BACKGROUND REPORT

Maddingley Planning Study

March, 2019

Prepared for

Moorabool Shire Council

Prepared by

centrum
TOWN PLANNING

Use of Report

This report has been prepared by Centrum Town Planning with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with the Client.

Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is confidential and for the exclusive use of Moorabool Shire Council and the Metropolitan Resource Recovery Group.

No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from Centrum Town Planning. Centrum Town Planning disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

References to planning permit applications, proposals, existing, or past or future land uses in this report, in no way represents any support or otherwise from Moorabool Shire Council.

Acknowledgements

Centrum Town Planning would like to thank the following people for their assistance with this project:

- Rod Davison, Senior Strategic Planner, Moorabool Shire Council
- Liam Prescott, Strategic Planner, Moorabool Shire Council
- Keith Jackson, Manager Operations, Grampians Central West Waste and Resource Recovery Group.
- Simon Cotterill, Project Manager Local Buffer Support Program, Metropolitan Waste and Resource Recovery Group

Report author	Raph Krelle MPIA Centrum Town Planning Suite 29, 1st Floor, Killians Walk, Queen Street, Bendigo Telephone: (03) 5410 0565 www.centrumplanning.com.au
Version	B
Date	28 June, 2019

Abbreviations

Commonly used abbreviations in this report are set out in the table below.

Abbreviation	Definition
Council	Moorabool Shire Council
DELWP	Department of Environment, Land, Water and Planning
EAO	Environmental Audit Overlay
EPA	Environment Protection Authority (Victoria)
ESO	Environmental Significance Overlay
GRZ	General Residential Zone
IN1Z / IN2Z / IN3Z	Industrial 1,2&3 Zones
MBC	Maddingley Brown Coal Pty Ltd
MSS	Municipal Strategic Statement
PEP	Parwan Employment Precinct
PPF	Planning Policy Framework
VPP	Victoria Planning Provisions
WRR	Waste and Resource Recovery
WRRG	Waste and Resource Recovery Group

Source: Centrum Town Planning, 2019

Definitions

Key definitions used in this report are set out in the table below.

Term	Definition	Source
Agent of change	Principle that the person or entity that is responsible for the change is responsible for managing the impact of the change.	ERM, 2018
Amenity	The circumstances needed for a person need to live comfortably, such as the absence of excessive dust, odour and noise.	ERM, 2018
Buffer	The land that is used to achieve a separation distance between uses to minimise amenity impacts	
Maddingley WRR Hub	The land comprising MBC's operations as defined in the Bacchus Marsh Urban Growth Framework Plan	MSS Clause 21.07
Putrescible waste	Readily decomposes and includes food and organic material from gardens.	SWRRP
Reverse amenity	Impact of sensitive uses affecting an industrial or similar activity in a way that limits their operations.	
Sensitive use	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, child care centres, pre-schools, primary schools, education centres or informal outdoor recreation sites .	EPA 1518 *Note, definition varies across documents*
Solid inert waste	Neither chemically nor biologically reactive and will not decompose. Includes glass, sand and concrete	SWRRP
Separation distance	Distance between land uses that require a buffer	
Threshold distance	Point beyond which a planning permit or assessment is needed for a use	
Upset conditions	Breakdown in plant or extreme weather conditions which results in emissions above and beyond what the site is licensed to emit.	ERM, 2018
Waste hub	Facilities, or groups of facilities, that process or manage waste and material streams.	SWRRP
Waste to energy	The production of usable forms of energy from individual or mixed material streams. Energy products include electricity, heat, biogas and process derived fuels.	SWRRP

Source: Centrum Town Planning, 2019, ERM, 2018, 3, Sustainability Victoria, 2018

Contents

Maps

Figures

Tables

Executive summary

This Background Report provides the context and analysis for the development of a Maddingley Planning Study for the Maddingley Waste and Resource Recovery Hub and Maddingley Investigation Areas A&B, referred to in this document as the 'Maddingley Planning Study'.

The purpose of the Maddingley Planning Study is to provide the strategic foundation for potential changes to the Moorabool Planning Scheme that will guide future land use and development within amenity buffers of the Maddingley WRR Hub and other industrial uses.

The study area is mainly located on an elevated plateau that extends to from the southern boundary of the Bacchus Marsh urban area to Parwan Creek (refer to Figure 1 and Map 1). Key features of the study area include:

- Approximately ten square kilometres in area.
- Approximately 26 landholdings, including Maddingley Brown Coal (MBC), which owns approximately 72% of the land in the study area.
- Predominantly rural character, with unmade roads and mostly cleared of vegetation.
- Brown coal is located underneath much of the northern part of the study area.
- Major land uses include Maddingley Brown Coal WRR Hub, landfill, composting and coal mine and the JBD Industrial Park in Rowsley Station Road, which includes Calix.
- Directly supports in the order of 170 full time equivalent jobs, with the majority in the waste management, manufacturing and mining sectors.
- Predominantly zoned Special Use Zone (SUZ1), with large areas of Farming and industrial zoned land.

The report identifies the following planning issues that will require consideration in the Maddingley Planning Study:

- relatively low levels of recent development activity due a broad range of macro economic and local factors;
- the presence of residential zoned land within existing buffers but outside the study area;
- the presence of long-established dwellings within the study area;
- some history of amenity impacts from industry on existing sensitive uses within the study area;
- extensive areas of land covered by existing buffers to industry, yet no formal recognition of the buffers;
- uncertainty about the current status of the coal resource from a strategic perspective;
- low levels of infrastructure and unsealed roads across most of the study area;
- planning provisions that are outdated and do not appropriately respond to the current and emerging issues facing the precinct;
- lack of an approved Management and Development Plan under the Special Use Zone;
- recent subdivision activity for residential purposes in the Mixed Use Zone within recommended coal and composting buffers.

The report also identifies a range of opportunities for development, employment and the local economy:

- strategic location immediately to the south of the Bacchus Marsh urban area and close to proposed future commercial and industrial precincts including the Parwan Employment Precinct (PEP);
- presence of several large and well-established industries;
- large areas of vacant land with good separation distances to sensitive uses;
- an established and expanding material recycling sector;
- potential for the development of waste to energy uses and active interest in exploring this potential;
- a significant coal resource, with a wide range of potential applications;
- current interest from industry in developing new uses that capitalise on the coal resource;
- the potential to benefit significantly from the proposed Eastern Link Road connection with the Western Freeway (alignment yet to be identified).

The report concludes that the key challenges for the Maddingley Planning Study are considered to be:

- how to protect and plan for a waste hub of state significance at the local level;
- how to formally recognise existing buffers in the Planning Scheme, particularly the amalgamated MBC coal and composting buffer, including consideration of the BPEM to reduce buffer requirements;
- how to develop policies and provisions for the operation of buffers both within and outside the Planning Scheme;
- how to appropriately apply zones in conjunction with any other buffers tools;
- determining whether it may be possible to use the industrial zones more extensively;
- reviewing the provisions of the Special Use Zone (SUZ1);
- determining the type and level of infrastructure that might be required to attract industry and development activity;
- identifying a suitable framework for identifying and levying infrastructure costs that should be shared;
- gaining community and stakeholder support for the Maddingley Planning Study;
- how to balance competing objectives in the absence of a full evidence base to measure different social, economic and environmental outcomes.

Introduction

Background

In December, 2018, Moorabool Shire Council engaged Centrum Town Planning to prepare a plannings study for the Maddingley Waste and Resource Recovery Hub and Maddingley Investigation Areas A&B (the 'Maddingley Planning Study'). The study areas are located in Maddingley, which is located approximately 1.5 kilometres from central Bacchus Marsh, as shown in Figure 1 and Map 1. The study is being sponsored by the Metropolitan and Grampians Central West Waste and Resource Recovery Groups.

The study area has an extensive planning history that extends back to the 1970s. The main issues have related to the tension between existing industrial uses, coal reserves and proposed residential expansion. The presence of the Maddingley WRR Hub in the study area is of particular importance. The WRR Hub comprises a landfill, resource recovery activities and coal mine. The WRR Hub is of growing significance as a waste and resource recovery hub for Victoria.

The Planning Study has been motivated by recent broad-scale strategic planning for the future urban form of Bacchus Marsh through the preparation of the Bacchus Marsh Urban Growth Framework, the subsequent approval of Moorabool Planning Scheme Amendment C81 and strategic planning carried out by the Waste and Resource Recovery Groups. These initiatives have found that the study area requires protection from new sensitive uses and that the existing planning framework is in need of review in order to secure the future potential of the area for a range of non-sensitive uses.

Purpose

The purpose of the project is to provide the strategic foundation for potential changes to the Moorabool Planning Scheme that will better resolve the tension between industry and other uses. This framework will also allow appropriate new uses to establish and grow within a clear and robust planning framework.

The study represents an important step in implementing the findings of recent strategic planning work and balancing the various interests that exist in the study area. This background report will provide the context and analysis for the Maddingley Planning Study. It will assist in identifying constraints and opportunities and presenting the issues and options to Council. It will also assist in the engagement process with industry, landowners, the broader community and other stakeholders.

Scope

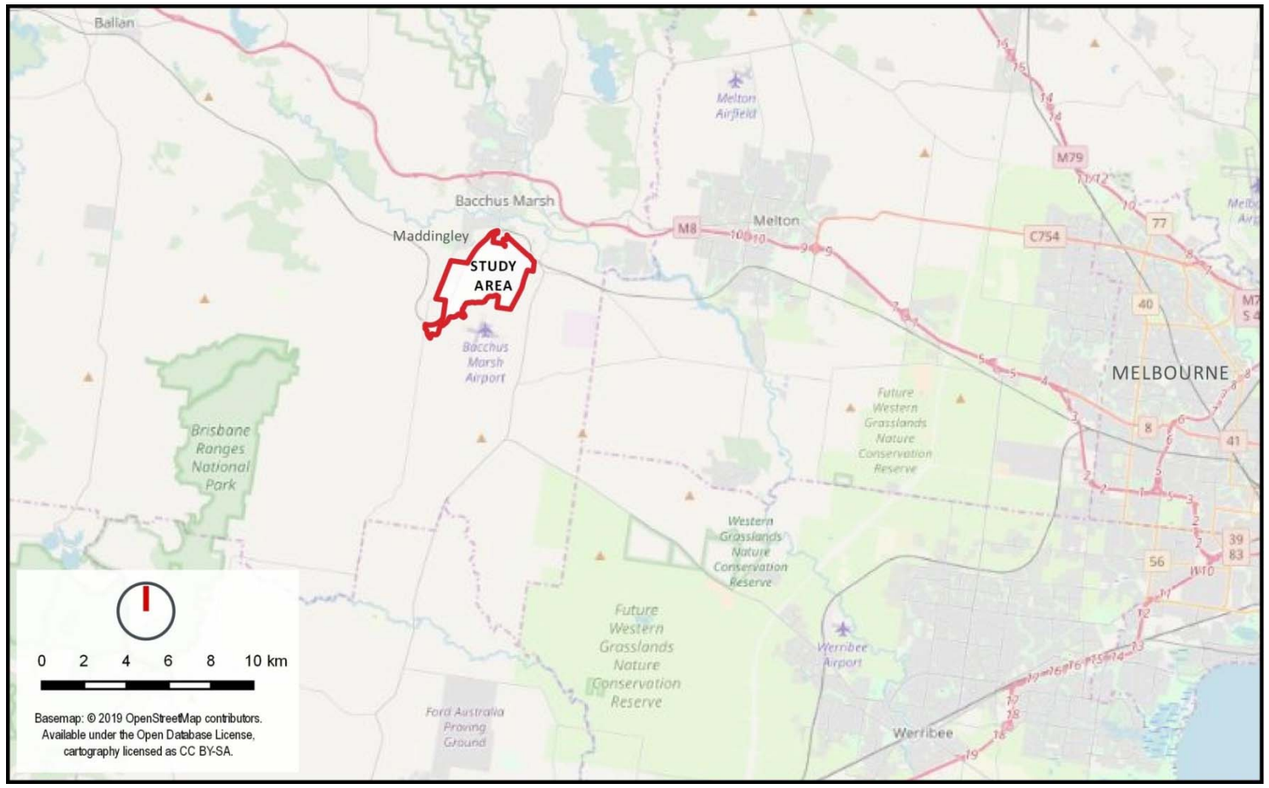
The focus of the project is on land use considerations rather than the physical form of development, such as potential urban structure and built form. This study supports the revised strategic direction in the Moorabool MSS to manage off-site impacts and avoid conflict with sensitive uses for industrial and mineral resources. The study does not re-explore this issue, but will give consideration to how planning should deal with existing sensitive uses in the study area in the future.

Objectives

The objectives of the Maddingley Planning Study are to:

- investigate options for future non-sensitive and compatible land uses within the study area;
- identify opportunities for uses that can leverage off the strategic relationship with activities at the Maddingley Waste and Resource Recovery Hub (Maddingley WRR Hub).
- critically review the existing planning controls that apply to Maddingley WRR Hub and surrounds;
- identify appropriate buffers to the Maddingley WRR Hub and other uses with adverse amenity potential;
- develop a planning vision for the precinct, and its various sub-areas;
- develop new planning provisions for the study area that will better align with State Planning Policy and the growing significance of the Maddingley WRR Hub to Metropolitan Melbourne.

Figure 1. Study area locality map



Source: Knightvision, 2019

Report structure

This background report can be broadly divided into the following sections:

- Part A, which describes the study area in terms of its physical, environmental and land use context;
- Part B, which provides an overview of the planning history of the area and reviews the strategies and policies that are relevant to the study from a strategic land use and strategic waste context;
- Part C, which identifies and discusses issues and opportunities relating to key themes and identifies key questions for consideration and feedback.

Methodology

Project methodology

The Maddingley Planning Study will be delivered in two key stages comprising three steps each:

Stage 1

- Inception
- Literature review and assessment of existing conditions and constraints *(current stage)*
- Consultation with key business owners and stakeholders

Stage 2

- Synthesis & draft Maddingley Planning Study, including maps and new provisions
- Consultation
- Finalisation of draft Maddingley Planning Study and community and landowner consultation

Following Stage 2, Moorabool Shire Council will formally consider the Planning Study and how it should be implemented in the Moorabool Planning Scheme.

General information sources

The Maddingley Planning Study has been prepared based on a range of primary and secondary data sources, as identified throughout the report, including:

- Existing and past strategic planning documents'
- Planning panel and advisory committee reports;
- Planning permit applications received by Moorabool Shire Council;
- Planning permits issued by Moorabool Shire Council;
- VCAT cases.

Map data sources

The maps in this report have been produced by KnightVision with input from Centrum Town Planning. A Geographic Information System (GIS) was utilised to overlay various layers of spatial data to create the maps and perform spatial analysis to provide the information needed for the planning assessment.

Existing GIS layers were collected from various sources including Moorabool Shire Council, Maddingley Brown Coal, and the Victorian State Government. These have been acknowledged in the Data Sources section on each map where applicable.

The maps in this study have been prepared using GIS data from GeoVic. The assessment of existing land uses was based on site inspections and a review of aerial photographs taken in January, 2019.

Buffer methodology

For the buffer maps, a Land Use Activity Area was defined for each site that requires a buffer for surrounding sensitive land uses. The initial extent of these (and corresponding buffers) was provided by Moorabool Council, based on Figure F1, Separate Sensitive Use Buffers, from report "Environmental Matters Concerning Proposed Amendment C81 to the Moorabool Planning Scheme" by Peter J Ramsay and Associates, Rev. 00. After inspecting these layers closely and gathering further information, some of these features had to be amended and new features were added.

To digitise the information accurately, KnightVision used GIS to geo-reference the source drawings and maps, then digitise the relevant information to create new layers.

The latest available aerial photography (from Nearmap Ltd, dated 13/01/2019) was examined to create a point for each visible building that appeared to be a dwelling or relevant land use. Each point was visually assessed on the aerial photograph, and classified. The results were not ground truthed or cross-referenced with Council rates data, but this method was considered to provide a suitable level of accuracy for the Maddingley Planning Study.

Part A | The Study Area

Description of the study area

Municipal context

Moorabool Shire is a fast-growing peri-urban municipality nestled between Melbourne, Geelong and Ballarat. The population of the municipality is approximately 34,000 (2018). More than half the population lives in Bacchus Marsh and surrounds (19,922). The Shire's second largest population can be found in and around Ballan (3,101).

Covering more than 2,110 square kilometres, Moorabool Shire is made up of 64 localities, hamlets and towns. More than 74% of the Shire comprises water catchments, state forests and national parks.

Traditional economic drivers such as agriculture, timber, wool and beef production and mineral, stone and water extraction remain extremely important to Moorabool's economy. Residential growth, construction, retail and service industries, light manufacturing and tourism are emerging areas of growth.

Moorabool Shire is positioned along the major road and rail transport corridors between Melbourne and Adelaide. The Shire straddles Victoria's Western Highway and the Ballarat Rail line.

With Bacchus Marsh and Ballan identified as growth towns in Plan Melbourne and the Central Highlands Regional Growth Plan, the municipality is set to undergo significant growth and change. The population of the Shire is estimated to increase by 57% between 2018 and 2041 to 53,270 (Moorabool Shire Council, 2018).

Physical context

The town of Bacchus Marsh is located in the river valley of the Werribee and Lerderderg Rivers. The study area is mainly located on an elevated plateau that extends from the southern boundary of the Bacchus Marsh urban area to Parwan Creek. The study area is physically and visually separated from most of the urban area by an escarpment that forms the southern boundary of the urban area.

The western boundary of the study area is Bacchus Marsh-Balliang Road and the Melbourne to Ballarat Railway Line. The eastern boundary is the Geelong-Bacchus Marsh Road and Cummings Road. It has an area of approximately 1,087 hectares (10 square kilometres).

The topography of the study area varies. The south western part of the study area is gently undulating and elevated and has a height of around 150 metres AHD. The northern and eastern parts of the study area feature steeper slopes and offer distant views of the Lerderderg State Park to the north of Bacchus Marsh, as shown in Photographs 1 and 2. The study area is shown in Map 1.

Settlement

The pattern of settlement generally reflects the rural history of the area. Most of the land is held in large rural lots, apart from a cluster of smaller lots in the northern part of the study area. The roads within the study area are located in a grid type pattern. The two roads that flank the study area (Bacchus Marsh-Balliang Road and Bacchus Marsh-Geelong Road) meander to accommodate the undulating landscape.

Landscape and vegetation

Most of the study area has a distinctly rural feel, with unmade roads, rural fences and large expanses of cleared land, some of which is used for farming. The study area was historically used for agriculture and, as a result, most of the study area is cleared of native vegetation. The main exceptions are the banks of the Parwan Creek, which has Plains Grassy Woodland and Creekline Grassy Woodland vegetation. Scattered Plains Grassland and Plains Grassy Woodland vegetation also exists in patches throughout the study area. These areas as shown on Map 2. The Grassy Woodland vegetation types have a Bioregional Conservation Status of Endangered and form part of the Victorian Volcanic Plains Bioregion (http://maps.biodiversity.vic.gov.au).

During the preparation of the Bacchus Marsh Urban Growth Framework, Moorabool Shire Council commissioned an assessment of environmental values for land around Bacchus Marsh, which included the study area (Practical Ecology, 2016). This assessment did not assess all areas in detail, but found small areas of moderate and high environmental values in the western part of the study area to the north of the JBD Industrial Park and also on various parcels of land between East Maddingley Road and the Railway Line (Practical Ecology, 2016, 46&55).

Brown coal is located underneath much of the northern part of the study area, as shown on Map 2. There are several remnant open cut coal pits located in the vicinity of Cummings Road that are now used as dams. These are visible on Map 1. The largest pits at Maddingley Brown Coal are being filled with solid waste that has formed a large mound that is visible from most vantage points in the east of the study area.

Buildings and structures are not evident in most parts of the study area, apart from the northern part of the study area and the JBD Industrial Park in Rowsley Station Road.

Waterways and catchments

Parwan Creek flows along the southern boundary of the study area. It has steep banks in some sections, as shown in Photograph 3. The creek flows into the Werribee River to the north east of the study area. The Werribee River provides water for irrigation districts at Bacchus Marsh and Werribee and water for urban areas. These waterways form part of the Port Phillip Catchment, which is administered by the Port Phillip and Westernport Catchment Management Authority and Melbourne Water. Groundwater aquifers also exist beneath the study area.

Cultural heritage

There are areas of Aboriginal Cultural Heritage Sensitivity along Parwan Creek and south of Kerrs Road at the new Rowsley Crossing Loop Project, as shown on Map 2.

Economy

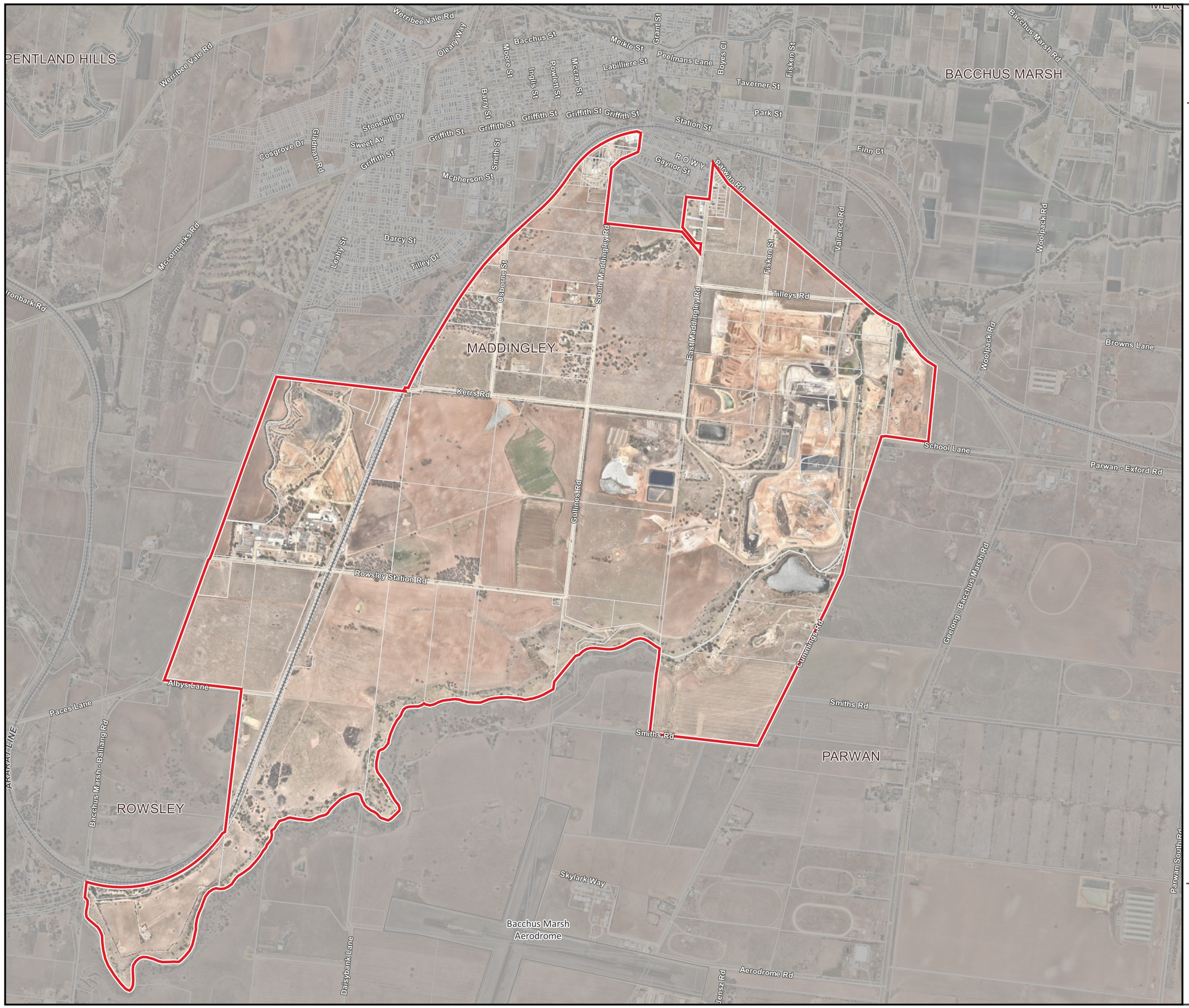
The study area directly supports in the order of 170 full time equivalent jobs, with the majority in manufacturing and mining sectors (SGS, 2015, 49).

