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1 Crescent Street, Holroyd NSW.

SSD-70283710: 1 Crescent Street, Holroyd.

OPERATIONAL WASTE MANAGEMENT PLAN

2/10/2025
Report No. 4641
Revision K

Prepared for:

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GLOSSARY OF ABBREVIATIONS AND TERMS

TERM	DESCRIPTION
Bin-carting Route	Travel route for transferring bins from the storage area to a nominated collection point
Chute	A ventilated, vertical pipe passing from floor to floor of a building with openings as required to connect with hoppers and normally terminating at its lower end at the roof of the central waste room(s)
Chute Discharge	The point at which refuse exits from the refuse chute
Chute Discharge Room	A secure, enclosed area or room housing the discharge and associated equipment for the refuse chute
Collection Area/Point	The identified position or area where general waste or recyclables are loaded onto the collection vehicle
Compactor	A machine for compressing waste into disposable or reusable containers
Composter	A container/machine used for composting specific food scraps
Crate	A plastic box used for the collection of recyclable materials
DA	Development Application
DCP	Development Control Plan
EPA	Environmental Protection Authority
HRV	Heavy Rigid Vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities
L	Litre(s)
LEP	Local Environmental Plans guide planning decisions for local government areas
Liquid Waste	Non-hazardous liquid waste generated by commercial premises that must be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste)
Mixed Use Development	A development comprised of two or more different uses
Mobile Garbage Bin(s) (MGB)	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
MRV	Medium Rigid Vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities
Onsite Collection	When the collection vehicle enters the property and services the development within the property boundary from a designated loading area
Owners Corporation	An organisation or group of persons that is identified by a particular name and acts, or may act, as an entity
Service Bins	Bin set side to be placed under a chute while the remainder of the bins are being collected

AHD	Australian Height Datum
BCA	Building Code of Australia
Council	Cumberland City Council
EIS	Environmental Impact Statement
SSDA	State Significant Development Application
SEARs	Secretary's Environmental Assessment Requirements

1.0 ACKNOWLEDGEMENT OF COUNTRY

We acknowledge Australia's First Nations People as the Traditional Custodians of this land. We pay respect to ancestors and Elders, past, present and emerging. We honour Aboriginal and Torres Strait Islander people and their connection to land, waters and sea.

2.0 INTRODUCTION

Elephants Foot Consulting (EFC) has been engaged to prepare the following waste management plan for the operational management of waste generated by the mixed-use development located at 1 Crescent Street, Holroyd NSW 2142.

Waste management strategies and audits are required for new developments in order 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 provisions and robust procedures*** 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 operational waste management plan (OWMP) identifies the different waste streams likely to be generated during the operational phase of the development, as well as how the waste will be handled and disposed, details of bin sizes/quantities and waste rooms, descriptions of the proposed waste management equipment used, and information on waste collection points and frequencies.

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

2.1 SCOPE OF REPORT

This operational waste management plan (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 has been provided by Decode.

2.2 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.

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:

- Cumberland Development Control Plan 2021
- Cumberland Local Environmental Plan 2021

The primary purpose of a development control plan (DCP) is to guide development 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:

- Cumberland Development Control Plan 2021 Part G – Miscellaneous Development Controls
- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012
- NSW Better practice guide for resource recovery in residential developments 2019
- NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021
- NSW Waste Classification Guidelines 2014
- Australia's National Waste Policy 2018

4.0 EXCECUTIVE SUMMARY

This Operational Waste Management Plan has been prepared on behalf of Tiberius (Holroyd) Pty Ltd in association with a State Significant Development Application (**SSDA**) for a proposed mixed-use development at 1 Crescent Street, Holroyd (**the site**).

The report responds to matters raised by the Department of Planning, Housing and Infrastructure (**DPHI**), Cumberland City Council, other State government authorities /agencies, utility service providers and the community during public exhibition of SSD-70283710.
The report also assesses the proposed amendments to the original proposal, including changes to the following:

- Stage A – Mixed use podium, Buildings 1 to 3 and supporting infrastructure
- Stage B – Buildings 4 and 5 and supporting infrastructure
- Stage C – Buildings 6 and 7 and supporting infrastructure

The proposed changes extend beyond minor refinements which can be accommodated via a Submissions Report. As a result, a combined Submissions and Amendment Report has been prepared and consent sought from DPHI to amend the SSDA as per section 37 of the *Environmental Planning and Assessment Regulation 2021* (**the Regulation**).

To understand the cumulative impact of the above design refinements, the project description has been updated to reflect the proposed amendments to the scheme as originally lodged with DPHI for assessment.

The amended description is provided as follows:

- Site establishment works, tree removal, site preparation, earthworks and excavation, services augmentation, and remediation works.
- Development of seven residential buildings comprising four shop top housing buildings and three residential flat buildings as outlined below:
    - Buildings 1-3 are integrated with an eastern mixed-use podium building, while Building 4 is situated above mixed residential / commercial space, offering shop-top housing.
    - Buildings 5-7 consist of residential flat buildings.
- Delivery of 15% of the total floor space as affordable housing to be distributed across each of the 7 residential buildings, or within a consolidated building proposed proportionately as buildings are developed.
- Approximately 134,208 m2 total floor space comprising:
    - A total of 2,496 m2 retail GFA and approximately 2,710 m2 commercial GFA.
    - 1,374 residential apartments
    - Communal amenity facilities for residents.
    - Building services areas.
- Activation of Crescent Street through a mix of amenity areas and pockets of open space.
- Shared car parking for Buildings 1 to 3 and the commercial and retail tenancies within the podium.
- Shared car parking for Buildings 4 to 7 within the above ground parking structures adjoining Buildings 4 to 5 and 6 to 7.
- Landscaping and accompanying place making works including:
    - Public open space, hard and soft landscape works.
    - Ground and rooftop communal open space.
    - Publicly accessible through-site links.

- At grade car parking for the park, forecourt and retail areas.
- Vehicle access via a new internal publicly accessible road and vehicle accessway.
- New pedestrian footpaths and access arrangements to the site.
- Café tenancy within park-side structure.

- Staged completion of a public park.
- Associated works involving the widening of Crescent Street and upgrades to the Crescent Street and Woodville Road intersection.

Table 1 below identifies the relevant matters raised by Cumberland City Council, and sets out the Applicant's response to these submissions.

Table 1 Applicant Response to Submissions

No.	Issue Raised	Applicant Response	Refer to Section 5.4 , 5.5 and APPENDIX A.1 of Report
1	CC-26	**Waste management** Building 1 does not appear to be provided with any waste or recycling chutes. Waste storage areas at the car parking levels (or what are assumed to be waste storage areas, as the purpose of every room is not identified) are not suited for the convenient collection of waste, in most cases requiring paths of travel through parking spaces. It is unclear whether waste collection vehicles will be able to safely manoeuvre to collection points. Even if they can, they will disturb flows of traffic and create inconvenience for other users by blocking aisles while collection takes place. The design appears to be poorly thought out. The development should be planned with provision for the storage and collection of food and organic waste, noting the not to distant obligations for such waste.	The Operational Waste Management Plan includes a single general waste chute, with space for two 240L bins per residential level as now shown in updated GA plans (see DA-1-220 Revision D). Bin rotation between chute discharge rooms and the bin collection room will occur periodically—this common practice addresses space constraints where dedicated bin storage without car parking is unfeasible, and is suitable for waste collection and disposal. Refer to the traffic scope for details on waste collection and vehicle positioning. Food organics and garden organics provisions are confirmed in both the report and plans.

Table 2 below identifies updated mitigation measures relevant for the amended proposal.

Table 2 Revised Mitigation Measures

Mitigation Number/ Name	When is Mitigation Measure to be complied with	Mitigation Measure	Reason for Mitigation Measure
Waste reduction	Construction and Operation	Encourage practices that reduce waste generation at the source, such as using fewer materials or opting for less packaging.	Reducing waste at the source minimizes the volume of waste generated.
Recycling and Reuse	Construction and Operation	Implement recycling programs to recover valuable materials from waste.	Recycling conserves natural resources, reduces energy consumption, and lowers greenhouse gas emissions, helping to create a circular economy.
Education	Construction and Operation	Conduct campaigns to inform the community about proper waste disposal and the benefits of reducing waste.	Increasing public awareness leads to better waste sorting, reduces contamination in recycling streams.
Safe disposal Methods	Construction and Operation	Ensure proper management and disposal of all waste streams.	Effective waste management minimizes environmental contamination.
Monitoring and Reporting	Construction and Operation	Implement data collection and reporting systems for waste management activities.	Monitoring provides insights into waste generation patterns, helping identify areas for improvement and ensuring compliance with regulations.
Policy and Regulation Compliance	Construction and Operation	Regularly review and update waste management plans to comply with environmental regulations.	Compliance with regulations ensures that waste management practices are environmentally responsible.

