A Guide to Preparing Waste and Resource Recovery Hub Plan
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Introduction

Hub Plans

Metropolitan Melbourne is a growing city of 4.4 million people, by 2051 the population is projected to increase to 7.8 million people. One of the essential roles of a modern city is managing waste – the materials that are no longer wanted, such as food and garden waste, electronic waste like old phones and computers, plastics, paper and construction materials. The infrastructure that manages these materials provides an essential community service. By 2042, waste volumes are projected to grow by 63%, requiring management of 16.5 million tonnes each year. Getting the right infrastructure in the right location, at the right time will ensure metropolitan Melbourne remains liveable and vibrant.

It is critical to integrate land use, transport and waste and resource recovery planning to protect the community, environment and public health and the sustainability of the waste and resource recovery system. Integration is required at different stages of land use planning, at both local and state levels. Waste and Resource Recovery Hubs (hubs) are a facility or group of facilities that recover or manage material streams or waste.

Preparation and implementation of hub plans will help ensure that appropriate buffers and protection are in place to minimise any impacts to communities, the environment and public health. It will also ensure adequate land is available for investment in the infrastructure required to provide the essential services needed to manage waste and material streams into the future. Hub plans are a major focus of the Statewide Waste and Resource Recovery Infrastructure Plan (SWIRRP)\(^1\) and the Metropolitan Waste and Resource Recovery Implementation Plan (MWRRIP).\(^2\)

Hub Plan Guidelines

This guideline provides guidance to local governments on the hub planning process. It covers the rationale for preparing hub plans, the context and possible inputs and outputs of the process, including developing implementation actions.

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\(^1\) Sustainability Victoria (2018) Statewide Waste and Resource Recovery Infrastructure Plan

### Context for hub planning

Victorian households and businesses use and then discard a wide range of materials. Many of these materials can be and are recovered for reuse or recycled into useful products; although some residual waste remains and requires disposal. As Victoria’s population grows, so too will the amount of materials discarded. In 2015–16, approximately 12.7 million tonnes of materials entered Victoria’s waste and resource recovery system. By 2046, it is projected to reach 20 million tonnes – an increase of 57 per cent. Sustainable population growth will need to be supported by an efficient and well located waste and resource recovery system.

Victoria’s waste and resource recovery system provides an essential service by managing these materials through a network of infrastructure and a wide variety of services, such as collection, transportation, recycling and recovery. The system recovered 67 per cent of the materials in 2015-16.

There are over 630 pieces of infrastructure across Victoria, run by over 590 businesses and local governments engaged in water and resource recovery. It contributes more than $4 billion to the Victorian economy and employs over 12,000 Victorians. As materials and wastes can be harmful to human health, damage the natural environment, and/or impact on amenity, the system is regulated by the Environment Protection Authority Victoria (EPA) and must operate to minimise these risks.

Waste hubs should not be viewed in isolation, but as part of a network of services and infrastructure supporting residential, commercial and industrial activities. Waste hub planning should occur within the context of broader municipal and regional plans to provide guidance and meet the expectations of the broader Victorian community.

It is essential that Planning Schemes and Precinct Structure Plans take into account the long term operation of Waste and Resource Recovery Hubs and put in place land use planning tools to define the hub and protect their buffers; and protect the environment and public health of existing and future communities from the potential impact of waste and resource recovery operations within the hubs.

This guideline provides an approach to hub planning for hubs of state importance in metropolitan areas. The process can be tailored to hubs of regional and local importance and hubs of state importance in regional areas.
The aim of hub planning

The key aims of hub planning are to:

- develop a shared vision for the hub
- define the hub boundary taking into consideration future needs, changing technology and managing risks to human health, the environment and amenity
- be consistent with state, regional and local directions for housing, employment and infrastructure
- identify preferred future uses for the hub.

