Crows Nest Over Station Development (Site A)
Amending Concept SSDA,
32 Hume Street, Crows Nest NSW

Amending Concept SSDA – SSD-75662958

OPERATIONAL WASTE MANAGEMENT PLAN

24/03/2025
Report No. 6004
Revision G

Client

Thirdi Group
https://thirdigroup.com.au/

Architect

Woods Bagot
https://www.woodsbagot.com/

ABN: 47 644 736 514
ELEPHANTS FOOT CONSULTING. PTY LTD
1300 456 374 | consulting@elephantsfoot.com.au
www.elephantsfoot.com.au

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GLOSSARY OF ABBREVIATIONS AND TERMS

TERM	DESCRIPTION
Bin-Carting Route	Travel path for transporting bins from their allocated storage location to the nominated collection point
Bin Lifter	A device used to mechanically lift bins for the purpose of emptying them into larger bins and/or compactors.
Bin Mover	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
Bulky Waste	Recycling items that are too large to be deposited into bins, including furniture, whitegoods, electronics and mattresses
Chute	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.
Chute Discharge	The termination point of a chute whereby the chute offsets deposited general waste, recycling or FOGO into bins
Chute Discharge Room	A room enclosing the termination point of the chute/s, including bins and volume handling equipment that is accessible only to the building caretaker
Collection Area/Point	Designated area or point where bins are loaded onto the collection vehicle for servicing
Compactor	A device used for compressing general waste inside it's bin typically at a ratio of 2:1
Communal Bin Room	A central, shared bin room accessible to all residents or staff to dispose of their waste stream
DA	Development Application
DCP	Development Control Plan
EPA	Environment Protect Authority
FOGO	Food Organics and Garden Organics
General Waste	All non-recyclable and non-hazardous waste that is sent to landfill
HRV	Heavy Rigid Vehicle
L	Litre
LEP	Local Environmental Plan
Mixed Use Development	A development comprising a combination of both residential and commercial units or two or more different land uses within the one development.
Mobile Bins	Containers with a capacity up to and including 1100L designed to be collected by a rear-loading vehicle
MRV	Medium Rigid Vehicle

Onsite Collection	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.
Owners Corporation	An organisation or group of persons that is identified by a particular name and that acts, or may act, as an entity
Recycling	Waste stream that combines all recycling, including comingled recycling, paper/cardboard and metals.
Ro-Ro Compactor Unit	A large, portable compactor unit which is collected and serviced by a hook lift vehicle
Service Bins	Supplementary bins which are provided to residents or staff for use during collection periods either in communal bin rooms or under chutes
Source Separation Receptacles	Communal containers used throughout the development for the day-to-day disposal of different waste streams
SRV	Small Rigid Vehicle
Volume Handling Equipment	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
Waste Stream	A classification used to describe waste of a particular type (eg. food waste stream)
WHS	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 STATEMENT

I, Hannah Wilkes, confirm this Amending SSDA addresses the requirement of SEAR No. SSD-75662958 and relevant State and local legislation, policies, and guidelines. I further confirm that none of the information contained in the Amending SSDA is false or misleading.

Hannah Wilkes – Senior Waste Consultant

3.0 INTRODUCTION

Elephants Foot Consulting (EFC) has been engaged to prepare the following Operational Waste Management Plan (OWMP) for the mixed-used development located at the Crows Nest OSD (Site A), 32 Hume Street, Crows Nest NSW.

Robust waste management strategies are required for new developments to support the design and sustainable performance of the building. It is EFC'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 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.

It is vital that this OWMP is integrated into the overall management of the building and is clearly communicated to all relevant stakeholders.

3.1 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.

3.2 PLANNING SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS – 18. WASTE MANAGEMENT

The following table identifies the relevant SEARs items and where these are addressed in this report:

Table 1: SEARs Items- 19 Waste Management

Item	Corresponding Section
Identify, quantify and classify the likely waste streams to be generated during construction and operation.	Section 8.1, Section 9.1 and Section 11 of the OWMP
Provide the measures to be implemented to manage, reuse, recycle and safely dispose of waste in accordance with any council waste management requirements.	Sections 8 to Section 15 of the OWMP
Identify appropriately sited waste storage areas, collection access paths/roads, and appropriate servicing arrangements for the site.	Sections 8.4, 8.5, 9.3 and 9.4 of the OWMP
If buildings are proposed to be demolished or altered, provide a hazardous materials survey.	This would be addressed in a report separate to this OWMP.

3.3 MODIFACTION CONSENT SSD-9579

Condition B30 of the modification consent application number SSD-9579 is relevant to operational waste management.

B30. Future development application(s) shall include an Operational Waste Management Plan to address storage, collection, and management of waste and recycling within the development.

This operational waste management plan addresses condition B30.

3.4 REPORT CONDITIONS

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.

4.0 COMPARATIVE ANALYSIS

The table below outlines the comparison between the approved concept DA Waste Strategy Report of *Sydney Metro City & Southwest: Crows Nest OSD 2020* and the following proposed amended concept SSDA.

Table 2 Comparative Analysis between the Approved Concept DA and the Amended Concept DA

Waste Management Component	Concept DA OWMP (SMEC 2020)	Amended concept DA OWMP (Elephants Foot 2025)
Tenancy: Waste Generation Rates	- Residential Apartments: 120L/week (3 bedroom), 100L/week (2 bedroom), 80L/week (1 bedroom/studio) - Retail: 150L/m^2/day - Community Center: 50L/m^2/day - Daycare	- Residential units: 120L/week - Retails: General waste: Range between 50 to 150L/100m^2/day Recycling: range between 100 to 120L/100m^2/day Depending on the retail tenancy type - Gymnasium: General waste: 20L/100m^2/day Recycling: 15L/100m^2/day
Number of units	350	474
Waste Type Quantities	General waste: 36,104L/week Recycling: 36,104L/week	General waste: 37,920L/week (compacted at 1.5:1) Recycling: 56,880L/week FOGO: 11,850L/week
Collection Frequency of Residential Waste	Five times per week	General waste and recycling: twice per week FOGO: once per week
Bin sizes	1,100L	1,100L for general waste and recycling 240L for FOGO
Total Area of Retail/Commercial Tenancies (m^2)	1590	4296
Chutes	Dual chute system: One for residual waste and one for recycling	Triple chute system (one for waste, recycling and FOGO)
Storage of Waste	Space within each premise to store up to one days' worth of waste	Waste Room Areas, their levels and equipment are provided in Table 14 of this OWMP
Storage of Non-residential Bins	Central Storage Room: 7 x 1100L bins garbage rooms 7 x 1100L bins recycling 1x 1100L oversized cardboard bin	Gym room: 4 x 1100L bins garbage rooms Retail room: 4 x 1100L bins recycling
Waste Collection Point	Loading dock located near central waste storage room	Loading dock located on the lower ground level
Collection Contractor	Private Collection (Rear-lift truck and MRV)	Private Contractor

5.0 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

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:

- NSW Better Practice Guide For Resource Recovery In Residential Developments 2019
- North Sydney Development Control Plan 2013 – Appendix 3 Waste Management Guide 2020
- 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

6.0 PROJECT DECSIPTION – AMENDED CONCEPT SSDA

The Amending Concept SSDA will seek approval for amendments to the originally approved Concept SSDA (SSD 9579) over the site and seeks to change the approved commercial use to a mixed-use development, with primarily residential and affordable housing uses, all located above the Crows Nest Metro Station.

The Amending Concept SSDA also seeks adjustments to the building envelope including modulation of envelope to comprise 3 towers, adjustments to height, and modifications to the building Gross Floor Area (GFA).

A summary and comparison of the key changes are listed below for reference.

