WASTE MANAGEMENT PLAN

PREPARED FOR
ECOVE GROUP PTY LTD

ON BEHALF OF
BATES SMART ARCHITECTS

MIXED USE DEVELOPMENT
SITE 68
SYDNEY OLYMPIC PARK NSW

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.

If you require any further information please do not hesitate to call me on 02 9780 3500.

Regards

Eddy Saidi
Director
Elephants Foot Recycling Solutions

REVISIONS

Revision	Copy No.	Date	Prepared by	Reviewed by	Approved by	Remarks
-	1	Sep-14	N Beattie	E Saidi	E Saidi	Planning
A	1	Sep-14	N Beattie	E Saidi	E Saidi	Amendment

Authorised By:
Date: 16 September 2014

DISTRIBUTION LIST

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EXECUTIVE SUMMARY

Elephants Foot Recycling Solutions was commissioned by the Ecove Group Pty Ltd to prepare a waste and recycling plan associated with the proposed development at Site 68, Sydney Olympic Park NSW 2127.

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.

The residential waste and recycling will be guided by the services and acceptance criteria of the Auburn City Council. The residential waste and recycling will be collected by council.

To assist in the provision of well-segregated material, it is essential that this waste management plan is integral to the overall management of the development and clearly communicated to all residents, occupants and tenants of the buildings.

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AUBURN CITY 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 Auburn City Council. The residential waste and recycling will be collected by council.

The 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 Auburn City Council's DCP, Australian Standards and statutory requirements.

OBJECTIVES

To facilitate sustainable waste management and minimisation practices in accordance with the principles of ecologically sustainable development.

- To ensure waste minimisation through source separation, reuse and recycling.
- To ensure efficient storage, access, collection of waste and quality design of facilities.
- To implement the principles of the waste hierarchy of avoiding, reusing and recycling during the demolition, construction and ongoing use of premises through efficient resource recovery.
- To promote the principles of ecologically sustainable development through waste avoidance, resource recovery and recycling to achieve improved environmental outcomes.

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INTRODUCTION

The following waste management plan pertains to the complete mixed use development located at Site 68, Sydney Olympic Park NSW 2127. This waste management plan is an operational waste management plan and will address the phases of the completed development.

The plan outlines measures to achieve the following objectives:

- avoid the generation of unnecessary waste;
- minimise the quantities of wastes generated ending up as landfill;
- recover, reuse and recycle waste generated onsite where possible; and
- aim to achieve Federal and State Government waste minimisation targets in accordance with regional waste plans.

Site 68 is the planned gateway to Sydney Olympic Park. This impressive 33 storey tower designed by Bates Smart, features a triangular shaped design with 12 elevated outdoor courtyard spaces integrated into the building form.

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

- one 33 level building with three basement levels
- 369 residential units in total (see mix below)

Each section of this development has been examined individually within this report however; the waste management process must be effectively coordinated between all sections for the system to work.

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

All waste facilities and equipment are to be designed and constructed to be in compliance with the Auburn City Council, Australian Standards and statutory requirements.

TABLE 1 – UNIT MIX PER BUILDING

Unit Type:	Number Units:	Mix:
1 Bedroom:	171	46.3%
2 Bedroom:	162	43.9%
3 Bedroom:	27	7.3%
4 Bedroom:	9	2.5%
Total:	369	100%

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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 just 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.
MGB:	mobile garbage bin
L:	litres

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 all 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

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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 waste 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 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.*

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

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RESIDENTIAL UNITS WASTE

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

Waste: 660L per 5 units
*Comingled Recycling: 240L per 4 units
Being that Councils recommendation is for the use of 660L recycling bins; the waste rate has also been used for the recycling calculation

TABLE 2 – RESIDENTIAL WASTE GENERATION

Waste			Recycling	
No. Units	**660L MGB**		**No. Units**	**240L MGB**
369	74		369	93

BIN SUMMARY

Waste	74 x 660L bins collected weekly or 37 x 660L collected twice per week. Collections may occur on Monday and Friday each week – collection days flexible (to be confirmed with Council)
Recycling	93 x 240L bins generated. Council recommends full recycling bins be transported to the recycling bin store and bin lifter into 660L MGB which will be collected weekly (Thursdays/Friday)*

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

- Garbage and recycling is not compacted;
- 660L MGB will be placed on a track under the discharge of waste chute allowing for full bins to be rotate automatically via sensor and an empty bin/s placed under the discharge (660L MGB will also be stored in the waste room either empty or waiting for transfer to the loading dock for collection);
- 2 x 240L MGB for recyclables is located in the waste compartment on each residential level with full bins transported to the recycling bin store for transfer into 660L MGB for collection from loading dock;
- Alternately, 240L MGB may be bin lifted (*See Appendix 12 – Bin Lifter)* into 660L bins for collection by Council to reduce collection time. A storage area has been allocated for the bin lifter and bin mover *(See Appendix 14 – Equipment Store)*
- Number of bins have been rounded up for best operational outcome; and
- Paper/cardboard and other recyclables are collected weekly

Note: Where a building consists of 40 or more units, 660L bins can be used, subject to negotiation with Council. The use of 660L bins will only be considered where:

- The building has more than 20 units; and
- Adequate offsite access for waste collection vehicles is provided and is in accordance with relevant Australian Standards.

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WASTE MANAGEMENT SYSTEM

As per the drawings, there is a single garbage chute servicing the development. (*Refer Appendix 5 – Typical Waste Compartments)*

Garbage from all chutes fall directly into 660L bins located in the waste room on Basement Level 2. Bins will be transferred from the waste room and recycling bin store adjacent the bin holding rooms and loading dock. (See *Appendix 9 – Loading area).*

RESIDENTIAL WASTE HANDLING

All 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 one day's storage. Residents should wrap or bag their waste before depositing into the waste chute.

Recycling must be sorted prior to being deposited into the collection bins located on each residential level. It is expected that residents will place clean recyclables into the collection bins.

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 on ground level, ready for collection. Recycling bins are located in each residential waste compartment. *(See Appendix 5 – Typical Waste Compartments.)* Full recycling bins will be transferred to the bin holding room on Basement L2.

The caretaker/cleaner will also be required to check the 660L MGB collecting waste and recycling from each chute, rotate full bins to the storage and collection areas, and replace empty 660L MGB on the carousel track under the chute discharge.

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WASTE CHUTES

Note: Typical standard drawings have been included in the Appendices 10 and 11.

The waste and recycling chute for the residential areas are supplied in either 510mm galvanised steel or 610mm recycled LLDPE plastic with 2-hour fire rated doors. Galvanised steel chute hoppers 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 700mm x 700mm (square or round) are required to accommodate each chute installation.