Table 3 SEARs requirements – SSD-70283710

SEARs Requirement 17: Waste Management	Elephant Foots Response
Identify, quality and classify the likely waste systems to be generated during construction and operation.	*During Operation: This can be viewed in Sections 5.3, 5.6, 6.2 and 6.5.* *The Construction phase SEARS can be identified in a separate document provided by Decode.*
Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	*Can be viewed in sections 5.4 and 6.3.*
Identify the appropriate servicing arrangements for the site.	*Can be viewed in Section 5.5 and 6.4*
If buildings are proposed to be demolished or altered, provide a hazardous materials survey.	*This will be provided by others.*

5.0 RESIDENTIAL WASTE MANAGEMENT

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

5.1 RESIDENTIAL WASTE GENERATION ESTIMATES

The Cumberland Council '*Development Control Plan – 2021, Part G8 Waste Management*' has been referenced to calculate the total number of bins required for the residential units. Calculations are based on generic waste and recycling rates. Actual volumes of waste and recycling generated in operation differ according to the residents' actual waste management practices.

The bin quantities below have been based on an allocation of 'bins provided per quantity of units' with the allocated collection frequencies. The figure displayed below is representative of the DCP requirements for waste:

Figure 1: Bin Requirements.

Controls

Bin requirements

C1. The waste service requirements for residential developments are outlined in Table 2:

Table 3: Waste service requirements for residential developments

Dwelling Type	Number of Garbage Bins	Number of Recycling Bins
Dwelling (single)	1 x 240L (or alternate smaller size as available from Council)	1 x 240L
Low rise medium density housing	1 x 240L (or alternate smaller size as available from Council)	1 x 240L
RFB 1-20 units	1 x 240L bin per 2 units plus (or alternative as provided by Council)	1 x 240L bin per 3 units
RFB 20+ units	1 x 1100L bin per 8 units Or 1 x 660L bin per 5 units	1 x 240L bin per 3 units Or 1 x 1100L bin per 14 units

Source: Cumberland Development Control Plan 2021 – Part G8: Waste Management.

The following table shows the estimated volume (L) of general waste and recyclables generated by the residential component of the development.

Table 4: Estimated Waste and Recycling Volumes – Residential

Building	# Units	Waste Generation Rate (L/Unit/Week)	Generated Waste (L/Week)	Recycling Generation Rate (L/Unit/Week)	Generated Recyclables (L/Week)	FOGO Generation Rate (L/Unit/Week)	Generated FOGO (L/Week)
1	281	137.50	38637.5	78.57	22078.6	25	7025
2	264	137.50	36300	78.57	20742.9	25	6600
3	152	137.50	20900	78.57	11942.9	25	3800
4	134	137.50	18425	78.57	10528.6	25	3350
5	145	137.50	19937.5	78.57	11392.9	25	3625
6	203	137.50	27912.5	78.57	15950.0	25	5075
7	195	137.50	26812.5	78.57	15321.4	25	4875
TOTAL	**1374**		**188925**		**107957.1**		**7025**
Bins and Collections		Waste Bin Size (L)	1100	Recycling Bin Size (L)	1100	FOGO Bin Size (L)	240
		Waste Collections/Week	2	Recycling Collections/Week	2	FOGO Collections/Week	1
		Bins Per Day *1*	5.0	Bins Per Day *1*	2.9	Bins Per Collection *1*	**29**
		Bins Per Day *2*	4.7	Bins Per Day *2*	2.7	Bins Per Collection *2*	**28**
		Bins Per Day *3*	2.7	Bins Per Day *3*	1.6	Bins Per Collection *3*	**16**
		Bins Per Day *4*	2.4	Bins Per Day *4*	1.4	Bins Per Collection *4*	**14**
		Bins Per Day *5*	2.6	Bins Per Day *5*	1.5	Bins Per Collection *5*	**15**
		Bins Per Day *6*	3.6	Bins Per Day *6*	2.1	Bins Per Collection *6*	**21**
		Bins Per Day *7*	3.5	Bins Per Day *7*	2.0	Bins Per Collection *7*	**20**
		Bins Per Collection *1*	**18**	Bins Per Collection *1*	**11**		
		Bins Per Collection *2*	**17**	Bins Per Collection *2*	**10**		
		Bins Per Collection *3*	**10**	Bins Per Collection *3*	**6**		
		Bins Per Collection *4*	**9**	Bins Per Collection *4*	**5**		
		Bins Per Collection *5*	**10**	Bins Per Collection *5*	**6**		
		Bins Per Collection *6*	**13**	Bins Per Collection *6*	**8**		
		Bins Per Collection *7*	**13**	Bins Per Collection *7*	**7**		

5.2 OVERALL RESIDENTIAL BIN SUMMARY

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

General Waste: 90 x 1100L MGBs collected **2 x weekly.**
Recycling: 53 x 1100L MGBs collected **2 x weekly.**
FOGO: 144 x 240L MGBs 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. Waste and recycling volumes may change according to residents' attitudes to waste disposal and recycling, building occupancy levels or development's management. Any requirements for adjusting the capacity of the waste facilities can 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 BIN SUMMARY PER BUILDING.

The recommended bin quantities and collection frequencies for the residential units in each stage are as follows:

Please note: Calculations are based on the total number of units per lot and does not take into account variation in bin numbers due to building cores or service bins.

Table 5: Waste, Recycling and FOGO Bin Quantities.

Building	Waste Bins	Waste Collections	Recycling	Recycling Collections	FOGO	FOGO Collections
Building 1	18 x 1100L MGBs	2 x weekly	11 x 1100L MGBs	2 x weekly	29 x 240L MGBs	1 x weekly
Building 2	17 x 1100L MGBs		10 x 1100L MGBs		28 x 240L MGBs	
Building 3	10 x 1100L MGBs		6 x 1100L MGBs		16 x 240L MGBs	
Building 4	9 x 1100L MGBs		5 x 1100L MGBs		14 x 240L MGBs	
Building 5	10 x 1100L MGBs		6 x 1100L MGBs		15 x 240L MGBs	
Building 6	13 x 1100L MGBs		8 x 1100L MGBs		21 x 240L MGBs	
Building 7	13 x 1100L MGBs		7 x 1100L MGBs		20 x 240L MGBs	

5.4 OVERALL WASTE AND RECYCLING DISPOSAL PROCEDURES

Each building core within each stage will be supplied with a single general waste chute system and a space for 2 x 240L MGBs next to the chute with access provided on each residential level. Residents will be responsible for loosely placing their recyclables into the 240L MGBS. Recyclables must not be bagged.

The general waste will discharge from the waste chute into 1100L MGBs. The commingled recycling stream will have 240L bins on each level, which will be transported to the chute discharge room via the lifts and decanted into a larger 1100L MGB with the aid of a bin lifter.

Each chute discharge room must accommodate bins suitable for two days' storage capacity. Linear and or carousel tracks are required when more than one bin is required under the chute over a two-day period.

The building caretaker will monitor the bins under the chute and replace with empty bins as required. Full and spare bins for each building will be kept in the corresponding residential bin holding room/ collection area.

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

5.5 RESIDENTIAL WASTE COLLECTION PROCEDURES

Council will be engaged to collect all residential bins in accordance with council's collection schedule. This report assumes waste and recycling is collected 2 x weekly, and FOGO collected 1 x weekly.

In addition to the individual chute discharge rooms, each building will have a central collection room and adjacent loading bay, where Council will service the bins for that building. This room will be provided on the lower ground level for each lot. Each collection room will have the capacity to store all of the required waste and recycling bins for the corresponding lot.
It will be the caretaker's responsibility to transport all full waste, recycling and FOGO bins from the individual chute discharge rooms to the collection room.

