120C Old Canterbury Road, Summer Hill

Mixed Use Development

OPERATIONAL WASTE MANAGEMENT PLAN

25/05/2019
Revision B

Client

The Yard 120C Pty Ltd

2 Tebbutt Street, Leichhardt NSW

Architect

Fox Johnston Architects

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SCOPE

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

The waste management of the **construction** and **demolition** phases of the development are not addressed in this report. It is EFRS's understanding that a construction and demolition WMP will be completed by a separate party appointed by the developer, and submitted separately to this report. Typically, the head contractor of the site will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements.

REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description	Signed
A	4/12/2019	A Armstrong	E Saidi	Draft	
B	25/05/2020	A Armstrong	E Saidi	Amendment	

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GLOSSARY OF TERMS

TERM	DESCRIPTION
Chute	A ventilated, vertical pipe passing from floor to floor of a building with openings as required to connect with hoppers and normally terminating at its lower end at the roof of the central waste room(s)
Chute Discharge	The point at which refuse exits from the refuse chute
Chute Discharge Room	A secure, enclosed area or room housing the discharge and associated equipment for the refuse chute
Collection Area/Point	The identified position or area where garbage or recyclables are actually loaded onto the collection vehicle
Compactor	A machine for compressing waste into disposable or reusable containers
Composter	A container/machine used for composting specific food scraps
Crate	A plastic box used for the collection of recyclable materials
Garbage	All domestic waste (Except recyclables and green waste)
Green Waste	All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers
Hopper	A fitting into which waste is placed and from which it passes into a chute or directly into a waste container. It consists of a fixed frame and hood unit (the frame) and a hinged or pivoted combined door and receiving unit
L	Litre(s)
Liquid Waste	Non-hazardous liquid waste generated by commercial premises that is supposed to be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste)
LRV	Large rigid vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities as heavy rigid vehicle (HRV)
Mobile Garbage Bin(s) (MGB)	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
MRV	Medium rigid vehicle
Recycling	Glass bottles and jars – PET, HDPE and PVC plastics; aluminium aerosol and steel cans; milk and juice cartons; soft drink, milk and shampoo containers; paper, cardboard, junk mail, newspapers and magazines
Refuse	Material generated and discarded from residential and commercial buildings including general waste, recyclables, green waste and bulky items
SRV	Small rigid vehicle as in AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities, generally incorporating a body width of 2.33

LIST OF TABLES

INTRODUCTION

EFRS has been tasked to prepare the following waste management plan for Magnolia Project Fox Johnston for the operational management of waste generated by the mixed use development located at 120C Old Canterbury Road, Summer Hill NSW.

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

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

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

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

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

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

DEVELOPMENT SUMMARY

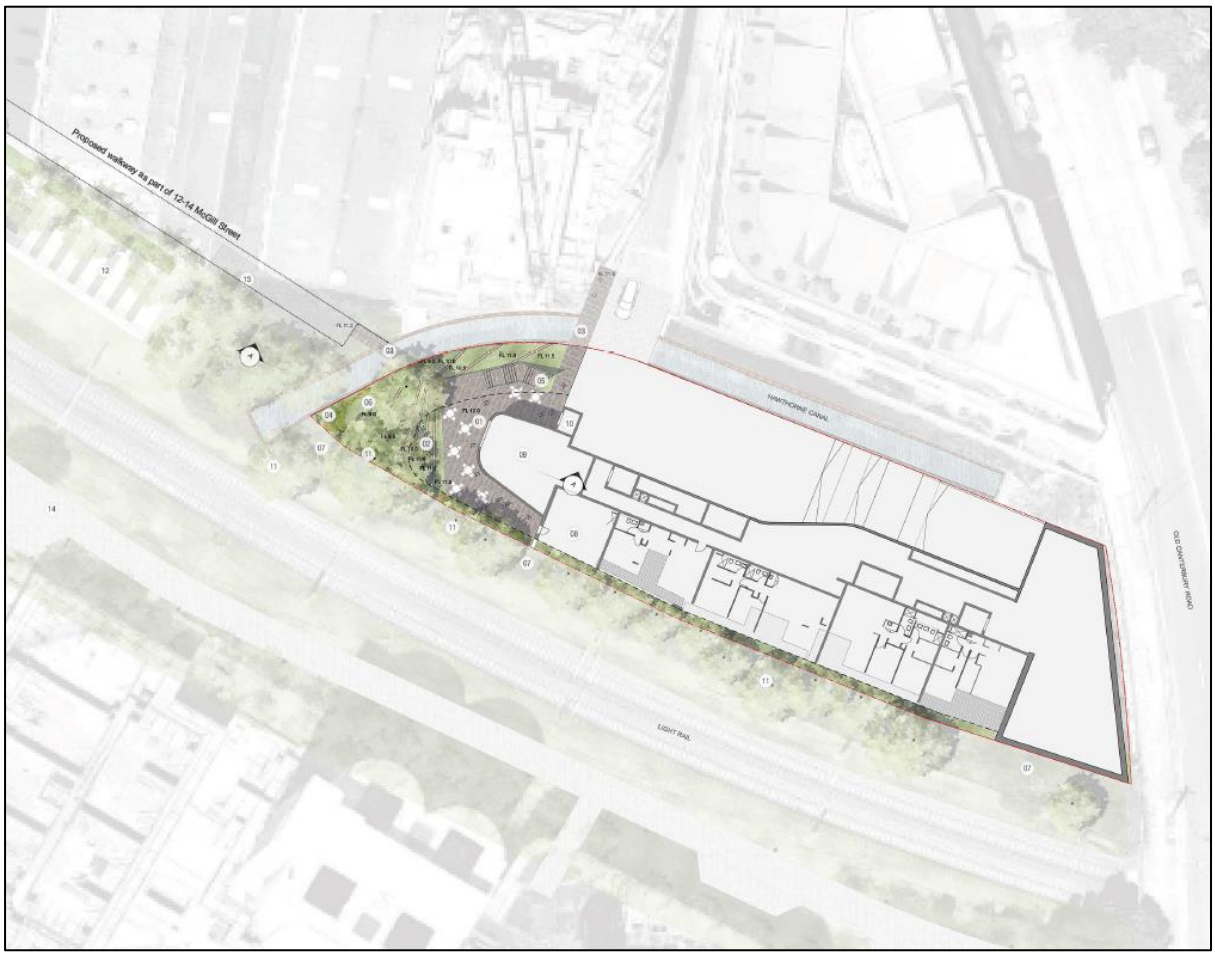
The proposed development falls under the LGA of LGA of Inner West Council, and consists of 1 x 8-level building incorporating:

