



# Leigh Design

waste management plans for all urban developments

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# Waste Management Plan



**Proposed Development:**

**68-78 Summerhill Road, West Footscray, Victoria**

**Prepared for:**

**Tandem Design Studio**

Document Control

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### WASTE MANAGEMENT SUMMARY

- The Operator, as defined below, shall be responsible for managing the waste system and for developing and implementing adequate safe operating procedures.
- Waste shall be stored within the development (hidden from external view).
- Users shall place sorted waste into designated collection bins.
- Waste shall be collected on Summerhill Road. The collection contractor shall transfer bins between the waste area and the truck.
- A private contractor shall provide waste collection services.

### GLOSSARY

**Operator:** refers to the Owners Corporation, who shall manage site operations (via staff and contractors, if required).

**User:** refers to residents, who shall utilise the waste system.

## **1 SPACE AND SYSTEM FOR WASTE MANAGEMENT**

### **1.1 Development Description and Use**

This development shall consist of residential apartments (refer to Table 1).

### **1.2 Estimated Garbage and Recycling Generation**

The following table summarises the waste estimate (m<sup>3</sup>/week):

Table 1: Waste Estimate

<b>Waste Source</b>	<b>Base Qty (est.)</b>	<b>Garbage</b>	<b>Commingled Recycling</b>
Apartments (1 bed)	No. of units = 39	3.12	3.12
Apartments (2 bed)	No. of units = 10	1.00	1.00
<b>TOTAL (m<sup>3</sup>/wk)</b>		<b>4.12</b>	<b>4.12</b>

Note: Residential waste figures are based on Council's volumetric requirements.

### **1.3 Collection Services**

Based on the anticipated waste volume, a private contractor shall be engaged to collect waste. The Operator shall choose a waste collection provider, negotiate a service agreement, and pay for these services.

Note: Every rateable tenement is liable to pay for municipal charges irrespective of the level of collection services provided by Council.

### **1.4 Location, Equipment, and System Used for Managing Waste**

The waste management system is summarised as follows:

- Apartment receptacles for garbage, organics, recycling and (future) glass.
- Bin Store located at Ground Level.
- Collection bins (kept within the Bin Store - refer to Table 2).

The various collection waste-streams are summarised as follows:

Garbage: General waste shall be placed in tied plastic bags and stored within bins.

Recycling: Two types of bins shall be provided. One type of bin for glass and a second type for all other recyclables (paper, cardboard, aluminium, steel, and plastics). All recyclables shall be commingled until a glass-only service becomes available.

Organics: Users shall place organic waste into Organics bins. Only certified compostable liners may be considered for bins and caddies, to home standard AS5810-2010 (alternatively, the industrial standard AS4736-2006 could be considered if approved by the waste collector). Garden waste from communal areas shall be collected and disposed by the landscape maintenance contractor.

**Other Waste Streams:** The disposal of hard/electronic/liquid and other wastes (polystyrene, batteries, paint, chemicals and detox items, etc) shall be organised with the assistance of the Operator.

These items shall remain within the development until the Operator arranges a private collection from the subject land in accordance with requirements from the relevant authority. In particular e-waste must not be disposed in landfill.

The following table summarises bin quantity/capacity, collection frequency, and area requirements (based on Table 1):

**Table 2: Bin Schedule and Collection Frequency**

Waste Source	Waste Stream	Bin Qty	Bin Litres	Collections per Week	Net Area m <sup>2</sup>
Whole development	Garbage	3	1100	1	4.8
	Food Organics	6	240	1	3.0
	Recycling	3	1100	1	4.8
	Recycling - future glass	6	240	1	3.0
	Hard/E-Waste	-	-	At Call	2.0
<b>Net Waste Storage Area (excludes circulation), m<sup>2</sup>:</b>					<b>17.6</b>

Notes:

- Private bins shall be sourced by the Operator (either purchased from a supplier or leased from the collection contractor).
- Subject to stakeholders' preference/capability (and as built constraints), bin sizes and quantities can be changed.

### 1.5 Planning Drawings, Waste Areas, and Management of the Waste System

The drawings illustrate sufficient space for onsite bin storage, as required by the above schedule.

Notwithstanding the above, the Operator shall stipulate procedures for effective management of the available space.

### 1.6 Collection Bin Information

The following bins shall be utilised (see Sect. 4.4 for signage requirements):

**Table 3: Bin Details**

Capacity (litres)	Height (mm)	Width (across front, mm)	Depth (side on, mm)	Empty Weight (kg)	Average* Gross Weight (kg)
240	1060	585	730	13	45
1100	1330	1240	1070	65	210

Notes:

- \* = Average Gross Weight is based on domestic waste studies (which vary subject to locality and waste-type). Expect greater weight for wet or compacted waste.
- Use the above details as a guide only – variations will occur. The above is based on Sulo plastic (HDPE) flat-lid bins.

