



WASTE MANAGEMENT PLAN

PREPARED FOR

ON BEHALF OF
TONKIN ZULAIKHA GREER ARCHITECTS

MIXED DEVELOPMENT
75 MARY STREET
ST PETERS NSW 2044

FINAL
SEPTEMBER 2015

EDDY SAIDI
1800 025 073

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ABOUT ELEPHANTS FOOT

Elephants Foot Recycling Solutions is a family owned Australian company whose philosophy is providing quality recycling and waste solutions through product innovation. We are Australia's leading supplier of garbage, recycling and laundry chute systems.

Our team of experts has been proudly assisting architects, builders and developers with advice on how best to solve waste management and odour issues in dwellings since 1976. We have a long history of completed projects within the Australian building environment. Recent major projects completed include:

- Karimbla Constructions – Meriton Infinity, Herschel Street Brisbane Qld
Won the International Property Award for 'Best Residential High-Rise Development' Australia in 2014
- Laing O'Rourke – M&A, McLachlan & Ann Streets, Brisbane Qld
- Dyldam – 15 Young Street, Carlingford NSW
- Hickory Developments – Ilk Apartments, 227 Toorak Road, South Yarra VIC
- Equiset – 27 Little Collins Street, Melbourne VIC

Elephants Foot also provides waste management planning services; recent plans include:

- Meriton – 94-100 Dalmeny Avenue, Rosebery NSW
- Fife Capital – 38-48 York Street & 379-385 George Street, Sydney NSW
- Dyldam – KOI, Parramatta NSW
- Mirvac – Green Square, Site 5A and 5B, NSW
- Bao Jia Developments – 300 George Street, Brisbane Qld

REVISIONS

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Authorised By:

Date:

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EXECUTIVE SUMMARY

This waste management plan covers the ongoing management of waste generated by the mixed development located at 75 Mary Street, St Peters NSW.

Waste audit and management strategies are recommended for new developments to provide support for the building design and promote strong sustainability outcomes for the building. All recommended waste management plans will comply with council codes and any statutory requirements. The waste management plan has three key objectives:

- i. **Ensure waste is managed to reduce the amount of waste and recyclables to land fill** by assisting residents to segregate appropriate materials that can be recycled; displaying signage to remind and encouraging recycling practices; and through placement of recycling and waste bins in the retail precinct to reinforce these messages.
- ii. **Recover, reuse and recycle** generated waste wherever possible.
- iii. **Compliance** with all relevant codes and policies.

To assist in clean and well-segregated material, building management can work proactively with residents in the following way:

- Building management should ensure their communications achieve a regular and consistent message.
- By-laws: the resident's by-laws should include a requirement to actively participate in recycling/ diversion initiatives implemented within the residential buildings.

INTRODUCTION

The following waste management plan pertains to the proposed mixed development located at 75 Mary Street, St Peters NSW. This waste management plan is an operational residential waste management plan and will address the phases of the completed development.

For the purpose of this report the proposed development will consist of:

- Multi-level buildings known as Building A,B,C and Eight (8) (see site plan below)
- 180 residential units in total (see mix below)
- Total project site area of 9,451.70 sqm

TABLE 1 – UNIT MIX

Unit Type	Number of Units	% Mix
Studio	2	1%
1 Bed	61	34%
2 Bed	100	56%
3 Bed	17	9%
Total	180	100%

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



Figure 1 – Site Plan



MARRICKVILLE COUNCIL

The assessment of waste volumes is an estimate only and will be influenced by the development's management and occupant's attitude to waste disposal and recycling.

The residential waste and recycling will be guided by the services and acceptance criteria of the Marrickville Council. The residential waste and recycling will be collected by council. The retail and commercial waste will be collected by private contractor.

All waste facilities and equipment are to be designed and constructed to be in compliance with the *Marrickville Development Control Plan 2011*, Australian Standards and statutory requirements.

OBJECTIVES

- To ensure adequate provision is made for site facilities.
- To ensure site facilities are accessible to all residents and easy to maintain.
- To ensure site facilities are thoughtfully and sensitively integrated into the development so as not to be unobtrusive and unsightly.
- To ensure the design of waste and recycling storage/collection systems in buildings and land use activities are hygienic, accessible, safe to operate, quite to operate, of an adequate size and visually compatible with their surroundings.
- To achieve waste reduction, waste separation and resource recovery in the demolition, design, construction and operation of buildings and land use activities.
- To promote the principles of ecologically sustainable development (ESD) through waste avoidance, resource recovery, recycling and alternate waste treatment methods.
- Minimise the volume of waste that is directed to landfill sites.
- To reduce stormwater (and other types of) pollution that may result from the poor design of waste and recycling storage areas or from the poor management of such areas.