- 2 separate residential building cores known as Core 1 and Core 2;
- 57 x residential units in total;
- 3 x retail tenancies (level 1-3) occupying a combined GFA of 190.3m^2;
- 1 x community room on level 1 with a GFA of 43m^2.

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

SITE LOCATION

The site is located at 120C Old Canterbury Road, Lewisham, as shown below. The site fronts onto Old Canterbury Road and McGill Street with vehicular access also via this McGill Street.



Source: Fox Johnston

INNER WEST COUNCIL (ASHFIELD COUNCIL)

The development is within Inner West Council's juristirction. Inner West Council is the alamagation of Ashfield Council, Leichhardt Muicipal Council and Marrickville Council. At time of writing this waste management plan, the waste services and associated policies operate under the original council divisions.

Therefore, the residential garbage and recycling will be guided by the services and acceptance criteria of the Ashfield Council. All waste facilities and equipment are to be designed and constructed to be in compliance with the Ashfield Council's *Comprehensive Inner West DCP 2016 for Ashbury Ashfield, Croydon, Croydon park, Haberfield, Hurlstone Park and Summer Hill,* Council Advices, Australian Standards and statutory requirements.

COUNCIL OBJECTIVES

Space: Ensure area are provided for efficient storage and collection of waste and recycling matched to the type and scale of development.

Access: Ensure both users and service providers can access waste and recycling storage safely and conveniently

Safety: Include safe practices in the design for storage, handling and collections of waste and recycling.

Amenity: Manage the noise, odour and hygiene issues relating to waste and limit the impacts on local areas. And;
Ensure that waste and recycling storage areas are effectively integrated into a development and visually unobtrusive.

Management: Clarify the roles for provision of waste management in developments and demarcate service provisions

Servicing: Minimise collection vehicle movements by balancing provision of adequate storage capacity and collection frequency. And;
Minimise reliance on public kerbside and impacts on the public domain from waste and recycling collection.

STAKEHOLDER ROLES AND RESPONSIBILITIES

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

Table 1: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Strata/Management	• Ensuring that all waste service providers submit monthly reports on all equipment movements and waste quantities/weights; • Organising internal waste audits/visual assessments on a regular basis; and • Manage any non-compliances/complaints reported through waste audits.
Building Manager/Waste Caretaker	• Ensuring effective signage, communication and education is provided to occupants, tenants and cleaners; • Providing staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities; • Ensuring site safety for residents, children, visitors, staff and contractors; • Abiding by all relevant OH&S legislation, regulations, and guidelines; • Assessing any manual handling risks and prepare a manual handling control plan for waste and bin transfers; • Preventing storm water pollution by taking necessary precautions (securing bin rooms, preventing overfilling of bins) • General maintenance and cleaning of chute doors on each level; • Cleaning and transporting of bins as required; • Organising, maintaining and cleaning the general and recycled waste holding area; • Organising both waste and recycled waste pick-ups as required; • Organising replacement or maintenance requirements for bins; • Organising bulky goods collection when required; and • Investigating and ensuring prompt clean-up of illegally dumped waste materials.
Residents/Tenants	• Dispose of all waste and recycling in the allocated waste chutes and/or MGBs provided; • Ensure adequate separation of waste and recycling; and • Compliance with the provisions of Council and the WMP.
Council/Private Waste Contractor	• Provide a reliable and appropriate waste collection service; • Provide feedback to building managers/residents in regards to contamination of recyclables; and • Work with building managers to customise waste systems where possible.
Gardening/Landscaping Contractor	• Removal of all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.
Building Contractors	• Removing all construction related waste offsite in a manner that meets all authority requirements.

EDUCATION

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

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

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

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

LIMITATIONS

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

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

RESIDENTIAL WASTE MANAGEMENT

The *Comprehensive Inner West DCP 2016 for Ashbury Ashfield, Croydon, Croydon Park, Haberfield, Hurlstone Park and Summer Hill* has been referenced to calculate the total number of bins required for the residential units. Calculations are based on generic figures; waste generation rates may differ according to the residents' waste management practice.

ESTIMATED WASTE VOLUMES AND PROVISIONS

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

Table 2: Calculated Waste Generation – Residential

Building/ Core	# Units	Waste Generation Rate (L/unit/week)		Generated Waste (L/week)	Recycling Generation Rate (L/unit/week)		Generated Recycling (L/week)
Core 1	23	120		2760	120		2760
Core 2	34	120		4080	120		4080
TOTAL	**57**			**6840**			**6840**
Collections		Waste Bin Size (L)		660	Recycling Bin Size (L)		240
		Collections per Week		1	Collections per Week		0.5
		Total Waste Bins Required		12	Total Recycling Bins Required		57
Bins and Equipment		Number of Waste Bins Per Core	Core 1	5	Number of Recycling Bins Per Core	Core 1	23
			Core 2	7		Core 2	34

HOUSEHOLD WASTE

2 waste chutes will be installed with access provided on all residential levels of each building core. The chutes are to be used for the disposal of waste only. Waste discharges into 660L bins placed in the waste discharge room for each building core. The waste is not to be compacted.