. Component	As approved under original Concept SSDA (SSDA 9579) – Site A	Proposed change under Amending Concept SSDA
Maximum building height	Single tower with variable building heights from 175.6mRL to 180mRL (to parapet).	Proposed 3 towers (with squared off form) with variable building heights as follows: • Tower 1: 180m RL • Tower 2: 180m RL • Tower 3 (Affordable housing): 134.75m RL

Gross floor area	Permissible GFA (per Concept SSDA): 40,300m2 (commercial).	**Proposed**: 44,608.5m2 (11.5:1) comprising:
		• Residential total: 40,312.5m2 (10.39:1) comprised of:
		  • Residential (Build-to-Rent): 35,047.63m2 (9.03:1)
		  • Residential (Affordable housing): 5,264.87m2 (1.36:1 or 15% of total build-to-rent GFA)
		Proposed Non-Residential: 4,296m2 (1.11:1)

Uses	Commercial development.	Mixed-use residential development with affordable housing and commercial/retail components. Residential component comprises: • Tower 1 and 2 - Build to rent apartments. • Tower 3 - Affordable housing apartments. Commercial/retail components located over lower ground to level 3. Rooftop Bar on Tower 1

The amendments to the Concept SSDA do not constitute any physical works over the site. Any proposed physical works will be captured under the Detailed SSDA.

7.0 DEVELOPMENT OVERVIEW

For the purposes of this report, the proposed development can be summarised as follows:

- One development with up to 27 levels containing;
  - 474 residential units in total, separated into 3 building cores;
    - Tower 1: 27 levels with 220 units
    - Tower 2: 27 levels with 198 units
    - Tower 3: 13 levels with 56 units
  - Retail tenancies with a total GFA of 407 m^2
  - A Gym tenancy with a total GFA of 2029 m^2
  - A roof top bar (and lower ground level access and facilities) with a total GFA of 528 m^2

The development is situated over the Crows Nest train station. Parts of the building have been dedicated to Sydney Metro uses. The waste management strategy has been developed to work within the site constrains due to the Sydney Metro.

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

7.1 SITE DESCRIPTION

The subject site, referred to as Crows Nest Over Station Development (Site A), is located within Crows Nest and within the North Sydney Local Government Area (LGA). The site is located at 32 Hume Street, Crows Nest. The site is located directly above and adjacent to the operational Crows Nest Metro Station.

The site comprises the entirety of the block and is bound by Pacific Highway to the west, Hume Street to the south, Clarke Lane to the east, and Oxley Street to the north. It is 3,879m2 in size legally referred to as Lot 2 of DP1296669. It is noted that Lot 1 of DP1296669 relates to the Crows Nest Metro Station intertwines with Lot 2 (Site A) on some levels.

Address	Legal Description of the lots that constitute the Scope of Works	Details
505 Pacific Highway, Crows Nest, NSW, 2065	Lot 1 of DP1296669	Station Lot (Crows Nest Metro Station)
32 Hume St Crows Nest, NSW 2065	Lot 2 of DP1296669	Development for Lot A – Site A Thirdi (Subject to the SSDA)

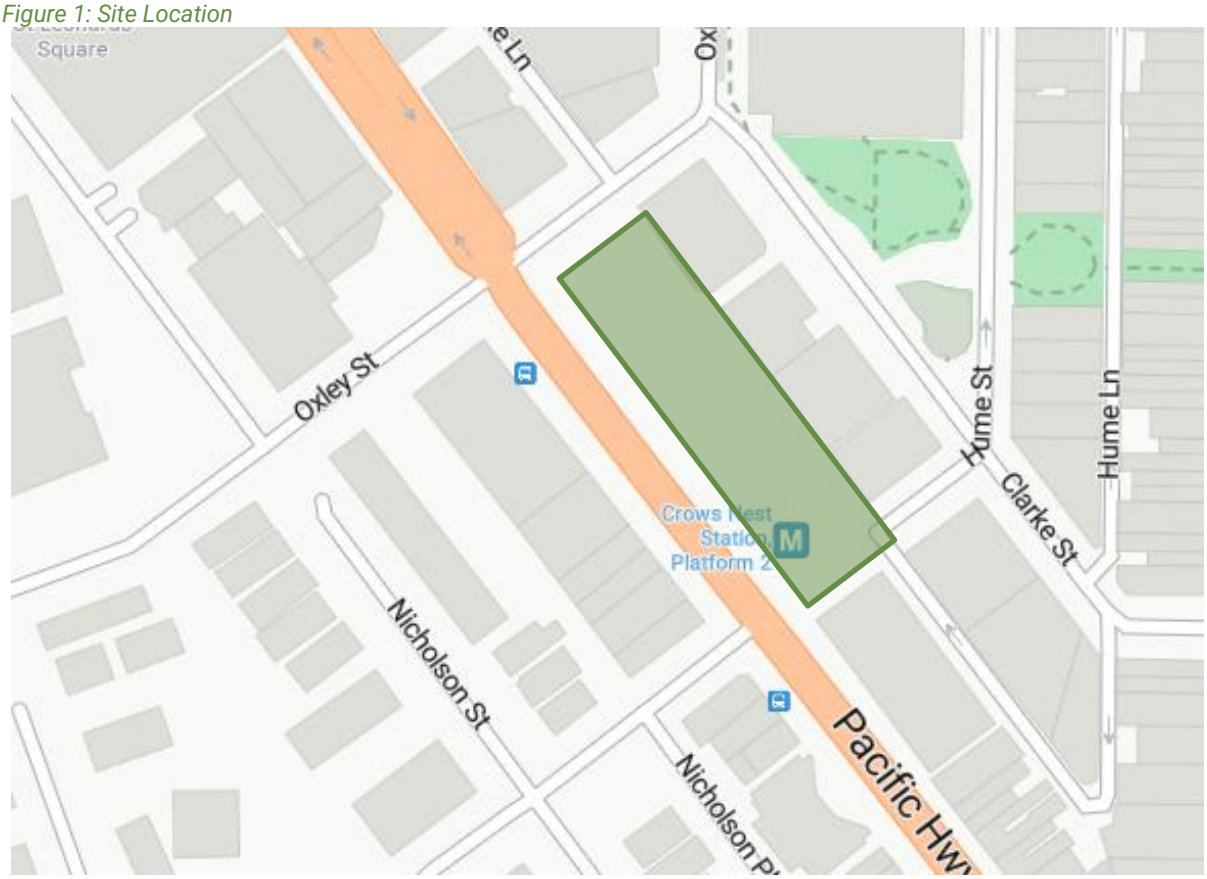
Note:

- *The Plan of Subdivision for the Metro (DP1296669) was registered with NSW Land Registry Services (LRS) on the 5 August 2024. The Plan of Subdivision, once registered, created the following lots:*
  - *Lot 1 (Metro Station),*
  - *Lot 2 (Site A for Thirdi)*
  - *Lot 3 (Site B for Thirdi)*
  - *Lot 4 (Parcel on the northern side of Clarke Lane).*
- *Lot 1 of DP1296669 relates to the Crows Nest Metro Station.*
- *Lot 2 of DP1296669 relates to Crows Nest OSD (Site A) (works subject to this SSDA).*
- *Lot 1 and 2 are intertwined (on some levels, with Lot 2 (Site A) located above the Lot 1 (the Crows Nest Metro Station).*

7.2 SITE LOCATION

The site is located at 32 Hume Street, Crows Nest NSW, as shown in Figure.1 (boundaries are indicative only). The site has frontages to Oxley Street, Clark Lane, Hume Street and Pacific Highway, with vehicle access via Clarke Lane.

Figure 1: Site Location



Source: Google Maps 2024

8.0 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.

8.1 RESIDENTIAL WASTE GENERATION ESTIMATES

The NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) 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 tables shows the estimated volume (L) of general waste, recycling and FOGO generated by the residential component of the development.

