



2-6 Cavil Avenue, Ashfield  
Mixed Use Development

## OPERATIONAL WASTE MANAGEMENT PLAN

12/05/2021  
Revision E

Client

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SHAYHER Group

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## SCOPE

This waste management plan (WMP) only applies to the **operational** phase of the proposed development; therefore the requirements outlined in this WMP must be implemented during the operational phase of the site and may be subject to review upon further expansion for, and/or changes to the development.

The waste management of the **construction** and **demolition** phases of the development are not addressed in this report. It is EFRS's understanding that a construction and demolition WMP will be completed by a separate party appointed by the developer, and submitted separately to this report. Typically, the head contractor of the site will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements.

## REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description
A	13/03/2020	A Armstrong	E Saidi	Draft
B	14/10/2020	A Armstrong	E Saidi	Amendment
C	05/11/2020	A Armstrong	E Saidi	Amendment
D	19/11/2020	A Armstrong	E Saidi	Amendment
E	12/05/2021	A Armstrong	E Saidi	Amendment

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## GLOSSARY OF TERMS

TERM	DESCRIPTION
<i>Baler</i>	A device that compresses waste into a mould to form bales which may be self-supporting or retained in shape by strapping
<i>Chute</i>	A ventilated, vertical pipe passing from floor to floor of a building with openings as required to connect with hoppers and normally terminating at its lower end at the roof of the central waste room(s)
<i>Chute Discharge</i>	The point at which refuse exits from the refuse chute
<i>Chute Discharge Room</i>	A secure, enclosed area or room housing the discharge and associated equipment for the refuse chute
<i>Collection Area/Point</i>	The identified position or area where garbage or recyclables are actually loaded onto the collection vehicle
<i>Compactor</i>	A machine for compressing waste into disposable or reusable containers
<i>Composter</i>	A container/machine used for composting specific food scraps
<i>Crate</i>	A plastic box used for the collection of recyclable materials
<i>Garbage</i>	All domestic waste (Except recyclables and green waste)
<i>Green Waste</i>	All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers
<i>Hopper</i>	A fitting into which waste is placed and from which it passes into a chute or directly into a waste container. It consists of a fixed frame and hood unit (the frame) and a hinged or pivoted combined door and receiving unit
<i>L</i>	Litre(s)
<i>Liquid Waste</i>	Non-hazardous liquid waste generated by commercial premises that is supposed to be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste)
<i>LRV</i>	Large rigid vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities as heavy rigid vehicle (HRV)
<i>Mobile Garbage Bin(s) (MGB)</i>	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
<i>MRV</i>	Medium rigid vehicle
<i>Putrescible Waste</i>	Component of the waste stream liable to become putrid. Usually breaks down in a landfill to create landfill gases and leachate. Typically applies to food, animal and organic products.
<i>Recycling</i>	Glass bottles and jars – PET, HDPE and PVC plastics; aluminium aerosol and steel cans; milk and juice cartons; soft drink, milk and shampoo containers; paper, cardboard, junk mail, newspapers and magazines

<i>Refuse</i>	Material generated and discarded from residential and commercial buildings including general waste, recyclables, green waste and bulky items
<i>SRV</i>	Small rigid vehicle as in AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities, generally incorporating a body width of 2.33

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## INTRODUCTION

EFRS has been tasked to prepare the following waste management plan for SHAYHER Group for the operational management of waste generated by the mixed use development located at 2-6 Cavill Avenue, Ashfield NSW.

Waste management strategies and auditing are a requirement for new developments to provide support for the building design, and promote strong sustainability outcomes for the building. It is EFRS's belief that a successful waste management strategy contains three key objectives:

- i. **Promote responsible source separation** to reduce the amount of waste that goes to landfill, by implementing convenient and efficient waste management systems
- ii. **Ensure adequate waste provisions and robust procedures** that will cater for potential changes during the operational phase of the development
- iii. **Compliance** with all relevant council codes, policies, and guidelines.

To achieve these objectives, this WMP identifies the different waste streams likely to be generated during the operational phase of the development. Associated information includes: how the waste will be handled and disposed of, details of bin sizes/quantities and waste rooms, descriptions of the proposed waste management equipment used and information on waste collection points and frequencies.

It is essential that this waste management plan is integral to the overall management of the building and clearly communicated to all relevant stakeholders.

## DEVELOPMENT SUMMARY

The proposed development falls under the LGA of LGA of Inner West Council and consists of:

- 4 buildings (Building A, B, C & D), with Building A having 2 separate cores;
- 264 residential units in total;
- 1 retail tenancy on the ground level with a GFA of 119m<sup>2</sup>; &
- 2 basement levels spanned across all buildings.

All figures and calculations are based on area schedules as advised by our client and shown on architectural drawings.



## OPERATIONAL WASTE MANAGEMENT PLAN

### SITE LOCATION

The site is located at 2-6 Cavill Avenue, Ashfield, as shown below. The site fronts onto Thomas Street, Liverpool Road and Cavill Avenue, with vehicular access also via Thomas Street and Cavill Avenue.



Source: PTW

## INNER WEST COUNCIL (ASHFIELD COUNCIL)

The development is within Inner West Council's jurisdiction. Inner West Council is the amalgamation of Ashfield Council, Leichhardt Municipal Council and Marrickville Council. At time of writing this waste management plan, the waste services and associated policies operate under the original council divisions.

Therefore, the residential garbage and recycling will be guided by the services and acceptance criteria of the Inner West Council. All waste facilities and equipment are to be designed and constructed to be in compliance with the Ashfield Council's *Comprehensive Inner West DCP 2016 for Ashbury Ashfield, Croydon, Croydon park, Haberfield, Hurlstone Park and Summer Hill*, Council Advices, Australian Standards and statutory requirements.

### COUNCIL OBJECTIVES

**Space:** Ensure area are provided for efficient storage and collection of waste and recycling matched to the type and scale of development.

**Access:** Ensure both users and service providers can access waste and recycling storage safely and conveniently

**Safety:** Include safe practices in the design for storage, handling and collections of waste and recycling.

**Amenity:** Manage the noise, odour and hygiene issues relating to waste and limit the impacts on local areas. And;  
Ensure that waste and recycling storage areas are effectively integrated into a development and visually unobtrusive.

**Management:** Clarify the roles for provision of waste management in developments and demarcate service provisions

**Servicing:** Minimise collection vehicle movements by balancing provision of adequate storage capacity and collection frequency. And;  
Minimise reliance on public kerbside and impacts on the public domain from waste and recycling collection.

