

WASTE MANAGEMENT PLAN

Prepared for: Meriton Apartments Pty Ltd

Project Site: 12-40 Bonar Street and 5 Loftus

Street Arncliffe

Date of Issue: 8th September 2009

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INTRODUCTION

WASTECH ENGINEERING

COMPANY PROFILE

Wastech Engineering Pty Ltd was established in March 1993 and has established full national coverage of Australia. Head office and main manufacturing plant is in Melbourne with offices in New South Wales and Queensland. In addition, we have a full installation and service team in all other states.

We currently have a large range of products including waste and linen chutes, chute fed compaction equipment, stationary and transportable compactors, auger compactors, liquid extraction presses and skips and bins of all sizes and configurations. We offer a comprehensive service cover and programmed preventative maintenance contracts to reduce operating costs and interruptions.

Wastech Engineering has a strong history of supply to the building industry with recent major projects completed:

- 55 Queens Road Melbourne Victoria
- "M on Mary" Brisbane Queensland
- "Sierra Grand" Gold Coast Queensland
- "Seasons" on St Kilda Victoria

We have a strong history of working with consulting engineers, architects and builders to solve numerous site issues and have supplied specific and various design options for our equipment.

Wastech Engineering frequently provide waste audit and waste management reports to support the design effort for new developments. Recently provided waste management plans include:

- Capital Square Perth
- Trilogy Building Brisbane
- French Quarter Buildings Brisbane
- Hamilton Harbour Development Brisbane
- Tennyson Reach Development Brisbane
- Albion Mill Development Brisbane
- 505 St Kilda Road Melbourne

WASTE MANAGEMENT PLAN

This waste management plan is based on the following conditions:

- On-going use of the premises (does not include demolition or construction stages).
- The project consists of:
 - Apartments (305);
- Figures and calculations are based on drawings and information supplied by Meriton Apartments Pty Ltd.
- Waste volume figures are estimates only and will be influenced by the tenant, resident and operator's disposition toward waste disposal and recycling, and by the development's occupancy rate. Refer to the enclosed tables for rates and assumptions.
- All waste facilities and equipment shall be in compliance with council codes, BCA, Australian Standards, and statutory requirements.

EXCLUSIONS

 Hard rubbish, green/garden waste, and liquid waste have been excluded from this plan (disposal shall be organised by the building manager via an appropriate contractor).

WASTE ROOM DIMENSIONS

The waste rooms, as shown on drawings 1001 issue A and 1002 issue A, are sufficient to accommodate the garbage equipment and bins specified within this report.

SCOPE OF REPORT

Description: Waste Management Plan for a Residential Development:

Wastech Engineering will:

- review building layout drawings and documentation and provide a waste management plan including the following:
- Calculation of weekly waste and recyclable volumes
- Provide recommendations for compaction, storage and transportation of waste and recyclables within the site
- Include technical brochures and drawings for equipment recommended
- Traffic flow advice based on our industry experience and knowledge
- Provide recommendation for vehicle collection type
- Detail underground and overhead clearance issues for truck access
- Reference collection companies and /or council collection/disposal services
- Provide a bound, hard copy and electronic version of the report

All recommendations and equipment shall be in compliance with council codes, BCA, Australian Standards and statutory requirements

Exclusions:

- Formal traffic management plan
- Design and drafting to resolve site specific issues

NOTE: All exclusions can be provided. On request, a quotation can be prepared to suit individual requirements

GENERATED WASTE VOLUME ESTIMATE

The enclosed waste estimates (expressed in uncompacted cubic metres per week) are summarised as follows (refer to the enclosed Waste Estimates):

RESIDENTIAL WASTE	Garbage	Commingled Recycling
Residential Apartments A	11.28	11.28
Residential Apartments B	6.72	6.72
Residential Apartments C	7.80	7.80
Residential Apartments D	10.80	10.80
Total (m³/wk uncompacted)	36.60	36.60
Bins for transfer		240 litre
Collection Bins	1100 litre bins	1100 litre bins

Note: Commingled Recycling incorporates Glass, HDPE and PET containers, paper and cardboard.