Table 3: Estimated General Waste Volumes – Residential

Building/ Core	**# Units**	**General Waste Generation Rate** (L/unit/week)		**Generated General Waste** (L/week)	**Compacted General Waste** (1.5:1) (L/week)
Tower 1	220	120		26400	17600
Tower 2	198	120		23760	15840
Tower 3	56	120		6720	4480
TOTAL	**474**			**56880**	**37920**
Bins and Collections		General Waste Bin Size (L)			1100
		General Waste Bins per Week			34.47
		General Waste Collections per Week			2
		Total General Waste Bins Required for Collection			**19**
		Number of Waste Bins Per Collection	**Tower 1**		8
			Tower 2		8
			Tower 3		3

Table 4: Estimated Recycling Volumes – Residential

Building/ Core	**# Units**	**Recycling Generation Rate** (L/unit/week)		**Generated Recycling** (L/week)
Tower 1	220	120		26400
Tower 2	198	120		23760
Tower 3	56	120		6720
TOTAL	**474**			**56880**
Bins and Collections		Recycling Bin Size (L)		1100
		Recycling Bins per Week		51.71
		Recycling Collections per Week		2
		Total Recycling Bins Required for Collection		**27**
		Number of Recycling Bins Per Collection	**Tower 1**	11
			Tower 2	11
			Tower 3	4

Table 5: Estimated FOGO Volumes – Residential

Building/ Core	**# Units**	**FOGO Waste Generation Rate** (L/unit/week)		**Generated FOGO Waste** (L/week)
Tower 1	220	25		5500
Tower 2	198	25		4950
Tower 3	56	25		1400
TOTAL	**474**			**11850**
Bins and Collections		FOGO Bin Size (L)		240
		FOGO Bins per Week		49.38
		FOGO Collections per Week		1
		Total FOGO Bins Required for Collection		**50**
		Number of FOGO Bins Per Collection	**Tower 1**	23
			Tower 2	21
			Tower 3	6

8.2 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:

General Waste: 19 x 1100L bins collected **2 x weekly**

Recycling: 27 x 1100L bins collected **2 x weekly**

FOGO: 50 x 240L bins collected **1 x weekly**

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.

8.3 RESIDENTIAL CHUTE DISCHARGE EQUIPMENT SUMMARY

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

Table 6: General Waste Chute Discharge Equipment Summary

General Waste			
Core	**Generated General Waste** (L/week)	**# 1100L Bins Required for 1 days' Capacity**	**Recommended Chute Discharge Equipment**
Tower 1	17600	2.29	3-Bin Linear System
Tower 2	15840	2.06	3-Bin Linear System
Tower 3	4480	0.58	2-Bin Linear System

Table 7: Recycling Chute Discharge Equipment Summary

Recycling			
Core	**Generated Recycling** (L/week)	**# 1100L Bins Required for 1 days' Capacity**	**Recommended Chute Discharge Equipment**
Tower 1	26400	3.43	4-Bin Carousel System
Tower 2	23760	3.09	4-Bin Carousel System
Tower 3	6720	0.87	2-Bin Linear System

Table 8: FOGO Chute Discharge Equipment Summary

FOGO			
Core	**Generated Recycling** (L/week)	**# 240L Bins Required for 1 days' Capacity**	**Recommended Chute Discharge Equipment**
Tower 1	5500	3.27	4-Bin Carousel System
Tower 2	4950	2.95	3-Bin Linear System
Tower 3	1400	0.83	2-Bin Linear System

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

8.4 RESIDENTIAL WASTE DISPOSAL PROCEDURES

Each unit will be provided with a storage area 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.

8.4.1 RESIDENTIAL GENERAL WASTE AND RECYCLING PROCEDURES

A triple chute system, comprising of a general waste chute, a recycling chute and a FOGO chute, will be installed in each tower. Access will be provided on each residential level.

Residents will be responsible for walking their general waste, recycling and FOGO to their allocated disposal point and placing their general waste into the general waste chute, recycling into the recycling chute and FOGO into the FOGO 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 chutes will discharge into 1100L bins on track systems and recycling chutes will discharge into 1100L bins on track systems in the chute discharge room for each tower. General waste will be compacted at the base of the chute. This report assumes that the waste will be compacted at a ratio of 1.5:1. Compaction should never exceed a ratio o 2:1.

The building manager will monitor bin under the chutes and exchange full bins with empty bins when required.

Full and spare bins for Tower 3 be stored in the Tower 3 Chute Discharge Room. The full and spare bins of Tower 1 and Tower 2 will be kept in the Residential Bin Holding Room.

8.4.2 RESIDENTIAL FOGO DISPOSAL PROCEDURES

The majority of organics waste generated from multi-unit residential developments 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. Caddies and liners should be no more than 250mm x 250mm x 250mm (H x W x D) in size to comply with the chute access point.

Food organics must be contained in accordance with North Sydney Council's FOGO collection service procedures (for example a compostable liner). Any clippings from vegetation in residential units can also be disposed of with the FOGO.

In addition to the general waste chute and recycling chute, a FOGO chute will also be installed in each tower with access provided to each residential level. Residents will be responsible for walking their FOGO to their allocated disposal point on their level and placing FOGO into the FOGO chute.

The FOGO chutes will discharge into 240L bins on linear tracks located in the chute discharge room for each Tower. The building manager will monitor bin under each FOGO chute and exchange full bins with empty ones on each track system when required.

Building management is responsible for ensuring that all FOGO chutes, Chute Discharge Rooms, and FOGO bins in each tower are washed down frequently to ensure that hygiene and odour is managed.

8.5 RESIDENTIAL BIN COLLECTION PROCEDURES

A private contractor will be engaged to collect the residential general waste, recycling and FOGO bins on agreed schedule. This report assumes that general waste and recycling will be collected twice per week, and FOGO once per week. Due to the constrains to the loading area to accommodate Sydney Metro, it is also proposed that each waste stream will be collected on separate days (i.e., general waste will be collected on one day, recycling on another, etc.)

Prior to collections for each waste stream, the Building Manager/Caretaker will be responsible for transporting the necessary bins from each tower's Chute Discharge Room and Residential Bin Holding Room to the allocated shared collection point located on the lower ground level using the Goods Lifts. The Building Manager/Caretaker is also responsible for ensuring that the bins are adequately arranged, and that the loading area is clear of any vehicles or obstructions for an efficient collection. It is recommended that additional service bins be placed under the chutes to collect discharge while the other bins are being serviced.

On collection days, a private contractor collection vehicle will enter the site from Clarke Lane and park in the loading dock. The Building Manager/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 Collection Point and return the empty bins once serviced.

Upon completion of servicing, the collection vehicle will exit the site onto Clarke Lane in a forward direction.

The Building Manager/Caretaker is responsible for returning the bins to their operational location as soon as possible after servicing.

8.6 OTHER RESIDENTIAL WASTE MANAGEMENT CONSIDERATIONS

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

8.6.1 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.

8.6.2 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 chute.

8.6.3 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 collection point and must have a minimum doorway width of 1.5m to facilitate the movement of large items in and out of the room.

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

Prior to bulky waste collections, the Building Manager/Caretaker will transport the bulky waste items from the Bulky Waste Room on level 2 to the Collection Area on the Lower Ground Level.

On the day of bulky waste collection, a Council collection vehicle will enter the site from Clarke Lane and park in the loading zone. Collection staff will collect the bulky waste items from the Collection Point. Once bulky items have been loaded onto the vehicle, the collection vehicle will exit the site onto Clarke Lane in a forward direction.

9.0 GYM, RETAIL AND ROOF TOP BAR WASTE MANAGEMENT

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

9.1 GYM, RETAIL AND ROOF TOP BAR WASTE GENERATION ESTIMATES

The NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) 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 waste and recycling generation rates from the NSW EPA's *Better Practice Guide for Resource Recovery in Residential Developments* (2019) have been adapted to reflect litres per 100m^2 per day.

The following table shows the estimated volume (L) of general waste and recycling that will be generated by the retail tenants.

The total GFA of the retail tenancies 01, 03, 04 & 04 component has been divided into thirds to take into account the waste generation of future possible tenancies.
It is assumed that retail tenancies and the rooftop bar will share bins, bin storage and collections. The gym tenancy will have their own separate bin, bin room and collections.
The following estimates are based on a seven-day operating week.