## STAKEHOLDER ROLES AND RESPONSIBILITIES

The following table demonstrates the primary roles and responsibilities of the respective stakeholders:

*Table 1: Stakeholder Roles & Responsibilities*

Roles	Responsibilities
Strata/Management	<ul style="list-style-type: none"> <li>Ensuring that all waste service providers submit monthly reports on all equipment movements and waste quantities/weights;</li> <li>Organising internal waste audits/visual assessments on a regular basis; and</li> <li>Manage any non-compliances/complaints reported through waste audits.</li> </ul>
Building Manager/Waste Caretaker	<ul style="list-style-type: none"> <li>Ensuring effective signage, communication and education is provided to occupants, tenants and cleaners;</li> <li>Providing staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities;</li> <li>Ensuring site safety for residents, children, visitors, staff and contractors;</li> <li>Abiding by all relevant OH&amp;S legislation, regulations, and guidelines;</li> <li>Assessing any manual handling risks and prepare a manual handling control plan for waste and bin transfers;</li> <li>Preventing storm water pollution by taking necessary precautions (securing bin rooms, preventing overfilling of bins)</li> <li>General maintenance and cleaning of chute doors on each level;</li> <li>Cleaning and transporting of bins as required;</li> <li>Organising, maintaining and cleaning the general and recycled waste holding area;</li> <li>Organising both garbage and recycled waste pick-ups as required;</li> <li>Organising replacement or maintenance requirements for bins;</li> <li>Organising bulky goods collection when required; and</li> <li>Investigating and ensuring prompt clean-up of illegally dumped waste materials.</li> </ul>
Residents/Tenants	<ul style="list-style-type: none"> <li>Dispose of all garbage and recycling in the allocated waste chutes and/or MGBs provided;</li> <li>Ensure adequate separation of garbage and recycling; and</li> <li>Compliance with the provisions of Council and the WMP.</li> </ul>
Council/Private Waste Contractor	<ul style="list-style-type: none"> <li>Provide a reliable and appropriate waste collection service;</li> <li>Provide feedback to building managers/residents in regards to contamination of recyclables; and</li> <li>Work with building managers to customise waste systems where possible.</li> </ul>
Gardening/Landscaping Contractor	<ul style="list-style-type: none"> <li>Removal of all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.</li> </ul>
Building Contractors	<ul style="list-style-type: none"> <li>Removing all construction related waste offsite in a manner that meets all authority requirements.</li> </ul>

## EDUCATION

Educational material encouraging correct separation of garbage and recycling items must be provided to each resident by building management to ensure correct use of the waste chute. This should include the correct disposal process for bulky goods (old furniture, large discarded items, etc.), and other appropriate materials (electronic, chemical waste, etc.). It is recommended that information is provided in multiple languages to support correct practises and minimise the possibility of chute blockages as well as contamination in the collective waste bins.

It is also recommended that the owners' corporation website contain information for residents to refer to regarding use of the chute. Information should include:

- Directions on using the chute doors;
- Recycling and garbage descriptions (council provides comprehensive information);
- How to dispose of bulky goods and any other items that are not garbage or recycling;
- Residents' obligations to whs and building management; and
- How to prevent damage or blockages to the chute (example below).

***To prevent damage or blockage to rubbish chute DO NOT*** dispose of any newspapers, umbrellas, bedding, cigarettes, cartons, coat hangers, brooms, mops, large plastic wrappings from furniture, white goods, any sharp objects, hot liquid or ashes, oil, unwrapped vacuum dust, syringes, paint and solvents, car parts, bike parts, chemicals, corrosive and flammable items, soil, timber, bricks or other building materials, furniture, etc. down the chute.

## LIMITATIONS

The purpose of this report is to document a Waste Management Plan (WMP) as part of a development application and is supplied by Elephants Foot Recycling Solutions (EFRS) with the following limitations:

- Drawings, estimates and information contained in this waste management plan have been prepared by analysing the information, plans and documents supplied by the client, and third parties including Council and government information. The assumptions based on the information contained in the WMP is outside the control of EFRS;
- the figures presented in the report are an estimate only – the actual amount of waste generated will be dependent on the occupancy rate of the building/s and waste generation intensity as well as the building managements approach to educating residents and tenants regarding waste management operations and responsibilities;
- the building manager will make adjustments as required based on actual waste volumes (if waste is greater than estimated) and increase the number of bins and collections accordingly;
- the report will not be used to determine or forecast operational costs or prepare any feasibility study or to document any safety or operational procedures;
- the report has been prepared with all due care however no assurance or representation is made that the WMP reflects the actual outcome and EFRS will not be liable to you for plans or outcomes that are not suitable for your purpose, whether as a result of incorrect or unsuitable information or otherwise;
- EFRS offer no warranty or representation of accuracy or reliability of the WMP unless specifically stated;
- any manual handling equipment recommended should be provided at the recommendation of the appropriate equipment provider who will assess the correct equipment for supply;
- Design of waste management equipment and systems must be approved by the supplier.

## RESIDENTIAL WASTE MANAGEMENT

The *Comprehensive Inner West DCP 2016 for Ashbury Ashfield, Croydon, Croydon Park, Haberfield, Hurlstone Park and Summer Hill* has been referenced to calculate the total number of bins required for the residential units. Calculations are based on generic figures; waste generation rates may differ according to the residents' waste management practice.

### ESTIMATED WASTE VOLUMES AND PROVISIONS

The following table shows the estimated volume (L) of waste and recycling generated by the residential component of the development.

Table 2: Calculated Waste Generation – Residential

Building/ Core	# Units	Waste Generation Rate (L/unit/week)	Generated Waste (L/week)	Recycling Generation Rate (L/unit/week)	Generated Recycling (L/week)
A (1 x Bedroom)	20	80	1600	80	1600
A (2 x Bedroom)	57	100	5700	100	5700
A (3 x Bedroom)	17	120	2040	120	2040
B (1 x Bedroom)	0	80	0	80	0
B (2 x Bedroom)	18	100	1800	100	1800
B (3 x Bedroom)	7	120	840	120	840
C (1 x Bedroom)	42	80	3360	80	3360
C (2 x Bedroom)	18	100	1800	100	1800
C (3 x Bedroom)	0	120	0	120	0
D (1 x Bedroom)	27	80	2160	80	2160
D (2 x Bedroom)	49	100	4900	100	4900
D (3 x Bedroom)	9	120	1080	120	1080
<b>TOTAL</b>	<b>264</b>		<b>25280</b>		<b>25280</b>
Collections		Waste Bin Size (L)	240	Recycling Bin Size (L)	240
		Waste Collections per Week	1	Recycling Collections per Week	0.5
		Total Waste Bins Required	<b>106</b>	Total Recycling Bins Required	<b>215</b>
Equipment		Number of Waste Bins Per Building	A	Number of Recycling Bins Per Building	A
			B		B
			C		C
			D		D
			39		81
			11		22
			22		44
			34		68

### BIN SUMMARY

Based on the calculations provided in Table. 2 above, the required bin quantities for the overall site are presented below:

Waste: **106** x 240L bins collected weekly  
 Recycling: **215** x 240L bins collected fortnightly  
 Total: **321** x 240L bins

### HOUSEHOLD WASTE

1 waste chute will be supplied within each building/building core, equating to 5 waste chutes altogether for the development. Access to waste chutes will be provided on all residential levels of each building/building core. The chutes are to be used for the disposal of waste only.

Waste discharges into 240L bins placed on carousel and/or linear track systems in the separate chute discharge rooms for each building/building core. Each chute discharge room must accommodate 2 days' storage capacity of waste. The waste is not compacted.

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2 x 240L recycling bins will be situated in the waste compartment on each residential level for collection of recyclable items. The caretaker will be responsible for monitoring the capacity of recycling bins and exchanging them with empty bins from the central bin holding room on basement 2 when full.

On collection days, the building caretaker will transport full waste and recycling bins to the central bin holding room for Council servicing. An appropriate bin movement aid will be used to transfer multiple waste bins from the separate chute discharge rooms to the bin holding room and recycling bins will be transferred from each residential level via the residential lifts.

### **COMMON AREAS**

The lobbies, amenities and circulation areas will be supplied with suitably branded waste and recycling bins where considered appropriate. These areas generate minimal waste, however garbage and recycling receptacles should be provided and located in convenient locations.