Photograph 1 Looking north along Cummings Road across Maddingley WRR Hub

Photograph 2 Looking north from Maddingley East Road to Bacchus Marsh Railway Station

Photograph 3 Parwan Creek and railway bridge at southern boundary

Maddingley Planning Study



LEGEND

- Study Area
- Property Boundary
- Parcel Boundary
- Road
- Railway Line
- Aerodrome

0 250 500 750 1000 m

GIS maps produced by knightvision

Data Sources

Aerial imagery: Nearmap Ltd, photograph dated 13/01/2019.

Basemap Layers: Vicmap data, 2019. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

MAP 1 STUDY AREA

BACKGROUND REPORT (DRAFT)

Prepared for **Moorabool Shire Council**

Prepared by centrum TOWN PLANNING

File: V:\OneDrive\CTP\Maddingley_Planning_Study\Maps\Rev0\Map01_Study_Area.qgs

Date: 07/06/2019 Revision: Rev. 0

Maddingley Planning Study

LEGEND

- Study Area
- Significant Landuse
- Property Boundary
- Parcel Boundary
- Crown Land
- Aboriginal Heritage Sensitivity Area
- Road
- Railway Line
- Aerodrome
- Topographic Contour (interval 10 mAHD)
- Winnable in-situ coal resource protected*
- Winnable in-situ coal resource forgone*

*Source: "Maddingley Brown Coal Resource Strategic Review", Department of Sustainability and Environment and the Department of Primary Industries (Victoria), October 2006.

Surface Water Feature

- River
- Stream
- Drain or Channel
- Water Body

Planning Overlay (within Study Area)

- AIRPORT ENVIRONS OVERLAY (AEO1)
- DESIGN AND DEVELOPMENT OVERLAY - SCHEDULE 15 (DDO15)
- DESIGN AND DEVELOPMENT OVERLAY - SCHEDULE 2 (DDO2)
- ENVIRONMENTAL AUDIT OVERLAY (EAO)
- ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 2 (ESO2)

Ecological Vegetation Class (EVC) within Study Area

- Creekline Grassy Woodland
- Plains Grassland
- Plains Grassy Woodland
- Red Gum Swamp

0 250 500 750 1000 m

GIS maps produced by knightvision

Data Sources

Coal Resource layers: Digitised by KnightVision from Figure 5 - Scenario 2 Coal Resource Protection Boundary in "Maddingley Brown Coal Resource Strategic Review", Department of Sustainability and Environment and the Department of Primary Industries (Victoria), October 2006.

Crown Land: Based on VicMap data and updated based on information provided by Moorabool Shire Council on 13/02/2019.

Basemap Layers, Planning Overlays, Aboriginal Heritage Sensitivity Areas, and Ecological Vegetation Class (EVC 2005): Vicmap data, 2019. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

MAP 2

ENVIRONMENTAL / PHYSICAL CONTEXT

BACKGROUND REPORT (DRAFT)

Prepared for **Moorabool Shire Council**

Prepared by centrum TOWN PLANNING

File: V:\OneDrive\CTP\Maddingley_Planning_Study\Maps\Rev0\Map02_Enviro_Physical_Context.qgs

Date: 07/06/2019 Revision: Rev. 0

Land use profile

The type, location and extent of existing land uses in the study area is an important influence on the Maddingley Planning Study. This section of the report provides a summary of these land uses to provide the context for the study. These uses are also shown in Map 4.

Table 7 in Attachment A provides an inventory of all existing commercial land uses that have been identified in the study area, together with information about how the use is defined in the Moorabool Planning Scheme, the approvals or provisions under which each use operates, and other relevant information.

Land area by zone

There are five zones that apply to the land in the study area, as shown in Table 1, below. The majority of the land (56%) is zoned Special Use (SUZ1). In total, there are 160 land parcels, the majority of which are also located in the Special Use Zone. The current application of zones across the study area is shown in Map 3.

The landholdings in the Farming Zone are relatively large; the Farming Zone affects 30% of the study area, but only 14% of its land parcels.

Table 1 Land area and lot sizes, by zone

Zone	Area (ha)	%	Parcels (no.)	%
Special Use Zone (SUZ1)	604	56%	120	75%
Farming Zone (FZ)	327	30%	23	14%
Industrial 2 Zone (IN2Z)	81	7%	8	5%
Industrial 1 Zone (IN1Z)	60	6%	5	3%
Public Use Zone (PUZ4)	14	1%	4	3%
Total	1,087	100%	160	100%

Source: Centrum Town Planning and Knightvision, 2019.

Land ownership

At February, 2019, there were a total of 26 landowners in the study area. These are shown on Map 4.

The ownership is of land is dominated by Maddingley Brown Coal, which owns approximately 785 hectares or 72% of the land in the study area. The MBC landholding is identified in Map 4.

Sensitive uses

There are approximately 17 dwellings in the study area. Most of the dwellings are clustered in the northern part of the study area in the vicinity of Osborne Street, South Maddingley Road and East Maddingley Road. A number of the dwellings are associated with adjoining commercial operations. At least one of the dwellings, at 13 East Road, has approval as a caretakers dwelling.

Non-sensitive uses

Industry, mining and waste management are the predominant land uses in the study area, both in terms of the number of uses and area devoted to the use. There are approximately 10 industrial enterprises in the study area. Most of these are clustered in the JBD Industrial Park on the north side of Rowsley Station Road in the western part of the study area.

The Maddingley WRR Hub is the dominant use in the study area in terms of land area and visual presence. It occupies approximately 288 hectares (mining licence area) and is the largest commercial operation in terms of land area. Most of the land that is zoned Farming is used for grazing, cropping or no apparent use. The northern part of the study area that adjoins the urban area features a number of service related uses, including motor repairs and a hardware store.

Based on planning permit information, most of the uses in the study area have been established for at least 10 years, although some current planning permits have replaced or updated older planning permits. For example, Permit PA2008329, which was issued in 2008, provides a broad approval to use all buildings in the JBD Industrial Park for industrial use. MBC has a long history of planning approvals and processes that is discussed in the following section of the report.

In addition to current uses, there are physical reminders of a number of past uses in the study area. These include a cleaning and cement/sand washing operation to the south of Kerrs Road in the Industrial 2 Zone and former poultry sheds in the north of the study area on East Maddingley Road.

External influences

There are a number of land uses located immediately adjacent to the study area that provide important context for the Maddingley Planning Study, as shown on Map 4. These include established residential areas zoned General Residential within 50 metres of the study area as follows:

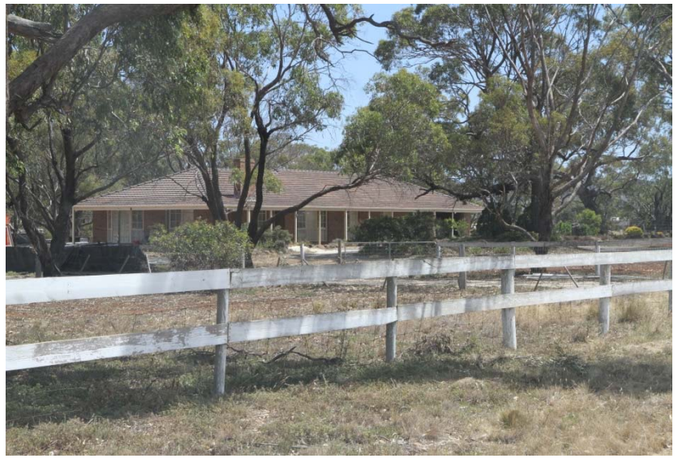
- to the north west (Tilley Drive area)
- north (Gaynor Street area); and
- north east (Fisken Street area).

Other key land use influences outside the study area are:

- Bacchus Marsh Grammar School, at 37 South Maddingley Road to the north (zoned Special Use Zone – SUZ4);
- Vacant land and seven dwellings in Fisken Street to the north (zoned Mixed Use);
- Bacchus Marsh Aerodrome and Training School to the south (zoned Farming).

Photograph 4: Maddingley Brown Coal (MBC) active cell and Cell 2 under construction

Photograph 5: JBD Industrial Park on Rowsley Station Road



Photograph 6: Example of residential land uses in the study area

Maddingley Planning Study

LEGEND

- Study Area
- Property Boundary
- Parcel Boundaries
- Road
- Railway Line
- Aerodrome
- Land Use Sites of Interest

Planning Zone (within Study Area)

- FARMING ZONE (FZ)
- INDUSTRIAL 1 ZONE (IN1Z)
- INDUSTRIAL 2 ZONE (IN2Z)
- PUBLIC USE ZONE - TRANSPORT (PUZ4)
- ROAD ZONE - CATEGORY 1 (RDZ1)
- ROAD ZONE - CATEGORY 2 (RDZ2)
- SPECIAL USE ZONE - SCHEDULE 1 (SUZ1)

Data Sources

Basemap Layers and Planning Zones: Vicmap data, 2019. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

0 250 500 750 1000 m

GIS maps produced by knightvision

MAP 3 ZONE MAP

BACKGROUND REPORT (DRAFT)

Prepared for **Moorabool Shire Council**

Prepared by centrum TOWN PLANNING

File: V:\OneDrive\CTP\Maddingley_Planning_Study\Maps\Rev0\Map03_Zone_Map.qgs

Date: 25/06/2019 Revision: Rev. 0

Maddingley Planning Study

LEGEND

- Study Area
- Property Boundary
- Parcel Boundaries
- Road
- Railway Line
- Aerodrome
- Land Use Sites of Interest

Land Use Points of Interest

- Dwelling
- Aged care / residential
- Animal production
- Education Centre
- Industry
- Materials Recycling
- Mining, Refuse Disposal, Materials Recycling
- Motor racing track
- Motor Repairs
- Restricted Retail
- Store
- Trade Supplies and Timber Yard

Landholdings

- Maddingley Brown Coal controlled land (No. 1)
- Other landowners (Nos. 2-26)

Planning Zone (within Study Area)

- FARMING ZONE (FZ)
- INDUSTRIAL 1 ZONE (IN1Z)
- INDUSTRIAL 2 ZONE (IN2Z)
- PUBLIC USE ZONE - TRANSPORT (PUZ4)
- ROAD ZONE - CATEGORY 1 (RDZ1)
- ROAD ZONE - CATEGORY 2 (RDZ2)
- SPECIAL USE ZONE - SCHEDULE 1 (SUZ1)

GIS maps produced by knightvision

0 250 500 750 1000 m

Data Sources

Land Use Points of Interest: Digitised by KnightVision based on aerial imagery and site visit notes provided by Centrum Town Planning.

Land Use Polygons and Landholder information: Provided by Moorabool Shire Council.

Dwelling Locations are approximate only, and have been digitised by KnightVision based on aerial imagery interpretation.

Basemap Layers and Planning Zones: Vicmap data, 2019. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

MAP 4 EXISTING LAND USE CONTEXT

BACKGROUND REPORT (DRAFT)

Prepared for **Moorabool Shire Council**

Prepared by centrum TOWN PLANNING

File: V:\OneDrive\CTP\Maddingley_Planning_Study\Maps\Rev0\Map04_Existing_Land_Use_Context.qgs

Date: 25/06/2019 Revision: Rev. 0

Transport and infrastructure profile

The study area has varying levels of access to transport and infrastructure, including services. This section of the report provides an overview of existing transport and other infrastructure to provide the basis for feedback and discussion. Map 5 on the following page shows the existing road network and hierarchy and location of reticulated services in the study area.

The Maddingley Planning Study has not involved any detailed investigations into the capacity of this infrastructure to service new development, although these findings may form part of the Maddingley Planning Study recommendations. Issues and opportunities relating to transport and infrastructure are discussed later in the report.

Road network

The study area is serviced by two main roads that flank its eastern and western boundaries: Bacchus Marsh-Geelong Road and Bacchus Marsh Balliang Road. These roads provide a single lane of traffic in each direction. They have speed limits of 80 and 60 kilometres an hour in the urban areas to the north and 100 kilometres per hour in the southern, more rural, parts of the study area.

Bacchus Marsh-Geelong Road is an arterial road managed by VicRoads that carries an estimated 2,500 vehicles in each direction per day between Woolpack Road and Exford Road, including 250 commercial vehicles (VicRoads, 2017). Bacchus Marsh Balliang Road is a local road that is managed by Council and is defined as an 'Access Level 1' road in the Moorabool Shire Council register of public roads. This type of road is a medium to low traffic volume road that provides access to local residents or secondary access to commercial areas. It is equivalent to an Access Street Level 1 and 2 in the Planning Scheme and Infrastructure Design Manual.

The only local roads that are sealed with bitumen other than Bacchus Marsh-Balliang Road are East Maddingley Road, Rowsley Station Road to the JBD Industrial Park , Cummings Road adjacent to the Maddingley WRR Hub and part of Osborne Street.

There are no formal footpaths or walking and cycling trails in the study area, however, Bacchus Marsh-Balliang Road is a popular recreational on-road cycling route.

Public transport

There are no public transport services in the study area. Bacchus Marsh Railway Station is located 200 metres to the north of the study area at its closest point. The Melbourne-Ballarat Railway line provides regular services to Melbourne, Ballarat , Melton and Ballan. There is a bus route (433) that connects the Hillview Estate to the north west of the study area with central Bacchus Marsh.

The Melbourne-Ballarat Railway line traverses the western part of the study area and its alignment takes a loop near Parwan Creek to accommodate the steep topography to the west. The State Government has recently constructed a new stabling yard including train tracks and a shed between Kerrs Road and Rowsley Station Road as part of the 'Rowsley Crossing Loop Project'. These new works have provided more opportunities for trains to pass, increasing reliability on the line.

Gas and electricity

The Brooklyn-Ballan gas pipeline traverses the southern part of the study area. The JBD industrial estate has a pipeline from this main, which is used by Calix. There are no other gas services in the study area.

Overhead powerlines are located along most of the road reserves in the study area, with the exception of Gullines Road, Fisken Street and the norther part of Osborne Street. A substation is located on the corner of Kerrs Road and Bacchus Marsh-Balliang Road just outside the study area.

Water and sewerage

Reticulated water is available to the land that is located generally north of Kerrs Road, along Bacchus Marsh-Geelong Road and at the JBD Industrial Park.

The study area is not serviced with reticulated sewerage. The closest sewer is located in the Rutherford Court industrial estate that abuts the study area to the north west. Reticulated water and sewerage are the responsibility of Western Water.

Wastewater at JBD is treated by two on-site wastewater systems.

Telecommunications

The NBN is available in most parts of the study area, apart from small areas including part of the JBD Industrial Park (www.nbnco.com.au).

Drainage

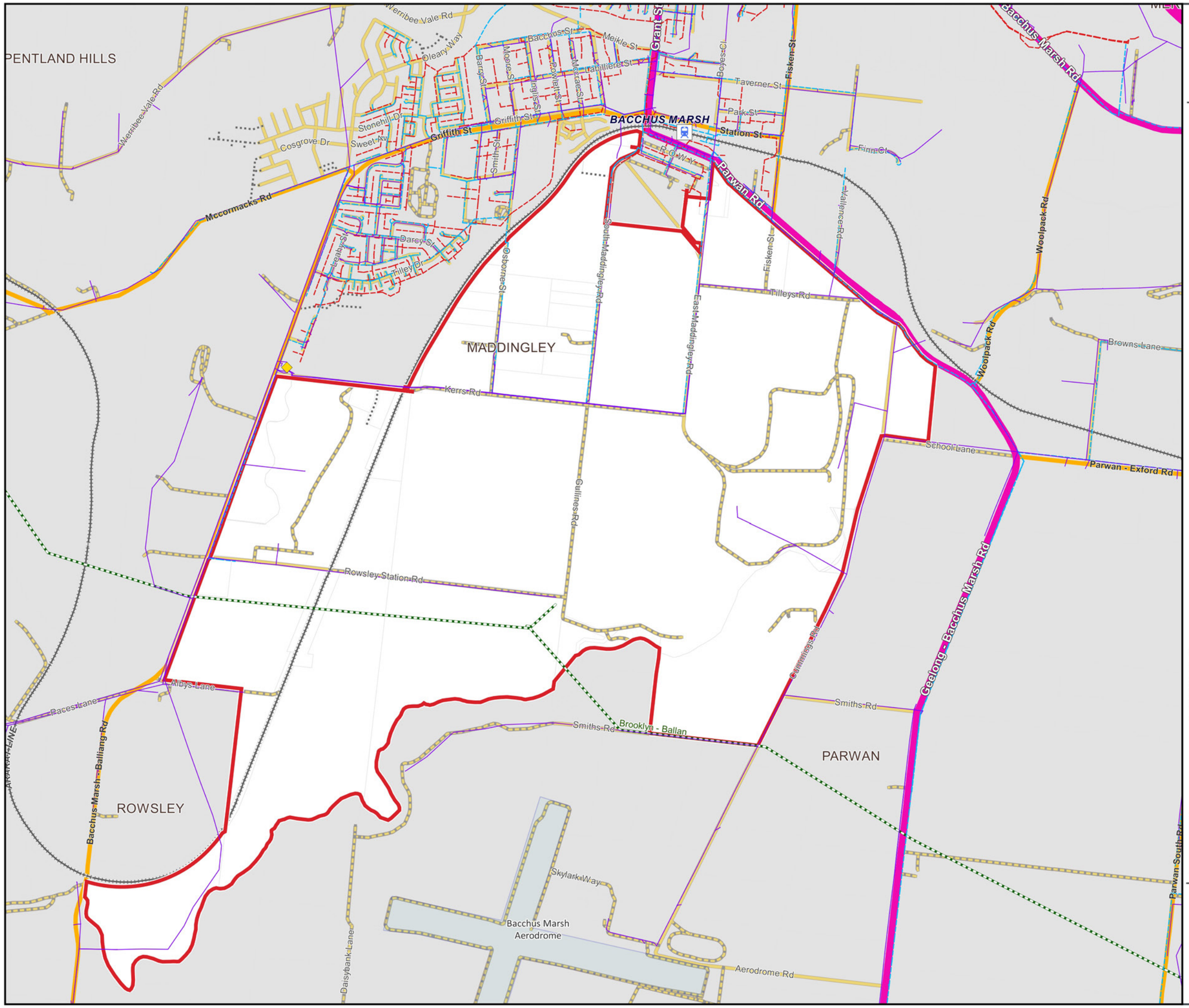
Most of the study area falls to Parwan Creek, although the northern part of the study area falls to the Werribee River. Parwan Creek has a catchment area of 36km2. Water flows overland in the study area and there is no formal drainage infrastructure to convey flows in the study area. Melbourne Water is the authority responsible for drainage of catchments larger than 60 hectares, while Council is responsible for local drainage infrastructure.

Photograph 7: Intersection of Tilleys Road and Bacchus Marsh-Geelong Road

Photograph 8: Melbourne-Ballarat Railway Line at Albys Lane

Photograph 9: Brooklyn-Ballan gas pipeline at Rowsley Park Road

Maddingley Planning Study



LEGEND

- Study Area
- Railway Line
- Railway Station
- Aerodrome

Roads

- Local Road (Sealed)
- Local Road (Unsealed)
- Proposed Road
- Minor Road
- Arterial Road

Utilities

- Power Line
- Zone Substation
- Water Mains
- Sewer Mains
- High Pressure Gas Pipeline

0 250 500 750 1000 m

GIS maps produced by knightvision

Data Sources

Utilities Layers: Provided by Moorabool Shire Council on 01/02/2019.

Basemap Layers and Roads: Vicmap data, 2019. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

MAP 5

TRANSPORT AND INFRASTRUCTURE

BACKGROUND REPORT (DRAFT)

Prepared for **Moorabool Shire Council**

Prepared by centrum TOWN PLANNING

File: V:\OneDrive\CTP\Maddingley_Planning_Study\Maps\Rev0\Map05_Transport_and_Infrastructure.qgs

Date: 07/06/2019 Revision: Rev. 0

Current planning provisions

This section provides a summary of the planning provisions that apply to land in the study area and their operation, with a focus on zones and overlays.

Zones

The main role of zones in the Victoria Planning Provisions is to manage the use of land. Zones are therefore the main tool in the VPP for enabling the long-term vision for an area to be realised over time. As such, they are particularly relevant to issues relating to the management of buffer zones.

The zones that apply to the surrounding land are described in the previous section of the report and are shown in Map 3. Zones specify:

- Section 1 uses that can be carried out without planning approval;
- Section 2 uses that require a planning permit, and
- Section 3 uses that are prohibited.

Zones also contain other permit triggers for the development of land, including for buildings and works and subdivision and control referral and notice requirements.

Table 2 provides a summary of the key attributes of the main zones that apply to land in the study area to enable comparisons to be made for the purposes of the Maddingley Planning Study. The Industrial 3 and Commercial 2 zones have also been included in the table as they allow for industrial land uses and are relevant for the discussion of issues and opportunities later in the report.

The Special Use Zone is a zone that can be customised to recognise or provide for particular land use and development outcomes. All of the zones shown in Table 2 have schedules that can be modified at the local level to control particular use or development outcomes that are relevant to the purposes of the zone.

Overlays

There are three main overlays that apply to land in the study areas. The **Design and Development Overlay (Schedule 2)** applies to all of the land in the study area that is zoned Farming and Industrial 1. It aims to enhance visual amenity and building design. The overlay requires a permit for all buildings and works and signage unless all external surfaces are constructed of non-reflective materials. It requires particular consideration of appearance, visual amenity and landscaping.

The **Environmental Significance Overlay (Schedule 2)** applies to all land approximately 100 metres from Parwan Creek. It aims to protect water catchments, water quality and vegetation. It requires a permit for most buildings and works and vegetation removal.

The **Airport Environs Overlay (Schedule 1)** applies to land on the north side of Parwan Creek near the Bacchus Marsh Aerodrome. It aims to protect airports and limit impacts on people from aircraft noise. The overlay requires buildings to be constructed with noise attenuation measures, use approvals and prohibits sensitive uses. It also triggers a Section 55 referral to the Airport owner.