The SWIRRP characterises a well-located and well-functioning hub as one that will:

- facilitate aggregation and consolidation of individual material streams to achieve the tonnages needed to maximise resource recovery
- attract investment in resource recovery infrastructure, particularly those relying on specific material streams
- have appropriate buffers to support the waste and resource activities (which may be shared with other activities requiring buffers)
- have good access to transport networks
- be collocated with, or close to complementary activities that provide feedstocks or markets for the products and services made from the activities
- minimise community, amenity, environment and public health impacts
- support employment and industrial activities to create additional job opportunities
- be integrated with a broader strategic planning and precinct planning with complementary activities in terms of land use planning
- operate over time to underpin the investment in infrastructure.
The process of hub planning

The process for preparing a hub plan will vary from hub to hub as hub planning takes into consideration the individual circumstances and needs of each hub.

A typical hub planning process will generally include the tasks and steps outlined.

Step 1: Project planning and establishment

The step involves the following preliminary actions:

- Develop a project brief including a project scope, study area, timelines and outputs.
- Establish a project team. This could include state and local government waste, strategic planning and transport departments.
- Determine the appropriate stakeholder and community engagement. This should be included in the project brief.
- Develop a project budget.

Step 2: Background research

Gather relevant data to:

- Scope existing condition and issues, including identifying waste and resource recovery businesses, waste materials, processing activities, EPA works approvals and planning permits. This data may be available in the MWRRIP, SWIRRP, council data bases, EPA online interactive portal.¹
- Identify existing local, regional and state strategic work and policies that may influence the location of the hub boundary and future operation of the hub. This could include precinct structure plans, transport plans and industrial strategies.

Step 3: Scoping workshop

Undertake a scoping workshop with relevant stakeholders to:

- confirm the background research, particularly future infrastructure, capital works, services, public and private investment planned in and around the hub
- identify issues, opportunities and information gaps
- discuss preliminary options for a hub boundary.

Relevant stakeholders may include: Department of Environment, Land, Water and Planning, Victoria Planning Authority, Metropolitan Waste and Resource Recovery Group, Sustainability Victoria, Environment Protection Authority Victoria, Transport for Victoria, Infrastructure Victoria.

Where a hub is located in proximity of another municipality, consideration should also be given to a representation from the adjoining council, particularly from the strategic planning and waste departments.

Step 4: Consultation
Undertake consultation with waste and resource recovery businesses in the hub to:
- address information gaps relating to waste volumes, waste types and processing
- understand the competitive advantages of the hub for waste and resource recovery
- understand the issues associated with operating a waste and resource recovery facility in the hub
- understand intention of businesses to expand or change operations and the implications for the hub.

Step 5: Hub Profiles
Compile the findings of the background research and consultation. The hub profile should:
- document and map the key features of the hub and the surrounding precinct including: precinct structure plans, key transport infrastructure, waste and resource recovery businesses, zones and overlays, buffers required under EPA guidelines, sensitive uses and environmental values
- identify a hub boundary taking into consideration:
  - buffers required under EPA guidelines
  - additional setbacks or separation, over and above the required EPA buffers, that may be required to protect amenity or surrounding residents and businesses
  - opportunities for growth or co-location of complementary activities
- provide an assessment of the risk that sensitive uses will encroach upon the boundary of the hub under the current planning policy regime.

Step 6: Establish hub vision
Bring together the Project Team and other relevant stakeholders to establish a vision for the hub based on the findings of the hub profiles. The vision should state the overarching purpose and objectives of the hub.
Step 7: Draft hub plan

The hub profile and vision should be used to prepare the hub plan. The draft hub plan should be concise and relevant, but detailed enough to be translated into an implementation action plan that includes statutory and strategic actions. The draft hub plan should:

- clarify the role and function of the hub in the context of state and regional waste and resource recovery
- establish a concise vision, comprising agreed objectives for the hub
- define the boundary of the hub
- show the strategic context of the hub

- identify:
  - where waste and resource recovery facilities are located
  - areas for further growth
  - location of buffers required under EPA guidelines
  - location of amenity buffers
- action plan to address risks, which may include:
  - alternative or additional planning policy measures including opportunities for acknowledgement of the hub and its buffers in planning schemes (Refer Appendix No 1)
  - improved operation or management of waste and resource recovery businesses within the hub
  - ongoing stakeholder engagement.

Step 8: Consultation

Provide the draft hub plan to stakeholders for review and confirmation.