Table 4: Maribyrnong 120/240L Bin Colour Coding

<b>Bin</b>	<b>Garbage</b>	<b>Commingled Recycling</b>	<b>Green Waste</b>
Lid	Red	Yellow	Lime
Body	Green	Green	Green

Table 5: Maribyrnong 660/1100L Bin Colour Coding

<b>Bin</b>	<b>Garbage</b>	<b>Commingled Recycling</b>	<b>Green Waste</b>
Lid	Red	Yellow	Lime
Body	Green	Blue	Green

Note: For private bins, AS4123.7 bin colours can be adopted. Private bins shall be labelled to identify the waste generator and site address. For glass, Victorian publications illustrate bins with purple lids. For Food Waste / Organics bins, AS 4123.7 bins have a Burgundy lid and a Dark Green or Black body.

## **2 ACCESS FOR USERS, COLLECTORS, AND COLLECTION VEHICLES**

### **2.1 User Access to Waste Facilities**

Residents shall dispose sorted waste into designated collection bins located within the Bin Store (access via the lift/stairs).

Note: The Operator shall have access to the Bin Store to rotate the bins, ensuring that empty bins are available along the circulation area so that users are able to reach the bins.

### **2.2 Collection Arrangements and Access to Waste Facilities**

- A private contractor shall collect waste on Summerhill Road (site's frontage).
- Collection staff (driver and assistant) shall have access to the Bin Store and transfer bins to the truck and back to the store.
- The waste collection shall be carried-out by rear-lift vehicles (nom. 8.8m long and 4m operational height).

Notes:

- Given ramp gradients, bin weight, and transfer distance (potentially creating OH&S incidents during bin transfers), mechanical assistance via a suitable tug is recommended (Operator to assess and specify - refer to Sections 5 and 8).
- For improved safety, waste collections and bin transfers shall be carried-out during off-peak traffic periods.

### **3 AMENITY, LOCAL ENVIRONMENT, AND FACILITY DESIGN**

#### **3.1 Noise Minimisation Initiatives**

- Collection bins shall feature rubber wheels for quiet rolling during transfers.
- Waste areas shall meet BCA and AS2107 acoustic requirements.
- Local laws shall be observed for all operations in public and private areas.
- For private services, the hours of waste collections shall be as specified in Council's local laws. Also, Section 5 of the Victorian EPA Noise Control Guideline Publication 1254 (see below) shall be observed to protect the acoustic amenity of the development and surroundings.

Victorian EPA Noise Control Guideline Publication 1254 October 2008 (excerpt)

[Section] 5. Domestic Refuse Collection

The main annoyance produced by domestic refuse collections occurs in the early morning (i.e. before 7:00am). Therefore, if possible, routes should be selected to provide the least impact on residential areas during that time.

Collection of refuse should be restricted to the following criteria:

- Collection occurring once a week should be restricted to the hours: 6am to 6pm Monday to Saturday.
- Collections occurring more than once a week should be restricted to the hours: 7am to 6pm Monday to Saturday.
- Compaction should only be carried out while on the move.
- Bottles should not be broken up at the point of collection.
- Routes which service entirely residential areas should be altered regularly to reduce early morning disturbance.
- Noisy verbal communication between operators should be avoided where possible.

#### **3.2 Litter Reduction and Prevention of Stormwater Pollution**

The Operator shall be responsible for:

- Promoting adequate waste disposal into the bins (to avoid waste-dumping).
- Securing the waste areas (whilst affording access to users/staff/contractors).
- Preventing overfilled bins, keeping lids closed and bungs leak-free.
- Abating any site litter and taking action to prevent dumping and/or unauthorised use of waste areas.
- Requiring the collection contractor to clean-up any spillage that might occur when clearing bins.

The above will minimise the dispersion of site litter and prevent stormwater pollution (thus avoiding impact to the local amenity and environment).

#### **3.3 Ventilation, Washing, and Vermin-Prevention Arrangements**

Waste areas shall feature:

- Ventilation in accordance with Australian Standard AS1668.
- Tight-fitting doors (all other openings shall have vermin-proof mesh or similar).
- Impervious flooring (also, smooth, slip-resistant, and appropriately drained).

- A graded bin wash area, hosecock, hose, and a suitable floor-waste connected in accordance with the relevant authority requirements (alternatively, Operator shall engage a suitable contractor to wash bins in a mobile bin-wash vehicle). The bin and wash areas may overlap, as stored bins can be moved so that a bin can be washed.

The Operator shall regularly clean waste areas/equipment. Also, access doors and bin-lids shall be kept closed.