Chutes must be installed without offsets to achieve best operational outcome for all buildings.

Stainless steel, two-hour fire-rated (AS1530.4-2005) refuse chute doors are to be provided at each service level. All doors are fitted with a self-closing mechanism to meet BSA fire standards.

The chutes must be installed with a wash down system and inline extraction fan.

EQUIPMENT SUMMARY

Chutes:

- One (1) galvanised steel or recycled LLDPE plastic chutes as supplied by Elephants Foot Recycling Solutions (or similar);

- One (1) carousel or linear track (no compactor) suitable for discharge into 660L MGBs.

Equipment (Optional):

- Bin tug or tow suitable for transporting 660L MGB (*See Appendix 12 – Typical bin mover)*

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CHILD CARE CENTRE

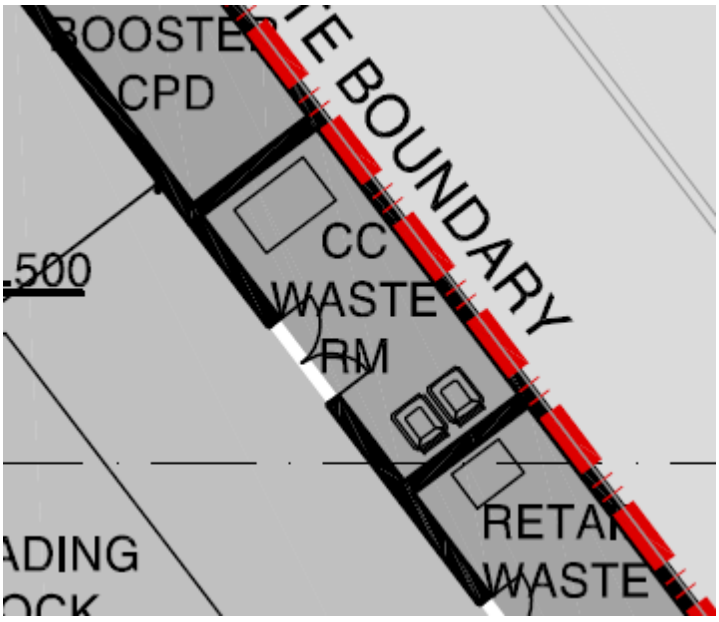
TABLE 4 – CHILD CARE WASTE GENERATION

Premises	SQM (Internal)	Waste generation/ day (5 days)	Garbage (L)	Recycle (L)
Child care	550 sqm	10L/100m2/day –waste 10L/100m2/day - recycle	275L	275L

BIN REQUIREMENT:
Non-recycle Waste: 1 x 360L MGB collected weekly
Recycle Waste: 1 x 360L MGB collected weekly

It is expected that the contract cleaners appointed by the childcare centre will remove bagged waste and separated recycling from the allocated collection points and deposit it into the appropriate bins.

The child care centre may also appoint its own private waste services provider for garbage and recycling services. Alternately, building management will transport bins to the collection area on Basement Level 2 and return empty bins to the child care centre. (See Below)



Child care waste room

Most recycling generated by child care centres is *soiled nappies. *Dedicated waste bins are to be allocated for sorting and storage of general waste and disposable nappies. A recycling service for soiled disposable nappies has recently become available. By signing a letter of intent, child care organisations can guarantee that Relivit will call the centre 8 weeks out from the commencement of the service to put in place a formal waste contract and arrange the implementation of the service. (See Useful Contacts)

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Secure destruction bins will be operated on a wheel in/wheel out basis by the appointed contractor/s if required.

It is recommended that all amenities and work station areas be furnished with suitable recycling and waste collection receptacles.

Washroom facilities should be supplied with collection bins for paper towels (if used).

All staff will be responsible for management of their general waste and storage of same.

Staff tea points and food preparation areas will be supplied with a dedicated commingled collection receptacle for the collection of all recyclable glass and plastic items. Staff will be responsible for sorting this material and allocating recyclables into the correct collection facility.

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RETAIL

Using council's waste generation rates, the total number of bins required for the retail area of this development can be calculated as follows. A seven day operating week has been assumed for the purpose of this report.

Table 5 – Retail Waste Generation

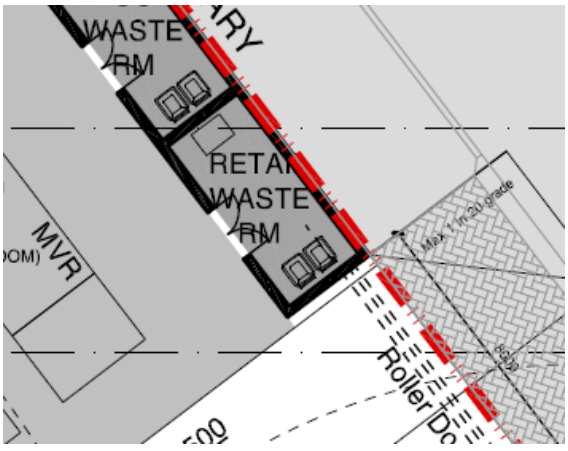
Area (m²)	Waste calculation	Recycling calculation	Waste/ week	Recycling/ week
100	50L/100m²/day	50L/100m²/day	350L	350L

Garbage 1 x 360L MGB collected weekly
Recycling 1 x 360L MGB collected weekly

The retail area will be required to be responsible for their storage of waste and recycling back of house (BOH). On completion of each day or as required, nominated staff/cleaners will transport waste and recycling, using the access corridors and lifts, to the waste room on basement level 2 and place waste and recycling into the appropriate collection bins. (See below)
It is recommended that:

- All waste should be bagged and waste bins should be plastic lined
- Bagging of recyclables is not permitted
- All waste collections located BOH during operations
- Individual recycling programs are recommended for retailers to ensure commingled recycling is separated correctly
- A suitable storage area needs to be provided and affectively bunded for chemicals, pesticides and cleaning products
- Operator to provide grease trap facility

NB: Subject to the stakeholders preference/ capability (and as built constraints), bin sizes and quantities may be changed.



Retail Waste Room

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COMMON AREAS

Common areas including circulation areas will be supplied with suitably branded waste and recycling bins.

Any washroom facilities should be supplied with collection bins for paper towels (if used).