Table 2 Summary of operation of existing and potential zones in the study area

Permit Trigger	Special Use Zone 1	Farming Zone	Industrial 1 Zone	Industrial 2 Zone	*Industrial 3 Zone*	*Commercial 2 Zone*
Purpose	Coal mining and compatible uses Mining and rehabilitation with regard to surrounding uses and environment Consistency with endorsed Management and Development Plan (MP&DP)	Use of the land for agriculture Retention of productive agricultural land Prevent non-agricultural uses, particularly dwellings Employment and population Encourage sustainable land management	Provide for manufacturing industry, the storage and distribution of goods and associated uses in a manner which does not affect the safety and amenity of local communities	Same as IN1Z, with additional purpose to promote manufacturing industries and storage facilities that require a substantial threshold distance within the core of the zone and keep the core of the zone free for these uses.	Consider the nature and impacts of industrial uses or to avoid inter-industry conflict. Provide a buffer between the IN1Z and IN2Z and local communities To allow limited retail opportunities and protect amenity of sensitive uses	Encourage offices, appropriate manufacturing and industries, bulky goods retailing, other retail uses, and associated business and commercial services. Ensure that uses do not affect the safety and amenity of adjacent, more sensitive uses.
Uses						
Accommodation *	Prohibited, excluding dwelling	Generally prohibited. Dwelling as-of-right on land above 40ha.	Prohibited	Prohibited	Prohibited	Prohibited apart from motel, hotel
Agriculture	Permit required apart from some uses	No permit required apart from more intensive forms	Permit required, crop raising allowed, intensive agriculture prohibited	Permit required, crop raising allowed, intensive agriculture prohibited	Permit required, crop raising allowed, intensive agriculture prohibited	Permit required, intensive agriculture prohibited
Industry	No permit required subject to compliance with MP&DP	Permit required. No permit required for small rural industry 100m from dwellings	No permit required if 30m setbacks to sensitive uses are met and no Note 1 or 2 uses in 52.13.	Permit required	Permit required apart from service industry	No permit required if 30m setbacks to sensitive uses are met and no Note 1 or 2 uses in 52.13.
Office use (other than medical centre)	Permit required	Prohibited	Permit required	Permit required	Permit required	No permit required
Retail	Permit required	Generally prohibited. Trade supplies, produce sales, subject to permit.	Permit required, shop prohibited	Permit required, shop prohibited	Permit required, shop prohibited	Generally permit required
Restricted retail	Permit required	Prohibited	Permit required	Permit required	Permit required	No permit required
Warehouse	Must not be a purpose listed in the table to Clause 52.10.	Permit required	No permit required subject to conditions	Permit required	No permit required if 30m setbacks to sensitive uses are met and no Note 1 or 2 uses in 52.13.	No permit required if 30m setbacks to sensitive uses are met and no Note 1 or 2 uses in 52.13.
Buildings and works	All apart from approvals under the EP Act. Mandatory conditions for fencing, landscaping, screening, parking.	Permit required if associated with Section 2 Use, except for minor works. Permit required if setbacks are not met.	Permit required, with some exemptions for minor works	Permit required, with some exemptions for minor works	Permit required, with some exemptions for minor works	Permit required, with some exemptions for minor works
Subdivision	40ha minimum	40ha minimum in VPP	No minimum	No minimum	No minimum	No minimum
Notice and review	Buildings and works exempt if in accordance with approved MP &DP	No exemptions	Buildings and works and subdivision exempt if 30m setbacks to sensitive areas are met	Buildings and works and subdivision exempt if 30m setbacks to sensitive areas are met	Subdivision exempt if 30m setbacks to sensitive areas are met	Buildings and works and subdivision exempt if 30m setbacks to sensitive areas are met
Referrals	Secretary for MRDA Act >$50,000. Section 55.	-	-	-	-	-

Source: Centrum Town Planning, 2019, based on the Moorabool Planning Scheme and Victoria Planning Provisions at February, 2019

Part B | Strategic and Policy Review

Planning history

The study area has a long history of strategic planning processes, applications, appeals and Ministerial involvement. This section provides a basic summary of the planning history of the Maddingley area to provide the context for the study, with an emphasis on events from the late 1990s onwards.

Maddingley area (pre 1999)

Coal was first found at Maddingley in 1883 and 1923. Mining had begun by the late 1920s but outputs increased significantly after 1943. Mining on the current MBC site was started by Australian Paper Manufacturers in 1948 (Vines, 2008, 45-46). The mine reached its peak production during the 1970s, by which time MBC (then MBCC) was the only operational mine. Key events between 1970 and 1990 included:

- 1978: MBCC gains approval to dispose of solid inert waste from APM only.
- 1979: MBCC gains approval for solid inert and domestic waste.
- 1982: New zones applied in Bacchus Marsh Planning Scheme to existing licensed areas (Mining Zone) and winnable areas (Rural – Reserved Mining).
- 1982: MBCC obtains for planning permit for solid industrial wastes only.
- 1989-1990: MBC site purchased by Oupan Resources and subsequently sold to MBCC.
- 1990: Oupan Resources obtains permit for a 9 lot subdivision of land bounded by Kerrs Road, East Maddingley Road and South Maddingley Road and MBC successfully appeals an application for five dwellings on the land given uncertainties around the mine buffer.

In the early 1990s, the former Bacchus Marsh Shire Council generally supported residential development in Maddingley South (Panel & Advisory Committee 1999, 98). Between 1992 and 1997, the Minister for Planning approved several planning scheme amendments to rezone land in the study area and manage pressures to accommodate expanding residential uses, MBC and the protection of future coal reserves (Amendments L25, L39 and L44). In the mid 1990s, Council adopted an Outline Development Plan to support residential development in South Maddingley. Source: (TBA Planners in DSE 2006, 57-62).

Moorabool New format Planning Scheme - Panel and Advisory Committee Report (1999)

This process brought together a broad range of strategic planning work, including settlement planning, into the new format VPP Planning Scheme. Key issues including settlement planning for the town and land use conflict in Maddingley South. The potential uses, location and viability of 'winnable' coal reserves were also considered in some detail in the report. The Panel made it clear that it considered all issues afresh, without being bound by past planning decisions (Panel & Advisory Committee 1999. 121). Council formally supported residential development in Maddingley South and its adopted ODP at the Panel. Key findings and recommendations of the Panel were:

- Maddingley South is not a good location for future residential growth for a range of reasons (page 124).
- The "true value of the brown coal at Bacchus Marsh is the stimulus it holds for the development of new technology" in terms of new coal technologies and its use in commercial products (page, 129).
- The land's coal potential "outweighs" any other potential use (page 138).
- The Special Use Zone (SUZ1) should be maintained, with changes, together with new MSS provisions (page 138).

Bacchus Marsh Residential Growth Strategy (2003) & Amendment C34 (2008)

The Bacchus Marsh Residential Growth Strategy (BMRGS) sought to implement an accelerated residential growth scenario in the Planning Scheme. It identified two areas (Areas 2&2A) as 'investigation areas' for residential growth. These areas are within the current study area and are currently zoned Farming and SUZ1. They are highlighted in yellow in Figure 2, opposite. The Panel found that buffers significantly affect the study area, and that further risk assessments should occur prior to any sensitive uses. It recommended that further investigations occur into the range of appropriate uses, which should include both residential and other non-residential uses (Amendment C34 Panel Report, 72). It also recommended that the extent of the SUZ1 should be addressed through a separate planning scheme amendment (Amendment C34 Panel Report, 12). The panel's recommendations were ultimately approved, and incorporated into the MSS at the time, as shown in Figure 3, opposite.

Maddingley Brown Coal Resource Strategic Review (2006)

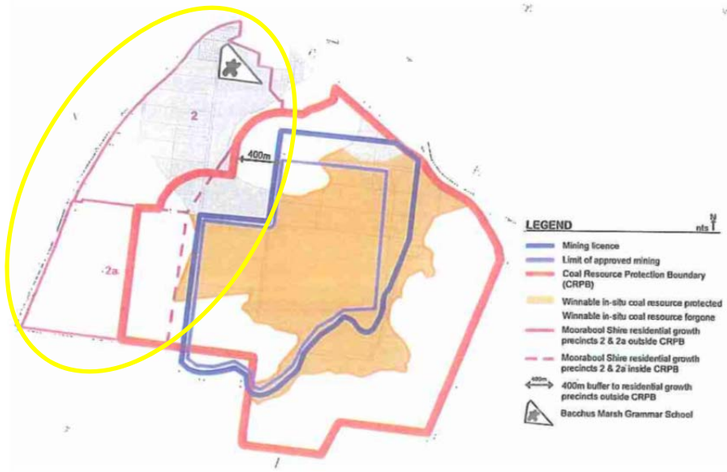
This report was the result of an Interdepartmental Working Group convened by DSE. The report advised on potential conflict between the BMRGS and MBC. It found that the coal resource is of strategic value and has potential to be used for a range of purposes, yet significant areas of the coal resource have potential for future urban development. The report supported a scenario that involved a 400 metre buffer from the MBC mining licence to protect approximately 103 million tonnes of coal. The report supported two areas for residential growth beyond this buffer (Areas 2&2A) and recommended that the final approval of the buffer to be subject to a separate planning scheme amendment process (DSE, 2006, 53)

VCAT appeals

Since the introduction of the new format Moorabool Planning Scheme in 2000, there have been only a small number of VCAT appeals in the study area. The most notable case was *Lincoln Valley Pty Ltd v Moorabool SC [2008] VCAT 997*. In this case, VCAT overturned Council's refusal of a proposed large sheep abattoir on the IN2Z land south of Kerrs Road. At the hearing, Council and nearby residents argued that the proposal was inappropriate based on the exhibited Amendment C34 and future residential precincts 1&2A [Paragraph 16].

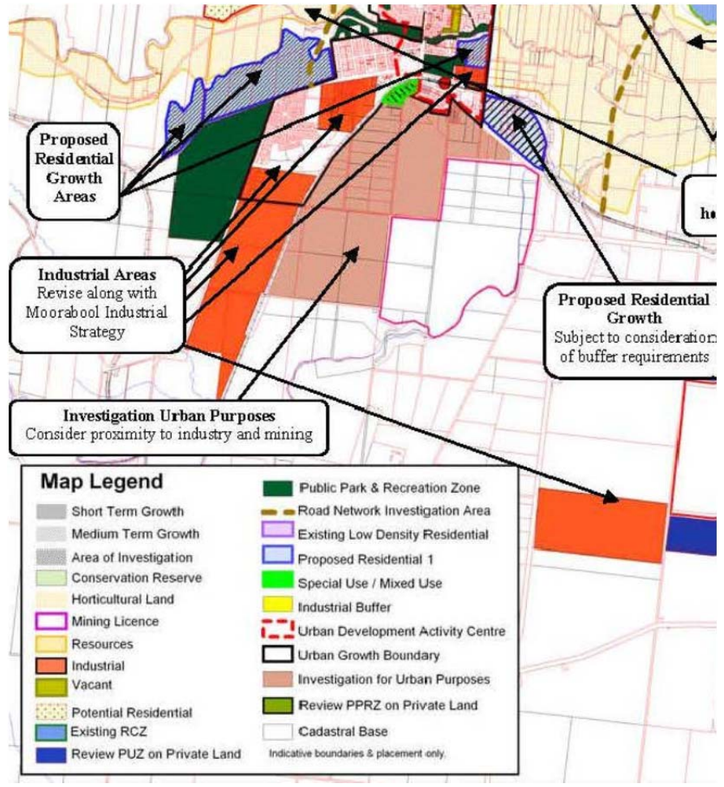
VCAT approved the application on the basis of the existing Industrial 2 zoning of the land, its good roads and services, and acceptable amenity impacts.

Figure 2 Scenario map from DSE Review of Maddingley Coal Resources, 2006



Source: DSE, 2006,

Figure 3 Excerpt from Pre-C81 Bacchus Marsh Framework Plan in Clause 21.07



Source: Moorabool Planning Scheme, Clause 21,07 (Pre Amendment C81)

Moorabool Planning Scheme

This section provides an overview of the Moorabool Planning Scheme as it relates to industry and waste and resource recovery facilities with an emphasis on the planning vision for the study area and policies that guide decision making.

Planning and Environment Act 1987

The Planning and Environment Act ('the Act') provides the legislative basis for the Victoria Planning Provisions, which assist in providing a consistent and coordinated framework for planning schemes. It also provides for planning schemes to regulate the use and development of land. The Act has a broad range of objectives that are set out in Section 4(1) of the Act. These include providing for the "fair, orderly, economic and sustainable use and development of land". The objectives also aim to protect natural resources and to provide a "pleasant, efficient and safe working, living and recreational environment", which introduces the concept of amenity as a planning principle. Other key principles set out in the act relate to balancing current and future interests of Victorians and the need for decision making that integrates economic, social and environmental considerations.

The Act sets the legislative framework for all decision making that relates to planning applications and strategic planning, including planning scheme amendments. One of the responsibilities of planning authorities in preparing planning schemes or amendments is to take into account any significant effects which it considers the scheme or amendment might have on the environment or which it considers the environment might have on any use or development envisaged in the scheme or amendment" (Section 12(2b). This requirement is reflected in the matters a responsible authority must consider before issuing a planning permit under Section 60 of the Act.

Planning Policy Framework

The Planning Policy Framework (PPF) provides state, regional and local level planning policies for each planning scheme. State Planning Policies contain significant support for, and protection of, areas for industry and waste and resource recovery facilities. The main clause relating to industry is Clause 17.03.

This clause aims to ensure the availability of land for industry in appropriate locations that have buffers from sensitive land uses. It also aims to avoid non-industrial uses in areas that have been identified for industrial use. The key strategies to achieve these policies include siting industrial activities that require large buffers at the core of industrial areas, and those requiring minimal buffers towards the perimeter. Offensive industries and quarries are specifically identified as industries with adverse amenity potential. The PPF states that local communities are also to be protected in decision-making for industry (Clause 17.-3-2S).

The PPF aims to encourage the extraction of natural resources in accordance with "acceptable environmental standards", with particular reference to maintaining buffers around mining activities (Clause 14.03-1S). The criteria that are to be applied to determine buffers include the use of technology to limit effects, the proposed use within the buffer and performance standards of relevant legislation (Clause 14.03-1S).

The PPF specifically aims to facilitate new energy supply infrastructure in appropriate locations, including clean coal processing and local energy generation (Clause 19.01-1S).

Clause 19.03-5S (Waste and resource recovery) contains specific objectives for landfills that aim to avoid, minimise and generate less waste to reduce damage to the environment. The strategies emphasise strategic planning that integrates with land use and transport planning and the identification and protection of buffers by planning authorities. The clause also places responsibilities on waste and resource recovery facilities to minimise impacts on the environment and the community (Clause 19.03-5S). The clause advocates for the clustering of waste and resource recovery facilities to share separation distances and make them more viable. It also advocates for the re-use of waste to produce energy and other products. The clause makes reference to a number of policy documents, including the state and regional waste and resource recovery implementation plans and various EPA regulations and guidelines.

Other key policies in the PPF that relate to the study area include policies for protecting water quality and waterways, airfields, freight and integrated land use and transport planning.

Moorabool Municipal Strategic Statement

The Municipal Strategic Statement (MSS) sets out the strategic vision for planning at the local level and holds considerable weight in strategic decision making. The MSS recently underwent a major revision through Amendment C81. This Amendment implemented the findings of the Bacchus Marsh Urban Growth Framework and the Moorabool Industrial Areas Strategy in the Planning Scheme.

The MSS now recognises and aims to protect the Maddingley Waste and Resource Recovery Hub and coal mine for its importance to the Shire and the State of Victoria (Clause 21.04-4). The MSS also aims to provide for manufacturing and other heavy industries that require large separation distances to the south of Kerrs Road.

The MSS also recognises the need to avoid land use conflict in the Maddingley area (Clause 21.01-2 and Clause 21.04-1) as the Maddingley WRR Hub creates off-site impacts that need to be managed. It provides specific strategies to avoid sensitive land uses within recommended separation distances from the Maddingley WRR Hub (Clause 21.04-4). Other strategies aim to support best practice environmental management to reduce impacts both for economic development and amenity reasons. Putrescible waste landfills in open pits are specifically discouraged in Clause 21.04-4.

The MSS flags the need for further strategic work to investigate the potential rezoning of land to the north of Kerrs Road from Industrial 2 Zone to Industrial 3 Zone (Clause 21.04-7). This land abuts the study area to the north.

Clause 21.07 (Bacchus Marsh) identifies issues, objectives and strategies that are directly relevant to future settlement planning in Bacchus Marsh. It identifies the operations of Maddingley Brown Coal (coal mining, landfill, green waste and composting) as uses that are "inherently incompatible with residential development due to their off-site impacts" (Clause 21.07-1). The Clause contains specific objectives to protect the Maddingley WRR Hub, including protection of the brown coal resource in the mining licence area and other existing or future activities at Maddingley Brown Coal., and application of EPA 1518 to determine separation distances from sensitive uses.

Clause 21.07-8identifies the need for a Maddingley Planning Study to determine appropriate zone and overlay controls (Clause 21.07-8). The Bacchus Marsh Urban Growth Framework Plan is included in Clause 21.07-8 (Bacchus Marsh).

The MSS provides support for this study and makes it clear that sensitive uses should be avoided in the study area, however, it provides little guidance on balancing the different land use constraints and opportunities within the study area itself.

Local Planning Policies

Clause 22 of the Moorabool Planning Scheme contains two local planning policies that are relevant to land in the study area:

- Clause 22.03 (Houses and House Lot Excisions in Rural Areas) applies to all land within the Farming Zone. It aims to discourage dwellings and subdivision in rural areas to protect existing agricultural uses.
- Clause 22.05 (Presentation of Industrial Areas) applies to all industrial development. It contains policies to manage the design and siting of new buildings and works to enhance the appearance of areas, particularly on main roads.

Moorabool Planning Scheme

Clause 53.10 (Uses with Adverse Amenity Potential)

This clause identifies industries that can cause adverse amenity impacts on residential areas and other sensitive uses. Table 3 provides a summary of the 'threshold distances' to provide the context for the study. The "threshold distances" are measured from the building or property boundary of the proposed use to the zone boundary of the sensitive use. When the threshold distances are variable the use is identified by a Note 1. When an assessment of risk to the safety of people nearby is required the use is identified by a Note 2. A number of the threshold distances are variable and depend on the volume of materials produced.

Clause 53.10 does not itself trigger the need for a permit. As discussed previously, the zones determine whether the threshold distance will make a use as-of-right, permit required, or prohibited. Table 3 shows that the threshold distances are mainly between 100 and 1,000 metres, with only a small number that exceed 1,000 metres. Buffers are discussed in more detail later in this report.

Clause 63.01 (Existing use rights)

This clause establishes the framework for uses that have the right to continue to exist without planning approval. Most commonly this applies if the use was allowed under a previous planning scheme, or has existed for at least 15 years without intervention. The clause sets out strict criteria for changes to these uses, including planning approval for new works and amenity and other tests.

Clause 66 Referrals

This clause requires a use or development that requires a works approval or licence to discharge waste under the Environment Protection Act to be referred to the EPA as a determining referral authority. This applies to MBC, which is a licensed facility. The clause also requires referral to the EPA for Note 1 uses where the threshold distance is not met and for hazardous Note 2 uses.

Table 3 Summary of Clause 53.10 threshold distances, by category

Type of production, use or storage	Threshold distance	Notes
Basic Metal Products	100 - 1,000 metres	
Chemical, Petroleum & Coal Products	100 - 2,000 metres	Most uses are Note 2
Fabricated metal products	100 - 1,000 metres	Includes uses with a Note 1
Food, beverages and tobacco	100 - 500 metres	
Miscellaneous Manufacturing	200 - 1,000 metres	Includes uses with a Note 2
Non-metallic mineral products	300 - 1,000 metres	
Other premises	100 - 300 metres	Includes panel beating and rural industry
Paper and paper products	100 - 5,000 metres	Includes uses with a Note 2
Recreation, personal and other services	100 metres	Includes uses with a Note 2
Recycling and resource recovery	100 metres +	Most uses are Note 1
Textiles	100 - 1,000 metres	Includes uses with Notes 1 and 2
Transport and storage	100 - 1,000 metres	Includes uses with Notes 1 and 2
Wood, wood products and furniture	100 - 1,500 metres	

Source: Centrum Town Planning, 2019 based on Clause 53.10 of the Moorabool Planning Scheme.

Strategies and plans

This section of the report provides an overview of strategies and plans that are relevant to the study area that have been prepared by Council or others. It provides a summary of the key findings of the document and identifies the key implications for this study.

Amendment C6 (2013)

This Amendment proposed to apply a heritage overlay to the former CSR plant (now JBD Industrial Park) at 25 Rowsley Station Road. The Amendment C6 planning panel recommended that the heritage overlay be applied to the original building complex, however, Council resolved to not apply the overlay (Am.C6 Panel Report, 2013).

Implications: Council has formally resolved that the former CSR site is not worthy of heritage protection, which raises the potential for the site to be redeveloped.

Central Highlands Regional Growth Plan (2014)

This Plan was prepared to provide a regional approach to land use planning in the Central Highlands Region, which covers five municipalities (DSE, 2014). It recognises the strong links Bacchus Marsh has to Melbourne and strengths in horticulture and extractive industries, including coal resources at Maddingley (State of Victoria, 2014, 27). It identifies Bacchus Marsh as a 'regional centre' where growth should be encouraged and recognises the restrictions that earth resources present for the expansion of the town (State of Victoria, 2014, 51). It recognises the general challenges associated with planning for the earth resources industry and makes the observation that the benefits of this industry tend to be localised rather than spread throughout the region (State of Victoria, 2014, 51).

Implications: The Central Highlands Regional Growth Plan provides limited guidance for the Maddingley Planning Study as it does not specifically identify the study area or Maddingley Brown Coal. Nevertheless, it is important because it is the only approved regional strategic land use plan and it informs the regional section of the Planning Policy Framework.

Bacchus Marsh Integrated Transport Strategy (2015)

This document provides a strategic plan for the Shire's transport network. The document identifies the need for a new road link to the Western Freeway via Halletts Way as a short-term priority. It also identifies the need to work with VicRoads to upgrade Grant Street as a short-term priority and deliver an eastern bypass road to facilitate freight movements between the Western Freeway and Geelong-Bacchus Marsh Road as a long-term priority (Moorabool Shire Council, 2015, 40-43). The document is a Reference Document in Clause 21.11 of the Moorabool Planning

Implications: This study demonstrates a commitment by Council to improve the condition of key routes within Bacchus Marsh. If constructed, the new roads that have been identified will facilitate freight movements into and out of the study area.