### **3.4 Design and Aesthetics of Waste Storage Areas and Equipment**

Waste shall be placed within collection bins and stored in designated onsite areas (hidden from external view). Following waste collection activities, bins shall be returned to the storage areas as soon as practicable.

Waste facilities shall be constructed of durable materials and finishes, and maintained to ensure that the aesthetics of the development are not compromised. These facilities and associated passages shall be suitably illuminated (this provides comfort, safety, and security to users, staff, and contractors). Access doors shall feature keyless opening from within.

The design and construction of waste facilities and equipment shall conform to the Building Code of Australia, Australian Standards, and local laws.



## **4 MANAGEMENT AND SUSTAINABILITY**

### **4.1 Waste Sorting, Transfer, and Collection Responsibilities**

Garbage shall be placed within tied plastic bags prior to transferring into the collection bins. Cardboard shall be flattened and recycling containers un-capped, drained, and rinsed prior to disposal into the appropriate bin. Bagged recycling is not permitted.

Refer to Section 2 for waste transfer requirements and collection arrangements.

### **4.2 Facility Management Provisions to Maintain & Improve the Waste System**

The Operator shall manage site operations (refer to the glossary in page 2).

It shall be the responsibility of the Operator to maintain all waste areas and components, to the satisfaction of users, staff, and the relevant authority (residents shall maintain their internal waste receptacles).

The Operator shall ensure that maintenance and upgrades are carried-out on the facility and components of the waste system. When required, the Operator shall engage an appropriate contractor to conduct services, replacements, or upgrades.

### **4.3 Arrangements for Protecting Waste Equipment from Theft and Vandalism**

It shall be the responsibility of the Operator to protect the equipment from theft and vandalism. This shall include the following initiatives:

- Secure the waste areas.
- Label the bins according to property address.
- The private collection contractor shall transfer bins between the waste areas and the truck (bins shall not be placed on the street).

### **4.4 Arrangements for Bins/Equipment Labelling and Ensuring Users and Staff are Aware of How to Use the Waste System Correctly**

- The Operator shall provide appropriate signage for the bins. Signage is available at the following internet address: [www.sustainability.vic.gov.au](http://www.sustainability.vic.gov.au).
- The Operator shall publish/distribute “house rules” and educational material to:
  - Inform users/staff about the waste management system and the use/location of the associated equipment (provide the summary in page 2 of this report).
  - Improve facility management results (lessen equipment damage, reduce littering, and achieve cleanliness).
  - Advise users/staff to sort and recycle waste with care to reduce contamination of recyclables.

### **4.5 Sustainability and Waste Avoidance/Reuse/Reduction Initiatives**

The *Environment Protection Act 1970* includes principles of environment protection and guidance for waste management decision making. Also, the *Sustainability Victoria Act 2005* established Sustainability Victoria as the statutory authority for delivering programs on integrated waste management and resource efficiency.

From a design perspective, the development shall support the acts by providing an adequate waste system with ability to sort waste.

The Operator shall promote the observance of the acts (where relevant and practicable) and encourage users and staff to participate in minimising the impact of waste on the environment. For improved sustainability, the Operator shall consider the following:

- Observe the waste hierarchy in the *Environment Protection Act 1970* (in order of preference): a) waste avoidance, b) reuse, c) recycle, d) recovery of energy, e) treatment, f) containment, and g) disposal.
- Peruse the Sustainability Victoria website: [www.sustainability.vic.gov.au](http://www.sustainability.vic.gov.au).
- Participate in Council and in-house programs for waste minimisation.
- Establish waste reduction and recycling targets; including periodic waste audits, keeping records, and monitoring of the quantity of recyclables found in landfill-bound bins (sharing results with users/staff).

#### **4.6 Waste Management Plan Revisions**

For any future appropriate Council request, changes in legal requirements, changes in the development's needs and/or waste patterns (waste composition, volume, or distribution), or to address unforeseen operational issues, the Operator shall be responsible for coordinating the necessary Waste Management Plan revisions, including (if required):

- A waste audit and new waste strategy.
- Revision of the waste system (bin size/quantity/streams/collection frequency).
- Re-education of users/staff.
- Revision of the services provided by the waste collector(s).
- Any necessary statutory approval(s).