Step 9: Prepare final hub plan

Prepare the Final hub plan in MWRRG design format, seek MWRRG sign off for release on web page and commence discussion with nominated stakeholders on the action plan recommended to achieve the vision and strategic objectives of the Hub Plan.
There is a need to identify key stakeholders for consultation during the preparation of a hub plan. The following stakeholder organisations were consulted in the development of the Dynon and Ordish Road hub plans:

- DELWP: Statutory Policy: Planning Systems
- DELWP: Waste and Resource Recovery: Climate Change
- DELWP: Land advice and coordination
- DELWP: Strategic Land Assessment and Information
- VPA: Policy Analytics and Design
- VPA: Strategic Planning
- VPA: Inner Melbourne
- VPA: Middle Melbourne
- EPA: Major Projects and Planning

- Sustainability Victoria: Waste and Resource Recovery Planning
- Infrastructure Victoria: Water Environment and Waste
- Transport for Victoria: Policy and Reform
- Victoria Water Industry Association
- City of Melbourne: Waste and Amenity Services
- City of Melbourne: Waste Management and Engineering Services
- City of Melbourne: Urban Strategy
- City of Greater Dandenong: Strategic Planning
- City of Greater Dandenong: Engineering Services: Parks and Waste:
- Citywide

Stakeholders

Business operators consulted in the Ordish Road precinct:
- Job Site Recyclers
- Alex Fraser
- City Circle
- Polytrade
- Auto Salvage VIC
- Future Metals Recycling
- Vic recyclers
- Norstar
- Bio Gro
- Veolia / NRS (processing)
- Australian Paper Recovery
- Aad Services
- Renex Group
- Argus Recycling

- AceWaste
- Transwaste Technologies (owned by Cleanaway)
- Geocycle
- Veolia
- Nationwide Oil (owned by Cleanaway)
- Organic Environmental Solutions (Eastern Liquid Services)
- Daniels Health
- Cleanaway
- Veolia
- Greenex Environmental
Appendix 1 - Examples of draft hub and buffer controls

The SWIRRP has identified 22 Hubs of State Importance across the State of which 14 Hubs are within the Metropolitan area and identified in the Metropolitan Implementation Plan as of State and Metropolitan Importance.

Planning to identify and protect the Hubs of State Importance in the Growth Areas were the first priority for the Local Buffer Support Program (LBSP) being managed by MWRRG. The Victorian Planning Authority is required to prepare Precinct Structure Plans for these areas to guide their future development. It is essential that Precinct Structure Plans take into account the long term operation of the Waste and Resource Recovery Hubs and put in place land use planning tools to define the hub and protect their buffers; and protect the environment and public health of existing and future communities from the potential impact of the waste and resource recovery facilities within hubs.

A number of councils with Waste and Resource Recovery Hubs have commenced amendments to revise their Municipal Strategic Statements (MSS) and Local Policies that has provided an opportunity to incorporate specific policies and strategies to identify and protect the buffers of waste and resource recovery facilities in Hubs. Other planning schemes amendments associated with Precinct Structure Plans also incorporate buffer and land use planning protection measures.

The following are examples of recent proposed amendments that have incorporated references to the Waste and Resource Recovery Hub and amendments that map and define the hub and seek to ensure the identification and management of their buffers including controls over sensitive uses within those buffers.

### Bacchus Marsh Proposed Amendment C81

#### 21.03-1 Key Issues and Influences
Planning for residential and other urban growth must recognise the range of physical and infrastructure constraints particularly in relation to resource management and environmental values.

#### 21.04 Economic Development and Employment

##### 21.04-4 Objective—Industry

Industry

There are a number of state-significant natural resources and export-based industries that make significant employment and economic contributions to Bacchus Marsh, including:

- Bacchus Marsh Irrigation District
- Darley/Coimadai sand quarries
- Maddingley Waste and Resource Recovery Hub (including coal mine)

While these businesses provide a huge opportunity for Bacchus Marsh and the shire more broadly, there are off-site impacts that need to be managed.

**Strategies**

- Avoid sensitive land uses within recommended separation distances from existing industrial uses, such as the Maddingley Waste and Resource Recovery Hub, the Darley/Coimadai sand quarries and the Bacchus Marsh Recycled Water Plant.
- Support the development of solutions and systems to increase the recovery of priority materials at Maddingley Waste and Resource Recovery Hub.
- Avoid incompatible land use conflicts by preparing a land use amenity plan for the Parwan Employment Precinct, to ensure that future land uses within the precinct are adequately separated from sensitive uses.

