The Blacktown Hotel - 34-42 Flushcombe Road, Blacktown

Hotel Development

OPERATIONAL WASTE MANAGEMENT PLAN

20/09/2021
Report No. SO650
Revision I

Client

Eastview (Aust) Pty Ltd.

3 Northcliff Street, Milsons Point NSW 2061
www.eastview.com.au
T 02 9957 4836

Architect

Marchese Partners

Level 1, 53 Walker Street, North Sydney NSW 2060
www.marchesepartners.com
T 02 9922 4375 • **E** info@marchesepartners.com

ELEPHANTS FOOT RECYCLING SOLUTIONS • ABN 70 001 378 294
44-46 Gibson Ave Padstow NSW 2211
www.elephantsfoot.com.au

T +612 9780 3500 • **F** +612 9707 2588
E info@elephantsfoot.com.au

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

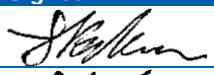
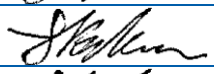
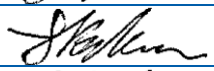
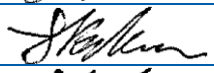
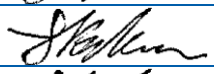
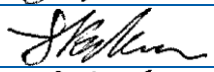
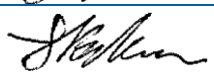
Revision	Date	Prepared by	Reviewed by	Description	Signed
A	27/07/2020	J Parker	A Armstrong	Draft	
B	4/12/2020	J Parker	A Armstrong	Amendment	
C	7/12/2020	J Parker	A Armstrong	Amendment	
D	7/12/2020	J Parker	A Armstrong	Final	
E	1/02/2021	J Parker	A Armstrong	Amendment	
F	13/04/2021	J Parker	A Armstrong	Amendment	
G	5/08/2021	J Parker	A Armstrong	Amendment	
H	17/08/2021	J Parker	A Armstrong	Amendment	
I	20/09/2021	W Brunson	A Armstrong	Amendment	

TABLE OF CONTENTS

GLOSSARY OF TERMS

TERM	DESCRIPTION
Baler	A device that compresses waste into a mould to form bales which may be self-supporting or retained in shape by strapping
Chute	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)
Chute Discharge	The point at which refuse exits from the refuse chute
Chute Discharge Room	A secure, enclosed area or room housing the discharge and associated equipment for the refuse chute
Collection Area/Point	The identified position or area where garbage or recyclables are actually loaded onto the collection vehicle
Compactor	A machine for compressing waste into disposable or reusable containers
Composter	A container/machine used for composting specific food scraps
Crate	A plastic box used for the collection of recyclable materials
Garbage	All domestic waste (Except recyclables and green waste)
Green Waste	All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers
Hopper	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
L	Litre(s)
Liquid Waste	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)
LRV	Large rigid vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities as heavy rigid vehicle (HRV)
Mobile Garbage Bin(s) (MGB)	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
MRV	Medium rigid vehicle
Putrescible Waste	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.

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

LIST OF TABLES

INTRODUCTION

EFRS has been tasked to prepare the following waste management plan for Eastview Australia for the operational management of waste generated by the hotel development located at 34-42 Flushcombe Road, Blacktown NSW.

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

i. ***Promote responsible source separation*** to reduce the amount of waste that goes to landfill, by implementing convenient and efficient waste management systems

ii. ***Ensure adequate waste provisions and robust procedures*** that will cater for potential changes during the operational phase of the development

iii. ***Compliance*** with all relevant council codes, policies, and guidelines.

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

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

DEVELOPMENT SUMMARY

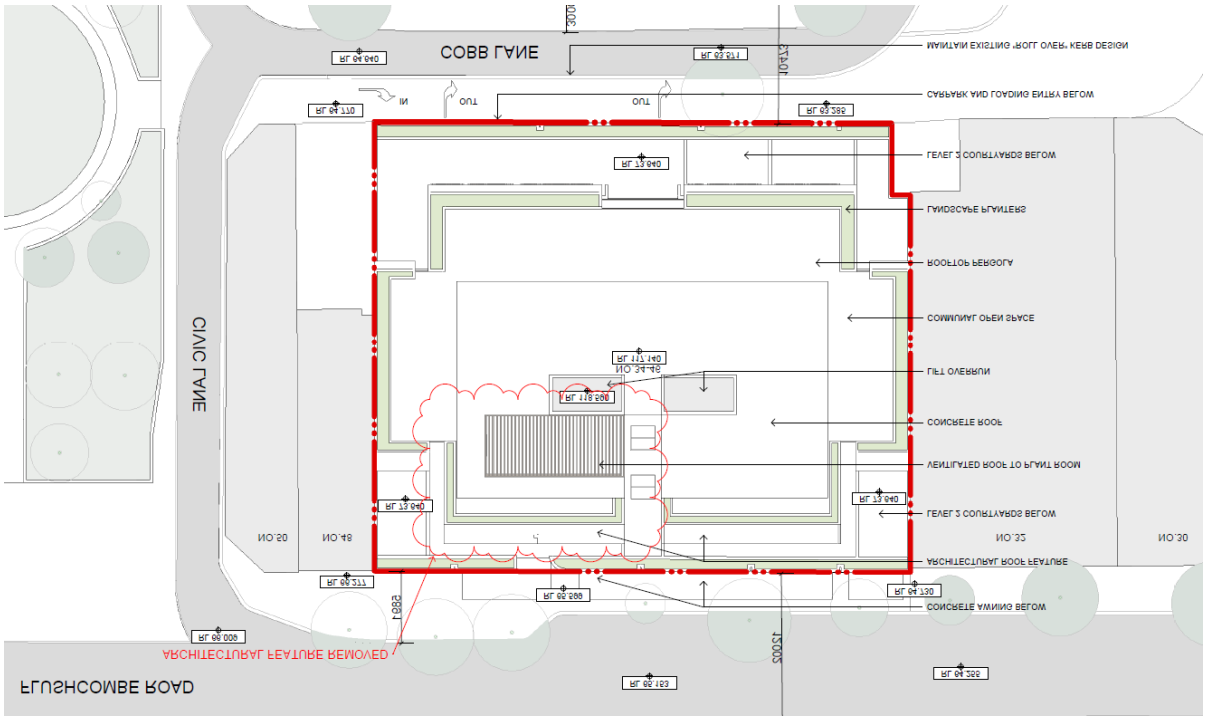
The proposed development falls under the LGA of Blacktown Council, and consists of:

- 1 building of 17 levels
  - 150 residential units
  - Pub, restaurant, gaming, function areas and office areas on the lower levels

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

SITE LOCATION

The site is located at 34-42 Flushcombe Road, Blacktown, as shown below. The site has frontages to Flushcombe Road and Cobb Lane, with vehicle access via Cobb Lane.