2 x 240L recycling bins will be situated in the waste compartment on each residential level for collection of recyclable items. The caretaker will be responsible for monitoring the capacity of recycling bins and exchanging them with empty bins from the recycling room on the ground level when full.

On collection days, the building caretaker must ensure that all 240L recycling MGBs are transferred from each level to the central recycling room, via the lift. Council will service full waste bins directly from the waste discharge rooms and full recycling bins from the recycling room.

COMMON AREAS

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

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

SOURCE SEPERATION

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

GENERAL WASTE

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

RECYCLING

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

Cardboard furniture boxes or large cardboard containers should not be included in the garbage chute – a cardboard collection bin will be made available to residents to deposit flattened cardboard and will be managed by the waste caretaker. Residents should be advised of the location of these bins by building management.

GREEN WASTE

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

BULKY GOODS

A room or caged area will 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 garbage and recycling bin collection room and must have a minimum doorway width of 1.5m to allow for easy movement of large waste items in and out of the room.

Ashfield Council requires that the bulky goods room is a minimum of $4m^2$ for developments of up to 20 dwellings. For developments with over 20 dwellings, the bulky goods room must be provided at a rate of $8m^2$ for every 50 units.

These areas are crucial to prevent residents from illegally dumping bulky waste on the footpath outside Councils scheduled collection times. Regular illegal dumping can attract other dumped waste, generate litter, detract significantly from the quality and appearance of the development and reduce amenity of the street.

Residents will be required to liaise with building management regarding the transportation and disposal of bulky goods. Ideally, bulky waste should be collected on a regular schedule so that the storage area does not become overfull and so that residents know when to place items in there for collection. Councils may arrange for more frequent collections of bulky waste for MUDs, however collection frequencies vary among different local government areas.

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

ELECTRONIC WASTE

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

CHEMICAL WASTE

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

ORGANIC WASTE AND COMPOSTING

Recycling organic waste, such as food scraps and garden materials, dramatically reduces the quantity of waste being diverted to land fill and thus reduces residents' ecological footprint. Compost material can also be returned to the soil as a rich fertilizer and improve plant growth and the overall health of surrounding vegetation. It is recommended that a space for composting and worm farming is made available for all residents in a communal facility or in small private courtyards (*see APPENDIX D.1*). Composting facilities are to be sited on an unpaved area with soil depth of at least 300mm. Residents may also choose to purchase and install apartment style compost bin where practical and self-manage these systems (*see APPENDIX D.2 and APPENDIX D.3)*.

COMMERCIAL AND RETAIL WASTE MANAGEMENT

The *Comprehensive Inner West DCP 2016 for Ashbury Ashfield, Croydon, Croydon Park, Haberfield, Hurlstone Park and Summer Hill* has been referenced to calculate the total number of bins required for the retail and commercial areas. Calculations are based on generic figures; waste generation rates may differ according to the tenants' waste management practice.

ESTIMATED WASTE VOLUMES AND PROVISIONS

The following table shows the estimated volume (L) of waste and recycling generated by the commercial/retail component of the development. The total GFA of the retail component has been divided into thirds to take into account the waste generation of future possible tenancies. A seven day operating week has been assumed.

Table 3: Calculated Waste Generation – Commercial/Retail

Type	NLA (m^2)	Waste Generation Rate (L/100m^2/day)	Generated Waste (L/week)	Recycling Generation Rate (L/100m^2/day)	Generated Recycling (L/week)
Community Room	43	20	60.2	20	60.2
Food Retail	63.4	160	710.08	100	443.8
Restaurant	63.4	400	1775.2	280	1242.64
Non-Food Retail	63.4	55	244.09	70	310.66
TOTAL	**233.2**		**2789.57**		**2057.3**
Bins and Collections	Bin Size (L)		660	Bin Size (L)	660
	Waste Bins Per Week		5	Recycling Bins Per Week	4
	Collections per Week		2	Collections per Week	2
	Total Waste Bins Required		**3**	Total Recycling Bins Required	**2**

RETAIL & COMMUNITY ROOM WASTE MANAGEMENT

Tenants will be responsible for their own storage of waste and recycling back of house (BOH) during daily operations. On completion of each trading day or as required, nominated retail staff or cleaners will transport their bagged waste and recyclables to the retail waste room on the ground floor and place waste and recycling into the appropriate collection bins.

Food handling for food cooked or prepared, served and consumed on site will produce a typical waste composition of food scraps from plates, packaging waste and some plastics. Café or restaurant staff will be responsible for their own BOH waste management.

Cardboard is a major component of the waste generated by retail tenancies. All cardboard should be flattened (to save bin space), placed in and collected from bulk bins. Whilst cardboard is bulky, it is generally lightweight however it can be contaminated with food or liquid which makes it unsuitable for recycling.

To ensure the proper management and disposal of waste, tenants must be made aware of the following practices:

- All garbage should be bagged and garbage bins should be plastic lined;
- Bagging of recyclables is not permitted;
- All interim waste storage is located BOH during operations;
- Individual recycling programs are recommended for retailers to ensure commingled recycling is correctly separated;
- Any food and beverage tenant will make arrangements for storing used and unused cooking oil in a bunded storage area;
- The operator will organise grease interceptor trap servicing;

- A suitable storage area needs to be provided and effectively bunded for chemicals, pesticides and cleaning products;
- Dry basket arrestors need to be provided to the floor wastes in the food preparation and waste storage areas; and
- All flattened cardboard will be collected and removed to the waste room recycling MGB

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.

It is the responsibility of the building manager to monitor the number of bins required for the development. As waste volumes may change according to the development's management, customer base and retail tenancy attitudes to waste disposal and recycling, bin numbers and sizes may need to be altered to suit the building operation. Seasonal peak periods i.e. public and school holidays should also be considered.