Table 9: Estimated General Waste and Recycling Volumes – Retail Tenancies and Roof Top Bar

Tenancy Type	Waste Generation Rate Type	NLA (m^2)	General Waste Generation Rates (L/100m2/day)	Generated General Waste (L/week)	Recycling Generation Rate (L/100m^2/day)	Generated Recycling (L/week)
Retail	Food Retail: Other	136	150	1428.0	100	952.0
Retail	Café	136	100	952.0	120	1142.4
Retail	Retail: Other Non-Food	136	50	476.0	100	952.0
Roof Top Bar & Retail 02	Hotel/Pub (without meals provided at the bar)	528	50	1848.0	50	1848.0
TOTAL		**937**		**4710.3**		**4901.1**
Equipment and Collections		General Waste Bin Size (L)		1100	Recycling Bin Size (L)	1100
		General Waste Bins Per Week		5	Recycling Bins Per Week	5
		General Waste Collections per Week		3	Recycling Collections per Week	3
		Total General Waste Bins Required		**2**	Total Recycling Bins Required	**2**

Table 10: Estimated General Waste and Recycling Volumes – Commercial Gym Tenancy

Tenancy Type	Waste Generation Rate Type	NLA (m^2)	General Waste Generation Rates (L/100m2/day)	Generated General Waste (L/week)	Recycling Generation Rate (L/100m^2/day)	Generated Recycling (L/week)
gym	Gymnasiums	2029	20	2029	15	1521.8
Equipment and Collections		General Waste Bin Size (L)		1100	Recycling Bin Size (L)	1100
		General Waste Bins Per Week		2	Recycling Bins Per Week	2
		General Waste Collections per Week		1	Recycling Collections per Week	1
		Total General Waste Bins Required		**2**	Total Recycling Bins Required	**2**

9.2 GYM, RETAIL AND ROOF TOP BAR 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:

Commercial Gym Bins

General Waste: 2 x 1100L bins collected **1 x weekly**
Recycling: 2 x 1100L bins collected **1 x weekly**

Retail Tenancies & Roof Top Bar Bins

General Waste: 2 x 1100L bins collected **3 x weekly**
Recycling: 2 x 1100L 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.

9.3 GYM, RETAIL AND ROOF TOP BAR WASTE DISPOSAL PROCEDURES

All tenancies will be responsible for their own general waste and recycling disposal procedures within their tenancy.

On completion of each trading day or as required, nominated staff or contracted cleaners will transport all general waste and recycling to the retail bin room or the commercial gym bin room and place into the appropriate collection bins.

9.4 GYM, RETAIL AND ROOF TOP BAR 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.

On the day of service, a private waste collection vehicle will enter the site from Clarke Lane and park in the loading bay.
The waste collection staff will collect the bins from the Retail Bin Room and the Gym Bin Room via a collect and return arrangement.

Once the bins are serviced, the collection vehicle will exit the site onto Clarke Lane in a forward direction.

9.5 OTHER GYM AND RETAIL WASTE MANAGEMENT CONSIDERATIONS

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

9.5.1 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.

9.5.2 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.

9.5.3 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

10.0 STAKEHOLDER ROLES & RESPONSIBILITIES

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

Table 11: 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.

11.0 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 12: 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.
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 chutes and will be collected by Council.
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 to 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.
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.

12.0 EDUCATION

Educational material encouraging correct separation of general waste, recycling and FOGO must be provided to each resident and commercial/retail tenant. This should include the correct disposal process for bulky waste such as old furniture, large discarded items, and other materials including electronic and chemical wastes. It is recommended that the building caretaker provide information in multiple languages to support correct behaviours, and to minimise the possibility of chute blockages and 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 residents, tenants, or cleaning staff. It is also recommended that the owners' corporation website contain information for residents' referral regarding use of the chute. Information should include:

- Directions on using the chute doors;
- Descriptions of items accepted in the general waste, recycling and FOGO streams (refer to Council guidance);
- How to dispose of bulky waste and any other items that are not general waste, recycling or FOGO (refer to Council guidance);
- Residents' obligations to health and safety as well as building management; and
- How to prevent damage or blockages to the chute (example below).

12.1 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.

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

All signage should conform to the relevant Australian Standards.

13.0 POLLUTION PREVENTION

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

- 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

14.0 BIN WASHING

The bins will be cleaned by the building manager 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 contactor would collect the bins from the bin holding area and clean the bins with their specialised vehicle.

15.0 BIN MOVING PATHS

The building manager is responsible for the transportation of bins from their designated operational locations to the collection area using the goods lift and a bin moving device, returning them once emptied to resume operational use.

Any movement of bins should minimise manual handling where possible, as bins become heavy when full. The building manager must assess manual handling risks and provide any relevant documentation to key personal.

The routes along the bin moving path should;

- Allow for a continuous route that is wholly within the property boundary.
- Be free from obstruction and obstacles such as steps and kerbs.
- Be constructed of solid materials with a non-slip surface
- Be A minimum of 300mm wider than the largest bin used onsite.
- If bins are moved manually, the route must not exceed a grade of 1:14.
- If a bin moving device is used, the route cannot exceed the maximum operating grade of the device. This is typically a grade of 1:4, however this will vary depending on the model of bin moving device acquired for the site.

As the bins are intended to be moved up the vehicle ramp and the distance of the bin moving paths exceeds 10m, a bin moving device will be required to aid the movement of full bins. The developer is responsible for supplying all equipment required for moving bins this includes any bin lifters, bin moving devices and waste transfer bins. This equipment must be new and appropriate for the site. The developer should contact a bin-tug, trailer or tractor consultant to provide equipment recommendations.

Once the site is operational (and the developers is no longer involved) the building proprietors/strata will be responsible for maintaining, repairing and replacing waste management equipment.

16.0 EQUIPMENT SUMMARY

Table 13: Equipment Summary

	Part	Qty	Notes
Chutes	Please refer to supplier's information	9	(See APPENDIX: B.1 for Typical Three Chute Layout)
Chute Equipment	*Waste* 2-bin 1100L Bin Track System with Compactor	2	(See APPENDIX: B.2 for Typical Linear System)
	Waste 3-bin 1100L Bin Track System with Compactor	1	
	Recycling 4-bin 1100L Bin Track System 2-bin 1100L Bin Track System	 2 1	(See APPENDIX: B.2 for Typical Linear System)
	FOGO 4-bin 240L Bin Track System 3-bin 240L Bin Track System 2-bin 240L Bin Track System	 1 1 1	(See APPENDIX: B.2 for Typical Linear System)

17.0 WASTE ROOMS

The areas allocated for waste storage and collection areas are detailed in the table below and are estimates only.

Table 14: Waste Room Areas

Level	Waste Room Type	Room Purpose	Equipment	Estimated Area Required (m^2)
Level 3	Chute Discharge Room – Tower 1	*Manage the chute discharge of Tower 1*	1x 3-Bin Track System for 1100L bins (waste) 1x 4-Bin Track System for 1100L bins (recycling) 1x 4-Bin linear track for 240L bins (FOGO)	>72
Level 3	Chute Discharge Room – Tower 2	*Manage the chute discharge of Tower 2*	1x 3-Bin Track System for 1100L bins (waste) 1x 4-Bin Track System for 1100L bins (recycling) 1x 3-Bin linear track for 240L bins (FOGO)	>70
Level 3	Residential Bin Holding Room	*Storage of Full and Spare Bins for Tower 2 & 3*	10x 1100L bins (waste) 11x 1100L bins (recycling) 16x 240L bins (FOGO) 4x 1100L bins (service bins) 2x 240L bins (service bins)	>96
Ground	Chute Discharge Room – Tower 3	*Manage the chute discharge of Tower 3* *& Storage of Full and Spare Bins for Tower 3*	1x 2-Bin Linear Track for 1100L bins (waste) 1x 2-Bin Linear Track 1100L bins (recycling) 1x 2-Bin linear track for 240L bins (FOGO) 1x 1100L bins (waste) 2x 1100L bins (recycling) 1x 240L bins (FOGO) 2x 1100L bins (service bins) 1x 240L bins (service bins)	>48
Lower Ground	Collection Area	*The location where bins are presented for collection/ servicing*	*Maximum (Bin collection with the most bins)* 27x 1100L bins	>80
Level 3	Bulky Waste Room	*storage point of bulky waste items in between bulky waste collections*		>50
Lower Ground	Retail Bin Room	*Storage and collection point of retail general waste & recycling bins*	2x 1100L bins (waste) 2x 1100L bins (Recycling)	>13
Lower Ground	Gym Bin Room	*Storage and collection point of commercial general waste & recycling bins*	2x 1100L bins (waste) 2x 1100L bins (Recycling)	>13

The "estimated area required" in the table above have been calculated based on equipment requirements and/or bin dimensions with an additional 90% of bin GFA factored in for manoeuvrability. Other factors such as the shape of the room, position of the chutes, configuration of the equipment, access needs and position of the door may impact the size of the room required. Thus a smaller or larger room size may also be suitable for purpose, as long as the room can accommodate the required equipment with adequate access.

