WASTE MANAGEMENT PLAN

SUBJECT SITE: Proposed Senior Housing Development over Lot1, DP208183 – 69 Melwood Avenue, Forestville NSW 2087

Report: Final V2
Revision Date: Dec 2022
Prepared For: Mr. Antoine Gittany (Client) For DA Submission

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REVISION SCHEDULE

VERSION	DESCRIPTION	PREPARED BY	APPROVED BY	DATE
V1	*Draft for Client - DA*	*MPC*	*ZK*	*14/11/2022*
V2	*Final for Client - DA*	*MPC*	*ZK*	*01/12/2022*

EXECUTIVE SUMMARY

MultiPro Consultants P/L was commissioned by Mr. Antoine Gittany – via CD Architects Pty Ltd to prepare a report detailing the Waste Management Plan for the proposed Senior Housing Development over Lot 1 in Deposited Plan 208183, 69 Melwood Avenue, Forestville NSW2087.

It is fundamental that a new Senior Housing Development provides a Waste Management System that is responsive to the development's needs and a system that is capable of incorporating Council's standard requirements and services for waste management. This waste management plan also covers the ongoing management of waste generated by the development. It is also essential to ensure waste during the fit out and construction is managed to reduce the amount of waste and recyclables to land fill.

All significant development applications for new and "change of use" developments must include the following Waste Management Plans where applicable Waste and Recycling Servicing Plan, Demolition Waste Plan, Construction Waste Plan.

This Waste Management Plan (WMP) will comply with Northern Beaches Council's codes and any statutory requirements for residential developments. This WMP has four (4) main objectives to satisfy –

- Site planning of the development ensures that the amenity and safety of all users (including occupiers, caretakers, cleaners and Council waste collection staff) at all stages of the waste management process;
- Waste management system selection ensures that it is safe and convenient for occupiers use; and
- Adequate waste storage area(s) are provided within the development site to store all required waste bins.
- This report will ensure that Waste management practices consider resident and public amenity and safety at all stages of the waste management process, including storage, transferring and collection.

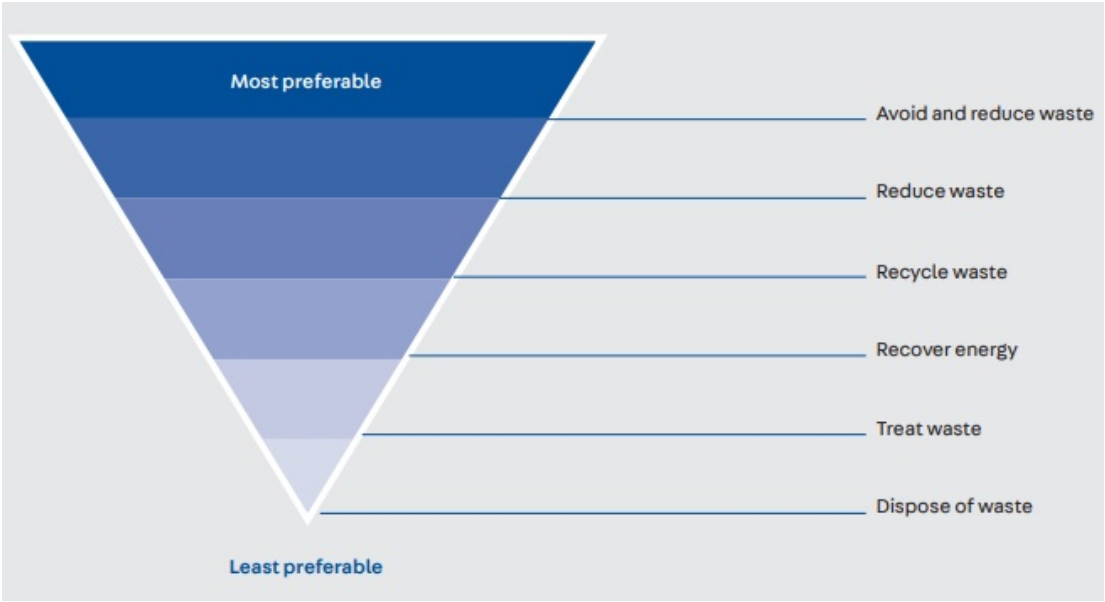

Figure 1 Waste Management Hierarchy

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1. DEVELOPMENT PROPOSAL

This Waste Management Plan (WMP) has been prepared for the proposed Senior Housing Development over Lot 1 in Deposited Plan 208183, 69 Melwood Avenue, Forestville NSW 2087.

The subject site abuts existing residential dwellings to the south, east and north. It has street frontage to Melwood Avenue.

Figure 2 - Locality Map

All figures and calculations are based on floor plans as shown on the Architectural drawings prepared by CD Architects, J22558 D drawing number DA 1101, Rev. P1–dated September 2022.

For the purpose of this report, the waste generation rates and waste management analysis will be based on the following Site Details –

Residential Senior Housing Units = 7

The development summary is given in the table below;

Residential	
	Residential
Type	Quantity
2-Bedroom Units	2
3-Bedroom Units	5

2. NORTHERN BEACHES COUNCIL - DEVELOPMENT CONTROLS AND OBJECTIVES

All waste facilities and equipment are to be designed, constructed and managed in accordance with THE Northern Beaches Council Waste and Recycling Design & Management Standard, Australian Standards and Statutory requirements. In this case, the Warringah Development Control Plan – Part C Siting Factors – C9 Waste Management has been referenced and, the following relevant Objectives apply –

C9 Waste Management

Applies to Land

- *This control applies to land to which Warringah Local Environmental Plan 2011 applies.*

Objectives

- *• To facilitate sustainable waste management in a manner consistent with the principles of Ecologically Sustainable Development (ESD).*
  • To achieve waste avoidance, source separation and recycling of household and industrial/commercial waste.
  • To design and locate waste storage and collection facilities which are convenient and easily accessible; safe; hygienic; of an adequate size, and with minimal adverse impacts on residents, surrounding neighbours, and pedestrian and vehicle movements.
  • To ensure waste storage and collection facilities complement waste collection and management services, offered by Council and the private service providers and support on-going control for such standards and services.
  • To minimise risks to health and safety associated with handling and disposal of waste and recycled material, and ensure optimum hygiene.
  • To minimise any adverse environmental impacts associated with the storage and collection of waste.
  • To discourage illegal dumping.

