



State Significant Development Application
164-194 William Street, Woolloomooloo NSW 2011
Mixed-use Development.

OPERATIONAL WASTE MANAGEMENT PLAN

9/04/2026
Report No. 3704
Revision F

Client

William St Residential Pty Ltd.

Architect

FJC Studio

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GLOSSARY OF ABBREVIATIONS AND TERMS

TERM	DESCRIPTION
<i>Bin-Carting Route</i>	Travel path for transporting bins from their allocated storage location to the nominated collection point
<i>Bin Hoist</i>	A device used for lifting or lowering bins between different levels
<i>Bin Mover</i>	Either a handheld device (commonly referred to as a bin tug) or a ride-on device (typically a tractor or Class C vehicle with an attached bin trailer) used to facilitate the movement of bins across long distances or up ramps
<i>Bulk Bins</i>	Containers with a capacity greater than 1100L designed to be collected by a front-loading vehicle
<i>Bulky Waste</i>	Recycling items that are too large to be deposited into bins, including furniture, whitegoods, electronics and mattresses
<i>Chute</i>	A vertical pipe passing from floor to floor of a building with openings at each level for the disposal of general waste, recycling or FOGO.
<i>Chute Discharge</i>	The termination point of a chute whereby the chute offsets deposited general waste, recycling or FOGO into bins
<i>Chute Discharge Room</i>	A room enclosing the termination point of the chute/s, including bins and volume handling equipment that is accessible only to the building caretaker
<i>Collection Area/Point</i>	Designated area or point where bins are loaded onto the collection vehicle for servicing
<i>Communal Bin Room</i>	A central, shared bin room accessible to all residents or staff to dispose of their waste stream
<i>DA</i>	Development Application
<i>DCP</i>	Development Control Plan
<i>EPA</i>	Environment Protect Authority
<i>FOGO</i>	Food Organics and Garden Organics
<i>General Waste</i>	All non-recyclable and non-hazardous waste that is sent to landfill
<i>HRV</i>	Heavy Rigid Vehicle
<i>L</i>	Litre
<i>LEP</i>	Local Environmental Plan
<i>Mixed Use Development</i>	A development comprising a combination of both residential and commercial units or two or more different land uses within the one development.
<i>Mobile Bins</i>	Containers with a capacity up to and including 1100L designed to be collected by a rear-loading vehicle

<i>Multi-unit Residential Development</i>	Also known as MUD's, residential flat buildings, or apartment blocks, this is a residential development with multiple units that typically share facilities and services such as bins and collections.
<i>MRV</i>	Medium Rigid Vehicle
<i>Onsite Collection</i>	A collection arrangement whereby all bins are serviced by a collection vehicle within the property boundary, either in the building's basement or at grade and off-street.
<i>Owners Corporation</i>	An organisation or group of persons that is identified by a particular name and that acts, or may act, as an entity
<i>Recycling</i>	Waste stream that combines all recycling, including comingled recycling, paper/cardboard and metals.
<i>Service Bins</i>	Supplementary bins which are provided to residents or staff for use during collection periods either in communal bin rooms or under chutes
<i>Source Separation Receptacles</i>	Communal containers used throughout the development for the day-to-day disposal of different waste streams
<i>Volume Handling Equipment</i>	Equipment which comes in the form of either carousel or linear tracks positioned at the base of the chute/s to mechanically replace full bins with empty bins
<i>Waste Stream</i>	A classification used to describe waste of a particular type (eg. food waste stream)
<i>WHS</i>	Workplace Health and Safety

1.0 ACKNOWLEDGEMENT OF COUNTRY

Elephants Foot Consulting (EFC) acknowledges that every project we work on takes place on First Peoples land. We recognise Aboriginal and Torres Strait Islander People as Traditional Custodians of this land. We pay respect to ancestors and Elders, past and present.

2.0 INTRODUCTION

Elephants Foot Consulting (EFC) has been engaged to prepare the following Operational Waste Management Plan (OWMP) to satisfy the requirements listed in the Development Control Plan the City of Sydney Council requires for the mixed-use development located for Stage 2 (164-194 William Street, Woolloomooloo NSW 2011).

2.1 SCOPE OF REPORT

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

The waste management of the **construction** and **demolition** phases of the development are not addressed in this report. A construction and demolition WMP will need to be provided separately.

2.2 REPORT CONDITIONS

This report has been revised to address the submissions received during the public exhibition of the project. The purpose of this report is to document an OWMP as part of a development application, which is supplied by EFC with the following limitations:

- Drawings, estimates and information contained in this OWMP have been prepared by analysing the information, plans and documents supplied by the client and third parties including Council and other government agencies. The assumptions based on the information contained in the OWMP is outside the control of EFC,
- 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 management's approach to educating residents and tenants regarding waste management operations and responsibilities,
- The building manager will adjust waste management operations as required based on actual waste volumes (e.g. 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 is made that the OWMP reflects the actual outcome of the proposed waste facilities, services, and operations, and EFC will not be liable for plans or results that are not suitable for purpose due to incorrect or unsuitable information or otherwise,
- EFC offer no warranty or representation of accuracy or reliability of the OWMP unless specifically stated,
- Any manual handling equipment recommended in this OWMP should be provided at the recommendation of the appropriate equipment provider who will assess the correct equipment for supply,
- Design of waste management chute equipment and systems must be approved by the supplier,
- EFC cannot be held accountable for late changes to the design after the OWMP has been submitted to Council,
- EFC will provide specifications and recommendations on bin access and travel paths within the OWMP, however it is the architect's responsibility to ensure the architectural drawings meet these provisions,
- EFC are not required to provide information on collection vehicle swept paths, head heights, internal manoeuvring or loading requirements. It is assumed this information will be provided by a traffic consultant,
- Council are subject to changing waste and recycling policies and requirements at their own discretion.
- This OWMP is only finalised once the draft watermark has been removed. If the draft watermark is present, the information in the OWMP is not confirmed.

3.0 LEGISLATION & GUIDANCE

Waste management and resource recovery regulation in Australia is administered by the Australian Constitution, Commonwealth laws, and international agreements. State and territory governments maintain primary responsibility for controlling development and regulating waste. The following legislation has been enacted in New South Wales, and provides the lawful underpinnings of this OWMP.

- NSW Environmental Planning & Assessment Act 1979
- NSW Protection of the Environment Operations Act 1997
- NSW Waste Avoidance & Resource Recovery Act 2001

At the local level, councils or Local Government Areas (LGAs) require OWMPs to be included in new development applications. This OWMP is specifically required by:

- Sydney Development Control Plan 2012
- Sydney Local Environmental Plan 2012

The primary purpose of a Development Control Plan (DCP) is to guide the planning process according to the aims of the corresponding local environmental plan (LEP). The DCP must be read in conjunction with the provisions of the relevant LEP.

Information provided in this OWMP comes from a wide range of waste management guidance at the local, state, and federal levels. The primary sources of guidance include:

- City of Sydney Guidelines for Waste Management in New Developments 2018
- NSW Better Practice Guide For Resource Recovery In Residential Developments 2019
- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012
- NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021
- NSW Waste Classification Guidelines 2014
- Australia's National Waste Policy 2018

4.0 EXECUTIVE SUMMARY

This Operational Waste Management Plan has been prepared by T. McPherson to accompany the proposed State Significant Development Application (**SSDA**) for a mixed-use infill affordable housing development at 164-172 and 174-194 William Street Woolloomooloo. The site is made up of two (2) lots. The legal description of the site is outlined in Table 1.

Table 1 - Legal Description

Property Address	Title Description
164-172 William Street, Woolloomooloo	Lot 52 in DP1049805
174-194 William Street, Woolloomooloo	Lot 1 in DP816050

This report has been revised to address the submissions received during the public exhibition of the project. This report has also been prepared to address the Secretary's Environmental Assessment Requirements (**SEARs**) issued for the project (SSD-80211463).

This report concludes that the proposed development is suitable and warrants approval subject to the implementation of the following mitigation measures.

- 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 and recycling provisions and procedures** are established that will cater for potential changes during the operational phase of the development.
- iii. **Comply** with all relevant council codes, policies, and guidelines.

To achieve these objectives, this OWMP identifies and details the following components:

- Waste streams expected to be generated onsite and anticipated volumes;
- Suitable bin sizes and quantities;
- Waste and recycling disposal procedures;
- Bin room size estimations and equipment recommendations; and
- Waste collection strategies, locations and frequencies.

Following the implementation of the above mitigation measures, the remaining impacts are appropriate.

4.1 INTRODUCTION AND BACKGROUND

Elephants Foot Consulting (EFC) has been commissioned by William Street Residential Pty Ltd to prepare this report in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the State Significant Development Application (SSD-80211463) for the proposed mixed-use infill affordable housing development at 164-172 and 174-194 William Street Woolloomooloo.

Following the Design Excellence Competition, the scheme has been revised to include In-fill Affordable Housing (**IAH**) in line with the NSW Government's policy under the *State Environmental Planning Policy (Housing) 2021 (Housing SEPP)*. This policy allows for a 30% increase in Floor Space Ratio (**FSR**) and building height when 15% of the total FSR is provided as affordable housing for 15 years. The proposed development meets these criteria and is eligible for the bonus uplift.

Given the residential component's Capital Investment Value (**CIV**) exceeds \$75 million, an SSDA pathway can be taken. The proposal retains key design principles recommended by the Design Excellence Panel and aims to provide additional residential dwellings with a 30% increase in GFA and building height, in accordance with the Housing SEPP.

The purpose of the project is to facilitate the delivery of a high-quality mixed-use development containing residential and retail uses as well as a centrally located park, public domain improvements and improved through-site connectivity at a strategically located site. The proposal seeks to deliver a built form outcome that responds appropriately to its location on William Street in Woolloomooloo and in close proximity to Kings Cross Station and the Sydney CBD. Furthermore, the proposed scheme seeks to deliver an outcome that is consistent with the desired and evolving character of the Woolloomooloo and Potts Point area.

Specifically, this SSDA seeks consent for 235 residential units, including ground floor retail and commercial uses with 7 – 18 storeys of residential tower across four buildings being:

- FJC - William Street (West)
- FJC - William Street (East)
- Studio Bright – Forbes Street
- Tribe Studio – Dowling Street
- A publicly accessible central park
- Public domain works and improved through-site links
- Four basement levels for parking, services and storage
- Vehicular and loading access from Forbes Street

Note: This current revision of the OWMP has been revised in response to issues raised in submissions received during the public exhibition of the project, where the above unit mix may have changed. The following sections however accommodate for these latest changes as part of the waste management estimations.

This report has been prepared in response to the requirements contained within SEARs dated 21 February 2025 and issued for SSD-80211463. Specifically, this report has been prepared to respond to the SEARs requirement issued below.

