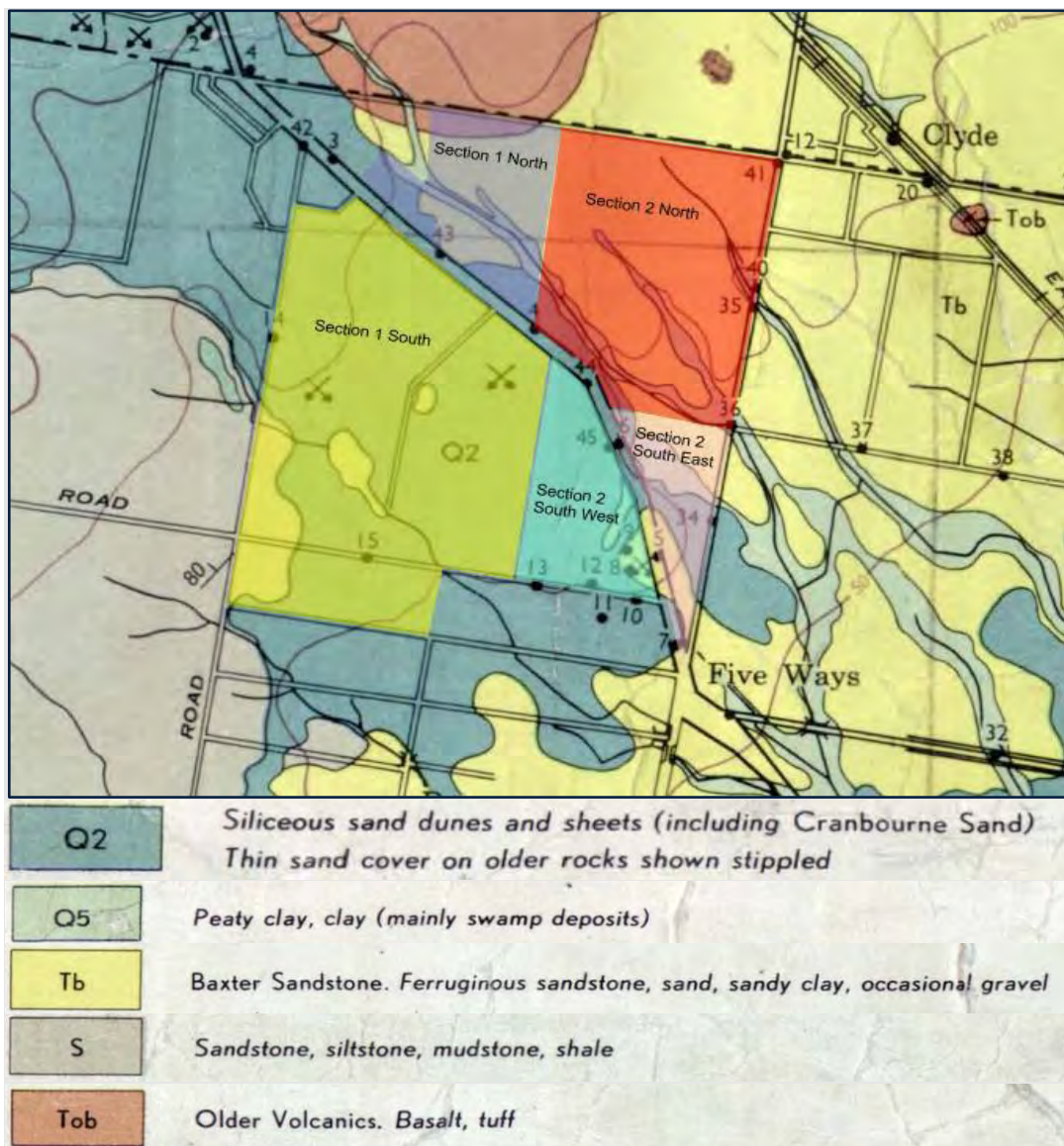


Figure 7-1: Extract of Geological Survey of Victoria, 1:63,360 Cranbourne map sheet, with approximate Section extents (not to scale)

## 7.2.2 Anticipated Characteristics of Subsurface Materials

### 7.2.2.1 Quaternary Deposits (Q2/Q5)

With reference to Victorian Resources Online, Port Phillip and Westernport Geology of the Region, the siliceous sand dunes and sheets (Q2) mainly consist of Cranbourne sand which can include cemented sands at a depth of about 1 m below the surface. Moderate to high permeability is expected for the sandy material, however, the cemented sand layer can impede the downward movement of water.

Peaty clay (Q5) is expected to underlie watercourses in isolated zones across the north-east of the site and is likely to comprise highly compressive, soft to firm material.

### 7.2.2.2 Baxter Sandstone (Tb)

Baxter Sandstone (Tb), more recently described as Baxter Formation by Thompson (Mines Dept Victoria, Geological Survey of Victoria, 'The geology and hydrogeology of the Western Port sunklands', 1974), generally comprises fine-grained clayey sands and sandy clays with lenses of coarser sand and fine gravels. This material overlies Older Volcanics (Tob), grading into thin layers towards the north of the site where Older Volcanics surfaces.

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### 7.2.2.3 Silurian Sandstone (S)

The Silurian Sandstone (S) consists of very deep (>500 m) claystone and clayey siltstone with minor beds of fine clayey sandstone. This rock underlies all other material on site and is probable to be of high to very high strength.

### 7.2.2.4 Older Volcanics (Tob)

Older Volcanics (Tob) material primarily comprises variably weathered basalt with large vesicles overlain by residual basaltic clays of high plasticity. The basalts are exposed at the surface as relatively isolated caps in and surrounding the site locality. Older Volcanics is expected to be encountered as thin intrusions below the Baxter Formation and above the Silurian Sandstone.

## 7.2.3 Publicly Accessible Boreholes

Some information on subsurface lithology is provided on Visualising Victoria's Groundwater (VVG) interactive website from previous boreholes completed on site. Results from these boreholes generally indicate a depth of 5-15 m from the ground surface to the top of basalt or sandstone rock, with overlying clays and sand.

## 7.2.4 Seismicity

AS1170.4 Figure 3.2 shows a Hazard Factor (Z) of 0.09 for the site area. Geotechnical investigations shall be completed before site sub-soil class can be assessed, however, based on desktop assessment and with reference to AS1170.4 Section 4.2, it is expected that a Class C<sub>e</sub> – Shallow Soil Site, or Class D<sub>e</sub> – Deep or soft soil site would be appropriate for the expected geology.

With reference to online earthquake database maintained by Geosciences Australia, the nearest earthquake epicentre recorded within the last 100 years was approximately 3 km to the north of site in Cranbourne East. The earthquake event occurred on 28<sup>th</sup> January, 1987 and had a magnitude of 1.1. 36 earthquakes were recorded within 20 km of site in the last 100 years, ranging in magnitude from 0.6 to 3.3.

## 7.2.5 Topography

Topographical maps provided by VicPlan interactive online website shows the surface slope grades down from the north-west corner of site to the south-east corner, with an approximate difference of 20 m between maximum and minimum elevations. Maximum gradient of slope is in the order of about 1V:50H across site, based on Google Earth Imagery. The surface is generally flat, with some localised peaks and depressions across site. The South Gippsland Highway forms the boundary between northern and southern sections of site and is typically at grade.

## 7.2.6 Historic Mine Use

Section 1 South in Cranbourne and Devon Meadows has historically been used for open cut sand quarries at locations that are now used as the Royal Botanic Gardens, Cranbourne and by Cartage Australia for the supply and transportation of quarry material. This type of mine use supports the evidence that quaternary sands are expected in the south-west section of site and has resulted in localised areas of surface depression and large ponding for current land use.

No records of shaft, other underground works or depth of sand quarries within the site have been identified.

**Table 7–1 Summary of former and current quarry and extractive processing sites**

Business name and site location	Status of site and excavation
Cartage Australia 35 Devon Road, Devon Meadows	Site has been backfilled and the nature of the fill material is unknown.
Metro Industrial Sands 40 Devon Road, Devon Meadows	Site has been backfilled and the nature of the fill material is unknown
Independent Sands, 55 Devon Road, Devon Meadows	The Site appears to be an operating site. It has has a water-filled quarry.

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Business name and site location	Status of site and excavation
Metro Industrial Sands and TGS Industrial Sands 60 Devon Road, Devon Meadows	Site has been backfilled and the nature of the fill material is unknown.
40W Craig Road, Devon Meadows	Site has been backfilled and the nature of the fill material is unknown. Site is vacant. The Site has a water-filled quarry. Recent aerials show a large algal bloom in the quarry.
42 -48 Craig Road, Devon Meadows	Site has been backfilled and the nature of the fill material is unknown. Recent aerial photos show the site to be used for storage containers. It looks to be a laydown area.
Owned by Melbourne Water Corporation 48W Craig Road, Devon Meadows	A portion of the site has been backfilled and the nature of the fill material is unknown. Potentially contaminated due to previous sand extraction (Frank Vella Sands Supply Site) and processing since the 1970's.

## 7.3 Hydrogeological assessment

The main aquifer in the PSP is the Baxter Sandstone which may be relatively permeable where coarse grained in nature and weathered; however, areas where clay content is high or it is ferruginised or silicified may reduce its permeability.

Visualising Victoria Groundwater (VVG) mapping indicates depth to groundwater across majority of the PSP is <5m, with portions of depth between 5-10m concentrated in the South of the PSP and areas of 10-20m depth in Section 2 North.

Groundwater flow directions are expected to follow topographic gradients which generally slope down from the north-west corner of site to the south-east corner of the site.

As indicated in Section 5.8.3, Terrestrial GDE have been identified within the PSP. No Aquatic GDE are recorded in the PSP. No subterranean GDE have been analysed in the PSP study area.

As indicated in Section 5.8.2, groundwater quality is likely brackish for most of the PSP.

Site-specific bores are shown on the Water Measurement Information System ([www. https://data.water.vic.gov.au/](https://data.water.vic.gov.au/)). These are largely stock and domestic bores few licensed extraction bores.

## 7.4 Hydrological assessment

The general topography of the site drains from north west to south east direction. The catchments are predominantly farming zone and low-density residential with low impervious areas producing runoff, except for areas towards the north and west where it consist of new and established residential developments.

The drainage lines are generally undefined and can be described as overland flow paths traversing roads, farmland and private low-density properties. Beginning from north to south, there are four catchments which discharge into the following drains;

- Casey Fields South Drain
- Wylies Drain Branch B
- Wylies Drain Branch F
- Wylies Drain Main Branch

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The various waterways stretch approximately 1 to 2 km from the north western boundary of the study boundary to the south eastern boundary of the PSP. The waterway slopes varies approximately 0.7% to 0.9% across the catchments.

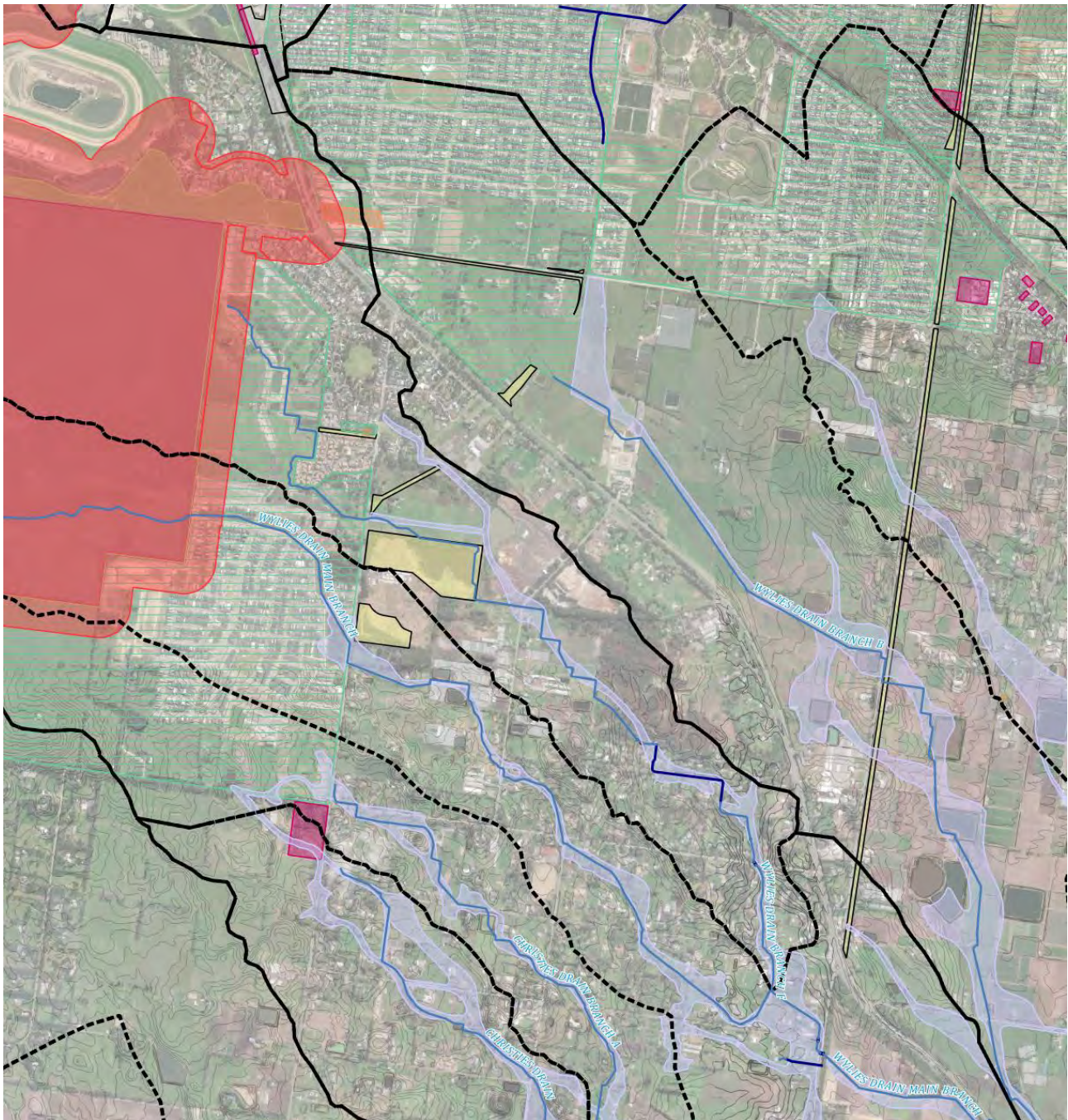


Figure 7-2 Surface water catchments (Created by SMEC)

The Planning Scheme Zone shows flood-related overlays across the site including Land Subject to Inundation overlay (LSIO) and Urban Floodway Zones (UFZ). These areas are shown in Figure 7-2 above. The zones and overlays indicate flooding will need to be considered and addressed in developing the site. There is limited surface flow data available in the area to be able to provide a good estimate of flooding in the 1 in 100 AEP event. SMEC is not aware of any flood modelling completed for the catchment. Based on the site topography, it is likely that breakaway flooding could be a feature in some of the sections of the drains during a large flood event.

Wyllies Drain Main Drain and Branch F, captures a large undeveloped catchment upstream. In the more frequent rain events, low flows are expected in the main channels. A number of private dams and offline storages are evident across the drainage lines presumably being used for farming purposes.

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## 7.5 Existing land uses with potential adverse amenity impacts

Adverse amenity can be described as locations which have the potential to negatively impact an area through environmental disruption via excess noise, negative visual impact, or degradation of air quality, among several others. For the purposes of this desktop investigation solely the impacts of adverse noise, visuals and air quality have been considered.

A review of the Lotsearch© report data and Google Earth visuals of the PSP and 1km boundary was conducted resulting in several points of interest. The property addresses and points of interest are summarised in Appendix B. The shortlisted properties summarised in Appendix B was used as a guide for the site inspections undertaken on 23 and 28 November 2022. The observations from the site inspections are discussed in Section 7.1.1 of this report and detailed in Appendix C.

### 7.5.1 Separation Distances

The land uses identified at the locations of interest were also assessed against Clause 53.10 *Uses and Activities with Potential Adverse Impacts* of the Casey Planning Scheme (Clause 53.10), EPA Publication 1518 *Recommendation Separation Distances for Industrial Residual Air Emissions* (EPA Publication 1518) and draft EPA Publication 1949 *Separation Distance Guideline* (EPA Publication 1949) which was recently released for public consultation on 7 December 2022. We note, it is proposed that EPA Publication 1949 replace EPA Publication 1518 once finalised.

**Clause 53.10** of the Casey Planning Scheme identifies *types of uses and activities, which if not appropriately designed and located, may cause offence or unacceptable risk to the neighbourhood*. This clause identifies threshold distances to sensitive land uses such as residential zones, childcare, hospitals and education facilities. Where the threshold distance is not met, or none is specified, the application for permit must be referred to the EPA under section 55 of the Planning and Environment Act 1987. The EPA will then assess the application for permit against its guidelines.

**EPA Publication 1518** provides advice on recommended separation distances between industrial land uses that emit odour or dust and sensitive land uses. A sensitive land use is defined in this guideline as “Any land uses which require a particular focus on protecting the beneficial uses of the air environment relating to human health and wellbeing, local amenity and aesthetic enjoyment, for example residential premises, childcare centres, pre-schools, primary schools, education centres or informal outdoor recreation sites.” This guideline has a table that contains a list of recommended minimum separation distances for various types of industries.

**Draft EPA Publication 1949** was recently released for public consultation on 7 December 2022. We have included this draft in our assessment of separation distances however it could be subject to further amendment before it is finalised in 2023. We understand that once finalised, this publication is likely to replace EPA Publication 1518 and will be referenced in the Victorian Planning Provisions.

The land uses within the PSP areas which are likely to require a threshold distance or separation distance are shown in Table 7-2 below. Refer also to Appendix A Figure 4 showing the separation distances.

Table 7-2: Land uses within the PSP with threshold or separation distances

Business	Type of Industry	Clause 53.10	EPA Publication 1518	Draft EPA Publication 1949
Aurora Construction Materials 1470 Ballarto Road	Appears to have concrete batching at the rear of the site	300m Concrete batching plant with a production rate exceeding 5000 tonnes per year	100m	No change proposed
Clear view commercial glass 1925 South Gippsland Highway	Manufacturing of glass products	500m	500m	No change proposed
LJ Kitchen 90 Clyde-Five Ways Road	Joinery	100m	n/a	n/a
South Gippsland Eggs 100 Devon Road	Egg Farm	n/a	Refer to Environmental Guidelines for the Australian Egg Industry, Australian Egg Corporation Limited, 2008	Egg Industry Environmental Guidelines – Edition II (2018)
D’Alberto Egg Farm 135 Devon Road	Egg Farm	n/a	Refer to Environmental Guidelines for the Australian Egg Industry, Australian Egg Corporation Limited, 2008	Egg Industry Environmental Guidelines – Edition II (2018)
Growing chickens Campbells Road	Free range poultry farm	n/a Clause 53.09 of Casey Planning Scheme	Refer to Practice Note 63, Department of Planning and Community Development, 2012	Planning and environment guideline for establishing meat chicken farms (Guide 1 – Assessment guide) (2021)  Use EPA publication 1883 to assess special classes and farm cluster

## Farming

There are a number of farms within the Devon Meadows and Casey Fields PSP areas. A new industry has been introduced in EPA Publication 1949 which is aimed to account for the use of compost, manures, biosolids etc at market gardens or farms with a proposed separation distance of 500m. We note should this industry be introduced

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into EPA Publication 1949 when finalised, a 500m separation distance is likely to be recommended for any farms within the PSP areas using compost, manures or biosolids.

### 7.5.1.1 Environmental Guidelines for the Australian Egg Industry

The Environmental Guidelines for the Australian Egg Industry were prepared by FSA consulting in 2008. This guideline details the development, design and management options to assist the egg industry with planning and environmental sustainability issues. The sectors of the industry covered by the guidelines include hatcheries, pullet rearing facilities, egg production facilities (cage, free range and barn), grading floors and egg product manufacturing.

Section 4.4 of the Environmental Guidelines for the Australia Egg Industry outlines the recommended separation distances from egg facilities. It states:

*In lieu of any specified by state and local government departments and agencies separation distance requirements, the following recommended separation distances are suggested:*

- *Provide at least 500 metres between the impact source and any land use zone that is not compatible with the development (e.g. residential, rural residential).*
- *Provide at least 250 metres separation distance between the impact source and any sensitive land use (neighbouring house) that is located on land that is compatible with the development (e.g on land designated rural, farming or similar). Where a lot is identified as having potential for an 'as of right' dwelling the separation distance should be calculated to the centre line of the vacant lot.*
- *Provide at least 100 metres separation distance between the impact source and the property boundary where the adjoining boundary is land that is compatible with the development (e.g. rural, farming or similar);*
- *Provide at least 100 metres separation distance between the impact source and a public road that carries more than 50 vehicles per day that are not associated with the development.*
- *Provide at least 50 metres separation distance between the impact source and a public road that carries less than 50 vehicles per day not associated with the development.*

### 7.5.2 Clause 53.09 Poultry Farm

The purpose of Clause 53.09 is to *facilitate the establishment and expansion of poultry farms, including broiler farms, in a manner that is consistent with orderly and proper planning and the protection of the environment.*

This Clause includes a table with minimum setbacks from sensitive uses. See Figure 7-3 below.