Building management will monitor use and ensure bins are exchanged and cleaned. *(See Appendix 2 – Waste Equipment Specifications)*

GREEN WASTE

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

COMPOSTING

Consideration should be given to providing space for individual home unit worm farms or small compost bins for residents to self-manage. Information on apartment composting bins and Council recommendations are included. *(See Appendix 3 – Composting)*

OTHER WASTE STREAMS

To avoid the occurrence of Illegal Street dumping, a room or caged area must be allocated for the storage of discarded bulky items awaiting council collection. The allocated space must be a minimum of 4m³ per building. The storage area shall be sheltered, readily accessible to all residents and must be located close to the main waste storage room and loading dock area. Residents will liaise with building management in regards to this service.

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WASTE AREAS

Waste compartments (*See Appendix 5 – Typical Waste Compartment)*
Located on every residential level and will contain 2 x 240L MGB for collection of recycling items and waste chute door.

Waste room *(See Appendix 6 – waste room with carousel system)*
Chute discharges into 660L MGB. Room will hold carousel tracks, chute discharge and spare 660L MGB

Recycling Bin Store *(See Appendix 7 – Recycling Bin Store)*
Storage for 240L recycling bins generated and awaiting collection.

Garbage bin store (*See Appendix 8 – Garbage bin store)*
Storage for 660L garbage bins generated and awaiting collection

Note: There is a 1m change in the level between the garbage storage room and loading dock. A separate ramp located behind the storage room, allows the bin mover to transfer the 660L bins to the loading dock for collection.

Each room will need to hold MGB generated including spare bins, and allow enough room to clean and manoeuvre bins. The minimum areas required for each waste area is detailed in Table 6 below. The areas allocated are sufficient and suitable for these purposes.

TABLE 5 – WASTE ROOM ALLOCATION

Waste room	****Sqm***
Waste room	*28.1*
Recycling store	*25.6*
Retail Bin store	*11.4*
Child Care Store	*11.4*
Garbage store	*57.6*

*Includes 10sqm allocated for manoeuvring of bins

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COLLECTION OF WASTE

Council requires garbage and recycling room/s to be provided near the collection point with capacity for storing all MGB generated in the building between collections. Council's collection contractors will collect waste and recycling bins from the loading dock located off the proposed New Road. (See *Appendix 9 – Loading Dock*)

As collections of waste bins will occur twice weekly, building management will ensure that all full waste bins are transported to the garbage room and empty bins are rotated back to the waste room ready to load onto the carousel track.

Recycling bins will also be rotated from the residential levels and the recycling bin store to the collections area by building management and empty bins returned to the appropriate areas ensuring there are recycling collection bins available to residents at all times.

Residential - Waste caretakers will ensure that full bins are available at the collection/loading area on the nominated days and times for collection by Council's contractors. Bins will be transported by building management.

Note: It is recommended that bin moving equipment be employed for any bin transfers to ensure manual handling requirements are met. (*See Appendix 9 – Typical Bin Mover)*

Childcare Centre – Bins will be serviced on a scheduled basis with a walk in/walk out service or collected from the loading area.

Retail – Bins will be transported to the loading area for collection by the appointed waste services provider's agreed and contracted collection schedule.

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

Council advise that a clearance height of 4m is required for the medium rigid vehicle (rear loader.) MGB bins store areas should comply with the service vehicle access specifications as detailed in the DECCW's Better Practice Guide for Waste Management in Multi-Unit Dwellings.

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WASTE AREAS 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 hot and cold water facility with mixing facility and hose cock and fitted with an aerator to increase water efficiency
- For commercial: a cold 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 self-closing and able to be opened from within the room
- 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
- Fitted with smoke detectors in accordance with the relevant Australian Standards

SIGNAGE

Signs stating “NO STOPPING” and “DANGER” should be included on the external face of waste storage rooms, where appropriate, which will be arranged by the building manager/caretaker.

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.

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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. An area has been allocated to store the bin mover (See Appendix

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.

ELEPHANTS FOOT WASTE COMPACTORS PTY LTD **ABN** 70 001 378 294
Sydney Head Office 44-46 Gibson Ave Padstow NSW 2211 Ph: +612 9780 3500 Fax: +612 9707 2588
Website: www.elephantsfoot.com.au - Email: info@elephantsfoot.com.au
Offices in Victoria & Queensland - Toll Free 1800 025 073

USEFUL CONTACTS

Auburn City Council
Customer Service: 02 9735 1222 (Monday to Friday 8:30am to 4:00pm)
After Hours Emergency: 02 9735 1222
Email: auburncouncil@auburn.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

REMONDIS (Private Waste Services Provider)
Phone: 13 73 73

RELIVIT (Pad and nappy recycler)
Phone: (02) 8543 3839
Email: sales@relivit.com.au

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

Closed Loop (Apartment anaerobic compost bins)
Phone: 02 9339 9800

Full Circle Composting Bins
Phone: 1300 024 725
www.fullcirclehome.com.au

Electrodrive (Bin movers, tugs and hitches)
Phone: 1800 333 002
nsw@electrodrive.com.au

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

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

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APPENDIX 1 – STANDARD SIGNAGE FOR WASTE AND RECYCLING BINS

WASTE SIGNS

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the DECC.

Example wall posters

Example bin lid stickers

SAFETY SIGNS

The design and use of safety signs for waste rooms and enclosures should comply with AS 1319 Safety Signs for the Occupational Environment. Safety signs should be used to regulate and control safety related to 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 services provided.

Examples of Australian Standards:

Australian Standards are available from the SAI Global Limited website (www.saiglobal.com).

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

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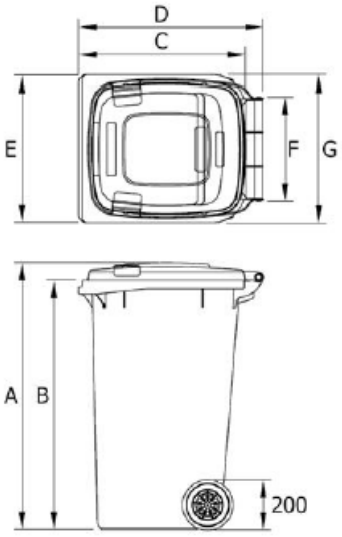
APPENDIX 2 – WASTE MANAGEMENT EQUIPMENT

MOBILE GARBAGE BINS (MGBs)

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 a guide and differ slightly according to manufacturer, if bins have flat or dome lids and are used with different lifting devices.