On collection days, a Council collection vehicle will enter each building and pull into the designated loading bay. The driver will then service the bins directly from the collection room. Once the bins have been serviced, the caretaker will return them to resume operational use.

It is the responsibility of the caretaker to ensure that the loading area is clear of any vehicles or obstructions prior to waste collection. When waste collection is complete, the building caretaker will return the bins to their operational locations to resume use.

5.6 RESIDENTIAL BULKY WASTE PROCEDURES

Each building will require an area to be made available for the storage of discarded residential bulky items (e.g., whitegoods, furniture, etc.). This room should be located within close proximity of the bin collection room and must have a minimum doorway width of 1500mm, with double door access to allow for easy movement of large waste items in and out of the room.

The bulky waste room as been calculated in accordance with the 'Cumberland Council *'Development Control Plan – 2021, Part G8 Waste Management'*. This requires 10m2 for up to 40 units, and 2m2 for every additional 10 units after that to the nearest whole number.

Based on this rate, the bulky waste room required for each building has been calculated as follows:

Table 6: Estimated Bulky Waste Room Areas.

Building	# Units	Bulky Waste Room (m2)
1	281	**59**
2	264	**55**
3	152	**33**
4	134	**29**
5	145	**31**
6	203	**43**
7	195	**41**
TOTAL	**1374**	

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 'Cumberland Council '*Development Control Plan – 2021, Part G8 Waste Management*' has been referenced to calculate the total number of bins required for the anticipated tenants. Calculations are based on generic figures, and waste generation rates may differ according to the tenants' actual waste management practice.

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 recyclables that will be generated by the commercial and retail tenants.

The total GFA of the retail component (non-commercial) has been divided into thirds to take into account the waste generation of future possible tenancies. It is assumed that retail tenancies will share waste bins, the waste storage room, and the waste collection service.

The following estimates are based on a five-day operating week for the commercial tenancies, and a seven-day operating week for the remaining retail tenancies. Note that the anticipated tenants for the retail tenancies listed below will be confirmed following determination.

Table 7: Estimated Waste and Recycling Volumes – Commercial and Retail (Stage A)

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)
Commercial	2485	10	1242.5	10	1242.5
Restaurants/café	494	660	22822.8	130	3211.0
Retail: non-food	494	50	1729.0	50	1235.0
TOTALS	**3473**		**25794**		**5689**
Bins and Collections		Bin Size (L)	1100	Bin Size (L)	1100
		Bins/Week	23.4	Bins/Week	5.2
		Collections/Week	5	Collections/Week	5
		Total Bins	**5**	Total Bins	**1**

Table 8: Estimated Waste and Recycling Volumes – Commercial and Retail (Stage B)

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)
Commercial	191	10	95.5	10	95.5
TOTALS	191		**96**		**96**
Bins and Collections		Bin Size (L)	660	Bin Size (L)	660
		Bins/Week	0.1	Bins/Week	0.1
		Collections/Week	1	Collections/Week	1
		Total Bins	**1**	Total Bins	**1**

6.2 OVERALL RETAIL AND COMMERCIAL BIN SUMMARY

Based on the estimated waste generated by the non-residential tenancies within each stage, the recommended bin quantities and collection frequencies are as follows. These figures assume all tenancies within the stage would share bins, bin room and collection service.

General waste: 6 x 1100L MGBs collected **5 x weekly (or ad-hoc).**
Recycling: 2 x 1100L MGBs collected **5 x weekly (or ad-hoc).**

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 such as public and school holidays should also be considered.

6.3 COMMERCIAL AND RETAIL WASTE DISPOSAL PROCEDURES

The mixed-use buildings will be provided with an allocated bin room to accommodate the tenancies (excluding the supermarket tenancy.) The bin room is anticipated to be located adjacent to the loading dock and is accessible to all authorised tenants of that building.

It is assumed the anticipated tenancies will share the same waste services and collection providers, except the supermarket (see section 6.3.1). On completion of each trading day or as required, nominated staff, or contracted cleaners will transport all general waste and recyclables to the allocated bin room in their building and place into the appropriate collection bins.

6.3.1 SUPERMARKET TENANCY

It is expected that the supermarket tenancy will operate its waste and recycling services separate from the other tenancies within this development. The supermarket tenancy will have its own commercial/retail bin room for the waste and recycling receptacles for cleaners and staff to dispose of. In general, it is expected that supermarket staff will dispose of waste and recycling near the loading area, and an appointed waste contractor will be engaged to remove the waste and recycling on an arranged schedule.

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 Rate (L/100m2/Day)	Generated FOGO (L/Week)
Supermarket	1507	240	25317.6	300	31647.0	25	2637.3
TOTALS	**1507**		**25318**		**31647**		**2637**
Bins and Collections		Bin Size (L)	1100	Bin Size (L)	1100	Bin Size (L)	660
		Bins/Week	23.0	Bins/Week	28.8	Bins/Week	4.0
		Collections/Week	3	Collections/Week	5	Collections/Week	4
		Total Bins	**8**	Total Bins	**6**	Total Bins	**1**

Note:

- This is an estimate only; it is understood that the design is still in the preliminary stages. This calculation aims to provide a basic understanding of the main spatial required for the resource recovery streams, and does not account for any additional streams or equipment required by the Supermarket. Once the supermarket tenancy is known, they will produce their own OWMP and recommended equipment in accordance with their statewide legislation. This table is to be used as a basic reference only for consideration.

6.3.2 SUPERMARKET COLLECTION ARRANGEMENT

During the days of nominated collection, a private waste contractor will be engaged to service the bins for the supermarket tenancy. This has been proposed via a front-lift vehicle. On the designated bin collection day, a front lift vehicle will pull up in close proximity to the supermarket bin room: Staff and nominated cleaners will arrange for the bins to be collected via the truck, and returned once emptied. Once completed, the vehicle will exit the site in a forward direction.

6.4 COMMERCIAL AND RETAIL WASTE COLLECTION PROCEDURES

A private waste collection contractor will be engaged to service the non-residential waste and recyclable bins per an agreed schedule. Collection frequencies that are used to size the commercial/retail bin room will be accurately determined in the Operational Waste Management Plan for each stage for DA. For the purpose of this report however, please refer to the estimations based on the collection frequencies listed in section 6.2.

The waste collection vehicle will park in the loading dock for each building and the waste collection staff will collect the bins via a collect and return arrangement from the commercial/retail bin room for each building.

Note: Stage B commercial bins will be transported to a nominated hardstand area the evening prior to collections. The building caretaker will transport these bins and align them neatly for contractors to access. Once completed, the bins will be immediately transported back to the commercial bin room to resume their operational use.

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 KITCHEN, OFFICE TEA ROOMS AND FOOD PREPARATION AREAS

Any food preparation area, including kitchens and office tea rooms will be provided with dedicated source separation bins including a general waste bin and a recycling bin. Cleaners or nominated staff will be responsible for monitoring these bins and emptying them as required.

6.5.2 BATHROOMS

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.

6.5.3 PRINTING & PHOTOCOPYING ROOMS

It is recommended that printing rooms and photocopying rooms are supplied with bins for the collection of paper, as well as separate receptacles for ink toner cartridges for recycling. The cleaners or nominated staff are responsible for monitoring these bins and ensuring the items are collected and recycled by an appropriate contractor.

6.5.4 LIQUID WASTE

Liquid wastes such cleaning products, chemicals, paints, and cooking oil, etc., will be stored in a secure space that is bunded and drained to a grease trap in accordance with State government authorities and legislation.