Source: Marchese Partners – Site Plan - Proposed

BLACKTOWN COUNCIL

The garbage and recycling will be guided by the services and acceptance criteria of the Blacktown Council. All waste facilities and equipment are to be designed and constructed to be in compliance with the Blacktown Council's *Development Control Plan 2015 Part G Site Waste Management and Minimisation,* Australian Standards and statutory requirements.

COUNCIL OBJECTIVES

- Provide advice to applicants as to how to minimise waste generation and disposal, and reduce the handling of waste during demolition and construction
- Encourage building design and construction techniques which minimise waste
- Provide advice to applicants as to how to prepare a waste management plan
- Require source separation of materials and use of other design features which complement waste collection management services offered by Council, private providers and other bodies.

COUNCIL 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;

Noise Minimisation – Provide acoustic insulation to the waste service facilities or residential units adjacent to or above chutes, waste storage facilities, chute discharge, waste compaction equipment and waste collection vehicle access points;

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 Blacktown Council

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	• 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 Manager/Waste Caretaker	• 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) • General maintenance and cleaning of chute doors on each level; • Cleaning and transporting of bins as required; • Organising, maintaining and cleaning the general and recycled waste holding area; • Organising both garbage and recycled waste 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.
Residents/Tenants	• Dispose of all garbage and recycling in the allocated waste chutes and/or MGBs provided; • Ensure adequate separation of garbage and recycling; and • Compliance with the provisions of Council and the WMP.
Waste Contractor	• Provide a reliable and appropriate waste collection service; • Provide feedback to building managers/residents in regard to contamination of recyclables; and • Work with building managers to customise waste systems where possible.
Gardening/Landscaping Contractor	• Removal of all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.
Building Contractors	• Removing all construction related waste offsite in a manner that meets all authority requirements.

EDUCATION

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

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

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

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

LIMITATIONS

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

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

RESIDENTIAL WASTE MANAGEMENT

Blacktown Council's *Development Control Plan 2015 Part G Site Waste Management and Minimisation* has been referenced to calculate the total number of bins required for the development. Calculations are based on generic figures; waste generation rates may differ according to the residents' waste management practice.

ESTIMATED WASTE VOLUMES AND PROVISIONS

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

Table 2: Calculated Waste Generation – Residential

# Units		Garbage Generation Rate (L/unit/week)	Generated Garbage (L/week)	Recycling Generation Rate (L/unit/week)	Generated Recycling (L/week)
TOTAL	150	240	36000	80	12000
Collections		Garbage Bin Size (L)	1100	Recycling Bin Size (L)	240
		Garbage Bins per Day	5	Recycling Bins per Day	8
		Garbage Collections per Week	**3**	Recycling Collections per Week	1
		Total Garbage Bins Required	11	**Total Recycling Bins Required**	**50**

HOUSEHOLD WASTE

A single garbage chute will be installed with access provided on all residential levels of the building. The chute is to be used for the disposal of garbage only, with no compaction intended for this site.

Garbage discharges into 1100L bins on a linear track system located in the residential waste room on the ground level.

Recycling bins will be situated in the waste compartment on each residential level for collection of recyclable items. The building caretaker/cleaner is responsible for monitoring the capacity of recycling bins and exchanging them with empty bins from the residential waste room once full. This is to be carried out via the goods lift so that bins are not transferred through any major thoroughfares.

The building caretaker will ensure that full bins are located closer to the door to the loading dock for ease of collection and that empty bins are stored towards the back of the room. Sufficient aisle widths have been allowed within the residential waste room for bins to be manoeuvred.

Full garbage and recycling bins will be collected directly from the residential waste room by Council's waste contractor.

SOURCE SEPERATION

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

GENERAL WASTE (GARBAGE)

Residents will be supplied with a collection area in each unit to deposit garbage and collect recyclable material suitable for one day's storage. This is typically located generally in the kitchen, under bench or similar alternate area. Residents should wrap or bag their garbage; bagged garbage should not exceed 3kg in weight or 35cm x 35cm x 35cm in dimension.

RECYCLING

Recycling must not be bagged. It is recommended that residents use a crate or dedicated bin for collecting recyclables within the allocated residential space provided to ensure correct separation.

Cardboard furniture boxes or large cardboard containers should not be included in the garbage chute. Residents should be instructed to deposit flattened cardboard into the 240L comingled recycling bin on each level.

GREEN WASTE

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

COMMON AREAS

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

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

BULKY GOODS

A room has been allocated at the loading area for the storage of discarded residential bulky items (e.g. whitegoods, furniture, etc.). This room satisfies Council's minimum area requirement of 10m² and has 1.5m wide double doors to the loading area to allow for easy movement of large waste items. This area is located adjacent to the loading bay, and will be sign-posted for this specific use.

There is platform lift between the residential lifts and bulky goods room to facilitate access. The room will be securely locked when not being accessed, with only the building manager/caretaker having access. The manager would then be responsible for allowing access for residents and collection staff when required.

These areas are crucial to prevent residents from illegally dumping bulky waste on the footpath outside Councils scheduled collection times. Regular illegal dumping can attract other dumped waste, generate litter, detract significantly from the quality and appearance of the development and reduce amenity of the street. With the bulky waste room being securely locked and residents able to gain access through the building manager/caretaker, there should be no reason for dumping of items outside of the room to occur.