Northern Beaches Council – Waste Management Requirements
Chapter 4 – Three or more occupancy developments

4.1. Outline of dwelling types

Under WLEP 2011 and WLEP 2000, a development containing three or more dwellings can include:

- Boarding houses
- Group homes with more than 10 bedrooms
- Low cost housing
- Hostels
- Residential flat buildings
- Attached dwellings
- Multi dwelling housing
- Seniors housing
- Mixed-use developments (three or more dwellings)
- Developments/subdivisions containing three or more dwellings/lots located on private
- or community title roadways that cannot be accessed by Council's waste vehicles

These dwelling types must include a Waste Storage Area within the property which complies with these guidelines. The Waste Storage Area will be provided with shared waste and recycling

containers and a Wheel In Wheel Out service by Council. (Refer to Introduction to Guidelines (vii) Glossary

Development proposals between 3 and 80 dwellings must comply with 4.2., 4.3., 4.4., 4.5 and 4.6 below.

4.2. Waste Storage Area design requirements

All Waste Storage Areas will:

a) Be a designated area to accommodate Council's allocated number of waste and recycling containers;
b) Have a practical layout, be free of obstructions and have only 90 degree angle corners
c) Have a floor area capable of storing the number of bins outlined in Appendix A.
d) Accommodate 1 x 240L vegetation bin for every 200m2 of landscaped open space of the site.
e) Be graded and drained to a Sydney Water approved drainage system.
f) Be serviced by an easily accessible water tap. The tap must not obstruct aisles, access ways and placement of bins.
g) Be cement rendered and coved (smooth rounded corners) at the floor and wall intersections.
h) Be clear of any service and utilities infrastructure and related activities.
i) Be capable of being kept clean and tidy at all times.
j) Be in accordance with the BCA, relevant AS and legislation detailed in Chapter xii of the Waste Management Guidelines.

4.2.1. Additional requirements for chute systems and mechanical compaction

Where chute systems are proposed, they must meet the minimum requirements outlined in Appendix C.

4.2.2. Additional requirements for external Waste Storage Areas

Where Waste Storage Areas are external to the building, they must:

a) Have a minimum wall height of 1600mm.
b) Be roofed with a minimum ceiling height of 2100mm throughout and clear of any obstructions.

4.3. Waste Storage Area location requirements

The Waste Storage Area must be:

a) At street level and permit easy, direct and convenient access for the residents, Council and Council's waste contractors.
b) Clear of any obstructions and security devices.
c) Incorporated entirely within the site boundary and, if it is an external structure, be designed to reduce visual impact and clutter.
d) No closer than 3m from any dwelling openings.
e) Clear of any entry points to stormwater systems and prevent waste water from entering any stormwater system.

4.4. Pathway, access and door requirements

The pathway and access between the Waste Storage Area and Collection Point will be:

a) Solid, concrete, continuous, non-slip and clear of any obstructions and steps.
b) A maximum ramp gradient of 1 in 8
c) Hazard free and not via a pathway with vehicular traffic
d) A minimum width of 1200mm.

Any doors fitted on the Waste Storage Area, pathway and access will be:

e) A minimum width of 1200mm.
f) Able to be latched in an open position
g) Unobstructed by any locks and security devices
h) Openable in an outward direction.

4.5. Bulky goods waste storage area requirements

To assist with the storage of goods for Council clean-ups, where the development exceeds 10 dwellings, a bulky goods waste storage area must be provided that will be:

a) A minimum of 4m³ per 10 dwellings fit for the purpose of storing bulky goods.
b) A room or caged area separate from the Waste Storage Area.
c) Incorporated entirely within the site boundary and not visible to the public

4.6. Kerbside (on-street) waste collection requirements

For developments with 3 – 80 dwellings, the pathway and access between the Waste Storage Area and property boundary must be a maximum distance of 6.5m.

3. WASTE MANAGEMENT FOR DEMOLITION WORKS

Based on a review of a survey plan supplied by the client, the site consists of existing structures –

- Property –Residential dwelling, outbuildings and concrete driveway;

This is a crucial stage of the development with the utmost potential for waste minimisation, particularly near the Eastern Sydney area where there are high levels of redevelopment, relatively high disposal fees and where other quarry materials are located on the periphery. If possible, one of the main objectives is to reduce waste and to re-use existing materials or parts therefore, for the proposed use.

Materials On-site		Destination		
Type of Material	Estimation Only - Volume [m³] or Area [m²]	Re-Use and Recycling Method		Disposal Method
		On-site	Off-site	Contractor/Land fill/Other
Excavation Material	5000m³ (Approx.)	Keep and reuse some topsoil for landscaping, planter bed & back fill.	Brandown/ SUEZ Recycling can manage concrete off-site. (Clean fill)	Contractor
Timber – treated or untreated Hardwood/Pine /Other	5-10 m³	N/A	N/A	N/A
Concrete	Approx. 20m^3	Crushed concrete for Sediment & Erosion control temporary access	Brandown / SUEZ Recycling can manage concrete off-site.	Contractor
Bricks, tiles, pavers	10-15 m³	Recommend cleaning and re-use lime mortar bricks	Recommend concrete mortar bricks recycled or reuse crushed brick for road pavements –	Contractor

		for fill	i.e. Brandown/SUEZ Recycling	
Metals – Aluminium/Zinc /Other	5-10 m³	Nil	Metals may be managed by Approved Contractor – i.e. Sell & Parker Recycling Blacktown	Contractor
Glass – Windows	5-10 m³	Nil	Resale or Recycling Facilities that would accept these items	Other
Furniture	Up to 10m³	Nil	Resale/reuse or Charity Org that would accept these items	Other
Fixture & Fittings	Up to 10m³	Nil	Resale/reuse or Charity Org that would accept these items	N/A
Floor Coverings	Up to 10m³	Nil	Reuse if in good condition or dispose if in bad condition.	N/A
Packaging(Used pallets, pallet wrap)	[If found]	Nil	Reuse if in good condition or dispose if in bad condition.	N/A
Weatherboard/ Cladding	Weatherboard/ Cladding	[If found]	Nil	Reuse if in good condition or dispose if in bad condition.
Garden organics	(See construction waste – excavation)	Nil	Nil	N/A
Steel/Aluminium/Glass	5-10 m³	Sorted on-site	Cleanaway Recycling Facility – Wetherill Park	Collected by Contractor
Paper/Cardboard	Up to 5m³	N/A	Cleanaway Recycling Facility – Wetherill Park	Collected by Contractor
Residual Waste	5-10 m³	N/A	Removal & collection by an Approved Contractor	Collected by Contractor
Hazardous/special waste - Asbestos	[If found]	N/A	Removal & collection by an Approved Contractor	By an Approved Contractor – Disposal to Landfill Kemps Creek
Other (specify)	Nil	Nil	Nil	N/A

