



Site 2A & 2B, Australia Avenue, Sydney Olympic Park NSW
Mixed Use Development

OPERATIONAL WASTE MANAGEMENT PLAN

22/07/2019
Report No.
Revision A

Client

Ecove

Architect

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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	Signed
A	22/07/2019	A Armstrong	E Saidi	Draft	

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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>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

INTRODUCTION

Elephants Foot Recycling Solutions (EFRS) has been engaged to prepare the following waste management plan for Ecove for the operational management of waste generated by the mixed use development located at Site 2A & 2B, Australia Avenue, Sydney Olympic Park 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 integrated into the overall management of the building and clearly communicated to all relevant stakeholders.

REPORT CONDITIONS

The purpose of this report is to document a Waste Management Plan (WMP) as part of a development application and is supplied by 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 chute equipment and systems must be approved by the supplier.
- EFRS cannot be held accountable for late changes to the design after the WMP has been submitted to Council.
- EFRS will provide specifications and recommendations on bin access and travel paths within the WMP, however it is the architect's responsibility to ensure the architectural drawings meet these provisions.
- EFRS are not required to provide information on collection vehicle head heights, internal manoeuvring and loading requirements. These variables are considered to be within the applicable Traffic Consultants domain.
- Council are subject to changing waste and recycling policies and requirements at their own discretion. Information in this operational waste management plan is correct as of July 2019.

This WMP has only been finalised once the Draft Watermark has been removed. If the Draft Watermark is present, the information in the WMP is not confirmed.

DEVELOPMENT SUMMARY

The proposed development falls under the LGA of City of Parramatta Council, and consists of two (2) multi-level buildings (Site 2A & 2B).

- Site 2A incorporates:
 - **304** hotel suites in total;
 - A ballroom with an NLA of approximately **600m²**;
 - A restaurant and bar with a combined NLA of approximately **450m²**; &
 - Strata commercial (office space) with an NLA of **7,400m²**.
- Site 2B incorporates:
 - Office suites with a combined NLA of **20,500m²**; &
 - Retail tenancies with a combined NLA of **750m²**.

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

CITY OF PARRAMATTA COUNCIL

The development is within City of Parramatta jurisdiction. City of Parramatta is the amalgamation of parts of Parramatta City Council, The Hills Shire Council, Auburn City Council, Holroyd City Council and Hornsby Shire Council.

The waste and recycling will be guided by the acceptance criteria of the Parramatta City Council and will be serviced by a private waste contractor. All waste facilities and equipment are to be designed and constructed to be in compliance with the Parramatta City Council's *Parramatta Development Control Plan 2011*, Environmental Protection Authority's (EPA) *Better Practice Guide for Resource Recovery in Residential Developments 2019*, Australian Standards and statutory requirements.

COUNCIL OBJECTIVES

- To reduce the quantity of waste and encourage the recycling of waste generated by demolition and the construction of new developments.
- To encourage building design that will minimise waste generation over the lifetime of the building.
- To ensure that the disposal of waste generated by a building's occupants over its lifetime is managed appropriately, efficiently and provides for maximum recovery, recycle or reuse.
- To ensure that waste storage facilities are located appropriately and do not impact negatively on the streetscape.
- To ensure that waste can be effectively collected and managed.
- To assist in achieving Federal and State Government waste minimisation and resource recovery (landfill diversion) targets.
- To minimise the overall environmental impacts of waste, in line with the principles of Ecologically Sustainable Development (ESD).

STAKEHOLDER ROLES AND RESPONSIBILITIES

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

Table 1: Stakeholder Roles and Responsibilities

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

EDUCATION

Strata management is responsible for creating and managing the waste management education process.

Educational material encouraging the correct separation of waste and recycling items must be provided to all staff to ensure the correct disposal of waste and recycling. It is recommended that the building caretaker provides information in multiple languages to support correct practises and minimise the possibility of contamination in the collective waste bins.

It is expected that leasing arrangements with retail and commercial operations contain direction on waste management services and expectations.

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SITE 2A & 2B WASTE MANAGEMENT

The EPA's *Better Practice Guide for Resource Recovery in Residential Developments 2019* has been referenced to calculate the total number of MGBs required for the hotel suites, retail and commercial areas. 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 tables show the estimated volume (L) of waste and recycling generated by all components of the development.