Washroom facilities should be supplied with collection bins for paper towels (if used). Sanitary bins for female restroom facilities must also be arranged with an appropriate contractor.



## SOURCE SEPERATION

Waste avoidance, recovery and reuse of discarded materials and responsible management of hazardous waste are all crucial elements of sustainable development. Effective waste management practices in residential developments significantly improve environmental, social, and economic outcomes on both a local and regional scale, and should be integrated into the waste management processes.

### GENERAL WASTE

Residents will be supplied with a waste & recycling cupboard in each unit to deposit waste material suitable for two days' storage. This is typically located generally in the kitchen, under bench or similar alternate area. Residents should wrap or bag their garbage; bagged garbage should not exceed 3kg in weight or 35cm x 35cm x 35cm in dimension.

### RECYCLING

**Recycling must not be bagged.** Residents must use a crate or dedicated bin for collecting recyclables suitable for two days' storage within the allocated waste and recycling cupboard to ensure source separation is adhered to.

Cardboard furniture boxes or large cardboard containers should not be included in the waste chute. Cardboard must be flattened and disposed of into the 240L bins provided on each level. Residents should be advised of the location of these bins by building management.

### GREEN WASTE

Green waste is not typically generated from multi-unit dwellings other than from surrounding building landscaped areas and is removed by the designated maintenance contractor. In the event that green waste is produced i.e trimming of indoor or balcony plants then this may be disposed of via coordination with the building caretaker or cleaner. Very small quantities may be disposed of via the general waste stream.

### BULKY GOODS

A room or caged area will be made available for the storage of discarded residential bulky items (e.g. whitegoods, furniture, etc.). This room should be located within close proximity of the garbage and recycling bin collection room and must have a minimum doorway width of 1.5m to allow for easy movement of large waste items in and out of the room.

Ashfield Council requires that the bulky goods room is a minimum of 4m<sup>2</sup> for developments of up to 20 dwellings. For developments with over 20 dwellings, the bulky goods room must be provided at a rate of 8m<sup>2</sup> for every 50 units. The required GFA for the bulky waste storage room for this site is 42m<sup>2</sup>.

These areas are crucial to prevent residents from illegally dumping bulky waste on the footpath outside Councils scheduled collection times. Regular illegal dumping can attract other dumped waste, generate litter, detract significantly from the quality and appearance of the development and reduce amenity of the street.

Residents will be required to liaise with building management regarding the transportation and disposal of bulky goods. Ideally, bulky waste should be collected on a regular schedule so that the storage area does not become overfull and so that residents know when to place items in there for collection. Councils may arrange for more frequent collections of bulky waste for MUDs, however collection frequencies vary among different local government areas.

Donations to charitable organisations should be encouraged. Clean, sound furniture and household goods etc. are highly sought after to provide for the disadvantaged. Donations can be arranged with the assistance of the building manager/waste caretaker.

### **ELECTRONIC WASTE**

Electrical waste (e.g. fluorescent tubing, batteries, laptops etc.) can potentially contaminate soil and surrounding water bodies if not disposed correctly. These items must not be placed in standard garbage and recycling bins. Disposal or recycling of electronic waste will be organised with the assistance of the building caretaker. These items must not be placed in garbage or recycling bins due to safety and environmental factors. Residents and/or the building manager may choose to contact Council to find out about new/existing strategies for the disposal/collection of electronic waste.

### **CHEMICAL WASTE**

Chemical wastes (e.g. cleaning chemicals, paints, oils solvents) pose detrimental effects to human health and the environment and should be disposed of to a suitable licensed disposal facility. No liquid wastes or wash down waters should be disposed of via the storm water drainage system. Household Chemical CleanOut events are held at various locations throughout NSW on specified dates throughout the year. Locations and dates are subject to change; hence it is recommended that the building caretaker confirm these details with their local Council.

### **ORGANIC WASTE AND COMPOSTING**

Recycling organic waste, such as food scraps and garden materials, dramatically reduces the quantity of waste being diverted to land fill and thus reduces residents' ecological footprint. Compost material can also be returned to the soil as a rich fertilizer and improve plant growth and the overall health of surrounding vegetation.

A communal outdoor composting area must be made available for all residents to access.

### **CLOTHING WASTE**

Clothing is becoming an increasingly large waste stream for domestic dwellings. Unwanted clothing that is clean and undamaged can be donated to charities. Building management may choose to provide clothing donation bins for residents to donate their unwanted clothing. Building management can directly contact a charity to supply a donation bin or choose to provide their own nondenominational donation bin. Once a sufficient amount of clothing has been collected, the building management will be responsible for arranging the collection of donated items with the relevant charity.



## RETAIL WASTE MANAGEMENT

The *Better Practice Guide for Waste Management and Recycling* has been referenced to calculate the total number of bins required for the retail and commercial areas. Calculations are based on generic figures; waste generation rates may differ according to the tenants' waste management practice.

### ESTIMATED WASTE VOLUMES AND PROVISIONS

The following table shows the estimated volume (L) of waste and recycling generated by the retail component of the development. A seven day operating week has been assumed.

Table 3: Calculated Waste Generation –Retail

Type	NLA (m <sup>2</sup> )	Waste Generation Rate (L/100m <sup>2</sup> /day)	Generated Waste (L/week)	Recycling Generation Rate (L/100m <sup>2</sup> /day)	Generated Recycling (L/week)
Standard Retail	119	50	416.5	50	416.5
<b>TOTAL</b>	<b>119</b>		<b>416.5</b>		<b>416.5</b>

### BIN SUMMARY

Based on the calculations presented in Table. 4, the required bin quantities are presented below:

Waste: **1 x 240L** bin collected 2 x weekly  
 Recycling: **2 x 240L** bins collected weekly

It is the responsibility of retail management to monitor the number of bins required. As waste volumes may change according to the development's management, customer base and retail tenancy attitudes to waste disposal and recycling, bin numbers and sizes may need to be altered to suit the building operation. Seasonal peak periods i.e. public and school holidays should also be considered.

### RETAIL WASTE MANAGEMENT

Tenants will be responsible for their own storage of waste and recycling back of house (BOH) during daily operations. On completion of each trading day or as required, nominated retail staff or cleaners will transport their waste and recycling to the retail waste room on basement 2 and place waste and recycling into the appropriate collection bins.

Food handling for food cooked or prepared, served and consumed on site will produce a typical waste composition of food scraps from plates, packaging waste and some plastics. Café or restaurant staff will be responsible for their own BOH waste management.

Cardboard is a major component of the waste generated by retail tenancies. All cardboard should be flattened (to save bin space), placed in and collected from bulk bins. Whilst cardboard is bulky, it is generally lightweight however it can be contaminated with food or liquid which makes it unsuitable for recycling.

To ensure the proper management and disposal of waste, tenants must be made aware of the following practices:

- All garbage should be bagged and garbage bins should be plastic lined;
- Bagging of recyclables is not permitted;
- All interim waste storage is located BOH during operations;

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- Individual recycling programs are recommended for retailers to ensure commingled recycling is correctly separated;
- A suitable storage area needs to be provided and effectively banded for chemicals, pesticides and cleaning products;
- Dry basket arrestors need to be provided to the floor wastes in the food preparation and waste storage areas; and
- All flattened cardboard will be collected and removed to the waste room recycling MGB

It is the responsibility of the building manager to monitor the number of bins required for the development. As waste volumes may change according to the development's management, customer base and retail tenancy attitudes to waste disposal and recycling, bin numbers and sizes may need to be altered to suit the building operation. Seasonal peak periods i.e. public and school holidays should also be considered.