Table 1 – Demolition/Site Clearing Waste Estimate

Note: *The above is an estimate only and figures may be increased/decreased depending on the methods used when demolishing structures onsite. A more accurate data of Waste Generated during demolition may be determined by a Quantity Surveyor/contractor of all materials that may exist onsite. Note for Client - Details of on-site waste management for demolition should be provided on the plans accompanying the Development Application (location of on-site storage areas/containers, vehicular access points, etc) – It is recommended that this detail be shown on the construction certificate drawings.*

Notes for Developer/Builder:

- *Details of work area to be used for on-site separation, treatment and storage (including weather protection) must be directed on site by the developer/builder*
- *Vehicle access to the site and to storage and/or container areas must be directed on site by the developer/builder*
- *Location of on-site storage space for materials (for re-use) and containers for recycling and disposal must be directed on-site by the developer/builder*

4. WASTE MANAGEMENT FOR CONSTRUCTION/FITOUT WORKS

During this phase there will be a large quantity of builder's waste during the course of construction/internal fit out. The following measures will be implemented to save resources by re-use or recycle and minimise waste at the construction works stage:

- Minimising site disturbance, limiting unnecessary demolition/refurbishment;
- Considering measures such as ordering the right quantities of materials and prefabrication of materials where possible;
- Careful source separation of off-cuts to facilitate re-use, re-sale or efficient recycling; and

The following measures will be implemented on site:

- Location of Waste Storage and recycling area(s), garbage and recycling room
- Location of temporary storage space
- Site office, lunch sheds and amenities shed
- Access for vehicles

The allocated waste storage and recycling areas may be flexible in size and layout to cater for future changes during construction. The size can be calculated on the basis of estimated waste generation rates and proposed bin sizes.

Type of Material	Most Favourable		Least Favourable	
	Reuse on site	Recycling offsite	Disposal	Disposal Method
	Estimate - Volume [m³] or Weight [kg]	Estimate - Volume [m³] or Weight [kg]	Estimate - Volume [m³] or Weight [kg]	Contractor/Landfill/Other
Excavation Material / VENM	N/A	N/A	N/A	N/A
Timber – treated or untreated Hardwood/Pine/	N/A	N/A	Nil	N/A
Concrete/Tiles	Nil	Up to 20 m³ Brandown/ SUEZ Recycling can manage concrete off-site.	Nil	N/A
Bricks/Pavers	Nil	Up to 10 m³ Recommend concrete mortar bricks recycled or reuse crushed brick for road pavements – i.e. Brandown/SUEZ Recycling	Nil	N/A
Metals –	Nil	Up to 10 m³ -	Nil	N/A

Aluminium/Zinc/Other		Metals may be managed by Approved Contractor – i.e. Sell & Parker Recycling Blacktown		
Glass – Windows/Mirrors	Nil	Send/sell to second hand recycling	Nil	N/A
Furniture	Nil	Send/sell to second hand warehouses /charity shops	Nil	N/A
Fixture & Fittings	Nil	Send/sell to second hand recycling	Nil	N/A
Floor Coverings	Nil	Rubber underlay reprocessed for use in safety devices and speed humps	Nil	N/A
Packaging(Used pallets, pallet wrap)	Nil	Recycle depending on material – timber pallets	Nil	N/A
Weatherboard/Cladding	Nil	Nil	Nil	N/A
Garden organics	Nil	Nil	Nil	N/A
Containers (Can, plastic, glass)	Nil	Send to recycling facility	Nil	N/A
Paper/Cardboard	Nil	Send to recycling facility	Nil	N/A
Residual Waste	Nil	Nil	Waste Up to 5 m^3 - off cuts of wiring, pipes	Local Waste Facility – Kemps Creek or Eastern Creek
Hazardous/special waste – Asbestos [If found]	N/A	N/A	Removal & collection by an Approved Contractor	By an Approved Contractor – Disposal to Landfill Kemps Creek
Other (specify)	Nil	Nil	Nil	N/A

Table 2–Construction/Fit out Waste Estimate

Note: The above is an estimate only and figures may be increased/decreased depending on the methods used when ordering materials for construction/fit out. A more accurate data of Waste Generated during Construction may be determined by a Quantity Surveyor/contractor of all materials used on site.

Note for Client - *Details of on-site waste management for construction should be provided on the plans accompanying the Development Application (location of on-site storage areas/containers, vehicular access points, etc) – It is recommended that this detail be also shown on the construction certificate drawings.*

5. WASTE MANAGEMENT – ONGOING

As per Council's Waste Management Guide, the following waste generation rates have been calculated through the use of the Australian Standards Waste Generation Guide to accurately determine the generation rates of each collection stream –

Waste Storage & Bins Required – for 3 or more dwellings

No. of Dwellings	Garbage Bins	Paper Bins	Bottles Bins	Vegetation Bins	Total Bins req.
7	3	2	2	2	9

Below table summarises in quantities and collection frequencies for the development.

Refer to the enclosed calculations in the following chapter, *Calculations and Estimates*, for further details.