**Table 1 Minimum setbacks**

Chicken numbers	Minimum distance to a building used for a sensitive use (accommodation, child care centre, education centre and hospital)	Minimum distance to land in a residential zone
1,000 chickens or less	50 metres	200 metres
More than 1,000 chickens	100 metres	400 metres

Figure 7-3: Minimum Setback from Clause 53.09 of Casey Planning Scheme

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Any planning for future uses within the Devon Meadows and Casey Fields PSP areas should have regard to these minimum setbacks from poultry farms.

### 7.5.3 Existing noise environment

During the site inspections, field staff recorded observations about noise levels. The observations recorded were subjective, not quantitative. These observations are summarised in Appendix C.

In summary, the South Gippsland Highway and main roads were reported to have moderate to loud traffic noise. Commercial enterprises along Devon Road were reported to have low to moderate noise levels associated with machinery, vehicles and processes at these sites.

- Loud to moderate traffic noise was reported along South Gippsland Highway at twelve sites inspected along the highway at various times of day between 8:00 – 5:00pm and on different days.
- Moderate traffic noise was reported along Clyde-Five Ways Road in Clyde at eight sites inspected along the road. Noise levels varied with traffic volumes at different times of the day.
- Low to moderate noise associated with machinery, vehicles and processes at these sites was reported at commercial sites along Devon Road in Devon Meadows at six sites.
- Loud to moderate traffic noise was reported at mid-morning (approx. 11:00am) on Craig Road in Devon Meadows at two sites.
- Loud to moderate traffic noise was reported on Fisheries Road, at two sites inspected on that road in the early afternoon (1:30 -2:30 pm).
- Loud to moderate traffic noise was reported on Ballarto Road at two sites.

### 7.5.4 Existing air environment

The major sources of air emissions in the Casey Fields South and Devon Meadows PSP area include the industrial and commercial activities and vehicles using the road network. During the site inspection, observations of visible dust and odour were recorded along with corresponding meteorological conditions.

For the odour observations, a record of the odour intensity, character and odour presence was made following the guidance in the VicEPA Odour Guidance (Publication 1881). It should be noted that the staff conducting the site inspection do not have calibrated noses and therefore the odour records are indicative.

The following sections provide a summary of odour and dust sources observed during the site inspection in the PSP area. A full list of observations from the site inspections is provided in Appendix C.

#### 7.5.4.1 Odour

Odour was observed during the site visit at 25 of the 53 locations that were surveyed, as detailed in Table 7-3 below. 17 of the locations were related to specific businesses including:

- Flower Farms / Nurseries
- Poultry Farms
- Construction Materials

Odour intensities were mainly faint/subtle but some moderate to strong odours were observed. Odour character included organic, sulphuric, cement, hydrocarbon, fertiliser, paint, sweet fertiliser, hay/farm and manure. The odour characters observed are typical of rural farming activities. Odour presence included some transient odours detected on the wind but also frequent odours.

**Table 7-3: Summary of site inspection odour observations**

Site Address	Business Name	Odour Observation
16 Railway Road, Clyde	LMF Transport PTY LTD	A transient, subtle sulphuric odour was observed on the breeze
1360 Ballarto Road, Clyde	Buncha Flowers	A faint organic odour was observed

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Site Address	Business Name	Odour Observation
1470 Ballarto Road, Clyde	Aurora Construction Materials ACM Clyde	A subtle cement odour was observed
1490 Ballarto Road, Clyde	n/a	A garbage-like, slightly sulphuric odour was observed on the breeze, slightly sulphuric smelling
		A subtle cement odour was observed
1591 South Gippsland Highway, Clyde	n/a	A frequent petrol exhaust odour was observed from vehicles on South Gippsland Highway
1780 South Gippsland Highway, Devon Meadows	n/a	A frequent fertiliser-like odour (possibly from active earthworks) was observed
165 Clyde-Five Ways Road, Clyde	n/a	A subtle paint-like odour was observed in the farm shed.
215 Clyde-Five Ways Road, Clyde	n/a	A subtle hay/organic odour was observed.
235 Clyde-Five Ways Road, Clyde	n/a	A frequent hay-like odour was observed.
245 Clyde-Five Ways Road, Clyde	n/a	A frequent organic odour was observed near the greenhouses.
17 Finsbury Road, Devon Meadows	PJ Communications PTY LTD	A subtle, frequent organic odour was observed.
105 Devon Road, Devon Meadows	J & E Wholesale Flowers	A frequent odour of sweet fertiliser was noted on the breeze.
85 Devon Road, Devon Meadows	J & Y Healey PTY	A subtle organic odour was noted onsite.
100 Devon Road, Devon Meadows	South Gippsland Eggs	A subtle farm/hay odour was noted.
135 Devon Road, Devon Meadows	D'Alberto Egg Farm	A subtle hay/farm odour was noted.
60 Devon Road, Devon Meadows	Metro Industrial Sands and TGS Industrial Sands	A moderate-strong organic/fertiliser/manure odour was observed.
85 Clyde – Five Ways Road	Bashkimi Flowers	A faint fertiliser odour was observed on the breeze
71 Fisheries Road, Devon Meadows	Corrigan L&M	A frequent organic manure-like odour was observed.
75 Fisheries Road, Devon Meadows	B&E Flowers	Faint odours of exhaust fumes and an organic odour were observed.
34 Bakers Road, Clyde	Caseys Top Catz Boarding Cattery	A frequent manure odour was observed near the farm next door.
50 Campbells Road, Clyde	Growing Chickens	Frequent organic compost/fertiliser/soil-like odours were observed
30 Clyde Five-Ways Road, Clyde	Fresh Leaf Farms Limited	A faint truck exhaust odour was observed outdoors.
110 Campbells Road, Clyde	Plantex Nursery	A frequent odour of cut grass was observed onsite, and a strong organic odour was observed near to wet ground.
South Gippsland Highway	n/a	A subtle odour of petrol exhaust and car fumes was observed
109-111 Craig Road, Devon Meadows	Limnos Poultry	A frequent hay/organic odour and raw chicken odour were observed.

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### 7.5.4.2 Dust

Dust was observed during the site visit at 4 of the 53 locations that were surveyed, as detailed in Table 7-4. All observations of dust related to vehicles travelling over unpaved surfaces (gravel roads).

**Table 7-4: Summary of site inspection dust observations**

Site Address	Business Name	Odour Observation
1360 Ballarto Road, Clyde	Buncha Flowers	Vehicle traffic on Ballarto Road outside the property was observed to suspend dust from the gravel surface
1470 Ballarto Road, Clyde	Aurora Construction Materials ACM Clyde	Dust was observed at the site entrance, from traffic on the gravel ground
1591 South Gippsland Highway, Clyde	n/a	Vehicles on the gravel road adjacent the property were observed to suspend dust when driving over the gravel
40 Moores Road, Clyde	Crop Wise Fertilisers Pty	Dust was observed, suspended from vehicles driving on the gravel road (Moores Road).

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## 8 Development Opportunities and Constraints

### 8.1 Land contamination

The contamination potential assigned to properties (see Appendix D) is derived from the 'land uses with potential to contaminate land' presented in Table 2 of Planning Practice Note 30 (PPN30) (DELWP, 2021). In the PPN30, properties are categorised as either 'high potential for contamination', 'medium potential for contamination', or not potentially contaminated. In this assessment, properties at which potentially contaminating land uses were not identified have been assigned a 'low' potential for contamination. For the purposes of aligning with the PPN30, properties assigned 'low' potential for contamination may be considered 'not potentially contaminated'.

Contamination potential was determined based on SMEC's desktop review of available data (see Section 3.1) and selective property inspections. It is possible that some potentially contaminating land uses were not detected due to limitations in the available data and scope of the property inspections.

The following contamination issues should be considered in the planning and development of the Devon Meadows and Casey Fields South PSP:

- Several areas have been identified as having 'high' or 'medium' potential for contamination of land (refer to Appendix D). These properties require further assessment to determine the extent and nature of the contamination (if any).
  - Those sites that have been identified as posing a 'medium' potential for contamination of land should be assessed through a Preliminary Risk Screening Assessment (PRSA) to determine whether an Environmental Audit is required.
  - Those sites that have been identified as posing a 'high' potential for contamination of land should proceed to Environmental Audit if a new land use is proposed. If the land use will not be changed, a PRSA option applies.
- Conducting the PRSA and/or Environmental Audits as part of the planning stages for the Devon Meadows/Casey Fields South PSP rezoning may be considered a constraint due to time and costs required to complete these assessments. Through the application of an Environmental Audit Overlay (EAO), it is considered acceptable to defer the PRSA and/or Environmental Audits until after the planning scheme amendment.
- Discrete or localised areas of contamination identified in the desktop review and site inspections can be managed or remediated during the site development process (unless PRSA/Environmental Audit establishes otherwise). These management activities can be controlled through the preparation of a Construction Environmental Management Plan (CEMP) with the inclusion of an unexpected finds protocol.
  - Small stockpiles of material/equipment and surface waste observed at several properties may require disposal under the future land use scenario. In this case, they should be disposed of at a suitably licenced facility as part of future site development activities.

### 8.2 Geotechnical

Geotechnical investigations are recommended to be completed to inform the design and construction stages of the project, and shall adhere to AS1726-2017.

Desktop study assessments have indicated that the site is underlain by clays, sands and silts of variable thickness, which are underlain by sandstone, mudstone and basalt. Design of any pile foundations/shallow footings should consider soil thickness, compressibility, consolidation, expansive characteristics and high variability of rock weathering and strength expected on this site.

Groundwater is expected at shallow depths (<5m) across a majority of the project site. Pumps or sumps may be required for excavation works to lower the likelihood of constructability issues. Disposal of groundwater will need to be controlled and monitored as desktop assessments indicate moderate to high salinity levels.

Due to a high likelihood of encountering loose to medium dense sands and soft to firm clays at surface, safe batter angles for cut slopes will likely be shallow in some areas across site and may require strict benching/battering or ground improvement.

Ground improvement may be required for extensive fill, topsoil or soft to firm clays, particularly within Quaternary Peaty Clay (Q5) material which is expected to be encountered along water courses on the north side of the site.

Quaternary/Baxter formation sands are expected to underlie a majority of the site at shallow depths. Cemented sand layers may be present at shallow depths within this geology which can impede excavation progress and may limit water permeability, leading to potential requirements for subsurface drainage.

Older volcanics basalt may have highly variable weathering characteristics and can result in basalt boulders, or 'floaters', that are surrounded by residual clay material above top of rock level. This may increase the likelihood of misrepresentation of top of rock level during geotechnical investigations and design, and can lead to instances of over-excavation and structural fill replacement during construction stages.

High plasticity clays from Older Volcanics, and potentially from Quaternary soils, may lead to trafficability issues on site when exposed to moisture at surface (i.e. vehicle bogging).

Sands and non-expansive clays expected to be encountered within Quaternary and Baxter Sandstone geologies may be re-used for structural fill, depending on the type of use and material grading, plasticity and aggressivity characteristics of the soil.

There is a possibility that issues relating to settlement may occur on future structures which would be dependent on the following:

- Scale of nearby existing or historic open-cut mines
- Susceptibility of subsurface material to settlement
- Scale and sensitivity of proposed structure
- Any long-term or permanent dewatering for development excavations

Further site inspections, geotechnical investigations and design developments are required to determine the need for settlement gauges on significant infrastructure.

## 8.3 Hydrogeology

As indicated in Section 7.3, the groundwater is expected to be found at shallow depths in the PSP. As such, special consideration and allowance for groundwater control measures in the design requirements may be required as described in Section 8.2 during the development of the site. Groundwater monitoring bores should be considered before development occurs to confirm the depth of the groundwater so that a better understanding of groundwater conditions is developed and learnings incorporated into the development design.

As indicated in Section 5.8.3, Terrestrial GDE have been identified within the PSP. Further investigation would be required to better determine the nature and extent of the Terrestrial GDEs which may require special consideration in the development of the site. Groundwater monitoring should be considered particularly if significant dewatering or extraction is expected during development which may impact the GDEs.

As indicated in Section 5.8.2, groundwater quality is likely brackish for most of the PSP. As such, dewatering or extraction is required, particularly for the consideration of the disposal of water. Additionally, if there are any plans to use the groundwater for irrigation of parks and gardens then site-specific groundwater quality testing and analysis is recommended. Similarly, if any infrastructure is to be placed below the water table then an understanding of groundwater quality and its aggressivity to infrastructure should be made.

## 8.4 Hydrology

Melbourne Water is the drainage authority responsible for the waterways and floodplains in the area. The various drainage lines indicated in the Land Subject to Inundation and Floodway Overlays are known as Wylies Drain and associated branches. The drains eventually converge prior to discharging into Western Port Bay.

Melbourne Water currently does not have an active Drainage Scheme (also known as Development Services Scheme) covering the area which provides drainage and stormwater quality infrastructure masterplan to manage development

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runoff. It would be expected that a Drainage Scheme would be developed by Melbourne Water as part of any development planning of the catchment.

## **8.5 Adverse amenity**

### **8.5.1 Air quality**

Whilst air quality in rural environments is generally good and below the acceptable limits, there is the potential for amenity impacts to occur as a result of the existing activities in the Casey Fields South and Devon Meadows PSP areas, including odour and dust.

In particular, the Flower Farms / Nurseries and Poultry Farms in the area have the potential to generate offsite odours that could impact sensitive land uses if encroachment were to occur. This would constrain the operations of these businesses

Some construction material wholesale operations that were also shown to generate odours. Whilst not specifically observed, these operations also have the potential to generate dust from the handling and storage (stockpiling) of materials.

### **8.5.2 Noise**

Loud traffic noise can be tolerable in open, rural areas and industrial/commercial zones, but there is potential for amenity impacts if land use changes in the future precinct development, for example to residential. Traffic noise along South Gippsland Highway was of particular note. Noise monitoring along the South Gippsland Highway and other major roads (Ballarto Road, Clyde-Five Ways Road, Craig Road, and Fisheries Road) would inform future planning decisions, plans and designs.

## 9 Conclusions

### 9.1 Contamination

Based on the information gathered during the Stage 1 and Stage 2 assessments, the following conclusions can be made in relation to the Casey Fields South and Devon Meadows PSP:

- The desktop assessment found that the PSP has had mixed uses over its history, including:
  - sand extraction (quarries) along Devon Road (35 – 60) and Craig Road (40W-48W).
  - market gardens and flower nurseries,
  - poultry farms,
  - other agricultural farms, and
  - rural residences.
- Based on the visual inspections and desktop assessment conducted, properties can be classified as follows:
  - A total of twenty-one properties were assessed as presenting a high potential for contamination due to current and/or former activities. These activities include but are not limited to sewage treatment, service stations, flower growing, and quarrying.
  - A total of forty-one properties were assessed as presenting a medium potential for contamination due to current and/or former activities. These activities include but are not limited to egg farming, scrap metal recovery, and agriculture.
  - A total of six properties were assessed as presenting a low potential for contamination due to current and/or former activities, where 'low' potential for contamination may be considered 'not potentially contaminated' (see Section 8.1). These activities include residential use and roadways.

### 9.2 Geotechnical

Based on desktop study assessments, the following subsurface materials are expected to be encountered on site:

- **Quaternary Siliceous Sand Dunes and Sheets (Q2)** – in parts across entire site, primarily in Section 1 South and Section 2 South West.
- **Baxter Sandstone (Tb)** – in parts across entire site, primarily in Section 1 North, Section 2 North and Section 2 South East.
- **Quaternary Peaty Clay (Q5)** – localised to water courses in Section 1 North, Section 2 North and Section 2 South East.
- **Older Volcanics (Tob)** – Surfacing on north side of Section 1 North and underlying Baxter Sandstone (Tb).
- **Silurian Sandstone (S)** – Surfacing on west side of Section 1 South and underlying all other materials on site.

Desktop assessments have identified the following key geotechnical implications for the proposed project site:

- Ground improvement may be required in areas of excessive topsoil, fill and/or soft to firm clays, particularly in Quaternary Peaty Clay (Q5) material
- Cemented sand is expected to be encountered within Q2 material, potentially impeding excavation progress and site drainage
- High likelihood of variable top of rock levels and rock weathering characteristics due to presence of Older Volcanics basalt and geological complexity from varying geologies across site
- Potential trafficability issues with exposure of surficial high plasticity clays of Older Volcanics and Quaternary origin to moisture
- Potential excavatability issues with shallow rock and basalt 'floaters' requiring over-excavation and replacement with structural fill



- Sands and non-expansive clays expected to be encountered within Quaternary and Baxter Sandstone geologies may be re-used as structural fill, depending on material characteristics and type of use
- Settlement of future infrastructure due to nearby historic mine use, subsurface material susceptibility to settlement, scale and sensitivity of proposed structure and any long term or permanent dewatering for development excavations.

Further geotechnical site investigations are required for future design and construction stages. These investigations should include a combination of boreholes and test pits to assess subsurface layering, top of rock level, material properties, groundwater levels and aggressivity conditions. It is recommended that preliminary investigations would primarily involve test pit excavations, but deeper borehole investigations, in combination with Cone Penetration Tests if deemed necessary, should be completed for any deep foundations or retaining structures.

### 9.3 Sodic Soils

There is potential risk of soil erosion and sediment pollution if sodic soils (where present) are exposed, stockpiled and where water from sodic soil runoff, excavations or ponding on surface is allowed to drain offsite in an uncontrolled manner. Urban development and construction involving ground disturbance, and vegetation removal, can expose sodic/dispersive soils to water and wind erosion. If underlying clays are exposed during works, these soils will require careful management to prevent sediment pollution loads in runoff and drainage to local drainage lines.

Erosion and sediment pollution risks are able to be routinely managed by the construction industry, and the best practice measures are well documented in industry and EPA guidance. Any soil profiles identified in the study area having clay in topsoil or subsoil should be assumed as having some sodic / dispersion risk that should be appropriately managed by the developer at time of making planning and development applications to Council. The developer should demonstrate management of construction sites in accord with Industry Sediment and Pollution control codes (eg. IECA Best Practice Erosion and Sediment Control Guidance, and VPA's Engineering Design and Construction Manual for subdivision in Growth Areas - Addendum 19-01 Sodic and Dispersive Soils (currently in Draft)), and EPA Victoria Guidance including EPA Construction techniques for sediment pollution control (Pub 275) including development of ESC Plans as part of CEMPs.

### 9.4 Hydrogeology

Based on desktop study assessments, the following is expected to be encountered on site:

- Groundwater is expected to be encountered at shallow depths in parts of the site.
- Groundwater quality is expected to be brackish across most of the site.
- Terrestrial GDEs have been identified.

Installation of groundwater monitoring bores should be considered to better understand the depth to groundwater and water quality so as to inform future design and construction stages. Bore installation could be combined with geotechnical or any contaminated land investigation drilling to provide cost efficiencies.

Inspections of identified terrestrial GDEs by an ecologist should occur to assess impacts that may occur from development and any mitigation measures that may be required. Monitoring of depth to groundwater near significant terrestrial GDEs may be required to assess impacts that may occur from development and any mitigation measures that may be required.

### 9.5 Hydrology

The PSP covers four subcatchments and contains four waterways known as Wylies Drain and associated branches. The study area receives rainfall between 750mm – 850 mm annually. Parts of the catchment upstream contains established and new residential developments, whilst the downstream areas are predominantly farming and low density land uses. The various waterways are expected to flood during larger rain events as indicated in the LSIO and Urban Flood Zone which traverses across multiple property boundaries. It is currently not known if there has been further flood studies completed for the various waterways.

Melbourne Water currently does not have an active Development Services Scheme (DSS) covering the study area which is a drainage and stormwater quality infrastructure masterplan to appropriately manage runoff from new

development. It would be expected that a DSS would be developed by Melbourne Water as part of any development planning of the catchment.

## 9.6 Adverse amenity

### 9.6.1 Air quality

The site inspection of the Casey Fields South and Devon Meadows PSP area observed offsite odours and visible dust at a number of locations. Odours were observed in proximity to the numerous industrial activities within the PSP area including Flower Farms / Nurseries, Poultry Farms and Construction Material Wholesalers. Dust was observed from vehicles using unsealed roads.

It is recommended that prior to any land-use planning changes or upgrades, a detailed assessment of buffer zones is conducted using the VicEPA Separation Distance Guideline (Publication 1949). The detailed assessment would establish suitable separation between existing activities and zones where development could occur.