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.

MOVEMENT AND TRANSPORTATION OF BINS

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

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

If required the developer should contact a bin-tug, trailer or tractor consultant to provide equipment recommendations. Examples of motorised bin moving equipment can be found in APPENDIX B.4 and APPENDIX B.5.

COLLECTION OF WASTE

RESIDENTIAL

All waste and recycling generated by the development will be collected by Council, with waste being collected weekly and recycling on a fortnightly basis.

Prior to collections, the building caretaker will be responsible for ensuring that all full recycling bins are transferred to the central recycling room.

On collection days, Council's collection vehicle will access the site from McGill Street and pull into the designated vehicle loading bay on the ground level. Collection staff will then service all waste bins directly from the waste discharge rooms and all recycling bins will be serviced directly from the recycling rooms.

Once servicing is complete, the collection vehicle will leave the site in a forward-facing direction via the same route.

RETAIL

A private waste contractor will be engaged to service all retail/community room bins to an agreed collection schedule. This report assumes twice weekly collections for both waste and recycling.

Servicing will occur identically to the residential method – via the designated vehicle loading bay on the ground level.

COLLECTION AREA

It is Elephant Foot's understanding that the collection areas have been reviewed by a traffic consultant to confirm the swept paths, load requirements and clearances for waste collections. A 4m head height clearance is required.

It must be ensured that that the collection vehicle (and other trucks if required) can enter and exit the building in a forward direction. The final number of truck collection will depend on management of waste contract.

WASTE MANAGEMENT EQUIPMENT SUMMARY

Table 4: Equipment Summary

Component	Part	Qty	Notes
Chutes	Galvanised Steel / LLDPE Polyethylene Plastic 510mm or 610mm (for 20+ levels)	2	510/610mm diameter (See APPENDIX C.1 for Typical Chute Section)
Equipment B	Suitable Bin Moving Equipment	N/A	Optional (See APPENDIX B.4 for Typical Bin Mover)

WASTE ROOM AREAS

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

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

The areas allocated for residential waste rooms, commercial/retail bin store, bulky goods and collection areas are detailed in Table 5 below. The areas provided are estimates only. Final areas will depend upon room and bin layouts.

Table 5: Waste Room Areas

Level	Waste Room Type	Equipment	Allocated Area (m^2)
G	Waste Discharge Room A	5 x 660L MGBs (Waste)	12
	Waste Discharge Room B	7 x 660L MGBs (Waste)	15
	Recycling Room	57 x 240L MGBs (Recycling)	48
	Retail Waste Room	3 x 660L MGBs (Waste) 2 x 660L MGBs (Recycling)	11
	Bulky Goods Waste Storage Room	N/A	8

WASTE ROOMS

CONSTRUCTION REQUIREMENTS

The waste room will be required to contain the following facilities to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area:

- waste room floor to be sealed with a two pack epoxy;
- waste room walls and floor surface is flat and even;
- all corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- for residential: a hot and cold water facility with mixing facility and hose cock must be provided for washing the bins;
- any waste water discharge from bin washing must be drained to sewer in accordance with the relevant water board. (Sydney Water);
- tap height of 1.6m;
- storm water access preventatives (grate);
- all walls painted with light colour and washable paint;
- equipment electric outlets to be installed 1700mm above floor levels;
- the room must be mechanically ventilated;
- light switch installed at height of 1.6m;
- waste rooms must be well lit (sensor lighting recommended);
- optional automatic odour and pest control system installed to eliminate all pest types and assist with odour reduction – this process generally takes place at building handover – building management make the decision to install;
- if 660L or 1100L bins are utilised, 2 x 820mm (minimum) door leafs must be used;
- all personnel doors are hinged, lockable and self-closing;
- waste collection area must hold all bins – bin movements should be with ease of access;
- conform to the Building Code of Australia, Australian Standards and local laws; and
- childproofing and public/operator safety shall be assessed and ensured

SIGNAGE

The building manager/caretaker is responsible for waste room signage including safety signage (*see APPENDIX B.2*). Appropriate signage must be prominently displayed on doors, walls and above all bins, clearly stating what type of waste or recyclables is to be placed in the bin underneath.

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

VENTILATION

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

- Mechanically - exhausting at a rate of 5L/m² floor area, with a minimum rate of 100L/s minimum; or
- Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area

Mechanical exhaust systems shall comply with AS1668 and not cause any inconvenience, noise or odour problem.

USEFUL CONTACTS

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

INNER WEST COUNCIL CUSTOMER SERVICE
Phone: (02) 9392 5000 Email: council@innerwest.nsw.gov.au

SULO MGB (MGB, Public Place Bins, Tugs and Bin Hitches)
Phone: 1300 364 388

CLOSED LOOP (Organic Dehydrator)
Phone: 02 9339 9801

ELECTRODRIVE (Bin Mover)
Phone: 1800 333 002 Email: sales@electrodrive.com.au

RUD (Public Place Bins, Recycling Bins)
Phone: 07 3712 8000 Email: Info@rud.com.au

CAPITAL CITY WASTE SERVICES (Private Waste Services Provider)
Phone: 02 9359 9999

