Bins and Service Lifts

FACT SHEET

RESIDENTIAL FLAT BUILDING WASTE COLLECTION INFRASTRUCTURE

Source: Jacobs

1100 litre Mobile Garbage Bins, Riverwood NSW

Overview

Mobile Garbage Bins (MGBs) vary in size from 120 up to 1100 litres. Residents will either dispose of waste and recycling into smaller MGBs in the bin room of each floor, or carry it to larger MGBs stored in a ground floor or basement central waste room.

A service lift may be installed to allow the caretaker unrestricted access to a lift when transferring full bins and returning empty ones.

Technical Information

- Service lifts come with basic interiors but are designed to carry heavier, wider loads compared to typical lifts
- MGBs are constructed from UV-stabilised high density polyethylene (HDPE)
- There are restrictions on how far larger, heavier bins can be moved for WHS reasons (e.g. 1100 litre MGBs should not be transferred more than 3 metres at a maximum ramp grade of 1:30)
- Automated bin tugs and trolleys are available to assist with transfer of larger MGBs
- Central waste rooms need to allow space for easy maneuvering of bins. They must be positioned to prevent theft and vandalism, and unauthorised access to prevent waste dumping
- Manual or automated bin lifting equipment is available for the caretaker to empty smaller bins collected from each floor into larger bins in the central waste room
- Bin compactors are available for use to increase waste bin capacity (garbage only)
- Larger 1100 litre MGBs can become too heavy for workers manually manoeuvre safely to the collection point; automated bin tugs and trolleys are available to assist
- Indicative dimensions (in millimetres) for MGBs are:

240 litre bin	585 x 740 x 1080	(w x l x h)
360 litre bin	600 x 885 x 1100	(w x l x h)
660 litre bin	1370 x 850 x 1250	(w x l x h)
1100 litre bin	1370 x 1280 x 1485	(w x l x h)

Suitable Building Types

Best suited to low to medium-rise residential flat buildings where chutes are not viable, and the resultant number of bins on street for collection is not excessive.

Education Needs

Residential education to target:

- Increased communication between building managers / caretakers and residents to facilitate correct use of bins to maximise recycling
- Disposal of loose recyclables and smaller bags of garbage as residents travel past storage areas on their way in and out of the building
- Clear visible signage, using pictures and words, to indicate what to place in each bin to minimise contamination
- Disposal of hazardous wastes such as batteries, and also bulky items such as large cardboard boxes, via other building collection systems to prevent dumping of waste in bin rooms or central waste rooms

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This project is a NSW EPA Waste Less, Recycle More initiative funded from the waste levy.

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Case Studies

The **Como Building in Riverwood** comprises 200 units across 4 residential tower buildings ranging between 5 and 9 floors. Residents carry their garbage and recycling down in the lift to a central waste room (84 m^2) attached to the car park area. A purpose-made bin compactor is used to remove the air space present between waste materials in bin without damaging the bin. The building manager spent two months initially rolling out education to the residents and the cleaners. Cleaners help to separate out contamination from recycling bins.

A residential estate at **Tasman Parade in Fairfield** comprises 12 buildings each 3 to 5 storeys. Residents are required to transfer garbage and recycling to ground floor for disposal to central waste rooms located within the car park areas and an outdoor communal recycling and bulky waste area. Indoor waste rooms were planned with limited space and as such there is very little room to store backup bins for use during collections.

Source: Jacobs

Outdoor and Bulky Waste Area, Fairfield

Strengths

- MGBs are safe and easy to use for residents and easy to manoeuvre by workers
- Removes need for on-site waste collections which could reduce design and construction costs
- System can be modified easily in order to increase / decrease bin sizes, subject to sufficient bin room and space availability
- Allows contamination issues in recycling bins to be more closely monitored
- Encourages recycling participation through co-location of garbage and recycling bins
- Where a bin room is provided on each floor, residents do not have to carry garbage and recycling in lifts or via stairwells to the central waste room
- Provision of a service lift to transport bins from a basement storage area to street level allows for all ground floor areas to be allocated as apartments

Weaknesses

- High number of lift trips and requirement for cleaning staff to transfer recycling bins from each floor to the central waste room
- Increased likelihood of manual handling injuries due to movement of bins
- Regular monitoring of bin fullness on each floor / in central waste room required
- Requires a designated street frontage and bin pad wide enough for placement of bins on collection day
- High numbers of bins via kerbside collection can cause traffic congestion and impede pedestrians
- Large bin storage areas are required
- Where a bin room is provided on each floor, additional space is required in the central waste room to store spare bins for rotation

Compliance

- All bins and containers allocated must conform to relevant parts of AS4123.1-2008 Mobile waste containers and AS4123.7-2006 Mobile waste containers: colours, markings and designation requirements
- Bin rooms and central waste rooms must meet with EPA, Council and BCA requirements and meet with Australian Standards for ventilation (AS1668) and lighting (AS1680)
- Transfer arrangements for bins must meet with worker health and safety requirement.

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