RESIDENTIAL WASTE MANAGEMENT

The following is recommended:

Waste Streams

Residential waste shall be sorted on-site by the residents into the following streams and associated bins:

- Garbage; and
- Recycling (PET, aluminium, steel, HDPE, and Paper/Cardboard).

Residential Garbage Disposal

Residential apartments shall be provided with plastic lined under bench storage bins for the temporary holding of garbage waste with a minimum capacity of 15 litres. Residents shall transfer bagged garbage to the garbage chute for disposal. Two chutes per buildings A, C and D. One chute for Building B. Each chute shall serve all apartment levels and discharge into 1100 litre bins located at parking level 1. The building manager shall replace full bins with clean, empty ones as required.

Residential Recyclable Disposal

Residential apartments shall be provided with under bench storage bins for the temporary holding of recyclable waste with a minimum capacity of 10 litres. Residents shall transfer recyclables into 240 litre bins located within the chute airlock at each apartment level for disposal. Residents shall flatten cardboard prior to disposal. The building manager shall collect full 240 litre bins, as required, from apartment levels and transfer full bins into the 1100 litre collection bins, utilising a bin lifter to comply with OH&S regulation, located in the garbage room at parking level 1 which services the respective building garbage chute. The building manager shall clean and return empty 240 litre bins to respective apartment levels after emptying.

Residential Garbage & Recycling Collection

The building manager shall make bin transfers between the garbage rooms and the main garbage collection room prior to collection. Bins shall then be transferred from the collection room to the designated collection point within the garbage/loading dock at parking level 2 with entry of Hirst Street for collection. The building manager shall prepare bins for collection and coordinate with collection vehicle arrivals so that bins do not impede vehicle access into parking level 2. Emptied bins shall be moved to the main collection area upon completion of collection and subsequently to respective garbage rooms. Bins shall be transferred throughout the building utilising a bin trailer/tug or similar

Three times a week garbage and recycling collections are envisaged.

The collection of waste and recycling bins is to be performed by either private contractor or council, to be confirmed by Meriton Apartments Pty Ltd, from the garbage/loading dock at parking level 1 with entry off Hirst Street.

Minimum overhead clearance height for a garbage collection truck is 4.4m as advised by Rockdale City Council. Entry ramp from Hirst Street to have a maximum gradient of 1:8 to enable collection vehicle access. Attached drawing, TP1002 issue A provided by Meriton Apartments, confirms sufficient area is provided for the collection vehicle turning circle and swept path from Hirst Street entry to collection point.

RESIDENTIAL WASTE HANDLING EQUIPMENT

The following waste handling equipment is recommended:

Garbage Chute: 530mm diameter galvanised steel or Smoothubes® chute serving all apartment levels, as supplied by Wastech Engineering (or equivalent).

Quantity required = seven (7)

Bin Lifter

A "Liftezy" bin lifter, as supplied by Wastech Engineering or equivalent, to enable transfer of commingled recycling from 240 litre bins into 1100 litre collection bins.

Quantity required = seven (7)

Note: one per garbage room and to be operated by building manager

Building A		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	11.28	cubic metres
Bin Type	1100	litre
Frequency of collection	3	per week
Bins required for transfer (volume / bin capacity)	4	
Spare Bins required	2	
Garbage Total bins required	6	

RECYCLING		
Weekly Recycling Volume	11.28	cubic metres
Bins required at apartment levels	12	240 litre
Collection Bin Type	1100	litre
Frequency of transfer to collection point	3	per week
Bins required for collection	4	
Spare Bins required	2	
Recycling Total bins required	6	

Building B		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	6.72	cubic metres
Bin Type	1100	litre
Frequency of collection	3	per week
Bins required for transfer (volume / bin capacity)	2	
Spare Bins required	1	
Garbage Total bins required	3	

RECYCLING		
Weekly Recycling Volume	6.72	cubic metres
Bins required at apartment levels	6	240 litre
Collection Bin Type	1100	litre
Frequency of transfer to collection point	3	per week
Bins required for collection	2	
Spare Bins required	1	
Recycling Total bins required	3	