REQUIREMENTS

Access – ensure waste systems are easy to use and collection vehicles are able to access buildings to safely remove waste and recycling;

Safety – ensure safe practises for storage, handling and collection of waste and recycling;

Pollution prevention – prevent stormwater pollution that may occur as a result of poor waste storage and management practises;

Ecologically sustainable development (ESD) – promote the principles of ESD through resource recovery and recycling leading to a reduction in the consumption of finite natural resources;

Hygiene – ensure health and amenity for residents, visitors and workers in the city of Sydney;

Noise minimisation – minimise noise during use by residents and collection of waste and recyclables.

GENERATED WASTE VOLUMES

This assessment of waste volumes is an estimate only and will be influenced by the development's management and occupants' attitude to waste disposal and recycling.

CONSTRUCTION AND DEVELOPMENT WASTE

The head contractor will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements. Please refer to the separate waste management plan submitted for construction waste as part of the Development Application.

WASTE DEFINITION

Garbage:	all domestic waste (except recyclables and green waste)
Recycling:	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.
Green:	garden organics such as small branches, leaves and grass clippings, tree and shrub prunings, plants and flowers, and weeds.
L:	litre/s
MGB:	mobile garbage bin/s

BUILDING MANAGER/ WASTE CARETAKER

All equipment movements in the room are managed by the building manager/ cleaners at all times. No tenants will be allowed to transport waste or recyclables from the waste room; tenants will only transport their waste to the room allocated.

The building manager/ cleaner duties include, but are not limited to, the following:

- General maintenance and cleaning of the chute doors on each level (Frequency will depend on waste generation and will be determined based upon building operation)
- Organising, maintaining and cleaning the general and recycled waste holding areas (Frequency will depend on waste generation and will be determined based upon building operation)
- Transporting of bins as required
- Organising both garbage and recycled waste pick-ups as required
- Cleaning and exchanging all bins
- Ensure site safety for residents, children, visitors, staff and contractors
- Abide by all relevant OH&S legislation, regulations, and guidelines
- Assess any manual handling risks and prepare a manual handling control plan for waste and bin transfers
- Provide to staff/contractors equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities.

NOTE: 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 and occupants' attitudes to waste disposal and recycling, bin numbers and sizes may need to be altered to suit the building operation.



REPORTING

It is recommended that building management ensure that all waste service providers submit monthly reports on all equipment movements and weights of any waste and recycling products removed from the development. Regular reviews of servicing should take place to ensure operational and economic best practise and to assist with sustainability reporting.

EDUCATION

Educational material encouraging correct separation of garbage and recycling items must be provided to each resident to ensure correct use of the chute and to ensure an understanding of the chute's use. This should include the correct disposal process for bulky goods (old furniture, large discarded items etc.). It is recommended that information is provided in multiple languages to support correct practises and minimise contamination in the collection MGB as well as chute blockages.

It is also recommended that the development's 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 place 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.

RESIDENTIAL WASTE

UNITS

Using council's waste generation rates, the total waste generated by the development can be calculated as follows:

Waste: 72L/dwelling/week
 Recycling: 72L/dwelling/week
 Green: 1 x 140L or 1 x 240L (optional) per 2 dwellings or part thereof

TABLE 2 – RESIDENTIAL UNITS WASTE GENERATION

Building	Units	Waste (L)	Recycling (L)	Waste MGB	Recycling MGB
A.North	38	2376	2376	12 x 240L	12 x 240L
A.South	27	1944	1944	9 x 240L	9 x 240L
B.North	21	1512	1512	7 x 240L	7 x 240L
B.South	24	1728	1728	8 x 240L	8 x 240L
C.1	21	1512	1512	7 x 240L	7 x 240L
C.2	28	2016	2016	9 x 240L	9 x 240L
Eight (8)	21	1512	1512	7 x 240L	7 x 240L
Total	180	12960	12960	59 x 240L	59 x 240L

Garbage: 59 x 240L MGB
 Recycling: 59 x 240L MGB

The above assumptions have been taken into consideration for the calculation of these figures:

- Garbage is uncompacted at the base of each chute;
- Recycling is not compacted;
- 1 x 240L MGB is located in the waste compartment on each residential level with full bins transported to the loading dock for collection;
- Number of bins have been rounded up for best operational outcome; and
- Bin numbers based on weekly collections for waste and for recycling.

NB: Council collects 240L bins for multi-unit dwellings. If bulk bins are proposed, private collection will need to be arranged and vehicle dimensions of proposed contractor obtained to satisfy Council requirements. Council will change to 660L MGB from 01 July 2015.



WASTE HANDLING

Residents will be supplied with a collection area in each unit (generally in the kitchen, under bench) to deposit waste and collect recyclable material suitable for two day's storage. Residents should wrap or bag their waste before depositing into the waste chute. Recycling must be sorted prior to being emptied into the recycling bins located in the waste compartment on each residential level. It is expected that clean recyclables will be deposited into the recycling bins.