[1]Residential Waste Room1	Garbage	Recycling/ Vegetation	Unit
Weekly Volume(uncompacted)			Cubic Metres
Bin Size	240	240	Litres
Frequency of Collection	1	1	Per Week
Bins Required for Collection	3	6	#

WASTE CALCULATION

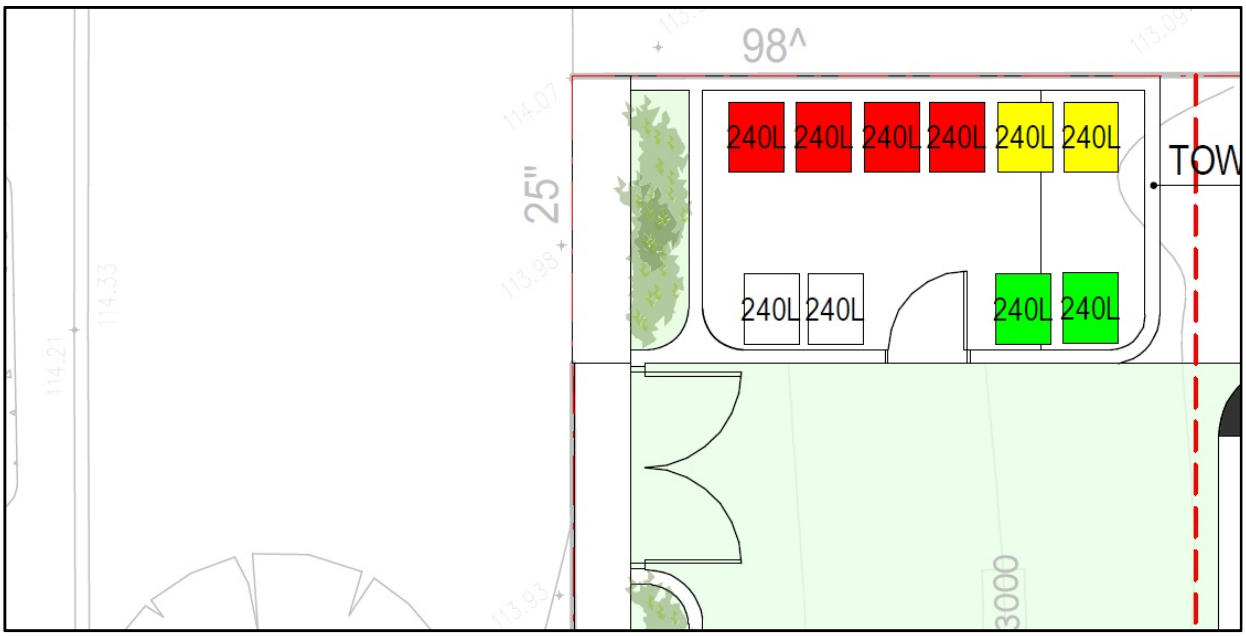
	RATE OF WASTE	TOTAL WASTE	BIN SIZE	NO. OF BINS COMPLIANCE REQUIRED	NO. OF BINS PROPOSED
RESIDENTIAL (7 UNITS)					
WASTE	/	/	240L	3	4
RECYCLE	/	/	240L	2	2
GLASS	/	/	240L	2	2
VEGETATION	/	/	240L	2	2
PROPOSED TOTAL					10

GENERAL WASTE BIN RECYCLE BIN VEGETATION BIN VEGETATION BIN

The bins in each waste room are assigned to be collected from the following collection point(s):

Residential	Residential Waste Room1
CollectionPoint1	●

Location of Collection Point1: Kerbside on Melwood Avenue



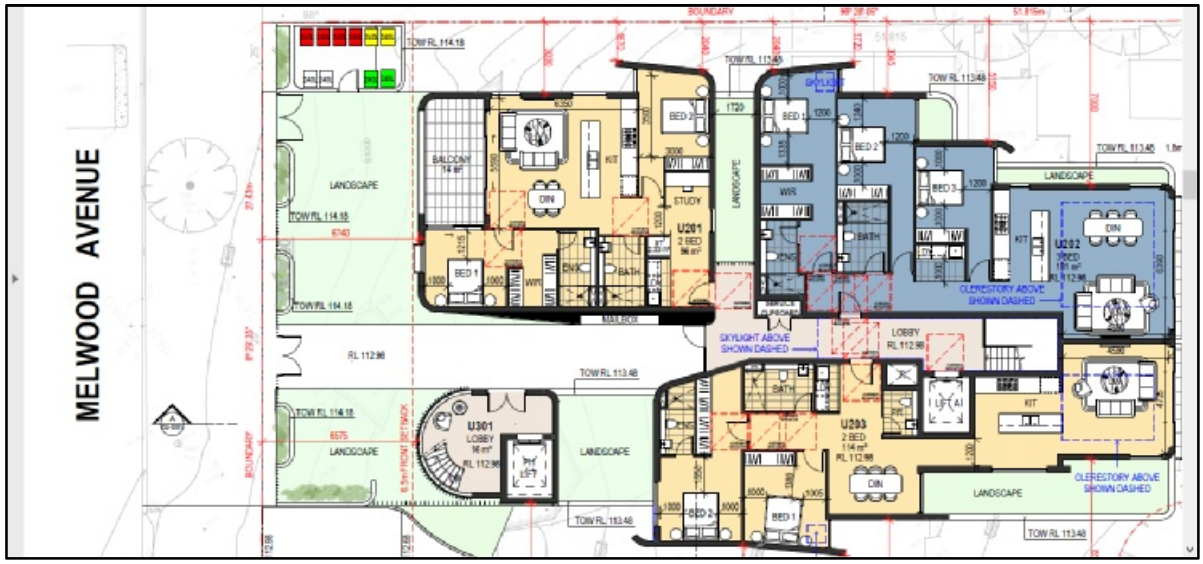
6. COLLECTION OF WASTE AND STORAGE

Onsite Waste Collection

This development will be required to nominate a collection point where a waste collection vehicle collects all bins on-street. The collection point can be directly from the bin storage area or a separate bin presentation area. It is recommended you consult with waste contractors to obtain their servicing requirements and any restrictions. On-site collection points need to be located so they do not interfere with car parking and vehicle manoeuvring areas.

Collection Point 1: Kerbside on Melwood Avenue
The collection of bins is to be performed by council. Weekly general waste and recycling bins and fortnightly green waste collections are expected.