Moorabool Industrial Areas Strategy (2015)

This report provided Council with a review of supply and demand for industrial land in the Shire and provides strategic directions for the future of these areas. It was adopted by Council December, 2015 The study offers the following profile of industrial land supply, demand and employment:

- there is an existing supply of 346 hectares of industrial land, although much of this land is constrained by residential encroachment and is therefore unsuitable for manufacturing industry (SGS, 2015, 5);
- there will be a need for an additional 42 hectares of land from 2015 to 2051;
- demand for industrial land is expected to grow the most for service industry (27 hectares), with lower demand from manufacturing (8 hectares) and freight and logistics (1.5 hectares) (SGS, 2015, 39);
- the Maddingley 4 precinct, which includes the JBD Industrial Park, has approximately 91 jobs, good land attributes (cost, zone, buffers) but lower locational and access attributes (SGS, 2015, 66-69);
- the extraction and processing of natural resources is one the Shire's strengths, including brown coal (MIAS, 2001 in SGS, 2015, 15);
- manufacturing services are attracted to Moorabool due to affordable large lots and accessibility to Melbourne (SGS, 2015, 19).
- business ownership patterns are stable and businesses are generally positive about the future.

The report concludes that existing industrial land in Moorabool will need to find alternative points of difference to compete with other industrial areas in the region. It found that accessibility to the road network is likely to become more important in the future.

The report recommends that existing industrial areas in Bacchus Marsh should be transitioned to service industry and other uses that do not require buffers, and that a new industrial precinct with large buffers and good infrastructure should be found. The report recommends that Council should "reposition" the Parwan area for a large new manufacturing and transport precinct, and recommends that a range of studies be undertaken (SGS, 2015, 6). In relation to the study area, it found that 'Maddingley 4'could improve as a precinct for transport and logistics if B-double truck access could be improved.

In relation to the Maddingley WRR Hub, the Strategy contained some discussion of future industrial development related to mining. The report opined that "there is minimal location relationship between mining and most regional/local industrial activities" (SBS, 2015, 17). It found that, in the long-term, there may be potential for the development of mining precincts and co-location between mining and industry (SGS, 2015, 16). It sets out criteria for siting mining industry, with the first preference being to locate on the mining site, if this is not possible, adjacent land, then elsewhere in the Shire if this is not possible. The document is a Reference Document in Clause 21.11 of the Moorabool Planning Scheme.

Implications: This Moorabool Industrial Areas Strategy contains valuable and recent strategic direction for industrial land in the Shire, however, it only contains specific assessment and direction for part of the study area (Maddingley 4), and does not directly consider the potential for industrial development elsewhere in the study area. Its recommendations about Parwan have been taken up in the Parwan Employment Precinct Planning Study and Amendment C76.

Moorabool Shire Economic Development Strategy (2015)

This Strategy sets out how Council will assist in creating a strong local economy. Key issues identified in the Strategy are the need to create local employment as two-thirds of residents commute outside the Shire, and the decline in growth of agriculture and manufacturing, consistent with state trends (Geographia, 2015, 4).

The Strategy includes a plan for how to grow the economy and jobs. The initiatives identified include advocating for new infrastructure, developing design guidelines for new industrial areas and growing existing export oriented industries (Geographia, 2015, 5). The document is a Reference Document in Clause 21.11 of the Moorabool Planning Scheme.

Implications: The Moorabool Shire Economic Development Strategy describes high level issues and initiatives facing the economy. It is high level strategy and does not provide any specific direction for the study area, although it supports in-principle the idea of expanding existing export-oriented industries, which exist in the study area.

Bacchus Marsh Strategic Bulky Goods Retail Assessment (2018)

This study builds upon an earlier retail assessment for the Shire and provides an assessment of the preferred locations of for bulky goods development in the Shire. It found that 3.5 to 4.0 hectares of land for this use will be required by 2031 (Essential Economics, 2018, i). The study analysed the particular needs of the bulky goods sector in terms of size and location. It considered three sites in the study area, two on the south side of Bacchus Marsh-Geelong Road near Fisken Street and one on the north west corner of School Lane.

The study concluded that these sites are not ideal for bulky goods development because of their lack of exposure to an arterial road that carries sufficient levels of traffic (5,000 vehicles per day on Geelong-Bacchus Marsh Road is relatively low). The SUZ1 and proximity of the Maddingley WRR Hub was also considered to be a potential constraint on these sites . In the long-term, the report concluded that the future development of the Merrimu and Parwan precincts to the east will be beneficial for potential bulky goods uses on these sites. This document has not yet been considered or adopted by Council, so has limited weight in decision making.

Implications: This assessment suggests that bulky goods retailing in the study area is unlikely in the foreeseable future, however, potential sites should be preserved. Feedback should be sought from MBC on compatibility with their operations.

Strategies and plans

Plan Melbourne (2017)

This document provides a comprehensive planning strategy for future growth and change within Metropolitan Melbourne (DELWP. 2017). Bacchus Marsh is located outside the Metropolitan area that is the main subject of the Plan. It identifies Bacchus Marsh as a peri-urban town or regional centre where growth should be supported, subject to the protection of character, agriculture and amenity (DELWP, 2017, 131). The Plan recognises the need to protect state and regionally significant landfills and their buffers and integrate their planning with land use planning (DELWP, 2017, 90, 124-125). Waste and resource recovery, waste to energy and facility co-location are specifically encouraged in the policy statements in the Plan (DELWP, 2017, 124-125). The Plan is a policy document in Clause 11.01-1S of the Planning Policy Framework and is referred to throughout the Moorabool MSS.

Implications: Plan Melbourne contains no specific guidance for the study area, but re-inforces the need for integrated planning for waste-hubs in growing peri-urban towns such as Bacchus Marsh.

Bacchus Marsh Urban Growth Framework & Amendment C81 (2018)

The Bacchus Marsh Urban Growth Framework (UGF) was originally prepared in 2017 by the Victorian Planning Authority, with the support of Moorabool Shire Council. The plan provides a high level, long-term framework for urban growth in Bacchus Marsh, in response to strong population growth, particularly for residential and employment land (VPA, 2018, 7) The plan recognises the role of the Maddingley WRR Hub at the state level, both for coal generation for industry and the role of the landfill as a waste and resource recovery hub (VP, 2018, 38). It also recognises that the Maddingley WRR Hub and other industrial uses around Bacchus Marsh that require buffers are a constraint on urban development. In relation to industrial use, the UGF recognises that the land south of Kerrs Road is generally unconstrained by sensitive land uses (VPA, 2014, 37).

Key elements of the UGF in relation to the study area are:

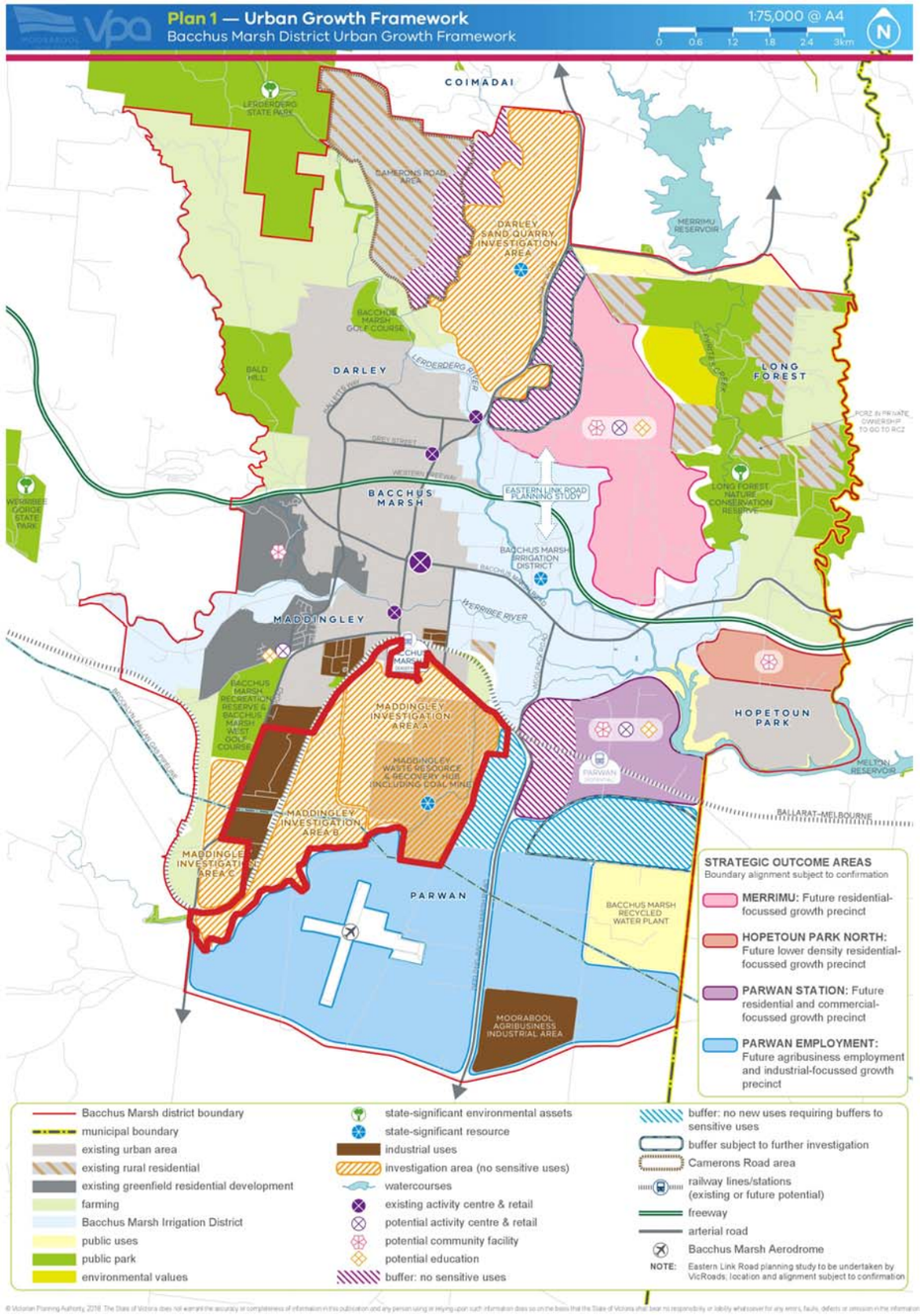
- a future residential and commercial precinct at Parwan Station to the east;
- the Parwan agribusiness and employment Precinct to the south and east;
- future residential focused growth precincts at Merrimu and Hopetoun Park near the Western Freeway.

These directions are shown in the UGF Framework Plan Figure 3, opposite. The UGF recommends that a Maddingley Planning Study be undertaken for the 'Maddingley Waste and Resource Recovery Hub' and other land in Investigation Areas A and B in the short term to determine appropriate zone, overlay and buffer controls. (VPA, 2014, 37). The UGF and the Framework Plan identify the study area as an 'investigation area' where sensitive uses should be prohibited unless buffers can be reduced by on-site management practices (VPA, 2018, 39).

Council implemented the findings of the UGF through Amendment C81. The presence of buffer distances around existing industrial land uses was a key planning issue at the Panel Hearing. Submissions to the Amendment were made from MBC and the Metropolitan and Grampians Central West Waste and Resource Recovery Groups. At the panel, it was found that a 2,000 metre composting buffer around the existing composting site should apply to land on the east side of the Maddingley WRR Hub and that this should remain unchanged for future composting. It was also found that this buffer should be amalgamated with the 1,000 metre coal mining buffer (Amendment C81 Panel Report, 2018, 28), although other submitters contested the extent of the buffers.

Implications: The UGF and Amendment C81 establish buffer distances and key principles for the future planning of the study area. The UGF and its findings have been the subject of a high level of debate and scrutiny through the Amendment C81 process. Its vision, which includes the protection of the Maddingley WRR Hub, has been accepted by Council and other key stakeholders through this process. It therefore provides a strong foundation upon which to base the Maddingley Planning Study.

Figure 4 The Bacchus Marsh Urban Growth Framework Plan (2018)



Victorian Planning Authority, 2018, 10, with study area boundary shown.

Strategies and plans

Parwan Employment Precinct Planning Study (2018)

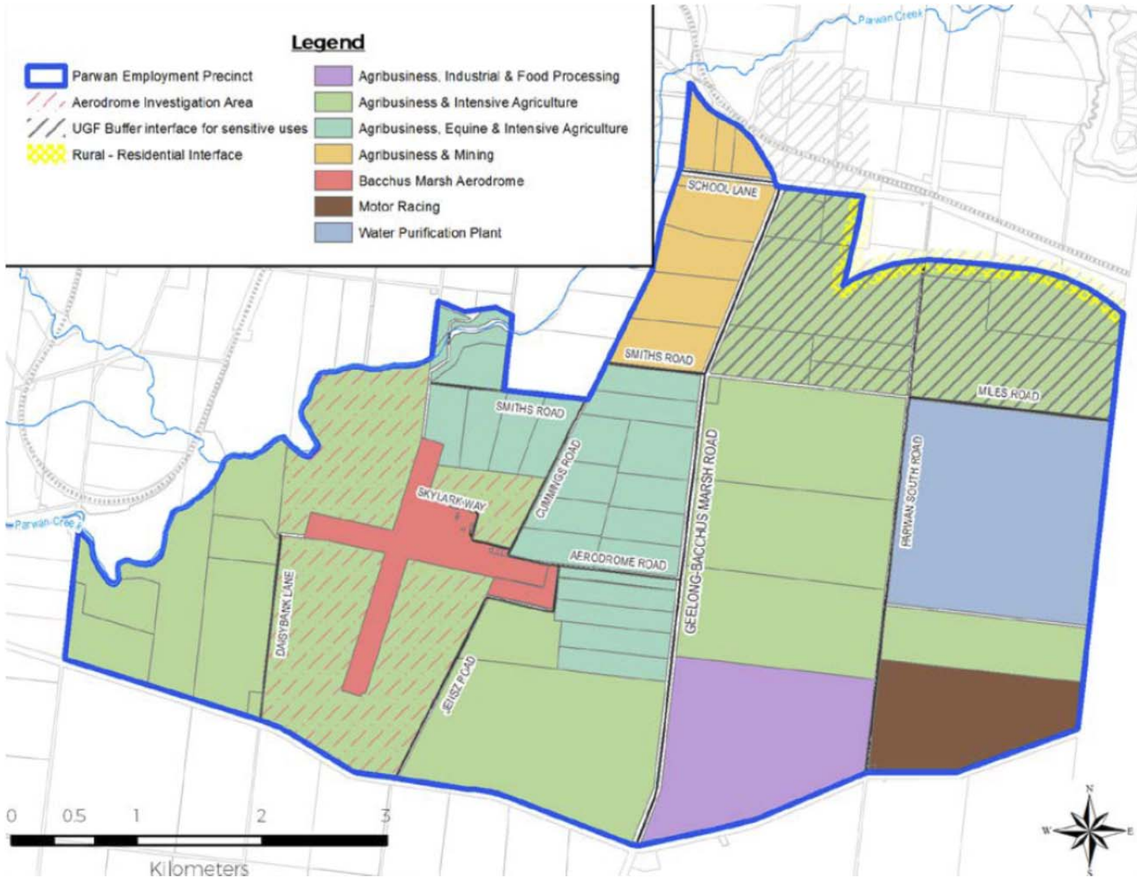
The Parwan Employment Precinct Planning Study (PEPPS) was prepared following a business case for the Parwan Employment Precinct (SED, 2018). The precinct has an area of around 2,880 hectares and currently supports agribusiness, including mushroom and poultry farms. It includes the Bacchus Marsh Aerodrome and the Western Wastewater Treatment Plant.

The PEPPS found that the Parwan precinct to the south and east of the study area, are well located, for the development of value adding and export-led business and up to 1,500 jobs. Key benefits of the precinct and current zoning (Farming and Industrial) and low levels of land fragmentation. The PEPPS found that infrastructure and access improvements will be crucial to realising the success of the precinct. Specifically, the provision of improved access to the Western Freeway and gas and water supplies.

The PEPPS recognises that Maddingley WRR Hub is an important land use in the broader area, and that amenity buffers are needed for the facility (SED, 2018, xiii). The PEPPS re-inforces the need for a Precinct Structure Plan to be prepared for the Precinct. It identifies seven potential use precincts, together with a new planning framework for each precinct, potentially include the use of the Special Use Zone (SED, 2018, xiii). Precinct 1(a), on the east side of Geelong-Ballarat Road is identified as having the greatest short-term potential for development. The precincts adjoining the Maddingley study area have been identified for agribusiness and mining, and agribusiness and intensive agriculture, as shown in Figure 5, opposite.

Implications: The PEPPS reveals that a substantial amount of high level strategic planning has taken place into future agribusiness uses in the precinct to the south east. It suggests that, from a planning perspective, agribusinesses will be encouraged to locate in this area as opposed to other industrial areas. The study also suggests that Parwan will be the focus of any new major road, gas and water investments, which may affect future servicing in the western part of the study area The study area has the potential to leverage off any new investments in gas and water, particularly upgrades to the Bacchus Marsh-Geelong Road. Gathering more information about the current status of these initiatives is likely to be important for the Maddingley Planning Study.

Figure 5 Conceptual land use framework from the Parwan EP Planning Study (2018)



Source: SED, 2018, 58

Strategic waste context

This section provides an overview of strategic plans for the waste and resource recovery sector at the state and regional levels to provide an understanding about these key strategic influences on this study.

What is a waste and resource recovery hub?

The term 'waste and resource recovery hub' (WRR Hub) is used throughout the organisations involved in the waste sector to describe a facility or group of facilities that recover or manage material streams or waste. They may also include other non-waste uses. According to the Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP), hubs form a network that enables integrated decision making by all stakeholders, including operators, land use planners and others (Sustainability Victoria, 2018, 62). According to the SWRRIP, their use and activities may change over time due to a range of internal and external influences, including market shifts, the price of materials, technology and strategic planning (Sustainability Victoria, 2018, 62).

Hubs are recognised as being of state importance if they manage or process a significant proportion of one or more waste streams for the state, if the waste stream is of high value to the economy and markets, or if the hub has major potential to grow (Sustainability Victoria, 2018, 155).

Implications: It is appropriate to define the Maddingley Brown Coal precinct as a WRR Hub from a land use planning perspective given its high level of recognition in approved waste plans mainly due to its role as the only landfill in Victoria permitted to receive 'shredder floc'. The features of the hub in terms of activities and investments needs to be identified through the consultation process for the Maddingley Planning Study.

Victorian Waste and Resource Recovery Infrastructure Planning Framework

The Environment Protection Act 1970 (EP Act) establishes the Victorian Waste and Resource Recovery Infrastructure Planning Framework (the Framework). The Framework provides the structure for strategic planning for waste and resource recovery that integrates state, regional and local planning. It requires the preparation, integration and implementation of the Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP) and seven Regional Waste and Resource Recovery Implementation Plans. The Statewide Waste and Resource Recovery Infrastructure Plan and the Metropolitan and Grampians Central West WRR implementation plans provide important strategic context for the Maddingley Brown Coal Waste and Resource Recovery Hub

Statewide Waste and Resource Recovery Infrastructure Plan (2018)

The SWRRIP provides a 30 year framework for the integrated management of the statewide resource and recovery system. The emphasis of the plan is on establishing infrastructure to maximise resource recovery and diverting materials away from landfill (Sustainability Victoria, 2018, 10-11). Its legislative status is provided under the Environment Protection Act.

The SWRRIP identifies 22 sites across the state that are waste hubs of state importance and require protection through the land use planning system. Maddingley Brown Coal is identified as one of these hubs for its strategic location near Melbourne and the fact that it accepts large amounts of solid inert waste and shredder floc. The Plan notes that the Maddingley WRR Hub is the only landfill that is licensed to accept shredder floc and identifies this situation as a potential risk to industry (Sustainability Victoria, 2018, 73, 113).

Maddingley Brown Coal was identified as a hub of state significance in the first Victorian Statewide Waste and Resource Recovery Infrastructure Plan approved in 2015.

The Plan is a Policy document in Clause 19.03-5S of all Victorian Planning Schemes.

Implications: The Plan identifies the high level of importance of MBC to the State from a waste perspective. This role should be reflected in the purpose, function and status of any new buffer provisions that are developed for the study area.

Metropolitan Waste and Resource Recovery Implementation Plan (2016)

The MWRRIP provides the framework for waste and resource recovery in the greater Melbourne region over the next 10 years. Like the SWRRIP, the emphasis of the plan is on establishing infrastructure to maximise resource recovery and diverting materials away from landfill. It notes the importance of MBC to the Metropolitan area for shredder floc and solid inert waste (Metropolitan WRRG, 2016, 8). The Plan is a Policy document in Clause 19.03-5S of all Victorian Planning Schemes.

Implications: The Plan identifies the high level of importance of the Maddingley WRR Hub to Melbourne from a waste perspective. This role will need to be reflected in the purpose, function and status of any new buffer provisions that are developed for the study area.

Grampians Central West WRR Implementation Plan (2017)

The GCWWRRIP provides the framework for waste and resource recovery in the Grampians Central West region over the next 10 years (Grampians Central West WRRG, 2017). The regional implementation plan must be aligned and integrated with the regional implementation plans prepared by the other waste and resource recovery groups across the state, as well as the Statewide Waste and Resource Recovery Infrastructure Plan.

The GCWWRRIP notes that the region's population is expected to grow by 16% over the next 10 years. The largest increases are forecast for the City of Ballarat, which will attract approximately 57% of the region's growth, and in the eastern part of the region near Melbourne, which includes Moorabool and Golden Plains Shires. In relation to waste generation, the Plan notes that waste generation will increase by more than 36 per cent to approximately 768,000 tonnes by 2046 under a business as usual approach. It states that there is no demonstrated need for additional landfill airspace for the region at this point in time (Grampians Central West WRRG, 2017, 1-26).

The GCWWRRIP notes that the Maddingley WRR Hub is not only a significant destination for waste from other regions, particularly Melbourne, it is also important for the Grampians Central West Waste Region. The plan recognises that the Maddingley WRR Hub has long-term potential of at least 20 years as a landfill and in accepting putrescible waste and additional compositing activities (Grampians Central West WRRG, 2017, 64). The GCWWRRIP is a Policy guideline in Clause 19.03-5S in the Moorabool Planning Scheme.

Implications: The Plan identifies the potential for putrescible waste at MBC. This is essential for this type of waste to be considered for approval.

Grampians Central West Waste and Resource Recovery Land Use Project (2018)

This report provides recommendations to improve the identification and protection of 58 waste and resource recovery facilities in the planning schemes that apply across the Grampians Central West Waste and Resource Recovery region (Centrum Town Planning, 2018). The report was prepared for the Grampians Central West Waste and Resource Recovery Group in consultation with the twelve member councils in the region, including Moorabool Shire Council.

The report found that MBC's waste and resource recovery functions are currently subject to a high level of encroachment based on the 2,000m buffer to its composting activities (Centrum Town Planning, 2018, 96). It also found that the site is subject to high levels of future encroachment, mainly relating to the potential for new residential uses in the Parwan Station precinct to the east as part of Amendment C81. The Project identified a number of specific issues relating to SUZ1, including its purpose for coal mining, and the fact that a Management Plan and Development Plan has not been approved under the provisions of the zone.