Table 2: Calculated Waste Generation – Site 2A

Type	Rooms & NLA	Waste Generation Rate (L/bed & 100msqr/day)	Generated Waste (L/week)	Recycling Generation Rate (L/bed & 100msqr/day)	Generated Recycling (L/week)
Hotel Suites	304	10	21280	5	10640
Ballroom	600	5	150	10	300
Restaurants	450	400	15750	280	3150
Strata Offices	7400	10	3700	15	5550
TOTAL	8754		40880		19640

Based on the assumptions stated in Table.2, the following MGB quantities have been estimated for Site 2A:

Hotel

Waste: 7 x 1100L MGBs collected 3 x weekly

Recycling: 5 x 1100L MGBs collected 2 x weekly

Total: 12 x 1100L MGBs

Commercial (Ballroom, Offices and Restaurants)

Waste: 6 x 1100L MGBs collected 3 x weekly

Recycling: 4 x 1100L MGBs collected 2 x weekly

Total: 10 x 1100L MGBs

Table 3: Calculated Waste Generation – Site 2B

Type	NLA (m ²)	Waste Generation Rate (L/100m ² /day)	Generated Waste (L/week)	Recycling Generation Rate (L/100m ² /day)	Generated Recycling (L/week)
Commercial (Offices)	20500	10	10250	15	15375
Retail	750	50	2625	100	5250
TOTAL	21250		12875		20625

Based on the assumptions stated in Table.3, the following MGB quantities have been estimated for Site 2B:

Commercial (Offices and Retail)

Waste: 4 x 1100L MGBs collected 3 x weekly

Recycling: 10 x 1100L MGBs collected 2 x weekly

Total: 14 x 1100L MGBs

HOTEL WASTE MANAGEMENT

The vast majority of people who stay in hotels generally spend a relatively short time at the facility, therefore the waste and recycling generated in each suite is managed by the staff. Most waste generated is from goods received at the loading dock in the form of packaging (cardboard and plastic film), food waste, recyclables (mixed containers), newspapers and magazines. Office paper may also be generated however this is generally a minimal quantity.

All guests of each hotel suite will be supplied with a waste and recycling collection receptacle (generally in the main room and bathroom, under bench or similar alternate area) to collect material suitable for one days' worth of storage. Waste receptacles must be supplied with bin liners and recycling must not be bagged.

It is recommended that hotel guests use a crate or dedicated bin for collecting recyclables within the allocated hotel space provided to ensure correct separation before recyclables are transferred to the garbage room.

Nominated staff or cleaners will transport sorted waste and recyclable items to the hotel waste room on basement 2 of Site 2A.

RETAIL & BALLROOM WASTE MANAGEMENT

The retail and ballroom tenancies 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 allocated waste rooms and place waste and recycling into the appropriate collection MGBs.

Tenancies within Site 2A will utilise the 2A commercial waste room and tenancies within Site 2B will utilise the 2B commercial waste room on basement 2.

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. 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;
- Individual recycling programs are recommended for retailers to ensure commingled recycling is correctly separated;
- Any food and beverage tenant will make arrangements for storing used and unused cooking oil in a bunded storage area;
- The operator will organise grease interceptor trap servicing;
- A suitable storage area needs to be provided and effectively bunded 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

Consideration should be given to the use of cooking oil collection systems. A single service provider may be used to reduce the amount of commercial traffic into the loading bay or around the precinct area. This should be measured against bulk delivery of oils where the same vehicle is used to remove containers of waste cooking oils (see **Error! Reference source not found.** for Typical Cooking Oil Collection System)

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.

COMMERCIAL (OFFICE) WASTE MANAGEMENT

Typically, small receptacles for waste and recyclables are positioned next to each workers desk or workstation. Receptacles for general waste and recyclables are also located centrally in each office, generally in the kitchen area and printer room.

The cleaners circulate around the workplace after normal office hours and perform cleaning tasks. At this time the cleaners will empty the waste and recycling bins into bags which they transport around the offices in a cart which is also used to store cleaning products, spare bags, PPE and consumables.

The cleaners will be responsible for transporting the waste and recycling to the allocated waste rooms Site 2A will utilise the 2A commercial waste room and tenancies within Site 2B will utilise the 2B commercial waste room on basement 2.