## MOVEMENT AND TRANSPORTATION OF BINS

The building manager/waste caretaker is responsible for the transportation of bins from their designated operational locations to their respective collection room/areas prior to scheduled collection times, and returning them once emptied to resume operational use.

Transfer of waste and all bin movements require minimal manual handling; the operator must assess manual handling risks and provide any relevant documentation to building management.

If required the developer should contact a bin-tug, trailer or tractor consultant to provide equipment recommendations. Examples of motorised bin moving equipment can be found in APPENDIX B.4 and APPENDIX B.5.

Bins may have to be fitted with hitches to enable the simultaneous transportation of multiple bins to the collection area. Council must be informed of any hitch attachments required to be installed on bins.

## COLLECTION OF WASTE

It is proposed that Council will collect waste weekly and recycling will be collected fortnightly.

Prior to collections, the building caretaker will be responsible for transferring full bins from the separate chute discharge rooms and compartments on each level to the bin holding room on basement 2.

A bin movement aid must be used to facilitate the transfer of multiple bins at once. Recycling bins will be transported from each residential level via the resident lifts. The building caretaker will be responsible for ensuring that all bins are neatly arranged within the bin holding room for ease of servicing.

On collection days, Council's collection vehicle will enter the site via Thomas Street and pull into the designated vehicle loading bay on basement 2. Council contractors will have access to the bin holding room to service all bins.

Council's waste vehicle has a maximum length of 9.4m and is a rear loader with a width of 2.5m. The minimum headroom clearance required is 4.5m as per AS2890.1.

Once servicing is complete, the building caretaker will be responsible for returning bins to the chute discharge rooms and recycling compartments to resume operation.

## INSTALLATION EQUIPMENT AND DESIGN

### EQUIPMENT SUMMARY

Table 4: Equipment Summary

Component	Part	Qty	Notes
Chutes	Galvanised Steel / LLDPE Polyethylene Plastic 510mm or 610mm (for 20+ levels)	5	510/610mm diameter (See APPENDIX C.1 for Typical Chute Section)
Equipment A	Waste 4-bin 240L Carousel or Linear Track System without Compactor	5	(See APPENDIX C.2 for Typical Carousel)
Equipment B	Suitable Bin Moving Equipment	>1	(See APPENDIX B.4 for Typical Bin Mover)

### WASTE ROOM AREAS

Access to waste discharge rooms should be provided to the building manager/waste caretaker **only**. Under no circumstances should access be provided to any residents, or waste collection staff.

Each chute discharge room has been designed to allow two days' storage capacity for waste. Carousel and/or linear tracks have been provided. Chute discharge requires a minimum of 3000mm distance from floor to ceiling and needs to be free of service pipes and other overhead obstacles within the immediate space around the chute discharge.

The recommended waste room areas in Table. 5 have been based off the footprint of the bins and equipment, plus an additional 50% area to enable efficient access and movement of bins.

All doorways and access paths must have a minimum width of 1200mm.

Table 5: Waste Room Areas

Level	Waste Room Type	Equipment	Minimum Required Area (m <sup>2</sup> )
B2	Chute Discharge Room A.1	6 x 240L MGBs (Waste) 1 x 4-Bin 240L Carousel or Linear System	16
	Chute Discharge Room A.2	6 x 240L MGBs (Waste) 1 x 4-Bin 240L Carousel or Linear System	12
	Chute Discharge Room B	4 x 240L MGBs (Waste) 1 x 4-Bin 240L Carousel or Linear System	12
	Chute Discharge Room C	7 x 240L MGBs (Waste) 1 x 4-Bin 240L Carousel or Linear System	12
	Chute Discharge Room D	10 x 240L MGBs (Waste) 1 x 4-Bin 240L Carousel or Linear System	12
	Residential Bin Holding Room	Waste: 106 x 240L bins Recycling: 215 x 240L bins	240
	Residential Bulky Waste Storage Room	N/A	42
	Retail Waste Room	Waste: 1 x 240L bins Recycling: 2 x 240L bins	6

## WASTE ROOMS

### CONSTRUCTION REQUIREMENTS

The waste rooms will be required to contain the following facilities to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area:

- waste room floor to be sealed with a two pack epoxy;
- waste room walls and floor surface is flat and even;
- all corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- for residential: a hot and cold water facility with mixing facility and hose cock must be provided for washing the bins;
- any waste water discharge from bin washing must be drained to sewer in accordance with the relevant water board. (Sydney Water);
- tap height of 1.6m;
- storm water access preventatives (grate);
- all walls painted with light colour and washable paint;
- equipment electric outlets to be installed 1700mm above floor levels;
- the room must be mechanically ventilated;
- light switch installed at height of 1.6m;
- waste rooms must be well lit (sensor lighting recommended);
- optional automatic odour and pest control system installed to eliminate all pest types and assist with odour reduction – this process generally takes place at building handover – building management make the decision to install;
- if 660L or 1100L bins are utilised, 2 x 820mm (minimum) door leafs must be used;
- all personnel doors are hinged, lockable and self-closing;
- waste collection area must hold all bins – bin movements should be with ease of access;
- conform to the Building Code of Australia, Australian Standards and local laws; and
- childproofing and public/operator safety shall be assessed and ensured

### SIGNAGE

The building manager/caretaker is responsible for waste room signage including safety signage (see *APPENDIX B.2*). Appropriate signage must be prominently displayed on doors, walls and above all bins, clearly stating what type of waste or recyclables is to be placed in the bin underneath.

All chute doors on all residential levels will be labelled with signs directing chute operations and use of chute door.

### VENTILATION

Waste and recycling rooms must have their own exhaust ventilation system either;

- Mechanically - exhausting at a rate of 5L/m<sup>2</sup> floor area, with a minimum rate of 100L/s minimum; or
- Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area

Mechanical exhaust systems shall comply with AS1668 and not cause any inconvenience, noise or odour problem.

## USEFUL CONTACTS

Elephants Foot Recycling Solutions does not warrant or make representation for goods or services provided by suppliers.

### **INNER WEST COUNCIL CUSTOMER SERVICE**

Phone: (02) 9392 5000

Email: [council@innerwest.nsw.gov.au](mailto:council@innerwest.nsw.gov.au)

### **SULO MGB** (MGB, Public Place Bins, Tugs and Bin Hitches)

Phone: 1300 364 388

### **CLOSED LOOP** (Organic Dehydrator)

Phone: 02 9339 9801

### **ELECTRODRIVE** (Bin Mover)

Phone: 1800 333 002

Email: [sales@electrodrive.com.au](mailto:sales@electrodrive.com.au)

### **RUD** (Public Place Bins, Recycling Bins)

Phone: 07 3712 8000

Email: [Info@rud.com.au](mailto:Info@rud.com.au)

### **CAPITAL CITY WASTE SERVICES** (Private Waste Services Provider)

Phone: 02 9359 9999

### **REMONDIS** (Private Waste Services Provider)

Phone: 13 73 73

### **SITA ENVIRONMENTAL** (Private Waste Services Provider)

Phone: 13 13 35

### **NATIONAL ASSOCIATION OF CHARITABLE RECYCLING ORGANISATIONS INC.** (NACRO)

Phone: 03 9429 9884

Email: [information@nacro.org.au](mailto:information@nacro.org.au)