ELECTRONIC WASTE

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

CHEMICAL WASTE

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

ORGANIC WASTE AND COMPOSTING

Recycling organic waste, such as food scraps and garden materials, dramatically reduces the quantity of waste being diverted to land fill and thus reduces residents' ecological footprint. Compost material can also be returned to the soil as a rich fertilizer and improve plant growth and the overall health of surrounding vegetation. It is recommended that a space for composting and worm farming is made available for all residents in a communal facility or in small private courtyards (*see* ***Error! Reference source not found.***). Composting facilities are to be sited on an unpaved area with soil depth of at least 300mm. Residents may also choose to purchase and install apartment style compost bin where practical and self-manage these systems (*see APPENDIX D.1 and* ***Error! Reference source not found.****)*.

FACILITIES WASTE PLAN

The New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019) has been referenced to calculate the total number of bins required for the hotel facilities. Calculations are based on generic figures; waste generation rates may differ according to the tenants' waste management practice.

ESTIMATED WASTE VOLUMES AND PROVISIONS

The following table shows the estimated volume (L) of garbage and recycling generated by the hotel facilities. A seven-day operating week has been assumed for the bar and gaming areas, and a five-day operating week has been assumed for the function and office areas.

Table 3: Calculated Waste Generation – Hotel Facilities

Level	Type	GFA (m^2)	Garbage Generation Rate (L/100m^2/day)	Generated Garbage (L/week)	Recycling Generation Rate (L/100m^2/day)	Generated Recycling (L/week)
GF	Bar/Dining	441.7	400	12368	280	8657
	Gaming	358.7	50	1255	50	1255
L1	Function Areas	895.5	50	2239	50	2239
	Office Areas	173.4	10	87	15	130
	TOTAL	**1869.3**		**15949**		**12282**
Collections & Equipment		Bin Size (L)		1100	Bin Size (L)	1100
		Collections per Week		3	Collections per Week	3
		No. Bins Required		5	No. Bins Required	4

FACILITIES WASTE MANAGEMENT

Staff will be responsible for their own BOH waste management. All tenancies will have the storage capacity within their own premises for 1 days' worth of waste.

Food prepared, served and consumed on site will produce a typical waste composition of food scraps from plates, packaging waste and some plastics.

Cardboard is likely to make up a large proportion of the waste generated. All cardboard should be flattened and placed directly into comingled recycling bins. The developer may also opt for a separate cardboard collection service. This would require a separate 1100L MGB dedicated purely for paper and cardboard and would likely replace one or more of the 1100L MGBs currently allocated for comingled recycling. Whilst cardboard is bulky, it is generally lightweight. It may also be contaminated with food or liquid which makes it unsuitable for recycling.

On completion of each trading day or as required, nominated staff/cleaners will transport their waste and recyclables to the commercial waste room on ground level, and into the designated collection bins. If commercial/retail staff collect waste in 120L or 240L MGBs back of house, then a bin lifter may be provided in the commercial waste room to decant into the 1100L MGBs.

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.

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, 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.

FUNCTION ROOM WASTE MANAGEMENT STRATEGY

Smaller bins for garbage and recycling will be allocated to the function and event spaces to be utilised when these areas are in use. The frequency of these bins will depend upon the type of event and frequency of use. Each of these bins will be emptied by the contract cleaners during their cleaning routine after these areas have been used.

Cleaners empty the bins into bags which they transport around the building in a cart. Bags of garbage and/or recycling are then deposited directly into the corresponding bins in the commercial waste room.

COMMON AREAS

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.

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.

WASTE OILS

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).

OTHER WASTE STREAMS

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 detox (paint/chemicals) can be organised with the assistance of the building management/cleaners.

MOVEMENT AND TRANSPORTATION OF BINS

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

Council requires that bin moving distances do not exceed 30m for 240L bins and 10m for 1100L bulk bins. If these distances are exceeded, the site **must** have a bin moving device.

The distances to move bins from the waste rooms to the collection area does not exceed Council's threshold. Therefore, the site does not require a bin moving device to aid the movement of the garbage and recycling bins.

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

If required, the developer may contact a bin-tug, trailer or tractor consultant to provide equipment recommendations. Examples of motorised bin moving equipment can be found in APPENDIX B.4 and APPENDIX B.5. Council's preferred bin moving device is a bin trailer towed by a Class C vehicle. Swept path information for the bin moving device must also be provided as a part of the development application.

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

COLLECTION OF WASTE

RESIDENTIAL

All residential waste generated at this development will be collected by Council; with garbage being collected three times per week and recycling being collected on a weekly basis.

The building manager/caretaker will be responsible for ensuring all bins are transferred to the residential waste room on the ground level and neatly arranged for ease of servicing.

Council's waste vehicle will access the site from Cobb Lane and pull into the loading area adjacent to the waste room. Collection staff will then access the waste room and service the bins. Once servicing of the bins is complete, the vehicle will leave the site in a forward direction.

COMMERCIAL

All commercial waste generated at this development will be collected by private contractor to an agreed schedule (this report assumed collections will occur three times per week for all waste streams). Commercial waste collections will need to be arranged for times that will not interfere with residential waste collections to ensure availability of loading bay.

The contractor's waste vehicle will access the site from Cobb Lane and pull into the designated loading area. Collection staff will then access the commercial waste room to service the bins.

Once servicing of the bins is complete, the vehicle will leave the site in a forward-facing direction.

COLLECTION AREA

An appropriate remote controlled parking lock in combination with clear, adequate signage will be utilised to prevent unauthorised usage of the vehicle loading bay (see APPENDIX D.3 for Typical Parking Lock). The building caretaker will be responsible for engaging these parking locks or other type of mobile bollard.

The loading area allows for a 3m clearance to the rear of waste collection vehicles to facilitate the manoeuvring and servicing of bins. It must also be ensured that waste collection vehicles do not obstruct emergency exits.