Bin Type	Height	Depth	Width
240L	1080mm	735mm	580mm
660L	1250mm	850mm	1370mm



Dimensions - Weights - Standards

- Nominal volume: 240 litres
- Net weight: approx 13 kg
- Max load: 96 kg
- Permitted total weight: 110 kg

A	1060 mm	D	730 mm	G	550 mm
B	990 mm	E	585 mm		
C	660 mm	F	400 mm		

Material

- **Polymer components:**
  - Injection moulded from specially designed HDPE
  - Resistant to decay, frost, heat and chemicals
  - Special UV-stabilisation provides excellent ageing characteristics
- **Corrosion resistant steel axle**
- **Noise reduction:**
  - Quiet-running solid rubber tyres
  - Tight-fitting axle
- **Long service life:**
  - High quality materials
  - Most advanced manufacturing processes
  - Withstands exposure to high mechanical stress levels
- **Recycling:**
  - All container parts are recyclable

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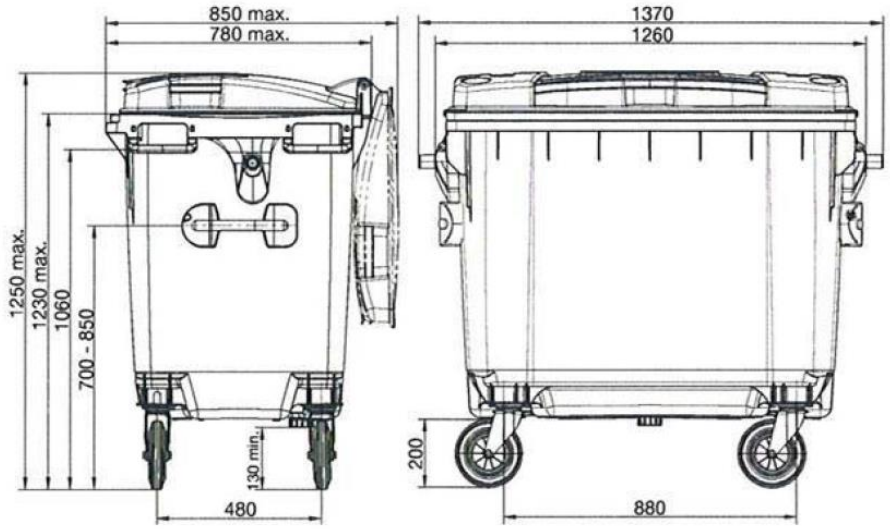

Material

- **Polymer components:**
  - Injection moulded from specially designed HDPE
  - Resistant to decay, frost, heat and chemicals
  - Special UV-stabilisation provides excellent ageing characteristics
- **Corrosion resistant metal components:**
  - All metal components are galvanised
- **Noise reduction:**
  - Quiet-running tyres
- **Long service life:**
  - High quality materials
  - Most advanced manufacturing processes
  - Even if exposed to high mechanical stress levels
- **Recycling:**
  - All container parts are recyclable

Dimensions and Weights

Nominal volume:	660 litres
Net weight:	ca. 43 kg
Permitted total weight:	310 kg

Source: SULO

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APPENDIX 3 – COMPOSTING

Typical Apartment Compost bin (See Useful Contacts)

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

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Compost Bins and Worm Farms

Residents can reduce their waste by up to half by composting food waste and garden waste. Composting has many benefits including:

- Composting is the breakdown of organic matter and produces free organic matter for the garden which improves the structure of the soil and helps plants grow.
- Organic waste such as fruit, vegetable peelings and garden waste makes up a substantial part of the waste stream. Therefore residents can reduce the about of waste placed in their garbage bin by composting.
- Council has to pay for rubbish disposal costs. Ultimately, if residents were composting their kitchen and garden waste at home, there would be les waste generated and less for the council to collect. Every tonne less that is saved during disposal is a financial saving to Council which in turn means improved services for residents.

The following materials are great for composting:

- Fruit and vegetables
- Salad scraps
- Coffee grounds
- Tea bags
- Soft prunings
- Old plants and flowers
- Weeds (no noxious)
- Vegetable patch trimmings
- Bedding from vegetarian pets
- Autumn leaves in moderation
- Grass cuttings

It is better not to put eggshells, meat, fish or cooked food in the composter as it will attract rats and vermin.

Figure 5 Shows image of a compost bin.

Figure 6 Shows image of a worm farm unit.

Source: Auburn City Council – Waste Information guide

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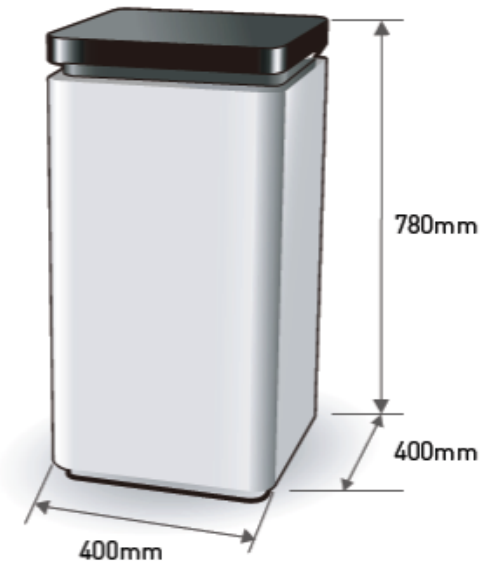
Aerobic Apartment Compost Bin

Decomposition Method	Aerobic 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	0ºC and 40ºC***
Deodorisation Method	Nano-Filter system
Maximum Power	210 W
Weight	21 kgs
External Dimensions	w 400 mm d 400 mm h 780 mm

* Excludes scallop and oysters shells and large bones.
** Food Waste Handling Capacity – based on an optimal operating environment.
***Ambient temperature range of area where unit may be installed.



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APPENDIX 4 - AUBURN COUNCIL WASTE & RECYCLING

RECYCLING TIPS

- Use reusable cloth nappies, a nappy service or eco-friendly compostable nappies
- Have a garage sale for those unused or unwanted household items
- Set up a compost bin or worm farm - food and garden waste is a great resource to reuse
- Don't buy heavily packaged goods
- Use refillable containers where possible
- Use your own shopping bags or re-use plastic shopping bags
- Recycle clothes and household items by taking them to your local charity shop
- Supermarket plastic bags can usually be returned for recycling
- Save your electronic waste and drop off at the free, six monthly, e-Waste events
- Take your household chemicals to the free, annual, Chemical CleanOut event

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GARBAGE BIN

✓ YES		✗ NO	
 Disposable Nappies	 Foam Products	 Batteries	 Building or Renovation Waste
 Food Waste	 Non Recyclable Household Waste	 Car Parts	 Electronic Waste
 Pet Litter	 Plastic Bags	 Hazardous Waste	 Medical Waste