The 240L bins shall be presented to the kerbside of Melwood Avenue by the building manager or caretaker the evening prior to collection day and return as soon as collection has been performed. Bins shall not be placed under trees as this may prevent collections from occurring. Bins should be places 0.3m apart. Holding Storage area is shown below.



A Side-Lift Medium Rigid Vehicle (MRV) is to perform collections.

Onsite Waste Collection

This development will be required to nominate a collection point where a waste collection vehicle collects all bins on-street. The collection point can be directly from the bin storage area or a separate bin presentation area. It is recommended you consult with waste contractors to obtain their servicing requirements and any restrictions. On-site collection points need to be located so they do not interfere with car parking and vehicle manoeuvring areas.

The specifications for a MRV is provided in Table 8 below –

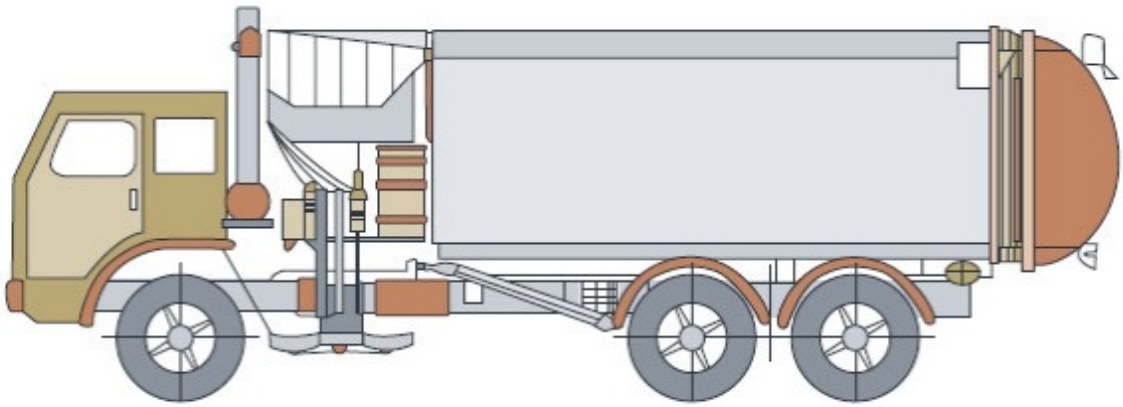
Typical Council Garbage Truck Dimensions Used for Domestic Waste Collection	
Length (Overall)	8.0 metres
Width (Overall)	2.5 metres
Operational Height	4.3 metres
Travel Height	4.3 metres
Weight (vehicle and load)	22.5 tonnes
Weight (vehicle only)	13.0 tonnes
Turning Circle	25.0 metres

Table 8 – Council Garbage Truck Dimensions - MRV

The specifications for a HRV is provided in Table 9 below –

Typical Council Garbage Truck Dimensions Used for Domestic Waste Collection	
Length (Overall)	9.64 metres
Width (Overall)	2.5 metres
Operational Height	3.63 metres
Travel Height	3.63 metres
Weight (vehicle and load)	22.5 tonnes
Weight (vehicle only)	13.0 tonnes
Turning Circle	20.56 metres

Table 9 – Council Garbage Truck Dimensions - HRV



Source of diagram: *Better Practice Guide for Waste Management in Multi-Unit Dwellings, DECCW 2008*

On-going Management of Premises - recommendations

- Waste Audits are to be conducted annually to determine waste output and to improve waste avoidance and resource recovery practices. It is recommended that the Strata/Building management ensure that all waste services assigned to the premises maintain and submit monthly reports (frequency as determined by the Strata Management) on all equipment, devices and systems and weights of any waste and recycling products disposed from the premises, to assist with reviewing its sustainable and economic operation on an annual basis.
- Interim Waste Storage areas and/or bins and communal waste storage areas and /or bins will be well sign posted to ensure correct usage.
- Cleaning staff/contractors will be employed to transfer wastes and recyclables from the interim storage containers to the communal storage areas and ensure that the storage bins and storage area is kept clean and in good order;
- An information kit will be provided for all tenants addressing their waste and recycling requirements, and details of the location and operation of the waste storage areas;
- Strata Managers (If applicable) to ensure the above On-going Management of waste and recycling is adhered to in the bylaws.
- It is strongly recommended that all bins are marked/ labeled.

7. Recommendations & Additional Information

As bins would be “wheeled” throughout the building, any ramps would require a maximum gradient of 1:14

To meet regulatory requirements (steps not permitted) if manual handling is required.

The sizing and selection of bins have been chosen to reflect average waste and recycling generation rates. For seasonal peaks throughout the year, we advise you incorporate an additional 25% buffer, or provide an additional scheduled ‘at-call’ service in peak periods.

Items unsuitable for disposal via garbage or recycling bins would need to be disposed with the assistance of the building manager; this would include large, heavy, and liquid waste items.

To minimise security, vandalism, odour/visual impact, and health/safety issues, the following shall be implemented:

- Transferring waste and shifting bins shall require the minimum possible manual handling. The operator will assess manual handling risks as per regulatory requirements and provide appropriate documentation to the building manager.
- Signage and usage labels for the garbage and recycling bins will be provided by the operator.
- The bin storage room will be adequately lighted, be secure and vermin proof.
- The staff shall keep the bin enclosures clean, wash bins when needed.
- The building manager will monitor bins and adjust collection frequencies as required.
- The operator of the proposed development shall source and enter into a service agreement for waste collection services. The operator will be responsible for all payments and costs associated with the waste Collection service provided by the collection contractor.

The area calculated for bin storage does not include circulation space. An additional 50% of the area calculated will be required as a minimum for bin storage and circulation.

Impact Reduction

The main annoyance produced by domestic refuse collections occurs in the early morning (in other words, before 7am). Therefore, if possible, routes should be selected to provide the least impact on residential during that time.

Collection of refuse should follow the following criteria:

- Collections occurring once a week should be restricted to the hours 6am —6pm Monday to Saturday.
- Collections occurring more than once a week should be restricted to the hours 7am —6pm Monday to Saturday.
- Compaction should only be carried out while on the move.
- Bottles should not be broken up at the point of collection.
- Routes that service entirely residential areas should be altered regularly to reduce early morning disturbance.