Tenants are required make arrangements for the disposal and recycling of specialised waste (toner cartridges, batteries, etc.). Disposal of hard, electronic, liquid waste and any chemical waste (paint/chemicals) can be organised with the assistance of the building management or cleaners.

COMMON AREAS AND WASHROOM FACILITIES

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.

GREEN WASTE

Green waste is not typically generated from hotel/commercial developments other than from surrounding building landscaped areas and is removed by the designated maintenance contractor. Very small quantities may be disposed of via the general waste stream.

PUBLIC SPACES

Public spaces are likely to generate minimal waste from the people utilizing these areas. Waste and recycling bins should be placed throughout public spaces to minimise the likelihood of littering (see **Error! Reference source not found.**).

OPERATIONAL WASTE MANAGEMENT PLAN

Areas allocated to outdoor public space will be managed by Council, unless another type of arrangement has been agreed with by Council. Public waste bins placed in outdoor public areas will be serviced and maintained by Council.

Public areas on commercial developments such as food courts will be managed by building management. Cleaners will circulate throughout the food court while clearing tables and will remove waste as required.

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COLLECTION OF WASTE

A private waste contractor will be engaged to service all waste and recycling MGBs within the site to an agreed collection frequency. This report assumes 3 x weekly collections for waste and 2 x weekly collections for recycling.

SITE 2A

On-site collection directly from the allocated waste rooms.

SITE 2B

On-site collection directly from the allocated waste room.

COLLECTION AREA

It is Elephant Foot's understanding that the collection areas have been reviewed by a traffic consultant to confirm the swept paths, load requirements and clearances for waste collections.

It must be ensured that the collection vehicle (and other trucks if required) can enter and exit the building in a forward direction. The final number of truck collection will depend on management of waste contract.

WASTE ROOM AREAS

Communal waste rooms must be arranged so that all required MGBs are accessible. MGBs must be arranged in row 2-deep (minimum) with 1.2m walkways separating rows. All doorway entrances must have a minimum width of 1.2m to facilitate the movement of bulk bins.

A bin wash down area must be provided within each waste room.

The areas allocated for each waste room are detailed in Table. 4 below. The areas provided are estimates only. Final areas will depend upon room and bin layouts.

Table 4: Waste Room Areas

Location	Waste Room Type	Allocated MGBs		Recommended Area (m ²)
B2 – Site 2A	Hotel Waste Room	Waste: Recycling Total:	7 x 1100L MGBs 5 x 1100L MGBs 12 x 1100L MGBs	40
B2 – Site 2A	Commercial Waste Room (Ballroom and Restaurant)	Waste: Recycling Total:	6 x 1100L MGBs 4 x 1100L MGBs 10 x 1100L MGBs	32
B2 – Site 2B	Commercial Waste Room (Offices and Retail)	Waste: Recycling Total:	4 x 1100L MGBs 10 x 1100L MGBs 14 x 1100L MGBs	42

Note: Any requirement for increasing storage capacity can be done by increasing the frequency of collections for all waste.

WASTE ROOMS

CONSTRUCTION REQUIREMENTS

The waste room 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;
- For retail/commercial: a cold water facility with 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.

VENTILATION

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

- Mechanically - exhausting at a rate of 5L/m² 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.

PARRAMATTA COUNCIL CUSTOMER SERVICE

Phone: (02) 9806 5524

Email: council@cityofparramatta.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

RUD (Public Place Bins, Recycling Bins)

Phone: 07 3712 8000

Email: Info@rud.com.au

CAPITAL CITY WASTE SERVICES (Private Waste Services Provider)

Phone: 02 9399 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

PURIFYING SOLUTIONS (Odour Control)

Phone: 1300 636 877

Email: sales@purifyingsolutions.com.au

MOVEXX (Bin Movers)

Phone: 1300 763 444

AUSCOL (Recycling Oils & Animal Fats)

Phone: 1800 629 476

Elephants Foot Recycling Solutions (Chutes, Compactors and eDiverter Systems)

44 – 46 Gibson Avenue

Padstow NSW 2211

Free call: 1800 025 073

Email: info@elephantsfoot.com.au

Kompact Equipment (Waste Handling Equipment Sales, Servicing and Maintenance)