Units: Part of the caretaker/cleaner's duty will be to exchange or empty recyclable bins and store them in the main bin storage room located in the basement 1 level, ready for collection. The caretaker/cleaner will also be required to check the 240L MGB collecting waste from each chute, rotate full bins to the storage and collection area, and replace empty 240L MGB under each chute operation (see Appendix 5 – Typical Residential Level Waste Compartment and Appendix 6 – Waste Rooms and Appendix 7 – Garbage Truck Bay Area)

CARDBOARD

Cardboard should not be placed down the chutes, as it may cause blockages. Cardboard should be flattened by residents and stored in the recycling bin on each residential level.

GREEN WASTE

There will be green waste generated by the building. Any green waste will be collected and removed from site by the maintenance contractor.

COMPOSTING

Space must be provided for an individual compost container for each dwelling house or for a communal compost container for multi-dwelling housing, residential flat buildings, shop top housing or other residential development as part of a mixed-use development. In identifying a location for a communal compost container, the impact of that location upon the amenity of surrounding buildings must be considered.

Alternately, residents may purchase apartment style compost bins and self-manage these systems. Two suitable systems have been included. (*see Appendix 2 – Waste Equipment*)

COMMON AREAS

All common areas will be supplied with suitably branded waste and recycling bins. Building management will monitor use and ensure bins are exchanged and cleaned. (*See Appendix 2 – Waste Equipment*)



BULKY GOODS

For developments containing up to 10 dwellings or residential rooms in other residential types, a dedicated room or caged area of at least 4m³ must be provided for the temporary storage of discarded bulky items which are awaiting removal. For each additional 10 dwellings or residential rooms in other residential types, an additional 4m³ to a maximum of 12m³ must be provided. The storage area must be readily accessible to all residents and be located close to the main recycling/waste storage room or area.

This services area is located next to the main bin collection and loading area.

All residents will liaise with building management regarding bulky goods movements.

It is recommended that donations to charitable organisations be encouraged. Clean, sound furniture and household goods etc. are highly sought after to provide for the disadvantaged. Donations will be arranged with the assistance of the building manager/caretaker.

OTHE WASTE STREAMS

Marrickville Council offers residents a range of supplementary waste and recycling services including e-waste and household chemical drop off events. Residents should be directed to Council's website for more comprehensive information:

<http://www.marrickville.nsw.gov.au/en/environment/recycling-and-waste/household-chemical-and-e-waste-drop-off/>

COMMERCIAL/RETAIL

As the tenant mix is unknown at this time, Council's waste generation rates (*as recommended by Marrickville Council*) have been used to approximate the total waste generated by retail areas (weekly) calculated as follows:

TABLE 3 – RETAIL WASTE GENERATION

Description	NLA	Waste generation/day	Waste (L)	Recyclable (L)
Building 1	4382	10L/100m2/5day –waste 5L/100m2/5day – recycle	2191	1096
Building 2	2451	10L/100m2/5day –waste 5L/100m2/5day – recycle	1271	613
Building 6	2605	10L/100m2/5day –waste 5L/100m2/5day – recycle	1303	652
Building 7	2038	10L/100m2/5day –waste 5L/100m2/5day – recycle	1019	510
Building 8	1348	10L/100m2/5day –waste 5L/100m2/5day – recycle	674	337
#67 Mary	115	10L/100m2/5day –waste 5L/100m2/5day – recycle	58	29
Building A	113	10L/100m2/5day –waste 5L/100m2/5day – recycle	57	29
Building B	101	10L/100m2/5day –waste 5L/100m2/5day – recycle	51	26
Building C	520	10L/100m2/5day –waste 5L/100m2/5day – recycle	260	130
TOTAL	13673		6884	3422

COMMERCIAL BIN REQUIREMENT:

Comercial Waste

Waste: 7 X 1100 L MGB's serviced 1 times weekly **(Waste Generated 6884 L)**
Recycling: 6 X 660 L MGB's serviced 1 times weekly **(Recycling Generated 3422 L)**



COMMERCIAL/COMMUNITY ROOM WASTE MANAGEMENT

The commercial office tenancy will have receptacles allocated for waste and recycling items.

As is normal practise, it is expected that the contract cleaners for the office operation and the lobby area will remove bagged waste, commingle recycling and any paper towels and deposit into collection receptacles located in each commercial tenancy and the community room.

PAPER/CARDBOARD

Work stations and copy areas are supplied with dedicated paper and cardboard collection receptacles which are emptied into the appropriate collection bins.

COMINGLE

Any staff tea points will be supplied with a dedicated commingled MGB for the collection of all recyclable glass, aluminium, steel and plastic items. Staff will be responsible for sorting this material and allocating recyclables into the correct collection facility.

WASHROOMS

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.

GARBAGE

Dedicated waste bins are to be allocated for sorting and storage of general waste. All staff will be responsible for management of their general waste and storage of same.

It is recommended that the office areas be furnished with suitable recycling and garbage receptacles appropriate for their operation.