6.5.5 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 general waste as they can have adverse impacts to human health and the environment if disposed of in landfill. Retail and Commercial tenants will need to 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 demonstrates the primary roles and responsibilities of the respective stakeholders:

Table 9: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Strata, Body Corporate or Management	• 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	• Maintain and clean chute doors on each level; • Coordinate general waste and recycling collections; • Clean and transport bins as required; • Organise replacement or maintenance requirements for bins; • Organise, maintain and clean the waste holding area; • Organise bulky goods collection 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 waste and 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 and recycling in the allocated waste chutes and/or MGBs provided; • Ensure adequate separation of general waste and recycling; and • Comply with the provisions of Council and the OWMP.
Retail/Commercial Tenants	• Manage the back of house storage of generated waste and recycling during daily operation. • Correctly separate waste and recycling streams; bag general waste and ensure recyclables are not bagged. • 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, • Ensure dry basket arrestors are provided to the floor wastes in the food preparation, and • Ensure the suitable storage for chemicals, pesticides and cleaning products waste back of house.
Waste Collection Contractor	• Provide a reliable and appropriate waste 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 organic waste 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 SEPARATION

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 10: 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 bins. Bulky cardboard must not be placed in any chute. Cardboard should be flattened before placing in the designated cardboard bin.
Paper and Cardboard Recyclables	Cardboard and paper products are recyclable materials that can be re-processed into new products.	Resource Recovery Centre	Bulky cardboard must not be placed in any chute. Cardboard should be flattened before placing in the designated cardboard bin.
Commingled Recyclables	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).	Materials Recovery Facility (MRF)	Commingled recyclables must not be bagged, and instead should be placed loosely in the designated recycling bins.
Green Waste	Green waste consists of unwanted organic materials that are easily biodegradable and/or compostable (e.g., lawn clippings, branches)	Resource Recovery Centre	Landscape Maintenance Contractors will remove the green waste from site during scheduled maintenance. Green waste will be collected in council or private contractor bins and removed from site.
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.
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 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 Goods 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 EDUCATION

Educational materials encouraging correct separation of general waste and recyclables 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 provides information in multiple languages to support correct behaviours, and to minimise the possibility of chute blockages and contamination in communal waste 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 recycling and general waste streams (refer to Council guidance);
- How to dispose of bulky goods and any other items that are not general waste or recycling (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).

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

10.0 WASTE ROOMS

The waste rooms can only be recommended once the distribution of units in each building core, location of loading areas and the non-residential tenancies have been confirmed. All rooms for waste management accommodates the required equipment, plus approximately 30-70% additional space for access and manoeuvrability of bins.

All doorways and passageways facilitating the movement of bins and/or bulky waste items are confirmed to be wider than the largest bin proposed onsite within that room/area. 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 (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 waste 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 40 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 Goods Waste Storage 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
Commercial/Retail Bin Room	• In order to ensure staff safety, all bins should be arranged so they can be accessed without moving another bin

11.0 BIN MOVEMENTS

The building caretaker is responsible for the transportation of bins as required from their designated operational locations to the bin holding room as required and returning them once emptied to resume operational use.

Transfer 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.

The developer is responsible for suppling 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/body corporate will be responsible for maintaining, repairing and replacing waste management equipment.

12.0 EQUIPMENT SUMMARY

Table 12: Equipment Summary

	Part	Qty	Notes
General Waste Chutes	Please refer to supplier's information	7	(See APPENDIX: B.1 for Typical Single Chute Layout)
Chute Equipment	**General Waste** 3-bin 1100L bin Linear Track System 3-bin 1100L bin Carousel System 4-bin 1100L bin Carousel System	 1 2 4	(See APPENDIX: B.3 for Typical Linear System) (See APPENDIX: B.4 for Typical Carousel)
Other Equipment	- 240L Bin Lifter - Bin Tug	3 3	(See APPENDIX: C.4 for Bin Tug and APPENDIX: C.5 for Bin Lifter)

Note: Equipment listed above does not propose compaction (the Council does not permit compaction of residential bins).

13.0 WASTE ROOMS

The areas allocated for waste storage and collection areas are detailed in the table below, and are estimates only. Final areas will depend on room and bin layouts.

Table 13: Waste Room Areas: Buildings 1, 2 & 3 (Stage A).

Level	Waste Room Type	Equipment	Estimated Area Required (m^2)	Area Provided (m^2)
LG	**Building** 1 Chute Discharge Room	General waste: 4-bin 1100L carousel system 4 x 1100L service bins	Min. 34	43
	Building 2 Chute Discharge Room	General waste: 4-bin 1100L carousel system 4 x 1100L service bins	Min. 34	34
	Building 3 Chute Discharge Room	General waste: 4-bin 1100L carousel system 4 x 1100L service bins	Min. 34	36
	Communal FOGO Bin Room	FOGO: 74 x 240L Bins	Min. 60	53
	Retail /Commercial Bin Room	General waste: 6 x 1100L Bins Recycling: 2 x 1100L Bins	Min. 24	20
	Residential Central Collection Room	General waste: 46 x 1100L Bins Recycling: 27 x 1100L Bins 1 x Bin Lifter 1 x Bin Tug	Min. 211	195
	Bulky Goods Waste Storage Room	Building 1&2: $106m^2$ Building 3: $31m^2$	Min. 149 combined	137 Combined
	Supermarket Bin Room	General waste: 8 x 1100L Bins Recycling: 6 x 1100L Bins FOGO: 1 x 660L bin 1 x Baler 1 x Bin Tug	Min. 40	68

Note:* FOGO bins will be collected directly from the FOGO bin room. It is understood that it is within close proximity to the loading dock for collection, and also assists in preventing unauthorised access to the bin collection room.

**The Supermarket will nominate its own waste procedures and equipment according to its statewide national policy when in operation. This OWMP assumes an 1100L bin system in the interim.

Table 14: Waste Room Areas: Buildings 4 & 5 (Stage B)

Level	Waste Room Type	Equipment	Estimated Area Required (m^2)	Area Provided (m^2)
LG	**Building** 4 Chute Discharge Room	General waste: 3-bin 1100L carousel system 3 x 1100L service bins	Min. 22	30
	Building 5 Chute Discharge Room	General waste: 3-bin 1100L carousel system 3 x 1100L service bins	Min. 22	24
	Communal FOGO Bin Room	FOGO: 19 x 240L Bins	Min. 24	28
	Central Collection Room	General waste: 19 x 1100L Bins Recycling: 11 x 1100L Bins FOGO: 29 x 240L Bins 1 x Bin Lifter 1 x Bin Tug	Min. 99	99
	Bulky Goods Waste Storage Room	Building 4: $29m^2$ Building 5: $31m^2$	Min. 60	51 Combined
	Stage B Commercial Bin Room	General waste: 1 x 660L Bin Recycling: 1 x 660L Bin	6	14

Table 15: Waste Room Areas: Buildings 6 & 7 (Stage C)

Level	Waste Room Type	Equipment	Estimated Area Required (m^2)	Area Provided (m^2)
LG	**Building** 6 Chute Discharge Room (Core A)	General waste: 3-bin 1100L linear system 3 x 1100L service bins	Min. 22	35
	Building 7 Chute Discharge Room	General waste: 4-bin carousel system 3 x 1100L service bins	Min. 22	31
	Communal FOGO Bin Room	FOGO: 41 x 240L Bins	Min. 33	25
	Central Bin Collection Room	General waste: 25 x 1100L Bins Recycling: 15 x 1100L Bins 1 x Bin lifter 1 x Bin tug	Min. 109	174
	Bulky Goods Waste Storage Room	Building 6: $43m^2$ Building 7: $41m^2$	Min. 84	39 Combined

Notes:

- Building 6 and 7 may require rotations twice daily by the building manager, due to the volume of discharge material present in comparison to the design limitations of available infrastructure (i.e., a 6-bin carousel system is not possible with the existing head height, and space available).

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 70% 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 16: Waste Room Requirements

Waste Room Type	Waste Room Requirements
Chute Discharge Room	• Ceiling clearance height must be a minimum of 3000mm (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 waste 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 40 degrees (subject to number of consecutive offset and/or up to 1500mm) • Where the chute discharge room also acts as the collection point, the chute discharge and any equipment underneath the chute should be caged off to ensure the safety of personnel accessing the room.
Residential Bin Holding Room and/or Bin Collection Area	• Bins must not be stacked in rows that are more than two bins deep
Bulky Goods Waste Storage 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.

14.0 CONSTRUCTION REQUIREMENTS

Waste room construction must comply with the minimum standards as outlined in the *Cumberland Council Development Control Plan 2021,* 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 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.

In conclusion, this Operational Waste Management Plan report, prepared by T. McPherson, supports the State Significant Development Application (SSDA) for 1 Crescent Street, Holroyd. 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 Secretary's Environmental Assessment Requirements (SEARs).