### 9.6.2 Noise

The existing noise environment:

- The South Gippsland Highway and main roads (Ballarto Road, Clyde-Five Ways Road, Craig Road, and Fisheries Road) were reported to have moderate to loud traffic noise.
- Commercial enterprises along Devon Road were reported to have low to moderate noise levels associated with machinery, vehicles and processes at these sites.

The noise observations recorded during site inspections on 23 and 28 November 2022 were subjective, not quantitative. Noise monitoring would be required to quantify noise levels along the highway and major roads to evaluate adverse amenity against Australian Standards for any proposed changes to land use and to inform future planning decisions.

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**Report**

Casey Fields South and Devon Meadows PSP Land Capability  
Assessment  
Prepared for Victorian Planning Authority

Client Reference No. A0580 and A2200  
SMEC Internal Ref. 30049113  
30 July 2024

## 10 Recommendations

The following further works are recommended:

### Contaminated Land

1. Completion of Preliminary Risk Screening Assessments (PRSAs) at all properties identified as posing a 'medium' potential for contamination and a proposed sensitive use. This recommendation applies to forty-one properties assessed as part of this investigation. These PRSAs will determine whether an Environmental Audit is required and should be undertaken during planning stages. However, through the application of an Environmental Audit Overlay (EAO), it is considered acceptable to defer the PRSA and/or Environmental Audits until after the planning scheme amendment.
2. Application of an Environmental Audit Overlay (EAO) to the twenty-one properties identified as posing a 'high' potential for contamination and a proposed sensitive use. The application of an EAO recognises the requirement of an Environmental Audit if the site is to be used for a sensitive use such as residential, schools and community centres. If time constraints do not allow an Environmental Audit to be undertaken during planning stages, the audit can be conducted after the planning scheme amendment.
3. Completion of a hazardous materials assessment for existing properties to assess for asbestos-containing materials and lead-based paints. If these hazardous materials are found to be present, controls should be put in place during construction and demolition works to prevent exposure to works and future users of the site. It is recommended that the hazardous materials assessments are scheduled as soon as possible.
4. Removal of underground storage tanks (USTs) on a site-by-site basis during future site development. The USTs should be removed prior to construction works at the site.
5. Removal of septic tanks on a site-by-site basis during future site development, followed by soil validation. Intrusive groundwater investigation should be considered if impacts to groundwater are likely.
6. Classification and removal (if required) of stockpiles and dumped surface waste observed at sites across the PSP areas (see Appendix C for inspection findings), on a site-by-site basis during future site development.

### Geotechnical

7. Geotechnical investigation on a site-by-site basis, including a combination of boreholes and test pits to assess subsurface layering, top of rock level, material properties, groundwater levels and aggressivity conditions. Preliminary investigations should primarily involve test pit excavations, but deeper borehole investigations should be completed for any deep foundations or retaining structures. Geotechnical site investigation works should be carried out as early as feasibly practical in the design process to enable currently unknown geotechnical risks to be identified and mitigated within the design. The scope of the geotechnical investigation in terms of location, depth, frequency and method of excavation works will be guided by the intended works, (size of structures, presence of cut or fill earthworks, location and depth of infrastructure). A geotechnical investigation following concept design is therefore recommended.

### Hydrogeology

8. Installation of groundwater monitoring bores should be considered to better understand the depth to groundwater and water quality so as to inform future design and construction stages.
9. Inspections of identified terrestrial GDEs by an ecologist, on a site-by-site basis. This should be undertaken during the design stage to better understand depth to groundwater and water quality.
10. Monitoring of existing groundwater bores to confirm groundwater conditions based on the risk of the proposed land use affecting groundwater or impacts of groundwater on below-ground infrastructure.
11. Due to the brackish nature of the groundwater in the PSP, it may require careful monitoring if dewatering or extraction is required during construction works within the PSP, particularly for the consideration of the disposal of water.

### Sodic and Dispersive Soils

12. All land developers should be required to further investigate and identify potential existence of sodic and dispersive soils to assess vulnerability for erosion if exposed or disturbed.

#### Report

Casey Fields South and Devon Meadows PSP Land Capability  
Assessment  
Prepared for Victorian Planning Authority

Client Reference No. A0580 and A2200  
SMEC Internal Ref. 30049113  
30 July 2024

13. Any soil profiles with clay in topsoil or subsoil identified in the study area should be assumed as having some sodic / dispersion risk that should be managed by the developer at time of making development applications to council.
14. The developer should demonstrate appropriate management of construction sites in accord with Industry Sediment and Pollution control codes (eg. IECA Best Practice Erosion and Sediment Control Guidance, and VPA's Engineering Design and Construction Manual for subdivision in Growth Areas - Addendum 19-01 Sodic and Dispersive Soils (currently in Draft)), and EPA Victoria Guidance including EPA Construction techniques for sediment pollution control (Pub 275) including development of ESC Plans as part of CEMPs.
15. ESC plans should identify effective procedures to stabilise the soils, including options such as chemical treatment of soils, careful staging of works to minimise sodic soil exposure to rainfall and overland flows, and installation of sediment collection works (sily fences, mulch berms, sediment ponds, filter dams, grass filter strips, etc etc) as recommended in industry and EPA guidance.

#### **Geomorphology and Hydrology**

16. Geomorphological assessment of waterways to assess their current condition and likely impacts from hydrology and hydraulics in future development. This task should be undertaken as part of the planning stage of works.

#### **Adverse amenity - Noise**

17. Noise monitoring is recommended along South Gippsland Highway to quantify noise levels, determine any buffer requirements, and inform planning decisions for the PSP. This should be undertaken as part of the planning stage of works.
18. Consideration to undertake noise monitoring along other major roads in the CSF and DM PSP area (Ballarto Road, Clyde-Five Ways Road, Craig Road, and Fisheries Road) to inform precinct planning. This should be undertaken as part of the planning stage of works.

# 11 References

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Visualising Victoria Groundwater, ([Visualising Victoria's Groundwater \(vvg.org.au\)](#))



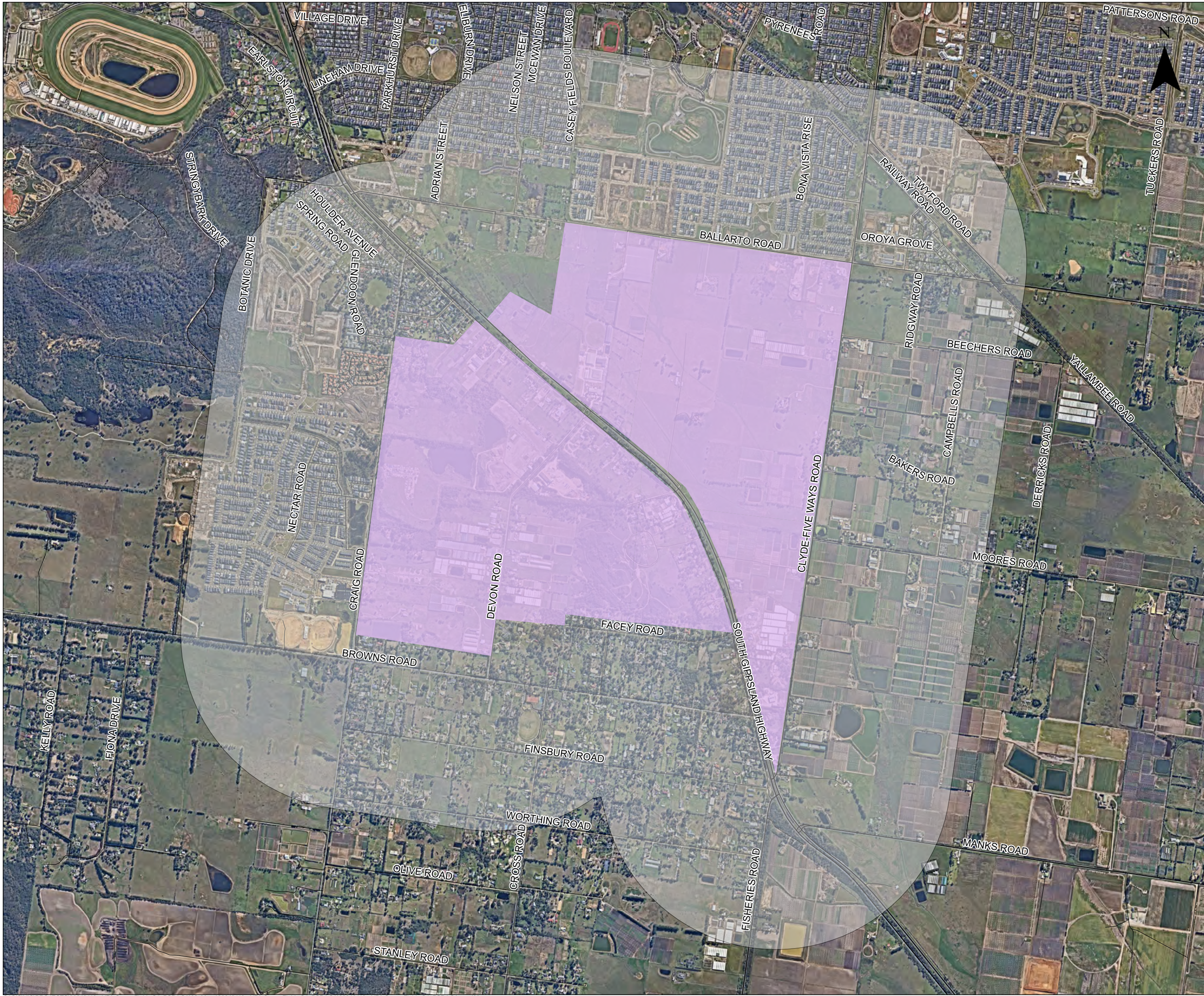
## Appendix A – Figures

**Report**

Casey Fields South and Devon Meadows PSP Land Capability  
Assessment  
Prepared for Victorian Planning Authority

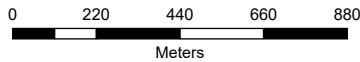
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Scale: 1:19,873 @ A3  
GDA2020 MGA Zone 55

#### LEGEND

- Site Boundary
- 1km Buffer

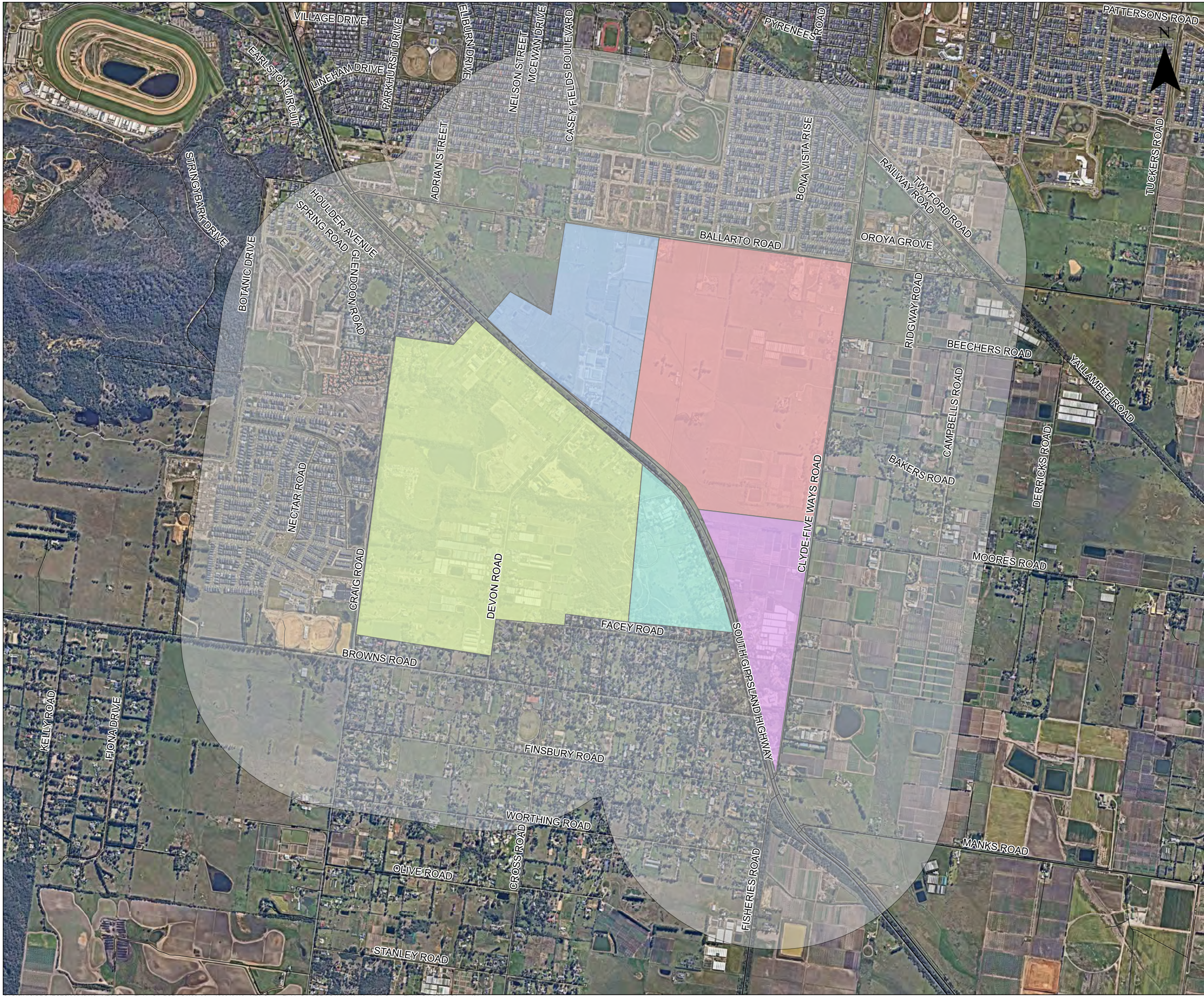
#### KEY MAP




**SOURCES:**  
1. Roads and Waterways © DELWP 2022  
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World Light Gray Canvas Base: Esri, HERE, Garmin, USGS  
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**PROJECT:** VPA Casey Fields Sth PSP LCA  
**PROJECT NO:** 30049113  
**FIGURE NO:** 1  
**FIGURE TITLE:** Site Boundary  
**CREATED BY:** JZ15939  
**DATE:** 28/09/2022  
**VERSION:** 1







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Meters

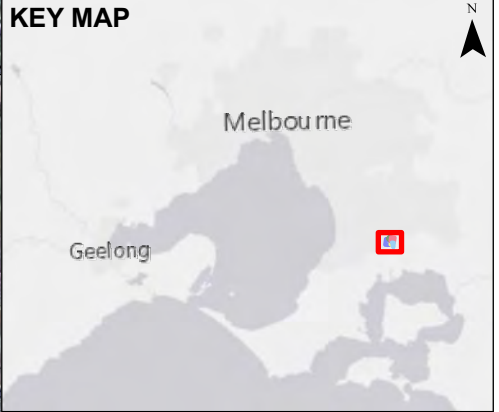
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GDA2020 MGA Zone 55

**LEGEND**

**Area Sections**

- Section 1 North
- Section 1 South
- Section 2 North
- Section 2 South East
- Section 2 South West
- 1km Buffer

**KEY MAP**



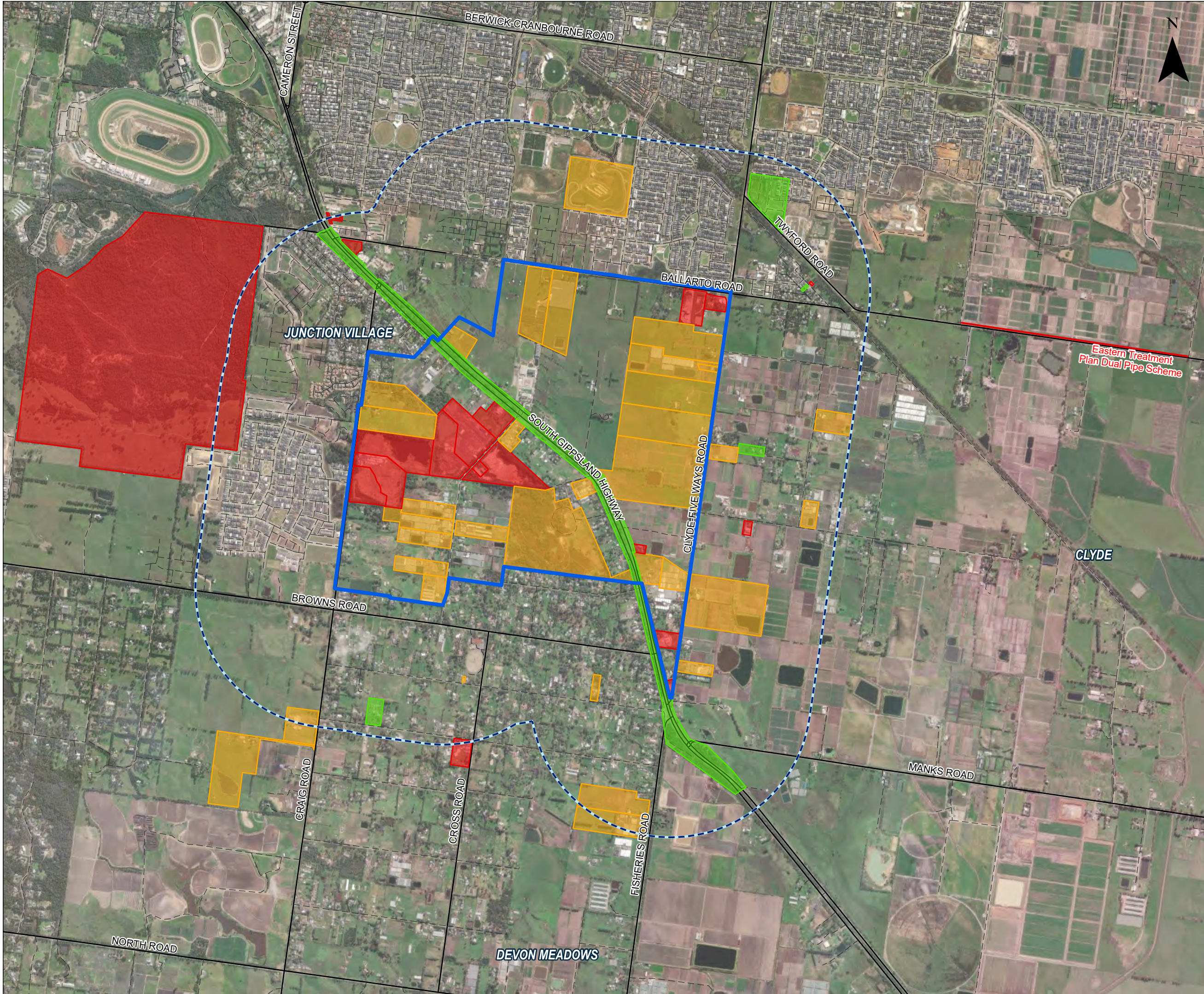
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**PROJECT:** VPA Casey Fields Sth PSP LCA  
**PROJECT NO:** 30049113  
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**FIGURE TITLE:** Site Boundary  
**CREATED BY:** JZ15939  
**DATE:** 28/09/2022  
**VERSION:** 1





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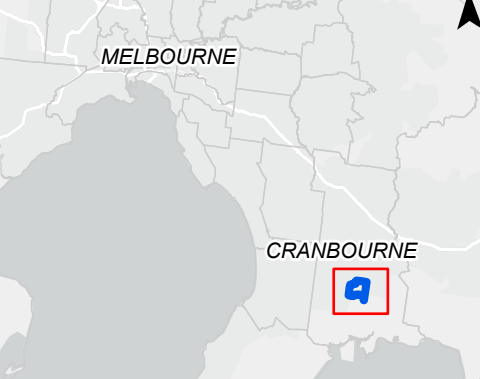
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GDA2020 MGA Zone 55

LEGEND

- Major road
- Minor road
- Casey Fields and Devon Meadows PSP area
- 1km buffer
- Potential for Contamination
  - High risk
  - Medium risk
  - Low risk