Please note that all collection receptacles and bins should be branded with the appropriate stickers and the use of the moebius loop or similar identifying recycling equipment. (See *Appendix 1*)

OTHER COMMUNITY/COMMERCIAL WASTE

Tenants usually make their own arrangements for the disposal and recycling of toner cartridges and batteries. Disposal of hard, electronic, liquid waste and any detox (paint/chemicals) shall be organised with the assistance of the building management/cleaners.

Building management will also work to identify opportunities to expand the range of material collected and opportunities for recycling e.g. toner cartridges, mobile phones, fluorescent lamps and electronic waste and arrange for regular clearance to suit the amounts collected.



If commercial tenants already have their own programs in place, opportunities to collaborate in a building-based collection system to assist other tenants to become involved and reduce overall transport impacts for the site.

All tenants should be updated so they know about any system upgrades e.g. new materials that can be recycled so continuing recycling and disposal streams can be addressed.

Building management will be responsible for management of bin movements in the office recycling and boardroom area.

WASTE ROOM AREAS

Each garbage room will need to hold all the bins generated weekly, and allow enough room to clean and safely manoeuvre bins.

Commercial tenants must be actively discouraged (via signage and other means) from using the residential recycling/waste bins.

Within each garbage room, waste and recycling bins must be kept separate from (but close to) each other to minimise the potential for contamination of recyclable materials.

The minimum recommended space for each garbage room is as per the below table. The main collection area must hold all the bins generated and waiting for collection.

The areas allocated are suitable for purpose.

TABLE 4 – STORAGE AREAS (SQM)

Building	*Raw bin area required
A.North	11
A.South	10
B.North	9
B.South	9
C.1	9
C.2	10
Eight (8)	9
Collection area	68
**Commercial/retail	31.4 sqm

**Calculations include 5sqm for waste bin movements however it is recommended that 10sqm is be allocated in each waste room for bin movements where possible. 10sqm has been factored into the collection area number.*

****weekly collections/increased collections will reduce area required*

TRANSFER OF WASTE

Where transferring of bins/containers is required from storage rooms to the collection point, the transfer path for bins must be designed in accordance with the following:

TABLE 5 – BIN TRANSFER REQUIREMENTS

Bins 240L or less in capacity	Bins greater than 240L capacity
Smooth surface, maximum 1:14 gradient	Flat smooth surface, maximum 1:50 gradient
No traversing over gutters or uneven ground	No traversing over gutters or uneven ground
Maximum 50 metre transfer wheeling distance	Maximum 5 metre transfer wheeling distance
Maximum 10 metre wheeling distance for on-site collection	Maximum 5 metre wheeling distance for on-site collection

COLLECTION OF WASTE

For onsite collection, generally the development must be designed to allow collection vehicles to enter and exit the site in a forward direction, with clear driver sight lines of footpaths and roadways. Generally, no on-site reversing is permitted. Council must be consulted with any variations to this.

Note: Residential development that contains 20 or more dwellings/occupant rooms must provide for on-site collection of bins.

Units: A loading area accessed off Mary Street has been provided adjacent to the main garbage room for servicing of garbage and recycling bins for each building (see Appendix 7 – Garbage Truck Bay / Collections Area). Bins must be presented in lines with handles of bins and wheels facing waste truck loading area, for easy collection. Garbage and recycling bins must be separated at all times.

All access and egress details including a swept path analysis for all vehicle movements on site will be provided by the traffic consultant's report.

Commercial: Tenants with existing private waste services agreements will make arrangements to increase services where required. Collections will remain as per the current operations. A commercial/retail storage area should be allocated adjacent to the loading dock with communal access to tenants and cleaners. Bins will be collected by private waste services providers on agreed schedules.



WASTE MANAGEMENT SYSTEM

WASTE CHUTES

The waste and recycling chute for the residential areas are supplied in either 510mm galvanised steel or 510mm recycled LLDPE polyethylene plastic with 2-hour fire rated doors.

Galvanised steel chutes are wrapped with 50mm poly-wool R1.3 noise insulation foil to assist in noise reduction.

Penetrations on each building level at vertically perpendicular points with minimum penetration dimensions 600mm x 600mm (square or round) are required to accommodate the chute installation.

Council and supplier require all chutes be installed without offsets to achieve best operational outcome for all buildings.

Stainless steel, two-hour fire-rated (AS1530.4-2005) refuse chute doors at each service level. All doors are to be fitted with a self-closing mechanism to meet BSA fire standards. Chute doors are installed after walls rendered, painted or when required. Information stickers will be placed on each chute door at each residential level.

EQUIPMENT SUMMARY

Chutes: six (6) required in galvanised steel or LDPE plastic. (*See Appendix 4 – Typical Chute System*)

Equipment: Six (6) types A discharge chutes fitted with fusible links

Optional: bin tug and/or bin lifting equipment

GARBAGE ROOMS CONSTRUCTION REQUIREMENTS

The garbage 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 cold water facility with mixing facility and hose cock must be provided for washing the bins
- For retail/commercial: a hot water facility with hose cock must be provided for washing the bins
- Any waste water discharge from bin washing must be trained to sewer in accordance with the relevant water board.
- 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. This process generally takes place at building handover – building management make the decision to install.
- All personnel doors are hinged 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
- Childproofing and public/operator safety shall be assessed and ensured

SIGNAGE

The building manager/caretaker is responsible for waste room signage including all safety signage. Appropriate signage must be prominently displayed on 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 levels will be labelled with a sign stating '*GARBAGE ONLY IN THE CHUTE*'. Separate signage will direct chute operations and encouraging occupants to recycle and minimise their waste.