14.0 USEFUL CONTACTS

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

LOCAL COUNCIL

Cumberland Council Customer Service	Ph: (02) 8757 9000	E: council@cumberland.nsw.gov.au

PRIVATE WASTE COLLECTION PROVIDER

Capital City Waste Services	Ph: 02 9599 9999	E: service@ccws.net.au
Remondis	Ph: 02 9032 7100	
Suez Environmental	Ph: 13 13 35	
Wastewise NSW	Ph: 1300 550 408	E: admin@wastewise.com.au

BIN MOVING DEVICE SUPPLIERS

Electrodrive	Ph: 1800 333 002	E: sales@electrodrive.com.au
Sitecraft	Ph: 1300 363 152	E: sales@sitecraft.com.au
Spacepac	Ph: 1300 763 444	

ORGANIC DIGESTERS AND DEHYDRATORS

Closed Loop	Ph: 1300 762 166	
Orca		E: contact.australia@feedtheorca.com
Soil Food	Ph: 1300 556 628	
Waste Master	Ph: 1800 614 272	E: hello@wastemasterpacific.com.au

COOKING OIL CONTAINERS AND DISPOSAL

Auscol	Ph: 1800 629 476	E: sales@auscol.com

ODOUR CONTROL

EF Neutralizer	Ph: 1300 435 374	E: info@elephantsfoot.com.au

SOURCE SPERATION BINS

Source Separation Systems	Ph: 1300 739 913	E: info@sourceseparationsystems.com.au

MOBILE GARBAGE BINS, BULK BINS AND BIN EQUIPMENT

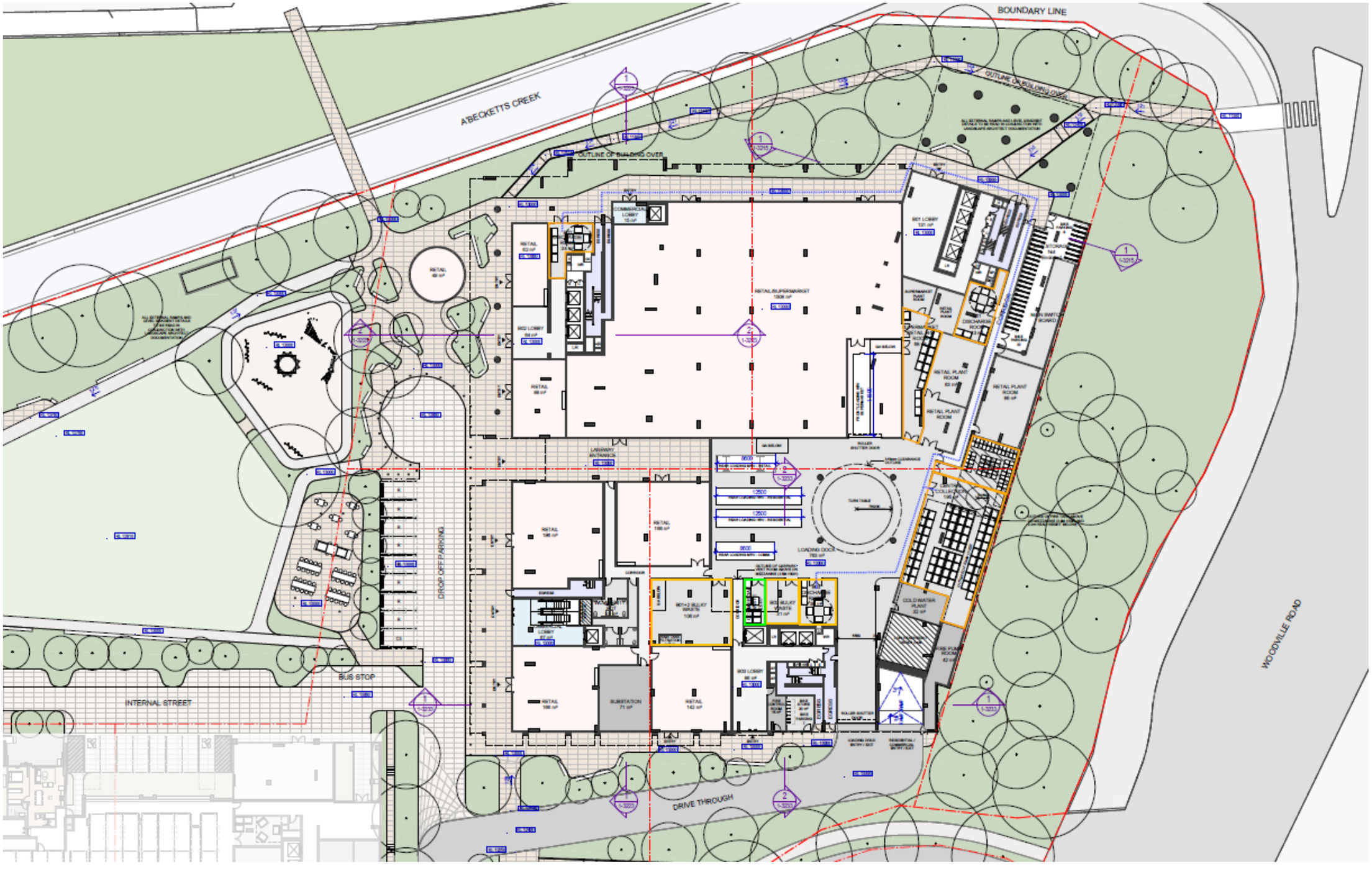
SULO	Ph: 1300 364 388	E: sales@sulo.com.au
OTTO Australia	Ph: 02 9153 6999	