In addition, all doorways and passageways facilitating the movement of bins and/or bulky waste items must be at least 1500mm wide.

The following table provides further waste room requirements.

Table 15: Waste Room Requirements

Waste Room Type	Waste Room Requirements
Chute Discharge Room	• Ceiling clearance height must be a minimum of 3100mm with compactor (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 compaction 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.
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 Bin 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.

18.0 CONSTRUCTION REQUIRMENTS

Waste room construction must comply with the minimum standards as outlined in the *NSW Better Practice Guide For Resource Recovery In Residential Developments (2019),* in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area 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.

18.1 ADDITIONAL CONSIDERATIONS

- Waste room floor to be sealed with a two-pack epoxy;
- All corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- 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.

19.0 MITIGATION MEASURES

To minimize and avoid potential environmental impacts and ensure compliance with relevant waste management guidelines, the following mitigation measures are proposed for the development:

- Well-Designed Waste Rooms:
  - Waste rooms shall be designed to comply with the recommendations of the OWMP, including adequate ventilation, lighting, and access for efficient waste handling.
  - Bin rooms shall have clean surfaces, proper drainage, and equipment for bin washing to maintain hygiene and prevent foul odors.

- Source Separation and Accessibility:
  - Dedicated chutes for general waste, recycling, and FOGO are provided to support effective source separation at each level of the residential buildings. Frequent monitoring shall be performed to prevent chute blockage and improper disposal.
  - Adequate storage areas for bulky waste items to ensure safe and organized disposal, preventing unauthorized dumping or obstructions.

- Collection and Transportation Procedures:
  - Waste collection paths shall be designed to be obstruction-free, with appropriate grades for bin transportation and safety. Bin moving devices are supplied to reduce manual handling risks.
  - Collection frequencies shall be planned to align with waste generation volumes, ensuring waste areas remain manageable and do not overflow.

- Pollution and Odor Control:
  - All waste facilities are to be secured to prevent unauthorized access and potential stormwater pollution from waste leakage.

- Stakeholder Responsibilities:
  - Building managers are tasked with regular maintenance of waste facilities, ensuring compliance with council guidelines and addressing any operational issues promptly.

20.0 USEFUL CONTACTS

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

LOCAL COUNCIL

North Sydney Council Customer Service	Ph: (02) 9330 6400	E: council@cityofparramatta.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@wastecleart.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

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

SOURCE SPERATION BINS

Method Recycling	Ph: 0499 890 455

BINS AND BIN EQUIPMENT

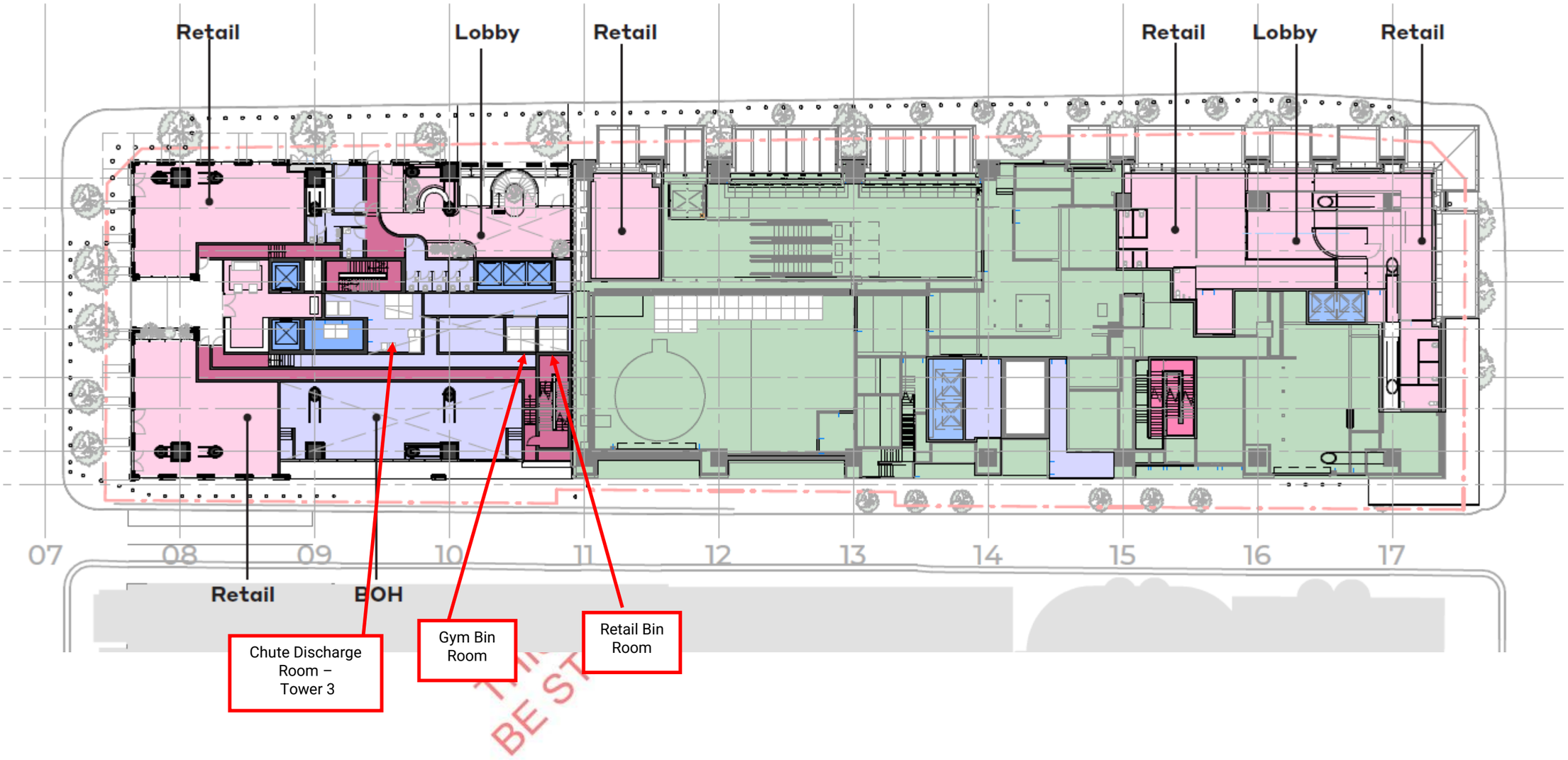
Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
SULO	Ph: 1300 364 388	E: sulosales@pactgroup.com