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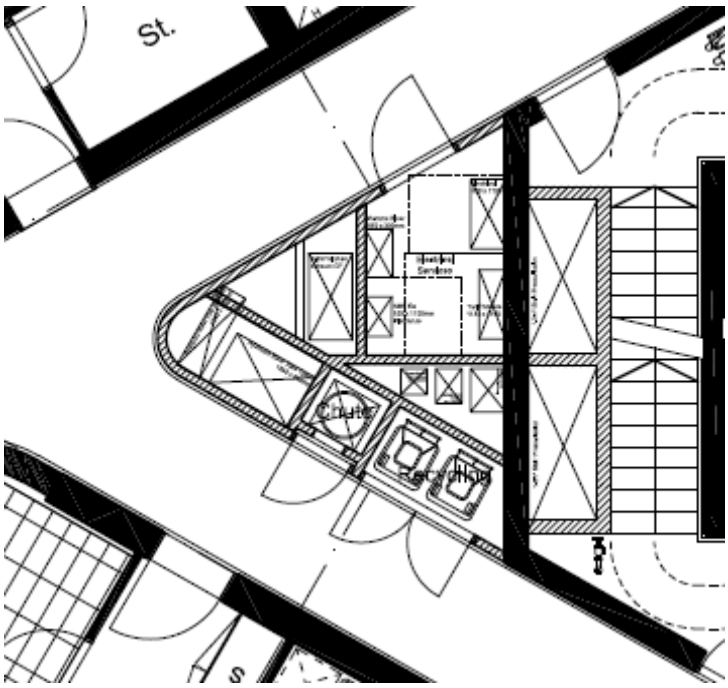
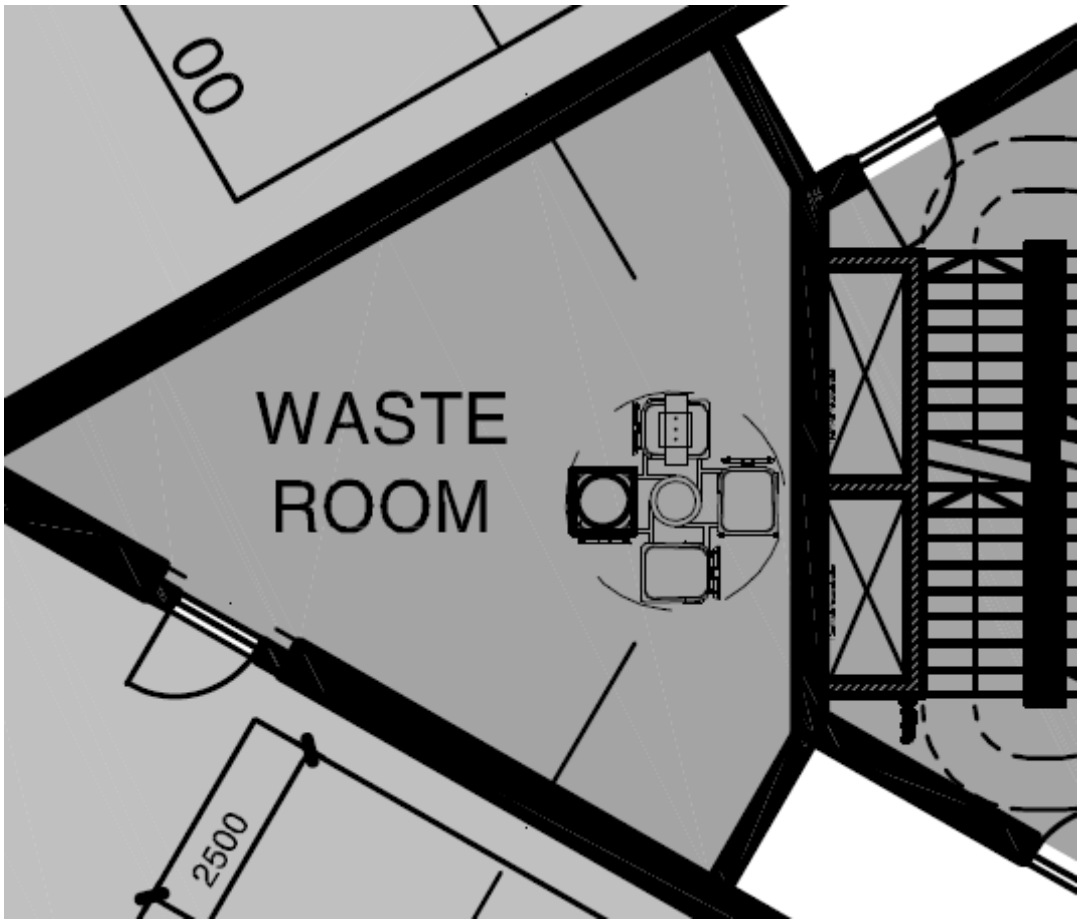
APPENDIX 5 – TYPICAL WASTE COMPARTMENT