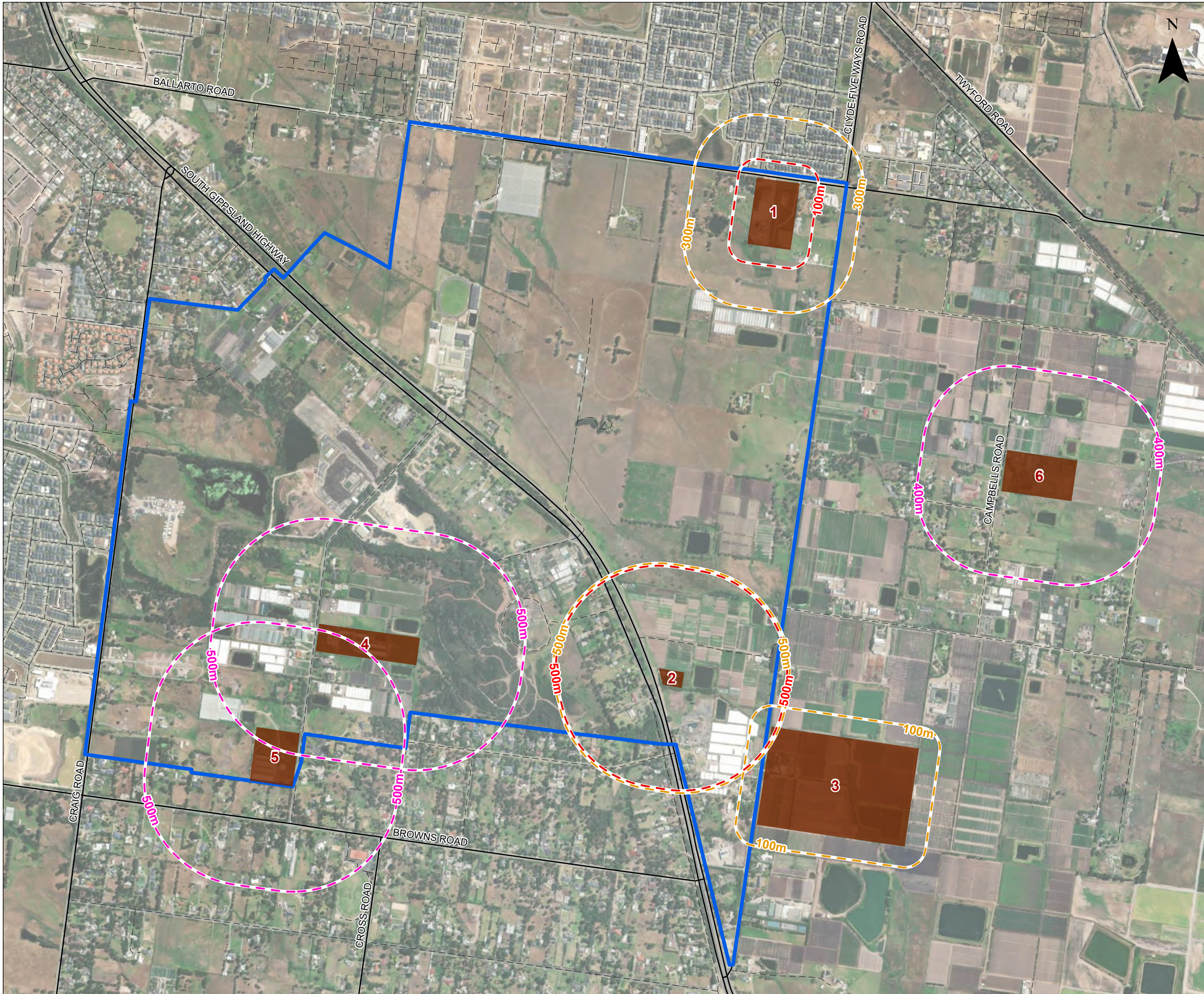
KEY MAP




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**PROJECT:** Casey Fields and Devon Meadows PSP  
**PROJECT NO:** 30049113  
**FIGURE NO:** 3  
**FIGURE TITLE:** Potential for Contamination  
**CREATED BY:** AP15941  
**DATE:** 16/12/2022  
**VERSION:** 1








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
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GDA2020 MGA Zone 55

**LEGEND**

 Casey Fields and Devon Meadows PSP area

 Major road

 Minor road

 **Industrial lots**

1: Aurora Construction Materials

2: Clear View Commercial Glass


3: LJ Kitchen


4: South Gippsland Eggs


5: D'Alberto Egg Farm

6: Growing Chickens

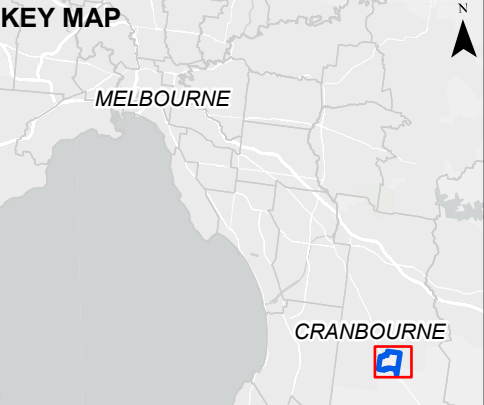
**Separation Buffer Distance**

 EPA Pub. 1510

 Clause 53.10

 Other

**KEY MAP**



MELBOURNE

CRANBOURNE

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**PROJECT:** Casey Fields and Devon Meadows PSP

**PROJECT NO:** 30049113

**FIGURE NO:** 4

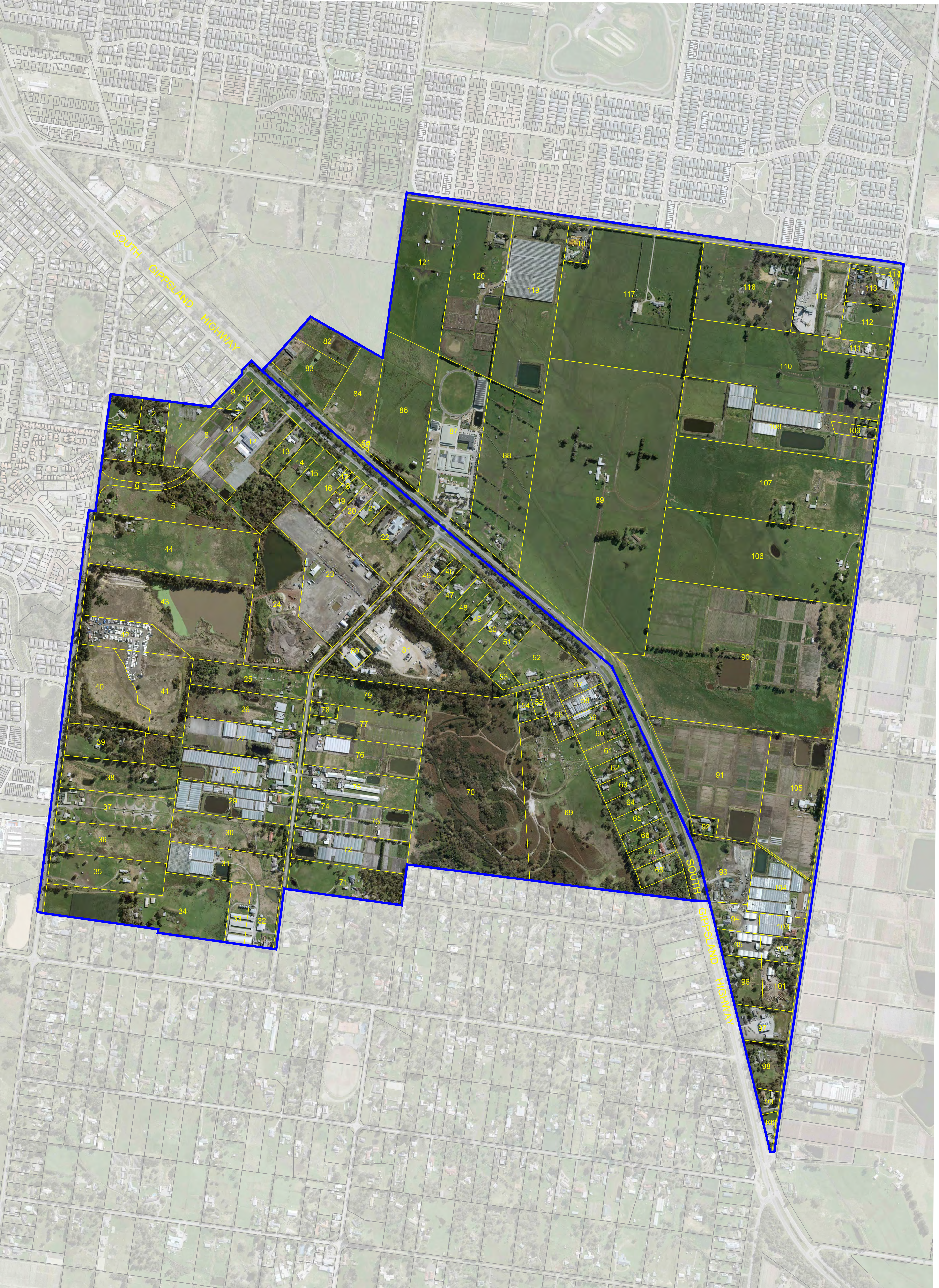
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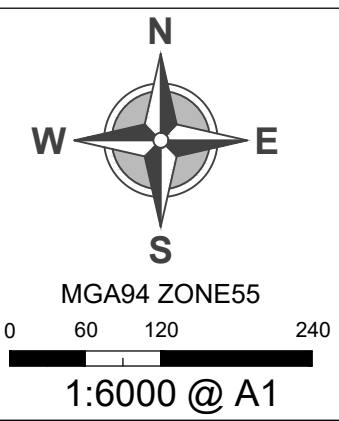
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**VERSION:** 1






A	INITIAL RELEASE	28/11/22	AMM
VERSION	AMENDMENT DESCRIPTION	DATE	APP'D




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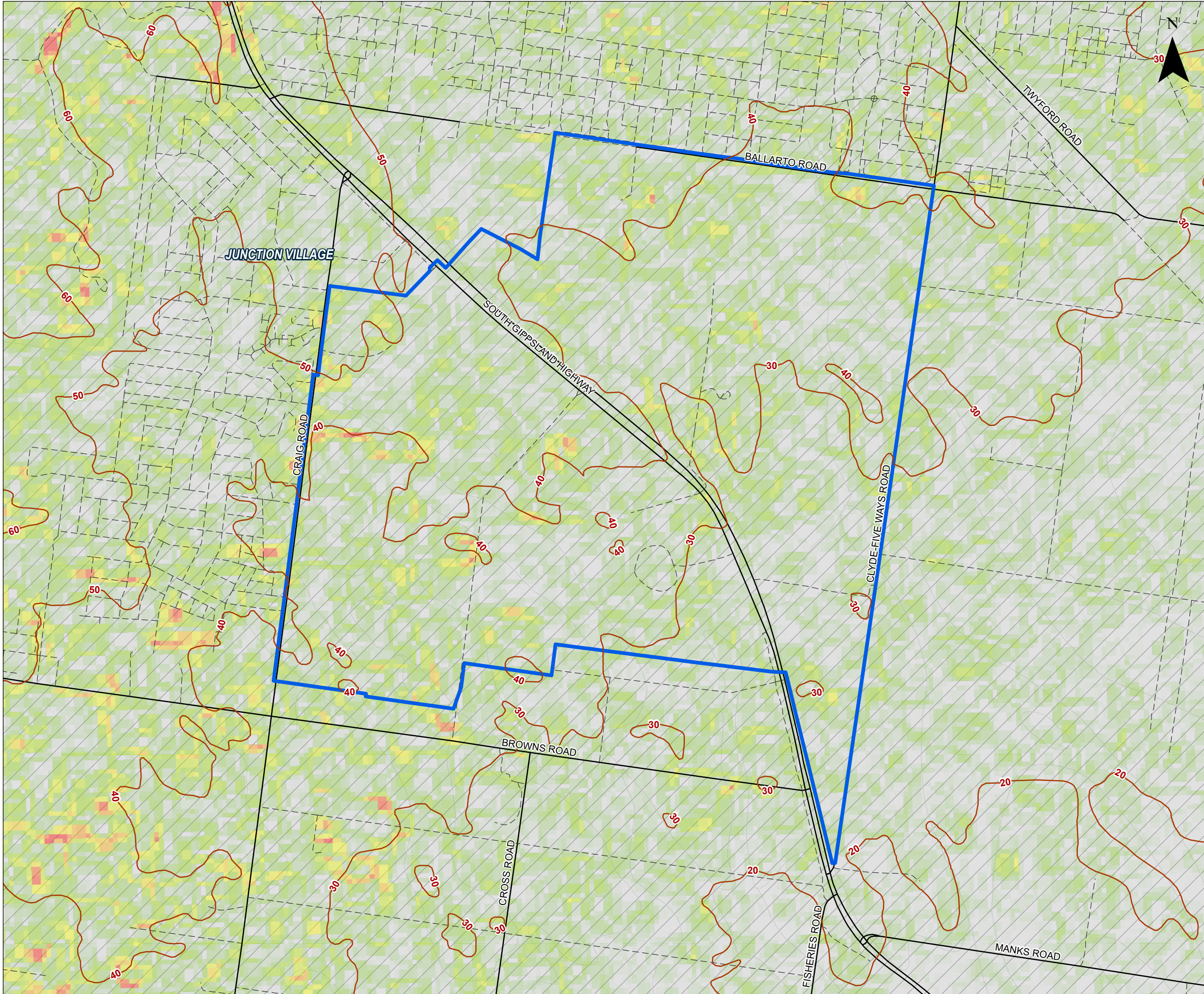
CLIENT		
 Victorian Planning Authority		
SURVEYOR		
DRAWN	S. BARNES	28/11/22
CHECKED	A. MACKENZIE	28/11/22
APPROVED	A. MACKENZIE	28/11/22


CASEY FIELDS AND DEVON MEADOWS PSP CASEY CITY COUNCIL TITLE COMPILATION PLAN		
PROJECT/DRAWING NO. 30049113.05	SHEET NO. 1 OF 2	VERSION A