### **PURIFYING SOLUTIONS** (Odour Control)

Phone: 1300 636 877

Email: [sales@purifyingsolutions.com.au](mailto:sales@purifyingsolutions.com.au)

### **MOVEXX** (Bin Movers)

Phone: 1300 763 444

### **AUSCOL** (Recycling Oils & Animal Fats)

Phone: 1800 629 476

### **KOMPACT EQUIPMENT** (Equipment & Servicing Provider)

Phone: 1300 566 722

Email: [info@kompactequipment.com.au](mailto:info@kompactequipment.com.au)

### **ELEPHANTS FOOT RECYCLING SOLUTIONS** (Chutes, Compactors & eDiverter Systems)

44 – 46 Gibson Avenue

Padstow NSW 2211

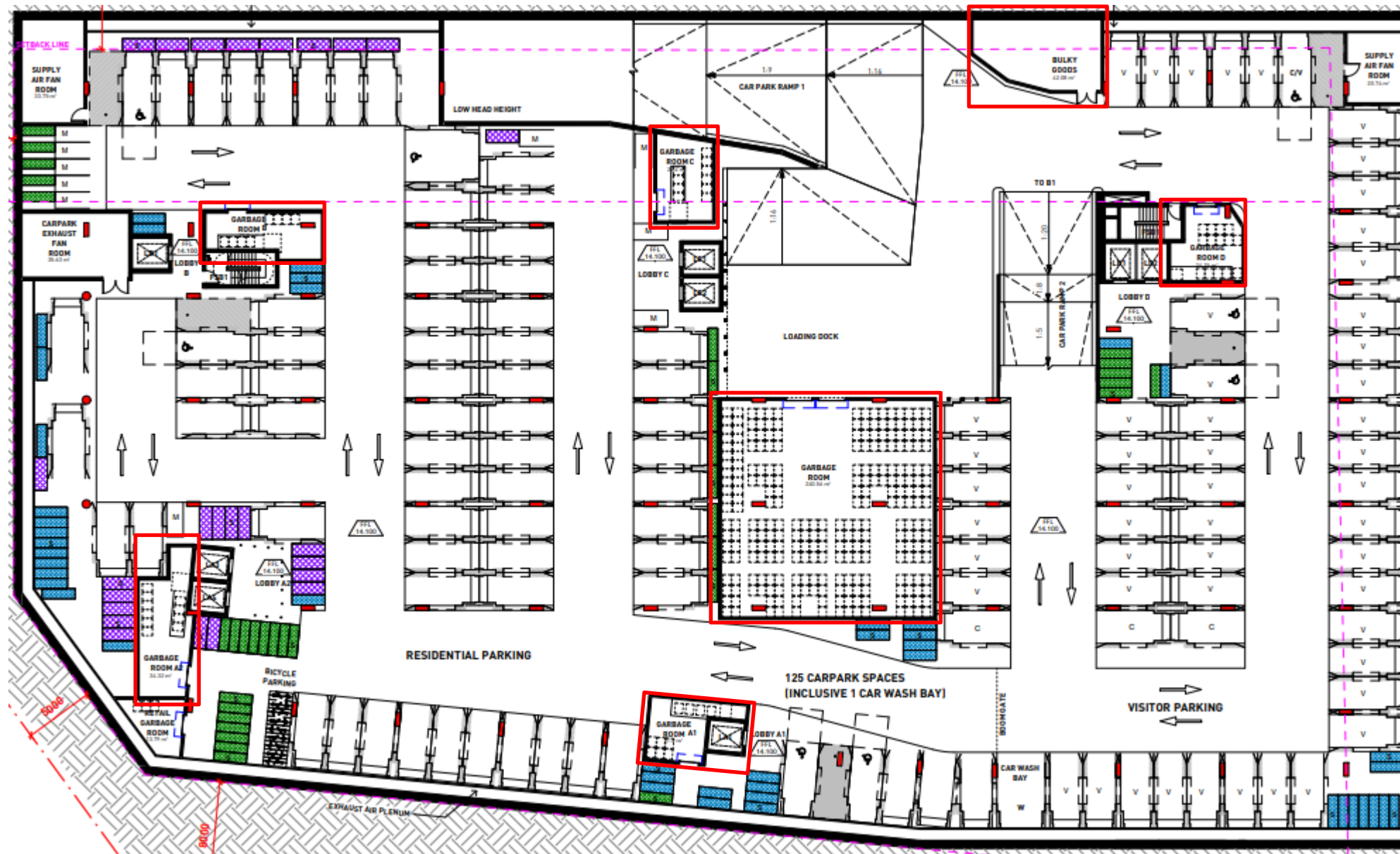
Phone: 1300 434 374

Email: [wmp@elephantsfoot.com.au](mailto:wmp@elephantsfoot.com.au)

## APPENDICES

### APPENDIX A ARCHITECTURAL DRAWING EXCERPTS

#### APPENDIX A.1 B2 DISPLAYING CHUTE DISCHARGE ROOMS, RETAIL WASTE ROOM & COLLECTION AREA



Excerpt - PTW, DA-080, Rev C dated 29/04/2021 - Basement 2



## APPENDIX B PRIMARY WASTE MANAGEMENT PROVISIONS

### APPENDIX B.1 INNER WEST BIN SPECIFICATIONS

#### Mobile Garbage Bins (MGBs) Australian Standard Sizes

(Supplier sizes may vary slightly)

Bin Type	120L MGB	240L MGB	660L MGB	1100L MGB
Height	940 mm	1080 mm	1250 mm	1330 mm
Depth	560 mm	735 mm	850 mm	1245 mm
Width	485 mm	580 mm	1370 mm	1075 mm
Footprint allowance	0.27 sqm	0.43 sqm	1.16 sqm	1.7 sqm



Source: Comprehensive Inner West DCP 2016 for Ashbury Ashfield, Croydon, Croydon park, Haberfield, Hurlstone Park and Summer Hill

## OPERATIONAL WASTE MANAGEMENT PLAN

### APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS

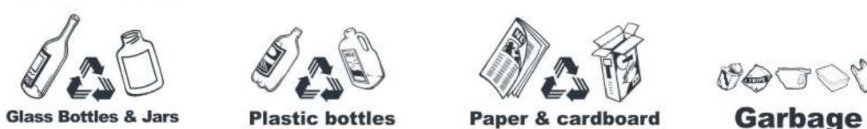
#### WASTE SIGNS

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the Department of Environment and Heritage.

Example wall posters



Example bin lid stickers



#### SAFETY SIGNS

The design and use of safety signs for waste rooms and enclosures should comply with AS1319 Safety Signs for Occupational Environment. Safety signs should be used to regulate and control safety behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Each development will need to decide which signs are relevant for its set of circumstances and service provided.

Examples of Australian Standards:



Australian Standards are available from the SAI Global Limited website ([www.saiglobal.com](http://www.saiglobal.com)).