Table 2 - SEARs Requirements (17. Waste Management)

Item	Description of Requirement	Section Reference (this Report)
Waste Management	- Provide measures to be implemented to manage, reuse and recycle and safely dispose of waste, including in accordance with any waste management requirements. - Identify appropriately sited waste storage areas, collection access, paths/roads and appropriate servicing arrangements for the site.	Sections 5.2, 5.5, 6.2 and 6.5.

4.1.1 RESPONSE TO SUBMISSIONS COMMENTS

The following comments had been provided as part of the response to submissions:

*An updated waste management plan must be provided to demonstrate compliance with the provisions of Section 3.11.13, 3.14, and 4.2.6 of Sydney DCP 2012 and the City's Guidelines for Waste Management in New Developments. **Elephants Foot Consulting can confirm this revision of the OWMP complies with the relevant sections of the DCP and guidelines.***

*The residential and commercial waste storage areas must be designed to manage the required number of bins as per the predicted waste generation of the site and without relying on waste compaction. The size of the residential waste storage area, in particular, must reflect the twice-weekly collection frequency. The architectural drawings must clearly show the number of bins required, with bins drawn to scale to demonstrate that the proposed layout is functional with acceptable manoeuvrability and access. **Confirmed: Refer to Sections 5.2 and 11.***

*The residential bin holding room adjacent to the loading dock must be adequately sized to allow all residential bins to be presented in a single location for collection. The maximum manual handling distance for residential bins and bulky waste is 10m. This would require the entrance door to the bulky waste storage room to be adjusted. **Confirmed: Refer to APPENDIX A.***

*The waste management plan must demonstrate that the movement of bins to the loading dock is via the goods lift, not the vehicle ramp or the public domain. It must also identify an enclosed and designated space with three phase power to store the ride on bin tug and trailer designed for the transfer of 4 x 1,100L bins. Adequate clearance for the use of this trailer must also be demonstrated. **EFC: A bin tug has been identified as the appropriate method for manoeuvring all bins, rather than a trailer, reflecting both site logistics and practices observed in similar nearby developments. This approach is standard for developments of this scale.***

EFC can confirm that these requirements have been reflected as part of this revision of the OWMP.

4.2 THE SITE

The site is located at 164-172 and 174-194 William Street Woolloomooloo within the City of Sydney LGA. The site is comprised of multiple allotments and is legally described as:

- 164-172 William Street, Woolloomooloo
 - Lot 52 in DP1049805
- 174-194 William Street, Woolloomooloo
 - Lot 1 in DP816050

The land size totals 6,398m² and consists of a southern frontage to William Street, an eastern frontage to Dowling Street, a western frontage to Forbes Street and northern frontage to Judge Lane.

4.3 SURROUNDING CONTEXT

The immediate urban context surrounding the site is characterised by a mix of medium density residential, commercial, and retail uses. The site is in close proximity to Hyde Park, The Domain, and Rushcutters Bay Reserve. There are a number of educational and health services in proximity to the site, providing ample infrastructure support for the community.

William Street, to which the site fronts, is a classified road providing connection between the Eastern Suburbs of Sydney and the CBD. Vehicle access is currently provided from six points on the site from Judge Lane, Forbes Street, and Dowling Street. Pedestrian access to the site is currently available from all frontages.

The site is highly accessible to both bus and rail services, being approximately 300m away from Kings Cross Railway Station and having direct access to bus services on William Street that provide connections through the Metropolitan Transport Network.

At the time of lodgement, the site is improved by a warehouse style structure and glass office building to the site's frontage and an at-grade private carpark to the northwestern portion of the site.

5.0 RESIDENTIAL WASTE MANAGEMENT

The following section outlines best practice waste management for the residential component of the development, including waste stream generation estimates and disposal and collection procedures.

5.1 RESIDENTIAL WASTE GENERATION ESTIMATES

The City of Sydney Councils 'Guidelines for Waste Management in New Developments (2018)' has been referenced to calculate the total number of bins required for the residential units. Calculations are based on generic general waste, recycling and Food Organics and Garden Organics (FOGO) rates. Actual volumes of general waste, recycling and FOGO generated in operation may differ according to the residents' actual waste management practices. The following table shows the estimated volume (L) of general waste, recycling and FOGO generated by the residential component of the development.

Table 3: Estimated Waste and Recycling Volumes – Residential

Core	# Units	Waste Generation Rate (L/Unit/Week)	Generated Waste (L/Week)	Compacted Waste 2:1 (L/Week)	Recycling Generation Rate (L/Unit/Week)	Generated Recycling (L/Week)	FOGO Generation Rate (L/Unit/Week)	Generated FOGO (L/Week)
Bright-Forbes Street	26	120	3120	1560	120	3120	8	208
William St West	95	120	11400	5700	120	11400	8	760
William St East	84	120	10080	5040	120	10080	8	672
Tribe-Dowling St	30	120	3600	1800	120	3600	8	240
TOTAL	235		28200	14100		28200		1880
Bins & Collections		General waste Bin Size (L)	1100	1100	Recycling Bin Size (L)	1100	FOGO Bin Size (L)	120
		General Waste Collections per Week	1	1	Recycling Collections per Week	1	FOGO Collections per Week	1
		Total General Waste Bins Required	28	15	Total Recycling Bins Required	28	Total FOGO Bins Required	17
Bins Per Building Core		Core	# Bins	# Bins (Compacted 2:1)	Core	# Bins	Core	# Bins
		Bright-Forbes Street	3	2	A	3	A	2
		William St West	11	6	B	11	B	7
		William St East	10	5	C	10	C	6
		Tribe-Dowling St	4	2	D	4	D	2

Note: An additional bin should be provided for each chute discharge for use during collection periods. These bins are not included in the above figures.

Note: It is strongly recommended bins/equipment at the base of each chute allow for 2-days' worth of waste or recycling generation.

5.2 RESIDENTIAL BIN SUMMARY

Based on the estimated volumes of general waste, recycling and FOGO generated by the residential component of this development, the recommended bin quantities and collection frequencies are as follows:

Total Bins Collected:

General Waste:	15 x 1100L bins collected 1 x weekly.	Compacted 2:1
Recycling:	28 x 1100L bins collected 1 x weekly.	
FOGO:	17 x 120L bins collected 1 x weekly.	

Service Bins:

Empty bins will be placed beneath each chute to collect discharge whilst full bins are either rotated, or awaiting collection.

General Waste:	7 x 1100L bins
Recycling:	7 x 1100L bins

During operation, it is the responsibility of the building manager to monitor the number of bins required for the residential component of the development. General waste, recycling and FOGO volumes may change according to residents' attitudes to waste disposal, building occupancy levels or the development's management.

Any requirements for adjusting the capacity of the waste facilities may be achieved by changing the number of bins, the bin sizes or collection frequencies. Building management will be required to negotiate any changes to bins or collections with the collection service provider.

5.3 RESIDENTIAL CHUTE DISCHARGE EQUIPMENT SUMMARY

It is strongly recommended that the bins and equipment at the base of each chute allows for at least 1 days' worth of general waste and recycling generation. Based on the estimated general waste and recycling volumes generated by each building/core, the following equipment is recommended:

Table 4: Chute Discharge Equipment Summary

Core	General Waste	Recycling
Bright-Forbes Street	2-Bin 1100L Linear Track System	2-Bin 1100L Linear Track System
William St West	2-Bin 1100L Linear Track System	3-Bin 1100L Linear Track System
William St East	2-Bin 1100L Linear Track System	3-Bin 1100L Linear Track System
Tribe-Dowling St	2-Bin 1100L Linear Track System	2-Bin 1100L Linear Track System

The above is a recommendation only and equivalent volume handling equipment may be used subject to equipment supplier's recommendation/review.

5.4 RESIDENTIAL WASTE DISPOSAL PROCEDURES

All residents will have access to a storage area within their own unit capable of holding separate receptacles for general waste, recycling and FOGO. This is typically located within kitchen areas beneath the workbench. This space should be sized to accommodate 40L receptacles (minimum) to account for 2 days' worth of general waste, recycling and 20L for FOGO storage.

5.4.1 RESIDENTIAL GENERAL WASTE AND RECYCLING DISPOSAL PROCEDURES

Dual chute systems comprising of a single general waste chute and single recycling chute will be installed in each building core. Access will be provided to all residents on each residential level. Residents will be responsible for walking their own general waste and recycling to their allocated disposal point and placing their general waste into the general waste chute and recycling into the recycling chute.

Residents will wrap or bag their general waste before placing in the general waste chute. Bagged waste should not exceed 3kg in weight, or 35cm x 35cm x 35cm. Residents will be responsible for loosely placing their recycling into the recycling chute. Recycling should be clean and must not be bagged as soft plastics contaminate recycling. Cardboard boxes or large containers should not be disposed of in the recycling chute. These items should be disposed of directly into the collection bins in coordination with the building manager.

The general waste and recycling will discharge into volume management equipment located within the chute discharge rooms located on the ground level. The building manager will monitor bin capacities under the dual chute systems and exchange full bins with empty bins on the track systems when required. Full and spare bins will be kept in the residential bin holding room.

Refer to Council guidance for the types of materials accepted in the general waste and recycling streams.

5.4.2 RESIDENTIAL FOGO DISPOSAL PROCEDURES

The majority of organics waste generated from multi-unit residential developments (MUD's) comprises of food waste as opposed to garden waste. As such, calculations and management recommendations provided in this report considers that FOGO bins will primarily comprise of food organics.

The residents of each unit will be provided with a kitchen caddy for the separation of FOGO. Food organics must be contained in accordance with the City of Sydney's' future FOGO collection service procedures (for example a compostable liner). Any clippings from residential units can also be disposed of with the FOGO.

The building will be provided with a residential communal FOGO bin room, which contains 120L bins for FOGO. The residents will be responsible for walking their own FOGO down to the Communal FOGO Bin Room and placing it into the bins. Building management is responsible for ensuring that the residential communal FOGO bin room and FOGO bins are washed down frequently to ensure that hygiene and odour is managed.

5.5 RESIDENTIAL BIN COLLECTION PROCEDURES

The Council will be engaged to collect the residential general waste, recycling and FOGO in accordance with Council's collection schedule. This report assumes that general waste is collected twice weekly, with recycling and FOGO collected once weekly.

Prior to collections, the building caretaker will be responsible for transporting the bins from each residential chute discharge room to the residential bin holding room located on the plaza level. The building caretaker is also responsible for ensuring that the bins are adequately arranged for an efficient collection. It is recommended that additional 1100L service bins be placed under the chute to collect discharge while the other bins are being serviced.

