# 14 Waste Management

This section contains the controls for the design of waste management facilities for all forms of development. It also provides guidelines for the preparation of a Waste Management Plan, which must be submitted with all development applications for building or demolition works.

### Objectives

- To plan for sustainable waste management.
- To develop systems for waste management to ensure waste is transported and disposed of in a lawful manner.
- To provide guidance in regards to space, storage amenity and management of building site waste management facilities.
- To ensure waste management systems are compatible with collection services.
- To minimise risks associated with waste management at all stages of development.
- To maximise reuse and recycling of household, industrial and commercial waste.

## 14.1 Demolition

### Objectives

- To minimise resource requirements and construction waste through reuse and recycling and the efficient selection and use of resources.
- To minimise demolition waste by promoting adaptability in building design and focussing upon end of life deconstruction.
- To encourage building designs, construction and demolition techniques in general which minimise waste generation.

### Controls

(1) A completed Site Waste Minimisation and Management Plan (SWMMP) shall be prepared and lodged with the development application for demolition. As a minimum it shall include:

(a) Adaptive reuse opportunities for buildings/structures.

(b) All waste likely to result from the demolition and opportunities for reuse of materials.

(c) Facilitate reuse/recycling by using the process of ‘deconstruction’ where various materials are carefully dismantled and sorted.

(d) Reuse or recycle salvaged materials onsite where possible.

(e) An area shall be allocated on site for the storage of materials for use, recycling and disposal (giving consideration to slope, drainage, location of waterways, stormwater outlets, vegetation and access and handling requirements).

(f) Separate collection bins or areas for the storage of residual waste shall be provided on site and clearly ‘signposted’ for the purpose and content of the bins and storage.

(g) Measures shall be implemented on site to prevent damage by the elements, odour and health risks and windborne litter.

(h) A Declaration of Waste Confirmation shall be provided to Council at the completion of the works.

## 14.2 Development

### Objectives

- To ensure that waste and recyclables storage areas within the property are designed for suitable ease of use, amenity and the movement and handling of waste for the life of the development.
- To encourage source separation of waste, reuse and recycling by ensuring appropriate storage and collection

facilities for waste and quality design of waste facilities.

- To maximise reuse and recycling of materials.
- To minimise waste generation.
- To ensure appropriate collection and storage of waste.
- To minimise the environmental impacts associated with waste management.
- To encourage appropriate waste disposal and avoid illegal dumping.

## 14.2.1 Single Dwellings and Dual Occupancies

### Controls

(1) A completed Site Waste Minimisation and Management Plan (SWMMP) shall be prepared and submitted with the development application for Indicative Waste/Recycling Generation Rates.

(2) Plans submitted with the application must show:

(a) The location of an onsite waste/recycling storage area for each dwelling that is sufficient size to accommodate Councils waste, recycling and garden waste bins.
The waste storage area is to be located in the rear yard where possible and in a suitable location to avoid vandalism, nuisance, adverse visual impacts and odour for neighbours.

(b) An identified onsite location for a compost container that does not impact on adjoining properties.

(c) The waste storage area is to be easily accessible and have unobstructed access to Councils usual collection point.

(d) There should be sufficient space within the kitchen (or an alternate location) for the interim storage of waste and recyclables.

(3) A Declaration of Waste Confirmation shall be provided to Council at the completion of the works.

## 14.2.2 All Other Development

### Controls

(1) A completed Site Waste Minimisation and Management Plan shall be prepared and submitted with the development application. The plan should address the following matters as relevant:

(a) Indicative Bin Sizes

(b) Waste/Recycling Storage Rooms

(c) Garbage Truck Dimensions

(d) Garbage Chutes.

(2) Architectural plans submitted with the development application must show:

(a) The location of individual waste/recycling storage areas (such as for townhouses and villas) or a communal waste/recycling storage room(s) able to accommodate Councils waste, recycling and gardens waste bins.

(b) The location of any garbage chute(s) and interim storage facilities for recyclable materials that promotes and ease of recycling for each unit and on each floor.

(c) The location of any service rooms (for accessing a garbage chute) on each floor of the building.

(d) The location of any waste compaction equipment.

(e) An identified collection point for the collection and emptying of Councils waste, recycling and garden waste bins.

(f) The path of travel for moving bins from the storage area to the identified collection point (if collection is to occur away from the storage area).

(g) The onsite path of travel for collection vehicles (if collection is to occur onsite) taking into account accessibility, width, height and grade.