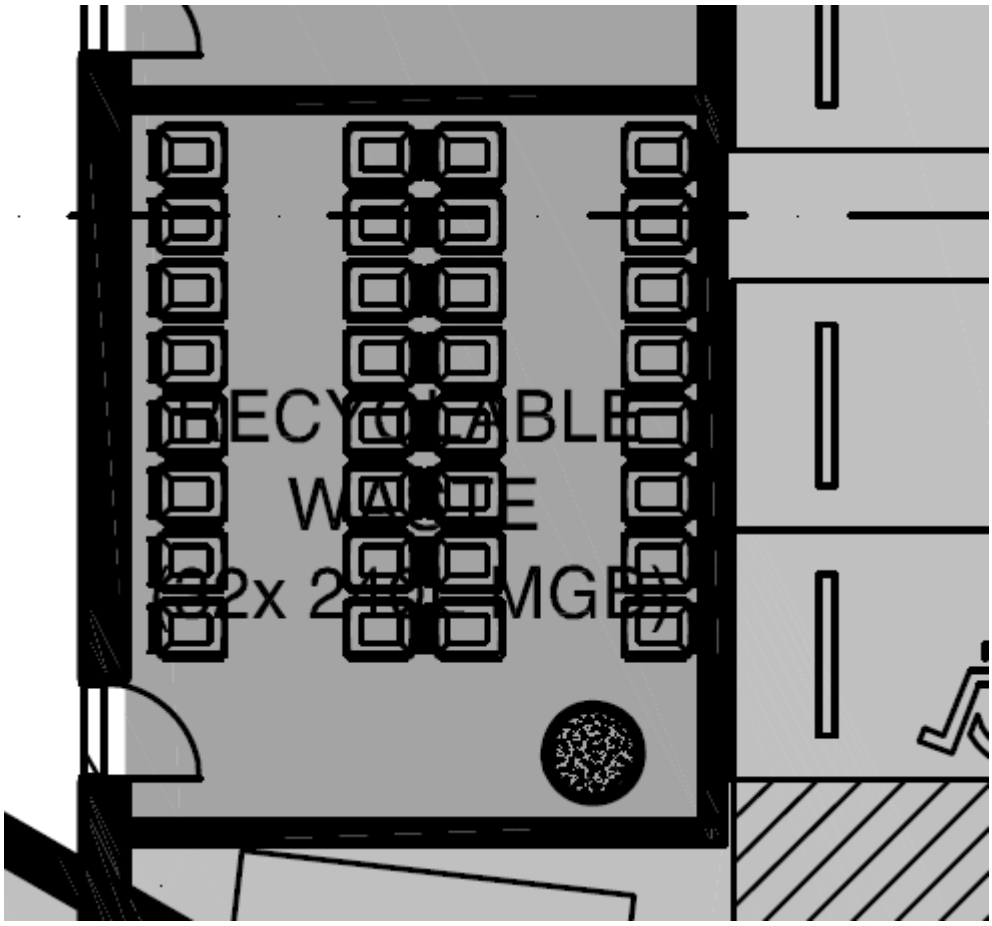


Source: Bates Smart, GA Plans, Level 25 – 33, dwg no. DA02.25 [01] X, Dated 19.08.2014

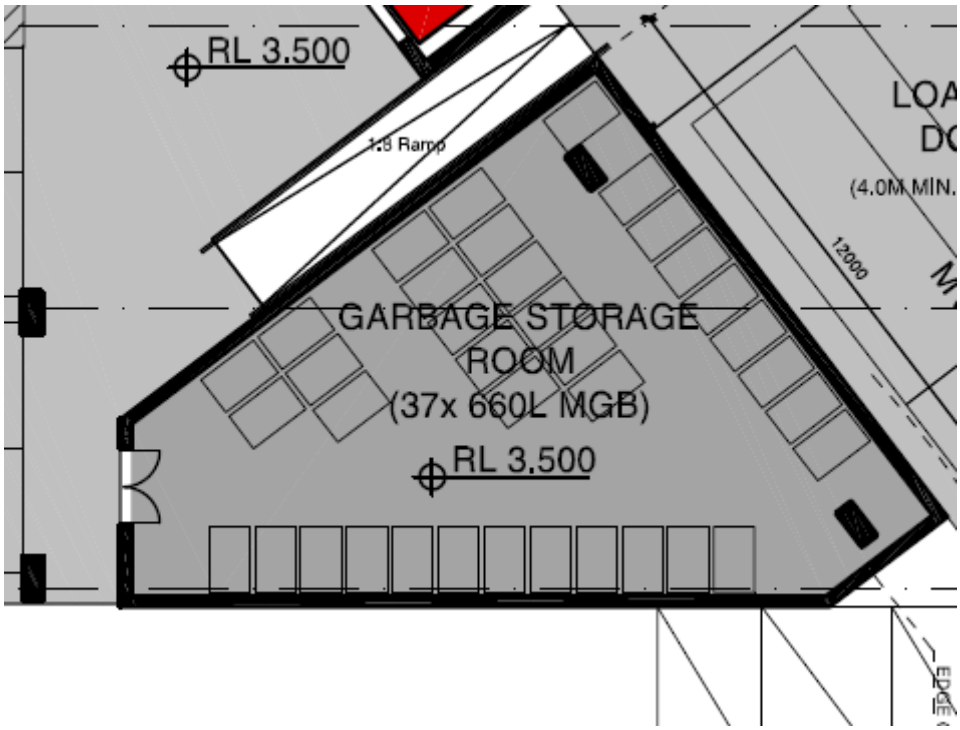
APPENDIX 6 – WASTE ROOM WITH CAROUSEL SYSTEM