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 that the collection vehicle (and other trucks if required) can enter and exit the building in a forward direction. The final number of collections required will depend upon the management of the waste contract.

INSTALLATION EQUIPMENT AND DESIGN

EQUIPMENT SUMMARY

Table 4: Equipment Summary

Component	Part	Qty	Notes
Chutes	Galvanised Steel / LLDPE Polyethylene Plastic 510mm or 610mm (for 20+ levels)	1	510/610mm diameter (See APPENDIX C.1)
Equipment A	2-Bin 1100L Linear Tracks	1	(See APPENDIX C.2)
Equipment B	Bin Lifter	-	Optional (See APPENDIX B.6)
Equipment C	Suitable Bin Moving Equipment	-	Optional (See APPENDIX B.4 & APPENDIX B.5)

WASTE ROOM AREAS

All waste discharge points should be caged off to ensure the safety of any personnel accessing the waste room. Access to waste discharge rooms should be provided to the building manager/waste caretaker **only**. Under no circumstances should access be provided to any residents, or waste collection staff.

Chute discharge requires a minimum of 3000mm distance from floor to ceiling and needs to be free of service pipes and other overhead obstacles within the immediate space around the chute discharge.

The areas allocated for waste storage and collections are detailed in Table 5 below. The areas provided are estimates only. Final areas will depend upon room and bin layouts.

Table 5: Waste Room Areas

Level	Waste Room Type	Equipment	Bins	Estimated Area Required (m^2)	Actual Area Provided (m^2)
G	Residential Waste Room	2-bin 1100L linear track system	11 x 1100L MGBs for general waste 50 x 240L MGBs for recyclables 1 x 240L service bin	75	84.9
G	Bulky Goods Storage Room	NA	NA	10	20
G	Commercial Waste Room	Bin lifter (optional)	5 x 1100L MGBs for general waste 4 x 1100L MGBs for recyclables	27	34.7

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 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.

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

VENTILATION

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

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

BLACKTOWN COUNCIL CUSTOMER SERVICE
Phone: (02) 9839 6000 Email: council@blacktown.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 9359 9999

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

SITA ENVIRONMENTAL (Private Waste Services Provider)
Phone: 13 13 35

NATIONAL ASSOCIATION OF CHARITABLE RECYCLING ORGANISATIONS INC. (NACRO)
Phone: 03 9429 9884 Email: information@nacro.org.au

PURIFYING SOLUTIONS (Odour Control)
Phone: 1300 636 877 Email: sales@purifyingsolutions.com.au

MOVEXX (Bin Movers)
Phone: 1300 763 444

AUSCOL (Recyling Oils & Animal Fats)
Phone: 1800 629 476

KOMPACT EQUIPMENT (Equipment & Servicing Provider)
Phone: 1300 566 722 Email: info@kompactequipment.com.au

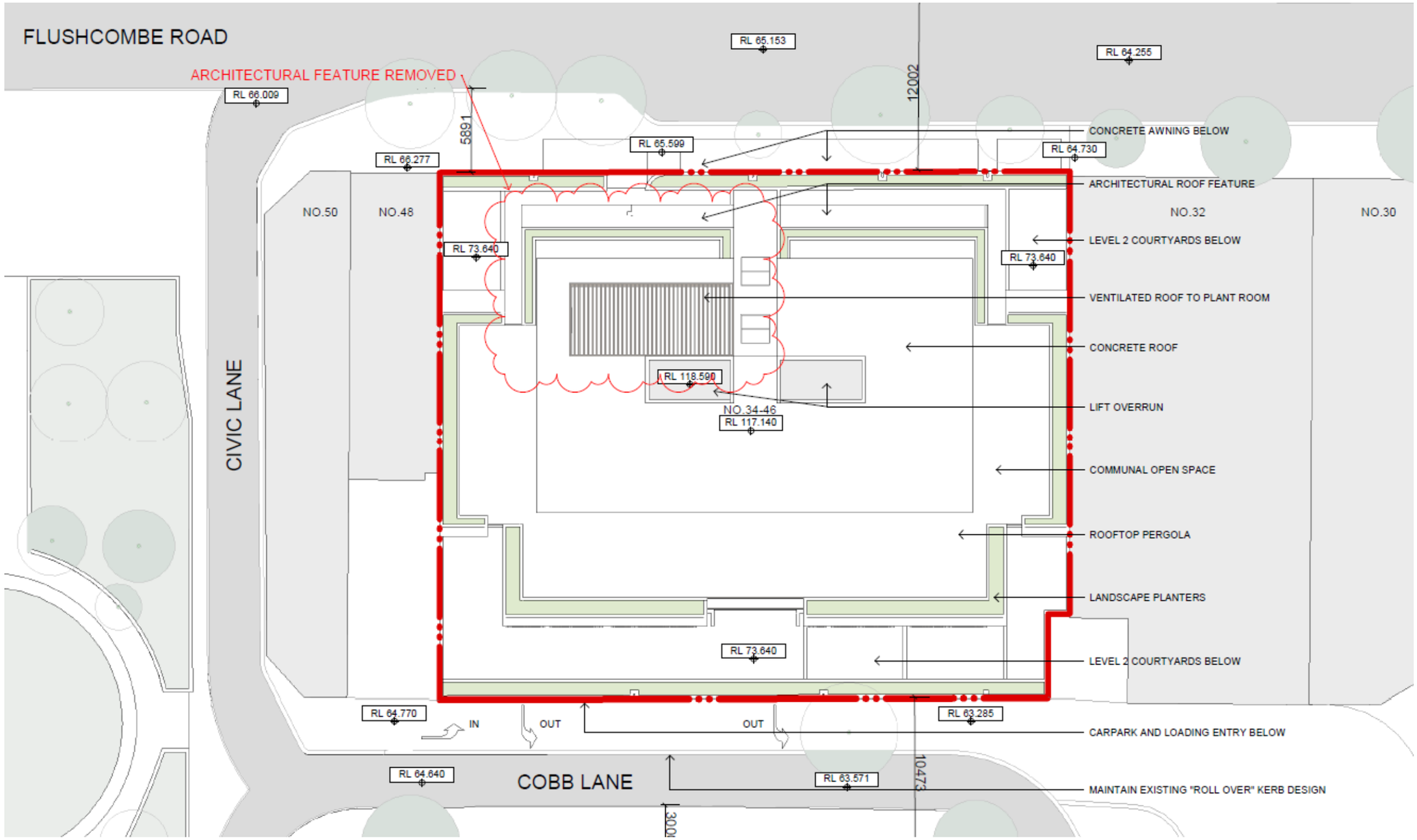
ELEPHANTS FOOT RECYCLING SOLUTIONS (Chutes, Compactors & eDiverter Systems)
44 – 46 Gibson Avenue
Padstow NSW 2211
Phone: 1300 434 374 Email: wmp@elephantsfoot.com.au