ID	VOL FOL	LAND DESCRIPTION	PROPRIETOR	STREET ADDRESS
1	VOLUME 10358 FOLIO 039	Lot 2 on Plan of Subdivision 348801X	MINGXIANG JIA of 49 CRAIG ROAD BOTANIC RIDGE VIC 3977	28A CRAIG ROAD JUNCTION VILLAGE VIC 3977
2	VOLUME 10358 FOLIO 040	Lot 3 on Plan of Subdivision 348801X	KEITH DAMON KIRKWOOD of CRAIG RD, DEVON MEADOWS 3977	28B CRAIG ROAD JUNCTION VILLAGE VIC 3977
3	VOLUME 10358 FOLIO 038	Lot 1 on Plan of Subdivision 348801X	KEITH DAMON KIRKWOOD & LINDA JANE KIRKWOOD both of 28B CRAIG ROAD JUNCTION VILLAGE VIC 3977	30A CRAIG ROAD JUNCTION VILLAGE VIC 3977
4	VOLUME 10358 FOLIO 041	Lot 4 on Plan of Subdivision 348801X	MARGARET PATRICIA CAFFEY of 30B CRAIG ROAD JUNCTION VILLAGE VIC 3977	30B CRAIG ROAD JUNCTION VILLAGE VIC 3977
5	VOLUME 12314 FOLIO 639	Lot 1 on Plan of Subdivision 841883S	SAVVAS CHARALAMBOUS & FAY CHARALAMBOUS both of CRAIG ROAD CRANBOURNE SOUTH VIC 3977	32-34 CRAIG ROAD JUNCTION VILLAGE VIC 3977
6	VOLUME 12314 FOLIO 640	Road R1 on Plan of Subdivision 841883S	CASEY CITY COUNCIL of PATRICK NORTHEAST DRIVE NARRE WARREN VIC 3805	
7	VOLUME 10057 FOLIO 643	Lot 1 on Plan of Subdivision 309869G	DOMENICO SOTTILE & CLARA SOTTILE both of 4 HOULDER AVENUE CRANBOURNE 3977	11 JUNCTION CLOSE JUNCTION VILLAGE VIC 3977
8	VOLUME 10057 FOLIO 644	Lot 2 on Plan of Subdivision 309869G	CARMELO BELLUNIA & DOMENICA BELLUNIA both of 36 DUFF STREET CRANBOURNE 3977	JUNCTION CLOSE DEVON MEADOWS VIC 3977
9	VOLUME 09045 FOLIO 245	Lot 2 on Plan of Subdivision 088493	CASEY CITY COUNCIL of MAGID DRIVE NARRE WARREN VIC 3805	1 JUNCTION CLOSE JUNCTION VILLAGE VIC 3977
10	VOLUME 09667 FOLIO 164	Lot 8 on Plan of Subdivision 023766	ROBERT KEVIN PELISO of 5 HILL RISE CL NARRE WARREN 3805	1714 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
11	VOLUME 07041 FOLIO 090	Lot 1 on Plan of Subdivision 019278	CASEY CITY COUNCIL of MAGID DRIVE NARRE WARREN VIC 3805	1720 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
12	VOLUME 12210 FOLIO 033	Land In Plan of Consolidation 378263U	NEW COVENANT PENTECOSTAL CHURCH INC of 681-685 HEATHERTON ROAD CLAYTON SOUTH VIC 3169	1724 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
13	VOLUME 11172 FOLIO 952	Lot 1 on Plan of Subdivision 034228	SIKH COMMUNITY GURMAT CENTRE INC of 16 GUISARD WAY CLYDE NORTH VIC 3978	1734 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
14	VOLUME 08202 FOLIO 457	Lots 2 and 3 on Plan of Subdivision 034228	GARY RAYMOND DUNKLEY of 6 CRONULLA CLOSE KEWARRA BEACH QLD 4879 GAYLE CHRISTINE MOORE of 2 MARGARET ROAD HEALESVILLE VIC 3777 PETER JOHN DUNKLEY-PRICE of 440 NORTH ROAD LANGWARRIN VIC 3910 LYNNE MAXINE FAIRBROTHER of 26-28 WORTHING ROAD DEVON MEADOWS VIC 3977	
15	VOLUME 08202 FOLIO 457	Lots 2 and 3 on Plan of Subdivision 034228	GARY RAYMOND DUNKLEY of 6 CRONULLA CLOSE KEWARRA BEACH QLD 4879 GAYLE CHRISTINE MOORE of 2 MARGARET ROAD HEALESVILLE VIC 3777 PETER JOHN DUNKLEY-PRICE of 440 NORTH ROAD LANGWARRIN VIC 3910 LYNNE MAXINE FAIRBROTHER of 26-28 WORTHING ROAD DEVON MEADOWS VIC 3977	
16	VOLUME 08191 FOLIO 366	Lot 1 on Title Plan 876188C	MARK PETER FAIRBROTHER of 28 WORTHING ROAD DEVON MEADOWS VIC 3977	1744 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
17	VOLUME 08168 FOLIO 970	Lot 1 on Title Plan 818632N	JUDITH MARGARET REID of 1750 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977	1750 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
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19	VOLUME 08641 FOLIO 727	Lot 1 on Title Plan 619843J	KEVIN LESLIE WYNNIE & DIANNE LESLIE ARNOLD both of COMMERCIAL STREET KORUMBURRA	1758 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
20	VOLUME 08634 FOLIO 685	Lot 1 on Plan of Subdivision 071486	FERDI LUMANOVSKI of 1760 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977	1760 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
21	VOLUME 10538 FOLIO 067	Lot 1 on Plan of Subdivision 433426V	JULIE-ANNE VERONICA LEDBURY of 1770 SOUTH GIPPSLAND HIGHWAY CRANBOURNE VIC 3977	1770 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
22	VOLUME 10538 FOLIO 068	Lot 2 on Plan of Subdivision 433426V	CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS of 756 PENNANT HILLS ROAD CARLINGFORD NSW 2118	1780 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
23	VOLUME 11542 FOLIO 979	Lot 1 on Plan of Subdivision 712706N	RAILWAY TRANSPORT SERVICES PTY LTD of 35 DEVON ROAD DEVON MEADOWS VIC 3977	35 DEVON ROAD DEVON MEADOWS VIC 3977
24	VOLUME 11542 FOLIO 980	Lot 2 on Plan of Subdivision 712706N	THE DONNELLY GROUP PTY LTD of 2/860 BALLARTO ROAD CRANBOURNE VIC 3977	55 DEVON ROAD DEVON MEADOWS VIC 3977
25	VOLUME 08055 FOLIO 656	Lot 16 on Plan of Subdivision 007829	KAYES INVESTMENTS PTY LTD of LEVEL 1 508 ST KILDA ROAD MELBOURNE VIC 3004	65 DEVON ROAD DEVON MEADOWS VIC 3977
26	VOLUME 05492 FOLIO 250	Lot 17 on Plan of Subdivision 007829	STAVROULA MIHALOUDAKIS of 75 DEVON ROAD DEVON MEADOWS VIC 3977	75 DEVON ROAD DEVON MEADOWS VIC 3977
27	VOLUME 09739 FOLIO 192	Lot 1 on Title Plan 337102A	JAMES WILLIAM HEALEY & YOLANDE PAMELA HEALEY both of 85 DEVON RD DEVON MEADOWS 3977	85 DEVON ROAD DEVON MEADOWS VIC 3977
28	VOLUME 11080 FOLIO 495	Lot 1 on Plan of Subdivision 613683A	FIDRIM HALIT of 95 DEVON ROAD DEVON MEADOWS VIC 3977	95 DEVON ROAD DEVON MEADOWS VIC 3977
29	VOLUME 06979 FOLIO 775	Lot 20 on Plan of Subdivision 007829	JASHAR RUSTEMI of 120 DEVON RD DEVON MEADOWS 3977	105 DEVON ROAD DEVON MEADOWS VIC 3977
30	VOLUME 10044 FOLIO 172	Lot 1 on Title Plan 087522R	CORAL FRANCES SAGGERS of 115 DEVON ROAD DEVON MEADOWS VIC 3977	115 DEVON ROAD DEVON MEADOWS VIC 3977
31	VOLUME 05797 FOLIO 344	Lot 22 on Plan of Subdivision 007829	125 DEVON ROAD PTY LTD of 26 MAIN STREET PAKENHAM VIC 3810	125 DEVON ROAD DEVON MEADOWS VIC 3977
32	VOLUME 07954 FOLIO 070	Lots 1 and 2 on Title Plan 621224B	135 DEVON ROAD PTY LTD of 26 MAIN STREET PAKENHAM VIC 3810	
33	VOLUME 07954 FOLIO 070	Lots 1 and 2 on Title Plan 621224B	135 DEVON ROAD PTY LTD of 26 MAIN STREET PAKENHAM VIC 3810	
34	VOLUME 10876 FOLIO 493	Lot 2 on Plan of Subdivision 523906H	RIZANAS PROPERTIES PTY LTD of 70 YALLAMBEE ROAD CLYDE VIC 3978	60 CRAIG ROAD DEVON MEADOWS VIC 3977
35	VOLUME 05388 FOLIO 517	Lot 5 on Plan of Subdivision 007599	WAYNE PAUL MACDONALD & JULIE ANNE MACDONALD both of 58 CRAIG RD DEVON MEADOWS 3977	
36	VOLUME 06750 FOLIO 974	Lot 4 on Plan of Subdivision 007599	GIUSEPPINA PARRA of 16 KOONUNG STREET DANDENONG VIC 3175 DIANA ANGELE of 86 MANNING ROAD MALVERN EAST VIC 3145 VIVIANA RANDAZZO of 29 KARMA AVENUE MALVERN EAST VIC 3145 JOHN GUGLIUCCILO of 17 MIRIAM CLOSE WHEELERS HILL VIC 3150 ANNA GUGLIUCCILO of 1/31 GEORGE STREET BENTLEIGH EAST VIC 3165	56 CRAIG ROAD DEVON MEADOWS VIC 3977
37	VOLUME 05725 FOLIO 815	Lot 3 on Plan of Subdivision 007599	KENNETH MICHAEL KEYS & LOUISE ALLISON KEYS both of 54 CRAIG ROAD DEVON MEADOWS VIC 3977	54 CRAIG ROAD DEVON MEADOWS VIC 3977
38	VOLUME 08037 FOLIO 972	Lot 2 on Plan of Subdivision 007599	JANET LOUISE SIMMONS of 52 CRAIG RD DEVON MEADOWS 3977	52 CRAIG ROAD DEVON MEADOWS VIC 3977
39	VOLUME 11485 FOLIO 799	Lot 1 on Plan of Subdivision 721912J	ROBYN DENISE MORGAN of 50A CRAIG ROAD DEVON MEADOWS VIC 3977	
40	VOLUME 11841 FOLIO 051	Reserve 1 on Plan of Subdivision 800996K	MELBOURNE WATER CORPORATION of 990 LA TROBE STREET DOCKLANDS VIC 3008	48W CRAIG ROAD DEVON MEADOWS VIC 3977
41	VOLUME 11841 FOLIO 050	Lot 1 on Plan of Subdivision 800996K	BALLOCHMYLE DEVELOPMENTS PTY LTD of 1260 WESTERNPORT HIGHWAY CRANBOURNE SOUTH VIC 3977	
42	VOLUME 11840 FOLIO 999	Lot 1 on Plan of Subdivision 800995M	BALLOCHMYLE DEVELOPMENTS PTY LTD of 1260 WESTERNPORT HIGHWAY CRANBOURNE SOUTH VIC 3977	
43	VOLUME 11841 FOLIO 000	Reserve 1 on Plan of Subdivision 800995M	MELBOURNE WATER CORPORATION of 990 LA TROBE STREET DOCKLANDS VIC 3008	40W CRAIG ROAD DEVON MEADOWS VIC 3977
44	VOLUME 10073 FOLIO 839	Lot 1 on Plan of Subdivision 128889	RALPH PASCUZZI & ROSETTA PASCUZZI both of 99 SPRINGS ROAD CLAYTON	36-38 CRAIG ROAD JUNCTION VILLAGE VIC 3977
45	VOLUME 08866 FOLIO 897	Lot 8 on Plan of Subdivision 084636	SIMONE HILDGARDE MANNE of 25 OVERTON ROAD FRANKSTON VIC 3199 INGRID CECILE ELKE WHITE of 4667 THE PARKWAY HOPE ISLAND QLD 4212	1790 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
46	VOLUME 08866 FOLIO 898	Lot 9 on Plan of Subdivision 084636	RAMESH REDDY TALAPAREDDY & JIHANSILAKSHMI TALAPAREDDY both of 1794 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977	1794 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
47	VOLUME 08882 FOLIO 549	Lot 2 on Plan of Subdivision 025813	JOHN ANTHONY BOSNICH of 1800 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977	1800 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
48	VOLUME 08906 FOLIO 892	Lot 3 on Plan of Subdivision 025813	PAMELA LEONIE & PAUL CHRISTOPHER ANDERTON both of 1810 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977	1810 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
49	VOLUME 08078 FOLIO 301	Lot 4 on Plan of Subdivision 025813	ADAM HOWARD GASON & LINDA GASON both of 1814 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977	1814 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
50	VOLUME 08926 FOLIO 297	Lot 5 on Plan of Subdivision 025813	IAN KEITH CASTLES & HELEN JOY CASTLES both of CLYDE RD CLYDE	1820 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
51	VOLUME 08814 FOLIO 791	Lot 6 on Plan of Subdivision 025813	FOTIOS RAMATANIS of 1830 SOUTH GIPPSLAND HIGHWAY FIVE WAYS VIC 3977	1830 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
52	VOLUME 08441 FOLIO 920	Lot 2 on Plan of Subdivision 061150	ARD INVESTMENTS PTY LTD of 235 PEARCEDALE ROAD CRANBOURNE SOUTH VIC 3977	5 RAWLINS ROAD DEVON MEADOWS VIC 3977
53	VOLUME 08441 FOLIO 919	Lot 1 on Plan of Subdivision 061150	ANTHONI EL HANNA of 38 WARRENWOOD PLACE LANGWARRIN VIC 3910	25 RAWLINS ROAD DEVON MEADOWS VIC 3977
54	VOLUME 08591 FOLIO 731	Lot 39 on Plan of Subdivision 034215	COURTNEY SCARLETT MURPHY & GARY STEVEN MURPHY both of 24 RAWLINS ROAD DEVON MEADOWS VIC 3977	24 RAWLINS ROAD DEVON MEADOWS VIC 3977
55	VOLUME 08861 FOLIO 433	Lot 38 on Plan of Subdivision 034215 and Road R1 on Plan of Subdivision 034215	BEILINDA GAYE SQUIRES & JASON GATELY both of 20 RAWLINS ROAD DEVON MEADOWS VIC 3977	20 RAWLINS ROAD DEVON MEADOWS VIC 3977
56	VOLUME 09337 FOLIO 596	Land In Plan of Consolidation 108819	WENDY JOY TRIMBLE of 70 BILLINGSLEY ROAD TOORADIN VIC 3980 RAELENE KAYE TRIMBLE of 451 NORTH ROAD LANGWARRIN VIC 3910	14 RAWLINS ROAD DEVON MEADOWS VIC 3977
57	VOLUME 08806 FOLIO 437	Lots 35 and 36 on Plan of Subdivision 034215	TRIMBLE FAMILY SUPER SECURITY PTY LTD of 5 HIGH STREET BUNYIP VIC 3815	
58	VOLUME 08806 FOLIO 437	Lots 35 and 36 on Plan of Subdivision 034215	TRIMBLE FAMILY SUPER SECURITY PTY LTD of 5 HIGH STREET BUNYIP VIC 3815	
59	VOLUME 08179 FOLIO 707	Lot 34 on Plan of Subdivision 034215	YONG LONG TRADING PTY LTD of 1 LORI PLACE GLEN WAVERLEY VIC 3150	1874 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
60	VOLUME 08166 FOLIO 921	Lot 33 on Plan of Subdivision 034215	LEONIE JOY THORNE of 1880 SOUTH GIPPSLAND HIGHWAY CRANBOURNE VIC 3977	1880 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
61	VOLUME 08772 FOLIO 073	Lot 32 on Plan of Subdivision 034215	KARDINIA CORPORATION PTY LTD of LEVEL 10 278 COLLINS STREET MELBOURNE VIC 3000	1884 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
62	VOLUME 08214 FOLIO 122	Lot 31 on Plan of Subdivision 034215	ANDREW WILLIAM JOHN CRESSWELL of 1890 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977	1890 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
63	VOLUME 08423 FOLIO 118	Lot 30 on Plan of Subdivision 034215	KEVIN THOMAS PHILLIPS of 1894 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977	1894 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
64	VOLUME 08266 FOLIO 554	Lot 29 on Plan of Subdivision 034215	TELIA LEE HEYS of 1900 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977 JAMES WILLIAM HEYS of 4 SHANNON WAY BERWICK VIC 3806	1900 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
65	VOLUME 08166 FOLIO 919	Lot 28 on Plan of Subdivision 034215	JOHN-CLAUDE ROGER LIM-HOW & MARIE ROSE SOLANGE LIM-HOW both of 4 LEONARD CLOSE CLAYTON SOUTH VIC 3169	1910 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
66	VOLUME 08166 FOLIO 920	Lot 27 on Plan of Subdivision 034215	HENRY JOHN HENDY & EVELYN ROSEMARY HENDY both of 31 BROADWAY BONBEACH	1920 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
67	VOLUME 08296 FOLIO 362	Lot 26 on Plan of Subdivision 034215	DOMINIC TRAVAGLIA & ANGELINA TRAVAGLIA both of 15 PORTER RD MOORABBIN	1924 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
68	VOLUME 08240 FOLIO 157	Lot 25 on Plan of Subdivision 034215	JOHANNES JACOBUS GERARDUS VAN DEN MUNCKHOF & SUSAN BEATRICE VAN DEN MUNCKHOF both of 16 PETER STREET DONCASTER	1930 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
69	VOLUME 12246 FOLIO 650	Lot 1 on Title Plan 865405J	KARDINIA CORPORATION PTY LTD of LEVEL 10 278 COLLINS STREET MELBOURNE VIC 3000	1934 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
70	VOLUME 12246 FOLIO 651	Lot 41 on Plan of Subdivision 034215	KARDINIA CORPORATION PTY LTD of LEVEL 10 278 COLLINS STREET MELBOURNE VIC 3000	1934 SOUTH GIPPSLAND HIGHWAY DEVON MEADOWS VIC 3977
71	VOLUME 06979 FOLIO 778	Lot 9 on Plan of Subdivision 007829	KELLY JANE CARVILL of 130 DEVON ROAD DEVON MEADOWS VIC 3977 Executor(s) of GREGORY LEONARD CARVILL deceased	130 DEVON ROAD DEVON MEADOWS VIC 3977
72	VOLUME 08057 FOLIO 787	Lot 10 on Plan of Subdivision 007829	JASHAR RUSTEMI of 105 DEVON ROAD DEVON MEADOWS VIC 3977	120 DEVON ROAD DEVON MEADOWS VIC 3977
73	VOLUME 08513 FOLIO 217	Lot 2 on Plan of Subdivision 063886	GEORGINA ETHEL HEFFORD of 110 DEVON RD, DEVON MEADOWS VIC 3977 JOHN JAMES GIONIS of 110 DEVON RD, DEVON MEADOWS VIC 3977	110 DEVON ROAD DEVON MEADOWS VIC 3977
74	VOLUME 10288 FOLIO 492	Lot 1 on Title Plan 088065N	KEITH RONALD FRAZER of 104 DEVON RD DEVON MEADOWS 3977	104 DEVON ROAD DEVON MEADOWS VIC 3977
75	VOLUME 05482 FOLIO 227	Lot 12 on Plan of Subdivision 007829	GIORGINA VICKI ABRAHAM & ALAN GILBERT ABRAHAM both of 100 DEVON ROAD DEVON MEADOWS VIC 3977	100 DEVON ROAD DEVON MEADOWS VIC 3977
76	VOLUME 08122 FOLIO 004	Lot 13 on Plan of Subdivision 007829	LULZIM JEMAL & URIM JEMAL both of 30 ALEXANDER STREET HALLAM VIC 3803	90 DEVON ROAD DEVON MEADOWS VIC 3977
77	VOLUME 10507 FOLIO 867	Lot 2 on Plan of Subdivision 430090X	GRAEME KEITH EDGAR & AMANDA JANE EDGAR both of 80 DEVON RD, DEVON MEADOWS 3977	76-80 DEVON ROAD DEVON MEADOWS VIC 3977
78	VOLUME 10507 FOLIO 866	Lot 1 on Plan of Subdivision 430090X	JANETTE ELIZABETH EVA of 72-74 DEVON ROAD DEVON MEADOWS VIC 3977	72-74 DEVON ROAD DEVON MEADOWS VIC 3977
79	VOLUME 06979 FOLIO 781	Lot 15 on Plan of Subdivision 007829	EWAZ ALI EQBAL of 37 GRENFELL RISE NARRE WARREN SOUTH VIC 3805	70 DEVON ROAD DEVON MEADOWS VIC 3977
80	VOLUME 09758 FOLIO 764	Lot 2 on Plan of Subdivision 207442E	BECKWITH MACBRO SANDS PTY LTD of 1 MORRIS STREET NORTH COBURG VIC 3058	40 DEVON ROAD DEVON MEADOWS VIC 3977
81	VOLUME 09758 FOLIO 763	Lot 1 on Plan of Subdivision 207442E	BECKWITH MACBRO SANDS PTY LTD of 1 MORRIS STREET NORTH COBURG VIC 3058	60 DEVON ROAD DEVON MEADOWS VIC 3977
82	VOLUME 09769 FOLIO 001	Land In Plan of Consolidation 165660L	FRONTLINK PTY LTD of 10 DOROTHY STREET DOVETON VIC 3177	1665 SOUTH GIPPSLAND HIGHWAY CRANBOURNE EAST VIC 3977
83	VOLUME 09679 FOLIO 033	Lot 1 on Title Plan 107096B	FRIXOS THEODOULOU CHRISTOFOROU of 1715 SOUTH GIPPSLAND HY JUNCTION VILLAGE 3977	1715 SOUTH GIPPSLAND HIGHWAY CRANBOURNE EAST VIC 3977
84	VOLUME 11822 FOLIO 977	Lot 1 on Plan of Subdivision 748479U	IAN KEITH CASTLES & HELEN CASTLES both of SOUTH GIPPSLAND HWY CRANBOURNE	1735 SOUTH GIPPSLAND HIGHWAY CRANBOURNE EAST VIC 3977
85	VOLUME 11822 FOLIO 978	Reserve 1 on Plan of Subdivision 748479U	SOUTH EAST WATER CORPORATION of 20 CORPORATE DRIVE HEATHERTON VIC 3202	1745W SOUTH GIPPSLAND HIGHWAY CRANBOURNE EAST VIC 3977
86	VOLUME 09630 FOLIO 984	VOLUME 09630 FOLIO 984	THIRTEENTH KANCHING NOMINEES PTY LTD of 39 WAREHAM ST SPRINGVALE	1765 SOUTH GIPPSLAND HIGHWAY CRANBOURNE EAST VIC 3977
87	VOLUME 09679 FOLIO 029	Lot 1 on Title Plan 107092K	CRANBOURNE CHRISTIAN FELLOWSHIP CENTRE INC of 65 BERWICK-CRANBOURNE ROAD CRANBOURNE VIC 3977	CHURCH 1785 SOUTH GIPPSLAND HIGHWAY CRANBOURNE EAST VIC 3977
88	VOLUME 09630 FOLIO 992	Lot 1 on Title Plan 112759X	PETER JOHN TISDALE of 117 CENTRE ROAD LANGWARRIN VIC 3910 KEVIN JONES of 117 CENTRE ROAD LANGWARRIN VIC 3910 PAYNE SOLUTIONS PTY LTD of 15 WARFE DRIVE LAKE TYERS BEACH VIC 3909 KFJ MAINTENANCE PTY LTD of 1805 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978	1805 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
89	VOLUME 09728 FOLIO 023	Lot 2 on Plan of Subdivision 204989V	ANDREAS HAJIGEORGI of 1845 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978	1845 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
90	VOLUME 12353 FOLIO 464	Lot 1 on Title Plan 831390L	GAULIEO FIVE WAYS NOMINEE PTY LTD of 15 LIME STREET SYDNEY NSW 2000	165 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978
91	VOLUME 09765 FOLIO 603	Lot 2 on Plan of Subdivision 208239V	AMAZON INTERNATIONAL INVESTMENT CONSORTIUM PTY LTD of 53 REEMA BOULEVARD ENDEAVOUR HILLS VIC 3802	
92	VOLUME 09765 FOLIO 602	Lot 1 on Plan of Subdivision 208239V	BRADLEY JAMES GRIFFIN of 1925 SOUTH GIPPSLAND HY FIVE WAYS 3977	1925 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
93	VOLUME 09630 FOLIO 990	Lot 1 on Title Plan 102056R	THI KIM LOAN NGUYEN both of 44-48 ST HELENS CRESCENT NARRE WARREN NORTH VIC 3804	1945 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
94	VOLUME 08218 FOLIO 032	Lot 5 on Plan of Subdivision 034329	ALECK ARTHUR PAYDON & SARAH MAY MOLLER both of 1955 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978	1955 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
95	VOLUME 08975 FOLIO 877	Lot 8 on Plan of Subdivision 034329	ALECK ARTHUR PAYDON of 1965 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978	1965 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
96	VOLUME 08129 FOLIO 406	Lot 9 on Plan of Subdivision 034329	JOAN WINFRED PAYDON of 1965 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978	
97	VOLUME 08942 FOLIO 740	Lot 1 on Plan of Subdivision 095723	S & A STIPKOVIC INVESTMENTS PTY LTD of UNIT 2 310 WHITEHORSE ROAD BALWYN VIC 3103	1975 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
98	VOLUME 08942 FOLIO 741	Lot 2 on Plan of Subdivision 095723	RICIAN PTY LTD of 16 RAYMOND ROAD LAVERTON NORTH VIC 3026	
99	VOLUME 08435 FOLIO 502	Lot 1 on Plan of Subdivision 057766	PAUL PHILLIPS MANAGEMENT PTY LTD of 52 EARLSTON CIRCUIT CRANBOURNE VIC 3977	1995 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
100	VOLUME 10602 FOLIO 679	Lot 2 on Plan of Subdivision 057766	PAUL PHILLIPS MANAGEMENT PTY LTD of 52 EARLSTON CIRCUIT CRANBOURNE VIC 3977	2005 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
101	VOLUME 08321 FOLIO 655	Lot 10 on Plan of Subdivision 034329	NAVNEET PTY LTD of 7/315 BARRY RD, CAMPBELLFIELD 3061	2025 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978
102	VOLUME 08889 FOLIO 985	Lot 7 on Plan of Subdivision 034329	RENAE AMBER JOLLY of 5 HILL STREET RYE VIC 3941	55 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978
103	VOLUME 08231 FOLIO 931	Lot 6 on Plan of Subdivision 034329	DANIEL RICHARD FRIDHAM & ALECK ARTHUR PAYDON both of 1965 SOUTH GIPPSLAND HIGHWAY CLYDE VIC 3978	75 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978
104	VOLUME 08149 FOLIO 589	Lot 2 on Plan of Subdivision 034329	ZANTAP PTY LTD of 81 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978	81 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978
105	VOLUME 08457 FOLIO 262	Lot 1 on Plan of Subdivision 034329	ZANI TAIPU of 81 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978	85 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978
106	VOLUME 10469 FOLIO 543	Lot 2 on Plan of Subdivision 421555E	AMAZON INTERNATIONAL INVESTMENT CONSORTIUM PTY LTD of 53 REEMA BOULEVARD ENDEAVOUR HILLS VIC 3802	
107	VOLUME 10469 FOLIO 542	Lot 2 on Plan of Subdivision 421555E	STEWART JOHN SQUIRES of 215 CLYDE-FIVEWAYS ROAD CLYDE VIC 3978	215 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978
108	VOLUME 09948 FOLIO 965	Lot 2 on Plan of Subdivision 217828Y	DAUMONT BAY PTY LTD of 18-22 LEEMAK CRESCENT BERWICK VIC 3806 N/COLA ZAPPIA of CLYDE FIVEWAYS RD CLYDE ROSARIO ZAPPIA of CLYDE FIVEWAYS RD CLYDE GIUSEPPE ZAPPIA of CLYDE FIVEWAYS RD CLYDE	235 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978 251 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978
109	VOLUME 09948 FOLIO 964	Lot 1 on Plan of Subdivision 217828Y	N/COLA ZAPPIA of CLYDE FIVEWAYS ROAD CLYDE 3978	245 CLYDE-FIVE WAYS ROAD CLYDE VIC 3978
110	VOLUME 09169 FOLIO 393	Lot 2 on Plan of Subdivision 118602	N/COLA ZAP	