The Project recommends a number of initiatives, including:

- further engagement with Council to review the SUZ1
- more detailed consideration of the application of an Environmental Significance Overlay to apply to an amenity buffer;
- need for submissions to Amendment C81 to address sensitive uses in the Parwan Precinct;
- further work to gain approval for the MBC Management Plan and Development Plan; and
- need for an appropriate strategic process to identify the potential for MBC to accept putrescible waste (Centrum Town Planning, 2018, 96).

The issues relating to Amendment C81 and the Parwan Precinct have since been resolved through the Amendment C81 panel process.

Implications: This report confirms the status of MBC as a priority site for further planning work at the regional level. The report provides a broad framework for actions that are consistent with the objectives of the Maddingley Planning Study.

Statutory waste context

This section of the report provides a summary of the key pieces of legislation that provide the statutory framework for the waste sector. Most of the statutory regulations that apply to waste are administered by the Environment Protection Authority Victoria (EPA), although they work together with the Planning & Environment Act and Planning Schemes to regulate particular forms of land use and development.

Environment Protection Act 1970

This is the overriding piece of legislation for pollution control in Victoria. This Act regulates the discharge or emission of waste to water, land or air by a system of works approvals and licences. The Act also specifically controls the emission of noise and the transport and disposal of waste (EPA 788.3, 7). Consideration of land use planning is one of the requirements of the Environment Protection Act 1970. The acceptable environmental quality standards and conditions for discharging waste to landfill are specified in the relevant State Environment Protection Policies (SEPPs) and waste management policies (WMPs).

Landfill Best Practice Environmental Management (EPA 788.3)

The Best Practice Environmental Management - Siting, Design, Operation and Rehabilitation of Landfills ('Landfill BPEM') provides guidance to landfill operators and planning authorities about environmental risks, mitigation measures and how to avoid or minimise environmental impacts. It applies to municipal and non-hazardous waste that is deposited at landfills. The document provides best practice siting considerations for new landfills and sets out appropriate buffer distances to protect sensitive receptors from a failure of landfill design or management, or abnormal weather. The main risks that buffers aim to address are odour and landfill gas impacts (EPA 788.3, 2015). The BPEM specifies the following buffers:

- 100 metres from surface waters;
- 200-500 metres from buildings or structures;
- 1,500 metres from an aerodrome for piston-engine propeller-driven aircraft;
- 3,000 metres from an aerodrome for jet aircraft (EPA 788.3, 2015, 13).

The BPEM allows reduced buffer distances if it can be demonstrated that the amenity of sensitive areas will not be adversely affected. It states that that responsible authorities need to be satisfied that development will not be adversely impacted through a Section 53V audit under the Environment Protection Act, having regard to previous assessments. It also recommends that for landfills with an anticipated lifespan of 10 years, analysis of land use change should be carried out.

Recommended separation distances for industrial residual air emissions (EPA, 1518)

This document provides advice on recommended separation distances between industrial land uses that emit odour or dust and sensitive land uses. It aims to prevent new sensitive land uses from affecting existing industrial areas, and new or expanded industrial uses from affecting sensitive land uses (EPA 1518, 2013). Importantly, it notes that the recommended separation distances are not an alternative to the control of emissions at their source. The separation distances in this document aim to provide protection for sensitive uses from odour and dust producing industries during upset conditions.

The document contains a comprehensive list of industry types under broad sub-headings such as 'agriculture' and 'basic metal products'. These uses and categories correspond closely with the uses listed in Clause 53.10 of the Planning Scheme, with some key differences. For example, Clause 53.10 does not contain a separate category for 'agriculture' and 'mining and extractive industry'. Some of the separation distances also vary between the two documents. The document describes different methods for measuring separation distances, including activity boundary to property boundary (for urban or township areas) and activity boundary to activity boundary (for rural areas).

The document provides a framework for how to consider variations to the separation distances, including consideration of the 'agent of change ' cumulative impacts and land uses that may be appropriate to be located within a separation distance (EPA 1518, 2013).

The document lists 'interface' uses that may be appropriate to located in buffers. These include:

- ***To be encouraged :*** *Agriculture, car parks, cinema-based entertainment facilities, emergency services facilities, natural systems, offices, research centres, service stations and veterinary clinics.*
- ***To be considered (subject to assessment):*** *Light industry with no adverse amenity potential and utilities (except for sewage works).*
- ***To be prevented:*** *Sensitive land uses and industrial land uses that require separation distances as listed in the Index.*

Designing, constructing and operating composting facilities (EPA 1588)

This document provides guidance to the EPA, planning authorities and operators on how to meet with legislative requirements for composting facilities. The document addresses a broad range of siting, design and operational matters. In relation to the location and siting of facilities, it recommends that:

- composting facilities should not be situated on flood-affected land and should be at least 100 metres from surface waters;
- separation distances be applied between the activity and sensitive uses, although they are not a substitute from preventing odour emissions;
- separation distances should be calculated based on the separation distance between property boundaries, if possible;
- separation distances should be calculated based on the type of feedstock, the technology that is used (e.g. enclosed or open air composting) and size of the plant;
- separation distances should measure from 300 metres to 2,000 metres depending on the above factors, and other considerations such as topography and weather conditions.

Source: (EPA 1588, 2015)

Assessing planning proposals near landfills (EPA 1642, October, 2017)

The is a 'guideline' document that has been prepared primarily to guide planning and responsible authorities in their decision making on applications and planning scheme amendments near active or closed landfills. It provides advice on the level of assessment required and recommends a "staged, risk based approach" (EPA 1642, 2017, 2).

Most of the document is highly relevant for planning decision makers. Key elements of the document are that it:

- provides a definition of 'sensitive use' that includes any building (for landfill gas risk) and any land use that relates to amenity and well-being (for odour issues);
- re-inforces the recommended buffer distances of 500 metres for putrescible waste and 200 metres for solid inert waste as set out under the Landfill BPEM;
- states that, for operating landfills, gas and odour impacts should be assessed, but for closed landfills, only landfill gas impacts need to be assessed;
- provides a formula for determining the appropriate level of assessment that depends on the type of proposal (alterations, above and below ground structures), landfill size, landfill type and age;
- recommends a level of assessment based on the application of the above formula that includes requiring gas mitigation measures (for low scores), landfill gas risk assessment (for medium scores) and a Section 53V audit (for high scores);
- provides sample permit conditions to require mitigation measures to be employed or landfill risk assessments to be carried out, if these have not been provided.

Source: (EPA 1642, 2017).

Existing buffers

This section provides an overview of the role of buffers and description of existing land uses in the study area that require buffers.

Role of buffers

Buffers are used to separate uses with potential for adverse amenity impacts from sensitive uses to minimise their impact. These impacts may include dust, odour, noise, vibration or landfill gas. Buffers can also be used to separate industries that are not compatible with one another. Ideally, buffers should be entirely located on the land where the land use that requires the buffer is located, however, this is not always possible due to land ownership patterns or past planning decision.

Existing land uses with buffer needs

There are a large number of existing uses in the study area that require buffers under the Moorabool Planning Scheme or EPA 1518. These uses are shown on Map 6 on the following page and in Table 4. Table 5 shows potential or proposed buffers and is relevant to the 'issues and opportunities' section of the report. Tables 4 and 5 show the number of properties that are affected by the buffer in 'sensitive' zones and as a total number, irrespective of zone. Residential zones' are defined as land in the General Residential, Neighbourhood Residential, Mixed Use, Low Density Residential or Township zones . There are also uses outside the study area that require buffers, particularly to the east and south east. These are also shown on Map 6 and have been included to provide context and continuity with the debate on buffers that occurred as part of the Amendment C81 panel process.

It is important to note that the Amendment C81 Panel found that the 2,000 metre composting buffer for the Maddingley WRR Hub should remain in its current position when the composting area is relocated to the north east. At this panel, it was also agreed by Council and the panel that the area to the south west of the Maddingley WRR Hub where the 1,000 metre coal buffer extends beyond the 2,000 metre composting buffer should be amalgamated to form a single buffer (Amendment C81 Panel Report, 2018, 31). This "amalgamated buffer" has not been shown on Map 6 to allow each individual buffer to be identified. The amalgamated buffer is shown on Map 7 later in the report.

Table 4 shows that the composting buffer for Maddingley Brown Coal has the largest buffer distance and affects the most properties, both in sensitive zones and in total (391 properties). Map 6 shows that:

- almost the entire study area, with the exception of two small areas of Farming zoned land in the south western and western parts of the study area are affected by an existing buffer;
- some parts of the study area, particularly in the vicinity of the JBD Industrial Park, are affected by multiple buffers;
- there are a number of existing uses whose separation distance is unknown as it is subject to a site specific assessment under relevant EPA guidelines or Clause 53.10, and this assessment has not been undertaken.

Table 4 Existing buffer distances in the study area

				Properties affected	
Business Name	**Activity description**	**Buffer**	**Source / status**	**Residential**	**Total**
Maddingley Brown Coal	Composting	2,000 metres	EPA 1588	163	381
Maddingley Brown Coal	Coal mine	1,000 metres	EPA 1518 & Amendment C81 Panel Report	121	269
Interstate Energy Group	Manufacturer of soil conditioner and fertiliser products, uses coal from MBC	1,000 metres	EPA 1518 & Amendment C81 Panel Report	0	27
Maddingley Brown Coal	Landfill & Category C soils	500 metres	Landfill BPEM & Amendment C81 Panel Report	0	9
Calix	Manufacturer of magnesium oxide products	500 metres	EPA 1518 & Amendment C81 Panel Report	0	15
QP Lubes	Storage, mixing and packaging of high performance mechanical lubricants	500 metres	EPA 1518 & Amendment C81 Panel Report	0	14
VSF Bulk Grain and Minerals Storage Facility	Bulk grain and minerals storage	250m- 300m	Clause 53.10 & EPA 1518	0	10
Smartwood Mouldings	Joinery	100 metres	Clause 53.10	0	4
Simsmetal	Shredder floc processing	Unknown	-	-	-
Environmental Clean Technologies	Research and development facility for brown coal densification, uses coal from MBC	Unknown	-	-	-
Industrial Environmental	Environmental remediation contracting services *	Unknown	-	-	-
Lebrex Car and Truck Wreckers	Metal recycling	Assessment required	Clause 53.10 & EPA 1518	-	-

Source: Centrum Town Planning, 2019, Moorabool Amendment C81 Panel Report, EPA, 2013, EPA, 2015

Table 5 Potential or proposed buffer distances in the study area

				Properties affected	
Business Name	**Activity description**	**Buffer**	**Source / status**	**Residential**	**Total**
Latrobe Fertilisers	Urea production facility	1,000 metres	EPA 1518 & Amendment C81 Panel Report	0	43
Maddingley Brown Coal	Putrescible waste cells	500 metres	Landfill BPEM	0	8
Greyhound keeping	Keeping and racing 50 greyhounds	500 metres	Clause 22.04	0	19
Transfer station	Recycling of timber, green waste, cardboard, metals inside building	Assessment required	Clause 53.10 & EPA 1518	-	-

Source: Centrum Town Planning, 2019, Moorabool Amendment C81 Panel Report, EPA, 2015

Maddingley Planning Study

Land Use Buffer Distances

1. MBC composting area [2000 m]
3. MBC Landfill [500 m]
4. MBC Coal Mine (Licence Boundary) [1000 m]
5. Calix [500 m]
6. Interstate Energy Group [1000 m]
7. QP Lubes [500 m]
9. Parwan Wastewater Plant [1414 m]
10. Browns Lane Broiler Farm [425 m]
11. Geelong-Bacchus Marsh Road Broiler Farm [686 m]
12. West Side Meats [500 m]
14. Mushroom Farm [Unknown Distance]
15. Racing Dog Breeding Facility [500 m]
17. Smartwood Mouldings [100 m]
18. Metals Recycling at JBD [Unknown Distance]
19. VSF Bulk Grain and Minerals Storage Facility [300 m]
20. Lebrex Car and Truck Wreckers [Unknown Distance]
24. Kerrs Road Closed Landfill [Buffer to be confirmed]

Closed landfill, buffer to be confirmed

LEGEND

- Study Area
- Property Boundary
- Inferred Dwelling Location

Land Use Activity Areas

- Proposed Land Uses Requiring Buffers
- Existing Land Uses Requiring Buffers

Land Use Buffers

- Existing Land Use Buffer
- Unknown Distance (Existing)
- MBC existing and future composting area buffer [2000m] as per C81 panel report

0 250 500 750 1000 m

GIS maps produced by knightvision

Planning Zone (within Study Area)

- FARMING ZONE (FZ)
- INDUSTRIAL 1 ZONE (IN1Z)
- INDUSTRIAL 2 ZONE (IN2Z)
- PUBLIC USE ZONE - TRANSPORT (PUZ4)
- ROAD ZONE - CATEGORY 1 (RDZ1)
- ROAD ZONE - CATEGORY 2 (RDZ2)
- SPECIAL USE ZONE - SCHEDULE 1 (SUZ1)

Data Sources

Land Use Activity Areas and Buffers: GIS data provided by Moorabool Shire Council, based on Figure F1, Separate Sensitive Use Buffers, from report "Environmental Matters Concerning Proposed Amendment C81 to the Moorabool Planning Scheme" by Peter J Ramsay and Associates, Rev. 00.

Inferred Dwelling Locations are approximate only, and have been digitised by KnightVision based on aerial imagery interpretation.

Racing Dog Breeding Facility: Digitised by KnightVision based on planning permit application site plan provided by Moorabool Shire Council.

Proposed Materials Recycling Facility and Garden Supplies / Concrete Batching Plant location based on drawing 'Concept Site Plan', in Planning Permit Application 2018239 by Gunnawaunday Holdings Pty Ltd, dated 09/09/2018.

Potential Maddingley Energy Precinct: Based on drawing MEP_.PDF provided by Maddingley Brown Coal on 22/02/2019.

Basemap Layers and Planning Zones: Vicmap data, 2019. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

MAP 6

EXISTING LAND USE BUFFERS

BACKGROUND REPORT (DRAFT)

Prepared for **Moorabool Shire Council**

Prepared by centrum TOWN PLANNING

File: V:\OneDrive\CTP\Maddingley_Planning_Study\Maps\Rev0\Map06_Existing_Land_Use_Buffers.qgs

Date: 07/06/2019 Revision: Rev. 0

Buffer options and tools

This section of the report describes the options that are available to Council or others to identify and manage buffers both through the planning system and in other ways. The section is intended to provide a general overview of the options or approaches without reference to any particular site or issue. A discussion of the merits of the options as they relate to the study area is provided in the 'Issues and Opportunities' sections later in the report.

Operation of buffers

Under the current planning framework, the buffers described in the previous section of the report have no specific status until a planning permit application for a new or amended industrial use is made in a zone that allows for the use, as described in Table 2. In situations where new residential uses are proposed and require planning approval within a buffer, there is an expectation under EPA 1518 that the 'agent of change' would need to demonstrate why a variation to the recommended buffer distance is appropriate.

It is worth noting, however, that most of the buffers outlined in Table 4 now have some status from a strategic planning perspective, as they have informed the Bacchus Marsh Framework Plan that forms part of Clause 21.07 of the MSS. Some consideration therefore needs to be given to them in all forms of decision making, particularly planning scheme amendments that may be affected by the buffers.

General options for identifying and protecting buffers

There are four broad ways that Council can actively identify and protect buffers, as follows:

Option one (direct land ownership) would require the operator to purchase or acquire land. This option has already been adopted by MBC. It owns approximately one third of the land that is within the amalgamated coal and composting buffer.

Option two (general publicity) involves offering general information to all landowners within the landfill buffer, warning them of the presence of the industrial uses and outlining how Council would consider any future use and development of land within the buffer in the context of EPA guidelines. This option could include mailouts and information on Council's website and possible the adoption of informal policies outside the planning system. This option presents issues relating to consistency, transparency accuracy as it would occur outside of a statutory document such as a planning scheme, and outside of a statutory process. This option has therefore not been further discussed in this report.

Option 3(Land information certificates) involves Council using Section 229 of the Local Government Act to include any information on a certificate that is included in Section 32 Vendors Statements, whenever land is sold.

Option 4 (Moorabool Planning Scheme) has a number of sub-options, as summarised in Table 6 on this page. Table 8 in Attachment B and Table 9 in Attachment C at the end of this report provide more details about the key attributes of the main overlay provisions that could be used to identify buffers, together with examples of where they have been applied to protect buffers in Victoria.

Overlays

Overlays in the planning scheme warrant particular consideration in the Maddingley Planning Study as they are the planning tool that is most often associated with buffers. They have received general support from many planning panels for this purpose. The key advantages of overlays, as opposed to other forms of development control, are that they:

- can trigger the need for planning approvals when no other triggers exist;
- can explicitly enable the consideration of issues that aim to protect a facility and impose conditions;
- can trigger referrals to authorities or other groups;
- are easily identified in planning scheme maps.

The key disadvantages of overlays are that:

- a significant level of strategic planning work is usually required in order to apply them and to subsequently amend them;
- they often require a significant amount of time and resources to implement in the planning scheme;
- they usually cannot prohibit uses (if this is desired), only trigger the need for planning approval.

In practice, overlays are therefore usually of most benefit when applied to buffers in greenfield or rural areas that are under threat of urban expansion or sensitive uses. Overlays that apply to existing urban areas require a considerable degree of technical and policy support and there are few examples of overlays that have been used to control amenity impacts in urban areas (refer also to the following page).

Summary of options

Each of the options has advantages and disadvantages. In order to give a general understanding of the merits of each of the four options, each has been rated in Table 6, below. Key considerations relating to the effectiveness of the tools are:

- **Protection:** the ability of the option to adequately protect the buffer
- **Exposure:** the degree to which potential purchasers of land are likely to become aware of the buffer at an early opportunity;
- **Flexibility:** the capacity for the tools to be tailored to appropriately respond to the particular issue that needs to be addressed.

The ability for Council to successfully implement an option is also important. There are considered to be two aspects of the implementation phase that can be rated:

- **Cost:** the level of funds required to prepare and apply the option to give it proper effect'
- **Timeframe:** the amount of time it would take to formally apply or introduce the option, with 'short' representing a fast process and 'long' representing a slow process.

Any change to the Moorabool Planning Scheme would require a planning scheme amendment. This is usually a significant undertaking as complex planning scheme amendments typically take 12-24 months from the early stages of preparation to a decision by the Minister for Planning. Ultimately, the preferred option requires further feedback from stakeholders, and consideration of other factors, including cost and timing. Furthermore, it is possible that a combination of options may be the most effective way of addressing certain issues or sites.

Table 6 Summary of options for buffers

	Effectiveness and Operation			Implementation	
Option	**Protection**	**Exposure**	**Flexibility**	**Cost**	**Timeframe**
1. Direct ownership	Very high	Low	Low	Very high	Variable
2. General information	Very low	Variable	High	Low	Short
3. Land information certificate	Low	High	High	Low	Short
4. Planning Scheme					
MSS	Low	Average	Average	Average	Medium
Local Planning Policy	Average	Average	High	High	Long
Zones	High	High	High	High	Long
Zone schedules	Average	High	Average	High	Long
Overlays	High	High	High	High	Long
Incorporated document	High	Medium-High	High	High	Long
Section 173 Agreement	High	High	High	Low	Short

Source: Centrum Town Planning, 2019

Buffer case studies

This section of the report describes buffers that have been formally recognised around waste and resource recovery facilities in two other Victorian planning schemes. The facilities have been chosen as they are State significant waste hubs or have similar attributes to the existing or future potential of the Maddingley WRR Hub. They provide an insight into some of the tools that could be used to protect buffers and reveal some of the issues that may need to be considered when including them in the planning scheme.

Melton Planning Scheme Amendment C162 (Mt Atkinson and Tarneit Plains Precinct Structure Plan)

Amendment C162 led to the introduction of various planning mechanisms in the Melton Planning Scheme to manage potential impacts associated with the Melbourne Regional Landfill and Ravenhall Quarry on new urban development to the west of Melbourne. These mechanisms included:

- future industrial zones to restrict uses that are likely to be affected by amenity impacts from the Landfill;
- the use of a Schedule to the Urban Growth Zone to prevent child care uses in the future Industrial 1 Zone near the Landfill and other land use restrictions to protect the Quarry;
- application of a Design and Development Overlay (DDO4) to future industrial land within 500 metres of the proposed landfill cells to avoid potential adverse impacts caused by landfill gas migration from putrescible landfilling (as shown in Figure 6, opposite), with consideration of comments from the EPA.

This Amendment is relevant for the Maddingley WRR Hub because it supports a cautious approach to decision making for potential future encroachment upon a State significant landfill. It also reveals how the Urban Growth Zone and Design and Development Overlay can be used in conjunction with other controls to address amenity and safety issues by managing land use and development. The purpose and integrated operation of these tools was also discussed in some detail in a recent VCAT case relating to a Works Approval for the Landfill (Melton CC v Landfill Operations Pty Ltd (Red Dot) [2019] VCAT 882).

The Panel Report (December, 2016) provides a useful discussion of the complexities involved in allowing land uses within a likely future landfill buffer. The Panel supported a one kilometre wide strategic 'landfill odour and amenity buffer' around the nearest proposed landfill cell, a finding that was reflected in their recommendations for the new planning provisions.

Environmental Significance Overlay (ESO3) in the Latrobe Planning Scheme

This overlay is of interest to the Maddingley Planning Study for a number of reasons. Firstly, the purpose of the overlay is to prevent the encroachment of sensitive uses. Secondly, the facility has a major recycling and waste to energy component. Thirdly, the process that led to its introduction is instructive in revealing the challenges associated with applying a buffer overlay to private land. The overlay applies to the Australian Paper Mill in Maryvale, as shown in Figure 7, opposite. This facility lies in the Industrial 2 Zone between Traralgon and Morwell. The facility is the largest private sector employer in the Latrobe Valley. The facility manufactures high performance packaging supplies and office paper, however it is an important facility for waste and resource recovery because it has the capacity to recycle 80,000 tonnes of recovered paper per annum. It is also a large producer of energy from waste, approximately half of which is used on site (Gippsland Waste and Resource Recovery Group, 2017).

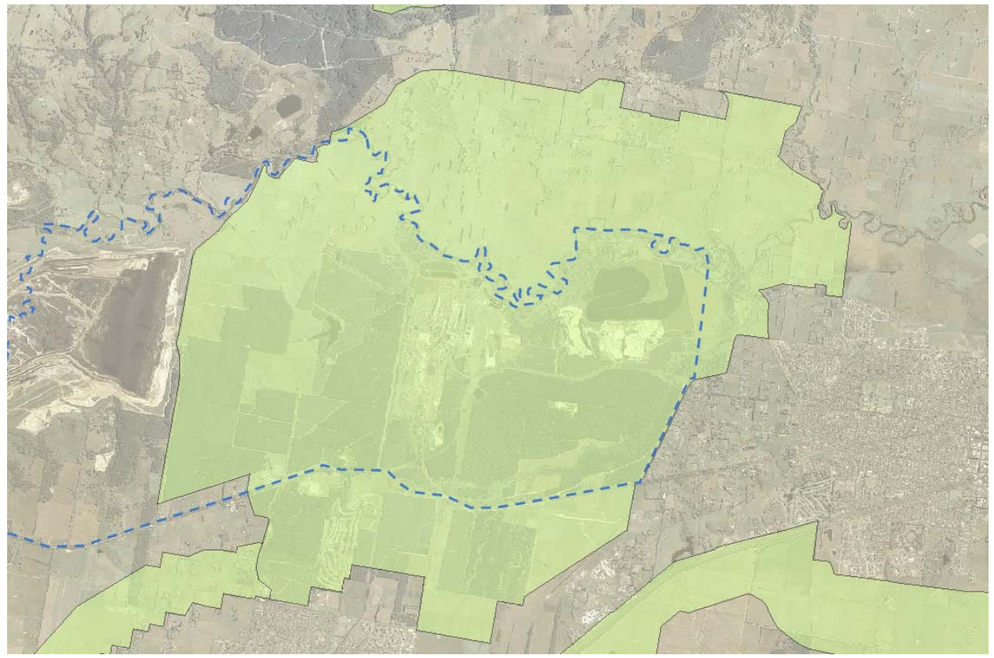
The ESO3 identifies the presence of potential amenity impacts, provides guidance on the development of land associated with sensitive land uses that may be incompatible with factory operations, and, where practical, requires consideration of design measures for new development to minimise amenity impacts. The overlay has no impact on existing buildings and works.