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.



STORM WATER PREVENTION & LITTER REDUCTION

Building management shall be responsible for the following to minimise dispersion of site litter and prevent stormwater pollution to avoid impact to the environment and local amenity:

- promote adequate waste disposal into the bins
- secure all bin rooms (whilst affording access to staff/contractors)
- prevent overfilling of bins, keep all bin lids closed and bungs leak-free
- take action to prevent dumping or unauthorised use of waste areas
- ensure collection contractors clean-up any spillage that may occur when clearing bins

ADDITIONAL INFORMATION

Transfer of waste and all bin movements require minimal manual handling therefore the operator must assess manual handling risks and provide any relevant documentation to building management. If required, a bin-tug, trailer or tractor consultant should be contacted to provide equipment recommendations. Hitches may require installation to move multiple bins to the collection area. Council must be informed of any hitch attachments required to be installed on bins.

LIMITATIONS

The purpose of this report is to document a Waste Management Plan as part of a development application and is supplied with the following conditions:

- Drawings and information supplied by the project architect
- 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 waste management.
- 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.
- Any manual handling equipment should be provided at the recommendation of the appropriate equipment provider who will assess the correct equipment for supply.



USEFUL CONTACTS

Marrickville Council
PO Box 14
Petersham NSW 2049
Customer Service: 02 9335 222 (Monday to Friday, 8:30am to 5:00pm)
Email: council@marrickville.nsw.gov.au

SULO MGB (MGB, Public Place bins, tugs and bin hitches)
Phone: 1300 364 388

RUD (Public place bins, recycling bins)
Phone: 07 3712 8000
Info@rud.com.au

Closed Loop (organic dehydrator)
Phone: 02 9339 9801

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 (1300 ODOURS)
sales@purifyingsolutions.com.au

Elephants Foot Recycling Solutions (Chutes, compactor and eDiverter systems)
Natalie Beattie
44 – 46 Gibson Avenue
Padstow NSW 2211
Free call: 1800 025 073
Email: natalie@elephantsfoot.com.au

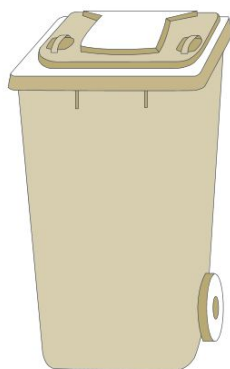
Note: Elephants Foot Recycling Solutions does not warrant or make representation for goods or services provided by suppliers

APPENDIX 1 – WASTE MANAGEMENT EQUIPMENT

RESIDENTIAL BIN DIMENSIONS

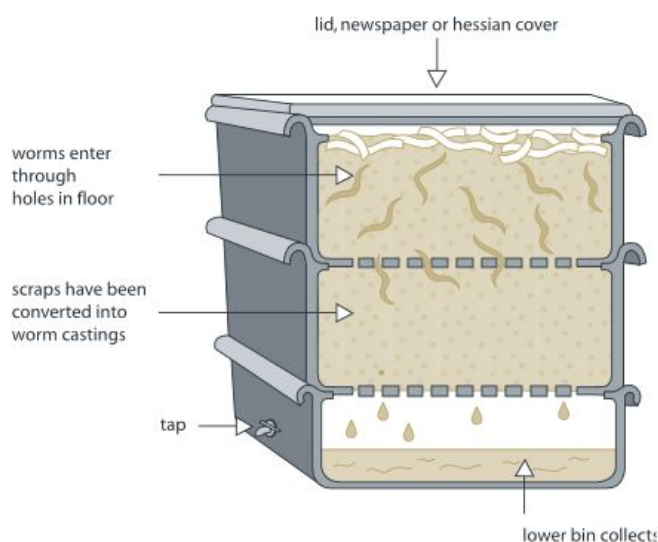
Mobile garbage bins (MGBs) with capacities up to 1700L should comply with the Australian Standard for Mobile Waste Containers (AS 4123). AS 4123 specifies standard sizes and sets out the colour designations for bodies and lids of mobile waste containers that relate to the type of materials they will be used for.

Indicative sizes only for common MGB sizes are provided below. Note that not all MGB sizes are shown; the dimensions are only a guide and differ slightly according to manufacturer, if bins have flat or dome lids and are used with different lifting devices. Refer to AS 4123 for further detail.