Noisy verbal communication between operators should be avoided where possible.

8. GLOSSARY OF TERMS

The following are standard terms used within this document –

Term	Definition
Bulk Bins	Large bins which have four swivel wheels so can be moved in any direction.
Collection Point	The nominated point from which waste and recycling is collected by Council's waste service.
Composter	A container/machine/device used for the composting of organic materials/food scraps
Crate	A plastic permeable box used for the collection of recyclable materials
Garbage Waste	All domestic/commercial waste (excluding recyclables and green waste)
Heavy Rigid Vehicle	Heavy Rigid Vehicle is defined as per Australian Standard 2890.2
Liquid Waste	Non-hazardous liquid waste generated by commercial/retail premises that is disposed of directly to the sewer system or collected for treatment and disposal by a liquid waste contractor.
Loading Area	The area provided adjacent or within proximity to the waste bin holding area that enables the waste collection vehicle to park and service the development.
Mobile Garbage Bins (MGB)	Mobile bins that have two-four wheels so can only be moved forwards and backwards (not sideways) with a capacity (in litres) of 120, 240, 660, 1100, 1500 or 1700.
Putrescibles Waste	The element of the waste stream prone to become rotten/ putrid. Usually breaks down in landfill sites to create landfill gases and leachate.
Recycling	Recyclable materials such as glass, bottles, jars – PET, HDPE and PVC plastics; aluminum, steel and aerosol cans; juice and milk containers/cartons; soft drink bottles; milk and shampoo containers; paper, cardboard, newspaper, magazines etc…
Temporary Waste Storage Room	Communal room provided within the basement footprint that stores all required waste and recycling bins. Site cleaners and caretakers can access the area to move bins from this area to the collection point. Where a waste chute system is provided an area that enables residents to access bins to dispose of items too big to go down the chute should be provided.
Waste Collection Area	The nominated area within the development site where the bins will be carted to (from storage area) and temporally stored for collection.
Waste Hopper	A hood unit comprising of a fixed frame and a hinged or pivoted lid or door and receiving unit in which waste is placed and passes the waste into a chute or waste container.

9. REPORT LIMITATIONS

The intention of this report is to document a Waste Management Plan (WMP) as part of a development application with Northern Beaches Council and is prepared by MultiPro Consultants (MPC) with the following restrictions and conditions –

- *Any significant changes to the proposed development that varies from the data used (Architectural drawings prepared by CD Architects, J20470 drawing number DA 1102, Rev A –dated June 2022) to determine the waste generation in this report or onsite collection parameters will be superseded. If this is the case, this report will have to be revised as required.*
- *Any designs, plans, estimates and information contained in this WMP have been prepared by analysing the information, plans and documents supplied by* CD Architects *and third parties including Council and government information;*
- *The data presented in the report are an estimate only - the actual amount of waste produced will be reliant upon the occupancy rate of the building and waste generation intensity as well as the building/strata managements approach to educating residents and tenants regarding waste management operations and responsibilities through measures such as signage &/or Strata Scheme bylaws;*
- *This report will not be used to determine or forecast operational costs or to document any safety or operational procedures or prepare any feasibility study - the report has been prepared with all due care however no assurance or representation is made that the WMP reflects the actual outcome and MPC 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*
- *The Strata/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*

Acknowledgement & agreement by Client -

Clients Name: _____

Signature: _____

Date: _____ /_____/_____

APPENDIX – A

A1 - WASTE MANAGEMENT CHECKLIST – Ongoing Waste Management for 3 or more dwellings

This section is to be completed in accordance with 'Chapter 4 – On-going waste management for three or more dwellings' of the Waste Management Guidelines.

Type of development: _____
Number of dwellings: _____

To be completed by the client prior to lodging the Development Application

	Yes	No
Do your architectural/landscape plans include the following:		
Waste Storage Area design requirements (Chapter 4.2.)	☐	-
Waste Storage Area location requirements (Chapter 4.3.)	☐	-
Pathway, access and door requirements (Chapter 4.4.)	☐	-
Clean-up waste requirements (Chapter 4.5.)	☐	☐
Kerbside (on-street) waste collection requirements (Chapter 4.6.)	☐	☐
On-site (off-street) waste collection requirements (Chapter 4.7.)	☐	☐

A2 -WASTE MANAGEMENT CHECKLIST FOR SITE WORKS

To be completed by the builder/applicant, prior to Construction -

	Yes	No
Is the Waste Management Plan acknowledged on-site?	☐	☐
Are waste responsibilities clarified for all personnel and sub-contractors?	☐	☐
Are works scheduled to minimise time between delivery and installation?	☐	☐
Is the site planned and managed to minimise waste?	☐	☐
Have you arranged for the sale of recycled and salvaged materials?	☐	☐
Are waste bins covered, sign-posted and properly used?	☐	☐
Is the site signage in place indicating environmental waste commitment?	☐	☐

APPENDIX – B

Indicative Bin Sizes

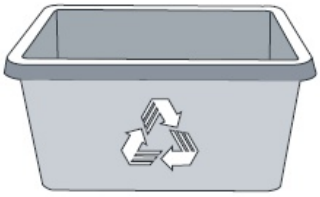
BIN TYPE	HEIGHT	DEPTH	WIDTH
120L	940mm	560mm	485mm
240L	1088mm	735mm	580mm
1100L	1465mm	1220mm	1360mm

These dimensions are only a guide and differ slightly according to manufacturer, if bins have flat or dome lids and are used with different lifting devices.

APPENDIX B.2

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

Crates



Crate size	50L Crate	70L Crate	90L Crate
Height	320 mm	395 mm	420 mm
Length	575 mm	575 mm	450 mm
Width	445 mm	445 mm	450 mm

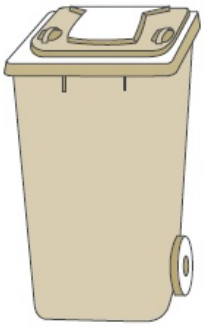
The above dimensions are indicative only of common crate sizes

Mobile garbage bins (MGBs)

MGBs with capacities up to 1700L should comply with the Australian Standard for Mobile Waste Containers (AS 4123). AS 4123 specifies standard sizes and sets out the colour designations for bodies and lids of mobile waste containers that relate to the type of materials they will be used for.