It is the responsibility of the caretaker to ensure that the loading area is clear of any vehicles or obstructions prior to waste collection. On the day of collection, a Council collection vehicle will enter the site from Forbes Street and park in the waste vehicle loading bay via the turntable. The building caretaker will be responsible for ensuring that the collection staff have access to the collection point. The collection staff will exit the vehicle and collect the bins from the residential bin holding room and return the empty bins once serviced (onsite collection).

Upon completion of servicing, the collection vehicle will exit the site onto Forbes Street in a forward direction via the turntable. The building caretaker is responsible for returning the bins to their operational location to resume use.

All access and clearances to the waste collection point must be able to accommodate a 10.6-meter-long refuse collection vehicle as requested in the Council's PDA/2024/164 advice.

5.6 OTHER RESIDENTIAL WASTE MANAGEMENT CONSIDERATIONS

The following sections outline other waste management considerations for the residential components.

5.6.1 RESIDENTIAL COMMON AREAS

Residential common areas will be supplied with suitably branded source separation receptacles where considered appropriate. Receptacles should be placed in convenient locations which are accessible to all residents. The building manager will monitor the capacity of these receptacles and empty the contents into the central collection bins as required.

5.6.2 LANDSCAPED AREAS AND GARDEN ORGANICS

Garden organics generated from surrounding landscaped areas and indoor foliage typically consists of lawn clippings, cuttings, leaves and branches. Garden organics generated from surrounding landscaped areas will be managed and removed from the site by the designated landscaping contractors as they carry out scheduled landscaping maintenance works.

Garden organics generated from within residential units will be managed by the residents and should be disposed of into the FOGO bins.

5.6.3 RESIDENTIAL BULKY WASTE PROCEDURES

An area will be made available for the storage of discarded residential bulky waste items (e.g. whitegoods, furniture, etc.). This room should be located within close proximity of the residential bin holding room, and must have a minimum doorway width of 1.5m to facilitate the movement of large items in and out of the room. City of Sydney Council requires the area of the room to be a minimum of 24m² (this includes the additional 2m² for problem wastes).

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.

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

Residents will need to liaise with building management regarding the transportation of bulky items and the availability of the residential bulky waste room. It is the caretaker's responsibility to arrange collection dates with Council and coordinate these times with the residents.

On the day of bulky waste collection, a Council collection vehicle will enter the site Forbes Street and park in the loading bay via the aid of a turntable. Collection staff will collect the bulky waste items from the residential bulky waste room. Once bulky items have been loaded onto the vehicle, the collection vehicle will exit the site onto Forbes Street in a forward direction via the turntable.

5.7 SPECIALITY RECYCLING

An additional caged area will be allocated within the bulky waste storage room for the storage of discarded electrical items as well as other speciality waste streams. 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 general waste and recycling bins due to safety and environmental factors.

A designated 240L bin for the storage of electrical waste will be stored in this area, along with a separate 1100L bin for the storage of textile/clothing waste. Disposal or recycling of speciality waste streams will be organised with the assistance of the building caretaker. The caretaker, along with building management, will be responsible for arranging for servicing of these waste streams with Council or an appropriate contractor.

6.0 COMMERCIAL AND RETAIL WASTE MANAGEMENT

The following section outlines best practice waste management for the commercial and retail components of the development, including waste generation estimates and waste disposal and collection procedures.

6.1 COMMERCIAL AND RETAIL WASTE GENERATION ESTIMATES

The City of Sydney Councils 'Guidelines for Waste Management in New Developments (2018)' has been referenced to calculate the total number of bins required for the anticipated tenants. Calculations are based on generic generation rates. Actual volumes of waste and recycling may differ in operation according to the tenants' actual waste management practices.

The following table shows the estimated volume (L) of general waste and recycling that will be generated by the commercial and retail tenants. The following estimates are based on a seven-day operating week.

Table 5: Estimated Waste and Recycling Volumes – Commercial and Retail

Tenancy Type	GFA m ²	Waste Generation Rate (L/100m ² /Day)	Generated Waste (L/Week)	Recycling Generation Rate (L/100m ² /Day)	Generated Recyclables (L/Week)	FOGO Generation Rate (L/100m ² /Day)	Generated FOGO (L/Week)
Restaurant	1203	100	8418.2	500	30065.0	100	6013.0
Retail: General	515	25	902.0	200	5154.0	5	128.9
TOTALS	1718		9320		35219		6142
Bins and Collections		Bin Size (L)	1100	Bin Size (L)	1100	Bin Size (L)	240
		Bins/Week	8.5	Bins/Week	32.0	Bins/Week	25.6
		Collections/Week	3	Collections/Week	5	Collections/Week	3
		Total Bins	3	Total Bins	7	Total Bins	9

6.2 COMMERCIAL AND RETAIL BIN SUMMARY

Based on the estimated waste and recycling volumes generated the commercial and retail tenancies, the recommended bin quantities and collection frequencies are as follows:

	3 x 1100L bins collected 3 x weekly.
Recycling:	7 x 1100L bins collected 5 x weekly.
FOGO:	9 x 240L bins collected 3 x weekly.

Bin sizes, quantities, and/or collection frequencies may be modified by the building manager once the proposed development is operational. Building management will be required to negotiate any changes to bins or collections with the collection service provider. Seasonal peak periods should also be considered.

6.3 COMMERCIAL AND RETAIL WASTE DISPOSAL PROCEDURES

All tenancies will be responsible for their own general waste and recycling disposal procedures within their own vicinity. On completion of each trading day or as required, nominated staff or contracted cleaners will transport all general waste, recycling and FOGO to the commercial/retail bin room, and place into the appropriate collection bins.

Nominated staff and/or leaners will also circulate around the plaza, transporting each separated resource stream to the commercial/retail bin room with the aid of a trolley-device, accessing the area through lifts.

6.4 COMMERCIAL AND RETAIL WASTE COLLECTION PROCEDURES

A private waste contractor will be engaged to service the retail general waste and recycling bins as per an agreed collection schedule. This report assumes that each separated resource stream is collected based on the collection frequencies displayed in section 6.2.

On the day of service, a private waste collection vehicle will enter the site from Forbes Street and park in the loading bay via the turntable. The building caretaker will provide the driver with access to the commercial/retail waste room (onsite collection). Once the bins are serviced, the collection vehicle will exit the site onto Forbes Street in a forward direction via the turntable.

Please note: The collection of commercial/retail bins should occur on separate days from the collection of residential bins to ensure proper segregation of waste streams.

6.5 OTHER COMMERCIAL AND RETAIL WASTE MANAGEMENT CONSIDERATIONS

Based on the types of tenancies anticipated for this development, the following waste management practices are recommended.

6.5.1 WASHROOM FACILITIES

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.

6.5.2 FOOD WASTE (CITY OF SYDNEY)

Kitchens, tearooms, and service and food preparation areas will be provided with a dedicated receptacle to collect food waste. Staff or cleaners will be responsible for monitoring these receptacles and transferring food waste to the commercial/retail FOGO bins when full.

6.5.3 RE-USEABLE COMMERCIAL ITEMS (CITY OF SYDNEY)

Space will be provided back of house for the storage of re-usable commercial items such as crates, pallets, kegs and strip out waste. The building manager will be responsible for ensuring that storage of these items in public places is completely avoided.

6.5.4 BULKY & SPECIAL WASTE (CITY OF SYDNEY)

A room or caged area will be made available for the storage of discarded bulky items and special waste for recycling, such as e-waste and chemical waste. This room should have a minimum doorway width of 1.5m to allow for easy movement of large waste items in and out of the room. Based on the City of Sydney requirements, it is recommended that the bulky waste room is at least 4m² for this development.

6.5.5 LIQUID WASTE

Liquid wastes as such cleaning products, chemicals, paints, solvents, and motor and cooking oil will be stored in a secure room and enclosed by a low wall intended to contain any liquid spillage or inundation to other areas. Liquid waste will be drained to a grease trap, in accordance with legislation and the requirements of State government authorities and agencies. Further information can be provided by the Services Consultant.

6.5.6 PROBLEM WASTE

The building manager is responsible for making arrangements for the disposal and recycling of problem waste streams with an appropriate contractor. Problem wastes cannot be placed in the general waste stream as they can have adverse impacts to human health and the environment if disposed of in landfill. Retail and commercial tenants must liaise with the building manager when disposing of problem waste streams.

Problem waste streams include:

- Chemical Waste
- Liquid wastes
- Toner cartridges
- Lightbulbs
- eWaste
- Batteries

7.0 STAKEHOLDER ROLES & RESPONSIBILITIES

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

Table 6: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Strata, Body Corporate or Management	- Co-ordinate the waste strategy within the site. - Ensure all waste service providers submit monthly reports on all equipment movements and waste quantities/weights. - Organise internal waste audits/visual assessments on a regular basis. - Purchase any on-going waste management equipment or maintenance of equipment once building is operational; and - Manage any non-compliances/complaints reported through waste audits.
Building Manager or Waste Caretaker	- Co-ordinate general waste, recycling and FOGO collections - Clean and transport bins as required. - Maintain and clean chute doors on each level. - Organise replacement or maintenance requirements for bins. - Organise, maintain and clean bin storage areas. - Organise bulky waste collections when required. - Investigate and ensure prompt clean-up of illegally dumped waste materials. - Prevent storm water pollution by taking necessary precautions (secure bin rooms, prevent overfilling of bins). - Abide by all relevant WH&S legislation, regulations, and guidelines. - Provide staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management. - Assess any manual handling risks and prepare a manual handling control plan for bin transfers. - Ensure site safety for residents, children, visitors, staff and contractors; and - Ensure effective signage, communication and education is provided to occupants, tenants, maintenance staff, and cleaning contractors.
Residents	- Dispose of all general waste, recycling and FOGO in the allocated chutes and/or bins provided. - Ensure adequate separation of general waste, recycling and FOGO; and - Comply with the provisions of Council and the OWMP.
Retail/Commercial Tenants	- Management co-ordinates own private contractor collections. - Manage general waste and recycling within their tenancy during daily operations. - Correctly separate general waste and recycling streams. - Flatten cardboard within the recycling bin. - If required, arrange for storing used and unused cooking oil in a bunded area, - Organise grease interceptor trap servicing, and - Ensure the suitable storage for chemicals, pesticides and cleaning products waste back of house.
Waste Collection Contractor	- Provide a reliable and appropriate bin collection service. - Provide feedback to building managers/residents regarding contamination of recyclables; and - Work with building managers to customise waste systems where possible.
Gardening/Landscaping Contractor	Remove all garden organics generated during gardening maintenance activities for recycling at an offsite location.
Developer	Purchase all equipment required to implement this OWMP prior to the occupation of the building to be provided to the Strata or Body Corporate.