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

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

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

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

MOVEXX (Bin Movers)
Phone: 1300 763 444

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

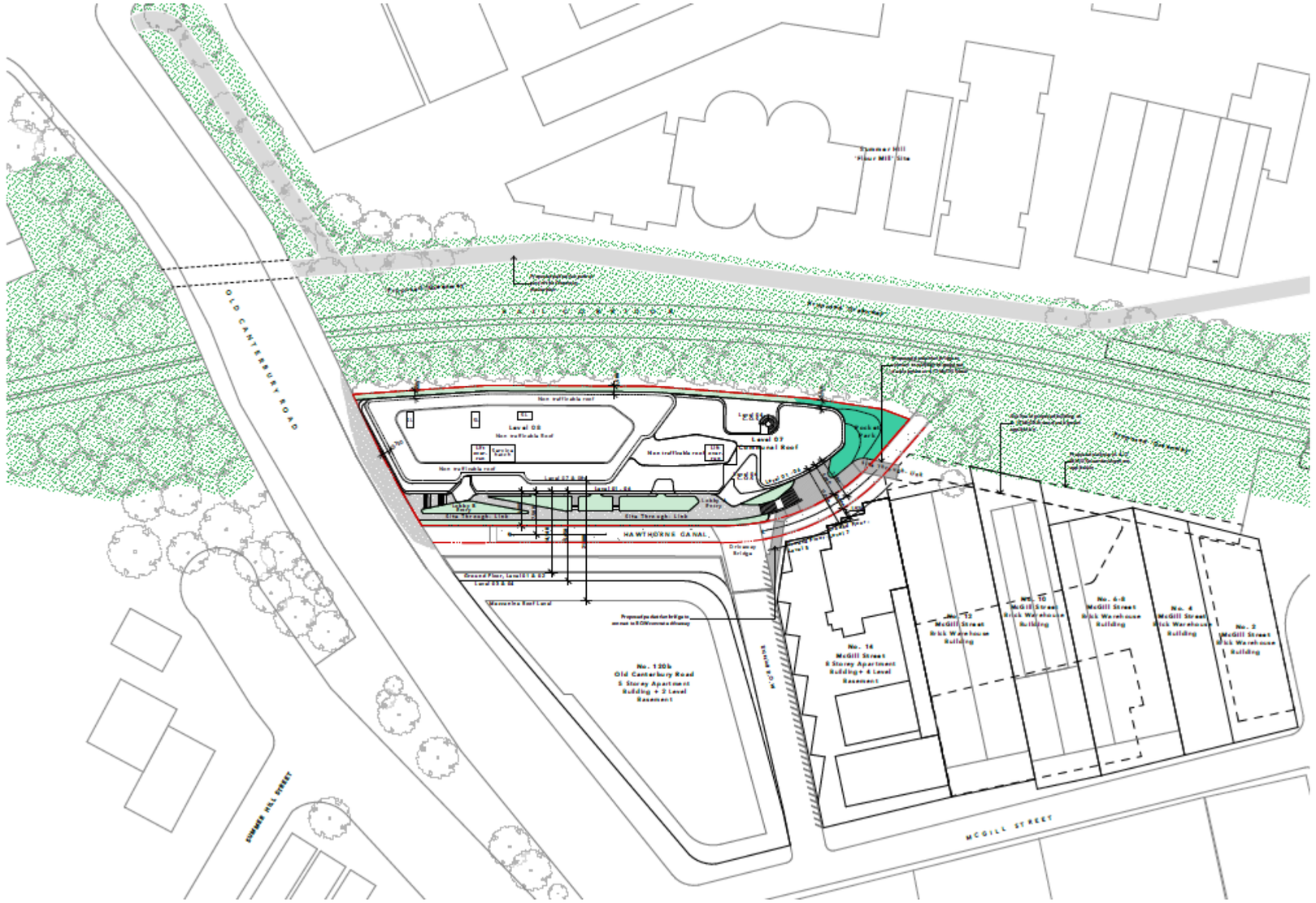
KOMPACT EQUIPMENT (Equipment & Servicing Provider)
Phone: 1300 566 722 Email: info@kompactequipment.com.au

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

APPENDICES

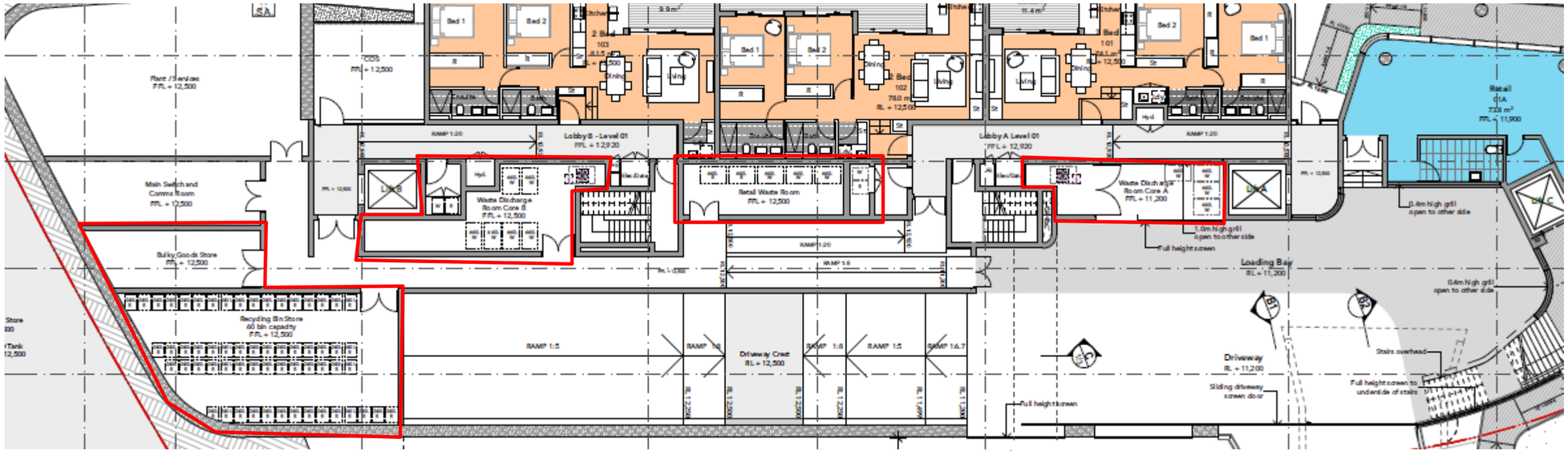
APPENDIX A ARCHITECTURAL DRAWING EXCERPTS