(3) Systems should be designed to maximise source separation and recovery of recyclables for each unit and on each floor.

(4) Waste management systems should be designed and operated to prevent the potential risk, injury or illness associated with the collection, storage and disposal of wastes.

(5) A Declaration of Waste Confirmation shall be provided to Council at the completion of the works.

**Multi-unit Residential Development - Additional Controls**

(1) The "Better Practice Guide for Waste Management in Multi-Unit Dwellings" should be used to inform design of multi-unit dwellings for waste recycling/storage rooms and facilities.

(2) The following minimum collection and storage facilities shall be provided:

- (a) Residential flat buildings must include communal waste/recycling storage facilities in the form of a waste/recycling storage room (or rooms) designed in accordance with the "Better Practice Guide for Waste Management in Multi-Unit Dwellings".
- (b) Multi-unit housing in the form of townhouses and villas must include either individual waste/recycling storage areas for each dwelling or a communal facility in the form of a waste/recycling storage room (or rooms) designed in accordance with the "Better Practice Guide for Waste Management in Multi-Unit Dwellings".
- (c) The waste/recycling storage area(s) or room(s) must be of a size that can comfortably accommodate separate garbage, recycling and garden waste containers at the rate of Council provision.
- (d) For multi-storey developments that include ten or more dwellings, a dedicated room or caged area must be provided for the temporary storage of discarded bulky items which are awaiting removal. The storage area must be readily accessible to all residents and must be located close to the main waste storage room or area.

(3) The following location and design criteria shall apply to collection and storage facilities:

- (a) In townhouse and villa developments with individual waste/recycling storage areas, such areas should be located and designed in a manner which reduces adverse impacts upon neighbouring properties and upon the appearance of the premises.
- (b) There must be an unobstructed and continuous accessible path of travel (as per Australian Standard AS 1428: Design for Access and Mobility) from the waste/recycling storage areas or rooms to:
  - (i) The entry to any adaptable housing (As per Australian Standard 4299: Adaptable Housing);
  - (ii) The principle entrance to each residential flat building;
  - (iii) The point at which bins are collected/emptied;
  - (iv) In instances where a proposal does not comply with these requirements, Council will consider alternate proposal to achieve a reasonable level of access to waste/recycling storage areas or rooms.
- (c) Communal waste storage areas should have adequate space to accommodate and manoeuvre the required number of waste and recycling containers.
- (d) Each service room and storage area must be located for convenient access by users and must be well ventilated and well lit.
- (e) Where bins cannot be collected from a kerbside location or from a temporary holding area located immediately inside the property boundary, the development must be designed to allow for on-site access by garbage collection vehicles in accordance with Garbage Truck Dimensions for Residential Waste Collection. In these instances, the site must be configured so as to allow collection vehicles to enter and exit the site in a forward direction and so that collection vehicles do not impede general access to, from or within the site. Access driveways to be used by collection vehicles must be of sufficient strength to support such vehicles with the collection contractor and Council indemnified against damage to driveways.

(f) Should a collection vehicle be required to enter a property, access driveways and internal roads must be designed in accordance with Australian Standard As 2890.2: Parking Facilities - Off Street Commercial Vehicle Facilities.

(g) Residents should have access to a cold water supply for the cleaning of bins and the waste storage areas. Storage areas should be constructed and designed to be weatherproof and easy to clean, with wastewater discharged to the sewer.

(h) The design and location of waste storage areas/facilities should be such that they compliment the design of both the development and the surrounding streetscape.

(i) Developments containing four or more storeys should be provided with a suitable system for the transportation of waste and recyclables from each storey to waste storage/collection areas.

(j) Garbage chutes must be designed in accordance with the Building Code of Australia and "Better Practice Guide for Waste Management in Multi-Unit Dwellings". Garbage shutes are not suitable for recyclable material and must be clearly labelled to discourage improper use. Alternate interim disposal facilities for recyclables should be provided at each point of access to the garbage chute system.

### Commercial, Industrial and Mixed Use Development - Additional Controls

(1) Commercial, Industrial and Mixed-Use development must be designed to maximise resource recovery through waste avoidance, source separation and recycling and to ensure appropriate well-designed storage and collection facilities are accessible to occupants and service providers.

(2) Industrial development waste products may be hazardous and require compliance with established laws/protocols that are additional to this section.