Bin Type	Height (mm)	Depth (mm)	Width (mm)
140L	915	615	535
240L	1060	730	585
360L	1100	865	680

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 2 – GARBAGE TRUCK DIMENSIONS

Developments which require on-site recycling/waste collection by Council's vehicles must be designed to accommodate on-site access and collection operation in accordance with the specifications below.

Specifications of Council resource recovery collection vehicle	
Length	8m
Width	2.5m
Operational height	4.3m
Travel height	4.3m
Weight (vehicle and load)	24.5t
Weight (vehicle only)	14.75t
Turning circle	25m

APPENDIX 3 – SIGNAGE FOR WASTE AND RECYCLING BINS

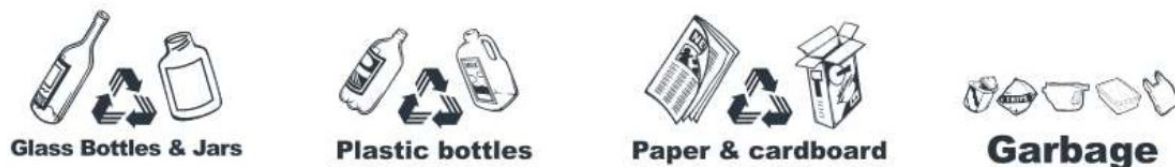
WASTE SIGNS

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

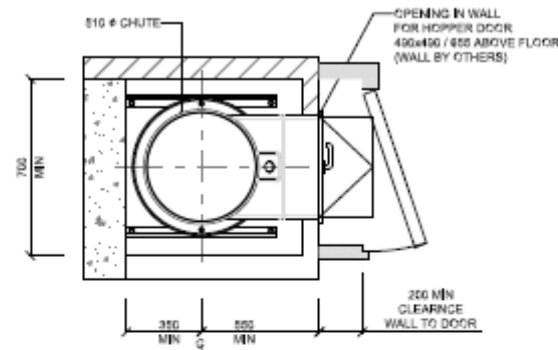
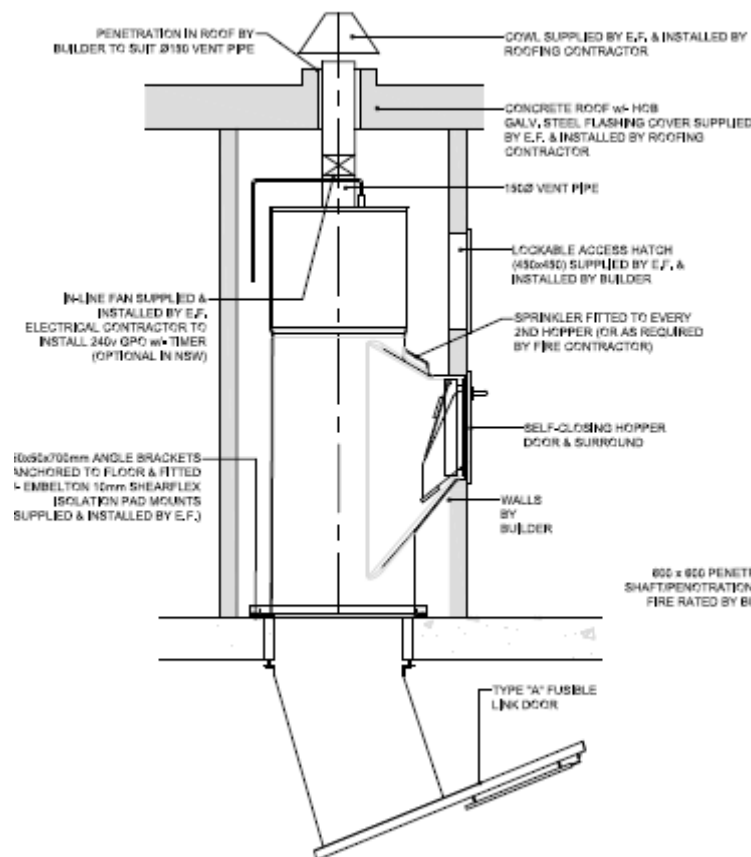
The design and use of safety signs for waste rooms and enclosures should comply with AS1319 Safety Signs for Occupational Environment. Safety signs should be used to regulate and control safety behaviour, warn of hazards and provide emergency information, including fire protection information. Below 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:



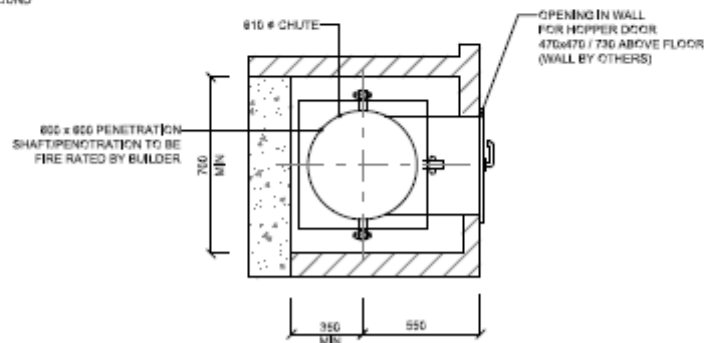
Australian Standards are available from the SAI Global Limited website (www.saiglobal.com).
Source: *Better Practice Guide to Waste Management in Multi-Unit Dwellings*, 2008, DECC

APPENDIX 4 – TYPICAL CHUTE SYSTEM



TYPICAL LLDPE PLASTIC SINGLE CHUTE LAYOUT
(510Ø)
SCALE 1:20

NOTE: ENCLOSURES ARE REQUIRED IF THE CHUTE OPENS DIRECTLY TO A CORRIDOR OR IS NOT LOCATED IN A WASTE ROOM.