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SMEC AUSTRALIA PTY LTD  
ABN 47 065 475 149


0 150 300 450 600  
Meters

Scale: 1:15,000 @ A3  
GDA2020 MGA Zone 55

**LEGEND**

- Casey Fields and Devon Meadows PSP area
- Elevation contour (10m)
- Major road
- Minor road
- Approximate Sodic Soil Type (Upper Subsoil)**
- Non-sodic (ESP <6%)
- Relative Slope**
- High
- Low

**KEY MAP**



**SOURCES:**

- Roads and Waterways © DELWP 2022
- Basemap © Light Gray Base: Vicmap, Esri, HERE, Garmin, FAO, NOAA, USGS

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**PROJECT:** VPA Casey Fields South / Devon Meadows Precinct

**PROJECT NO:** 30049113

**FIGURE NO:** 6

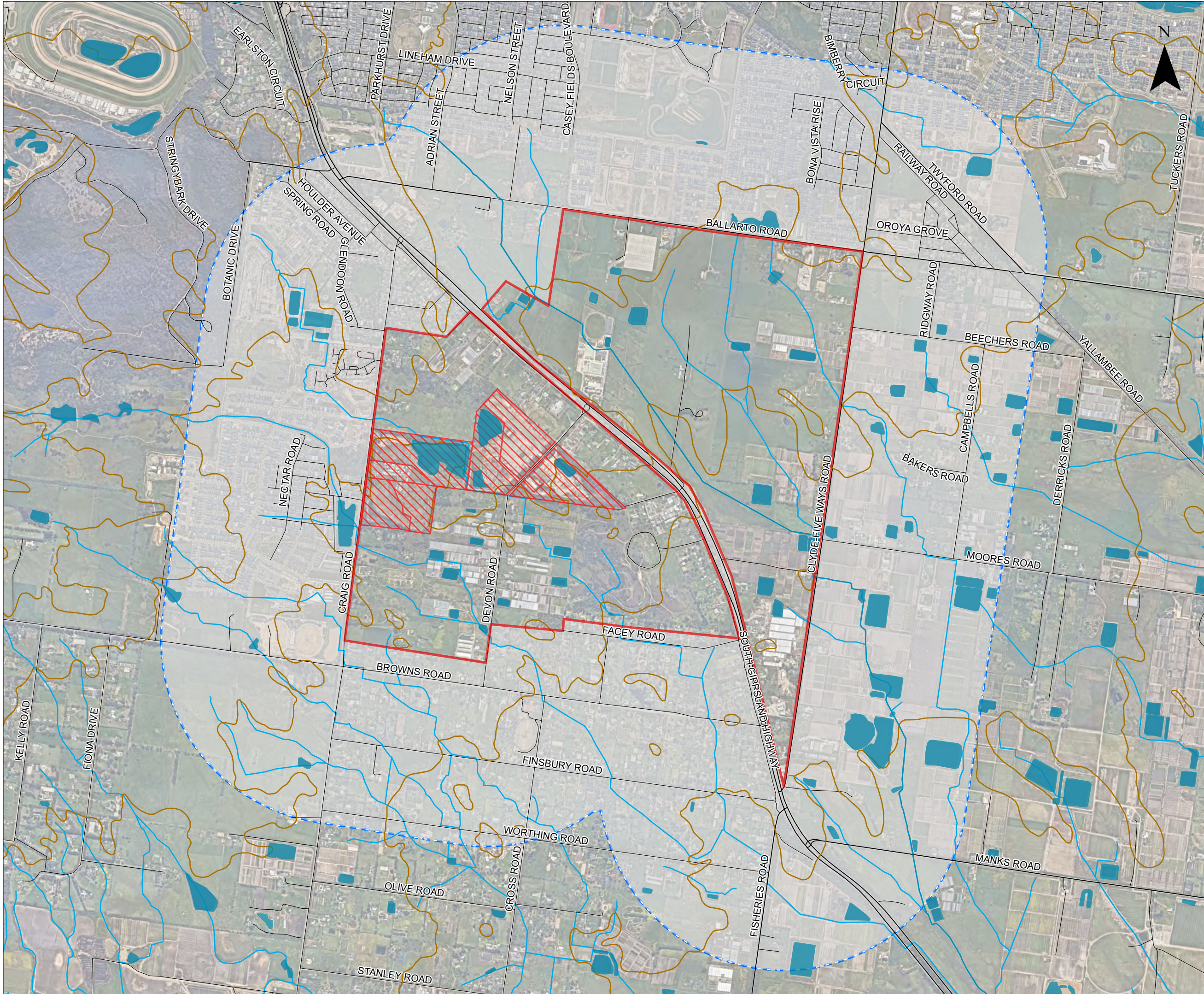
**FIGURE TITLE:** Sodic Soil Types - Upper Subsoil

**CREATED BY:** AP15941

**DATE:** 10/02/2023

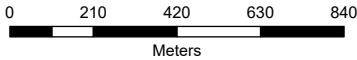
**VERSION:** 1





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Scale: 1:19,000 @ A3  
GDA2020 MGA Zone 55

LEGEND

- Site Boundary
- 1km Buffer
- Uncontrolled Fill
- Water Area
- Elevation Contours
- Major Road
- Minor Road
- Stream

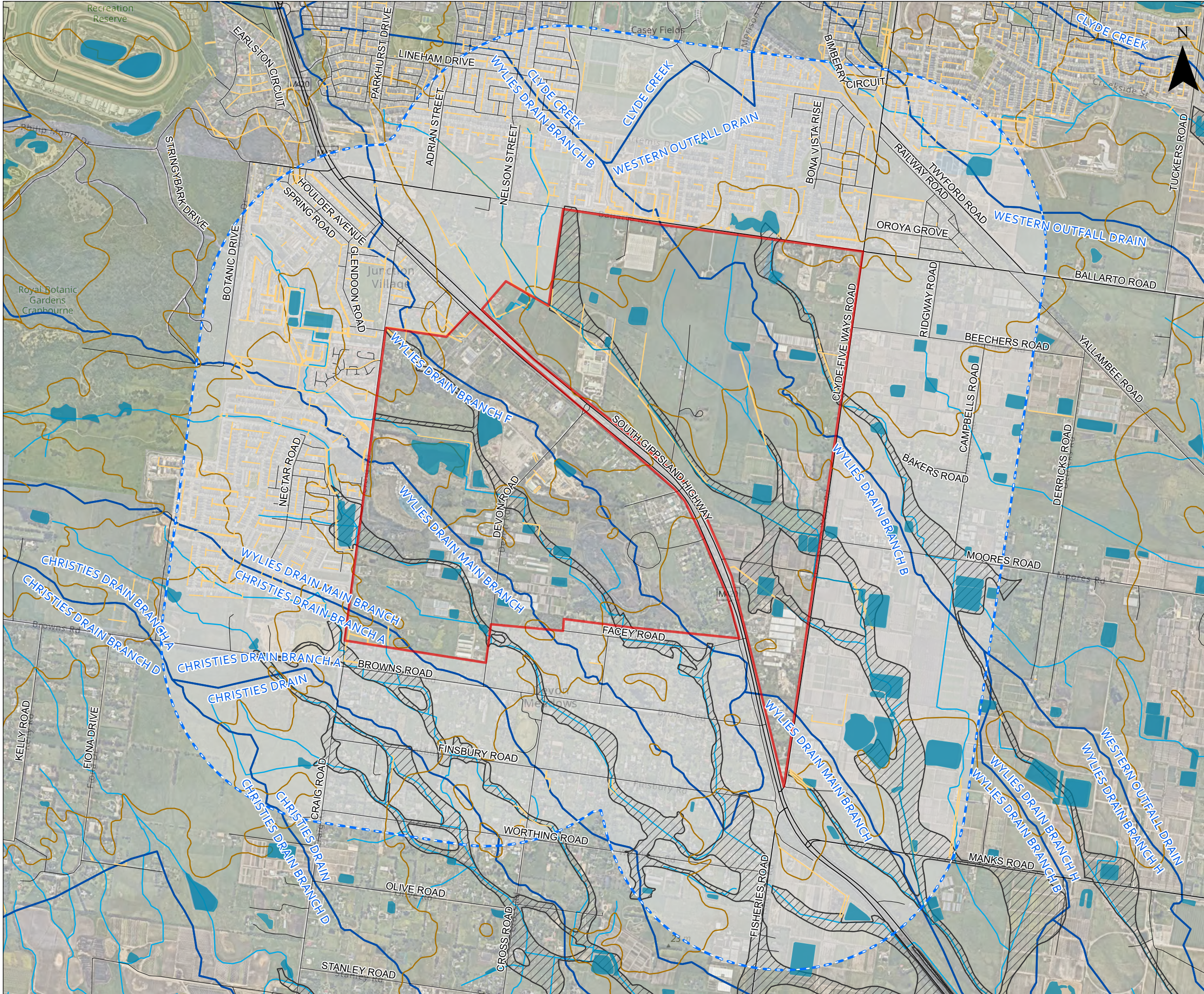
KEY MAP



**SOURCES:**  
1. Roads and Waterways © DELWP 2022  
2. Basemap © World Light Gray Reference: Esri, HERE  
World Light Gray Canvas Base: Esri, HERE, Garmin, USGS  
Nearmap WMS Server:  
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**PROJECT:** VPA Casey Fields Sth PSP LCA  
**PROJECT NO:** 30049113  
**FIGURE NO:** 7  
**FIGURE TITLE:** Geotechnical Risks  
**CREATED BY:** JZ15939  
**DATE:** 20/12/2022  
**VERSION:** 1





LEGEND

- Site Boundary
- 1km Buffer
- Land Subject to Inundation Overlay
- MWC Catchment Boundary
- Water Area
- Easements
- Elevation Contours
- Stream
- Major Road
- Minor Road

KEY MAP



**SOURCES:**  
1. Roads and Waterways © DELWP 2022  
2. Basemap © World Topographic Map: Vicmap, Esri, HERE, Garmin, Foursquare, METINASA, USGS  
World Light Gray Reference: Esri, HERE  
World Hillshade: Esri, Geoscience Australia, NASA, NGA, USGS  
World Light Gray Canvas Base: Esri, HERE, Garmin, USGS  
Neamap WMS Server.

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<b>PROJECT:</b>	VPA Casey Fields Sth PSP LCA
<b>PROJECT NO:</b>	30049113
<b>FIGURE NO:</b>	8
<b>FIGURE TITLE:</b>	Hydrological Risks
<b>CREATED BY:</b>	JZ15939
<b>DATE:</b>	20/12/2022
<b>VERSION:</b>	1



## Appendix B – Adverse Amenity summary desktop assessment

Table 11-1 Summary of locations within PSP and buffer region with potential adverse amenity

Address and Location	Potential Affected Amenity (Noise, Air Quality, Visual)	Description	Information Source
PJ Communications PTY LTD. 17 Finsbury Road, Devon Meadows	Noise, Air Quality, Visual	Transport of prescribed industrial waste	Lotsearch®
LMF Transport PTY LTD. 16 Railway Road, Clyde	Noise, Air Quality, Visual	Transport of prescribed industrial waste	Lotsearch®
50 Worthing Road, Clyde	Air Quality	Have a current EPA works approval for sewage treatment.	Lotsearch®
7-11 Petrol station 2025 South Gippsland Highway, Clyde (Corner Clyde-Five Ways Road and South Gippsland Highway)	Noise, Air Quality	Operational Liquid Fuel Facility	Lotsearch®
TGS Industrial Sands. 60 Devon Road, Devon Meadows	Noise	Former pollution abatement notice issued for noise at on 14 October 2015. Notice No:90006413.	Lotsearch®
BP Service Station. 1490 Ballarto Road, Clyde	Noise, Air Quality	Operational Liquid Fuel Facility	Google Earth Review
Cartage Australia 35 Devon Road, Devon Meadows	Noise	Transportation Service	Google Earth Review
Halit Flowers 95 Devon Road, Devon Meadows	Noise, Visual	Wholesale Florist	Google Earth Review
J&E Wholesale Flowers 105 Devon Road, Devon Meadows	Noise, Visual	Wholesale Florist	Google Earth Review
J&Y Healey PTY 85 Devon Road, Devon Meadows	Noise, Air Quality	Florist	Google Earth Review
Buncha Flowers 1360 Ballarto Road, Clyde	Noise, Air Quality	Plant Nursery	Google Earth Review
South Gippsland Eggs 100 Devon Road, Devon Meadows	Noise, Air Quality	Farm	Google Earth Review
D'Alberto Egg Farm 135 Devon Road, Devon Meadows	Noise, Air Quality	Farm	Google Earth Review
Metro Industrial Sands 60 Devon Road, Devon Meadows	Noise, Air Quality, Visual	Mining Company	Google Earth Review
Gary Mac's Cranbourne Wreckers 1790 South Gippsland Highway, Devon Meadows	Noise, Visual	Auto Wrecker	Google Earth Review
Aurora Construction Materials ACM Clyde 1470 Ballarto Road, Clyde	Noise, Air quality	Concrete supplier	Google Earth Review

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Address and Location	Potential Affected Amenity (Noise, Air Quality, Visual)	Description	Information Source
Clyde CFA 17 Railway Road, Clyde	Noise	Fire Station	Google Earth Review
Schreurs & Sons 30 Twyford Road, Clyde	Noise, Air Quality, Visual	Farm	Google Earth Review
Faceys Nursery Pty Ltd 1870 South Gippsland Highway, Devon Meadows	Noise, Air Quality	Plant Nursery	Google Earth Review
Bashkimi Flowers, 85 Clyde-Five Ways Road, Clyde	Noise, Air Quality	Plant Nursery	Google Earth Review
Golden nursery 1945 South Gippsland highway, Clyde	Noise, Air Quality	Plant Nursery	Google Earth Review
Clear view commercial glass 1925 South Gippsland Highway, Clyde	Noise, Air Quality	Glass Merchant	Google Earth Review
LJ Kitchen 90 Clyde-Five Ways Road, Clyde	Noise, Air quality	Cabinet Maker	Google Earth Review
E.E. Muir and Sons 1985 South Gippsland Highway, Clyde	Noise, Air Quality	Agrochemicals Supplier	Google Earth Review
125 - 133 Devon Road, Devon Meadows	Noise, Air Quality, Visual	Agricultural Farm	Google Earth Review
73 Worthing Road, Clyde	Noise, Air Quality, Visual	Agricultural Farm	Google Earth Review
Limnos Poultry 109-111 Craig Road, Devon Meadows	Noise, Air Quality, Visual	Poultry Store	Google Earth Review
Nunkeri Stables 111 Craig Road	Noise	Horse Riding School	Google Earth Review
Devon Meadows Fire Station 51/53 Finsbury Road, Devon Meadows	Noise	Fire Station	Google Earth Review
Corrigan L&M 71 Fisheries Road, Devon Meadows	Noise, Air Quality	Agricultural farm	Google Earth Review
B&E flowers 75 Fisheries Road, Devon Meadows	Noise, Air Quality	Flower Farm	Google Earth Review
Crop Wise Fertilisers Pty 40 Moores Road, Clyde	Noise, Air Quality	Fertiliser Supplier	Google Earth Review
Caseys Top Catz Boarding Cattery 34 Bakers Road, Clyde	Noise	Cattery	Google Earth Review
Growing chickens Campbells Road, Clyde	Noise, Air Quality	Poultry farm	Google Earth Review
Fresh Leaf Farms Limited 30 Clyde-Five Ways RoadClyde	Noise, Air Quality, Visual	Agricultural land	Google Earth Review
Plantex Nursery 110 Campbells Road, Clyde	Noise, Air Quality	Wholesale Plant Nursery	Google Earth Review

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Casey BMX club 160 Berwick-Cranbourne Road, Cranbourne East	Noise, Air Quality	BMX Club	Google Earth Review
7-Eleven Petrol Station Cranbourne south 1240 Ballarto Road, Clyde	Noise, Air Quality, Visual	Operational Liquid Fuel Facility	Google Earth Review
South Gippsland Highway	Noise	Major Road	Google Earth Review

## Appendix C – Site inspections

SMEC conducted a drive-over tour on public roads through the CFS and DM PSP and undertook closer inspections on foot using public road reserves and public open spaces. Access to private properties was only undertaken by SMEC field staff with permission of owners/occupiers of properties.

Fifty-three sites within the CFS and DM PSP were assessed for odour, fume, gas/fuel/rubber smells, smoke, dust, steam, noise, vibration and other potential aesthetic impacts (e.g. litter). The weather conditions were also recorded. These observations are summarised in Table 11-2 below. Properties of interest were examined from roadways and publicly accessible areas.

**Table 11-2: Properties inspected**

Site Summary and observation	Weather Conditions
<p><b>LMF Transport PTY LTD, 16 Railway Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Transport of prescribed industrial waste</li> <li>The property consisted of an old-looking house and yard</li> <li>There is potential for asbestos-containing material in the house</li> <li>A bottle of coolant was sighted on the porch</li> <li>A transient, subtle sulphuric odour was observed on the breeze</li> <li>Distant traffic noise and bird sound was heard</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 9:50 am to 10:00 am</li> <li>Cloudy</li> <li>Wind: 15 km/hr (weatherZone)</li> <li>Wind direction: west (weatherZone)</li> <li>Temperature: approximately 14.7 °C (weatherZone)</li> </ul>
<p><b>Eastern Treatment Plan Dual Pipe Scheme (849m North East of PSP)</b></p> <ul style="list-style-type: none"> <li>Site subject to EPA Audit</li> <li>The site inspected was on the roadside of Ballarto Road, between Tucker's Road and Bells Road</li> <li>An Eastern Irrigation Scheme marker and drain were observed</li> <li>The ground surface surrounding the drain was significantly wetter than on the opposite side of the road</li> <li>A resident said that there 'may be a leak in the main pipeline'</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 9:26am to 9:35 am</li> <li>Cloudy but sunny</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 13.0 °C (weatherZone)</li> </ul>
<p><b>Buncha Flowers, 1360 Ballarto Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>potentially contaminated due to current and historic use as a market garden and flower farm, down gradient to a chicken broiler.</li> <li>Plastic and paper litter was sighted outside the site entrance</li> <li>Distant traffic noise, bird noises, and frog noises from Sapphire Estate opposite the property</li> <li>A faint organic odour was observed</li> <li>Vehicle traffic on Ballarto Road outside the property was observed to suspend dust from the gravel surface</li> <li>The traffic volume was low outside the property</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 10:20am to 10:30 am</li> <li>cloudy</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 15 °C (weatherZone)</li> </ul>

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<p><b>1370 Ballarto Road, Clyde</b></p> <ul style="list-style-type: none"> <li>potentially contaminated due to current and historic use as a market garden and flower farm, down gradient to a chicken broiler.</li> </ul>	<ul style="list-style-type: none"> <li>No Access to site. The site is through Buncha Flowers (1360 Ballarto Road), which is accessed via appointment only. Buncha Flowers was contacted via phone but did not return calls.</li> </ul>
<p><b>Aurora Construction Materials ACM Clyde, 1470 Ballarto Road, Clyde</b></p> <ul style="list-style-type: none"> <li>former agricultural activities and market gardens, septic tank onsite, current concrete batching plant and landscape gardening and trade supplies.</li> <li>Rusted temporary construction-style fencing, weeds, and gravel were observed at the site entrance</li> <li>Large mounds overgrown with vegetation were observed – these could be contaminated soil stockpiles</li> <li>Small pieces of plastic, paper, wood, and foam rubbish observed</li> <li>A dead pigeon was sighted on the ground outside the site entrance</li> <li>Moderate noise from onsite machinery, low traffic noise. The majority of traffic vehicles observed were trucks entering the site</li> <li>A subtle cement odour was observed</li> <li>Dust was observed at the site entrance, from traffic on the gravel ground</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 10:05am to 10:10 am</li> <li>cloudy</li> <li>Wind: 15 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.9 °C (weatherZone)</li> </ul>
<p><b>BP Service Station, 1490 Ballarto Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Historic market gardens, currently a BP petrol station.</li> <li>A garbage-like, slightly sulphuric odour was observed on the breeze, slightly sulphuric smelling</li> <li>A subtle petrol odour was observed</li> <li>Low-moderate traffic noise. Bird noise</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 10:00am to 10:05 am</li> <li>cloudy</li> <li>Wind: 11 km/hr (weatherZone)</li> <li>Wind direction: West (weatherZone)</li> <li>Temperature: approximately 115.3 °C (weatherZone)</li> </ul>
<p><b>1591 South Gippsland Highway (877m North West of PSP)</b></p> <ul style="list-style-type: none"> <li>Site subject to EPA Audit</li> <li>A house, truck, and sheds were observed onsite</li> <li>Overgrown vegetation and a stockpile of gravel, concrete, and rubbish were noted in the front yard</li> <li>A pile of dumped rubbish was sighted beside the house</li> <li>Loud traffic noise on South Gippsland Highway</li> <li>A frequent petrol exhaust odour was observed from vehicles on South Gippsland Highway</li> <li>Vehicles on the gravel road adjacent the property were observed to suspend dust when driving over the gravel</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 – 11:52am to 12:00pm</li> <li>Scattered clouds, sunny</li> <li>Wind: 13 km/hr</li> <li>Wind direction: WNW</li> <li>Temperature: 14.9 °C (weatherZone)</li> </ul>