APPENDICES

APPENDIX A ARCHITECTURAL DRAWING EXCERPTS

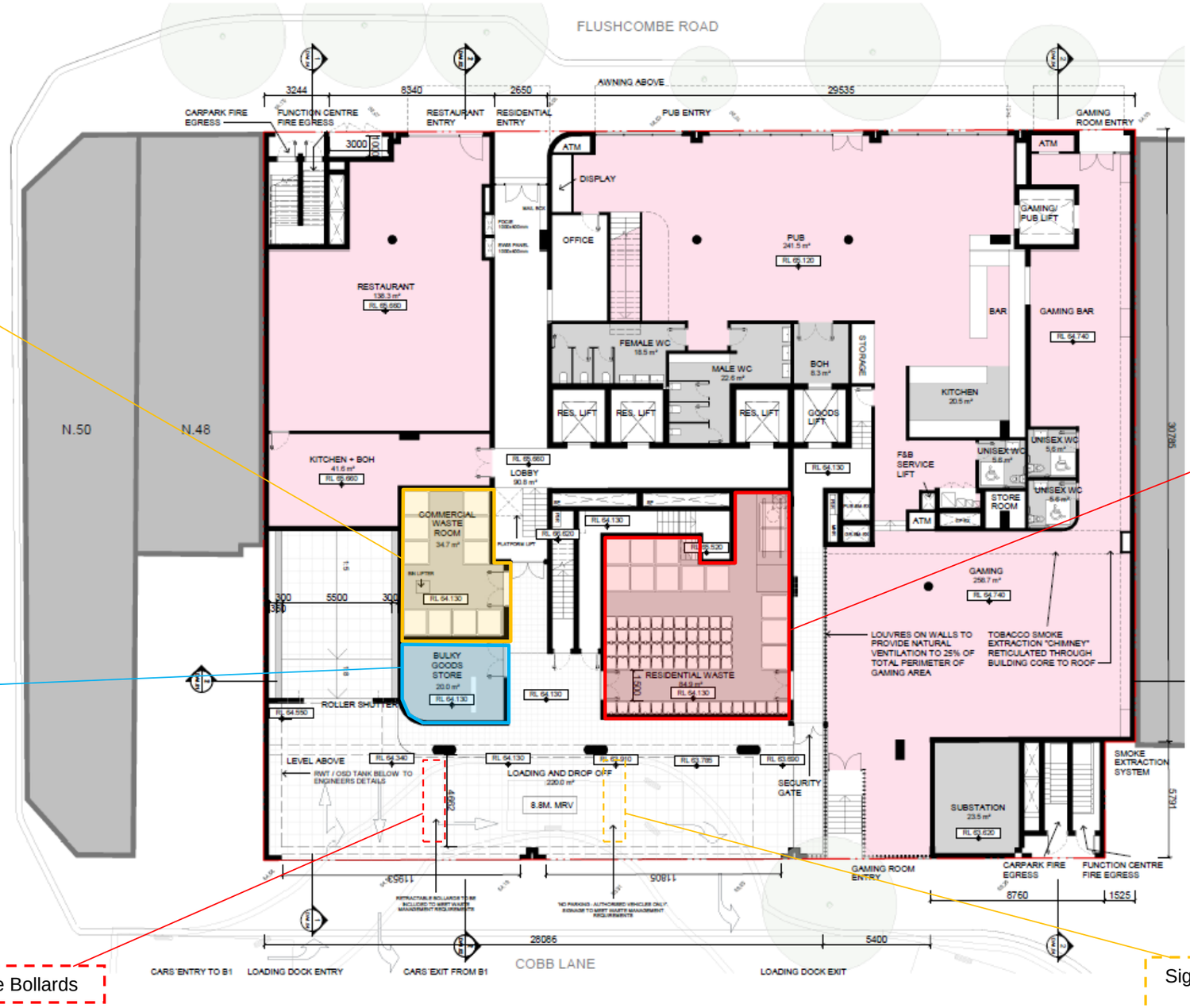
APPENDIX A.1 SITE PLAN

Dwg. No. DA1.04, Rev. E, 14/09/2021



APPENDIX A.2 GROUND FLOOR PLAN

Dwg. No. DA2.06, Rev. E, 14/09/2021



Commercial Waste Room

Residential Waste Room

Bulky Goods Storage

Mobile Bollards

Signage for Authorised Vehicles Only

APPENDIX A.3 TYPICAL FLOOR PLAN: LEVELS 3-13

Dwg. No. DA2.09, Rev. G, 14/09/2021

APPENDIX B PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX B.1 TYPICAL BIN SPECIFICATIONS

The most common bin sizes are provided below, although not all sizes are shown. These dimensions are a guide only and differ slightly between manufacturers.