CHUTES, COMPACTORS AND EDIVERTER SYSTEMS

Elephants Foot	Ph: 1800 025 073	E: info@elephantsfoot.com.au

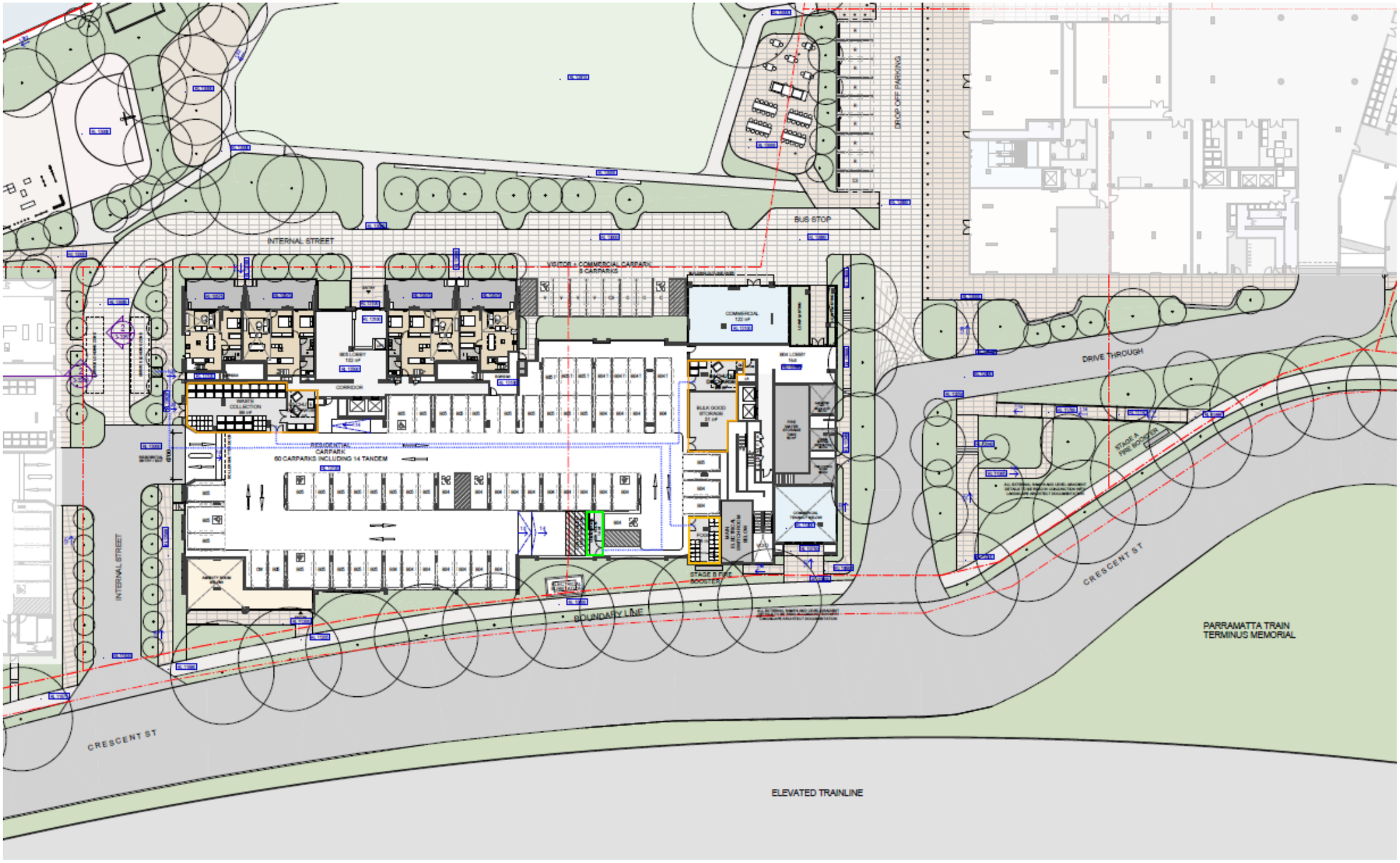
APPENDIX A: ARCHITECTURAL PLANS

APPENDIX: A.1 GROUND FLOOR PLAN (BUILDINGS 1 TO 3)



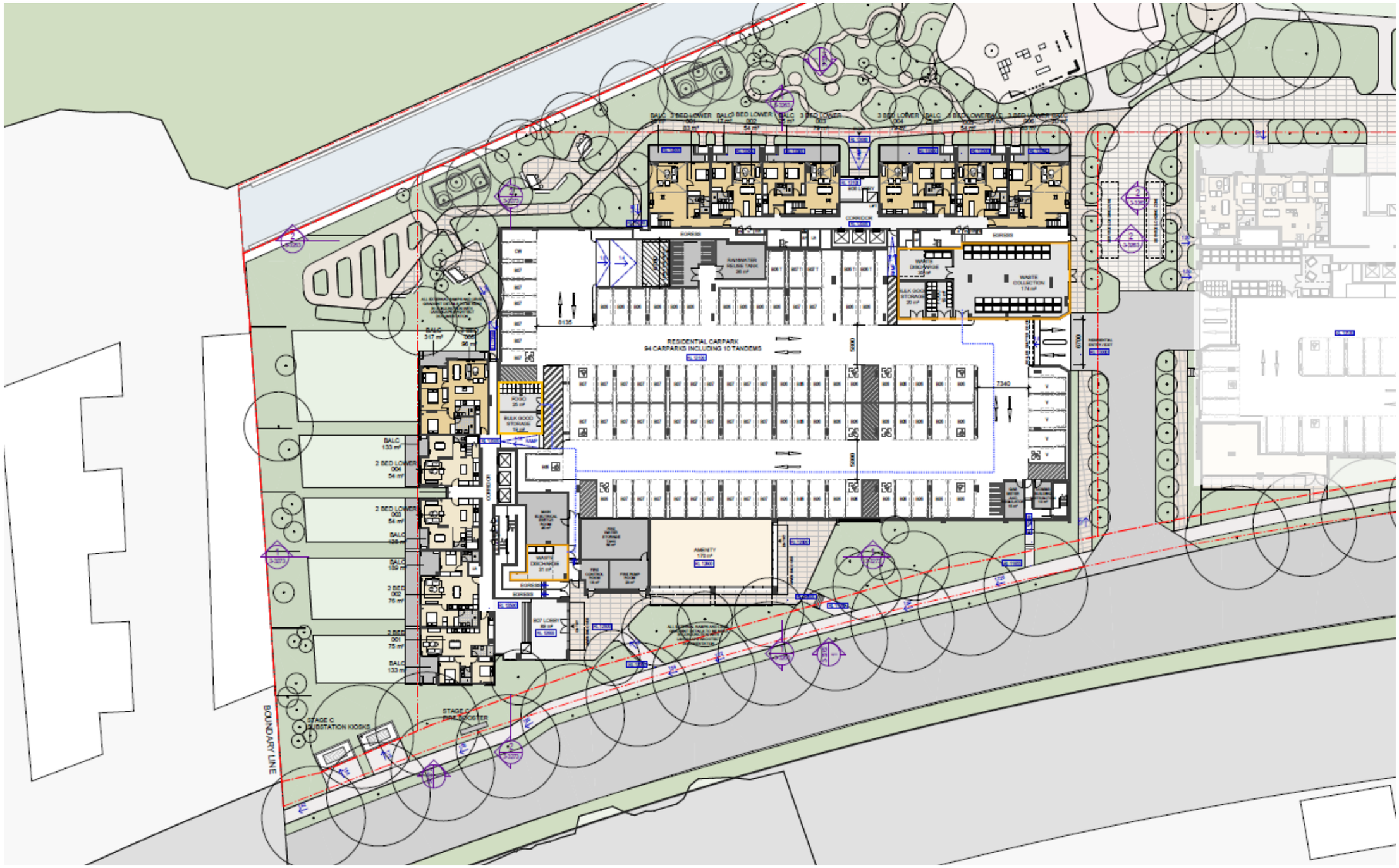
Source: Woods Bagot, Sheet no. CP-AR-1-2200, Rev G, 19.09.2025 - Ground Floor Plan.

APPENDIX: A.2 GROUND FLOOR PLAN (BUILDINGS 4 AND 5)



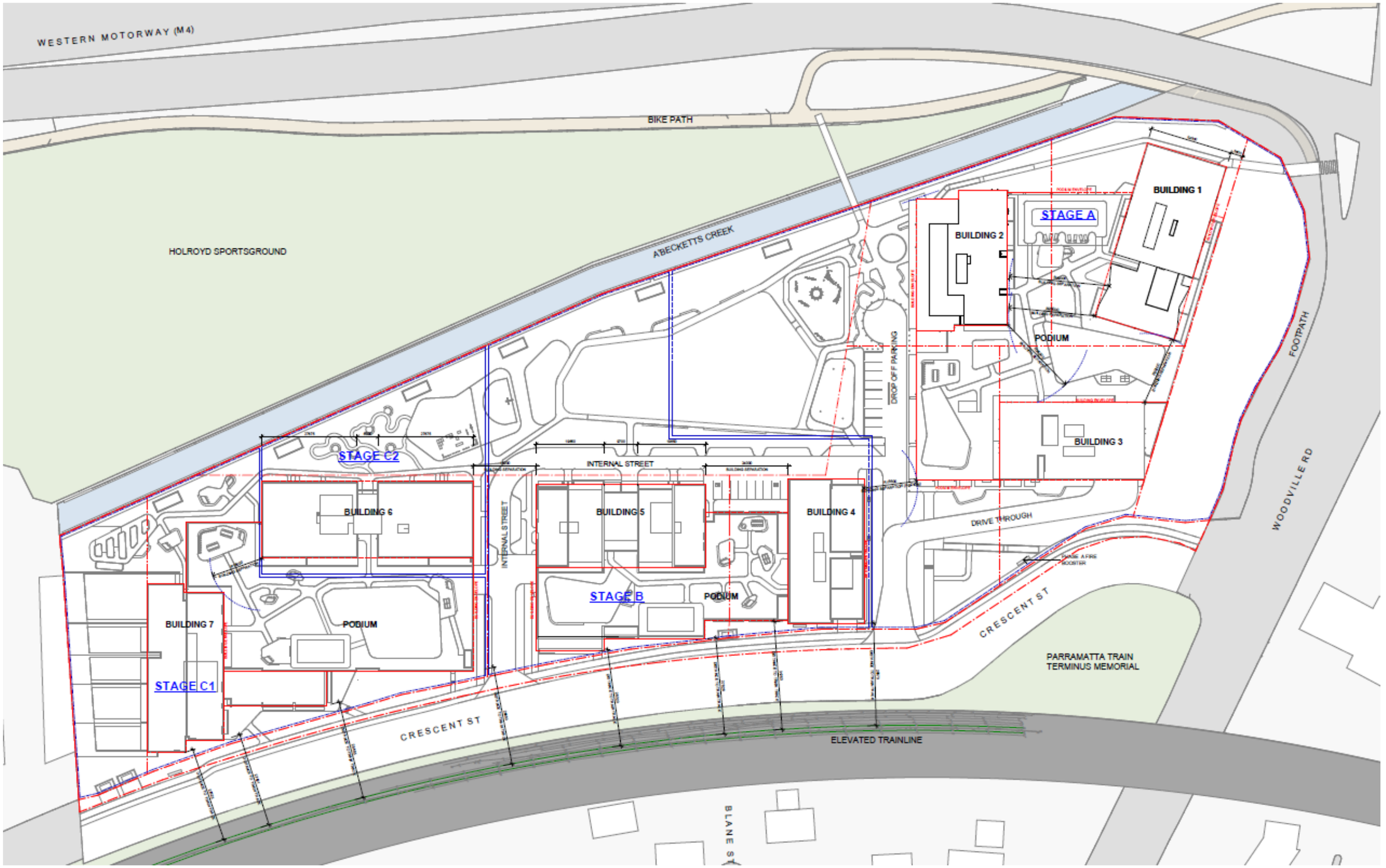
Source: Woods Bagot, Sheet no. CP-AR-2-2200, Rev F, 19.09.2025- Ground Floor Plan