APPENDIX 7 – RECYCLING BIN STORE

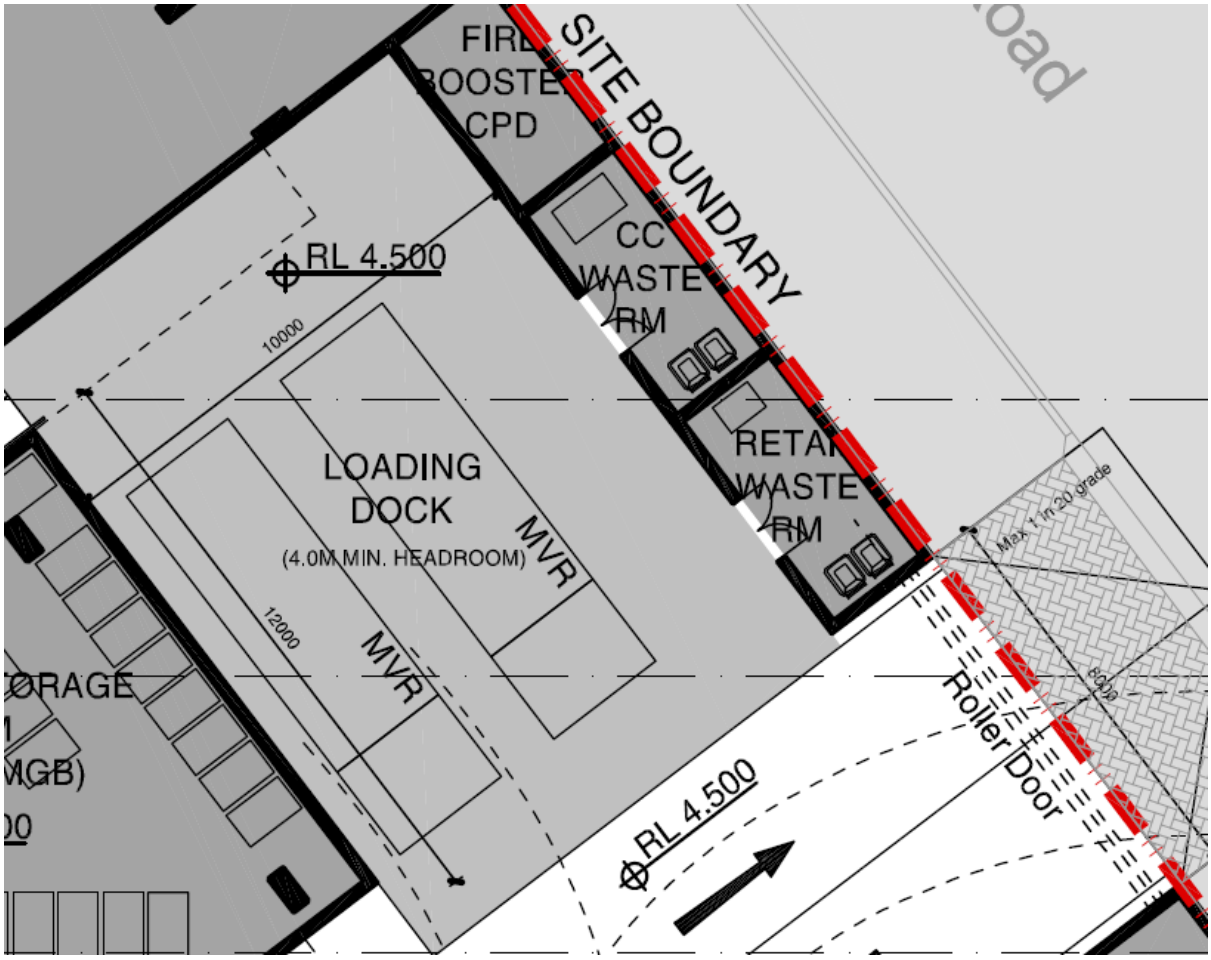


APPENDIX 8 – GARBAGE BIN STORE

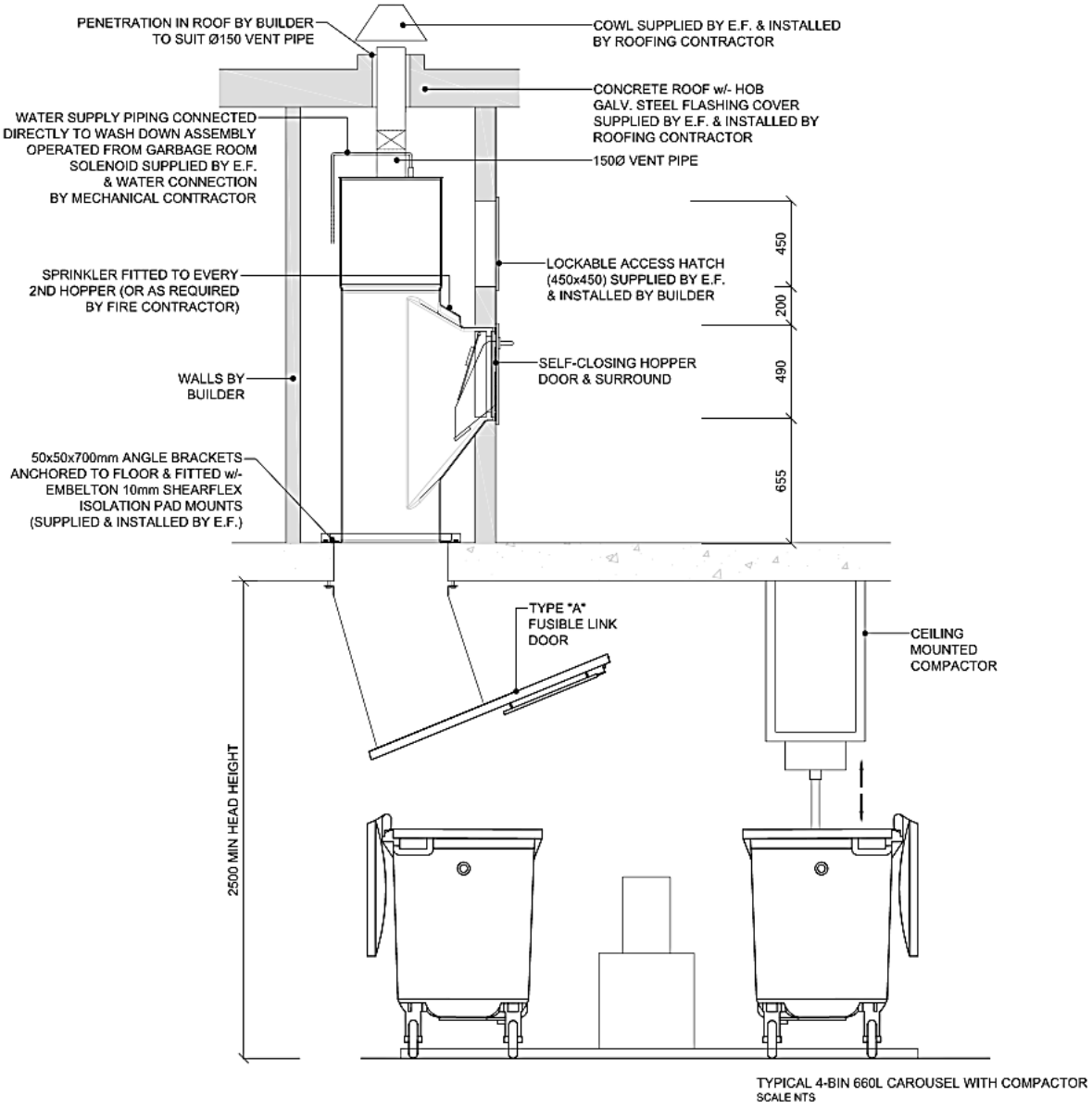


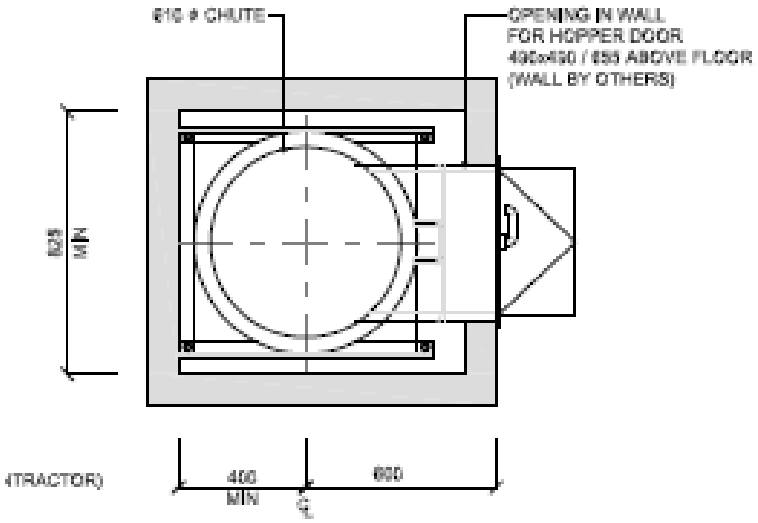
APPENDIX 9 – LOADING AREA

Access off New Road

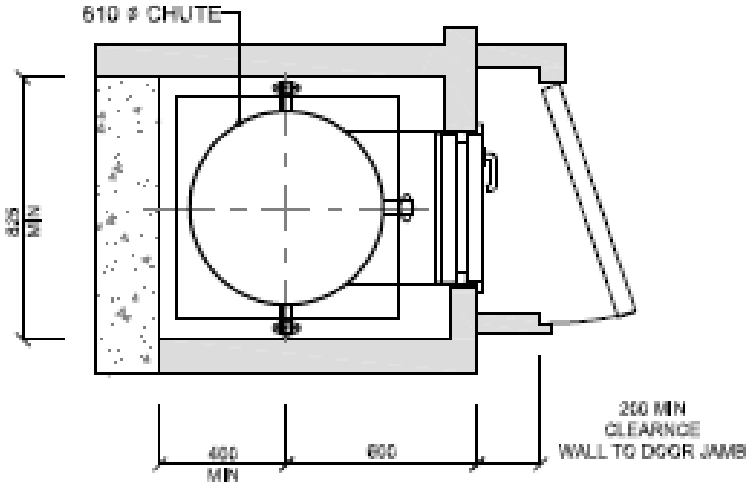


APPENDIX 10 – TYPICAL CHUTE SECTION & PENO SPECIFICATION





TYPICAL LLDPE PLASTIC SINGLE CHUTE LAYOUT
(610Ø)
SCALE 1:20



TYPICAL GALV. STEEL SINGLE CHUTE LAYOUT
w/ADDED ENCLOSURE (610Ø)
SCALE 1:20

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

VENT:

PVC 150MM DIAMETER VENT PIPE WITH COWL, DEKTITE FLASHING AND EXTRACTION CAP FITTED FROM THE TOP OF THE CHUTES. PIPE EXITS 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 (AS1530.4-2005) 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 BALING 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 11 – TYPICAL CAROUSEL SYSTEM

No compaction

VENT:

PVC 150MM DIAMETER VENT PIPE WITH COWL, DEKTITE FLASHING AND EXTRACTION CAP FITTED FROM THE TOP OF THE CHUTES. PIPE EXITS 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 (AS1530.4-2005) 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.

FIRE

FIRE SYSTEM CONTRACTOR TO:

- SUPPLY FIRE SPRINKLERS AND CONNECTION FOR SPRINKLER SYSTEM
- SPRINKLERS FITTED ON EVERY 2ND LEVEL (OR AS PER FIRE CONTRACTOR INSTRUCTION)

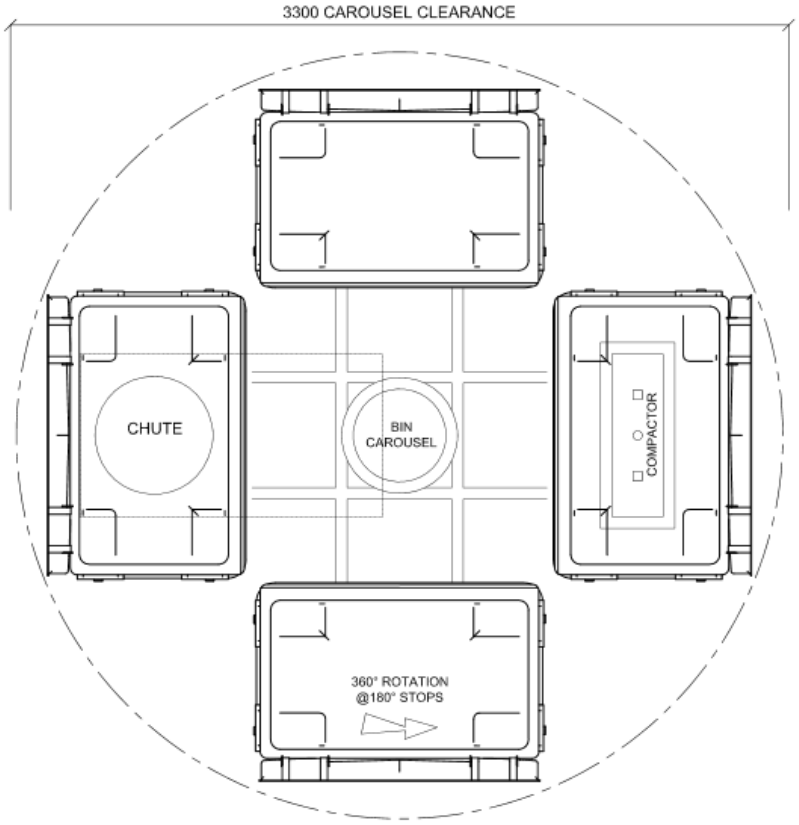
ELECTRICAL

YOUR ELECTRICIAN TO PROVIDE:

- ONE (1) STANDARD 240V GPO IN MAIN GARBAGE ROOM
- ONE (1) 415VOLTS, 5 PINS, 20AMPS FOR EACH REQUIRED COMPACTOR, CAROUSEL OR LINEAR
- COORDINATE WITH ELECTRICAL SUBCONTRACTOR

OPTIONAL EQUIPMENT