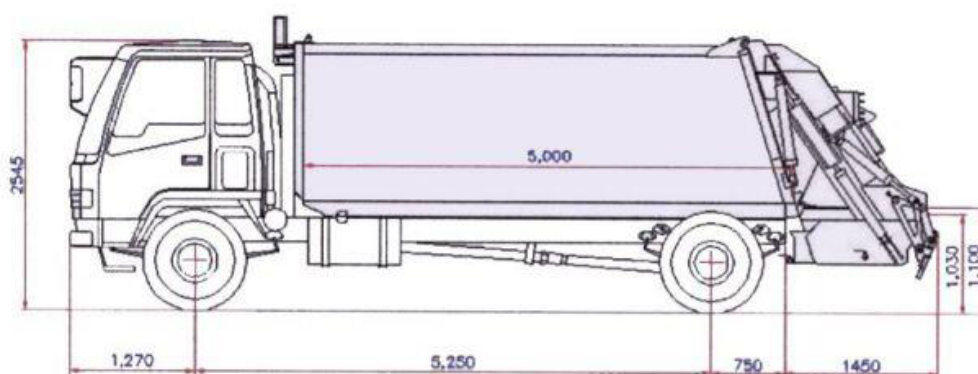
*SOURCE: Department of Environment and Climate Change NSW 2008, Better Practice Guide for Waste Management in Multi-Unit Dwellings*



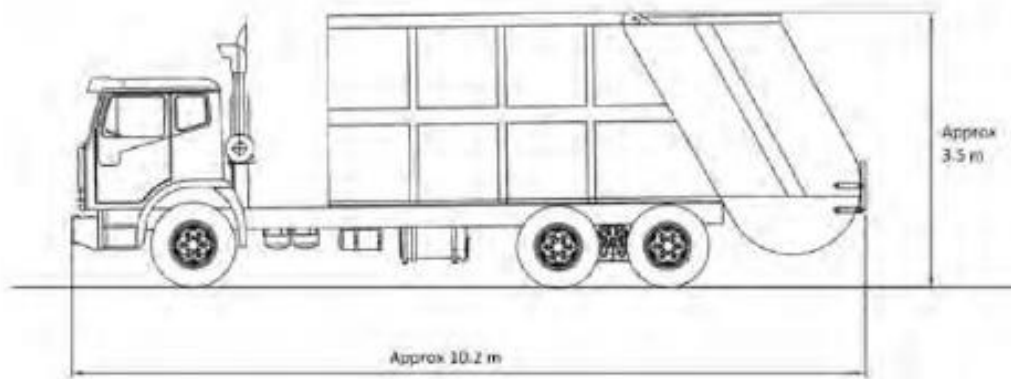
## APPENDIX B.3 INNER WEST COUNCIL COLLECTION VEHICLE INFORMATION

Non-Council collection vehicle typical dimensions (commercial premises - for information only: dimensions should be confirmed)

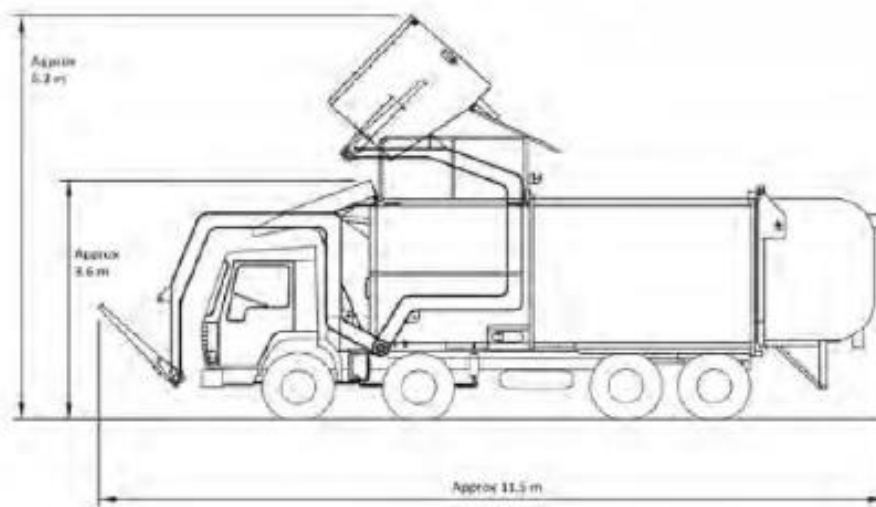
Mini REAR LOADING COLLECTION VEHICLE (app 8m³ capacity)	
Length overall	4.6 - 5 m
Width overall	2.1 m
Operational height	2.4 m
Travel height	2.4 m
Tare weight	2.7 – 3.0 tonnes
Payload weight	ns
Turning circle	ns



MEDIUM REAR LOADING COLLECTION VEHICLE (app 14m³ capacity)	
Length overall	7.5 - 9 m
Width overall	2.3 m
Operational height	2.4 – 3 m
Travel height	2.4 -3 m
Tare weight	6 -10 tonnes
Payload weight	ns
Turning circle	ns



REAR LOADING COLLECTION VEHICLE	
Length overall	8.0 - 10.3 m
Width overall	2.5 m
Operational height	3.5 – 4.3 m
Travel height	3.5 – 4.3 m
Tare weight	12.4 – 13.0 tonnes
Payload weight	9 tonnes
Turning circle	18 - 25 m



FRONT LOADING COLLECTION VEHICLE	
Length overall	9.9 – 11.5 m
Front overhang	1.42 – 1.51 m
Wheelbase	Up to 5.84 m

## APPENDIX B.4 TYPICAL MOTORISED BIN TUG



### Typical applications:

- Move trolleys, waste bin trailers and 660/1100L bins up and down a ramp incline.
- Quiet, smooth operation with zero emissions and simple to use, no driver's licence required
- Suitable for:
  - High rise building & apartment basements
  - Large factories & warehouse with sloped ground
  - Caravan parks & other large outdoor areas

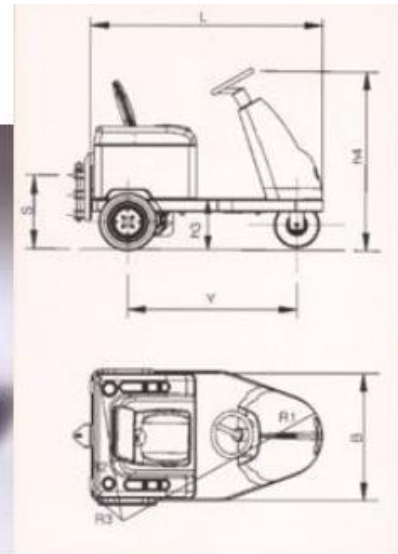
### Features:

- 1 tonne tow capacity of inclines up to 8 degrees
- 500kg tow capacity if inclines up to 14 degrees
- CE Compliant
- 4.5 km/h max speed
- 2 x 80amp batteries – includes charger
- Powerful transaxle
- Hitch to suit 660L bins

### Safety Features:

- Intuitive paddle lever control
- Stops and repels the unit if activated when reversing.
- Site assessment recommended to assess ramp incline steepness (*See Useful Contacts*)