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<p><b>1715 South Gippsland Highway, Clyde</b></p> <ul style="list-style-type: none"> <li>potentially occurring agricultural activities (i.e. market gardening). Agricultural grazing, market gardens/agricultural cropping with farmhouse and large dam.</li> <li>The site appeared to be a residential house and farm on a gated property</li> <li>Overgrown vegetation was observed outside the gates of the property and in fields on either side of the house</li> <li>Pale brown puddles were observed in the driveway</li> <li>Loud traffic noise was heard from South Gippsland Highway</li> <li>No signs of contamination were identified</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 13:15pm to 13:25pm</li> <li>Overcast</li> <li>Wind: 15 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.9 °C (weatherZone)</li> </ul>
<p><b>1780 South Gippsland Highway, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Site subject to EPA Audit</li> <li>The site is currently operating as a church</li> <li>The gardens surrounding the church appeared landscaped and well-maintained.</li> <li>Next door to the site was an overgrown paddock containing freight containers</li> <li>A small excavator was digging soil from the garden bed at the time of the inspection</li> <li>A dumpster overflowing with garbage bags, and pest control bait boxes were observed</li> <li>Moderate-high traffic noise on South Gippsland Highway was heard</li> <li>A frequent fertiliser-like odour (possibly from active earthworks) was observed</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 12:54pm to 1:00pm</li> <li>Overcast</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.9 °C (weatherZone)</li> </ul>
<p><b>7-11 Petrol station, 2025 South Gippsland Highway, Clyde (Corner Clyde-Five Ways Road and South Gippsland highway)</b></p> <ul style="list-style-type: none"> <li>Petrol station</li> <li>A subtle, frequent petrol odour was observed.</li> <li>Loud traffic on Clyde-Five Ways Road and South Gippsland Highway was heard.</li> <li>A deteriorated car tyre was noted in a garden bed.</li> <li>The façade of the pumping area appeared rotten/mouldy.</li> <li>Pest control bait was observed at the side of the petrol station building.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 15:20Pm to 15:30Pm</li> <li>Overcast</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: West (weatherZone)</li> <li>Temperature: approximately 15,1 °C (weatherZone)</li> </ul>
<p><b>165 Clyde-Five Ways Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 10:00am to 10:10am</li> <li>Cloudy but sunny</li> </ul>

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<ul style="list-style-type: none"> <li>The site was noted to contain an abandoned house, old machinery, a shed, and crop fields.</li> <li>Multiple piles of dumped rubbish including wooden pellets, clothes, and rotting celery were observed.</li> <li>An abandoned car and a rusty tractor were sighted.</li> <li>A tap from a water tank was observed to be leaking.</li> <li>Containers labelled herbicide, insecticide, fungicide, and oat bait for rabbits were noted in the farm shed. Chlorine containers were sighted on the ground by the crop field.</li> <li>Moderate-high traffic noise from Clyde-Five Ways Road, bird sound, and running water from the water tank leaking tap were heard.</li> <li>A subtle paint-like odour was observed in the farm shed.</li> </ul>	<ul style="list-style-type: none"> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: NW (weatherZone)</li> <li>Temperature: approximately 13.9 °C (weatherZone)</li> </ul>
<p><b>215 Clyde-Five Ways Road, Clyde</b></p> <ul style="list-style-type: none"> <li>potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed built in 1980.</li> <li>A farmhouse and stables were noted onsite. No animals were observed onsite.</li> <li>A rusty tractor, dumped wood, and corrugated iron were sighted.</li> <li>Low-moderate traffic noise from Clyde-Five Ways Road, and bird sound was heard.</li> <li>A subtle hay/organic odour was observed.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 11:51am to 12:00am</li> <li>Cloudy but sunny</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.9 °C (weatherZone)</li> </ul>
<p><b>235 Clyde-Five Ways Road, Clyde</b></p> <ul style="list-style-type: none"> <li>potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed built in 1980.</li> <li>Two farm sheds and a house were observed onsite.</li> <li>Three freight containers, large concrete pipe segments, patches of brown vegetation, and a pile of wood</li> <li>Moderate traffic noise and bird sounds were heard. The volume of traffic at the time of inspection was low.</li> <li>A frequent hay-like odour was observed.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 10:58am to 10:05am</li> <li>Cloudy but sunny</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 15.7 °C (weatherZone)</li> </ul>
<p><b>245 Clyde-Five Ways Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed built in 1980.</li> <li>White greenhouses, one of which had a broken roof, were observed onsite.</li> <li>Rusty farm machinery, a stockpile of gravel, broken tubing, and dumped rubbish (wood, plastic, concrete pipes) were noted.</li> <li>Low distant traffic noise and a moderate hum of machinery were heard.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 11:08am to 11:15am</li> <li>Cloudy but sunny</li> <li>Wind: 19 km/hr (weatherZone)</li> <li>Wind direction: NW (weatherZone)</li> <li>Temperature: approximately 14.9 °C (weatherZone)</li> </ul>

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<ul style="list-style-type: none"> <li>A frequent organic odour was observed near the greenhouses.</li> </ul>	
<p><b>251 Clyde-Five Ways Road, Clyde</b></p> <ul style="list-style-type: none"> <li>potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed built in 1980.</li> <li>Old water tanks and plastic crates observed onsite</li> <li>Dumped containers and wooden pellets at front of property</li> <li>Corrugated iron fencing and rusty building façade</li> <li>Moderate traffic noise from Clyde-Five Ways Road</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 4:17pm – 4:26pm</li> <li>Overcast</li> <li>Wind: 6 km/hr (weatherZone)</li> <li>Wind direction: West (weatherZone)</li> <li>Temperature: approximately 15.1 °C (weatherZone)</li> </ul>
<p><b>255 Clyde-Five Ways Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Potentially contaminated due to historic use for agricultural grazing, market gardens, farm machinery shed.</li> <li>A house and sheds were sighted on the property. Fields were observed on either side of the residence.</li> <li>Wood piles and rusted corrugated iron were noted in the shed</li> <li>Moderate traffic noise was heard, but few vehicles were on Clyde-Five Ways Road during the inspection</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 11:34am to 11:45am</li> <li>Sunny, scattered clouds</li> <li>Wind: 15 km/hr (weatherZone)</li> <li>Wind direction: West (weatherZone)</li> <li>Temperature: approximately 15.3 °C (weatherZone)</li> </ul>
<p><b>42 Craig Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>A stockpile of tyres on exposed soil, and upside-down swimming pools</li> <li>A crane was operating onsite at the time of the inspection</li> <li>Rubbish (plastic, foam, paper, liquid containers, fabric) and fallen metal temporary construction-style fencing was observed on the ground</li> <li>Deep puddles were observed on the ground surface near Craig Road</li> <li>A portion of the site was fenced off with metal temporary construction-style fencing</li> <li>The site contained old cars, piping, water tanks, dumped rubbish, freight containers, metal poles, and tubing</li> <li>Loud traffic noise was heard from Craig Road</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 10:58am to 11:05am</li> <li>Overcast, showers</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.4 °C (weatherZone)</li> </ul>
<p><b>Forest area within State Dandenong Forest Management Area (891m West of PSP)</b></p> <ul style="list-style-type: none"> <li>Site subject to EPA Audit</li> <li>The site inspected was Stringy Bark Picnic Area and its surrounds</li> <li>The area has dense native vegetation and is well-maintained</li> <li>Some litter (tissues, wipes, part of a licence plate) was noted on the ground</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 14:26pm to 14:36pm</li> <li>Sunny, scattered clouds</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> </ul>

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<ul style="list-style-type: none"> <li>Low noise of leaves rustling, bird sounds, and chirping/buzzing of insects were observed.</li> </ul>	<ul style="list-style-type: none"> <li>Temperature: approximately 16.7 °C (weatherZone)</li> </ul>
<p><b>Clyde CFA, 17 Railway Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Fire Station</li> <li>A brick building and a brick barbeque area were noted on site</li> <li>Dumped rubbish was observed onsite, including chairs, corrugated iron, broken whitegoods, and plastic sheeting</li> <li>A large concrete pipe was observed in the bushland behind the CFA building</li> <li>Distant traffic noise and bird noise were heard</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 9:40am to 9:50am</li> <li>Cloudy</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: West(weatherZone)</li> <li>Temperature: approximately 14.2 °C (weatherZone)</li> </ul>
<p><b>PJ Communications PTY LTD, 17 Finsbury Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Transport of prescribed industrial waste</li> <li>The site appeared to be a residential property</li> <li>'Trespassers Prosecuted. Video Surveillance' sign and temporary construction-style metal fencing were observed.</li> <li>Dumped rubbish was noted in the front yard of the property.</li> <li>Sheep and goats were observed onsite</li> <li>A subtle, frequent organic odour was observed.</li> <li>The site was quiet at the time of inspection. Sheep noise was noted.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 12:44pm to 12:54pm</li> <li>Overcast</li> <li>Wind: 6 km/hr (weatherZone)</li> <li>Wind direction: West(weatherZone)</li> <li>Temperature: approximately 14.1 °C (weatherZone)</li> </ul>
<p><b>50 Worthing Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Current EPA works approval for sewage treatment</li> <li>The site is operating as Devon Meadows Primary School.</li> <li>The site was quiet at the time of inspection. Bird sound was noted.</li> <li>No indicators of contamination were observed.</li> </ul>	<ul style="list-style-type: none"> <li>Time of property inspection: 13:08Pm to 13:15Pm</li> <li>Overcast</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 15 °C (weatherZone)</li> </ul>
<p><b>Cartage Australia 35 Devon Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Transportation service of bulk raw materials</li> <li>Several trucks and freight containers were noted on site.</li> <li>A subtle sweet organic smell was observed.</li> <li>Low-moderately noisy machinery was heard from the soil yard next door.</li> <li>Low traffic noise was heard from Devon Road.</li> <li>Stockpiles of soil were observed in the yard.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 12:03pm to 12:10pm</li> <li>cloudy</li> <li>Wind: 11 km/hr (weatherZone)</li> <li>Wind direction: NW(weatherZone)</li> <li>Temperature: approximately 16 °C (weatherZone)</li> </ul>

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<b><i>J &amp; E Wholesale Flowers 105 Devon Road, Devon Meadows</i></b> <ul style="list-style-type: none"> <li>A residential house, shed, carport and site shed 'Office' were observed onsite.</li> <li>A frequent odour of sweet fertiliser was noted on the breeze.</li> <li>Dumped rubbish was observed next door.</li> <li>The site was noted to be quiet at the time of inspection.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 12:28pm to 12:38pm</li> <li>cloudy</li> <li>Wind: 7 km/hr (weatherZone)</li> <li>Wind direction: West (weatherZone)</li> <li>Temperature: approximately 14.9 °C (weatherZone)</li> </ul>
<b><i>Halit Flowers, 95 Devon Road, Devon Meadows</i></b> <ul style="list-style-type: none"> <li>Wholesale florist</li> <li>A large metal shed, smaller sheds, trucks, and cars were observed onsite.</li> <li>The site is signed as a biosecurity area.</li> <li>Low-volume machinery noise was heard.</li> <li>No indicators of contamination were observed.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 11:39am to 11:50am</li> <li>Overcast</li> <li>Wind: 4 km/hr (weatherZone)</li> <li>Wind direction: SW (weatherZone)</li> <li>Temperature: approximately 16.2 °C (weatherZone)</li> </ul>
<b><i>J &amp; Y Healey PTY, 85 Devon Road, Devon Meadows</i></b> <ul style="list-style-type: none"> <li>Florist</li> <li>Stockpiles of tanbark, wood, and wire, and hay bales were observed at the front of the property.</li> <li>A subtle organic odour was noted onsite.</li> <li>Faded dirty greenhouses and wooden pallets were observed.</li> <li>Low machinery noise and traffic noise were heard.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 12:35pm to 12:40pm</li> <li>Overcast</li> <li>Wind: 15 km/hr (weatherZone)</li> <li>Wind direction: NW(weatherZone)</li> <li>Temperature: approximately 15.1 °C (weatherZone)</li> </ul>
<b><i>South Gippsland Eggs 100 Devon Road, Devon Meadows</i></b> <ul style="list-style-type: none"> <li>The site is a chicken farm. One free-range chicken was observed in the front field.</li> <li>Low traffic noise was heard onsite.</li> <li>A subtle farm/hay odour was noted.</li> <li>Plastic and paper litter was observed at the site entrance.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 11:44am to 11:50am</li> <li>Overcast</li> <li>Wind: 4 km/hr (weatherZone)</li> <li>Wind direction: SW (weatherZone)</li> <li>Temperature: approximately 16.2 °C (weatherZone)</li> </ul>
<b><i>Casey BMX Club, 160 Berwick-Cranbourne Road, Cranbourne East</i></b> <ul style="list-style-type: none"> <li>The site is operating as a BMX Club within a recreational sporting precinct.</li> <li>A brick building, fenced bin area, liquid containers, water tanks, and an empty freight container were observed onsite.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 09:00am to 09:10am</li> <li>Cloudy but sunny</li> <li>Wind: 11 km/hr (weatherZone)</li> </ul>

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<ul style="list-style-type: none"> <li>One liquid container and three drums marked 'dust control concentrate' were observed.</li> <li>Plastic and paper litter was observed in the garden beds.</li> <li>A disassembled refrigerator was sighted within the fenced bin area.</li> <li>Geofabric was observed above the soil surface in the garden bed.</li> <li>A stockpile of gravel and a stockpile of sand were noted onsite.</li> </ul>	<ul style="list-style-type: none"> <li>Wind direction: WNW(weatherZone)</li> <li>Temperature: approximately 13.1 °C (weatherZone)</li> </ul>
<p><b><i>D'Alberto Egg Farm, 135 Devon Road, Devon Meadows</i></b></p> <ul style="list-style-type: none"> <li>The site is a chicken farm consisting of sheds and brick buildings.</li> <li>The area beyond the entry gates is signed as a quarantine area.</li> <li>Metal sheeting was observed at the site entrance.</li> <li>Moderate traffic noise from a distant road was heard.</li> <li>A subtle hay/farm odour was noted.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 11:20am to 11:30am</li> <li>Overcast</li> <li>Wind: 7 km/hr (weatherZone)</li> <li>Wind direction: West (weatherZone)</li> <li>Temperature: approximately 14.4 °C (weatherZone)</li> </ul>
<p><b><i>Metro Industrial Sands and TGS Industrial Sands, 60 Devon Road, Devon Meadows</i></b></p> <ul style="list-style-type: none"> <li>Metro Industrial Sands: Mining company</li> <li>TGS Industrial Sands: Former pollution abatement notice issued for noise on 14 October 2015. Notice No: 90006413</li> <li>The façades of buildings on site appeared to be rusty.</li> <li>Stockpiles of gravel were observed at the site entrance.</li> <li>Piles of rusted metal machinery parts were noted.</li> <li>A moderate-strong organic/fertiliser/manure odour was observed.</li> <li>Moderate machinery noise, bird noise, loud beeping of trucks on Devon Road</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 - 11:05am to 11:15am</li> <li>Overcast</li> <li>Wind: 11 km/hr (weatherZone)</li> <li>Wind direction: West (weatherZone)</li> <li>Temperature: approximately 14.5 °C (weatherZone)</li> </ul>
<p><b><i>Gary Mac's Cranbourne Wreckers, 1790 South Gippsland Highway, Devon Meadows</i></b></p> <ul style="list-style-type: none"> <li>The site is operating as an auto wrecker.</li> <li>Sheds, cars, and piles of tyres are present onsite.</li> <li>Weeds and dead vegetation were noted at the site entrance.</li> <li>The grass inside the property was observed to be overgrown.</li> <li>Moderate traffic noise on South Gippsland Highway was heard.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 - 12:45Pm to 12:55Pm</li> <li>Cloudy</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: NW (weatherZone)</li> <li>Temperature: approximately 14.9 °C (weatherZone)</li> </ul>

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<p><b>Schreurs &amp; Sons, 30 Twyford Road, Clyde</b></p> <ul style="list-style-type: none"> <li>The site is a residential townhouse development under construction (Soho Living Project).</li> <li>Construction works were active at the time of inspection.</li> <li>Plastic litter and building materials were observed on the ground.</li> <li>Low-moderate traffic and construction noise was heard.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 – 9:27 am to 9:37 am</li> <li>Cloudy</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 13 °C (weatherZone)</li> </ul>
<p><b>Faceys Nursery Pty Ltd, 1870 South Gippsland Highway, , Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Plant nursery</li> <li>Sheds, a residential house, water tanks and white greenhouses were observed onsite.</li> <li>Farm machinery towers were sighted next door.</li> <li>Moderately loud traffic from South Gippsland Highway and bird noises were heard.</li> <li>No signs of contamination were observed.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 – 12:33pm to 12:43pm</li> <li>Cloudy</li> <li>Wind: 11 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 15.1 °C (weatherZone)</li> </ul>
<p><b>Bashkimi Flowers, 85 Clyde – Five Ways Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Plant nursery</li> <li>White greenhouses and flower fields were observed onsite</li> <li>Moderately loud traffic on Clyde-Five Ways Road was heard</li> <li>A faint fertiliser odour was observed on the breeze</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 – 10:29am to 10:35am</li> <li>Cloudy but sunny</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.3 °C (weatherZone)</li> </ul>
<p><b>Golden Nursery, 1945 South Gippsland Highway, Clyde</b></p> <ul style="list-style-type: none"> <li>Plant nursery</li> <li>A pile of boulders, stockpiles of gravel, metal sheets, and broken plant pots were observed onsite</li> <li>Moderate-loud traffic noise and bird noise were heard</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 – 12:18pm to 12:25pm</li> <li>Sunny, scattered clouds</li> <li>Wind: 13 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.8 °C (weatherZone)</li> </ul>
<p><b>Clear View Commercial Glass, 1925 South Gippsland Highway, Clyde</b></p> <ul style="list-style-type: none"> <li>Glass merchant</li> <li>Trees, a shed, and a rusted metal rack were observed at the site entrance</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 – 12:07pm to 12:15pm</li> <li>Sunny, scattered clouds</li> </ul>

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<ul style="list-style-type: none"> <li>Moderately loud traffic on South Gippsland Highway was heard.</li> <li>No signs of contamination were observed.</li> </ul>	<ul style="list-style-type: none"> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: NW (weatherZone)</li> <li>Temperature: approximately 14.8 °C (weatherZone)</li> </ul>
<p><b>LJ Kitchen, 90 Clyde-Five Ways Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Cabinet maker</li> <li>The building on site appeared to be a residential house</li> <li>Loud traffic noise was heard. Traffic on Clyde-Five Ways Road was busy at the time of the inspection.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 03:30pm to 03:35pm</li> <li>Overcast</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: W (weatherZone)</li> <li>Temperature: approximately 14.7 °C (weatherZone)</li> </ul>
<p><b>E.E. Muir and Sons, 1985 South Gippsland Highway, Clyde</b></p> <ul style="list-style-type: none"> <li>In 1972 the site requested to manufacture pallets and store sawdust. There may have been use or storage of chemicals to treat timber during this time.</li> <li>Agrochemicals supplier</li> <li>Drums/containers were observed onsite. They appeared to be clean and were labelled for recycling.</li> <li>Moderate-high traffic noise from South Gippsland Highway was heard.</li> <li>Site staff said that non-chemical fertilisers are stored onsite.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 02:18pm to 02:25pm</li> <li>cloudy</li> <li>Wind: 6 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 13.7 °C (weatherZone)</li> </ul>
<p><b>73 Worthing Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Agricultural farm</li> <li>The site appeared to be of residential use.</li> <li>A pile of rocks was observed at the site entrance</li> <li>A large concrete pipe was noted in the front garden of the property.</li> <li>Quiet distant traffic noise and beeping machinery were heard.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 01:23pm to 01:30pm</li> <li>Overcast</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.5 °C (weatherZone)</li> </ul>
<p><b>Nunkeri Stables, 111 Craig Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Horse riding school</li> <li>Rusted steel drums, dumped rubbish (corrugated iron, pipes), piles of wood, and old machinery were observed onsite.</li> <li>Low traffic noise was heard at the site entrance, but it was noted to be quiet at the stables.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 02:00pm to 02:15pm</li> <li>Overcast</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> </ul>