Average dimension ranges for two-wheel mobile bins

Wheelie bin

Bin capacity	80L	120L		140L		240L	360L
Height (mm)	870	940	1065	1080	1100		
Depth (mm)	530	530		540		735	820
Width (mm)	450	485		500		580	600
Approximate footprint (m^2)	0.24	0.26–0.33		0.27-0.33		0.41–0.43	0.49
Approximate weight (kg)	8.5	9.5		10.4		15.5	23
Approximate maximum load (kg)	32	48		56		96	Not known

Sources include Sulo, Single Waste, Cleanaway, SUEZ, just wheelie bins and Perth Waste for two-wheel mobile bins

Average dimension ranges for four-wheel bulk bins

Dome or flat lid container

Bin capacity	660L	770L	1100L	1300L	1700L
Height (mm)	1250	1425	1470	1480	1470
Depth (mm)	850	1100	1245	1250	1250
Width (mm)	1370	1370	1370	1770	1770
Approx footprint (m^2)	0.86–1.16	1.51	1.33–1.74	2.21	2.21
Approx weight (kg)	45	Not known	65	Not known	Not known
Approx maximum load (kg)	310	Not known	440	Not known	Not known

Sources include Sulo, Signal Waste, Cleanaway, SUEZ, Just Wheelie Bins and Perth Waste

Average dimension ranges for bulk bins over 1700L in capacity

Bulk bins greater than 1700L

Bin capacity)	1m^3	1.5m^3	2m^3	3m^3	4.5m^3	6m^3
Height (mm)	1000	910–1250	865–1000	1020–1580	1440–2014	1650
Depth (mm)	1000	905–1000	1300–1400	1470–1700	1605–1900	1900
Width (mm)	1400	1805–2010	1830–2000	1400–2010	1800–2010	2000
Approximate footprint (m^2)	1.4	1.63–2.01	2.4–2.8	2.1–3.4	2.9–3.8	3.8

Sources include TORO Waste Equipment, SUEZ, Signal Waste, Perth Waste and ACT Industrial

Source: New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019)

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 EPA (Environmental Protection Authority).

Examples of waste wall posters (EPA supplied)

Examples of bin lid stickers (EPA supplied)

Problem Waste Signs

The EPA has also produced a range of images and signs that can be used for problem wastes, such as fluoro globes and tubes, household and car batteries, e-waste and smoke detectors. To access these resources, contact the NSW EPA. Some examples are shown below.

Safety Signs

The use of safety signs for waste resource recovery rooms must comply with *AS1319 Safety signs for occupational environments*. Safety signs must be used to regulate and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Suitable signs should be decided for each development as required.

Example safety signs

Source: New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019)

APPENDIX B.3 TYPICAL COLLECTION VEHICLE INFORMATION

Example Council Vehicle Dimensions for Residential Waste Collections:

Australian Standards for turning circles for medium and heavy rigid class vehicles

Vehicle class	Overall length (m)	Design width (m)	Design turning radius (m)	Swept circle (m)	Clearance (travel) height (m)
Medium rigid vehicle	8.80	2.5	10.0	21.6	4.5
Heavy rigid vehicle	12.5	2.5	12.5	27.8	4.5

Source: New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019)

Example Private Contractor Vehicle Dimensions for Commercial Waste Collections:

VEOLIA
ENVIRONMENTAL SERVICES

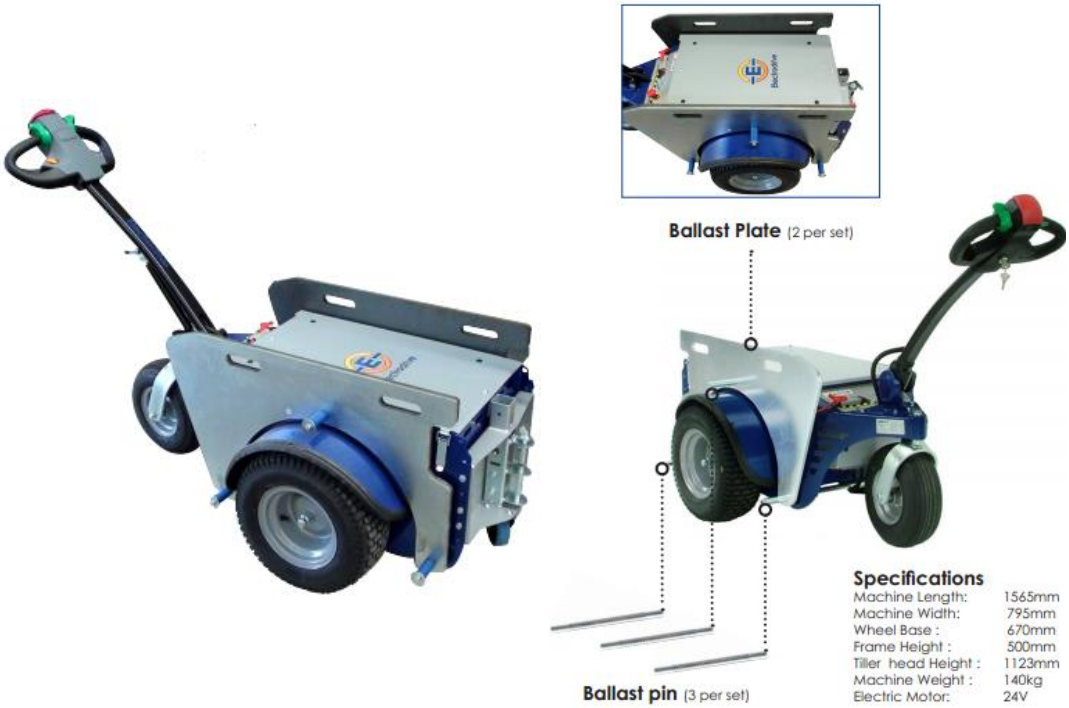
REARLIFT TRUCK 4X2
MID RANGE 10m³ & 12m³ BODY

Specifications:

- Overall Length – 6440mm (6.14 METRES)
- Overall Width - 2200mm (2.20 METRES) *NOTE: DOES NOT INCLUDE MIRRORS*
- Maximum Height – 2830mm (2.83 METRES)
- Turning Circle - 15000mm (15.00 METRES) Kerb to Kerb
- Tare Weight - 6200 kg's
- GVM - 10400 kg's
- 120 litre & 240 litre & 660 litre & 1100 litre Plastic SULO bins