ELEPHANTS FOOT SUPPLY BALERS SUITABLE FOR BALING 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 12 – TYPICAL BIN MOVER

TUG INCLINER

Typical applications:

- Move trolleys, waste bin trailers and 660litre/1100 litre bins up and down a ramp incline. Ideal for Apartment Buildings (to move waste bins located at a basement level to road level).
- Quiet, smooth operation with zero emissions and simple to use, no driver's licence required

Features:

- Up to 1 Tonne on a ramp surface (depending on ballast and incline)
- Anti rollback system on slopes
- Foot print: 1548L x 795W x 1104H (handle in the drive position)
- Pin Hitch is standard however alternate hitching options may be available to suit your specific application (e.g. tow ball)

Safety Features:

- Intuitive paddle lever control
- Stops and repels the unit if activated when reversing.
- Site assessment recommended to assess ramp incline steepness

APPENDIX 13 – BIN LIFTER

Typical applications:

- Tipping contents of wheelie bins into a dumper bin
- Suitable for schools, factories, retail outlets and shops

Features:

- Lifting capacity: 50kg – 45second operation time
- Bin compatibility: 80L, 120L, 140L and 240L bins (no adjustment required)
- Operation method: manual winding crank handle
- Foot print: 1200L x 800W x 2000H
- Fits through internal doorways: yes (with winch handle removed)
    - 45 seconds operation time

Safety features:

- Lift and tilt movement within safety cage.
- The winding motion of the crank handle operation ensures gradual controlled bin lifting

APPENDIX 14 – EQUIPMENT STORAGE AREA