CHUTES, COMPACTORS AND EDIVERTER SYSTEMS

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

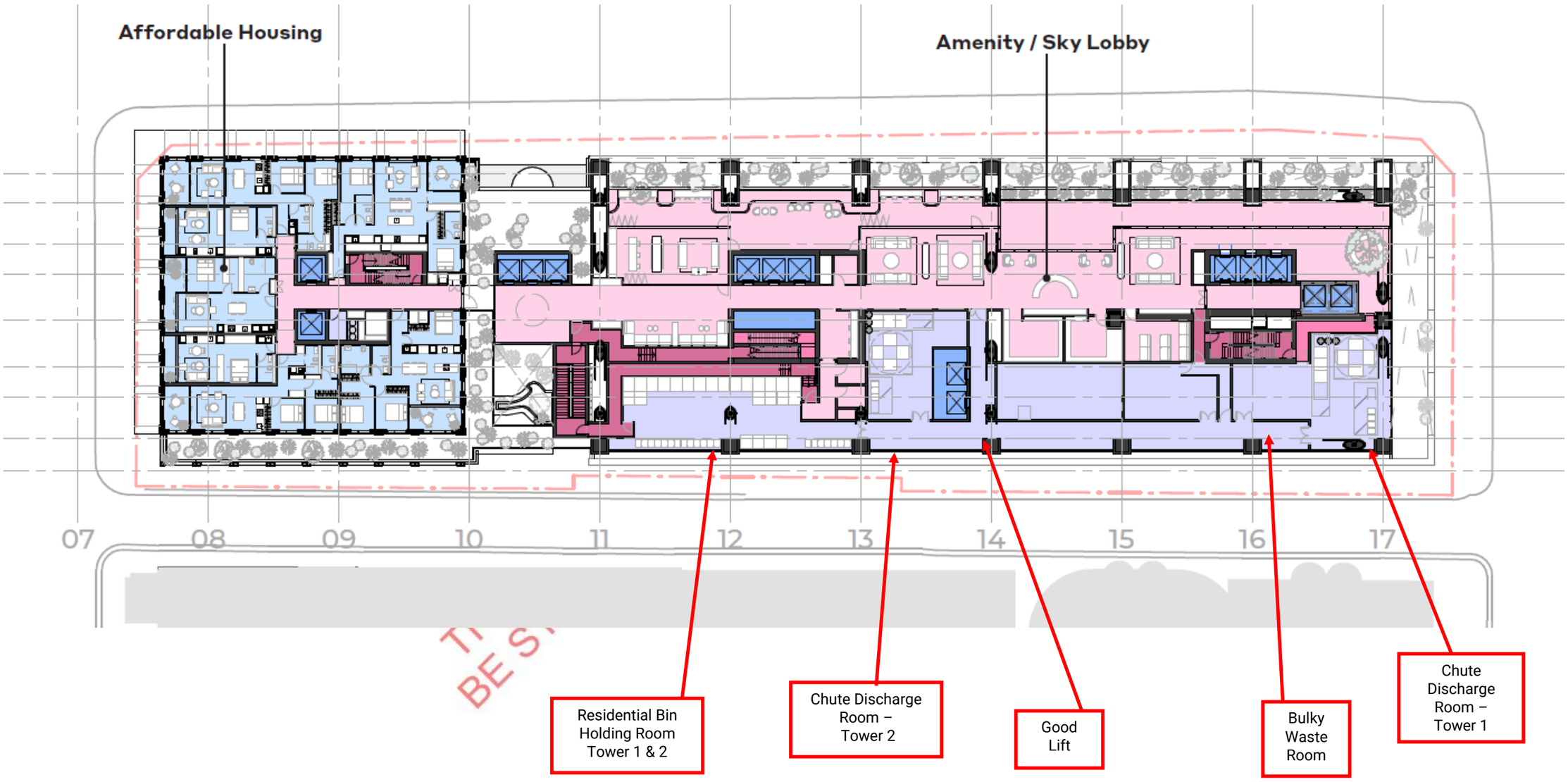
APPENDIX A: ARCHITECTURAL PLANS

APPENDIX: A.1 GROUND FLOOR PLAN – TOWER 3 CHUTE DISCHARGE ROOM, REATAIL BIN ROOM AND COLLECTION AREA



Source: : Design Report SSDA, Woods Bagot, Amendment to Concept, February 2025 – Ground Level

APPENDIX: A.2 LEVEL 3 FLOOR PLAN – TOWER 1 & 2 CHUTE DISCHARGE ROOMS, BIN HOLDING ROOM AND BULKY WASTE ROOM



Source: Design Report SSDA, Woods Bagot, Amendment to Concept< February 2025 – Level 3

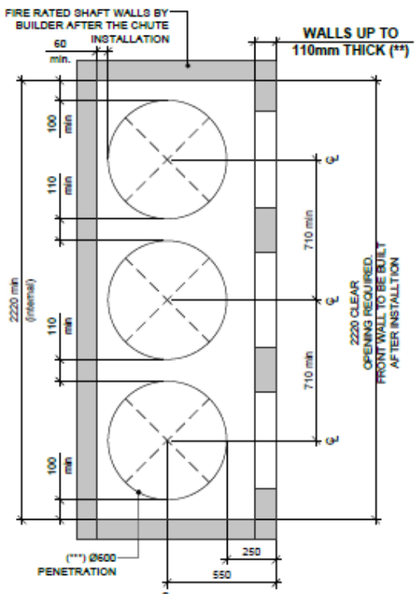
APPENDIX B: INSTALLATION EQUIPMENT

APPENDIX: B.1 TYPICAL THREE CHUTE SHAFT & PENETRATION LAYOUT

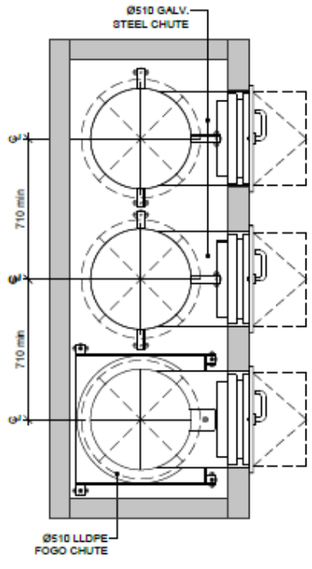
Chute Solutions.™
on Elephants Foot Company

CHUTE SHAFT & PENETRATION SET-OUT
DUAL Ø510 GALV. STEEL & LLDPE FOGO CHUTE - OP 1

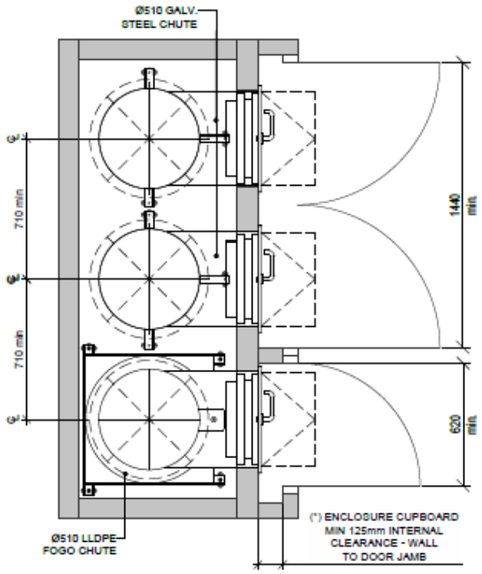
OPTION 1



01 DUAL (Ø510) GALV. STEEL & LLDPE FOGO CHUTE PENETRATION SET-OUT



02 DUAL (Ø510) GALV. STEEL & LLDPE FOGO CHUTE (WITH CIRCULAR PENETRATION)



03 DUAL (Ø510) GALV. STEEL & LLDPE FOGO CHUTE WITH ENCLOSURE CUPBOARD (*)

(***) NOTE: LARGER Ø650 PENETRATION, WHEN ACOUSTIC LAGGING REQUIRED.

(*) 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.

(**) MORE THAN 110mm THICK WALL CONTACT ELEPHANTS FOOT AND REQUEST EF'S APERTURE DETAILS DOCUMENT

SCALE 1:25 @ A3

Chute Shaft & Peno - Ver 1.3 January 29, 2024 11:14

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

APPENDIX: B.2 TYPICAL LINEAR TRACK SYSTEM FOR 240L 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)

240 LITRE BIN LINEAR TRACK SYSTEM

PRODUCT INFORMATION

Elephants Foot 240 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 replace bins once filled. Once all bins are full, an indicator light will illuminate, signifying that the bins are ready for withdrawal and collection. Available with or without compaction unit, our standard 240 litre bin Linear Track System can support 2, 3 or 4 bin quantities.