Source: Capital City Waste Services (SRV)

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

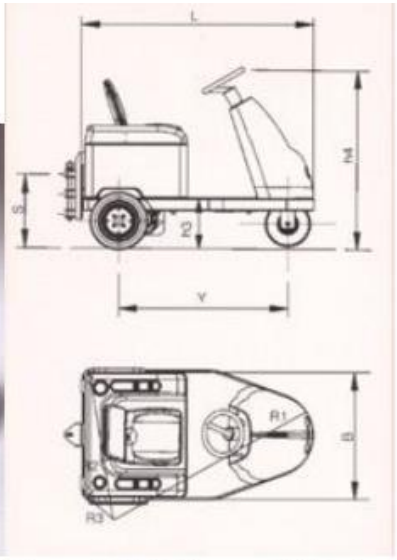
Features:

- 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 - endotermic		electric	electric
Controltype	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	-----	-----
Overal dimensions	L = lenght B = width h1 = foot leve h3 = Seat height h4 = Steer height	mm mm mm mm mm	1500 900 1820 310 1250	1600 930 1960 340 1330
Turning radius	R1 = front min. external R2 = rear min. external R3 = front min. internal	mm mm mm	1400 1000 400	1500 1000 400
Aisle width	A = 180° turn	mm	2200	2300
Tow hook height	s = center from ground	mm	220-350-490	240-380-520

APPENDIX B.6 EXAMPLE BIN LIFTER

MHA PRODUCTS - PRODUCT INFORMATION SHEET

MHA PRODUCTS

120/240L Bin Lifter - 30KG Capacity

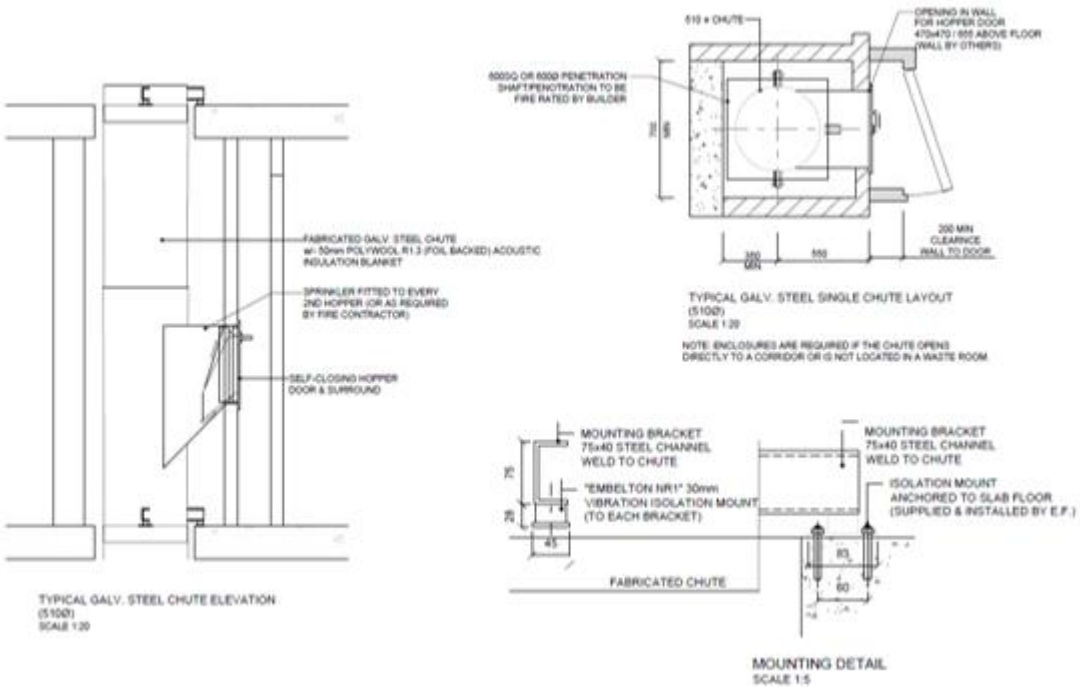
- This bin lifter is a manually operated bin lifter that aids in the lifting and emptying of wheelie bins into dumper bins using gas struts
- Designed to lift up to 30kg at a time, this lifter is perfect for retail outlets, small offices and factories that dispose of paper and general waste and are required to empty their wheelie bins once or twice a day
- Lift Capacity: 30kgs
- Suits Bin Types: 120L and 240L wheelie bins
- Manual operation (assisted lift)
- Finish: Powdercoated

See this product on page 237 of the MHA catalogue

Code	Load Capacity (kg)	Tipping Height (mm)	Dimensions WxDxH (mm)
BT3511	30	1200-1500	681x600x1660

APPENDIX C INSTALLATION EQUIPMENT

APPENDIX C.1 TYPICAL SINGLE WASTE CHUTE SPECIFICATIONS



Waste chutes are supplied per the following specifications:

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

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

APPENDIX C.2 TYPICAL LINEAR TRACK SYSTEM FOR 1100L BINS

ELEPHANTS FOOT recycling solutions

ELEPHANTS FOOT RECYCLING SOLUTIONS
44-46 GIBSON AVE, PADSTOW NSW 2211
E info@elephantsfoot.com.au W elephantsfoot.com.au
Free Call: 1300 4 ELEPHANT (1300 435 374)

1100 LITRE LINEAR TRACK SYSTEM

PRODUCT INFORMATION

Elephants Foot 1100 Litre bin Linear Track System is a versatile waste handling solution for many types of multi-storey or multi-level developments. The Linear Track System collects waste or recycling being disposed from the floors above through the chute system, discharging the material via a hopper that feeds the bins. Electromechanically driven with automated operation, the system utilises linear motion to automatically change over full bins. Once all the bins are filled, an indicator light will illuminate signifying that the bins are ready for withdrawal and collection. Available with or without compaction unit, our standard 660 litre bin Linear Track System is available in the standard 2 bin option. Our 3 Bin option is available as a special order.