Building C		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	7.80	cubic metres
Bin Type	1100	litre
Frequency of collection	3	per week
Bins required for transfer (volume / bin capacity)	2	
Spare Bins required	2	
Garbage Total bins required	4	

RECYCLING		
Weekly Recycling Volume	7.80	cubic metres
Bins required at apartment levels	12	240 litre
Collection Bin Type	1100	litre
Frequency of transfer to collection point	3	per week
Bins required for collection	2	
Spare Bins required	2	
Recycling Total bins required	4	

Building D		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	10.80	cubic metres
Bin Type	1100	litre
Frequency of collection	3	per week
Bins required for transfer (volume / bin capacity)	3	
Spare Bins required	2	
Garbage Total bins required	5	

RECYCLING		
Weekly Recycling Volume	10.80	cubic metres
Bins required at apartment levels	12	240 litre
Collection Bin Type	1100	litre
Frequency of transfer to collection point	3	per week
Bins required for collection	3	
Spare Bins required	2	
Recycling Total bins required	5	

BIN SUMMARY

GARBAGE		
Bin Type	1100	litre
Frequency of collection	3	per week
Bins required per collection	11	
Spare Bins required	7	
TOTAL BINS REQUIRED	18	

RECYCLING		
Bins required at apartment levels	42	240 litre
Collection Bin Type	1100	litre
Frequency of collection	3	per week
Bins required per collection	11	
Spare Bins required	7	
TOTAL BINS REQUIRED	18	

TOTAL 240 LITRE BINS REQUIRED	42
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TOTAL 1100 LITRE BINS REQUIRED 36

ADDITIONAL WASTE MANAGEMENT INFORMATION

As bins and cleaner's trolley would be "wheeled" throughout the building, any ramps would require a maximum gradient of 1:14 to meet regulatory requirements (steps not permitted).

Items unsuitable for disposal via garbage or recycling bins would need to be disposed with the assistance of the caretaker. This would include: large, heavy, and liquid waste items.

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

- Ensure all bins are clean. Provide a tap and drain in the waste rooms;
- Transferring waste and shifting bins shall require the minimum possible manual handling (others to assess manual handling risk as per regulatory requirements);
- Provide signage and usage labels for the garbage and recycling bins. It is suggested that bins are labelled and colour-coded;
- Make the bin stores secure and vermin proof;
- Ensure adequate ventilation of the bin stores and chute airlocks;
- A bin wash area and sink with tap shall be located within the bin store areas;
- Operator shall keep clean the bin stores and keep bin lids closed;
- Operator to wash bins regularly or alternatively, a bin cleaning contractor to be employed on a regular basis to clean bins;
- Ensure prompt return of empty bins once collection has occurred;
- Operator shall prepare operational instructions and an operational health and safety procedure for site staff;
- Should bin transfers require lengthy travel and transit via car park ramps steeper than 1:14 gradients, consider the use of a suitable bin tug or tow vehicle; Refer to attached Electrodrive brochure;
- An adequate traffic management plan and collection-vehicle safe operation procedure shall be prepared and implemented by the operator(s) of the development, the relevant equipment supplier(s), traffic management consultant(s), and the waste removal contractor(s)

CONTACT INFORMATION:

Rockdale City Council

2 Bryant Street Rockdale NSW 2216 Ph 9562 1666 mailto:rcc@rockdale.nsw.gov.au

Electrodrive Pty Ltd

(tug manufacturer) C/o Wastech Engineering

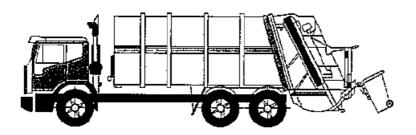
Eco-Safe Technologies

(odour control equipment supplier) C/o Wastech Engineering

Wastech Engineering Pty. Ltd.