8.0 SOURCE SEPERATION

Better practice waste management includes the avoidance, reuse, and recovery of unwanted items, which can be achieved through source separation. The table below outlines what is typically included in various waste streams and how they can be managed. Refer to your local council for a list of accepted materials. Planet Ark can be accessed online to find other facilities that recover unwanted items.

Table 7: Operational Waste Streams

Waste Stream	Description	Typical Destination	Waste Stream Management
General Waste	The remaining portion of the waste stream that is not recovered for re-use, processing, or recycling. May include soft plastics, food scraps, polystyrene, etc.	Landfill	Waste should be bagged before placing in chutes, or in designated waste bins.
Recycling	A mixture of items that are commonly recycled usually segregated through a MRF. Typically include food and beverage containers (e.g. aluminium, glass, steel, hard plastics, cartons). Also included cardboard and paper products.	Resource Recovery Centre	Recycling must not be bagged, and instead should be placed loosely in the designated recycling chute. Bulky cardboard must not be placed in any chute. Cardboard should be flattened before placing in the designated cardboard recycling bin.
FOGO	FOGO consists of unwanted or uneaten kitchen scraps that are easily compostable/biodegradable (e.g. vegetable peels, fruit rinds, coffee grounds) and garden organics including lawn clippings, leaves, pruning's and branches.	Composting Facility	FOGO should be bagged in compostable liners when deposited into the chute/s or bins and will be collected by Council.
Food Waste	Food waste consists of unwanted or uneaten kitchen scraps that are easily compostable/biodegradable (e.g. vegetable peels, fruit rinds, coffee grounds).	Composting facility or Landfill	Food waste can be composted on-site, off-site, or else included in the general waste stream.
Secure Documents	Secure documents are printed paper materials that contain sensitive information.	Recycling Facility	Secure documents are placed in allocated secure document bins. Private contractor removes bins from site.
Electronic Waste	Discarded e-waste, electronic components and materials such as computers, mobile phones, keyboards, etc.	Resource Recovery Centre	Building manager arranges collection for e-waste recycling as needed by residents. Commercial tenants arrange for recycling of their own e-waste.
Bulky Waste Items	Items that are too large to place into general rubbish collection. This includes disused and/or broken furniture, mattresses, white goods, etc.	Resource Recovery Centre or Landfill	Residents liaise with building manager to store in Bulky Waste Room. Building manager arranges with Council for removal. Commercial tenants are responsible for removal of their bulky items.
Sanitary Waste	Feminine hygiene waste generated from female bathrooms.	Incineration or Landfill	Sanitary bins are serviced by sanitary waste contractor.
Other	Other recyclable items that require special recovery may include ink cartridges, batteries, chemical waste, fluorescent tubes, etc.	Resource Recovery Facility	Building manager arranges collection by appropriate recycling services when required.

9.0 MITIGATION MEASURES

The following sections provide mitigation measures for the operational phase of the activity.

9.1.1 EDUCATION

Educational material encouraging correct separation of general waste and recycling must be provided to all staff members and contractors. This should include the correct disposal process for bulky waste such as desks, chairs, large discarded items, and other materials including electronic and chemical wastes. It is recommended that school management ensures that information is provided in multiple languages to support correct behaviours, and to minimise the possibility of contamination in communal bins.

Education and communication must be provided consistently on a regular basis to encourage behaviour change and account for transient building personnel such as new tenants, or cleaning staff. Information should include:

- Descriptions of items accepted in the general waste and recycling streams (refer to Council guidance);
- How to dispose of bulky waste and any other items that are not general waste or recycling;
- Staff and students obligations to health and safety as well as building management; and
- How to prevent cross contamination among waste streams.

9.1.2 SIGNAGE

Signage and education are essential components to support best practice waste management including resource recovery, source separation, and diversion of waste from landfill. Signage should include:

- Clear and correctly labelled bins,
- Instructions for separating and disposing of waste items. Different languages should be considered,
- Locations of, and directions to, the waste storage areas with directional signs, arrows, or lines,
- The identification of all hazards or potential dangers associated with the waste facilities, and
- Emergency contact information should there be issues with the waste systems or services in the building.

School management is responsible for waste room signage including safety signage. 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 each bin. All signage should conform to the relevant Australian Standards.

9.1.3 POLLUTION PREVENTION

School 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:

- Promoting adequate waste disposal into the bins
- Securing all bin rooms (whilst affording access to staff/contractors)

- Prevent overfilling of bins, keep all bin lids closed and bungs leak-free
- Taking action to prevent dumping or unauthorised use of waste areas
- Require collection contractor/s to clean up any spillage when clearing bins

9.1.4 BIN WASHING

The bins will be cleaned by the building manager and or cleaners periodically to ensure hygiene and minimise odour. Bin washing can occur within the bin rooms, using the room clean down facilities (i.e., tap connection and drain). Alternatively, a specialist bin washing contractor can be engaged to clean the bins to an agreed schedule. The specialist bin contractor would collect the bins from the bin holding area and clean the bins with their specialised vehicle. It is recommended that a dustpan and a broom is provided in this room for staff and cleaners to clean up unexpected spillages when using bins.

10.0 EQUIPMENT SUMMARY

Table 8: Equipment Summary

	Part	Qty	Notes
Chutes	Please refer to supplier's information	8	(See APPENDIX: B.1 for Typical Dual Chute Layout)
Chute Equipment	Waste 2-bin 1100L MGB Linear Track System without Compactor	4	(See APPENDIX B.2 for Typical Linear System)
	Recycling 3-bin 1100L MGB Linear Track System 2-bin 1100L MGB Linear Track System	2 2	(See APPENDIX B.2 for Typical Linear System)
Other Equipment	-Bin Tug Device (Handheld)	1	(See APPENDIX: D.1 for Typical Bin Movers)

11.0 WASTE ROOMS

The areas allocated for waste storage and collection areas are detailed in the table below and are estimates only. The equipment recommended in the chute discharge rooms is to manage 2 days' worth of estimated general waste and recycling from that building core. Therefore, this represents the minimum equipment required in these rooms to satisfy best practice requirements. Additional bins or volume handling equipment can be included in these rooms to increase days of capacity or manual labour required in operation.

Table 9: Residential FOGO Waste Room Areas

Level	Waste Room Type	Equipment	Estimated Area Recommended (m ²)	Area Provided (m ²)
Plaza Level	Bright-Forbes St FOGO Bin Room	FOGO: 2 x 120L Bins	3	3
Plaza Level	William St West FOGO Bin Room	FOGO: 6 x 120L Bins	5	5
Plaza Level	William St East FOGO Bin Room	FOGO: 6 x 120L Bins	5	8
Plaza Level	Tribe-Dowling St FOGO Bin Room	FOGO: 2 x 120L Bins	3	3

Note: full bins will be swapped with empty bins as required between the FOGO bin rooms and main bin storage room.

Table 10: Waste Room Areas

Level	Waste Room Type	Equipment	Estimated Area Recommended (m ²)	Area Provided (m ²)
B01	Bright-Forbes St Chute Discharge Room	<u>Service bins:</u> General waste: 1 x 1100L bin Recycling: 1 x 1100L bin <u>Equipment:</u> General waste: 2-bin 1100L linear tracks Recycling: 2-bin 1100L linear track	27	57
Plaza Level	William St West Chute Discharge Room	<u>Service bins:</u> General waste: 1 x 1100L bin Recycling: 2 x 1100L bins <u>Equipment:</u> General waste: 2-bin 1100L linear tracks Recycling: 3-bin 1100L linear track	34	34
B01	William St East Chute Discharge Room	<u>Service bins:</u> General waste: 1 x 1100L bin Recycling: 2 x 1100L bin <u>Equipment:</u> General waste: 2-bin 1100L linear tracks Recycling: 3-bin 1100L linear track	34	47
B01	Tribe-Dowling St Chute Discharge Room	<u>Service bins:</u> General waste: 1 x 1100L bin Recycling: 1 x 1100L bin <u>Equipment:</u> General waste: 2-bin 1100L linear tracks Recycling: 2-bin 1100L linear track	25	45
Plaza Level	Residential Bin Holding Room	General waste: 15 x 1100L bins Recycling: 28 x 1100L bins FOGO: 17 x 120L bins 1 x Bin tug.	128	>128
Plaza Level	Residential Bulky & Specialty Waste Room	Textiles: 1 x 1100L Bin eWaste: 1 x 240L Bin <i>*Includes 2m² additional for textiles/eWaste</i>	24	>24
Plaza Level	Commercial / Retail Bin Room	General waste: 3 x 1100L bins Recycling: 7 x 1100L bins FOGO: 9 x 240L bins 1 x Bin Tug	38	41
Plaza Level	Commercial / Bulky Waste Room		4	4

*William St West chute room will be caged off, and some bins will be stored between the residential bin holding room, and this chute discharge room.

EFC recommends bins sizes, collection frequencies and/or equipment for best practice waste management at this site, however EFC also acknowledges there are a range of other suitable options that may alter waste room requirements (e.g. floor area, accessibility, head height, etc.)

The waste room areas have been calculated based on equipment requirements and/or bin dimensions with an additional 90% of bin GFA factored in for manoeuvrability. In addition, all doorways and passageways facilitating the movement of bins and/or bulky waste items must be at least 1800mm wide.

The following table provides further waste room requirements.

Table 11: Waste Room Requirements

Waste Room Type	Waste Room Requirements
Chute Discharge Room	• Ceiling clearance height must be a minimum of 3000mm (subject to penetration location) • The chute penetration must have a minimum 500mm clearance of any service pipes or other overhead obstacles • All chute discharge points should be caged off to ensure the safety of any personnel accessing the waste room • 200mm clearance is required around equipment • Where a chute offset is required, the angle of the offset must not exceed 30 degrees (subject to number of consecutive offset and/or up to 1500mm)
Residential Bin Holding Room and/or Bin Collection Area	• Bins must not be stacked in rows that are more than two bins deep.
Communal FOGO Rooms	• Bins should be arranged so that all bins are accessible. Bins are not to be placed in front of one another or in such a way as to restrict access to the other bins for use. • Rooms must be well ventilated either naturally or mechanically in accordance with AS1668.4.2012 • Cleaning facilities such as hose hock and drainage for odour and hygiene control must be provided. • It is recommended a dustpan and broom is provided in this room for residents to clean up unexpected spillages when using bins.
Bulky Waste Room	• May be a dedicated room or screened area within another waste room • Must be in close proximity to the collection area • Area must also be allocated for the segregation of e-waste, gas bottles, cardboard, etc. • Doorway should be a minimum of 1500mm wide
Retail/Commercial Waste Room	• In order to ensure staff safety, all bins should be arranged so they can be accessed without moving another bin • Bins must be coordinated with the hinge of the lid facing the back. This is to allow for ideal access to the bin.