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	<ul style="list-style-type: none"> <li>Temperature: approximately 13.5 °C (weatherZone)</li> </ul>
<p><b>Devon Meadows Fire Station, 47-49 Finsbury Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Fire station</li> <li>A brown brick building was observed onsite.</li> <li>Low-medium distant traffic noise and bird sounds were heard.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 12:57pm to 01:05pm</li> <li>Overcast</li> <li>Wind: 7 km/hr (weatherZone)</li> <li>Wind direction: NW (weatherZone)</li> <li>Temperature: approximately 14.6 °C (weatherZone)</li> </ul>
<p><b>Corrigan L&amp;M, 71 Fisheries Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Agricultural farm</li> <li>A farmhouse, a shed, and a sheep paddock were observed on site.</li> <li>Loud traffic noise on Fisheries Road and bird noises were heard.</li> <li>A frequent organic manure-like odour was observed.</li> <li>The site is next door to B&amp;E Flowers.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 – 01:43pm to 01:50pm</li> <li>Overcast</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: West (weatherZone)</li> <li>Temperature: approximately 15.2 °C (weatherZone)</li> </ul>
<p><b>B&amp;E Flowers, 75 Fisheries Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Flower farm</li> <li>White greenhouses were observed on site.</li> <li>Moderate traffic noise was heard.</li> <li>Faint odours of exhaust fumes and an organic odour were observed.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 01:32pm to 01:40pm</li> <li>Overcast</li> <li>Wind: 6 km/hr (weatherZone)</li> <li>Wind direction: NW (weatherZone)</li> <li>Temperature: approximately 14.7 °C (weatherZone)</li> </ul>
<p><b>Crop Wise Fertilisers Pty, 40 Moores Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Fertiliser supplier</li> <li>Piles of soil and dumped rubbish (wooden pellets, corrugated iron, rusty drum) were observed onsite.</li> <li>A dumpster full of plastic, fabric, and wooden rubbish, and a tyre were observed onsite</li> <li>Active excavators were observed in the adjacent site.</li> <li>Faint traffic noise, bird sounds, and low beeping from machinery were heard</li> <li>A strong odour of fertiliser/manure was observed.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 – 10:18am to 10:25am</li> <li>Cloudy</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 15 °C (weatherZone)</li> </ul>

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<ul style="list-style-type: none"> <li>Dust was observed, suspended from vehicles driving on the gravel road (Moores Road).</li> </ul>	
<p><b>Caseys Top Catz Boarding Cattery, 34 Bakers Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Cattery</li> <li>A residential house was observed onsite.</li> <li>A freight container, gas cylinders, a pile of wood, and an upside-down bathtub were noted.</li> <li>Moderate, distant traffic noise was heard</li> <li>A frequent manure odour was observed near the farm next door.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 03:48pm to 03:55pm</li> <li>cloudy</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: W (weatherZone)</li> <li>Temperature: approximately 13.9 °C (weatherZone)</li> </ul>
<p><b>Growing Chickens Campbells Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Poultry farm. No signs of poultry production were observed during the site inspection.</li> <li>Crop fields and a residential house were observed onsite. A 'Wood Yard' sign pointed to the property next door.</li> <li>Gas cylinders and an oil drum were observed beside the house.</li> <li>Distant traffic noise, bird sounds, and a dog barking were heard.</li> <li>Frequent organic compost/fertiliser/soil-like odours were observed</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 28/11/22 – 09:57am to 10:05am</li> <li>Sunny, scattered clouds</li> <li>Wind: 6 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.5 °C (weatherZone)</li> </ul>
<p><b>Fresh Leaf Farms Limited, 30 Clyde Five-Ways Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Agricultural land</li> <li>Litter (wood, plastic) was observed in the garden beds.</li> <li>A rusty drum labelled 'Heating Oil' and a portaloos were noted onsite.</li> <li>Low machinery noise was heard.</li> <li>A frequent herb scent was observed within the facility.</li> <li>A faint truck exhaust odour was observed outdoors.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 02:32pm to 02:40pm</li> <li>Overcast</li> <li>Wind: 7 km/hr (weatherZone)</li> <li>Wind direction: W (weatherZone)</li> <li>Temperature: approximately 14.2 °C (weatherZone)</li> <li></li> </ul>
<p><b>Plantex Nursery, 110 Campbells Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Wholesale plant nursery</li> <li>A residential house, greenhouses, and sheds were noted onsite.</li> <li>Low tractor noise and distant traffic noise were observed.</li> <li>A frequent odour of cut grass was observed onsite, and a strong organic odour was observed near the wet ground.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 04:06pm to 04:15pm</li> <li>Overcast</li> <li>Wind: 4 km/hr (weatherZone)</li> <li>Wind direction: WNW (weatherZone)</li> <li>Temperature: approximately 14.3 °C (weatherZone)</li> </ul>

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<p><b>7-Eleven Petrol Station Cranbourne South, 1240 Ballarto Road, Clyde</b></p> <ul style="list-style-type: none"> <li>Operational liquid fuel facility</li> <li>Litter (glass bottles, paper, plastic, and metal cans) was observed in the garden beds on site.</li> <li>Loud traffic noise was heard from vehicles on Ballarto Road.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 10:43am to 10:50am</li> <li>Overcast</li> <li>Wind: 17 km/hr (weatherZone)</li> <li>Wind direction: W (weatherZone)</li> <li>Temperature: approximately 14 °C (weatherZone)</li> </ul>
<p><b>South Gippsland Highway</b></p> <ul style="list-style-type: none"> <li>Major road</li> <li>Weeds were sighted in the centre island of the road.</li> <li>Plastic litter was observed on the side of the road.</li> <li>Loud traffic noise was heard from cars and trucks on the highway</li> <li>A subtle odour of petrol exhaust and car fumes was observed</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 03:24pm to 03:30pm</li> <li>Overcast</li> <li>Wind: 9 km/hr (weatherZone)</li> <li>Wind direction: W (weatherZone)</li> <li>Temperature: approximately 14.7 °C (weatherZone)</li> </ul>
<p><b>Limnos Poultry, 109-111 Craig Road, Devon Meadows</b></p> <ul style="list-style-type: none"> <li>Poultry Store</li> <li>Litter was observed on the ground at the entrance.</li> <li>A truck loaded with rusty containers, and stacks of wooden pellets were observed onsite.</li> <li>A moderate spraying sound from onsite machinery, bird noise, and low traffic noise was heard.</li> <li>A frequent hay/organic odour and raw chicken odour were observed.</li> </ul>	<ul style="list-style-type: none"> <li>Time and date of property inspection: 23/11/22 – 11:09am to 11:20am</li> <li>Overcast</li> <li>Wind: 7 km/hr (weatherZone)</li> <li>Wind direction: W (weatherZone)</li> <li>Temperature: approximately 14.4 °C (weatherZone)</li> </ul>

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## Site Photographs



Figure 1: LMF Transport PTY LTD, 16 Railway Road, Clyde



Figure 2: LMF Transport PTY LTD, 16 Railway Road, Clyde



Figure 3: LMF Transport PTY LTD, 16 Railway Road, Clyde



Figure 4: LMF Transport PTY LTD, 16 Railway Road, Clyde





Figure 5: PJ Communications PTY LTD, 17 Finsbury Road, Devon Meadows



Figure 6: PJ Communications PTY LTD, 17 Finsbury Road, Devon Meadows



Figure 7: Clyde CFA, 17 Railway Road, Clyde



Figure 8: Clyde CFA, 17 Railway Road, Clyde

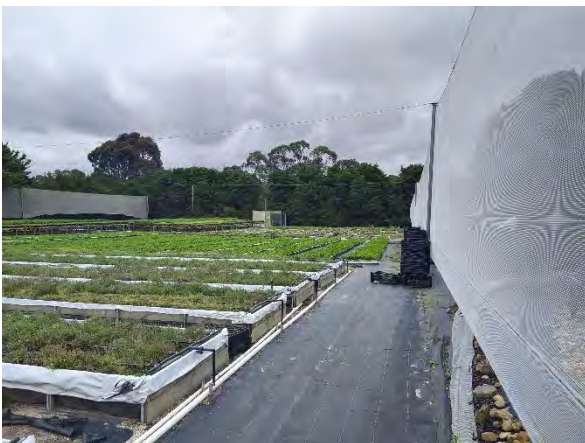


Figure 9: Fresh Leaf Farms Limited, 30 Clyde-Five Ways Road, Clyde



Figure 10: Fresh Leaf Farms Limited, 30 Clyde-Five Ways Road, Clyde





Figure 11: Fresh Leaf Farms Limited, 30 Clyde-Five Ways Road, Clyde



Figure 12: Fresh Leaf Farms Limited, 30 Clyde-Five Ways Road, Clyde



Figure 13: 30 Twyford Road, Clyde



Figure 14: 30 Twyford Road, Clyde



Figure 15: 30 Twyford Road, Clyde



Figure 16: 30 Twyford Road, Clyde





Figure 17: Caseys Top Catz Boarding Cattery, 34 Bakers Road, Clyde



Figure 18: Caseys Top Catz Boarding Cattery, 34 Bakers Road, Clyde



Figure 19: Caseys Top Catz Boarding Cattery, 34 Bakers Road



Figure 20: Caseys Top Catz Boarding Cattery, 34 Bakers Road



Figure 21: Cartage Australia 35 Devon Road, Devon Meadows



Figure 22: Cartage Australia 35 Devon Road, Devon Meadows





Figure 23: Cartage Australia 35 Devon Road, Devon Meadows



Figure 24: Cartage Australia 35 Devon Road, Devon Meadows



Figure 25: 42 Craig Road, Devon Meadows



Figure 26: 42 Craig Road, Devon Meadows



Figure 27: 42 Craig Road, Devon Meadows



Figure 28: 42 Craig Road, Devon Meadows





Figure 29: Devon Meadows Fire Station, 47-49 Finsbury Road, Devon Meadows



Figure 30: Devon Meadows Fire Station, 47-49 Finsbury Road, Devon Meadows



Figure 30: Metro Industrial Sands and TGS Industrial Sands, 60 Devon Road, Devon Meadows



Figure 31: Metro Industrial Sands and TGS Industrial Sands, 60 Devon Road, Devon Meadows



Figure 32: Metro Industrial Sands and TGS Industrial Sands, 60 Devon Road, Devon Meadows



Figure 34: Metro Industrial Sands and TGS Industrial Sands, 60 Devon Road, Devon Meadows





Figure 33: B&E Flowers, 75 Fisheries Road, Devon Meadows



Figure 34: B&E Flowers, 75 Fisheries Road, Devon Meadows



Figure 35: J & Y Healey PTY, 85 Devon Road, Devon Meadows



Figure 36: J & Y Healey PTY, 85 Devon Road, Devon Meadows



Figure 37: LJ Kitchen, 90 Clyde-Five Ways Road, Clyde

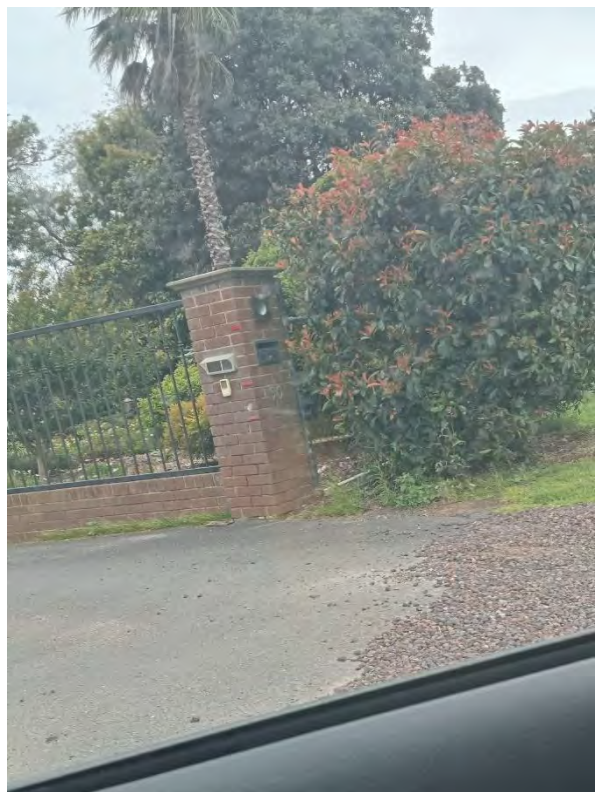


Figure 40: LJ Kitchen, 90 Clyde-Five Ways Road, Clyde





Figure 38: Halit Flowers, 95 Devon Road, Devon Meadows



Figure 39: Halit Flowers, 95 Devon Road, Devon Meadows



Figure 40: South Gippsland Eggs 100 Devon Road, Devon Meadows



Figure 41: South Gippsland Eggs 100 Devon Road, Devon Meadows



Figure 42: J & E Wholesale Flowers 105 Devon Road, Devon Meadows



Figure 43: J & E Wholesale Flowers 105 Devon Road, Devon Meadows





Figure 44: Plantex Nursery, 110 Campbells Road, Clyde



Figure 45: Plantex Nursery, 110 Campbells Road, Clyde



Figure 46: Nunkeri Stables, 111 Craig Road, Cranbourne South



Figure 50: Nunkeri Stables, 111 Craig Road, Cranbourne South



Figure 47: D'Alberto Egg Farm, 135 Devon Road, Devon Meadows



Figure 48: D'Alberto Egg Farm, 135 Devon Road, Devon Meadows





Figure 49: D'Alberto Egg Farm, 135 Devon Road, Devon Meadows



Figure 50: D'Alberto Egg Farm, 135 Devon Road, Devon Meadows



Figure 51: 251 Clyde Five - Ways Road, Clyde



Figure 52: 251 Clyde Five - Ways Road, Clyde



Figure 53: 7-Eleven Petrol Station Cranbourne South, 1240 Ballarto Road, Cranbourne East



Figure 54: Eleven Petrol Station Cranbourne South, 1240 Ballarto Road, Cranbourne East





Figure 55: Buncha Flowers, 1360 Ballarto Road, Devon Meadows



Figure 60: Buncha Flowers, 1360 Ballarto Road, Devon Meadows



Figure 56: Aurora Construction Materials ACM Clyde, 1470 Ballarto Road, Clyde



Figure 57: Aurora Construction Materials ACM Clyde, 1470 Ballarto Road, Clyde





Figure 58: Aurora Construction Materials ACM Clyde, 1470 Ballarto Road, Clyde



Figure 59: Aurora Construction Materials ACM Clyde, 1470 Ballarto Road, Clyde



Figure 60: BP Service Station, 1490 Ballarto Road, Clyde



Figure 61: BP Service Station, 1490 Ballarto Road, Clyde





Figure 67: E.E. Muir and Sons, 1985 South Gippsland Highway, Clyde



Figure 62: E.E. Muir and Sons, 1985 South Gippsland Highway, Clyde



Figure 63: E.E. Muir and Sons, 1985 South Gippsland Highway, Clyde



Figure 70: E.E. Muir and Sons, 1985 South Gippsland Highway, Clyde





Figure 64: 7-11 Petrol station, Corner Clyde Five- Ways Road South Gippsland Highway, Clyde



Figure 65: 7-11 Petrol station, Corner Clyde Five- Ways Road South Gippsland Highway, Clyde



Figure 66: 7-11 Petrol station, Corner Clyde Five- Ways Road South Gippsland Highway, Clyde



Figure 67: 7-11 Petrol station, Corner Clyde Five- Ways Road South Gippsland Highway, Clyde





Figure 68: South Gippsland Highway



Figure 69: South Gippsland Highway



Figure 70 Casey BMX Club, 160 Berwick - Cranbourne Road, Cranbourne East



Figure 71: Casey BMX Club, 160 Berwick - Cranbourne Road, Cranbourne East



Figure 72: Limnos Poultry, 109-111 Craig Road, Cranbourne South



Figure 80: Limnos Poultry, 109-111 Craig Road, Cranbourne South





Figure 73: Limnos Poultry, 109-111 Craig Road, Cranbourne South



Figure 74: Limnos Poultry, 109-111 Craig Road, Cranbourne South



Figure 75: 50 Worthing Road, Clyde



Figure 76: 50 Worthing Road, Clyde



Figure 77: Crop Wise Fertilisers Pty, 40 Moores Road, Clyde



Figure 78: Crop Wise Fertilisers Pty, 40 Moores Road, Clyde





Figure 79: Crop Wise Fertilisers Pty, 40 Moores Road, Clyde



Figure 80: Crop Wise Fertilisers Pty, 40 Moores Road, Clyde



Figure 81: Corrigan L&M, 71 Fisheries Road, Devon Meadows



Figure 90: Corrigan L&M, 71 Fisheries Road, Devon Meadows



Figure 82: Bashkimi Flowers, 85 Clyde Five-Ways Road, Clyde



Figure 83: Bashkimi Flowers, 85 Clyde Five-Ways Road, Clyde





Figure 84: 165 Clyde Five- Ways Road, Clyde

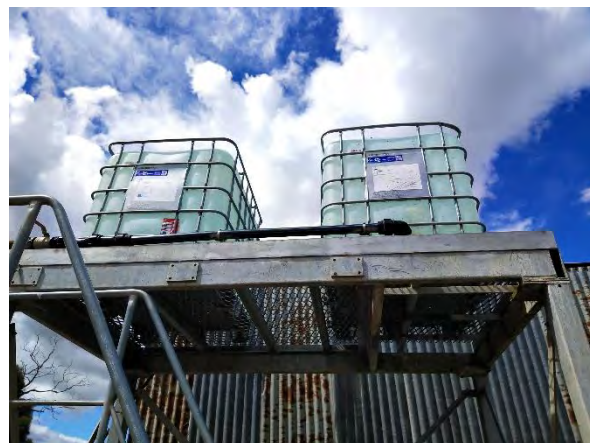


Figure 85: 165 Clyde Five- Ways Road, Clyde



Figure 86: 165 Clyde Five- Ways Road, Clyde



Figure 87: 165 Clyde Five- Ways Road, Clyde



Figure 88: 165 Clyde Five- Ways Road, Clyde



Figure 89: 165 Clyde Five- Ways Road, Clyde





Figure 90: 215 Clyde Five- Ways Road, Clyde



Figure 100: 215 Clyde Five- Ways Road, Clyde



Figure 101: 215 Clyde Five- Ways Road, Clyde



Figure 91: 215 Clyde Five- Ways Road, Clyde





Figure 92: 235 Clyde Five- Ways Road, Clyde



Figure 93: 235 Clyde Five- Ways Road, Clyde



Figure 94: 245 Clyde Five- Ways Road, Clyde



Figure 95: 245 Clyde Five- Ways Road, Clyde



Figure 96: 245 Clyde Five- Ways Road, Clyde



Figure 97: 245 Clyde Five- Ways Road, Clyde





Figure 98: 1591 South Gippsland Highway, (877m North West of PSP)  
Cranbourne East



Figure 99: 1591 South Gippsland Highway, (877m North West of PSP)  
Cranbourne East

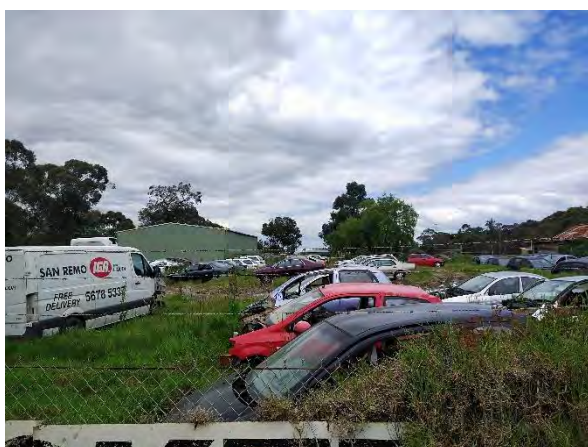


Figure 100: 1790 South Gippsland Highway, Devon Meadows



Figure 101: 1790 South Gippsland Highway, Devon Meadows



Figure 102: Faceys Nursery Pty Ltd, 1870 South Gippsland Highway, Devon  
Meadows



Figure 103: Faceys Nursery Pty Ltd, 1870 South Gippsland Highway, Devon  
Meadows





Figure 104: Clear View Commercial Glass 1925 South Gippsland Highway, Clyde



Figure 105: Clear View Commercial Glass 1925 South Gippsland Highway, Clyde



Figure 106: 1715 South Gippsland Highway, Cranbourne East



Figure 107: 1715 South Gippsland Highway, Cranbourne East



Figure 119: Golden Nursery, 1945 South Gippsland Highway, Clyde



Figure 120: Golden Nursery, 1945 South Gippsland Highway, Clyde