APPENDIX: A.3 GROUND FLOOR PLAN (BUILDINGS 6 AND 7)



Source: Woods Bagot, Sheet no. CP-AR-3-220, Rev D, 19.09.2025 - Ground Floor Plan

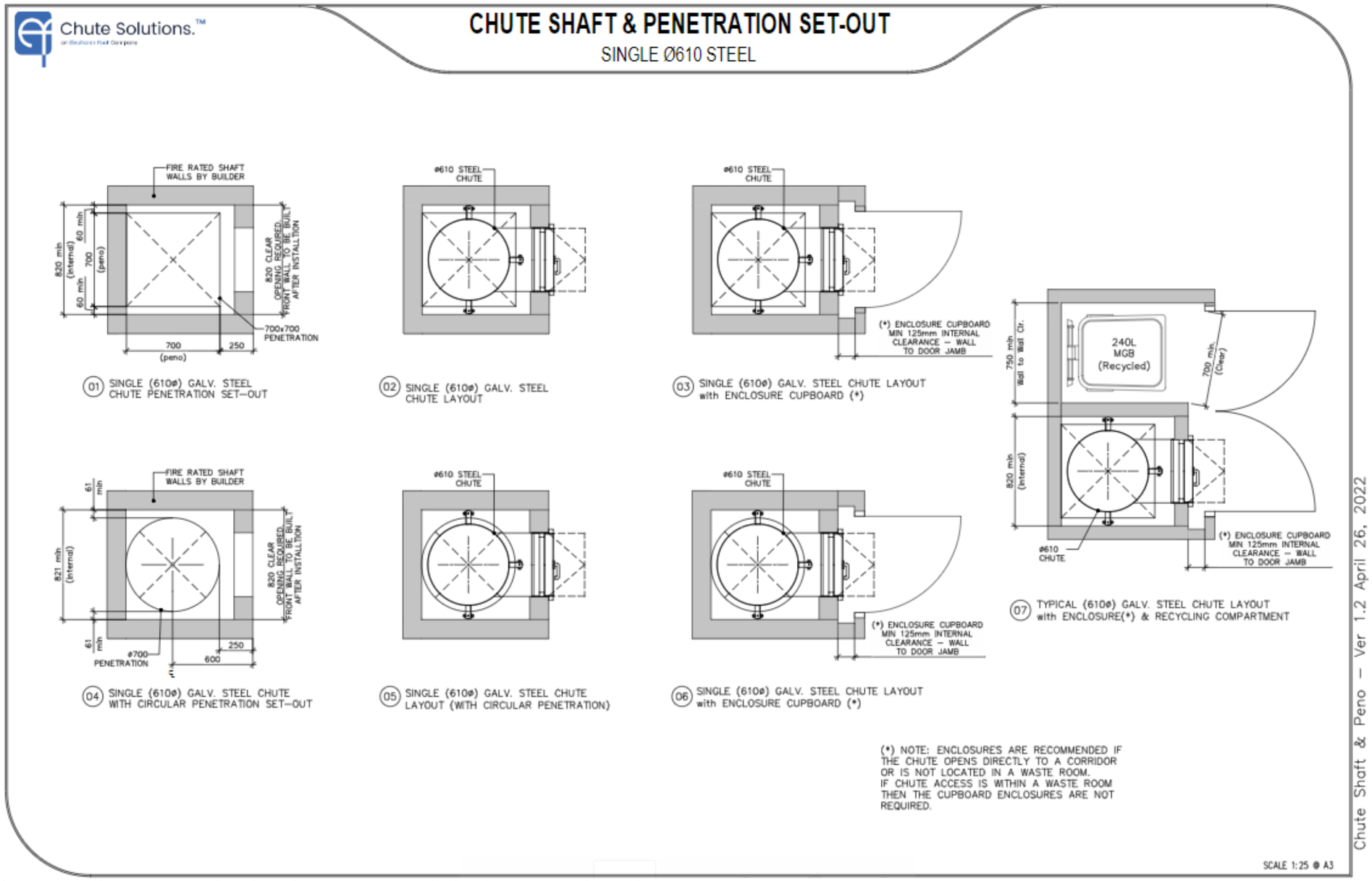
APPENDIX: A.4 SETOUT SITE PLAN (STAGES)



Source: Woods Bagot, Sheet no. CP-AR-0-1103, Rev D: 19.09.2025 – Setout Site Plan.