12.0 CONCLUDING STATEMENT

In conclusion, this Operational Waste Management Plan, prepared by T. McPherson supports the waste requirements listed in the SEARs for Waste Management. The report promotes best practice waste management, minimizing waste generation, and maximizing reuse. It ensures efficient design, storage, and equipment for sustainable operations, meeting the SEARs requirements for waste management.

13.0 CONSTRUCTION REQUIREMENTS

Waste room construction must comply with the minimum standards as outlined in the *City of Sydney Development Control Plan 2012*, in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area.

The *NSW Better practice guide for resource recovery in residential developments (2019)* also states that better practice bin storage areas should achieve more than the minimum compliance requirements, which are as follows:

- Ensuring BCA compliance, including ventilation. Where required, ventilation system must comply with AS1668.4-2012 The use of ventilation and air conditioning in buildings.
- Ensuring storage areas are well lit (sensor lighting preferred) and have lighting available 24 hours a day.
- Provision of bin washing facilities, including taps for hot and cold water provided through a centralised mixing valve. The taps must be protected from bins and be located where they can be easily accessed even when the area is at bin capacity.
- Floor constructed of concrete at least 75mm thick.
- Floor graded so that any water is directed to a sewer authority approved drainage connection to ensure washing bins and/or waste storage areas do not discharge flow into the stormwater drain.
- Provision of smooth, cleanable and durable floor and wall surfaces that extend up the wall to a height equivalent to any bins held in the area.
- Ensuring ceilings are finished with a smooth-faced non-absorbent material capable of being cleaned.
- All surfaces (walls, ceiling and floors) finished in a light colour.

13.1 ADDITIONAL CONSIDERATIONS

- Waste room floor to be sealed with a two-pack epoxy;
- All corners coved and sealed 1,200mm up, this is to eliminate build-up of dirt;
- Hot and cold water tap height and light switch 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 finished floor level;
- Optional automatic odour and pest control system installed
- If 660L or 1100L bins are utilised, 2 x 820mm (minimum) double-doors must be used;
- All personnel doors are hinged, lockable and self-closing;
- Conform to the Building Code of Australia, Australian standards and local laws; and
- Childproofing and public/operator safety shall be assessed and ensured
- 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. Mechanical exhaust systems shall comply with AS1668.4.2012 and not cause any inconvenience, noise or odour problem; or
 - Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area.

14.0 USEFUL CONTACTS

EFC does not warrant or make representation for goods or services provided by suppliers.

LOCAL COUNCIL

City of Sydney Customer Service Ph: (02) 9265 9333 E: council@cityofsydney.nsw.gov.au

PRIVATE WASTE COLLECTION PROVIDER

Capital City Waste Services	Ph: 02 9599 9999	E: service@ccws.net.au
Sydney Waste	Ph: 02 8661 0031	
Waste Clear	Ph: 1300 525 352	E: admin@wasteclear.com.au

BIN MOVING DEVICE SUPPLIERS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
Sitecraft	Ph: 1300 363 152	E: sales@sitecraft.com.au

BALER SUPPLIERS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
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ORGANIC DIGESTERS AND DEHYDRATORS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
Waste Master	Ph: 1800 614 272	E: hello@wastemasterpacific.com.au

COOKING OIL CONTAINERS AND DISPOSAL

Cookers	Ph: 1300 882 299	E: info@cookers.com.au
Auscol	Ph: 1800 629 476	E: sales@auscol.com

ODOUR CONTROL

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
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SOURCE SPERATION BINS

Method Recycling	Ph: 0499 890 455
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BINS AND BIN EQUIPMENT

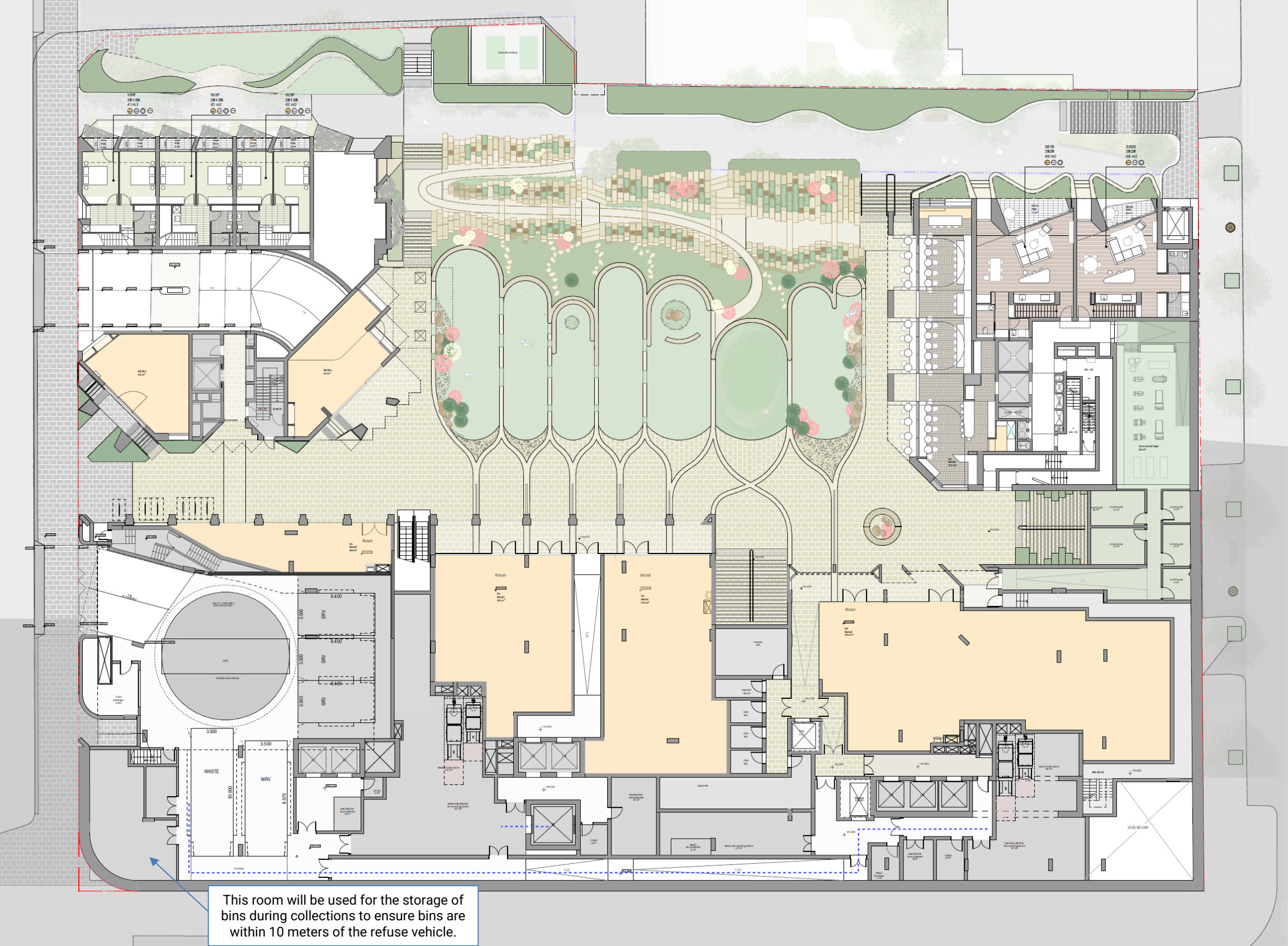
Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
SULO	Ph: 1300 364 388	E: sulosales@pactgroup.com

CHUTES, COMPACTORS AND EDIVERTER SYSTEMS

Elephants Foot Chute Solutions	Ph: 1300 435 374	E: chutes@elephantsfoot.com.au
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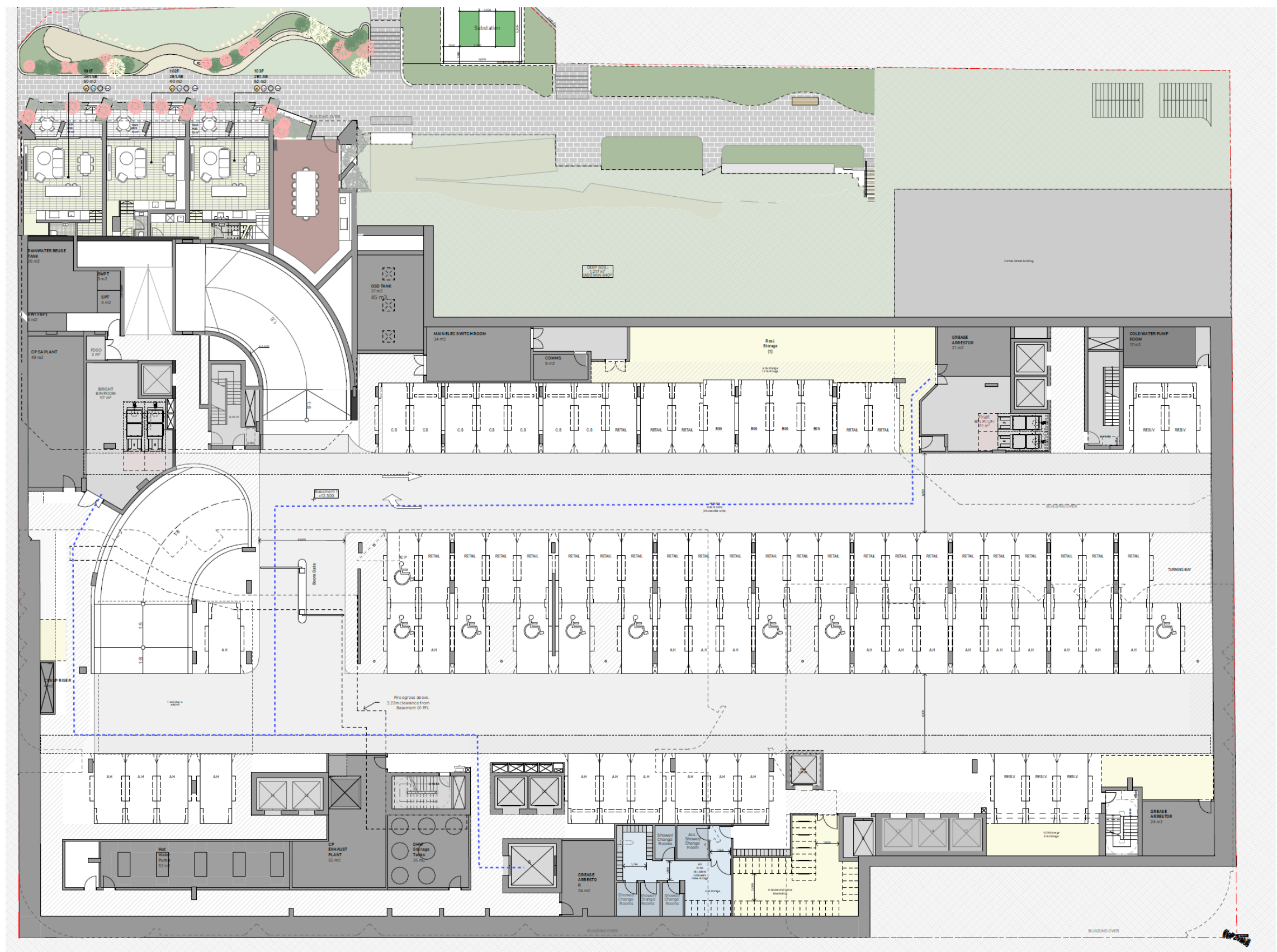
APPENDIX A: ARCHITECTURAL PLANS

APPENDIX: A.1 PLAZA LEVEL



Source: FJC Studio, Sheet no. 2001, 22.08.2025 – Plaza Level.