APPENDIX A.1 SITE PLAN



Fox Johnston - A-100-002 DA 11 24/05/2020 - Site Plan

APPENDIX A.2 WASTE ROOMS/COLLECTION AREA



Fox Johnston - A-200-003 DA 11 24/05/2020 - Level 1

APPENDIX B PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX B.1 INNER WEST BIN SPECIFICATIONS

Mobile Garbage Bins (MGBs) Australian Standard Sizes

(Supplier sizes may vary slightly)

Bin Type	120L MGB	240L MGB	660L MGB	1100L MGB
Height	940 mm	1080 mm	1250 mm	1330 mm
Depth	560 mm	735 mm	850 mm	1245 mm
Width	485 mm	580 mm	1370 mm	1075 mm
Footprint allowance	0.27 sqm	0.43 sqm	1.16 sqm	1.7 sqm

Source: Comprehensive Inner West DCP 2016 for Ashbury Ashfield, Croydon, Croydon park, Haberfield, Hurlstone Park and Summer Hill

APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS

WASTE SIGNS

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the Department of Environment and Heritage.

SAFETY SIGNS

The design and use of safety signs for waste rooms and enclosures should comply with AS1319 Safety Signs for Occupational Environment. Safety signs should be used to regulate and control safety behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Each development will need to decide which signs are relevant for its set of circumstances and service provided.

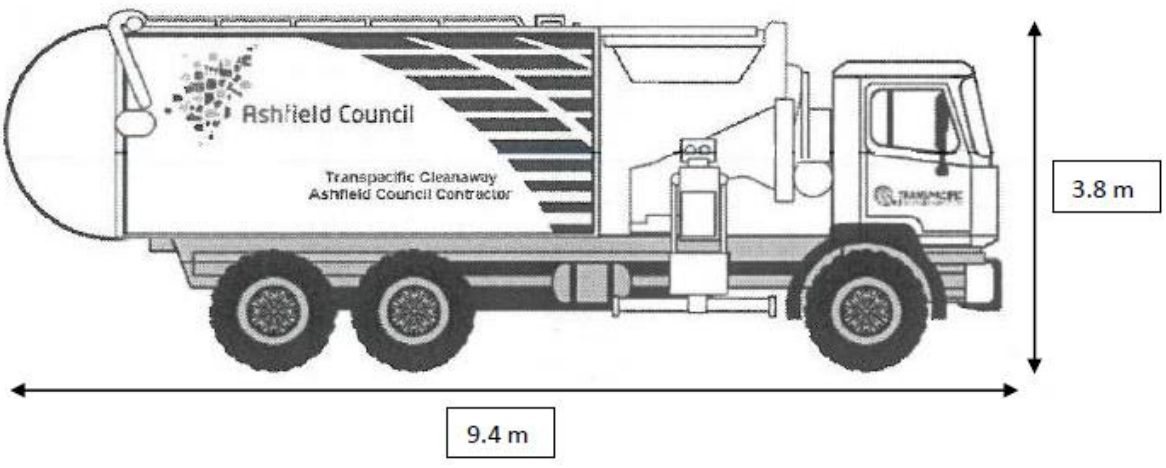
SOURCE: Department of Environment and Climate Change NSW 2008, Better Practice Guide for Waste Management in Multi-Unit Dwellings

APPENDIX B.3 INNER WEST COUNCIL COLLECTION VEHICLE INFORMATION

Vehicle Dimensions & Tare

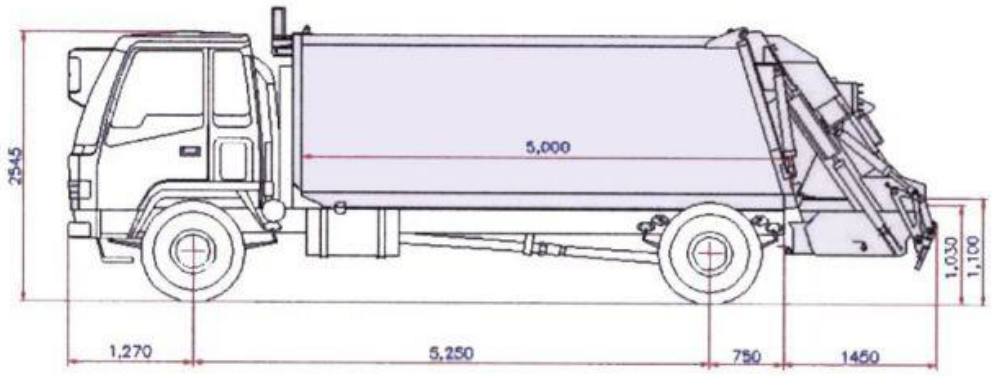
SIDE LOADERS	FRONT AXLE (kg)	REAR AXLE (kg)	TOTAL (kg)
TARE (estimated)	5,851	6.563	12,413
Loaded Truck Mass (estimated)	5,993	17,000	22,993
	Length	Width	Height
Vehicle	9.4 m	2.6 m	3.8 m
Side arm clearance for collection		3.9 m	4.0 m
Turning Circle (wall to wall)		23.2 m	

Figure 14: Inner West Council collection vehicle



Non-Council collection vehicle typical dimensions (commercial premises - for information only: dimensions should be confirmed)

Mini REAR LOADING COLLECTION VEHICLE (app 8m³ capacity)	
Length overall	4.6 - 5 m
Width overall	2.1 m
Operational height	2.4 m
Travel height	2.4 m
Tare weight	2.7 – 3.0 tonnes
Payload weight	ns
Turning circle	ns