#### 21.07 Bacchus Marsh

##### 21.07-1 Key Issues and Influences

There are a number of strategically important land uses to the south of Bacchus Marsh, such as the Maddingley Brown Coal operations (coal mining, landfill and green waste composting), agribusiness, the airport and the Parwan Waste Water Treatment Plant. Such uses are inherently incompatible with residential development due to their off-site impacts.

##### 21.07-2 Objective—Managing urban growth

To protect existing and future industrial and agribusiness land uses (particularly Maddingley Waste and Resource Recovery Hub, Darley/Coimadai sand quarries, South Maddingley industrial precinct south of Kerrs Road, Parwan Employment Precinct, Bacchus Marsh Aerodrome and Bacchus Marsh Recycled Water Plant) from the encroachment of sensitive land uses.

**Strategies**

- Provide appropriate separation between sensitive land uses and land uses with off-site impacts.
- Undertake a planning study for the Maddingley Waste Recovery and Recycling Hub site and surrounds, to determine appropriate zone and overlay controls.
21.01 Introduction

21.01-1 Municipal profile

The City of Melton also contains state significant industrial land in the east of the municipality which incorporates the Ravenhall Precinct a waste and resource recovery hub of state importance (including Boral Quarry, Cleanaway Melbourne Regional Landfill Ravenhall). This state significant industrial land will be a key employment generator for the City of Melton and the wider western region.

21.04-2 Waste Management

The Wyndham Refuse Disposal Facility (Wyndham RDF) is identified within the Metropolitan Waste and Resource Recovery Strategic Plan: March 2009 as a regionally significant landfill site. It receives municipal, commercial and industrial waste (both solid inert and putrescible) from across Metropolitan Melbourne and the wider regional area. It is expected to continue for more than 60 years.

Key issues

Acknowledging that appropriately sited, designed and managed landfills play a critical role in protecting public health and the environment.

Ensuring the long term security of well sited landfills such as the Refuse Disposal Facility from conflicting land uses.

Objective 4

To provide for the ongoing and long term functional operation of the Wyndham RDF.

Strategies

4.1 Ensure use and development of land around the Wyndham RDF is compatible with site operations.

4.2 Regulate the establishment and siting of amenity susceptible uses within proximity to Wyndham RDF.

4.3 Ensure that the adverse amenity impacts from Wyndham RDF are minimised.
1.0 The plan
Map 1 below shows the future urban structure proposed in the Sunbury South Precinct Structure Plan. It is a reproduction of Plan 3 in the Sunbury South Precinct Structure Plan.

Map 1 to Schedule 9 to Clause 37.07

2.5 Specific provision – Buildings and Works within Landfill Buffer
A permit is required for buildings and works within the Landfill Buffer shown on Plan 3 of the incorporated Sunbury South Precinct Structure Plan. This includes underground services including stormwater drains, pits, water mains, sewers, power lines and communication cables.

A permit is not required for non-intrusive works. For the purposes of this exemption, non-intrusive works is defined as those that do not involve enclosed structures, excavation or significant ground disturbance. They include:

- alterations to buildings and structures that do not require ground disturbance
- fencing
- street and park furniture
- vehicle crossovers
- satellite dishes
- minor signage
- garden sheds and greenhouses that do not require extensive footings or foundations
The MRL Ravenhall Landfill and quarry is a hub of state importance and adjoins the Mount Atkinson and Tarneit Plains PSPs immediately to the west. Before the Urban Growth Boundary was expended the buffers for the quarry and landfill to the west and south were used for farming and there were no conflicts. The preparation of the Mount Atkinson and Tarneit Plains PSPs which proposed large residential and commercial to the west of the Precinct threatened to encroach into the buffers for the future full capacity of the MRL landfill.