The ESO3 was introduced in the Latrobe Planning Scheme through Amendment C104 in December, 2018. The Amendment was approved by the Minister for Planning without notice under Section 20(4) of the Planning & Environment Act. The overlay was first anticipated through a strategic planning project that was subject to a planning scheme amendment, full public exhibition and a planning panel. The strategic buffer was subsequently included in the Planning Scheme, although, following negotiation by Council, the final ESO3 was only applied to rural land (Minister for Planning, 2018).

Figure 6 Design and Development Overlay (DDO4) in the Melton Planning Scheme

Source: https://mapshare.vic.gov.au/vicplan/

Figure 7 Environmental Significance Overlay (ESO3) in the Latrobe Planning Scheme



Source: https://mapshare.vic.gov.au/vicplan/

Part C | Issues and Opportunities

Role and vision

This section of the report presents a summary of key issues and opportunities that have emerged from the review of existing information and analysis provided in the previous sections of the report. Reference should be made to Map 7 for a visual representation of the key issues and opportunities. The section also raises key questions for consideration and feedback.

Development activity

The research carried out a part of this project indicates that there has been relatively little new physical development in the form of buildings or infrastructure in the study area over the past 20 years. The factors causing this situation are likely to be many and varied and include:

- macro-economic factors such as the general decline in manufacturing industry;
- uncertainty about the future vision for urban development in the northern part of the study area;
- existing planning provisions that facilitate coal mining;
- lack of infrastructure in many areas, such as made roads and sewer;
- existence of an exploration licence for coal mining.

For example, the Lincoln Valley abattoir cited global economic conditions and difficulties in the subdivision of the land south of Kerrs Road as reasons for not proceeding with its approved development to the south of Kerrs Road (Planned FX, 2013, 2010).

Subdivision activity is often a good indicator of development activity. There have been few subdivisions approved in the study area in the last 20 years. Two permits have been issued for the subdivision of the IN2 zoned land on the south side of Kerrs Road within the MBC landholding, as shown on Map 7, and a four lot subdivision has been completed in this area.

According to information provided by the applicant, a 25 lot industrial subdivision approved under Planning Permit PA 2006241 did not proceed due to high infrastructure costs, particularly for sewer extensions and road construction (Dawson, 2010).

Key questions:

What are the constraints that are restricting further development in the study area?

Vision for the precinct

A vision for the precinct is important, as it assists the community and stakeholders in understanding Council's land use vision, and assists planning practitioners in formulating appropriate tools to achieve these objectives.

The Moorabool Industrial Land Strategy (2015) does not provide a vision for the industrial zones in the study area, but notes that that the western part of the study area (Maddingley 4 Precinct) has reasonable buffers and that it may be appropriate for logistics and warehouse uses if accessibility could be improved.

In particular, the development of the Eastern Link Road could significantly influence the attractiveness of the precinct for different types of development as it will facilitate access from the Western Freeway and the Melbourne Metropolitan Area.

It may be most appropriate for separate vision statements to be developed for different parts of the study area, depending on their buffer and other characteristics, as described in this report.

Key questions:

What should the land use and development vision be for different parts of the study area?

Relationship with adjacent precincts

Council's planning for the adjacent precincts are for residential and commercial uses around Parwan Station to the east and a major agribusiness, intensive animal and employment precinct in Parwan to the south and south east. These precincts are in the early planning stages and further detailed structure planning is needed.

Consideration needs to be given to how the study area will be promoted in the context of these uses. For example, will intensive animal or horticultural industries be discouraged from locating in the study area? Alternatively, should uses that have a waste, energy or materials recycling focus be discouraged from locating elsewhere?

Key questions:

Should particular uses be encouraged and discouraged in the study area?

Clustering and co-location

It is well recognised that, in many industries, similar businesses often benefit from being close to one another. This enables them to benefit from common marketing, infrastructure, collaboration and sources of labour and supply chains. These principles are already recognised in Council's Parwan Employment Precinct Planning Study (2018), Bacchus Marsh Urban Growth Framework (2018) and Moorabool Economic Development Strategy (2015).

Already, there is some evidence of this occurring in the study area, where MBC supplies two businesses with coal. MBC also supplies a mushroom farm in Parwan with compost. It is notable too, that the emerging uses , which are described on the following page, are involved in industry sectors that already feature in the study area, or which will use a product that is produced in the study area. These include materials recycling, the use of methane from landfill and the diversion of wastes to create energy.

Key questions:

What synergies and efficiencies can be gained through co-location in the study area?

Emerging guidelines and policies

The State Government has opened up discussion about potential new waste to energy facilities in Victoria. The discussion paper *Turning waste into energy Join the discussion (DELWP, 2017)*, identifies the potential for waste to energy facilities to reduce greenhouse gases and reliance on landfills. It identifies the opportunities and risks associated with waste to energy, which are relatively new in Victoria.

The discussion paper notes that planning and EPA licenses and works approvals are required for the waste to energy uses, and emphasises the importance of a 'social licence' from the community to operate these types of facilities (DELWP, 2017, 28) The Victorian Government is developing a circular economy policy and action plan, which will be finalised by 2020 (www.environment.vic.gov.au).

Key questions:

What infrastructure is required in the study area to make waste to energy viable?

Emerging uses

Notwithstanding the constraints identified above, there has been ongoing interest from various uses seeking to establish in the study area to take advantage of its strategic location, infrastructure and proximity to a coal resource. Known proposals that are at the concept or approvals stage are summarised below and opposite. Many of these uses are likely to require buffer distances, as shown in Map 7, although the separation distances for some uses will depend on volumes, technology and other matters.

There is also at least one emerging use outside the study area but within existing buffer distances that raises questions about land use conflict with the Maddingley WRR Hub, and is described in this section of the report. The planning implications of these proposals are discussed in more detail in the later sections of the report.

Maddingley Brown Coal

MBC is actively exploring a number of new developments within its landholding, which includes relationships with other companies. These are summarised below based on information that has previously been made public.

MBC putrescible waste application: MBC proposes to accept up to 150,000 tonnes of putrescible waste per annum to support a planned anaerobic digester. A planning application was lodged in August, 2018. The application is at advertising stage and a significant number of objections have been received by Council.

MBC Star Dam filling and rehabilitation: Council received an application in November, 2018, from MBC to fill a former coal pit and now dam to the south of the landfill ('Star Dam') with Potentially Acid Sulphate Soil (PASS). The dam has the capacity to provide storage for soil removed as part of major infrastructure projects in Victoria.

MBC and Intelligas waste to energy for vehicles: these companies are in the process of extracting methane from the landfill and compress the gas for use in trucks and transport vehicles.

MBC and Intelligas waste to energy facility (the Maddingley Energy Precinct): the two companies plan to use solid recovered fuel (SRF) to generate electricity at the JBD Industrial Park. It would involve construction of a Materials Recycling Facility and combustion unit at JBD and the diversion of approximately 140,000 tonnes of timber, cardboard and soft plastics. Approximately 10 megawatts of electricity would be fed back to the grid, although significant upgrades to existing powerlines could be required. The initiative is at the testing and approvals stage.

The proposal has received a $500,000 State Government grant through the Resource Recovery Infrastructure Fund, managed by Sustainability Victoria. According to Sustainability Victoria, the project has an estimated cost of approximately $80 million (www.sustainability.vic.gov.au).

MBC and Intelligas waste to energy anaerobic digester: an additional stage of MBC's waste to energy proposal is to install a municipal alternative waste treatment facility at the JBD Industrial Park that would separate the SRF for diversion into the waste to energy combustion unit and organic waste stream and recyclable material for further offsite processing.

The organic waste stream will be processed by either an anaerobic digester to produce methane within a closed vessel for additional energy generation or composted at MBC to produce agricultural products. According to MBC, this proposal is conditional upon the approval of the application for putrescible waste at MBC to allow for contingency and seasonality factors.

These emerging activities demonstrate significant commitments by MBC to diversifying its activities, although the waste to energy potential of the site is still in the early stages. Council is developing a renewable energy policy that could inform, and be informed by, emerging waste to energy uses in the Maddingley WRR Hub.

Key questions:

What planning framework is needed to properly identify and manage the Maddingley WRR Hub?

What specific policies are needed for renewable energy?

Latrobe Fertilisers

Latrobe Fertilisers is investigating the potential to develop a major urea production facility in the study area that would meet a significant demand from the agricultural sector in Australia for this product . The facility would occupy approximately 74 hectares of Farming zoned land in the central part of the study area on Rowsley Station Road.

According to the company, technical studies are underway. No planning application has yet been lodged, however, the company has provided general details of its intentions through submissions to Amendment C81. The investment could be up to $1billion and 160 direct jobs, with up to 1,000 during construction (Latrobe Fertilisers, 2018 and 2019).

Exergen Pty Ltd

This company proposes to utilise brown coal from the study area to produce a range of environmentally friendly agricultural products including fertilisers and soil amendments. The coal is also a rich source of carbon that can be used to increase depleted soil carbon levels and potentially permanently sequester atmospheric CO2 in farm soil.

According to the company, the type of brown coal at Bacchus Marsh is a resource of national and worldwide significance due to its properties. There are large potential domestic and export markets for Bacchus Marsh coal-based agricultural products. The company's proposal is at product development and field trial stage. Coal mining is discussed in more detail later in this report.

Multi-purpose facility

Council has received an application for a materials recycling facility, concrete batching plant and landscape supplies at 8 Rowsley Station Road. The proposal includes a large shed for the material recycling component of the use. A planning permit application has been lodged with Council (PA2018239).

Bacchus Marsh Grammar School expansion:

Bacchus Marsh Grammar School recently made a submission to the Amendment C81 Panel hearing that reveals interest from this Prep to Year 12 school in developing land in the study area for school facilities such as ovals or outdoor education, with less intensive activities such as ovals providing a buffer between residential areas and the School and employment activities (Bacchus Marsh Grammar School submission to Amendment C81, 2017).

Key questions:

Are there any other emerging new uses in the study area?

What are their needs in terms of location, services and infrastructure and buffers?

53 Lot Residential Subdivision, Fisken Street, Maddingley

Council has recently issued a planning permit for a 53 lot residential subdivision at 30 Fisken Street, Maddingley (Planning Permit PA2018067). This site is zoned Mixed Use and is shown on Map 7. It is located outside the study area but lies entirely within the 1,000 metre coal mining buffer and the 2,000 metre composting buffers at the Maddingley WRR Hub, as shown on Map 6.

The initial application was for 81 lot residential subdivision. Council officers did not support this application due to the intensity of the residential use proposed and its location within the Maddingley WRR Hub's recommended buffers (Agenda for Development Assessment Committee 17 April, 2019).

The developer prepared an environmental assessment that calculated the current volume of composting at the Maddingley WRR Hub at up to 14,000 tonnes per annum, which would require a 1.1 kilometre buffer from the composting area under the relevant EPA guidelines (EPA 1588). It is noted that MBC's planning permit allows composting with inputs of up to 50,000 tonnes per annum (Planning Permit PA2011338-1). The developer subsequently amended the application to exclude residential lots from the buffer.

Council has supported the revised application and imposed conditions on the Planning Permit that require all future owners of the land to acknowledge the presence of nearby industrial uses and a state significant landfill (Agenda for Development Assessment Committee 17 April, 2019). It is understood that MBC is appealing Council's issue of the permit to VCAT on grounds relating to notice and buffers.

The application raises key questions about recommended buffers can be reduced, what needs to be considered, and whether any assumptions are reasonable in the context of existing uses or approvals in the study area.

Key questions:

How should applications for sensitive uses within recommended buffer distances be assessed?

Infrastructure

This Maddingley Planning Study will not provide a detailed structure plan for the future physical layout of development of in study area, however, it is important to consider these matters in a general and spatial way order to understand how these might constrain or facilitate the future development of the area.

Services

Currently, most of the study area contains few of the services required to readily facilitate any form of urban development. This has been a factor in confining many of the new uses that have established in the precinct to the JBD Industrial Park, where power, sealed roads and on-site wastewater treatment systems exist.

Typically, Council requires developers to provide all urban services to new developments as a condition of their planning permits. In the case of the study area, it may be possible to consider different standards in some situations, although this requires detailed discussions with various authorities. For example, some new uses are likely to give serious consideration to the on-site production of electricity rather than connect to the grid. Similarly some uses may wish to treat their own waste on-site. There may also be opportunities for electricity generated in the precinct from waste to be used by industries in the precinct, reducing cost and reliance on other forms of power such as gas.

One of the issues that Council has raised relates to the trigger points for the extension of services for existing uses. For example, there is no clear point at which it may be reasonable to require reticulated sewerage to be extended to the JBD Industrial Park, which currently relies upon an old septic system. According to Council, reticulated sewerage has recently been extended to the Racecourse Reserve on the western side of Bacchus Marsh-Balliang Road, which may make this more viable.

Key questions:

What level of services should be required for new land use and development?

What opportunities exist for the use of electricity or gas generated in the precinct?

Arterial roads

All of the recent strategic planning and transport studies undertaken for the area recognise the major importance of a new 'eastern link road' in opening up the Parwan Employment Precinct and Parwan Station precinct. This road would assist at the local level in providing an important north-south connection through the town to the Western Freeway, and would also provide much improved inter-regional links to northern Victoria and Geelong. According to the Bacchus Marsh Urban Growth Framework, the project is likely to be constructed in stages, and could rely on developer contributions from new residential growth precincts (VPA, 2018, 56).

The Eastern Link Road project is being managed by VicRoads but has no funding. As a result, construction timeframes are unclear. An Eastern Link Road Planning Study has been funded and is currently underway. This road has the potential to make the land in the study area more attractive for a range of uses, particularly from uses that rely heavily on road transport.

Key questions:

How should uncertainties around the timing and construction of the Eastern Link Road influence the Maddingley Planning Study?

What new opportunities would an Eastern Link Road bring to the study area?

Local roads

The roads in the study area are currently constructed to a rural standard that is not suitable for many forms of new development, including most forms of subdivision. Several existing planning permits, including MBC's, limit or prevent truck movements through central Bacchus Marsh and require movements to the Western Freeway on Woolpack Road. MBC's permit also requires trucks to avoid the use of East Maddingley Road. These conditions effectively confine large truck movements to the Bacchus Marsh-Balliang Road and Bacchus Marsh-Geelong Road and protect the amenity of urban uses in the northern part of the study area. These conditions would appear to be appropriate given the current rural standard of most of the local roads in the study area.

Council has not indicated that there is any intention to construct any roads in the study area in the near future. The upgrading of roads is likely to be a major issue in any new development proposals on greenfield sites in the study area. Until the roads are constructed to a higher standard, the costs associated with upgrading roads is likely to act as a major incentive for uses to locate in the vicinity of the JBD Industrial Park or in the northern parts of the study area.

The condition of local roads is also likely to become an issue if applications are made for major new developments in the vicinity of the JBD Industrial Park that rely on coal or any direct provision of materials from the Maddingley WRR Hub in the west. These developments would be likely to place greater reliance on unmade roads such as Rowsley Station, Kerrs Road and Gullines Roads.

An immediate issue is the condition of the intersection of Tilleys Road and Geelong-Bacchus Marsh Road, which is in poor condition and has been the subject of past discussions between Council and MBC. This intersection is the responsibility of VicRoads and reconstruction of this intersection will be subject to their conditions.

Key questions:

What role does each of the roads in the study area play?

Under what circumstances should developers contribute to the upgrading of local roads?

Development contributions

Most planning strategies require some consideration of who will pay for infrastructure and how this will be done. Development contributions are payments or works-in-kind towards the provision of infrastructure made by a developer. There are three ways that that development contributions can be collected under the Planning and Environment Act 1987

- Planning permit conditions
- Voluntary agreements (Section 173 Agreements)
- Development Contributions Plans

Each of these approaches has different strengths and weaknesses. To date, Council has used Section 173 Agreements and imposed conditions on planning permits in the study area requiring developers to directly provide new infrastructure to service new developments, as appropriate.

This approach is likely to be suitable in areas that are experiencing low levels of development activity, close to existing urban infrastructure. Other approaches may, however, be more suitable if major infrastructure upgrades are needed or many landowners may benefit from this infrastructure. This can help to create certainty for new investors, but attempting to predict infrastructure needs could be challenging for this precinct as new industries could have very different needs.

It is noted that a development contributions report was prepared for the Moorabool Agribusiness Industrial Area in Parwan. This report identified the need for a range of infrastructure, including road intersection and drainage upgrades (Urban Design and Management, 2016). In the short term, the upgrades in Parwan are to be implemented through a section 173 agreement. In the longer term they are proposed to be integrated with a Precinct Structure Plan (PSP).

Key questions:

What level of services should be required for new land use and development?

What infrastructure should developers be expected to fund and how?

Environment

Native vegetation

Most of the native vegetation on land in the study area has inherent protection under the Moorabool Planning Scheme. Individual planning applications would need to assess vegetation, avoid its removal and provide offsets on a case-by-case basis. The assessment of native vegetation did not form part of the scope of this project, but may be a relevant consideration for the Maddingley Planning Study.

As described in Part A of this report, the assessment of environmental values that was carried out for the Bacchus Marsh Urban Growth Framework found small areas of moderate and high environmental values in the western part of the study area to the north of the JBD Industrial Park and also on various parcels of land between East Maddingley Road and the Railway Line (Practical Ecology, 2016, 46&55). Further incorporation of these results into the Maddingley Planning Study may be needed prior the finalisation of the Maddingley Planning Study.

The presence of native grasslands has also been relevant to some planning applications in the Farming Zone, particularly in relation to past cropping activities. Further investigation and feedback may be required to determine the extent of this vegetation.

Key questions:

Has any work be done to ascertain the extent and significance of vegetation in the study area?

Parwan Creek

The Parwan Creek appears to be the area with the highest level of environmental sensitivity in the study area, and is currently well recognised in the Planning Scheme and protected through the Environmental Significance Overlay. Issues relating to biodiversity, water and other environmental values have not featured heavily in past planning processes reviewed as part of the research undertaken for this project.

Parwan Creek is located predominantly on private land, although there is some crown land to the south west of the Maddingley WRR Hub. The future role and treatment of the creek from an environmental and ownership perspective in new development is unclear. The subdivision of land is often the trigger for land along waterway reserves to be reserved for public purposes, if needed.

Rehabilitation works are planned at one of the MBC dams, which will begin to address some of the significant past effects of coal mining in the eastern part of the study area.

Key questions:

How should Parwan Creek be treated in any new development proposals?

Are there any areas of environmental significance that are not currently recognised in the Planning Scheme?

Amenity issues

Apart from the significant strategic planning issues in the study area, there is also some evidence of ongoing issues between residents within and outside the study area and industrial uses in the study area. These issues have historically related to the activities of MBC and some past activities within the JBD Industrial Park, although no register or list of complaints has been reviewed to date as part of the Planning Study so the scale or distribution of impacts is unclear.

Litter has been an issue in the past at the Maddingley WRR Hub, however, this has been successfully addressed through the construction of a major litter control fence on the site's eastern boundary. The Maddingley WRR Hub has also been subject to odour complaints, however, determining the source of odours has been a problem as odours have been found to originate from other sources as well as the landfill. MBC convenes an Environmental Review Committee for its operations, which plays an important role in addressing amenity related issues.

Industrial uses have also been active in objecting to proposed new sensitive uses. For example, MBC and Sustainability Victoria recently objected to an application for an 81 (later 53) lot subdivision on land zoned Mixed Use in Fisken Street, Maddingley. This land lies outside the study area but within the MBC composting and coal mining buffer. This development is discussed later in the 'Emerging uses' section of the report.

MBC also recently objected to a proposed new dwelling in Osborne Street, as shown on Map 7. (PA2018289) The now Department of Jobs, Precincts and Regions (DJPR) has also objected to the dwelling on the basis that it has not provided a site assessment of amenity impacts from the 1,000 metre coal mining buffer to the satisfaction of the EPA (DETJR letter to Moorabool Shire, 4/12/2018).

These examples demonstrate that land use conflicts continue to present difficulties in the study area, despite the long-standing nature of some uses. Active attempts to address specific amenity impacts such as litter appear to be more successful.

Key questions:

Are there any ongoing amenity impacts in the study area?

Is there are pattern to the amenity impacts that should be considered through the Maddingley Planning Study?

Cultural heritage

There are no areas of cultural heritage sensitivity under the Aboriginal Heritage Act 2006 in the parts of the study area that are most likely to come under pressure for development. The areas of cultural heritage sensitivity are confined mainly to the Parwan Creek environs. It is noted that MBC has recently prepared a Cultural Heritage Management Plan as part of its proposal to fill and rehabilitate the Star Dam.

Whilst all aboriginal cultural heritage is protected, it would appear that cultural heritage is therefore not a significant constraint to development across much of the study area.

Key questions:

Is there potential for future works in the vicinity of Parwan Creek that may be affected by the Aboriginal Heritage Act 2006?

Coal

State Government policies

The State Government has released a *Statement on Future Uses of Brown Coal* and associated guidelines, which aim to set a greenhouse emissions standard for new coal projects, whilst supporting opportunities that use brown coal It is mainly aimed at the Latrobe Valley coal resource, but applies to other major coal using proposals of 27,000 tonnes or more per annum (State of Victoria, 2018).

Status of coal resources

Coal resources are located beneath most of the land in the northern part of the study area that abuts the Bacchus Marsh urban area. The future status and protection of these coal resources is a key issue for the study as any form of urban development at any density is likely to compromise the future capacity to extract these resources as they require open cut mining.

The Maddingley Brown Coal Resource Strategic Review (2006) found that significant areas of the coal resource have potential for future urban development. The report supported a scenario that involved a 400 metre "coal resource protection boundary" from the MBC limit of approved mining, as shown on Map 7. This finding was not the subject of major disagreement during the Amendment C34 Panel process.

It is understood that the State Government has not undertaken any detailed review of the future of the coal resource at Maddingley since 2006. Unless significant new information arises during the consultation phase, the recommendations of the 2006 study in relation to the coal resource would appear to be a sound basis on which to prepare the Maddingley Planning Study.