TYPICAL GALV. STEEL SINGLE CHUTE LAYOUT
(510Ø)
SCALE 1:20

VENT:

PVC 150MM DIAMETER VENT PIPE WITH COYL, DEKTTITE FLASHING AND EXTRACTION CAP FITTED FROM THE TOP OF THE CHUTES, PIPE EDITS AS PER REQUIRED BY BUILDER THROUGH PLANT ROOM ROOF AND CAPPED WITH GALVANISED STEEL REDUCTION CAP. ACCESS HATCH TO BE SUPPLIED ON LAST LEVEL FOR SERVICING OF THE WASH DOWN SYSTEM

CHUTE DOORS

SUPPLY AND FIT STAINLESS STEEL, TWO HOUR FIRE-RATED (AS1524.4-2005) REFUSE CHUTE DOORS AND THROAT ASSEMBLIES AT EACH SERVICE LEVEL. ALL DOORS ARE FITTED WITH A SELF-CLOSING MECHANISM TO MEET BSA FIRE STANDARDS. DOORS TO BE BLOCKED IN BY OTHERS INSTALLATION OF DOORS ON COMPLETION OF THE BUILDING STRUCTURE. THE CHUTE PIPES BRICKED IN, RENDERED AND THE WALLS PAINTED.

OPTIONAL EQUIPMENT

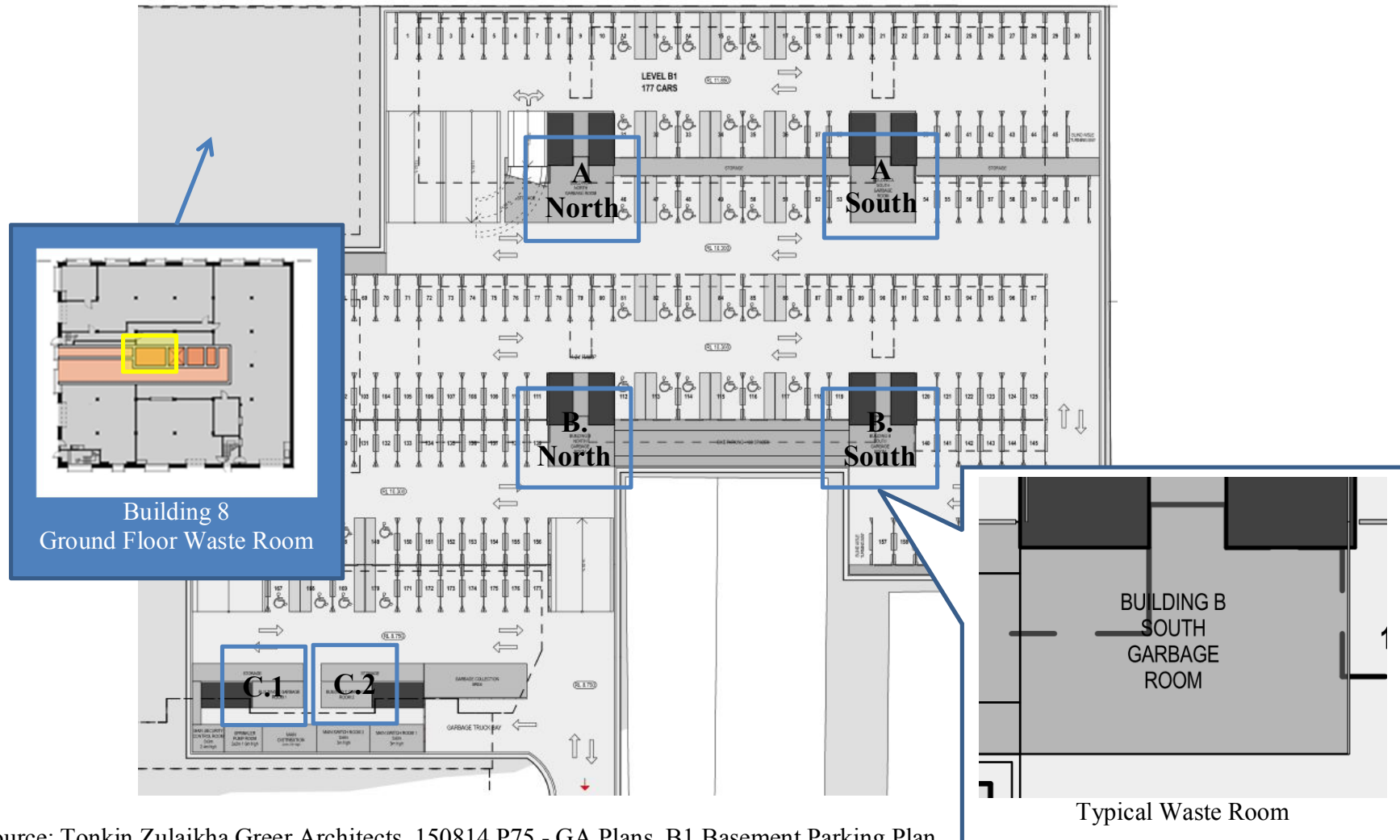
ELEPHANTS FOOT SUPPLY BALERS SUITABLE FOR BALEING CARDBOARD PRODUCT IN COMMERCIAL, RETAIL AND RESIDENTIAL AREAS. BALED PRODUCT REDUCES THE REQUIREMENTS FOR ADDITIONAL COLLECTION EQUIPMENT, STATE OF THE ART COMPACTORS ARE ALSO AVAILABLE IN AUGER, BLADE AND ECO MODELS.