In response a Design and Development Overlay was applied to the landfill gas migration buffer in the south of the precinct. The Overlay is separate from the PSP and visible and transparent in the planning scheme. The Overlay appropriately manages development in the landfill gas migration buffer. The Overlay addresses the issues MWRRG identified in the Wollert PSP and provides a model for future planning for buffers. The area of the landfill gas migration buffer that extends into the PSP is covered by a separate overlay that is visible in the planning scheme through the use of the Buffer Protection Overlay (DDO4):
Extract from Melton Planning Scheme: Schedule 4 to Clause 43.02 Design and Development Overlay

Shown on the planning scheme map as DDO4.

Landfill Gas Further Investigation Area

1.0 Design objectives

To ensure that buildings and works are designed and constructed to avoid potential adverse impacts caused by landfill gas migration from putrescible landfilling at the Melbourne Regional Landfill.

To ensure development and construction methods do not result in unacceptable risk to human health caused by any possible landfill gas migration from putrescible landfilling at the Melbourne Regional Landfill.

2.0 Buildings and works

Permit requirements

The following buildings and works requirements apply to an application to construct a building or construct or carry out works:

- A permit for buildings and/or works must implement any conditions necessary to ensure the proposed building and/or works will avoid adverse impacts caused by landfill gas migration from the Melbourne Regional Landfill.

A permit must not be granted to construct a building or construct or carry out works that is not in accordance with the requirements of this schedule.

Application requirements

An application to construct a building or construct or carry out works must be accompanied by the following information, as appropriate:

- A geological and hydrogeological assessment of the land by a suitably qualified professional that considers the ability of the identified strata to transmit landfill gas which has migrated from, or may migrate from any existing or approved putrescible landfill cell within 500 metres of the land to be developed, into buildings and structures at the surface. The assessment must be endorsed by the Environment Protection Authority Victoria.

- Detailed Interpretive Report prepared by a suitably qualified professional to the satisfaction of the Environment Protection Authority Victoria that responds to the endorsed geological and hydrogeological assessment and addresses the following matters:
  - How the proposed building or works will avoid being adversely impacted by the offsite migration of landfill gas from any existing or approved putrescible landfill cell within 500 metres of the building or works, and any measures required to achieve this; and
  - How the proposed design of any building will affect the movement of landfill gas from the ground into the building, in particular venturi and stack effects.

- The design of any proposed measures to limit the movement of landfill gas relevant to the proposed use of the building or structure.

Site and layout plans drawn to scale which show:

- The boundaries and dimensions of the site.
- The location of the site in relation to any nearby existing or permitted putrescible landfill cells.
- Adjoining roads and infrastructure.
- Relevant ground levels and surface levels to AHD.
- The layout and dimensions of existing and proposed buildings and works, including foundation details and proposed levels of bulk excavation or filling.
- The location and use of all existing and proposed buildings.

Sections and elevations drawn to scale which show:

- The depth of any basements and/or excavation works.
- The proposed foundations, including their form and founding levels.
- The details of any proposed drainage system, including any discharge outlet.
- Details of any consultation undertaken with the Environment Protection Authority about the application, including any written comments provided by the Environment Protection Authority.
• Any other information required by the responsible authority or the Environment Protection Authority Victoria that is relevant to the actual or potential offsite migration of landfill gas from an existing or approved putrescible landfill cell.

Referral of applications
An application to construct a building or construct or carry out works must be referred to the Environment Protection Authority Victoria under section 55 of the Act.

Exemption from notice and review
An application to construct a building or to construct or carry out works is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

3.0 Subdivision
Application requirements
An application for subdivision must be accompanied by the following information, as appropriate:

• A geological and hydrogeological assessment of the land by a suitably qualified professional that considers the ability of the identified strata to transmit landfill gas which has migrated from, or may migrate from any existing or approved putrescible landfill cell within 500 metres of the land to be developed, into buildings and structures at the surface. The assessment must be endorsed by the Environment Protection Authority Victoria.

Referral of applications
An application for subdivision must be referred to the Environment Protection Authority Victoria under section 55 of the Act.

Exemption from notice and review
An application for subdivision is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

4.0 Advertising signs
None specified.

5.0 Decision guidelines
The following decision guidelines apply to an application for a permit under Clause 43.02, in addition to those specified in Clause 43.02 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

• Any technical reports or guidelines prepared by the Environment Protection Authority Victoria.
• Whether the application responds appropriately to the geological and hydrological assessment required under this schedule.