Indicative sizes only for common MGB sizes are provided below. Note that not all MGB sizes are shown; the dimensions are only a guide and differ slightly according to manufacturer, if bins have flat or dome lids and are used with different lifting devices. Refer to AS 4123 for further detail.

Mobile containers with a capacity from 80L to 360L with two wheels



Bin Type	80 Litre MGB	120 Litre MGB	140 Litre MGB	240 Litre MGB	360 Litre MGB
Height	870 mm	940 mm	1065 mm	1080 mm	1100 mm
Depth	530 mm	560 mm	540 mm	735 mm	885 mm
Width	450 mm	485 mm	500 mm	580 mm	600 mm

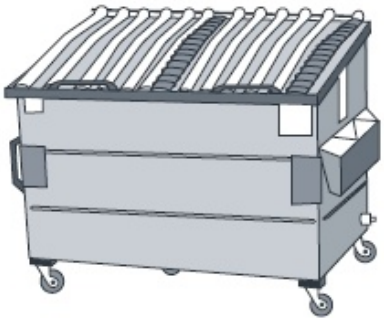
Mobile containers with a capacity from 500L to 1700L with four wheels

Dome or flat lid containers

Bin Type	660 Litre MGB	770 Litre MGB	1100 Litre MGB	1300 Litre MGB	1700 Litre MGB
Height	1250	1425	1470	1480	1470
Depth	850	1100	1245	1250	1250
Width	1370	1370	1370	1770	1770

Bulk bins greater than 1700L capacity

The following bulk bin dimensions are a guide only and may differ slightly according to manufacturer.
Not all available bulk bin sizes are shown.



Bin Type	2.0 m^3 Skip	3.0 m^3 Skip	4.5 m^3 Skip
Height	865 mm	1225 mm	1570 mm
Depth	1400 mm	1505 mm	1605 mm
Width	1830 mm	1805 mm	1805 mm

APPENDIX – C
(SIGNAGE FOR WASTE & RECYCLING BINS)

Waste signs

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the DECC.

Standard wall posters and bin lid stickers are available for download and printing from the Local Government section of the DECC website www.environment.nsw.gov.au, in black and white and appropriate coloured versions where applicable.

Example wall posters

Example bin lid stickers

Safety signs

The design and use of safety signs for waste rooms and enclosures should comply with AS 1319 Safety signs for the occupational environment. Safety signs should be used to regulate and control safety related to 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 services provided.

Examples of Australian Standards:

Australian Standards are available from the SAI Global Limited website (www.saiglobal.com).

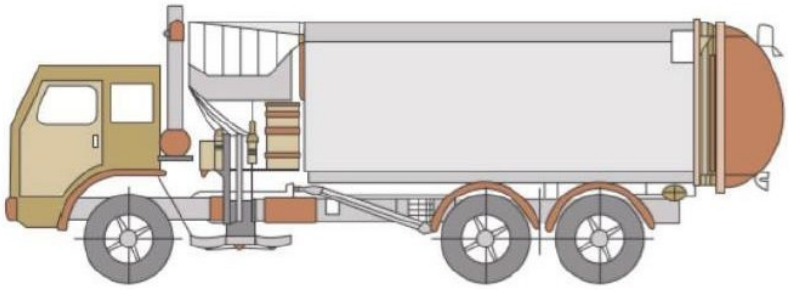
APPENDIX – D
(TYPICAL COLLECTION VEHICLE INFORMATION)

This page includes information regarding the dimensions of garbage trucks which are typically used for the collection of residential waste. Developments which require Council garbage trucks to enter the site for the collection of residential waste must be designed so as to accommodate on-site truck movement.

Requirements regarding vehicle turning circles and driveway width/gradient are contained in Australian Standard 2890.2 2002/Planning Facilities – off street commercial vehicles.

It is recommended that an applicant speak with Council's Waste Management Team Leader in regards to the design of development proposals which involve garbage trucks entering the site. Services will not be provided where there are undue risks.

TYPICAL COUNCIL GARBAGE TRUCK USED FOR DOMESTIC WASTE COLLECTION	
Length overall	8.0 metres
Width overall	2.5 metres
Operational height	4.3 metres
Travel height	4.3 metres
Weight (vehicle and load)	22.5 tonnes
Weight (vehicle only)	13 tonnes
Turning Circle	25.0 metres



Side-loading collection vehicle	
Length overall	9.64m
Front overhang	1.51m
Wheelbase	5.20m
Rear overhang	2.93m
Turning circle kerb to kerb	17.86m
Turning circle wall to wall	20.56m
Front of vehicle to collection arm	3.8m
Maximum reach of side arm	3.0m
Travel height	3.63m
Clearance height for loading	3.9m

This is the most commonly used vehicle for domestic garbage and recycling collections. It is only suitable for collecting MGBs up to 360 litres in size.

APPENDIX – E
(TYPICAL BIN MOVERS)

Typical applications:

- Move trolleys, waste bin trailers and 660litre/1100 litre bins up and down a ramp incline. Ideal for Apartment Buildings (to move waste bins located at a basement level to road level).
- Quiet, smooth operation with zero emissions and simple to use, no driver's licence required

Features:

- Up to 1 Tonne on a ramp surface (depending on ballast and incline)
- Anti-rollback system on slopes
- Foot print: 1548L x 795W x 1104H (handle in the drive position)
- Pin Hitch is standard however alternate hitching options may be available to suit your specific application (e.g. tow ball)

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)*

Movexx T1500-D Battery Electric Bin Mover

- 1500Kg pushing / pulling capacity
- Quick change battery for multi-shift operation
- Electromagnetic brake to be used on ramps and slopes
- Adjustable height handle
- Optional centre mount 2 x 240 litre bin attachment
- Suitable for towing up to 4 x 660 or 4 x 1100 litre bins on flat ground
- Suitable for towing 1 x 660 litre bin up / down a maximum 25% (1:4) slope
- Optional flashing light on pole
- Optional non-marking tyres upgrade