The scenario that was supported by the State Government in 2006 would protect approximately 103 million tonnes of the total 129 tonnes of 'winnable' coal (DSE, 2006, 42). According to Maddingley Brown Coal, there is approximately 45 million tonnes of brown coal located beneath the area cover by the Mining Licence (Golder Associates, 2016, 7). Based on previous work carried out by Moorabool Shire, it is understood that between 10,000 and 20,000 tonnes per year of brown coal is mined at Maddingley per annum (GHD, 2005, 7. Based on current usage rates, there is therefore many hundreds of years of winnable coal supply in the ground for this purpose.

There is an exploration licence for coal that applies to most of the study area (Exploration Licence EL5294). This licence covers a much broader area than the study area, although has been reduced in size over time. The company that owns the licence, Mantle Mining and Exergen Pty Ltd, applied to extend the licence in 2016, however no decision has yet been made by the State Government.

Key questions:

What types of land use and development can take place on a coal resource without compromising its future potential?

Future use of coal resources

Coal has a declining future as a source of energy in Australia, however, it has other important applications and uses that could escalate its use considerably and which should be considered by the Maddingley Planning Study. The 2006 DSE review found that the winnable coal resource at Maddingley, whilst relatively small, has a large value and is not insignificant as a source of coal for new technologies (DSE, 2006, 19). These technologies including dried coal, carbon capture and storage and for fertilisers. This potential was the subject of extensive discussion in the 1999 Panel and Advisory Committee Report when the Special Use Zone was introduced.

At least one of the proposals for new coal technologies has proceeded to planning permit stage in the JBD Industrial Park (Environmental Clean Technologies). In addition, two existing businesses in the JBD Industrial Park use coal from the Maddingley WRR Hub in their products (Calix and Interstate Energy Group).

The proposal by Latrobe Fertilisers for a urea production facility could use up to 1.5 million tonnes of coal over 50 years, although this proposal has not proceeded to planning application stage. Latrobe Fertilisers has advised that the type and size of the coal resource is attractive for the use, including for natural gas production, which is needed for their manufacturing process. According to Latrobe Fertilisers, the proposal would create up to 160 ongoing jobs), which indicates the economic potential of the resource to the Shire (Latrobe Fertilisers submission to Amendment C81, 3).

Mantle Mining and Exergen Pty Ltd have undertaken test drilling in the area. Following renewal of EL5294, Exergen intends to do some further exploratory drilling and analysis followed by an application for a Retention Licence. If a large-scale commercial project can be established, Exergen intends to apply for a Mining Licence and then commence mining operations, supported by production, storage and logistics facilities. This will require an extensive approvals process under the Environment Protection Act and Planning and Environment Act 1987 and Mineral Resources (Sustainable Development) Act 1990.

Whilst the future use of the coal resource as a driver of new land use and development in the study area has not yet led to the construction of major new industries in recent times, it is clear that some interest does exist from two companies to utilise the resource. Its future potential is ultimately very difficult to estimate due to the range of non-planning related factors that may affect investment decisions, but there is likely to be a need to continue to recognise the coal resource in some way through the planning framework.

Key questions:

What is the future potential for coal in the study area in terms of timeframe, jobs and infrastructure requirements?

Protection of coal resources

In Victoria, coal resources are generally protected through a number of planning mechanisms, which have been applied mainly in the Latrobe Valley. In the Latrobe Planning Scheme, the following provisions manage and protect the coal resource:

- **Special Use Zone (SUZ1)**, which identifies the extent of the coal resource and aims to allow for interim and non-urban uses which protect brown coal resources and to discourage the use or development of land incompatible with future brown coal mining and industry.
- **Environmental Significance Overlay (ESO1)** acts as an urban buffer around townships and provides mutual protection between urban development and coal mining. It is only triggered by certain commercial and large-scale accommodation developments and not dwellings.
- **State Resource Overlay (SRO),** which applies to medium and long-term future coal resources. Like the ESO1, the overlay is only triggered by small lot subdivisions and certain commercial and large-scale accommodation developments and not applications for dwellings (Latrobe Planning Scheme).

The Special Use Zone (SUZ1) in the Moorabool Planning Scheme has a similar purpose to SUZ1 in the Latrobe Planning Scheme in relation to providing for coal mining, although the Moorabool SUZ1 is different in a number of key areas. For example, the Moorabool SUZ1 aims to minimise impacts on the environment and nearby land and ties approvals to an endorsed Management Plan and Development Plan. By comparison, the Latrobe SUZ1 specifically aims to provide for "interim and non-urban uses" .

The Department of Jobs, Precincts and Regions (DJPR) has advised that they are currently reviewing the planning provisions that apply to coal resources in the Latrobe Valley and that the review may be extended to Maddingley.

Key questions:

What planning provisions should apply to the coal resource that is worthy of protection?

Buffers

Emerging guidelines and policies

The State Government is in the process of reviewing buffers and their treatment through the planning system in response to the Major Hazard Facilities Advisory Committee Report (2016) and Independent Inquiry into the EPA (2016).

The government has released a technical report by ERM (2018), which critically assesses land use buffers and separation distances through the planning system. The ERM report identifies a large number of issues with the operation, application and interpretation of Clause 52.10 (now Clause 53.10), particularly in the context of how it relates to other clauses in the Planning Scheme and Recommended Separation Distances for Industrial Residual Air Emissions (EPA 1518, 2013). The report contains a summary of other review work and case studies.

This work will need to be closely monitored by the Maddingley Planning Study. Whilst the implementation of any review is likely to take considerable time, uncertainty and emerging policy changes could affect the implementation of the Maddingley Planning Study.

Key questions:

How might the review of buffers and separation distances affect the Maddingley Planning Study?

What uses are appropriate within buffers?

A large amount of land in the study area is subject to existing buffers. Guidance provided by EPA 1518 suggests that low intensity uses such as agriculture, car parks and other similar uses are to be encouraged in buffer and that light industry may also be appropriate if there is not potential for adverse amenity impacts. Currently, light industry exists to the north of the study area in very close proximity to existing residential zoned land.

There is potential for light industry and commercial uses such as bulky goods retailing to establish in the northern part of the study area. Further feedback is required from operators within the study area to understand whether existing industries may be affected by these uses and avoid inter-industry conflict. Feedback is also required from residents in the residential zones to understand whether these areas are appropriate for these types of uses and under what conditions.

It is understood that the State Government is in the process of developing more specific guidance on land uses that may be appropriate to locate within buffers.

Key questions:

What uses are appropriate for buffer areas and under what conditions?

Buffer for the Maddingley Waste and Resource Recovery Hub

One of the key objectives of this project is to implement an appropriate buffer for the Maddingley WRR hub. At present, the Farming Zone acts as separation between the industrial zones in the west of the study area and the Maddingley WRR Hub.

The separation distance that has been most recently accepted through the Amendment C81 process is for the amalgamated coal and composting buffer and is shown on Map 7. At this point in time, the status and role of this buffer relates mainly to strategic planning considerations such as the rezoning of land and future structure plans. It is not a 'statutory' buffer in the form of an overlay or other provision that can trigger the need for planning permits and other policy considerations, although this potential has been flagged in the Bacchus Marsh Urban Growth Framework and other strategic planning work carried out for the GCWWRRG. Furthermore, as noted earlier in this report, the separation distances are not rigid in that they can be amended to reflect a variety of circumstances, to Council and the EPA's satisfaction. Council's decision to approve the 53 lot subdivision in Fisken Street is an example where Council accepted a modified buffer based on an environmental assessment.

If the amalgamated coal and composting buffer becomes a statutory buffer in its current form, the amalgamated buffer would affect approximately 380 properties, including 163 properties in residential zones to the north of the study area. The properties in the residential zones are long-established. Few vacant lots exist in the Gaynor Street area, although there is land on the east and west sides of Fisken Street zoned General Residential and Mixed Use that has potential for more intensive residential development, as shown on Map 7. The options for identifying and protecting this buffer are discussed earlier in this report. In most cases, the ideal planning response would be to use zones to manage or prohibit sensitive land use in these areas, however, this may not be achievable or equitable given the long-standing zoning and residential use of these areas.

In the event that changes to zones are not possible, the strongest and most transparent form of buffer would be an overlay in the Planning Scheme. This could provide a reasonably high degree of protection for the WRR hub from sensitive uses, however, determining the application and operation of the control will require resolution of a range of challenging considerations. Key questions include:

- What land should be affected?
- Can the overlay be applied to zones in which sensitive uses are as-of-right?
- Should density or subdivision controls be considered?
- Should discretion be exercised in making decisions or are mandatory controls or conditions necessary?
- Should standard conditions apply to sensitive uses?

An alternative approach would be to undertake further technical work to determine whether there is an acceptable way of determining actual levels of cumulative impacts within the identified buffer.

This work would be used as the basis for new provisions, however, significant investigations into buffers have already taken place so this may achieve little.

Another solution may be to pursue an overlay control that is more limited in its application, but which affects fewer landowners, in direct consultation with stakeholders. Other options could involve taking different approaches to planning controls within different parts of the buffer. Again, this approach will require negotiation with stakeholders. What seems clear is that the amalgamated coal and mining buffer for the Maddingley WRR Hub as shown on Map 7 should represent the outer most limit of what is considered as a buffer around the Maddingley WRR hub at this point in time.

Key questions:

What is the most appropriate form of planning control for the WRR Hub buffer?

How should sensitive uses be dealt with within the buffer?

What separation distance should the buffer be based upon?

Coal buffer

An open cut coal mine has a buffer of 1,000 metres under EPA 1518. Under EPA 1518, manufacturing of other products that use coal such as briquettes have buffer distances of between 250 and 500 metres. The northern part of the coal resource comprises land that is within 100 metres of land that is zoned General Residential, so new coal related uses are likely to be inappropriate for these areas.

The 400 metre "coal resource protection boundary" is shown on Map 7. It affects approximately half of a major landholding to the north of Kerrs Road zoned SUZ1 and a number of small properties in the vicinity of Osborne Road and South Maddingley Road zoned SUZ1. It also affects some of the land that Council has investigated for potential bulky goods retailing. If confirmed, this boundary should ideally be reflected in the planning scheme.

Key questions:

Is the 400 metre coal protection boundary appropriate?

Other buffers

Maps 6&7 show a number of existing buffers to potential or proposed future land uses. None of these buffers extend into land in a sensitive zone, however, most of the buffers extend into Farming Zoned land outside the study area. The concentration of buffers in this area, and the emergence of waste to energy and materials recycling uses suggest that these buffers need to be recognised in some way. These buffers particularly affect Farming Zoned land to the west of Bacchus Marsh-Balliang Road, although all of these lots have already been developed with dwellings, so a statutory buffer in the form of zone or overlay may not be needed.

Key questions: Are formal buffers in the vicinity of the JBD Industrial Park needed?

Zones

As discussed previously, zones are the main tool for controlling land use in the planning system. This section provides a discussion about uses that may be appropriate in different parts of the study area and how this relates to existing and potential future zones.

Special Use Zone

There are three main issues with the existing SUZ1 that applies to over half of the land in the study area: its content, its operation and its coverage. At the time of its introduction in 2000, the Special Use Zone was applied to respond to the Ministerial Direction on the Form and Content of Planning Schemes, which required that this zone be applied to areas identified for coal mining. It is noted that there is no longer a requirement in the Ministerial Direction on the Form and Content of Planning Schemes for the Special Use Zone to apply to areas for coal mining. Issues relating to coverage are discussed in the previous sections of this report relating to buffers and coal.

In relation to the content and operation of the SUZ1, the 2006 DSE Review of the Maddingley Coal Resource identified a number of issues with the way in which the provision operates. Key issues raised in this review include:

- there is no trigger in the SUZ1 that requires the Management Plan and Development Plan to be prepared;
- 'mining' is a section 1 use if it meets the requirements of Clause 52.08 if it is in accordance with the Management Plan and Development Plan, however, this is overridden by the permit trigger in Clause 52.08 particular provision;
- no agreement has been reached between Council and MBC on the approval of the Management Plan and Development Plan.

In August 2016, MBC lodged a Management Plan and Development Plan with Moorabool Shire Council for approval (Golder Associates, 2016). This plan has not yet been approved by Council.

Recent planning work carried out for the Grampians Central West WRRG also identified the lack of an approved MP&DP as an issue as well as a number of additional issues with the Special Use Zone, as follows:

- lack of integrity with purpose of the zone, which refers to the need for development to occur in accordance with the endorsed MP&DP;
- need to notify neighbours of applications if there is no endorsed MP&DP;
- divergence between operations of the Maddingley WRR Hub, which are focused on landfill and materials recycling, with the purpose and content of the zone, which is for coal mining;
- lack of relevance of the decision guidelines to current activities (Centrum Town Planning, 2018, 94-95).

It therefore appears that a substantial review of SUZ1 is needed as a part of the Maddingley Planning Study. If the zone schedule is retained, key questions relate to:

- What should the zone purpose provide for?
- What uses should be as-of-right, require a permit and be prohibited?
- What information requirements and decision guidelines should be applied to land use, subdivision and buildings and works?
- Should any forms of development be exempt from third party notice and review rights?
- Should the zone trigger any referrals to government agencies or departments?

Key questions:

Is the Special Use Zone an appropriate zone to apply in the study area?

What should the purpose of the Special Use Zone be and how should it operate?

To what land should the SUZ be applied?

Farming Zone

The Farming Zone currently acts as a separation between industrial zones and the Special Use Zone. It aims to provide mainly for agriculture. Most of the Farming zoned land is owned by MBC and is used for grazing and cropping. There are several dwellings in the Farming Zone on the west side of Osborne Street that do not appear to carry out any form of agriculture on the land. Farming zoned land in the south of the study area has recently been developed for greyhound keeping.

Past submissions to planning processes from landowners have suggested that land in the land in the northern part of the study area has limited agricultural potential, although this may be due mainly to the small size of the lots. It is understood that no detailed assessment of the agricultural productivity of the land has been carried out by Council to date, nevertheless, the Farming Zone may continue to be relevant for some parts of the study area to reflect existing uses, larger landholdings, or as means of discouraging intensive land uses that should be located in other zones.

The Farming Zone allows for dwellings subject to permit on lots of less than 40 hectares and above 40 hectares as-of-right. However, it may be possible to use this zone in conjunction with overlays, as discussed in the 'buffer' section of this report.

Key questions:

What is the agricultural potential of land within the study area?

Does the Farming Zone have a future role to play in the study area?

Industrial zones

The industrial zones are a key consideration of this study. They are the main tool for identifying and facilitating industrial development. These uses are well established in the western part of the study area and there is ongoing interest from new uses in establishing in or near these areas.

The application of the Industrial 2 Zone in the study area requires careful consideration in the Maddingley Planning Study. This zone aims to promote heavy industry that requires buffers, and specifically aims to locate the uses with the greatest amenity impacts in the heart of the zone, which the zone specifies as 1,500 metres from residential areas. It appears to have been applied to reflect the historical use of the JBD Industrial Park as a CSR factory.

The issue in the study area is that the Industrial 2 Zone is located between 400 and 1500 metres from land zoned General Residential, meaning that it cannot by definition operate in the way in which it is intended. Furthermore, all forms of industry, irrespective of their buffer distance, require a use approval under the zone. This is likely to create some uncertainty for industrial, as they may need to prepare significant levels of information to demonstrate that amenity impacts are acceptable.

At present, there are uses in the JBD Industrial Park that require buffers of 500 and 1,000 metres, which suggests that an Industrial 1 zone may be more appropriate.

The Industrial 3 Zone has not been applied in the Moorabool Planning Scheme, although Clause 21.04-7 of the MSS flags the potential for it to be applied to land to the north of Kerrs Road. It may present an appropriate tool to apply to areas which are located in close proximity to residential areas as it requires specific consideration of amenity impacts.

From an implementation perspective, one of the key issues with new industrial zones is that, in theory, there is at least 40 years' supply of industrial land in the Shire (SGS, 2015). This could make the rezoning of land to any industrial zone problematic as Council would need to justify that this amount of land is appropriate. There are, however, uncertainties as to whether all of the land that is theoretically available for development can reasonably be developed. Potentially, different demand based scenarios may be needed. Further feedback is required from DELWP on this matter.

Key questions:

Should the Industrial 2 Zone be retained in the western part of the study area?

What strategic justification is required to rezone additional land to industrial?

Sensitive uses

There are at least 17 dwellings in the study area and the theoretical potential for additional dwellings to be approved in the Farming and Special Use Zones. This section considers key issues relating to the way in which the Maddingley Planning Study responds to these uses.

Future of sensitive uses

The dwellings in the study area exist under a mix of existing use rights and permits. The planning system recognises that all existing uses have the right to continue in perpetuity. As stated by the Planning Panel in the Panel Report for Amendment C34:

The planning system is predicated on preserving the rights of properties that are established under an existing planning framework, as well as protecting existing and future residents from adverse amenity impacts. Changes in the planning framework are not generally intended to change the basis for operating lawfully established businesses. (Amendment C34 Panel Report, 2006, 54).

At present, most of the land in the Farming and Special Use Zones that is not owned by MBC has no further subdivision potential under the provisions of these zones. However, the owners of existing dwellings may wish to extend houses and construct sheds.

The Maddingley Planning Study needs consider how to respect and recognise these uses and the intentions of their owners, whilst recognising that alternative and more appropriate uses should be encouraged, over time.

Key questions:

What issues relating to existing dwellings need to be considered by the Maddingley Planning Study?

Application of zones

Nearly all of the land in the study area is affected by an existing buffer. First principles and the findings of the Amendment C81 panel suggest that any zone that allows for a sensitive use should not be considered for land within the study area that is subject to a buffer. Candidate zones that prohibit most sensitive uses include:

- Industrial 1 Zone
- Industrial 2 Zone
- Industrial 3 Zone
- Commercial 2 Zone
- Special Use Zone, tailored to suit.

The ultimate application of zones will depend on a range of factors, including the need to protect industry and residents, and infrastructure, as discussed throughout this report.

Key questions:

What criteria should be developed for the application of zones for land within and outside existing buffers?

Maddingley Planning Study

Land Use Buffer Distances

2. Indicative MBC coal mining and composting buffer [Refer to Map 6 for distances]
8. Latrobe Fertilisers (Proposed) [1000 m]
13. Parwan Abattoir (Proposed) [1000 m]
14. Mushroom Farm [Unknown Distance]
15. Racing Dog Breeding Facility [500 m]
16. Proposed MBC Putrescible Waste Cells [500 m]
21. Proposed Garden Supplies / Concrete Batching Plant [300 m]
22. Proposed Materials Recycling Facility [Unknown Distance]
23. Potential Maddingley Energy Precinct [Unknown Distance]

Bacchus Marsh
Maddingley
Parwan
Agribusiness & Mining
Agribusiness & Intensive Agriculture
Agribusiness, Equine & Intensive Agriculture
Bacchus Marsh Aerodrome
Indicative MBC coal mining and composting buffer
53 lot residential subdivision approved
Growing P-12 School
Land within existing buffer with potential for sensitive uses
Future Eastern Link Road (Alignment unknown)
Land recently investigated for bulky goods uses
Road improvements required
Cluster of existing sensitive uses in this area
Closed landfill – potential impacts unknown
Cluster of existing dwellings
Potential for expansion of non-sensitive uses
Coal resource protection boundary from MBC Resource Strategic Review (DSE, 2006)
Uses requiring 500m+ buffers
Land previously approved for industrial subdivisions
Former sand cleaning area – requires further investigation
Potential to improve east-west road and infrastructure connections
Expanding waste and resource recovery hub
Potential to improve road and infrastructure connections
Emerging waste to energy and materials recycling precinct
Indicative MBC coal mining and composting buffer
ARARAT LINE
500 m
1000 m
300 m

Planning Zone (within Study Area)

- FARMING ZONE (FZ)
- INDUSTRIAL 1 ZONE (IN1Z)
- INDUSTRIAL 2 ZONE (IN2Z)
- PUBLIC USE ZONE - TRANSPORT (PUZ4)
- ROAD ZONE - CATEGORY 1 (RDZ1)
- ROAD ZONE - CATEGORY 2 (RDZ2)
- SPECIAL USE ZONE - SCHEDULE 1 (SUZ1)

GIS maps produced by knightvision

LEGEND

- Study Area
- Property Boundary
- Parcel Boundaries
- Road
- Railway Line
- Existing Dwelling
- Proposed Dwelling
- Proposed Materials Recycling Facility and Garden Supplies / Concrete Batching Plant
- Coal resource protection boundary
- Sensitive Land Use Areas
- Non-sensitive Land Use Areas

Land Use Activity Areas

- Potential and proposed land uses requiring buffers

Land Use Buffers

- Potential and Proposed Land Use Buffer
- Potential and Proposed Land Use Buffer (Unknown Distance)
- Indicative MBC coal mining and composting buffer

0 250 500 750 1000 m

Data Sources

Land use precinct captions based on Figure 39 on page 58 of the report 'Parwan Employment Precinct Planning Study' by SED Regional Advisory, April 2018.

Existing Dwelling Locations are approximate only, and have been digitised by KnightVision based on aerial imagery interpretation.

Proposed Dwelling Location from drawing 'Plan of Proposed Dwelling', in Planning Permit Application 2018189 by T.G. Sullivan & Associates Pty Ltd, dated July 2018.

Proposed Materials Recycling Facility and Garden Supplies / Concrete Batching Plant location based on drawing 'Concept Site Plan', in Planning Permit Application 2018239 by Gunnawaunday Holdings Pty Ltd, dated 09/09/2018.

Coal Resource Protection Boundary: Digitised by KnightVision from Figure 5 - Scenario 2 Coal Resource Protection Boundary in "Maddingley Brown Coal Resource Strategic Review", Department of Sustainability and Environment and the Department of Primary Industries (Victoria), October 2006.

MAP 7 ISSUES AND OPPORTUNITIES

BACKGROUND REPORT (DRAFT)

Prepared for **Moorabool Shire Council**

Prepared by centrum TOWN PLANNING

File: V:\OneDrive\CTP\Maddingley_Planning_Study\Maps\Rev0\Map07_Issues_and_Opportunities.qgs

Date: 26/06/2019 Revision: Rev. 0

Conclusion

The study area presents a range of planning issues that will require consideration in the Maddingley Planning Study. These include:

- relatively low levels of recent development activity due a broad range of macro economic and local factors;
- the presence of residential zoned land within existing buffers but outside the study area;
- the presence of long-established dwellings within the study area;
- some history of amenity impacts from industry on existing sensitive uses within the study area;
- extensive areas of land covered by existing buffers to industry, yet no formal recognition of the buffers;
- uncertainty about the current status of the coal resource from a strategic perspective;
- low levels of infrastructure and unconstructed roads across most of the study area;
- planning provisions that are outdated and do not appropriately respond to the current and emerging issues facing the precinct;
- lack of an approved MBC Management and Development Plan under the Special Use Zone;
- recent subdivision activity for residential purposes in the Mixed Use Zone within recommended coal and composting buffers.