APPENDIX: A.2 BASEMENT 01 LEVEL



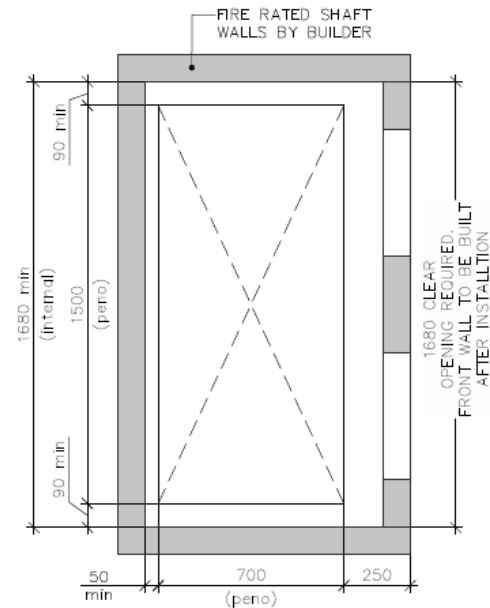
Source: FJC Studio, Sheet no. 2003, Rev 2, 28.03.2026 - Basement 1.

APPENDIX B: INSTALLATION EQUIPMENT

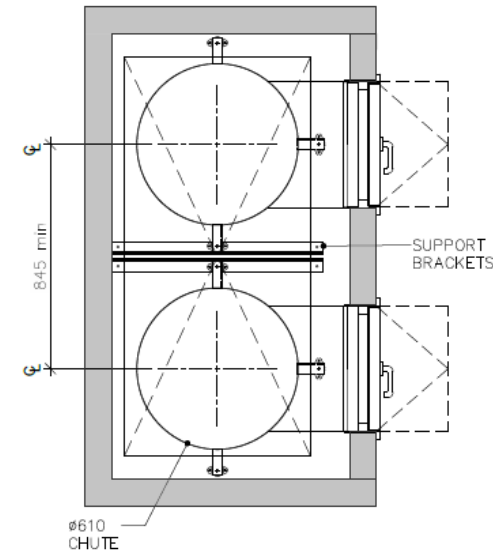


CHUTE SHAFT & PENETRATION SET-OUT

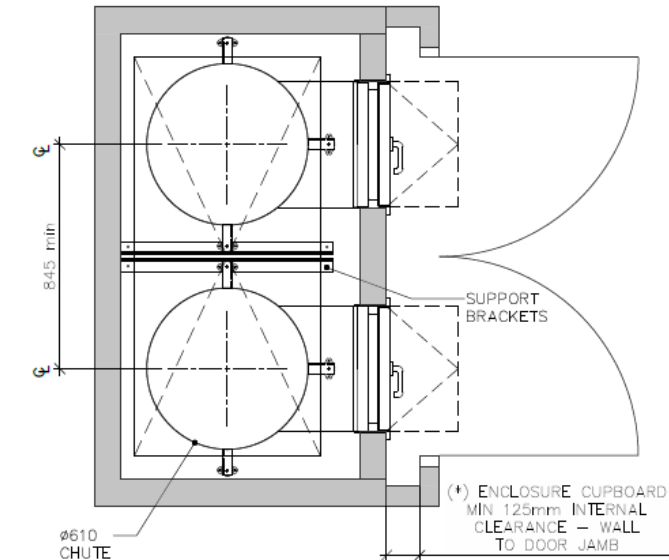
DUAL Ø610 STEEL



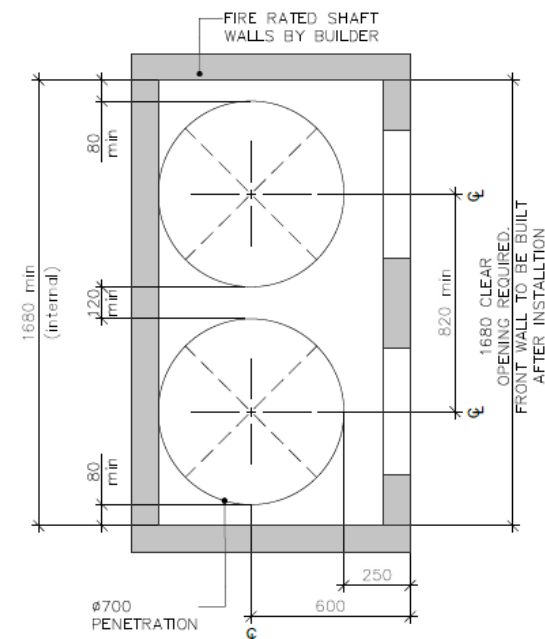
01 DUAL (610Ø) GALV. STEEL CHUTE LAYOUT PENETRATION SET-OUT



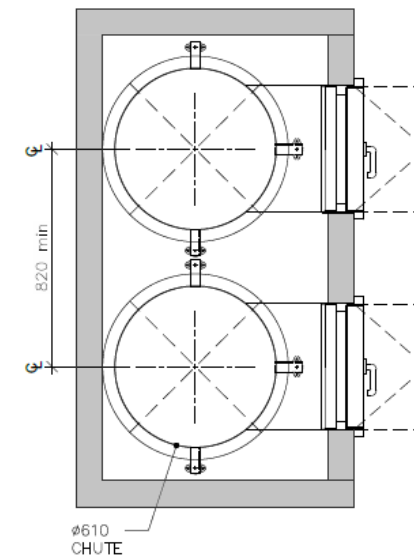
02 DUAL (610Ø) GALV. STEEL CHUTE LAYOUT



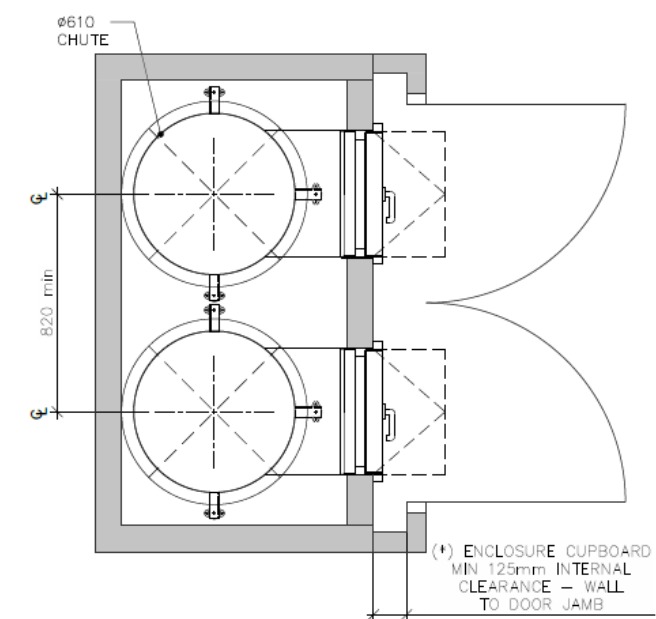
03 DUAL (610Ø) GALV. STEEL CHUTE LAYOUT with ENCLOSURE CUPBOARD (*)



04 DUAL (610Ø) GALV. STEEL CHUTE LAYOUT WITH CIRCULAR PENETRATION SET-OUT



05 DUAL (610Ø) GALV. STEEL CHUTE LAYOUT (W/ CIRCULAR PENETRATION)



06 DUAL (610Ø) GALV. STEEL CHUTE LAYOUT with ENCLOSURE CUPBOARD (*)

(*) NOTE: ENCLOSURES ARE RECOMMENDED IF THE CHUTE OPENS DIRECTLY TO A CORRIDOR OR IS NOT LOCATED IN A WASTE ROOM. IF CHUTE ACCESS IS WITHIN A WASTE ROOM THEN THE CUPBOARD ENCLOSURES ARE NOT REQUIRED.

SCALE 1:25 @ A3

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



APPENDIX: B.2 TYPICAL LINEAR TRACK SYSTEM FOR 1100L MGBS



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

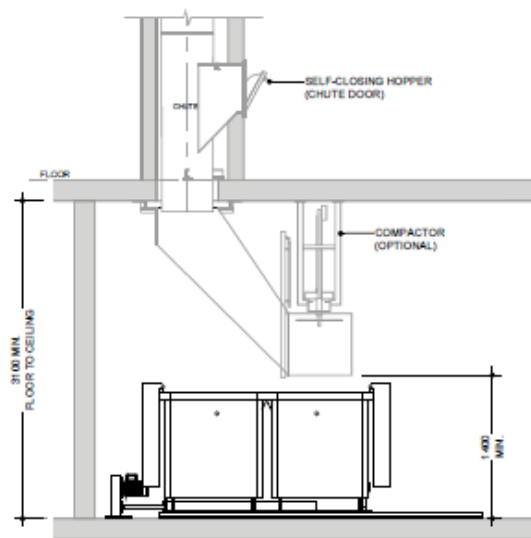
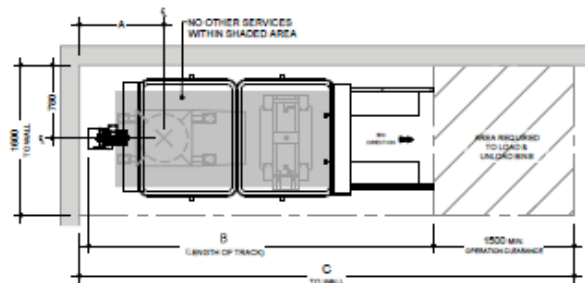


1,100 LITRE LINEAR TRACK SYSTEM



No. of Bins	Reference (mm)		
	A	B	C
2	900	3700	5300
3	2100	5940	7550

Available with or without compaction unit, our standard 1100 litre bin Linear Track System is available in the standard 2 bin option. Our 3 Bin option is available as a special order.