1/81 Governor Macquarie Drive

Chipping Norton NSW 2170

Free call: 1800 566 722

Email: info@kompactequipment.com.au

APPENDICES

APPENDIX A ARCHITECTURAL DRAWING EXCERPTS

APPENDIX A.1 SITE PLAN

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APPENDIX A.3 SITE 2B WASTE ROOM

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APPENDIX B PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX B.1 TYPICAL BIN SPECIFICATIONS

Mobile containers with a capacity from 500L to 1700L with four wheels



Dome or flat lid containers

Bin Type	660 Litre MGB	770 Litre MGB	1100 Litre MGB	1300 Litre MGB	1700 Litre MGB
Height	1250	1425	1470	1480	1470
Depth	850	1100	1245	1250	1250
Width	1370	1370	1370	1770	1770

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APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS

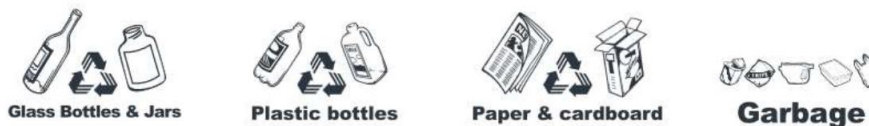
WASTE SIGNS

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).

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

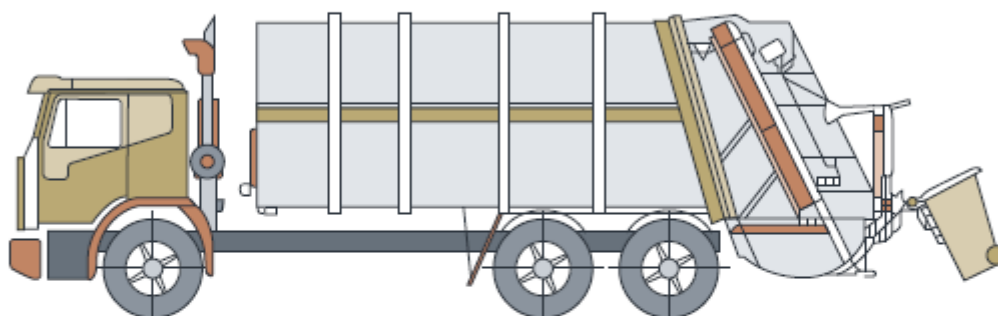
APPENDIX B.3 TYPICAL COLLECTION VEHICLE INFORMATION

Collection vehicles

Waste collection vehicles may be side loading, rear-end loading, front-end loading or crane trucks. The size of vehicle varies according to the collection service. Thus it is impossible to specify what constitutes the definitive garbage vehicle. Developers should consult the local council and/or relevant contractors regarding the type of vehicle used in that area.

The following characteristics represent the typical collection vehicle, however, these are only for guidance.

It may be possible to engage a collection service provider to use smaller collection vehicles to service developments with narrow roadways and laneways, or for on-site collections. However, as the availability of smaller vehicles to make services varies between councils and private contractors, wherever possible the development should be designed to accommodate vehicles of a similar size to that reported below.



Rear loading collection vehicle

Rear loading collection vehicle	
Length overall	10.24m
Width overall	2.5m
Operational height	3.5m
Travel height	3.5m
Weight (vehicle only)	12.4 tonnes
Weight (payload)	9.5 tonnes
Turning circle	18.0m

This is commonly used for domestic garbage and recycling collections from MUDs. It can be used to collect waste stored in MGBs or bulk bins, particularly where bins are not presented on the kerbside.

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

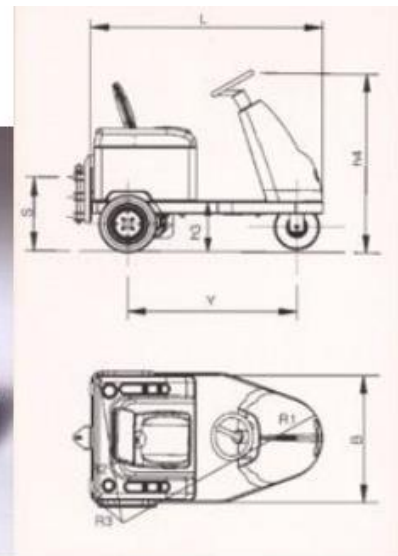
Features:

- 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

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BEST

APPENDIX C EQUIPMENT


APPENDIX C.1 COOKING OIL CONTAINERS




A GrainCorp business

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[Our Parent Company](#)
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The RIGHT WAY for Cooking Oil Collection Systems




Drums 205L



Pour in Bulk Tank

[View Brochure](#)



Oil Kaddy System

[View Brochure](#)


Collection Service

Collection Systems


Recycling & Environment

Safety

Fresh Oil (W4 Only)




Eco Systems 700L Road



Eco Systems 270L module

Eco Systems

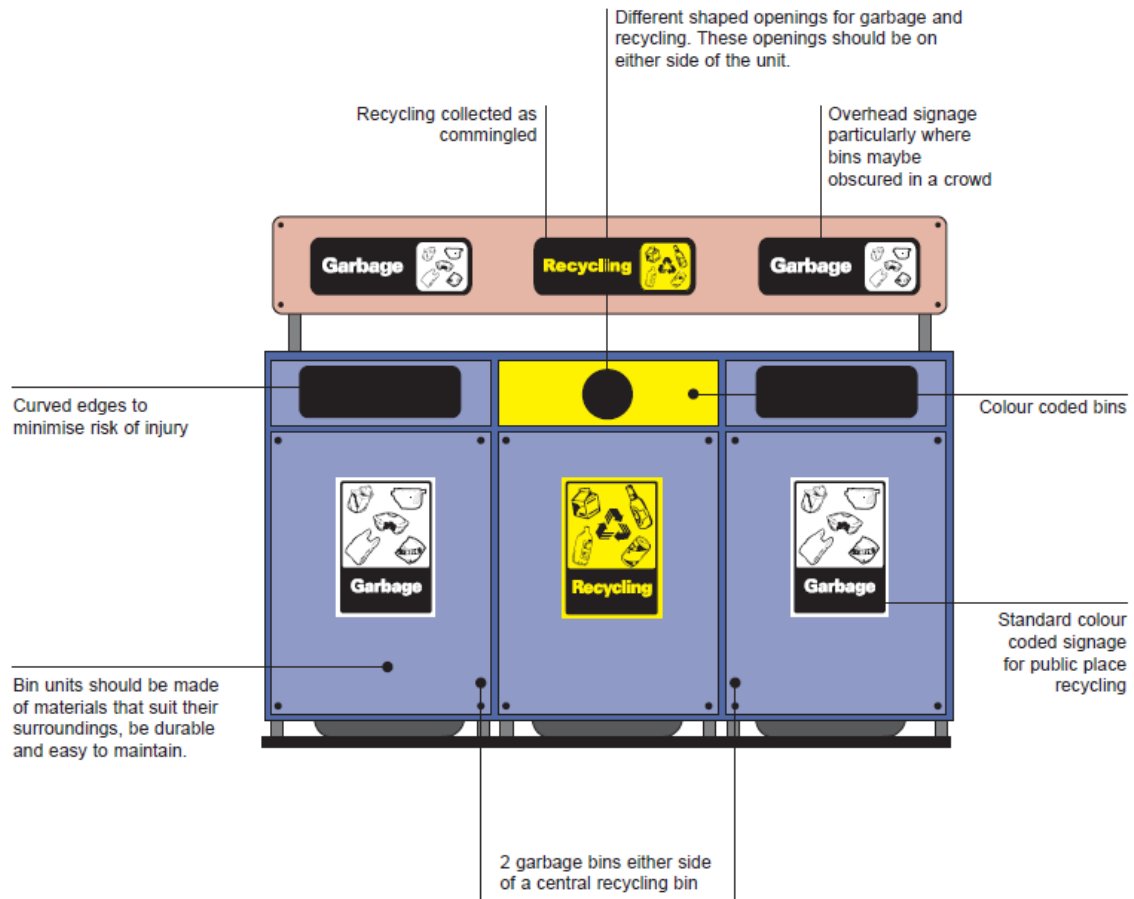


Direct-Connect to Fryer

APPENDIX C.2 TYPICAL BACK OF HOUSE BINS FOR RETAIL/COMMERCIAL OPERATIONS



APPENDIX C.3 TYPICAL PUBLIC PLACE WASTE BINS



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

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