Many of these issues are inter-related and it is suggested that the development of as strong and clear vision for different areas within the study area will be needed in order to resolve how to respond to each issue. Furthermore, there are a number of factors, which are likely to make the resolution of these issues more challenging. These include:

- a significant history of conflicting aspirations for the future use of land in the northern part of the study area;
- ongoing interest from the private sector in using coal resources, yet uncertainty about the status of the exploration licence;
- lack of information to enable appropriate separation distances to be determined for some existing and potential future uses such as materials recycling;
- presence of uses that rely upon existing use rights in the study area, which makes it more difficult to plan strategically for these uses;
- relatively low levels of understanding of the environmental and agricultural resources and features within the study area;
- large theoretical supplies of industrial land elsewhere in the Shire, some of which is compromised for development;
- a recent application to receive putrescible waste at the Maddingley WRR Hub, which has received strong community resistance.

Notwithstanding the above issues, the study area presents a range of opportunities for land use, development, employment and the local economy:

- strategic location immediately to the south of the Bacchus Marsh urban area and close to proposed future commercial and industrial precincts;
- presence of several large and well-established industries;
- large areas of vacant land with good separation distances to sensitive uses;
- an established and expanding material recycling sector;
- potential for the development of waste to energy uses and active interest in exploring this potential;
- a significant coal resource, with a wide range of potential applications;
- current interest from industry in developing new uses that capitalise on the coal resource;
- the potential to benefit significantly from the proposed new Eastern Link Road connection with the Western Freeway.

Key challenges for the Maddingley Planning Study are considered to be:

- how to protect and plan for a waste hub of state significance at the local level;
- how to formally recognise existing buffers in the Planning Scheme, particularly the amalgamated MBC coal and composting buffer and consideration of BPEM implementation to reduce these buffers;
- how to develop policies and provisions for the operation of buffers both within and outside the Planning Scheme;
- how to appropriately apply zones in conjunction with any other buffers tools;
- determining whether it may be possible to use the industrial zones more extensively;
- reviewing the provisions of the Special Use Zone (SUZ1);
- determining the type and level of infrastructure that might be required to attract industry and development activity;
- identifying a suitable framework for identifying and levying infrastructure costs that should be shared;
- gaining community and stakeholder support for the Maddingley Planning Study;
- how to balance competing objectives in the absence of a full evidence base to measure different social, economic and environmental outcomes.

References

Bacchus Marsh Grammar School submission to Amendment C81, 2017

Centrum Town Planning, 2018, Grampians Central West Waste and Resource Recovery Land Use Project

Dawson, Graham, Extension of time request from to Moorabool Shire Council in relation to Planning Permit 2006241 dated 23/6/2010

DELWP, 2017, Plan Melbourne (2017-2050)

DELWP, 2017, Plan Melbourne 2017-2050 Metropolitan Planning Strategy

DELWP, 2017, Turning waste into energy - join the discussion

DETJR, 4/12/2018, Letter to Moorabool Shire Council regarding Planning Application PA2018189

DSE, 2006, Maddingley Brown Coal Resource Strategic Review Report of Interdepartmental Working Group

Environment Protection Act 1970

Environment Protection Authority Designing, 2015, constructing and operating composting facilities (EPA 1588, 2015)

Environment Protection Authority, 2015, The Best Practice Environmental Management - Siting, Design, Operation and Rehabilitation of Landfills (EPA 788.3, 2015)

Environment Protection Authority, 2017, Assessing planning proposals near landfills (EPA 1642, October, 2017)

Environment Protection Authority,, 2013, Recommended separation distances for industrial residual air emissions (EPA, 1518)

ERM, 2018, Improving Planning Responses for Buffer/Separation Distances, Technical Report

ERM, 2018, Maddingley Brown Coal Landfill, Tilleys Road, Bacchus Marsh, Victoria Odour Impact Assessment Report (for Planning Application PA2011338-2)

Essential Economics, 2018, Bacchus Marsh Strategic Bulky Goods Retail Assessment

Geographia, 2015. Moorabool Shire Economic Development Strategy

Gippsland Waste and Resource Recovery Group, 2017, Gippsland Waste and Resource Recovery Implementation Plan

Golder Associates, 2016, Maddingley Brown Coal Management Plan and Development Plan (7/7/2016)

Grampians Central West Waste and Resource Recovery Group, 2017, Grampians Central West WRR Implementation Plan

Latrobe Resources, 2018, Submission to Amendment C81 Panel Hearing.

Latrobe Planning Scheme

Lincoln Valley Pty Ltd v Moorabool SC [2008] VCAT 997

Melton CC v Landfill Operations Pty Ltd (Red Dot) [2019] VCAT 882

Melton Planning Scheme

Metropolitan Waste and Resource Recovery Group, 2016, Metropolitan Waste and Resource Recovery Implementation Plan

Minister for Planning, Reasons for decision to exercise power of intervention under Section 20(4) of the Planning and Environment Act 1987 Latrobe Planning Scheme Amendment C104

Moorabool Planning Scheme

Moorabool Planning Scheme Amendment C34 Panel Report, 2008

Moorabool Planning Scheme Amendment C6 Part 2 Panel Report, 2013

Moorabool Planning Scheme Amendment C81 Panel Report, 2018

Moorabool Shire Council, 2015, Bacchus Marsh Integrated Transport Strategy

Moorabool Shire Council, 2019, Agenda for Development Assessment Committee 17/4/2019

Oupan Resources, 2018, Submission to Panel Hearing for Planning Scheme Amendment C81

Panel & Advisory Committee for the New Format Moorabool Planning Scheme, 1999

Peter Ramsay and Associates, 2018, Expert Witness Statement by Peter Ramsay to the Amendment C81 Panel Hearing.

Planned FX, Letter to Moorabool Shire Council on behalf of Lincoln Valley Pty Ltd, 22 April, 2010.

Planning and Environment Act 1987

Practical Ecology, 2016, Bacchus Marsh Environmental Assessment

SED, 2018, Parwan Employment Precinct Planning Study

SGS Economics & Planning, 2015, Moorabool Industrial Areas Strategy

State of Victoria, 2014, Central Highlands Regional Growth Plan

State of Victoria, 2018, Statement on Future Uses of Brown Coal

Sustainability Victoria, 2018, Statewide Waste and Resource Recovery Infrastructure Plan

VicRoads, February 2017, Traffic Volume Data for Victoria spreadsheet

Victoria Planning Provisions

Victorian Planning Authority, 2018, Bacchus Marsh Urban Growth Framework

Victorian Planning Authority, 2017, Mt Atkinson & Tarneit Plains Precinct Structure Plan

Vines, J, 2008, Coal Mining Heritage Study in Victoria

Websites

http://ies.net.au

http://maps.biodiversity.vic.gov.au

http://www.ectltd.com.au

http://www.maddingleybrowncoal.com.au/

https://ferbon.com.au/

https://igasoperations.vpweb.com.au/maddingley-energy-precinct

https://www.nbnco.com.au/residential/learn/rollout-map

www.aav.nrms.net.au/

www.bendigo.pozi.com

www.calix.com.au

www.environment.vic.gov.au

www.land.vic.gov.au

www.maps.google.com.au

www.nbnco.com.au

www.nearmap.com.au

https://mapshare.vic.gov.au/vicplan/

References

Map information sources

Aerial imagery: Nearmap Ltd, photograph dated 13/01/2019.

Basemap Layers and Planning Zones: Vicmap data, 2019. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

Coal Resource Layers: Digitised by KnightVision from Figure 5 - Scenario 2 Coal Resource Protection Boundary in "Maddingley Brown Coal Resource Strategic Review", Department of Sustainability and Environment and the Department of Primary Industries (Victoria), October 2006.

Crown Land: Based on VicMap data and updated based on information provided by Moorabool Shire Council on 13/02/2019.

Land Use Activity Areas and Buffers: GIS data provided by Moorabool Shire Council, based on Figure F1, Separate Sensitive Use Buffers, from report "Environmental Matters Concerning Proposed Amendment C81 to the Moorabool Planning Scheme" by Peter J Ramsay and Associates, Rev. 00.

Land Use Points of Interest: Digitised by KnightVision based on aerial imagery and site visit notes provided by Centrum Town Planning.

Land Use Polygons and Landholder information: Provided by Moorabool Shire Council.

Land use precinct captions based on Figure 39 on page 58 of the report 'Parwan Employment Precinct Planning Study' by SED Regional Advisory, April 2018.

Proposed Dwelling Location from drawing 'Plan of Proposed Dwelling', in Planning Permit Application 2018189 by T.G. Sullivan & Associates Pty Ltd, dated July 2018.

Proposed Materials Recycling Facility and Garden Supplies / Concrete Batching Plant location based on drawing 'Concept Site Plan', in Planning Permit Application 2018239 by Gunnawaunday Holdings Pty Ltd, dated 09/09/2018.

Racing Dog Breeding Facility: Digitised by KnightVision based on planning permit application site plan provided by Moorabool Shire Council.

Utilities Layers: Provided by Moorabool Shire Council on 01/02/2019.

Attachments

Attachment A – Existing businesses in the study area

Table 7 Inventory of existing businesses and uses in the study area at January, 2019

Business Name	Address	Land Use Category	Activity description	Zone	Planning approval	Commenced
Calix	25 Rowsley Station Road (JBD Industrial Park)	Industry	Manufacturer of magnesium oxide products	IN2Z	PA2009163, issued 24 August 2012	Early 2010 *
Interstate Energy Group	25 Rowsley Station Road (JBD Industrial Park)	Industry	Manufacturer of soil conditioner and fertiliser products, uses coal from MBC	IN2Z	PA2002-306	2002
QP Lubes	25 Rowsley Station Road (JBD Industrial Park)	Industry	Storage, mixing and packaging of high performance mechanical lubricants	IN2Z	PA022/00	2000
Environmental Clean Technologies	25 Rowsley Station Road (JBD Industrial Park)	Industry	Research and development facility for brown coal densification, uses coal from MBC	IN2Z	Planning Permit	Unknown
Smartwood Mouldings	25 Rowsley Station Road (JBD Industrial Park)	Industry	Joinery	IN2Z	PA2008329	Pre-2009
Industrial Environmental	25 Rowsley Station Road (JBD Industrial Park)	Industry	Environmental remediation contracting services *	IN2Z	Unknown	Post-2009
Simsmetal	25 Rowsley Station Road (JBD Industrial Park)	Industry	Shredder floc processing	IN2Z	PA2010006	Unknown
VSF Bulk Grain and Minerals Storage Facility	52 Albys Lane	Industry (rural)	Bulk grain and minerals storage	IN1Z	Unknown / possible Section 1 Use	Post 2010, Pre 2014
Lebrex Car and Truck Wreckers	89 Kerrs Road	Industry (materials recycling)	Metal recycling	FUZ	Unknown / pre 2000	Unknown
Bosch Car Service	13 East Road	Industry (motor repairs)	Automotive repairs	SUZ1	Unknown / existing use rights or pre 2000 permit	
Maddingley Brown Coal	11 Tilleys Road	Mineral extraction, Industry (Refuse Disposal, Materials Recycling)	Coal mining, landfill (non-putrescible), materials recycling, manufacture of soils and soil products including composting	SUZ1	Coal mine – existing use rights (1948) All other uses PA2011338, issued 7 November, 2014	Various
Bacchus Marsh Motorcross Track	55 Cummings Road	Leisure and recreation (Motor racing track)	Motorcycle racing	SUZ1	Permit pre-2000	Permit pre-2000
Pegasus Farm and Stockfeeds	108 South Road	Restricted Retail	Retail farm and stockfeed supplies	SUZ1	PA2015198, issued 15 December, 2015	Post 2015
Home Timber and Hardware	1 South Road	Trade Supplies and Timber Yard	Retail hardware and trade supplies	SUZ1	PA2010174	2010
Melbourne-Ballarat Railway Line		*Transport*	*Railway Line*	*PUZ4*	*N/A*	*1889*

Source: Centrum Town Planning, 2019, information derived from site visits and planning permits provide by Moorabool Shire Council, 2019

*Denotes information obtained from company websites (listed in References).

Attachment B – Buffer options

Table 8 General options for identifying and protecting buffers

Option	Role and purpose	Advantages	Disadvantages
Land information certificates under Section 229 of the Local Government Act 1989	Section 229 of the Local Government Act provides that a person may apply to a Council for a certificate specifying the prescribed information in relation to matters affecting any land in the municipal district. Councils do not need to provide planning information on these certificates, but the option exists.	Included in Section 32 Vendors Statement, whenever land is sold. Council may include any information it wishes to include and is not liable for information provided. Cost effective way to inform public.	Only becomes clear when a land information certificate has been purchased, usually as part of Section 32 Vendors Statement. Certificate is not available through maps or other free media.
Municipal Strategic Statement	The Municipal Strategic Statement (MSS) is a concise statement of the key strategic planning, land use and development objectives for the municipality and the strategies and actions for achieving the objectives. It furthers the objectives of planning in Victoria to the extent that the State Planning Policy Framework is applicable to the municipality and local issues. It provides the strategic basis for the application of the zones, overlays and particular provisions in the planning scheme and decision making by the responsible authority (VPP, Clause 23.02).	Ability to include policy guidelines allows MSS to actively guide decision making. Potential to include a buffer plan in the Local Areas Section as a 'soft buffer' tool. Relies on other permit triggers.	Main purpose is to set strategic directions and visions for local areas. Not shown on planning maps and in planning certificates in Section 32 Statements.
Local Planning Policy	Local Planning Policies are tools used to implement the objectives and strategies of the Municipal Strategic Statement. A Local Planning Policy is a policy statement of intent or expectation. It states what the responsible authority will do in specified circumstances or the responsible authority's expectation of what should happen. The consistent application of policy over time should achieve a desired outcome (VPP, Clause 23.03).	Key tool to guide decision making on particular issues, and is relatively flexible in terms of content and application. Potential to include a buffer plan. Relies on other permit triggers.	Not shown on planning maps and in planning certificates in Section 32 Statements. Policy statements are usually not binding, and simply state what would normally be expected by Council.
Zones	The main role of zones in the Victoria Planning Provisions is to manage the use of land. Zones specify uses that can be carried out as-of-right (no planning approval needed), uses that require a planning permit, and uses that are prohibited. Zones also specify other permit triggers for the development of land, including buildings and works and subdivision. "Back-zoning" land involves converting land to a zone that prevents or limits urban development (e.g. Farming / Industrial / Special Use Zone).	Zones are the preferred tool for managing land use Zones are shown on planning maps and in planning certificates in Section 32 Vendors Statements. The Special Use Zone can be tailored to address the specific issues that relate to the site, including use, buildings and works and subdivision triggers.	Will likely result in significant areas of non-conforming uses, creating complexity and confusion. Back-zoning will not affect uses with existing use rights.
Zone schedules	Many zones contain schedules that can be varied by planning authorities to address local issues and achieve local planning objectives.	Schedule to the GRZ allows a permit trigger for lots of 300-500m2, and can control density through varied site coverage requirements.	Flexibility in triggering planning permits can be limited. No schedule is available for the industrial zones. Cannot control the use of land.
Overlays	Overlays are used to identify and manage particular planning issues, including environment and landscape, built form and heritage and land management issues. They trigger the need for planning approval for particular forms of development or change and can introduce referral requirements to government authorities or departments. Like local planning policies, their application over time should achieve a desired outcome.	Preferred tool for managing specific development issues and can trigger planning permits. Overlays are shown on planning maps and in planning certificates in Section 32 Statements. Overlay schedules can be generally be tailored to suit specific planning issues. Development Plan Overlay and Incorporated Plan Overlay can control land use. Overlays can trigger referrals to authorities such as the EPA.	No planning overlay that is intended specifically for waste buffers, which could limit their usefulness / application. Most overlays cannot control the use of land.
Incorporated document	The Planning and Environment Act 1987 allows certain documents to be incorporated in a planning scheme by reference, rather than by including them in the scheme itself. Incorporated documents are included in the list in: the Table to Clause 72.04 (statewide); or the Schedule to Clause 72.04 (local) of the planning scheme. Generally, where reference to a document is specifically required because the document affects the operation of the planning scheme, the document, or relevant part of the document, should be incorporated and read as part of the scheme (www.planning.vic.gov.au).	Flexible in its content and purpose. Is able to prohibit uses and developments that might otherwise be allowed. Has the same status as the Planning Scheme in decision making. Requires a planning scheme amendment to introduce and amend, which maximises opportunity for community involvement and scrutiny.	Needs to be carefully applied as it can create confusion and complexity. Does not physically form part of the Planning Scheme. Requires a planning scheme amendment to introduce and amend, which can be time consuming and costly for minor changes.
Section 173 Agreement	Section 173 of the Planning and Environment Act allows a responsible authority to enter into an agreement with an owner of land in the area covered by a planning scheme for which it is a responsible authority. The Agreement is a legal agreement that is registered on title.	Registered on title to land, so would be revealed to purchasers of land. Requirement to enter into Agreement can be imposed by permit condition. Agreements can contain any requirement or condition that is reasonable, but not financial contributions for infrastructure. Can be amended or cancelled relatively simply through a planning permit process. Relatively cost effective to prepare.	Can only be entered into voluntarily or via a planning permit condition following a planning permit application. Existence of the Agreement can only be known through a title search. Requires legal expertise to prepare. Usually the cost of preparing and lodging the agreement is borne by individual property owners.

Source: Centrum Town Planning, 2019, based on the Victoria Planning Provisions at February, 2019

Attachment C – Buffer tools

Table 9 Summary of overlays that have potential to identify and protect buffers

	Design and Development Overlay	Development Plan Overlay	Environmental Significance Overlay	Environmental Audit Overlay	Specific Use Overlay
Overview	The Design and Development Overlay can be used as a mechanism for controlling built form outcomes for waste and resource recovery facilities, as well as development within their buffer areas.	The DPO can provide a masterplanned outcome for waste and resource recovery facilities, as well as their buffer areas. The DPO can be applied to the facility itself to facilitate its growth and development in accordance with a Development Plan. The DPO can also be applied to the buffer area of a facility to regulate land use and development and/or set parameters under which certain land use and development may be permitted. The application of this Overlay to buffer areas is appropriate only in circumstances where a comprehensive future development is proposed within the buffer. It should not be applied broadly to areas that have already been developed or limited new development is expected to occur.	The Environmental Significance Overlay is often identified as the 'control of best fit' for protecting buffer areas around uses with adverse amenity potential, such as waste and resource recovery facilities. The Overlay can be applied to the buffer areas of facilities to manage development associated with sensitive land uses. The Environmental Significance Overlay should generally not be applied to regulate activities within the facility itself. The Development Plan Overlay or Design and Development Overlay should be used if guidance is needed for the facility.	The purpose of the overlay is to ensure that potentially contaminated land is suitable for a use which could be significantly adversely affected by any contamination. The EAO requires either a certificate of environmental audit or a statement from an environmental auditor under Part IXD of the Environment Protection Act prior to the commencement of a sensitive use. The overlay is generally only applied to land when there is known to be contaminated.	Used to apply specific controls designed to achieve a particular land use and development outcome in extraordinary circumstances
Strengths of this tool	The Overlay is able to set parameters that development either should or must meet, in order to mitigate the impacts of a facility on certain land use and development. Equally, it can restrict development to densities which reduce the numbers of people exposed to the facility.	Requires a Development Plan to be prepared, which can set out the overarching vision for a facility and/or its buffer. Prohibits land use and development that is not 'generally in accordance' with the Development Plan.	Can provide an extra level of statutory protection for a facility and its buffer. Can use permit triggers to limit development associated with sensitive land uses. Can provide formal referral or notice provisions for applications to be referred to the Environment Protection Authority.	Very strong control over sensitive land uses. The significant time and cost associated with the audit process means that it effectively prevents small scale sensitive uses. It requires a full environmental audit, which must be approved by the EPA. Therefore, it is a very effective way of ensuring that an acceptable risk to future residents or the community.	Can manage land use by allowing or prohibiting certain use or development, despite the provisions of the zone that applies.
Limitations of this tool	Can provide an extra level of statutory protection for a facility and its buffer.	Does not trigger a permit. Development Plan preparation and amendment can be onerous.	Cannot trigger a permit for land uses. Control is provided over new development for sensitive uses only. Cannot contain specific design advice.	Does not trigger an audit or any other requirement for non-sensitive uses. It is therefore only applied to land in zones that allow for sensitive uses.	This is a new VPP overlay. It is understood that it has not been used or applied to date. Unclear what "extraordinary circumstances" means in the purpose of the overlay. Requires an incorporated document to manage the operation of the overlay.
Can it be applied to protect and guide the current and future operation of a facility?	Can use permit triggers to limit development associated with sensitive land uses.	✓	✗	✗	✓
Can it be applied to protect the buffer area of a facility?	Can set discretionary or mandatory design requirements to be met in new development.	✓	✓	✓	✓
Provides a spatial representation of a facility and its buffer area	Can provide formal referral or notice provisions for applications to be referred to the Environment Protection Authority.	✓	✓	✓	✓
Is a permit required to use land for sensitive land uses that should be avoided within buffer areas?	Cannot trigger a permit for land uses. Control is provided over new development for sensitive uses only.	No permit trigger under this overlay. However, a permit cannot be granted under any provision within the Scheme unless it is generally in accordance with an approved Development Plan.	✗	Environmental audit is required, but for sensitive uses only.	✓
Is a permit required for buildings and works?	✓	No permit trigger under this overlay. However, a permit cannot be granted under any provision within the Scheme unless it is generally in accordance with an approved Development Plan.	✓	Environmental audit is required, but only for works associated with sensitive use.	✓
Can it specify mandatory requirements that development must meet?	✓	✓	✗	✓	✓

Attachment C – Buffer tools

	Design and Development Overlay	Development Plan Overlay	Environmental Significance Overlay	Environmental Audit Overlay	Specific Use Overlay
Is a permit required for subdivision?	✓	No permit trigger under this overlay. However, a permit cannot be granted under any provision within the Scheme unless it is generally in accordance with an approved Development Plan	✓	✗	✓
Is a permit required to remove, destroy or lop vegetation?	✗	No permit trigger under this overlay. However, a permit cannot be granted under any provision within the Scheme unless it is generally in accordance with an approved Development Plan	✓	✗	✓
Can specify information that should be provided with any application?	✓	✓	✓	Environmental audit is required, but for sensitive uses only.	✓
Can specify specific decision guidelines that decision-makers must consider in assessing whether to grant a permit within the buffer area?	✓	✓	✓	Environmental audit is required, but for sensitive uses only.	✓
Examples	DDO4 in the Melton Planning Scheme	Development Plan Overlay (DPO1) in the Casey Planning Scheme has been used to manage buffers through the preparation of a Development Plan, although the schedule is brief and does not specifically refer to buffers.	ESO7 in the Wellington Planning Scheme (Kilmany Landfill) ESO2 in the Campaspe Planning Scheme (Echuca District Livestock Exchange, Pound, Transfer station). ESO4 in the Kingston Planning Scheme Various wastewater treatment plants in Victoria, including Benalla, West Wodonga, Horsham.	Lakes Entrance landfill environs.	Not applied to date.

Source: Metropolitan Waste and Resource Recovery Group, 2018, adapted and expanded upon by Centrum Town Planning, 2019.