SPECIFICATIONS

System Control	Electric PLC
Power Supply	415 V AC / 10A / 5 PIN
Motor Size (kW)	0.55
Maximum bin load	96 kg (compacted)
Noise (dBA)	<85
Bin Size (L)	240
Cycle time (sec)	60
Bin Quantity options	2, 3 or 4

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
- 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

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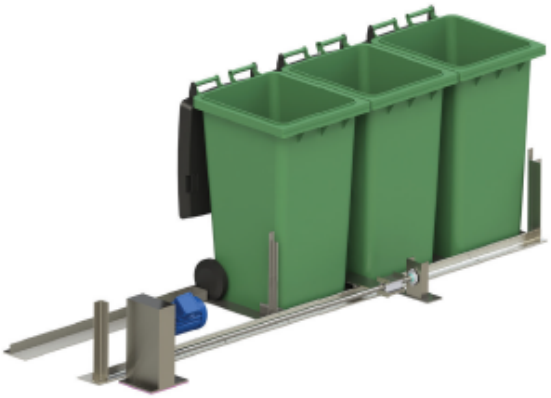
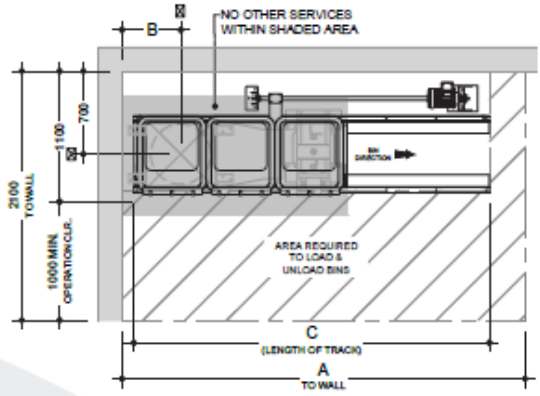
ELEPHANTS FOOT

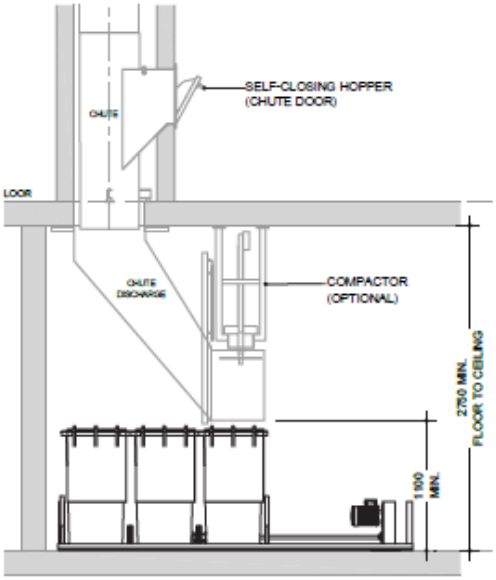
240 LITRE LINEAR TRACK SYSTEM



No. of Bins	Reference (mm)		
	A	B	C
2	2500	400	2000
3	3700	600	3000
4	4800	1100	4250

Available with or without compaction unit, our standard 240 litre bin Linear Track System can support 2, 3 or 4 bin quantities.





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: B.3 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

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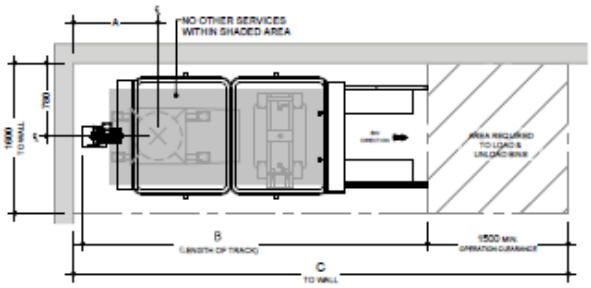
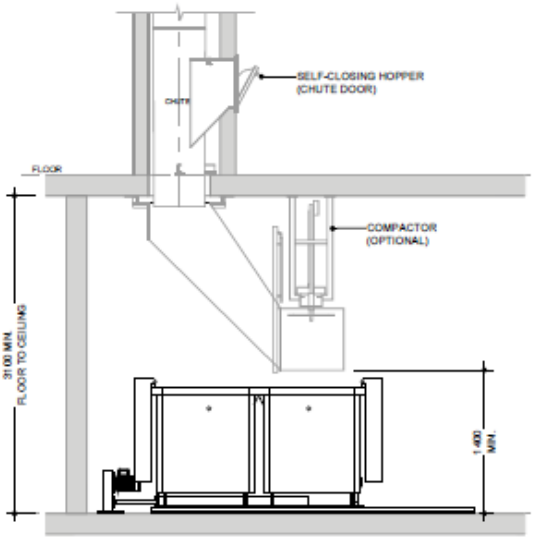
1,100 LITRE LINEAR TRACK SYSTEM

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: B.4 EXAMPLE CAROUSEL 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 CAROUSEL SYSTEM

PRODUCT INFORMATION

Elephants Foot 1100 Litre bin Carousel System is a versatile waste handling solution for many types of multi-storey or multi-level developments. The Carousel 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 positioned on the unit. Electromechanically driven with automated operation, the Carousel System automatically replaces full bins by a revolving circular platform. Once all the bins on the system 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 660litre bin Carousel System is available in standard 2, 3 or 4 bin options. Our 5 Bin option is available as a special order.

SPECIFICATIONS

System Control	Electric PLC
Power Supply	415 V AC / 10A / 5 PIN
Motor Size (kW)	0.37
Maximum bin load	440 kg
Noise (dBA)	<85
Bin Size (L)	660
Cycle time (sec)	60
Bin Quantity options	2, 3, 4 or 5

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

Chute Solutions.™
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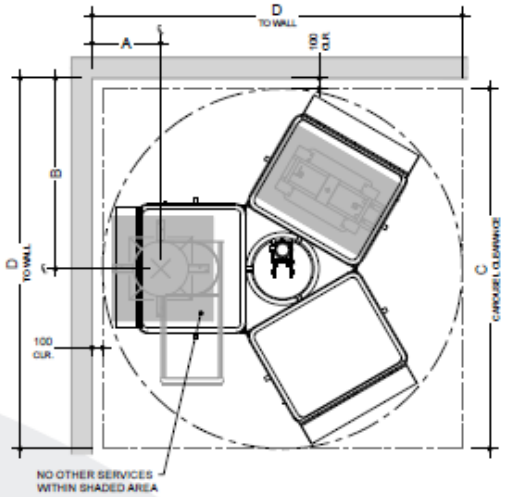
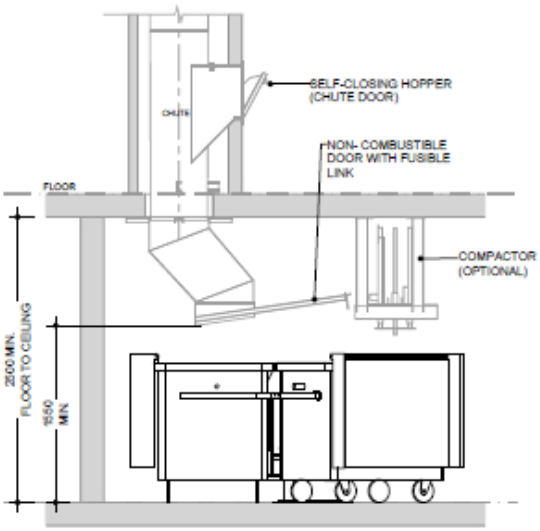
ELEPHANTS FOOT

1,100 LITRE CAROUSEL SYSTEM

No. of Bins	Reference (mm)			
	A	B	C	D
2	650	1700	3200	3350
3	650	1850	3460	3600
4	650	2050	3940	4050