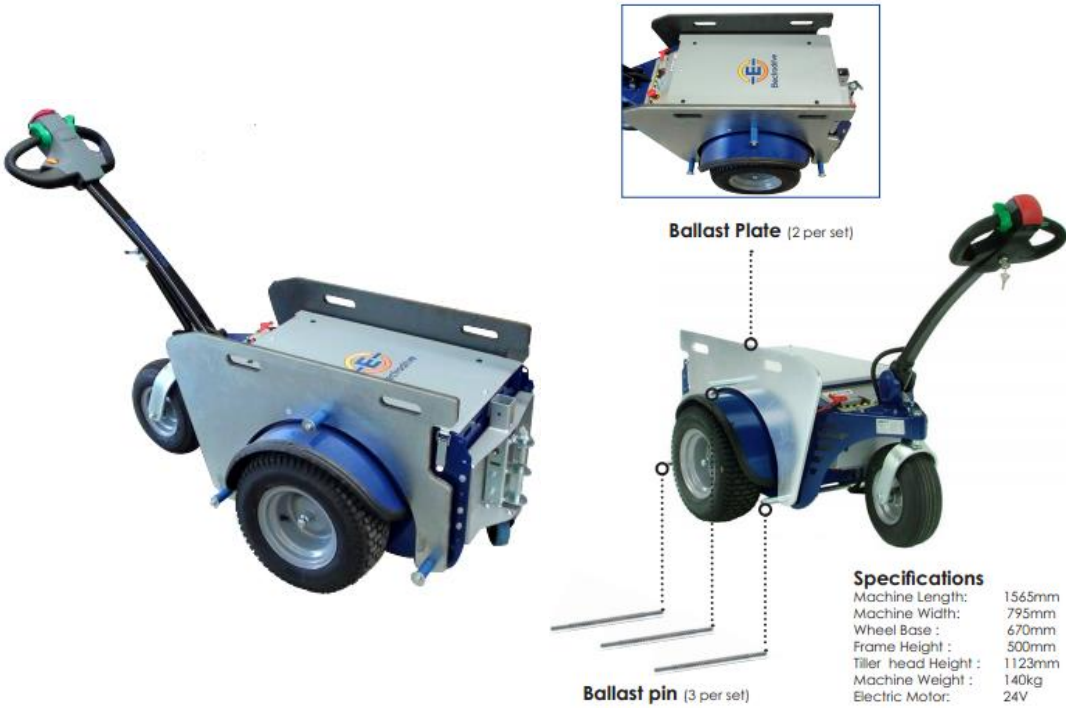


MEDIUM REAR LOADING COLLECTION VEHICLE (app 14m³ capacity)	
Length overall	7.5 - 9 m
Width overall	2.3 m
Operational height	2.4 – 3 m
Travel height	2.4 -3 m
Tare weight	6 -10 tonnes
Payload weight	ns
Turning circle	ns

Rear Overhang	2.64 – 3.17 m
Clearance height for loading	6.2 m
Travel height	3.6 – 4.3 m
Turning circle (kerb to kerb)	22.1 m
Turning circle (wall to wall)	23.7 m

Source: Comprehensive Inner West DCP 2016 for Ashbury Ashfield, Croydon, Croydon park, Haberfield, Hurlstone Park and Summer Hill

APPENDIX B.4 TYPICAL MOTORISED BIN TUG



Typical applications:

- Move trolleys, waste bin trailers and 660/1100L bins up and down a ramp incline.
- Quiet, smooth operation with zero emissions and simple to use, no driver's licence required
- Suitable for:
  - High rise building & apartment basements
  - Large factories & warehouse with sloped ground
  - Caravan parks & other large outdoor areas

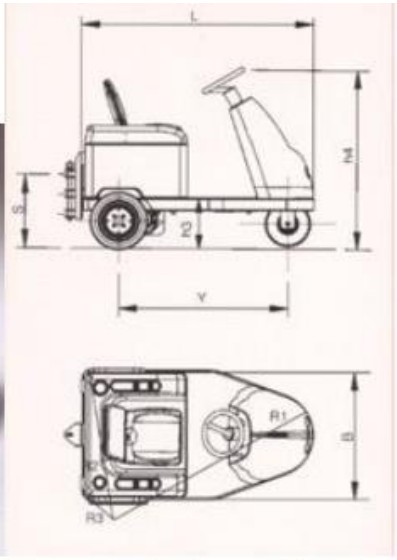
Features:

- 1 tonne tow capacity of inclines up to 8 degrees
- 500kg tow capacity if inclines up to 14 degrees
- CE Compliant
- 4.5 km/h max speed
- 2 x 80amp batteries – includes charger
- Powerful transaxle
- Hitch to suit 660L bins

Safety Features:

- Intuitive paddle lever control
- Stops and repels the unit if activated when reversing.
- Site assessment recommended to assess ramp incline steepness *(See Useful Contacts)*