SPECIFICATIONS

System Control	Electric PLC
Power Supply	415 V AC / 10A / 5 PIN
Motor Size (kW)	1.1
Maximum bin load	440 kg
Noise (dBA)	<85
Bin Size (L)	1100
Cycle time (sec)	60
Bin Quantity options	2 or 3

OPTIONAL EXTRAS

- Compaction unit – Please refer to the bin compactor product information sheet for details and specifications
- Enhanced safety add on's – Interlocking barriers, occupancy sensors or safety light curtains (presence sensing light barriers)
- Full bin SMS and email notification
- CMMS and BMS integration
- Extend warranty – Terms and conditions apply

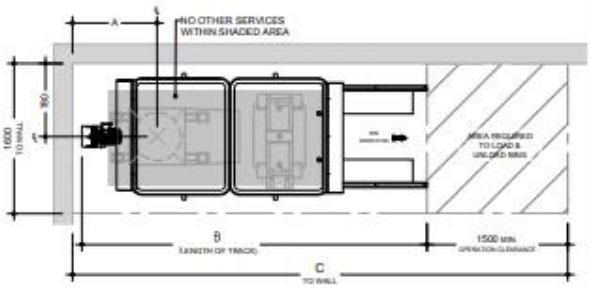
STANDARD FEATURES & BENEFITS

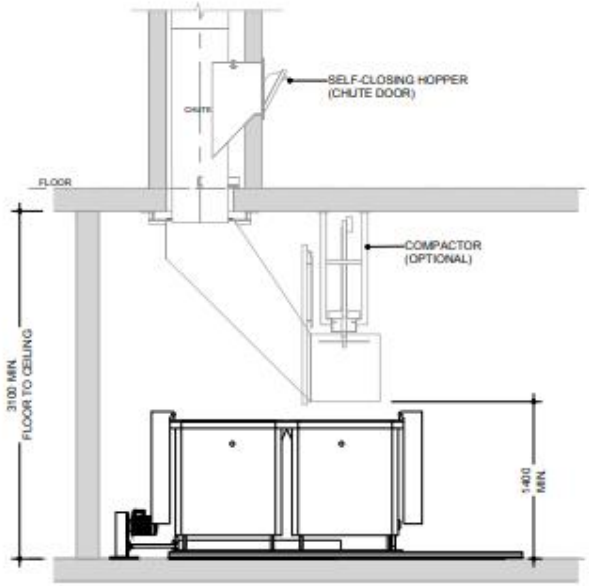
- Simple operation with user friendly controls
- Increased waste servicing efficiency for the development.
- Automatic system control with manual override
- Robust unit construction for long performance life
- Low service and maintain costs
- Rotating flashing beacon (activated during operation)
- Quiet and efficient system operation
- Maximise safety for residents, caretakers and collectors
- Restrained design with minimal moving parts
- Can suit low ceiling clearances
- Floor contact components fully galvanised steel
- Retro fitting options to suit other chutes systems
- Compliant with relevant Building Codes and Standards
- Standard 12 month warranty

ELEPHANTS FOOT recycling solutions

ELEPHANTS FOOT RECYCLING SOLUTIONS
44-46 GIBSON AVE, PADSTOW NSW 2211
E info@elephantsfoot.com.au W elephantsfoot.com.au
Free Call: 1300 4 ELEPHANT (1300 435 374)

LINEAR TRACK SYSTEM





1100 LITRE BIN

1100 LITRE BIN LINEAR TRACK SYSTEM			
No. of Bins	Reference (mm)		
	A	B	C
2	900	3700	5300
3	2100	5940	7550

Notes:
Bins not provided by Elephants Foot

Drawings shown are for general information purposes only and provide minimum equipment spacial requirements for waste room design.

These drawings are not intended for site specific use or for construction. Each project is unique and will be designed to suit.

Additional equipment options, systems and configurations are available. For design assessment, information and advice, please contact an Elephants Foot design consultant on 1300 435 374

Please Note: This is an example only – please refer to supplier's information and specification

APPENDIX D SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX D.1 TYPICAL APARTMENT STYLE COMPOST BINS

Apartment Style Compost bin – available from hardware stores

Suitable for:

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

APPENDIX D.2 TYPICAL SOURCE SEPARATION BINS (COMMERCIAL/RETAIL)

Source: https://www.sourceseparationsystems.com.au/

APPENDIX D.3 TYPICAL REMOTE-CONTROL PARKING LOCK

TMS-APL2: Product Specifications

Model Number	TMS-APL2
Operated by	Remote control (2 remotes included with each parking lock). Only your remote control can operate your parking lock. We can supply additional remote controls if required for for a small charge.
Power	1 x rechargeable battery (DC 6V); approximately 9 months or 1000 uses till the battery needs recharging. Easily recharged on supplied power pack. Power warning light lets you know when the battery needs recharging.
Water proof, Dust proof	Your parking lock has been sealed to be waterproof and dustproof. This includes all internal mechanical and electrical components. Your **thatsmyspot.com.au** parking lock is made of galvanized steel and finished with paint to endure all weather and water conditions.
Raising Time and Lowering Time	5 seconds each way
Dimensions	460 mm x 460 mm x 75 mm when lowered 460 mm x 460 mm x 460 mm when raised
Weight	10.5 kg
Resists pressure	Your parking lock can endure 500 kg of pressure without damage to the parking lock.
Warning Alarm	Your parking lock is fitted with an alarm to warn you when the parking lock hits an obstacle. The alarm will sound for approximately 15 seconds and the rocker will move in the opposite direction. Be sure to move the obstacle. After the 15 seconds, the rocker will reset to its original position.
Anti-theft protection	Also, once your parking lock is fitted to your parking spot floor, should anyone try to forcefully remove it, an alarm will sound.
Warranty	12 month warranty
Installation	Supplied with 3 M8 expansion bolts to be fitted to concrete. If you need to remove your parking lock, you simply remove the expansion bolts with standard handyman tools. You can then re-install at another location.
Any questions	Contact Us on 1 300 644 533 or info@thatsmyspot.com.au