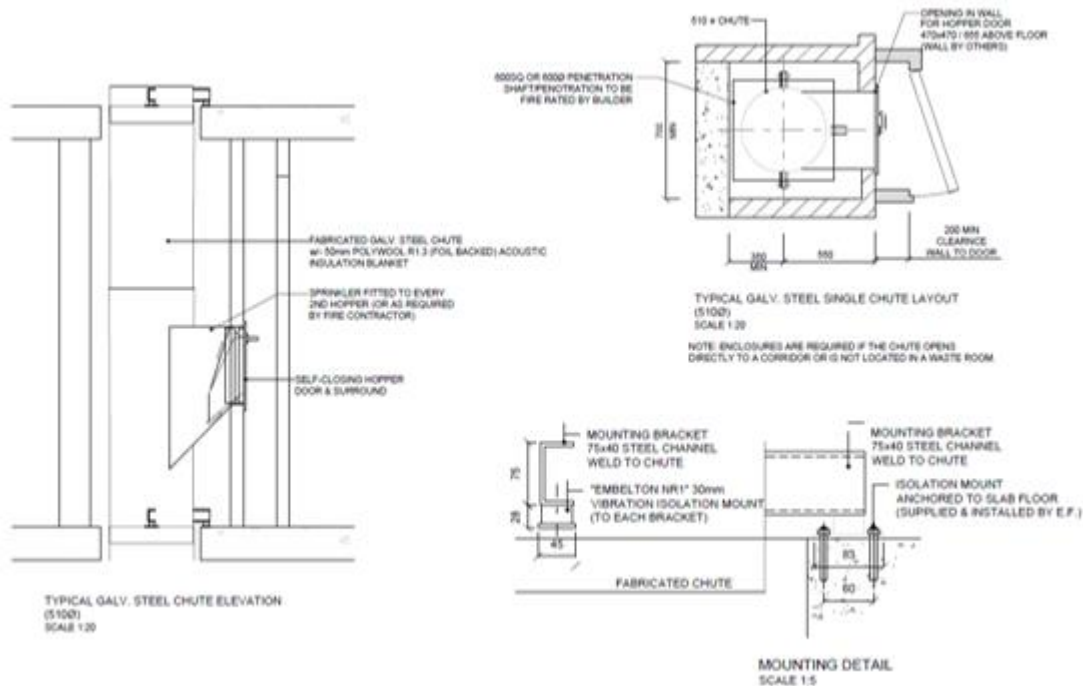
**APPENDIX B.5 TYPICAL SEATED BIN MOVER**



		UNIT M.	BULL 2	BULL 4
Manufacturer	DEC			
Model	BULL			
Platform loading cap.	Nominal capacity	kg	-----	-----
Pull capacity	Pull nominal capacity	kg	2000	4000
Power type	Electric - endothermic		electric	electric
Control type	Standing / seated thiller / steer		seated / steer	seated / steer
Tyres	Pn=pneum. Se=superelastic		Pn	Pn
Wheels	N. front/rear - x drive	n.	1/2X	1/2X
Platform dimensions	L x B (lengh x width)	mm	-----	-----
Platform hight	h6 = unload clearence	mm	-----	-----
Overall dimensions	L = lenght	mm	1500	1600
	B = width	mm	900	930
	h1 = foot leve	mm	1820	1960
	h3 = Seat height	mm	310	340
	h4 = Steer height	mm	1250	1330
Turning radius	R1 = front min. external	mm	1400	1500
	R2 = rear min. external	mm	1000	1000
	R3 = front min. internal	mm	400	400
Aisle width	A = 180° turn	mm	2200	2300
Tow hook height	s = center from ground	mm	220-350-490	240-380-520

## APPENDIX C INSTALLATION EQUIPMENT

### APPENDIX C.1 TYPICAL SINGLE WASTE CHUTE SPECIFICATIONS

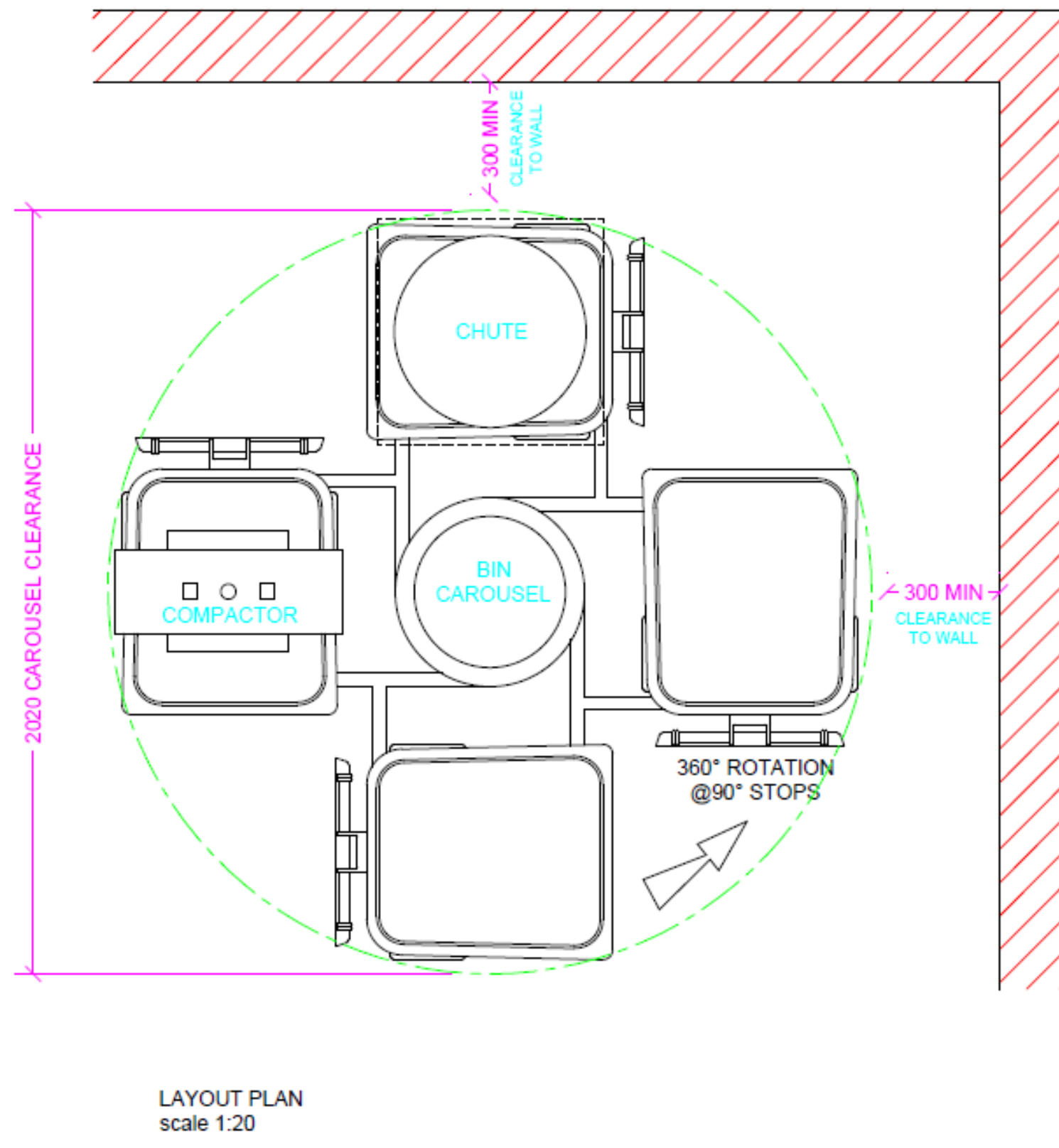


Waste chutes are supplied per the following specifications:

- either 510mm or 610mm (for 20+ levels) galvanised steel or recycled LLDPE polyethylene plastic;
- galvanised steel chute hoppers are wrapped with 50mm poly-wool R1.3 noise insulation foil to assist in noise reduction (or equivalent);
- penetrations on each building level at vertically perpendicular points with minimum penetration dimensions of either 600x600/700x700mm (square) or 650/750mm diameter (round) are required to accommodate the chute installation;
- a wash down system and vent should also be included as part of the chute system;
- council and supplier require that all chutes are installed without offsets to achieve best practise operationally for the building; and
- two hour fire-rated (AS1530.4-2005) stainless steel refuse chute doors at each service level. All doors are to be fitted with a self-closing mechanism to meet BSA fire standards.