Waste Equipment Designer & Manufacturer Valerie Collins
National Sales Executive
33 Wedgewood Road, Hallam VIC 3803
Ph 03 8787 1600
valerie@wastech.com.au

Rear loading collection vehicle

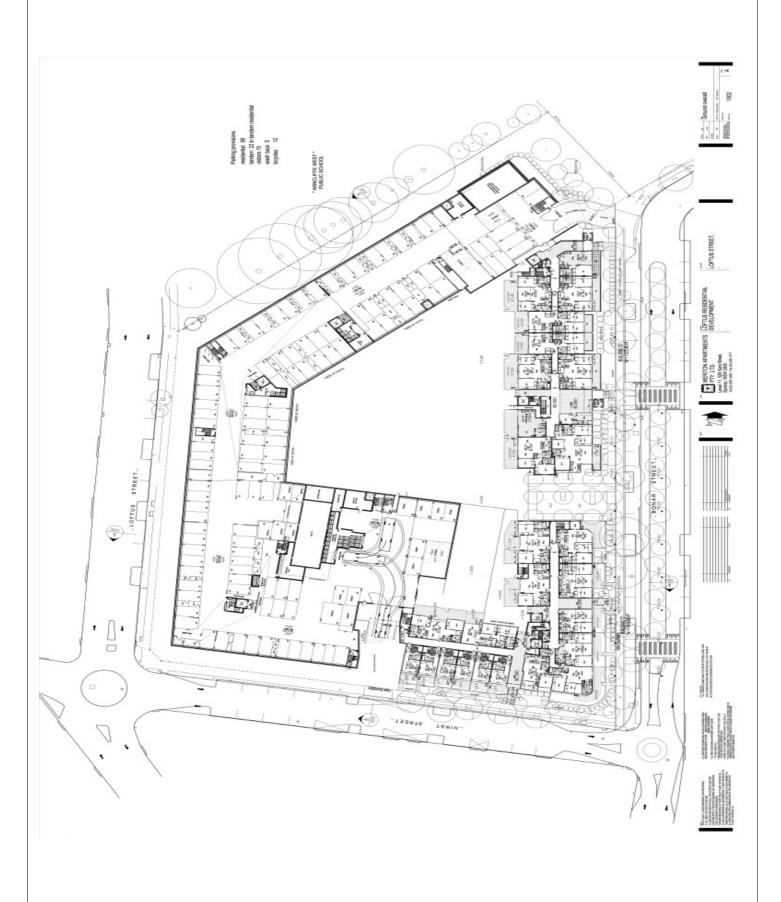


Rear loading collection vehicle for MGBs		
Length overall	8.0 m	
Width overall	2.5 m	
Operational height	4.3 m	
Travel height	4.3 m	
Weight (vehicle only)	13.0 tonnes	
Weight (payload)	9.5 tonnes	
Turning circle	25.0 m	

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This is the most commonly used vehicle for domestic waste collections. Can be used to collect waste stored in MGBs or skip bins.

^{*}As provided by Rockdale City Council 26th February 2009





Job:	Building A	Date: 8-Sep-09

No. OF RESIDENTIAL APARTMENTS	94		
Garbage (m ³ /week uncompacted):	11.28	(Rate/apartment) ¹ :	0.120
Commingled Recyc. (m ³ /week uncompacted):	11.28	(Rate/apartment) ¹ :	0.120

COLLECTIONS	Frequency of transfer per week	No. of Bins Collected
Garbage Disposal	2 per week (1100 litre bins, uncompacted)	5.1
Commingled Recyc.	2 per week (1100 litre bins)	5.1

References/Notes:

Rockdale City Council - Development Control Plan No. 53 - effective 1st February 1999

1) Rockdale City Council



Job: Building B	Date: 8-Sep-09
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No. OF RESIDENTIAL APARTMENTS	56		
Garbage (m³/week uncompacted):	6.72	(Rate/apartment) ¹ :	0.120
Commingled Recyc. (m³/week uncompacted):	6.72	(Rate/apartment) ¹ :	0.120

COLLECTIONS	Frequency of transfer per week	No. of Bins Collected
Garbage Disposal	2 per week (1100 litre bins, uncompacted)	3.1
Commingled Recyc.	2 per week (1100 litre bins)	3.1

References/Notes:

Rockdale City Council - Development Control Plan No. 53 - effective 1st February 1999

1) Rockdale City Council



Job: Building C	Date: 8-Sep-09
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No. OF RESIDENTIAL APARTMENTS	65		
Garbage (m³/week uncompacted):	7.80	(Rate/apartment) ¹ :	0.120
Commingled Recyc. (m³/week uncompacted):	7.80	(Rate/apartment) ¹ :	0.120

COLLECTIONS	Frequency of transfer per week	No. of Bins Collected
Garbage Disposal	2 per week (1100 litre bins, uncompacted)	3.5
Commingled Recyc.	2 per week (1100 litre bins)	3.5

References/Notes:

Rockdale City Council - Development Control Plan No. 53 - effective 1st February 1999



Job: Building D	Date: 8-Sep-09
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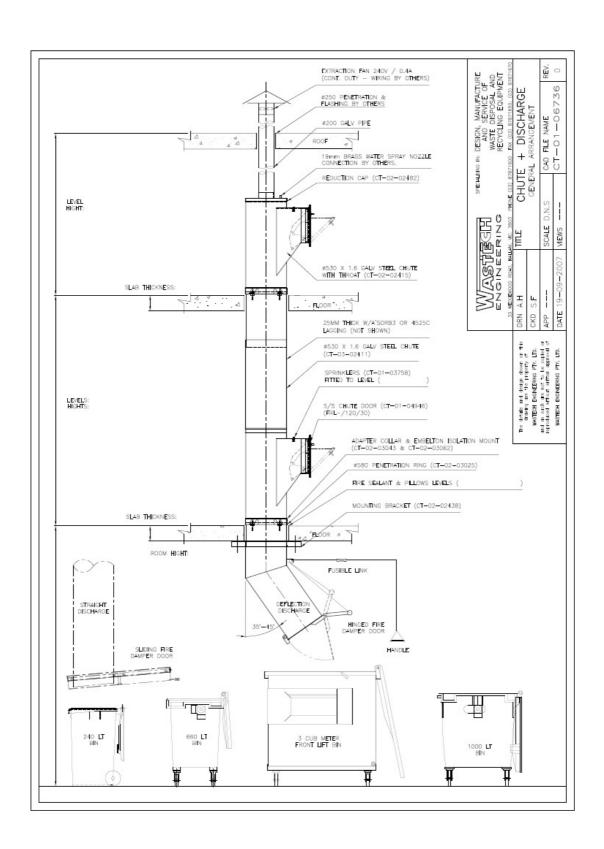
No. OF RESIDENTIAL APARTMENTS	90		
Garbage (m³/week uncompacted):	10.80	(Rate/apartment) ¹ :	0.120
Commingled Recyc. (m ³ /week uncompacted):	10.80	(Rate/apartment) ¹ :	0.120

COLLECTIONS	Frequency of transfer per week	No. of Bins Collected
Garbage Disposal	2 per week (1100 litre bins, uncompacted)	4.9
Commingled Recyc.	2 per week (1100 litre bins)	4.9

References/Notes:

Rockdale City Council - Development Control Plan No. 53 - effective 1st February 1999

1) Rockdale City Council



240 litre container

Material

■ Polymer components:

- □ Injection moulded from specially designed HDPE
- □ Resistant to decay, frost, heat and chemicals
- □ Special UV-stabilisation provides excellent ageing
- Corrosion resistant metal components:
- □ Solid, galvanised steel axle
- Noise reduction:
- □ Quiet-running solid rubber tyres
- □ Tight-fitting axle
- Long service life:
- □ High quality materials
- ☐ Most advanced manufacturing processes
- □ Withstands exposure to high mechanical stress levels
- Recycling:
- □ All container parts are recyclable

Advantages

- Versatile, with a comprehensive accessories range
- Complies fully with EN or RAL quality requirements
- Open wheel case prevents accumulation of dirt
- Particularly stable due to external position of wheels
- Safe and easy handling
- Suitable for all DIN lifting equipment
- Double angle rail for greater safety when emptying
- Compatible with identification and weighing systems
- Special ribs prevent containers from becoming jammed when stacked