Movexx T2500 Battery Electric Bin Mover

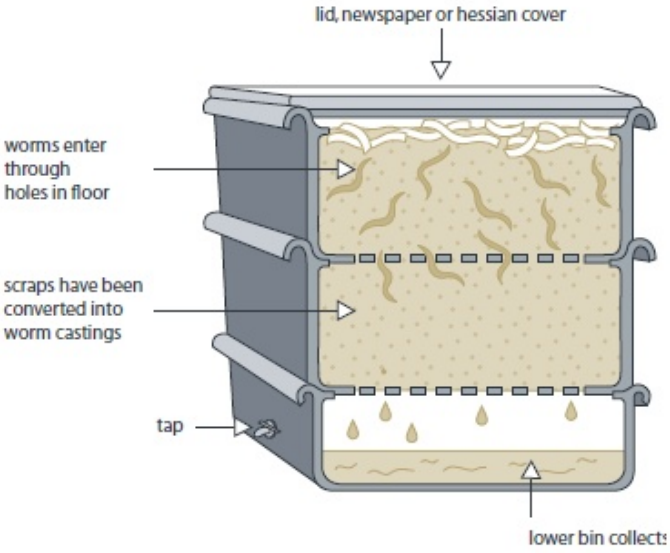
- 2500Kg pushing / pulling capacity
- 2 x 85AH maintenance free AGM batteries for 6 to 8 hours continuous operation
- Electromagnetic brake to be used on ramps and slopes
- Adjustable height handle
- Optional centre mount 2 x 240 litre bin attachment
- Suitable for towing up to 4 x 660 or 4 x 1100 litre bins on flat ground
- Suitable for towing 2 x 660 or 1 x 1100 litre bin up / down a maximum 25% (1:4) slope
- Optional flashing light on pole
- Optional non-marking tyres upgrade

Movexx T2500-SC Battery Electric Bin Mover

- 2500Kg pushing / pulling capacity
- 2 x 85AH maintenance free AGM batteries for 6 to 8 hours continuous operation
- Electromagnetic brake to be used on ramps and slopes
- Adjustable height handle
- Comfortable ergonomic adjustable seat
- Suitable for towing up to 4 x 660 or 4 x 1100 litre bins on flat ground
- Suitable for towing 2 x 660 or 1 x 1100 litre bin up / down a maximum 25% (1:4) slope
- Optional flashing light on pole
- Optional non-marking tyres upgrade

APPENDIX – F
(WASTE MANAGEMENT EQUIPMENT)

Worm farms



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

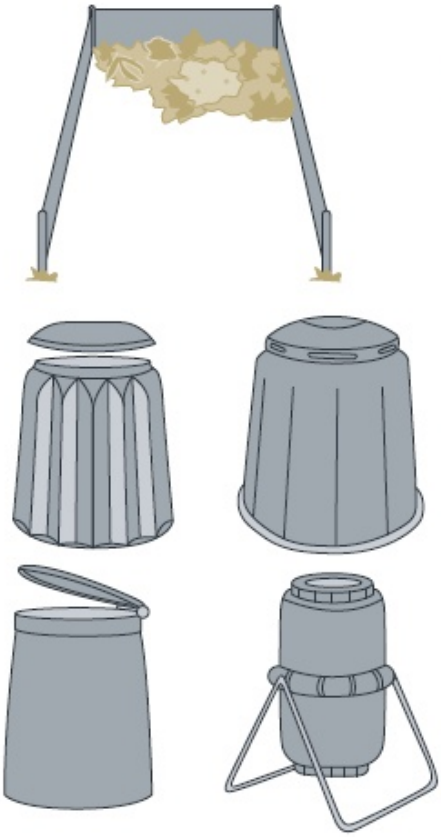
Height – 300mm per level

Width – 600mm

Length – 900mm

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

Compost bins and piles



The footprint area requirement for a typical compost pile is 1000m x 1000m.

A variety of compost bins are available from manufacturers or through many local councils.

There are many compost bin and compost pile 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 – G
(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 – H
(ELECTRIC ORGANIC COMPOST BIN)

CLOSED LOOP
LOVE WHAT YOU DO
CLO'ey

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.

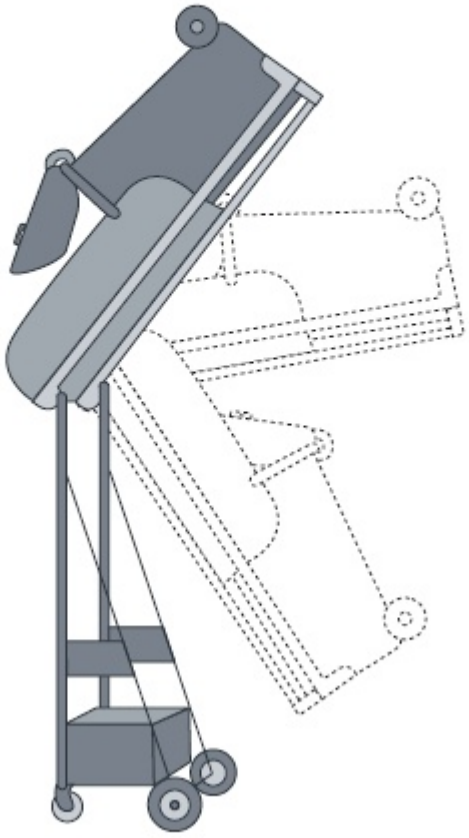
Source: Closed Loop Domestic Composter

APPENDIX – I
(ELECTRIC BIN LIFTER)

Bin lifters

If there is a requirement to empty MGBs of waste into bulk skips or compactors, a hydraulic bin-lifting device should be provided to eliminate the need for manual lifting.

Bin lifters are available for a variety of tipping applications, including various size bins and containers, and designed to tip into containers of various heights. They can be battery powered or connected to mains power. Some models also come with safety cages.



Wheelie Bin Lifter

APPENDIX – J
(WASTE MANAGEMENT EQUIPMENT SPECIFICATIONS)

APPENDIX E.1 (TYPICAL CHUTE PLAN DETAILS)