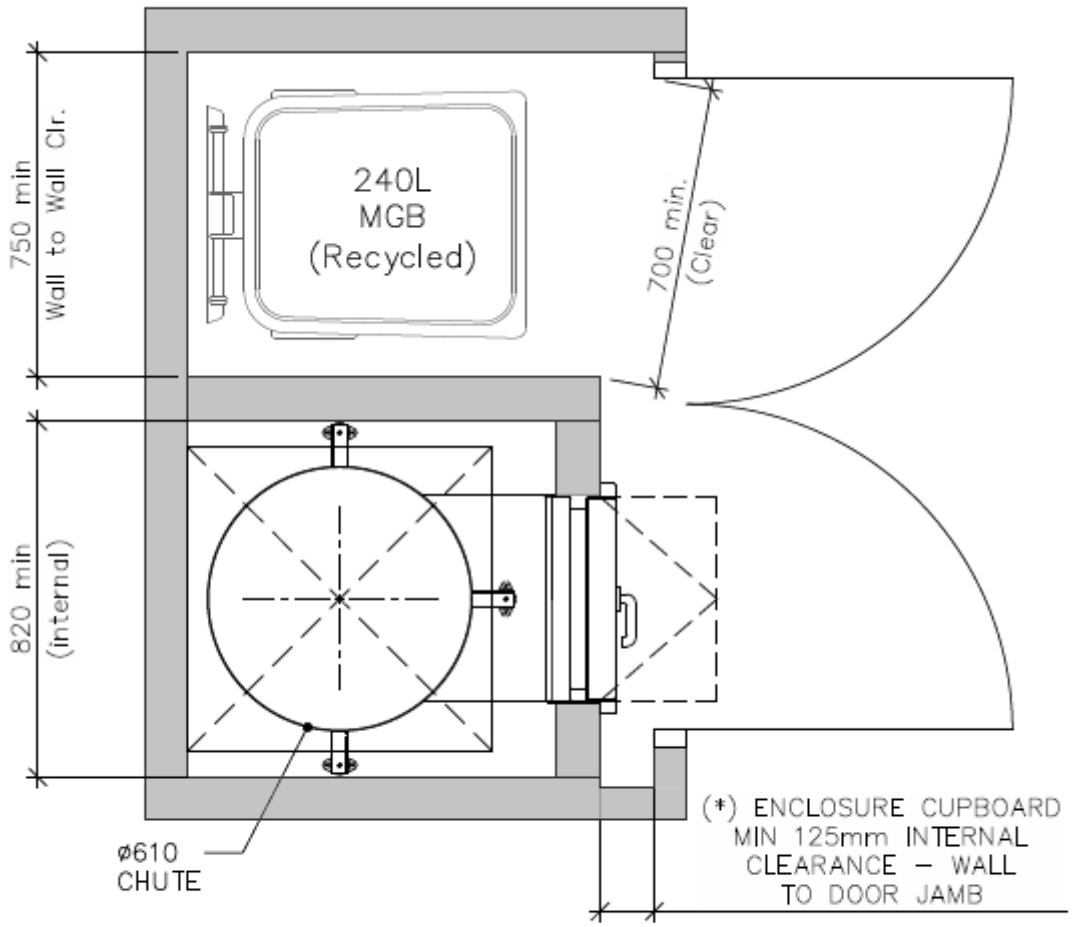
APPENDIX B: INSTALLATION EQUIPMENT

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



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

APPENDIX: B.2 EXAMPLE RESIDENTIAL LEVEL RECYCLING BIN LAYOUT



07 TYPICAL (610ø) GALV. STEEL CHUTE LAYOUT
with ENCLOSURE(*) & RECYCLING COMPARTMENT

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

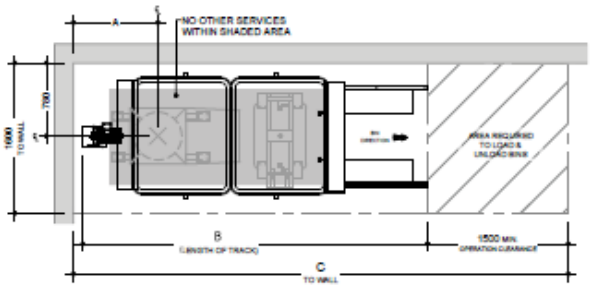
Chute Solutions.™
an Elephants Foot Company

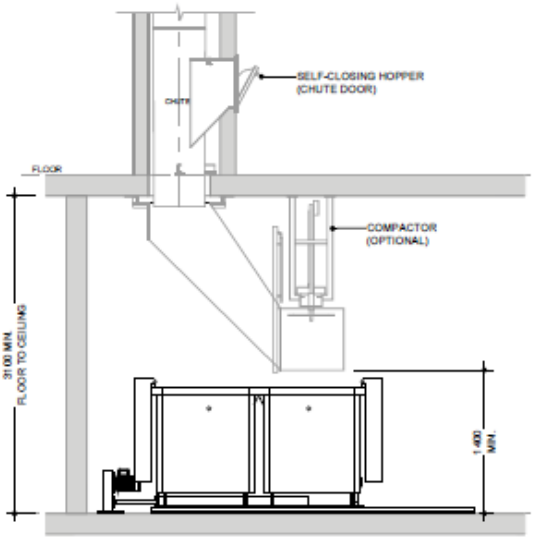
ELEPHANTS FOOT

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 specifications.

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

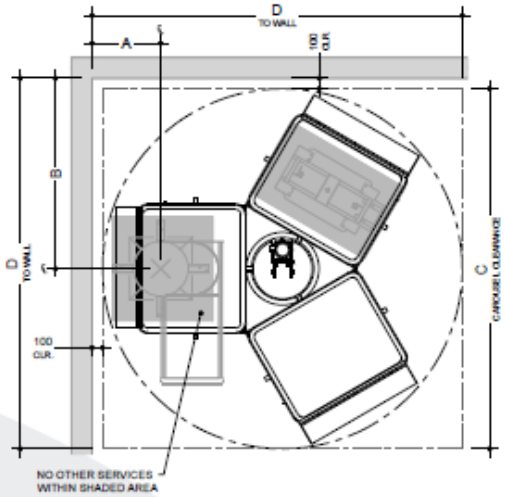
Chute Solutions.™
an Elephants Foot Company

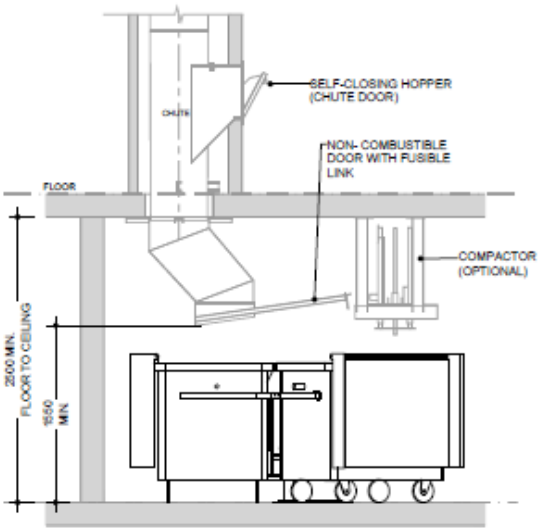
ELEPHANTS FOOT

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 specifications.

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)

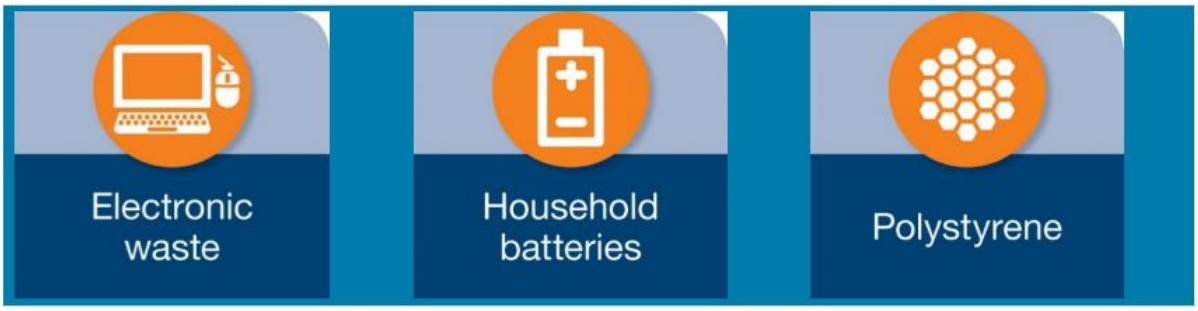
Figure I1.2: Examples of bin lid stickers (EPA supplied)

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 TYPICAL 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

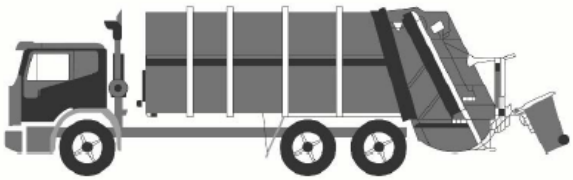
Vehicle type	Rear-loading	Side-loading*	Front-lift-loading	Hook truck	Crane truck
Length overall (m)	10.5	9.6	11.8	10.0	10.0
Width overall (m)	2.5	2.5	2.5	3.0	2.5
Travel height (m)	3.9	3.6	4.8	4.7	3.8
Operational height for loading (m)	3.9	4.2	6.5	3.0	8.75
Vehicle tare weight (t)	13.1	11.8	16.7	13.0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

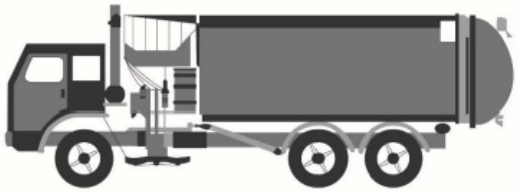
These vehicles are commonly used for domestic waste collections from MUDs and RFBs and sometimes for recycling. They can be used to collect waste stored in mobile bins or bulk bins, particularly where bins are not presented at the kerbside. They are also used for collecting bulky waste.



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: C.4 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: C.5 EXAMPLE BIN LIFTER FOR 240L BINS

versatip

Versatip Bin Tipper – 1500mm Tip

Specifications

Product Code	69121009
Product Name	1500mm Tip – Battery Powered
Capacity (kg)	250
Height (mm)	2085
Length (mm)	1330
Power Source	Battery Powered
Tipping Height (mm)	1500
Width (mm)	990

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

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

APPENDIX D: SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX: D.1 EXAMPLE APARTMENT STYLE COMPOST BIN

Apartment Style Compost bin – available from hardware stores

Suitable for:

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

APPENDIX: D.2 EXAMPLE COOKING OIL CONTAINERS

Drums 205L

Pour in Bulk Tank

View Brochure

Oil Kaddy System

View Brochure

Eco Systems

Direct-Connect to Fryer

Source: http://www.auscol.com/services/collection-systems/