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 C: PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX: C.1 TYPICAL BIN SPECIFICATIONS

Mobile bins

Mobile bins come in a variety of sizes and are designed for lifting and emptying by purpose-built equipment.

Mobile bins with capacities of up to 1700L must comply with *AS4123.6-2006 Mobile waste containers* which specifies standard sizes and sets out the colour designations for the bodies and lids of mobile waste containers indicating the type of materials they are used to collect.

The most common bin sizes are provided below, although not all sizes are shown. The dimensions are a guide only and differ slightly between manufacturers. Some bins have flat or domed lids and are used with different lifting devices. Refer to *AS4123.6-2006* for further details.

Table G1.1: Average dimension ranges for two-wheel mobile bins



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

Wheelie bin

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

Table G1.2: Average dimension ranges for four-wheel bulk bins



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

Dome or flat lid container

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

Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

APPENDIX: C.2 SIGNAGE FOR WASTE AND RECYCLING BINS

Waste signs

Signs and educational materials perform several functions including:

- informing residents why it is important to recover resources and protect the environment
- providing clear instructions on how to use the bins and services provided
- alerting people to any dangers or hazards within the bin storage areas.

All waste, recycling and organic bins should be Australian Standard colours and clearly and correctly labelled, such as by a sticker on the lid and/or the body of the bin.

Communal bin storage areas should be clearly signposted with signs outlining how to correctly separate waste into the bins provided. The local council responsible for waste services may be a good source of signs and posters and can advise on what signs are suitable.

Information on who to contact to find out more about the recycling and/or other resource recovery services in the building should also be displayed in communal areas, such as on a noticeboard.

The Planet Ark website also has resources available free of charge for use by businesses and councils. These signs can be found at businessrecycling.com.au/research/signage.cfm

Figure I1.1: Examples of waste wall posters (EPA supplied)



Figure I1.2: Examples of bin lid stickers (EPA supplied)



Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

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.

Figure I2.1: Problem waste signs



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.

Figure I3.1: Example safety signs



Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority



APPENDIX: C.3 RESIDENTIAL WASTE COLLECTION VEHICLE

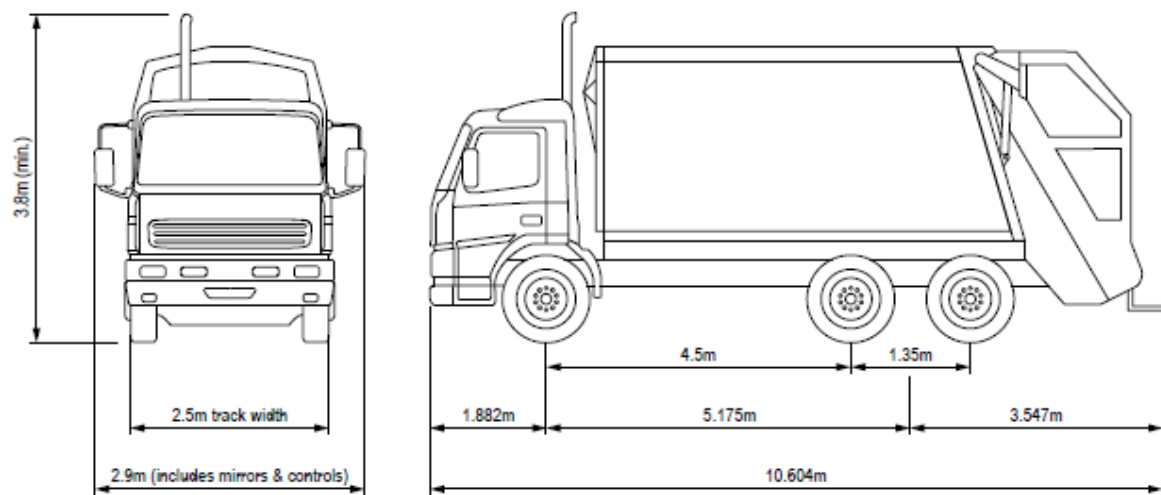
Design requirements for collection vehicle access

Loading docks, ramps and waste collection points must provide for access for vehicles as per section 3.11.13 of the Sydney Development Control Plan. Waste collection vehicles may be side loading, rear loading or front-end loading. The size of vehicle varies according to the collection service.

Council waste collection vehicle dimensions and design parameters for swept path analysis

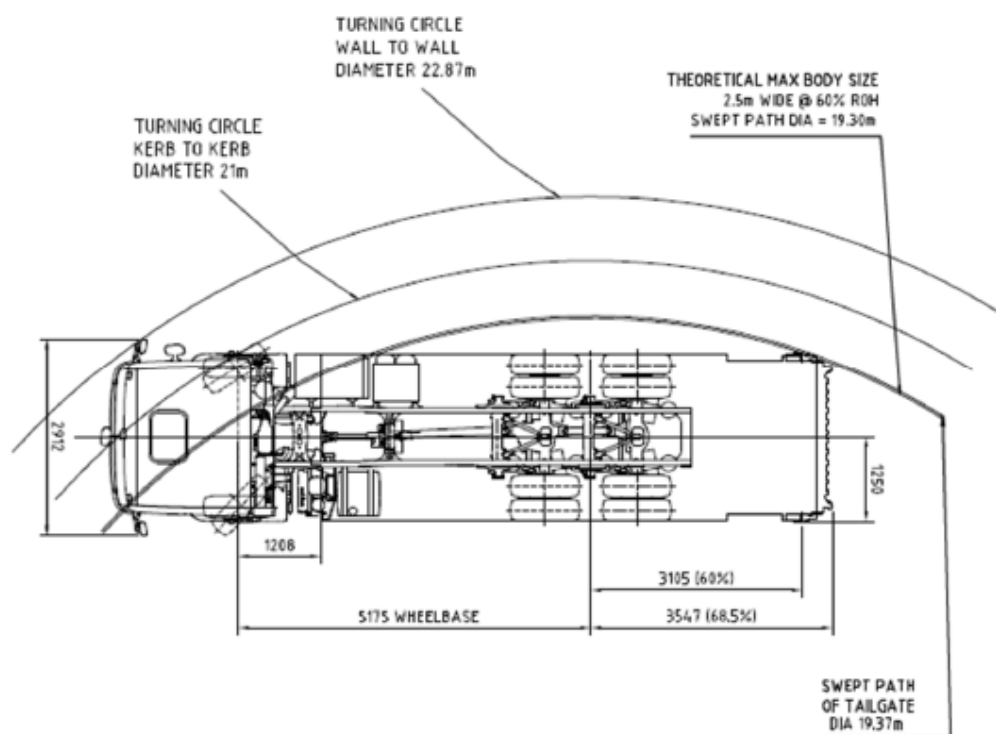
Council and its waste contractors use rear-loading, compacting collection vehicles of various capacities up to 24m³ for collecting waste, recycling and bulky waste. The following dimensions are of a typical rear loading collection vehicle and should be used as the design parameters for a swept path analysis in developments comprising residential uses.

Rear loading vehicle	dimensions
Overall length (m)	10.6
Overall width including mirrors (m)	2.9
Track width (m)	2.5
Travel height (m)	3.8
Minimum vertical clearance required (m)	4
Minimum body ground clearance (m)	0.3
Maximum weight (t)	30
Turning circle radius – kerb to kerb (m)	10.5
Lock to lock time (sec)	4
Minimum clearance on both sides of the wheel path (mm)	600
Vehicle turning speed (km/hr)	5-10



Note: Truck not drawn to scale

10.6m Council collection vehicle (side view)



10.6m Council collection vehicle (top view)

Source: City of Sydney Councils' 'Guidelines for Waste Management in New Developments 2018

APPENDIX: C.4 EXAMPLE COLLECTION VEHICLE INFORMATION

General

Appropriate heavy rigid vehicle standards should be incorporated into the road and street designs in new developments where onsite collections are proposed. Road and street designs must comply with relevant Acts, regulations, guidelines, and codes administered by Austroads, Standards Australia, NSW Roads and Maritime Services, WorkSafe NSW and any local council traffic requirements.

Applicants and building designers should consult with councils and other relevant authorities before designing new roads or streets and access points for waste collection vehicles to establish specific design requirements.

Table H4.1: 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: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

Large collection vehicles

Waste collection vehicles may be side-loading, rear-loading, front-lift-loading, hook or crane lift trucks. Vehicle dimensions vary by collection service, manufacturer, make and model. It is not possible to provide definitive dimensions, so architects and developers should consult with the local council and/or contractors.

The following characteristics represent typical collection vehicles and are provided for guidance only. Reference to *AS2890.2 Parking facilities: off-street commercial vehicle facilities* for detailed requirements, including vehicle dimensions, is recommended.

Table B2.1: Collection vehicle dimensions

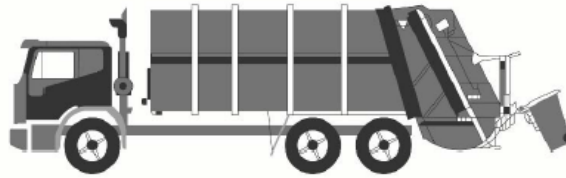
Vehicle type	Rear-loading	Side-loading*	Front-lift-loading	Hook truck	Crane truck
Length overall (m)	10.5	9.6	11.8	10.0	10.0
Width overall (m)	2.5	2.5	2.5	3.0	2.5
Travel height (m)	3.9	3.6	4.8	4.7	3.8
Operational height for loading (m)	3.9	4.2	6.5	3.0	8.75
Vehicle tare weight (t)	13.1	11.8	16.7	13.0	13.0
Maximum payload (t)	10.0	10.8	11.0	14.5	9.5
Turning circle (m)	25.0	21.4	25.0	25.0	18

* The maximum reach of a side arm is 3 m.

Sources: JJ Richards, SUEZ, MacDonald Johnson, Cleanaway, Garwood, Ros Roca, Bingo and Edbro. Figures shown represent the maximum dimensions for each vehicle type.

Rear-loading collection vehicles

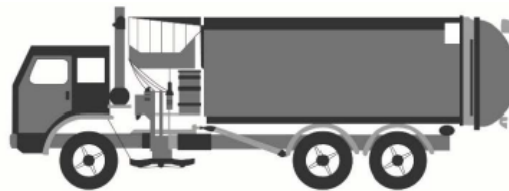
These vehicles are commonly used for domestic waste collections from MUDs and RFBs and sometimes for recycling. They can be used to collect waste stored in mobile bins or bulk bins, particularly where bins are not presented at the kerbside. They are also used for collecting bulky waste.