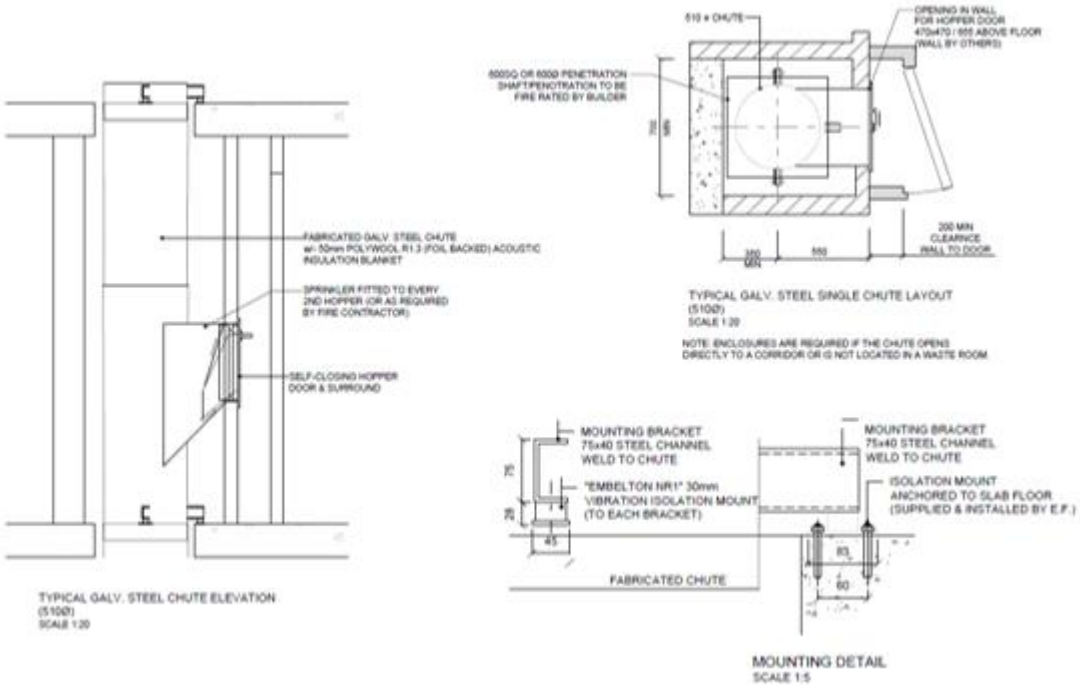
APPENDIX B.5 TYPICAL SEATED BIN MOVER



		UNIT M.	BULL 2	BULL 4
Manufacturer	DEC			
Model	BULL			
Platform loading cap.	Nominal capacity	kg	-----	-----
Pull capacity	Pull nominal capacity	kg	2000	4000
Power type	Electric - endotermic		electric	electric
Controltype	Standing / seated thiller / steer		seated / steer	seated / steer
Tyres	Pn=pneum. Se=superelastic		Pn	Pn
Wheels	N. front/rear - x drive	n.	1/2X	1/2X
Platform dimensions	L x B (lengh x width)	mm	-----	-----
Platform hight	h6 = unload clearence	mm	-----	-----
Overal dimensions	L = lenght B = width h1 = foot leve h3 = Seat height h4 = Steer height	mm mm mm mm mm	1500 900 1820 310 1250	1600 930 1960 340 1330
Turning radius	R1 = front min. external R2 = rear min. external R3 = front min. internal	mm mm mm	1400 1000 400	1500 1000 400
Aisle width	A = 180° turn	mm	2200	2300
Tow hook height	s = center from ground	mm	220-350-490	240-380-520

APPENDIX C INSTALLATION EQUIPMENT

APPENDIX C.1 TYPICAL SINGLE WASTE CHUTE SPECIFICATIONS



Waste chutes are supplied per the following specifications:

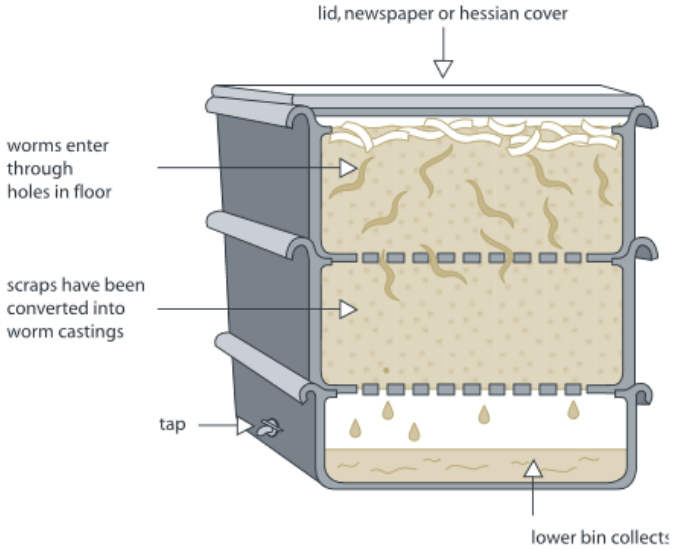
- either 510mm or 610mm (for 20+ levels) galvanised steel or recycled LLDPE polyethylene plastic;
- galvanised steel chute hoppers are wrapped with 50mm poly-wool R1.3 noise insulation foil to assist in noise reduction (or equivalent);
- penetrations on each building level at vertically perpendicular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

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

APPENDIX D SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX D.1 TYPICAL WORM FARM SPECIFICATIONS

Worm farms



Space requirements for a typical worm farm for an average household:

Height – 300mm per level

Width – 600mm

Length – 900mm

There are many worm farm arrangements. The above dimensions are indicative only.

SOURCE: Department of Environment and Climate Change NSW 2008, Better Practice Guide for Waste Management in Multi-Unit Dwellings

APPENDIX D.2 TYPICAL APARTMENT STYLE COMPOST BINS

Apartment Style Compost bin – available from hardware stores

Suitable for:

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

APPENDIX D.3 ELECTRIC ORGANIC COMPOST BIN

Product Specifications

Decomposition Method	Fermentation by microorganisms
Decomposition Capacity	2 metric tonnes per year* (4 kg per day*)
Rating	220–240 V 50/60 Hz – 1.1 A
Decomposition Time	24 hrs
Operating Temperature	0C and 40C.**
Deodorisation Method	Nano-Filter system
Maximum Power	210 W
Power Usage	Average 1 kwh per day
Weight	21 kgs
External Dimensions	w 400 mm d 400 mm h 780 mm

* Food Waste Handling Capacity – based on an optimal operating environment.
** Ambient temperature range of area where unit may be installed.

SOURCE: Closed Loop Domestic Composter – See Useful Contacts
http://www.closedloop.com.au/domestic-composter