Available with or without compaction unit, our standard 1100 litre bin Carousel System is available in standard 2, 3 or 4 bin options. Our 5 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

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

Table G1.2: 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

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)

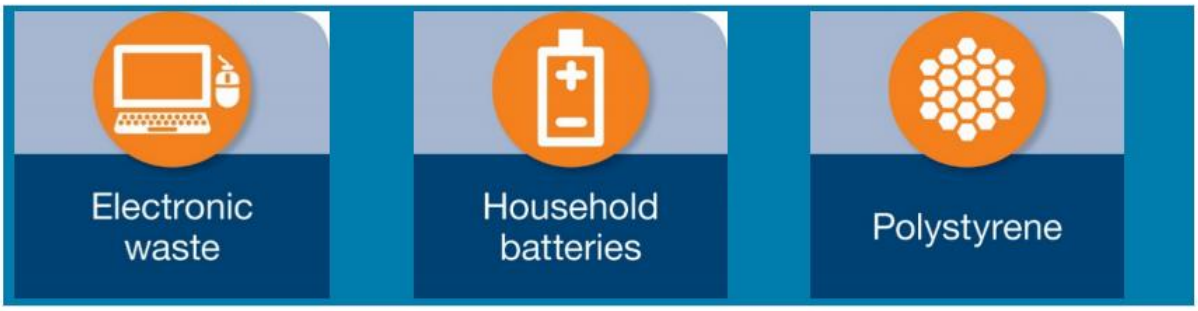
Figure I1.2: Examples of bin lid stickers (EPA supplied)

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 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

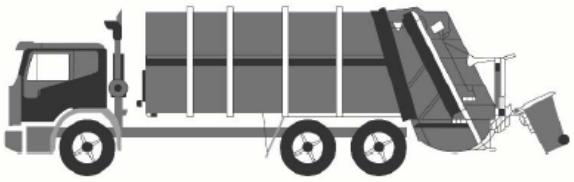
Vehicle type	Rear-loading	Side-loading*	Front-lift-loading	Hook truck	Crane truck
Length overall (m)	10.5	9.6	11.8	10.0	10.0
Width overall (m)	2.5	2.5	2.5	3.0	2.5
Travel height (m)	3.9	3.6	4.8	4.7	3.8
Operational height for loading (m)	3.9	4.2	6.5	3.0	8.75
Vehicle tare weight (t)	13.1	11.8	16.7	13.0	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

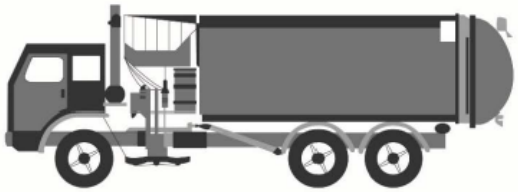
These vehicles are commonly used for domestic waste collections from MUDs and RFBs and sometimes for recycling. They can be used to collect waste stored in mobile bins or bulk bins, particularly where bins are not presented at the kerbside. They are also used for collecting bulky waste.



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

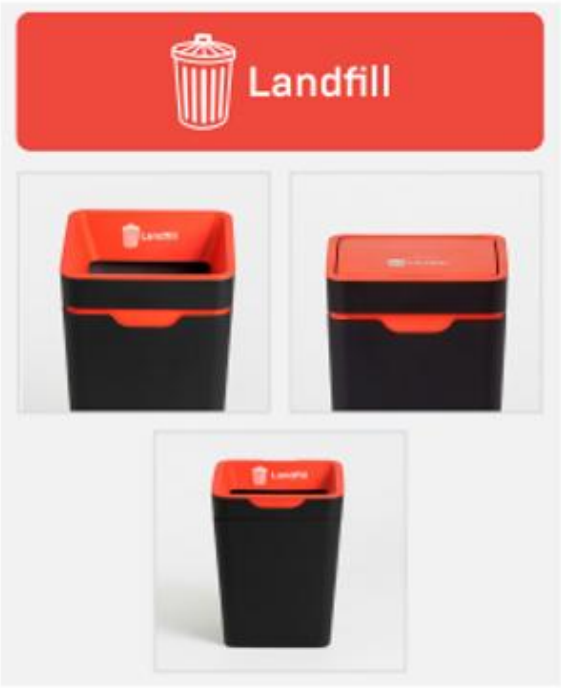
MODEL	DIMENSIONS (MM)	OPTIONS	PULL - PUSH CAPACITY (KG)	BATTERY
T2500-D	511 (w) x 757 (l)	* Centre mount 2x 240 lt. wheelie bin attachment	2500	AGM batteries 2x 85AH up to 8 hrs continuous operation

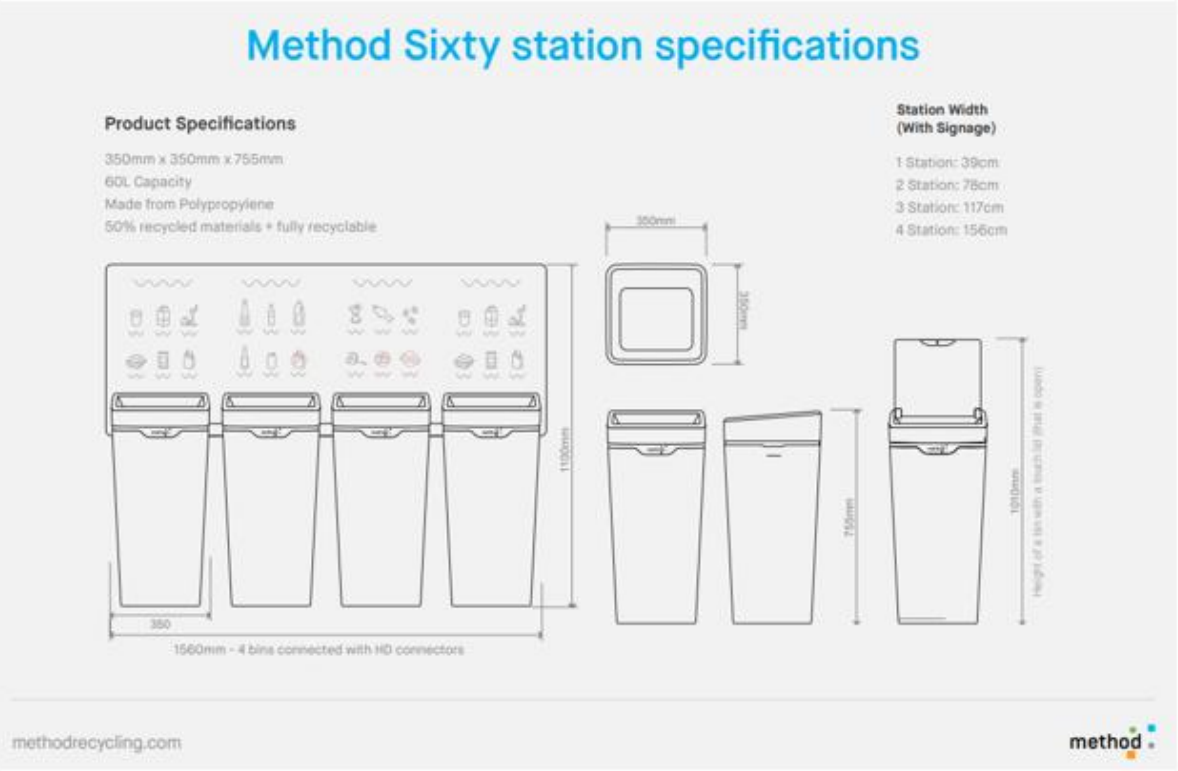
TOWING CAPACITY - ON FLAT GROUND (all models)	TOWING CAPACITY - SLOPE (all models)
Towing up to 4x 660 lt. Wheelie Bin	Towing up to 2x 660 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)
Towing up to 4x 1100 lt. Wheelie Bin	Towing up to 1x 1100 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)
	**Electromagnetic 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 SOURCE SEPARATION RECEPTACLES





Source: Method Recycling - www.methodrecycling.com