Rear-loading waste collection vehicle

Side-loading collection vehicles

This is the most commonly used vehicle for domestic waste, recycling and organics collections. It is only suitable for collecting mobile bins up to 360L in capacity.



Side-loading waste collection vehicle

Front-lift-loading collection vehicles

These vehicles are commonly used for collecting commercial and industrial waste. They can only collect specially designed front-lift bulk bins and not mobile bins.



Front-lift-loading waste collection vehicle

Small collection vehicles

Typically, councils and their contractors operate with large collection vehicles (heavy rigid class vehicles) because they carry greater payloads and allow for more cost-effective collection services. Some councils, or their contractors, may have smaller collection vehicles in their fleet. Early discussion with the council is important to confirm this, but it should not be assumed that the council will have access to small collection vehicles.

The waste management systems and the location of the collection point should always be designed so that the council can provide the standard domestic waste service.

Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

APPENDIX D: SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX: D.1 EXAMPLE HANDHELD BIN MOVERS

movexx
smart electric tugs

MOVEXX T2500 BIN MOVER BATTERY ELECTRIC

Movexx T2500 Tow Tug is an extremely user friendly battery powered mobile towing unit that is ideal for applications where trolleys and rolling objects need to be moved from one place to another simply, efficiently and without physical effort. Some standard features included are: battery indicator, on board battery charger, battery, adjustable handle, dual speed and electric brake.

These units are fitted with an electromagnetic brake system for use on ramps and slopes

Features

- Electromagnetic brake for use on ramps and slopes
- Adjustable height handle



SPECIFICATION				
MODEL	DIMENSIONS (MM)	OPTIONS	PULL - PUSH CAPACITY (KG)	BATTERY
T2500-D	511 (w) x 757 (l)	* Centre mount 2x 240 lt. wheelie bin attachment	2500	AGM batteries 2x 85AH up to 8 hrs continuous operation
TOWING CAPACITY - ON FLAT GROUND (all models)		TOWING CAPACITY - SLOPE (all models)		
Towing up to 4x 660 lt. Wheelie Bin		Towing up to 2x 660 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)		
Towing up to 4x 1100 lt. Wheelie Bin		Towing up to 1x 1100 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)		
**Electromagnetic brake for use on ramps and slopes				



Please Note: This is an example only – please contact supplier for specific recommendations.

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: D.2 EXAMPLE BIN TOWING ATTACHMENTS



UNIVERSAL BIN TOWING ATTACHMENTS

SUITE 660LT / 1100LT WHEELIE BINS

PARTS & FEATURES

Front Only - Part Number: 78811672

- Suit Sulo & Otto 600lt / 1100lt MGBs
- Spring loaded draw bar folds up
- No drilling of holes in the bin required
- Solidly fixed to the base of the bin using the castor mounting bolts
- Passivated zinc finish for long life
- Correct Rear Fixed or Directional Lock castors should be used

Rear Only - Part Number: 78811673

- Suit Sulo & Otto 600lt / 1100lt MGBs
- No drilling of holes in the bin required
- Solidly fixed to the base of the bin using the castor mounting bolts
- Passivated zinc finish for long life
- Correct Rear Fixed or Directional Lock castors should be used

For Steel Bin Front Only - Part Number: 78811781

- Suit Sulo & Otto 600lt / 1100lt MGBs
- No drilling of holes in the bin required
- Solidly fixed to the base of the bin using the castor mounting bolts
- Passivated zinc finish for long life
- Correct Rear Fixed or Directional Lock castors should be used

Direction Lock : 53191001

- Suit Sulo & Otto 600lt / 1100lt MGBs
- No drilling of holes in the bin required
- Solidly fixed to the base of the bin using the castor mounting bolts
- Passivated zinc finish for long life
- Correct Rear Fixed or Directional Lock castors should be used



Please Note: This is an example only – please contact supplier for specific recommendations.

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: D.3 EXAMPLE BALER

EF 300

This baler is suitable for premises with substantial waste. It produces an excellent bale of plastic or cardboard. It is an excellent starter machine for mill size bales.

EF300 baler produces bales of cardboard up to 250kg, making it possible to gain revenue on bales. It can be used to bale a range of materials including plastic and cardboard.

Features

- Two hand control for safe bale ejection
- Produces up to 250 kg bale cardboard which can be sold
- Visual bale full indicator informs operator when bale is full
- Automatic cycle saves labour time
- User friendly push button controls
- Robustly constructed for long life
- IP55 rated so machine can be situated outdoors

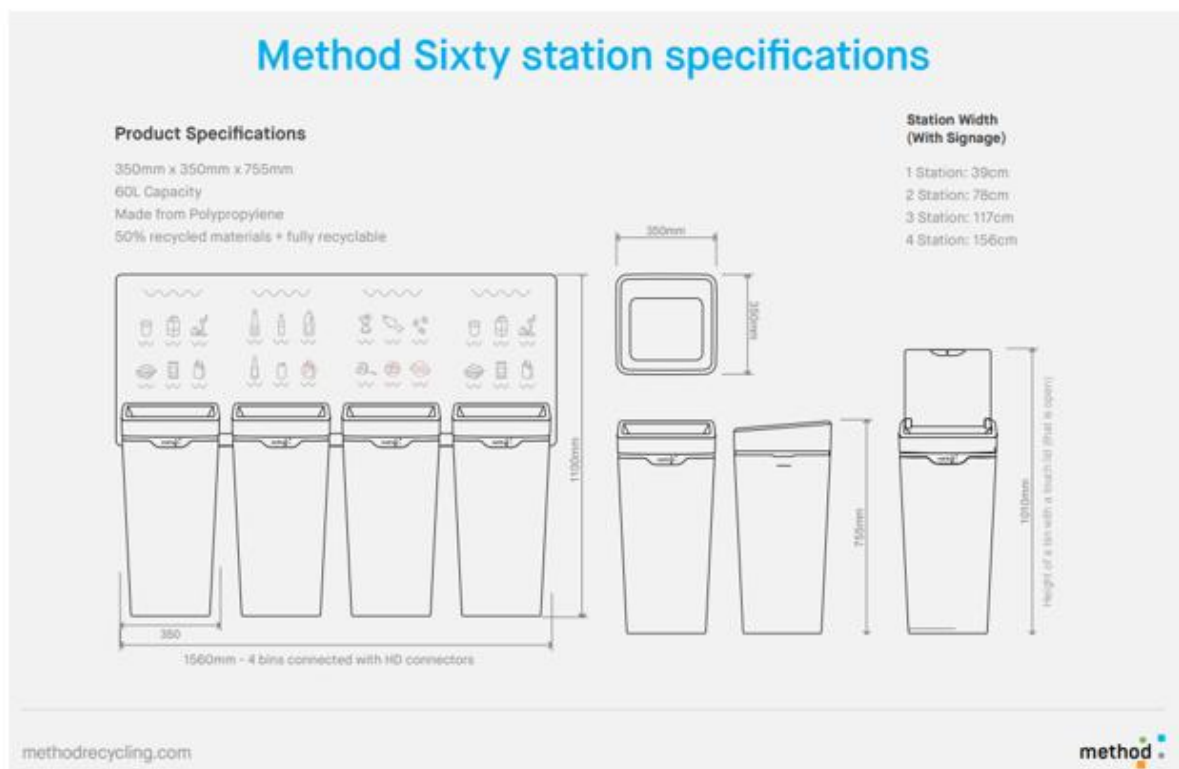
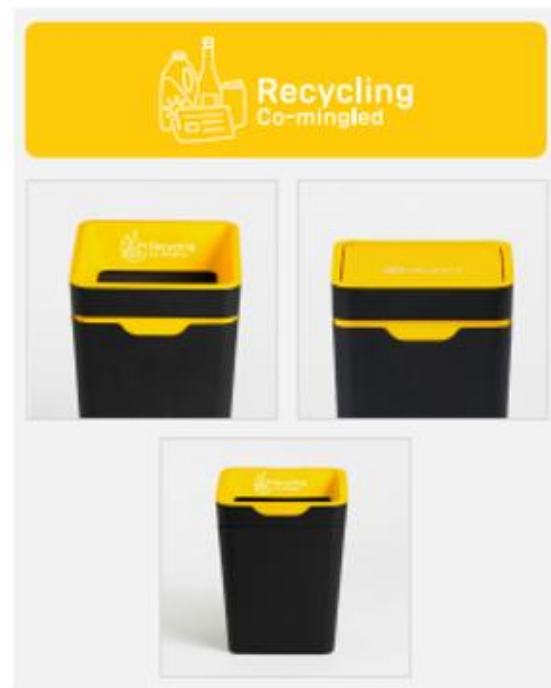
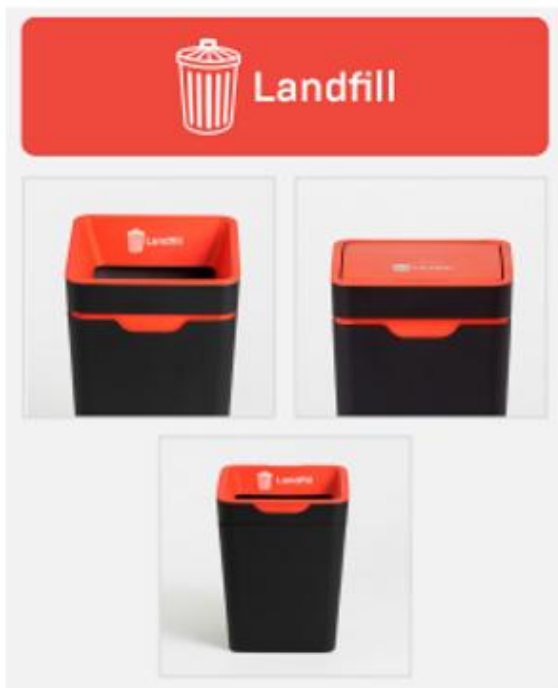


Specifications	
Dimensions HxWxD	2900x1500x1050
Feed Opening L x H (mm)	1100x500
Weight (Kg)	1900
Cycle Time (sec)	30
Compaction Force (T)	30
Power Supply (V)	415v 3 phase 20A
Motor (kW)	5.5kw
Chamber Height (mm)	1400
BALE DIMENSIONS	
HxWxD (mm):	900x700x1100
Bale Weight (kg):	Up to 250 (cardboard)

Please Note: This is an example only – please contact supplier for specific recommendations.

Source: Elephants Foot Equipment - www.elephantsfoot.com.au/equipment/

APPENDIX: D.4 EXAMPLE SOURCE SEPARATION RECEPTACLES



Source: Method Recycling - www.methodrecycling.com