**NOTE:** Chute doors are installed after walls rendered, painted or when required. Information stickers will be placed on each chute door at each residential level.

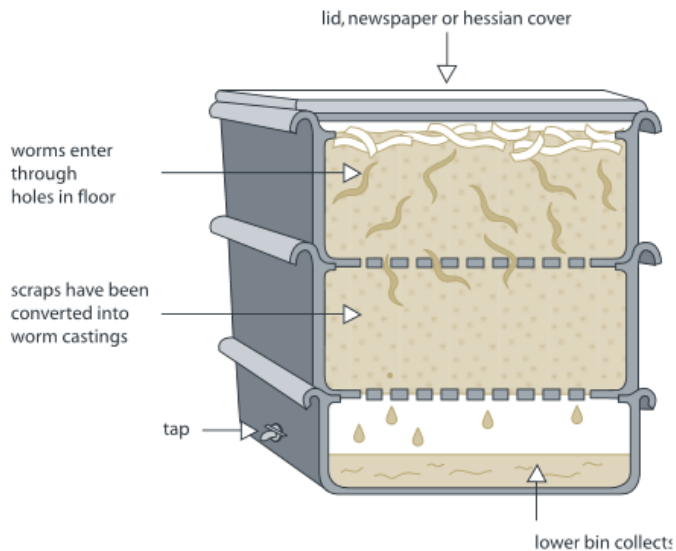
APPENDIX C.2 TYPICAL CAROUSEL SYSTEM



## APPENDIX D SECONDARY WASTE MANAGEMENT PROVISIONS

### APPENDIX D.1 TYPICAL WORM FARM SPECIFICATIONS

#### Worm farms



Space requirements for a typical worm farm for an average household:

Height – 300mm per level

Width – 600mm

Length – 900mm

There are many worm farm arrangements. The above dimensions are indicative only.

*SOURCE: Department of Environment and Climate Change NSW 2008, Better Practice Guide for Waste Management in Multi-Unit Dwellings*



## APPENDIX D.2 TYPICAL APARTMENT STYLE COMPOST BINS



Apartment Style Compost bin – available from hardware stores

Suitable for:

- Vegetables
- Coffee grounds and filters
- Tea and tea bags
- Crushed eggshells (but not eggs)
- Nutshells
- Houseplants
- Leaves
- Cardboard rolls, cereal
- Boxes, brown paper bags
- Clean paper
- Shredded newspaper
- Fireplace ashes
- Wood chips, sawdust,
- Toothpicks, burnt matches
- Cotton and wool rags
- Dryer and vacuum cleaner lint
- Hair and fur
- Hay and straw



## APPENDIX D.3 ELECTRIC ORGANIC COMPOST BIN



### Product Specifications

Decomposition Method	Fermentation by microorganisms
Decomposition Capacity	2 metric tonnes per year* (4 kg per day*)
Rating	220–240 V 50/60 Hz – 1.1 A
Decomposition Time	24 hrs
Operating Temperature	0C and 40C.**
Deodorisation Method	Nano-Filter system
Maximum Power	210 W
Power Usage	Average 1 kwh per day
Weight	21 kgs
External Dimensions	w 400 mm d 400 mm h 780 mm

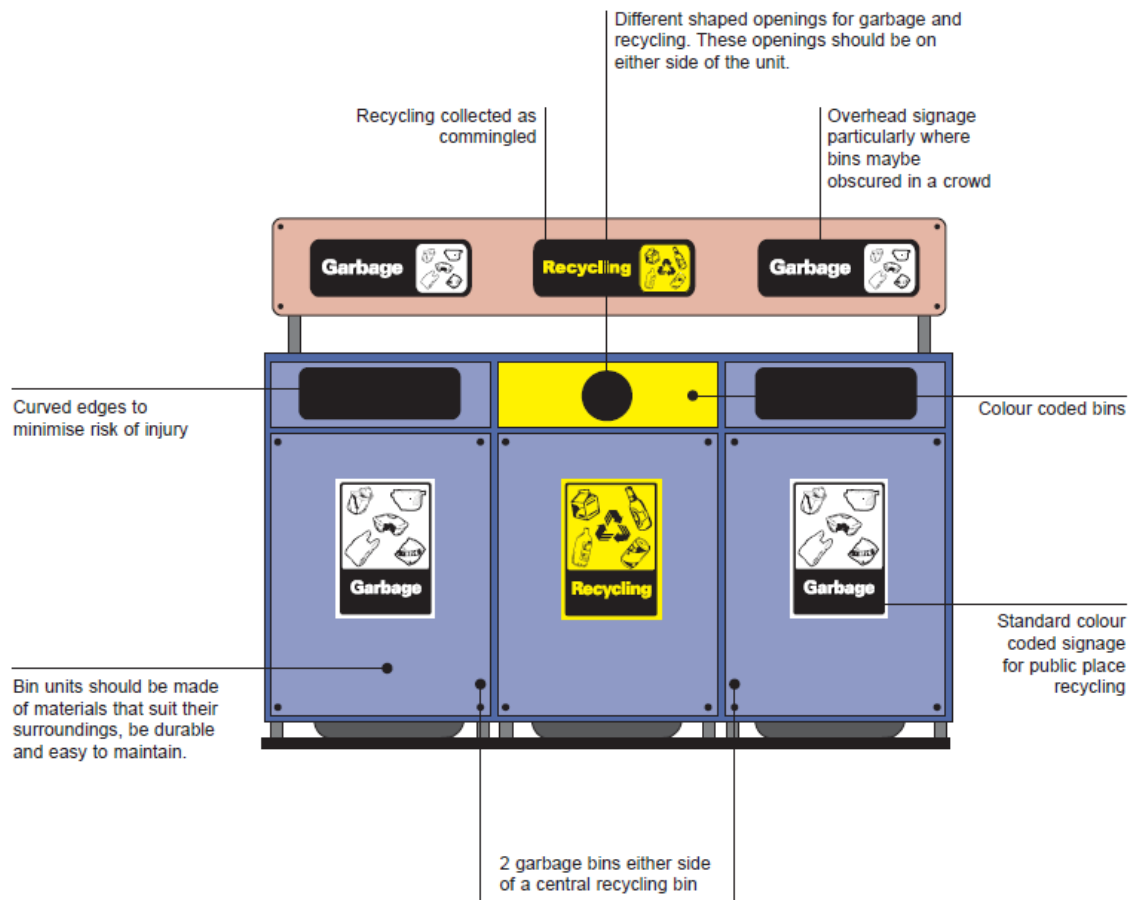
\* Food Waste Handling Capacity – based on an optimal operating environment.

\*\* Ambient temperature range of area where unit may be installed.

SOURCE: Closed Loop Domestic Composter – See Useful Contacts

<http://www.closedloop.com.au/domestic-composter>

## APPENDIX D.4 TYPICAL PUBLIC PLACE WASTE BINS



Source: *Department of Environment and Conservation (NSW) Better Practice Guide for Public Place Recycling 2005*