Imprints and markings

- Manufacturer, year of manufacture, material
- Nominal volume, max permitted total weight
- EN 840, RAL markings

Accessories

Individual markings with imprints, screen printing, hot-foil printing or adhesive labels

For accessories and special design variations such as

lid apertures, locks etc, please refer to the separate

accessories sheet for 2-wheeled containers

Customer specific serial numbers if required

Colours

- Standard colours: nature green, dark green, grey
- Special colours are available on request common colours include: blue, yellow, red, brown, orange

All dimensions and performance according

to EN 840-1, 5 and 6

Dimensions - Weights - Standards

730 mm G

585 mm

400 mm

variations will occur

approx 12.3 kg

96 kg

110 kg

550 mm

■ Nominal volume:

Permitted total weight:

1060 mm D

990 mm E

660 mm F

A

B

C

■ Net weight:

Max load:

A

B

C

Mo

















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- Polymer components:
- □ Injection moulded from specially designed HDPE
- □ Resistant to decay, frost, heat and chemicals
- □ Special UV-stabilisers provide excellent ageing characteristics
- Corrosion resistant steel components:
- □ Wheel forks, wheel bearings, swivel brackets, lid retention springs and screws from galvanised steel. No maintenance necessary.
- Noise reduction:
- □ Wheel assemblies with solid rubber tyres
- Long service life:
- □ High quality materials
- □ Excellent manufacturing processes
- □ Withstands exposure to high mechanical stress levels
- Recycling:
- □ All container parts are recyclable

Design

ADVANTAGES FOR THE USER:

- Easy handling through the use of ergonomic handles
- Versatile, with a comprehensive accessories range
- In accordance with the safety requirements of EN-840

ADVANTAGES FOR THE COLLECTOR:

- Easy grip handles on all sides
- Safe, easy handling, even with heavy loads
- Various wheel assembly configurations for different applications
- Improved water drainage as a result of rounded lids
- Water drainage plug as standard[†]
- Compatible with identification and weighing systems

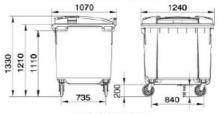
Accessories

For accessories and special design variations such as lid apertures, locks, towing brackets and fork lift sleeves, please refer to the separate accessories sheet for 4-wheeled containers

Dimensions - Weights - Standards

- Nominal volume:
- 1100 litres ■ Net weight: approx. 65 kg
- Max. load:
- Permitted total weight:
- 440 kg 510 kg

ed as a guide only -varia



nominal dimensions













Colours

- Standard colours: green, blue, yellow
- Special colours are available on request*
- All additives are cadmium free and environmentally







Imprints and markings

- Manufacturer, year of manufacture, material
- Nominal volume, max. permitted total weight
- EN 840, RAL markings
- Individual markings with imprints, screen printing, hot-foil printing or adhesive labels available on request *



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"LIFTEZY" Bin Lifter

The "LIFTEZY" is a heavy duty designed Bin Lifter for lifting and tipping of MGB Bins of all sizes. Incorporating a unique direct drive system the lifter has minimal moving parts and no Hydraulics making it ideal for high use environments and food manufacturers.

The 'sealed for life' bearings and drive assembly require minimal maintenance for increased working life and reduced operating costs.

A fully enclosed and interlocked safety cage compliments the lifter to provide a safe, durable and reliable Bin Lifter.

The "LIFTEZY" is available in 240v, 415v or rechargeable battery.
Lifters can be fitted with castors or bolted down to suit application.
Interface is available to suit auto starting of compactors or feed conveyors.

Specifications -

Bin Lifter Size (Ltr)	80/120 & 240	660/1000 & 1100
Lifter Lift Capacity (kg)	250	350
Foot Print (mm)	1100 x 1050	1700 x 1500
Weight (kg)	135	195
Voltage (v)	240 & 415	240 & 415
Motor Size (kw)	1.5	1.5
Cycle Time (sec)	24	24
Min. Tip Height (mm)	1200	1200
Max. Tip Height (mm)	6000	6000



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