## **5 SUPPLEMENTARY INFORMATION**

- The Operator shall observe local laws and ensure that bins aren't overfilled or overloaded.
- Waste incineration devices are not permitted, and offsite waste treatment and disposal shall be carried-out in accordance with regulatory requirements.
- For bin traffic areas, either level surfaces (smooth and without steps) or gentle ramps are recommended, including a roll-over kerb or ramp. Should ramp gradients, bin weight, and/or distance affect the ease/safety of bin transfers, the Operator shall consider the use of a suitable tug.
- The Operator and waste collector shall observe all relevant OH&S legislation, regulations, and guidelines. The relevant entity shall define their tasks and:
  - Comply with Worksafe Victoria's Occupational Health and Safety Guidelines for the Collection, Transport and Unloading of Non-hazardous Waste and Recyclable Materials (June 2003).
  - Assess the Manual Handling Risk and prepare a Manual Handling Control Plan for waste and bin transfers (as per regulatory requirements and Victorian COP for Manual Handling).
  - Obtain and provide to staff/contractors equipment manuals, training, health and safety procedures, risk assessments, and adequate personal protective equipment (PPE) to control/minimise risks/hazards associated with all waste management activities. As a starting point, these documents and procedures shall address the following:

<b>Task (to be confirmed)</b>	<b>Hazard (TBC)</b>	<b>Control Measures (TBC)</b>
Sorting waste and cleaning the waste system	Bodily puncture. Biological & electrical hazards	Personal protective equipment (PPE). Develop a waste-sorting procedure
Bin manual handling	Sprain, strain, crush	PPE, staff training. Maintain bin wheel-hubs. Limit bin weight. Provide mechanical assistance to transfer bins
Bin transfers and emptying into truck	Vehicular strike, run-over	PPE. Develop a Hazard Control Plan for transfers and collections. Maintain visibility. Use a mechanical bin-tipper
Truck access (reversing & manoeuvring)	Vehicular incident, strike, run-over	PPE. Use a trained spotter. Develop a truck-manoeuving and traffic-control procedure

Note: The above shall be confirmed by a qualified OH&S professional who shall also prepare site-specific assessments, procedures, and controls (refer to Section 6).

## **6 CONTACT INFORMATION**

**Maribyrnong City Council** (local Council), ph: 03 9688 0200

**Waste Wise Environmental** (private waste collector), ph 1300 550 408

**Kartaway** (private waste collector), ph 1300 362 362

**FJP Safety Advisors** (OH&S consultant), ph 03 9255 3660

**Electrodrive** (tug & trailer supplier – for bin transfers), ph 1800 033 002

**Warequip** (tug supplier – for bin transfers), ph 1800 337 711

**Sulo MGB Australia** (bin supplier), ph 1300 364 388

**One Stop Garbage Shop** (bin supplier), ph 03 9338 1411

Note: The above includes a complimentary listing of contractors and equipment suppliers. The stakeholders shall not be obligated to procure goods/services from these companies. Leigh Design does not warrant (or make representations for) the goods/services provided by these suppliers.

## **7 LIMITATIONS**

The purpose of this report is to document a Waste Management Plan, as part of a Planning Permit Application.

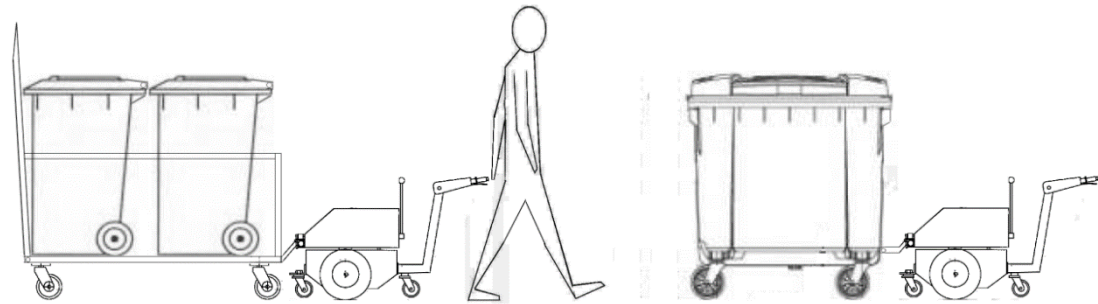
This report is based on the following conditions:

- Operational use of the development (excludes demolition/construction stages).
- Drawings and information supplied by the project architect.
- The figures presented in this report are estimates only. The actual amount of waste will depend on the development's occupancy rate and waste generation intensity, the user's disposition toward waste and recycling, and the Operator's approach to waste management. The Operator shall make adjustments, as required, based on actual waste volumes (if the actual waste volume is greater than estimated, then the number of bins and/or the number of collections per week shall be increased, STCA).
- This report shall not be used to determine/forecast operational costs, or to prepare feasibility studies, or to document operational/safety procedures.

## 8 APPENDIX A – ANCILLARY EQUIPMENT

Below please find information about recommended equipment (or similar). The Operator shall assess, specify, and source as required:

Equipment Specification: Battery powered tug to provide sufficient mechanical assistance for transferring bins along the driveway/walkway and up/down ramps (max. grade 1:4). Trailers (if required) and 4-wheeled bins shall have swivel front castors and directionally-locked rear ones.



Illustrations: An Electrodrive tug pulls a trailer with 2x240L bins or one 1100L bin.