APPENDIX 5 – TYPICAL RESIDENTIAL LEVEL WASTE COMPARTMENT



Source: Tonkin Zulaikha Greer Architects, 150814 P75 - GA Plans. Ground Floor

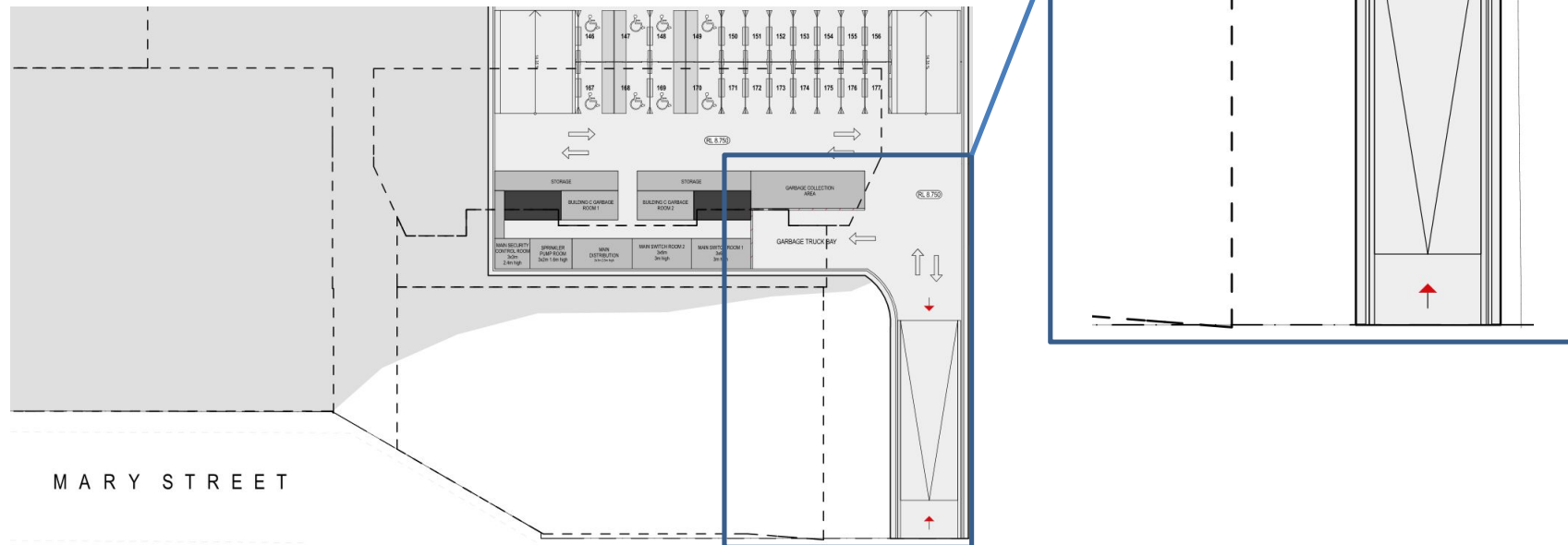
APPENDIX 6 – WASTE ROOMS



Source: Tonkin Zulaikha Greer Architects, 150814 P75 - GA Plans. B1 Basement Parking Plan

APPENDIX 7 – GARBAGE TRUCK BAY / COLLECTIONS AREA

The area around the garbage truck bay allows for reversing manoeuvre into the bay prior to collection. The garbage vehicle then leaves the site in a forward direction.



Source: Tonkin Zulaikha Greer Architects, 150814 P75 - GA Plans. B1 Basement Parking Plan

ELEPHANTS FOOT WASTE COMPACTORS PTY LTD ABN 70 001 378 294

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