## 14.3 Design Guidelines

### 14.3.1 Indicative Bin Sizes

| Bin Type | Height | Depth | Width |
|---|---|---|---|
| 140 Litre Bin | 1065mm | 540mm | 500mm |
| 240 Litre Bin | 1080mm | 735mm | 580mm |
| 0.75m$^3$ Bulk Bin | 1260mm | 890mm | 1400mm |
| 1.5m$^3$ Bulk Bin | 1260mm | 1030mm | 2010mm |

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

### 14.3.2 Garbage Truck Dimensions

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

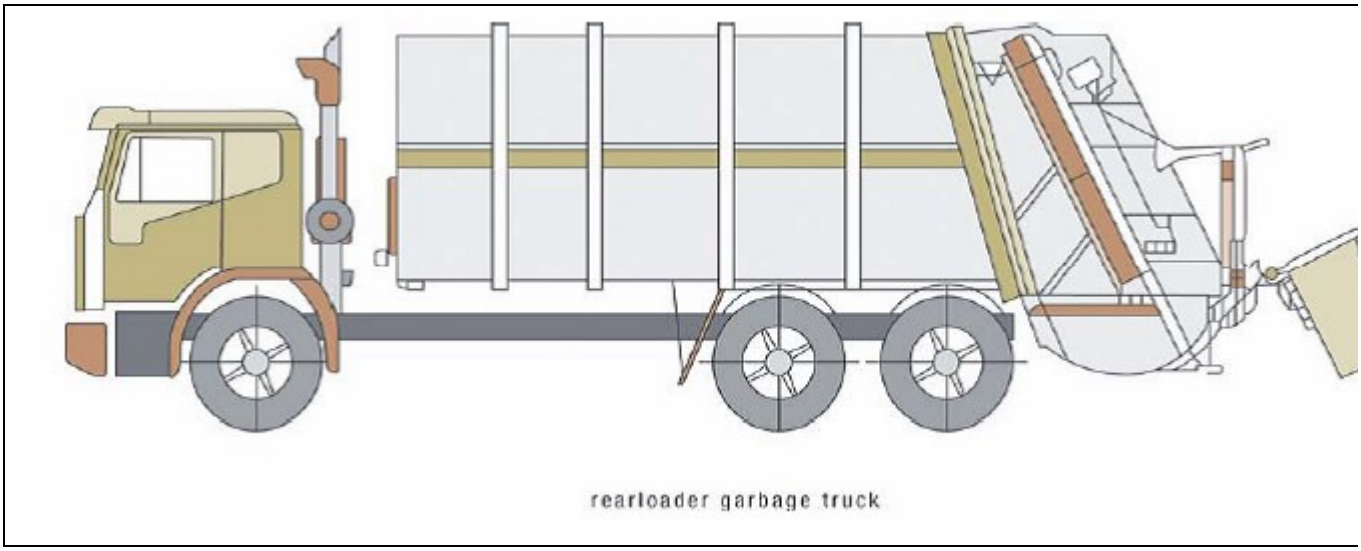
Requirements regarding vehicle turning circles and driveway width/gradient are contained in Australian Standard 2800.2 2002: Planning Facilities - off street commercial vehicles.

It is recommended that an applicant speak with Council's Waste Services Coordinator in regards to the design of development proposals that 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 |

### Garbage truck dimensions for residential collection




Source of diagram: “Better Practice Guide for Waste Management in Multi-Unit Dwellings, DECC 2008.

## 14.3.3 Garbage Chutes

### Garbage chute design controls

(1) Garbage chutes must be constructed in accordance with the requirements of the Building Code of Australia (BCA).

(2) Garbage chutes must be located and insulated in a manner that reduces noise impacts.

(3) Chutes, service openings and charging devices must be constructed of material (such as metal) that is smooth, durable, impervious, non corrosive and fire resistant.

(4) Chutes, service openings and charging devices must be capable of being easily cleaned.

(5) Chutes must be cylindrical and should have a diameter of at least 500mm.

(6) There must not be any bends (or sections of reduced diameter) in the main shaft of the chute.

(7) Internal overlaps in the chute must follow the direction of waste flow.

(8) Chutes must deposit rubbish directly into a bin or compactor located within a waste/recycling storage room.

(9) A cut-off device must be located at or near the base of the chute so that the bottom of the chute can be closed when the bin or compacting device at the bottom of the chute is withdrawn or being replaced.

(10) The upper end of a chute should extend above the roofline of the building.

(11) The upper end of a chute should be weather protected in a manner that doesn’t impede the upward movement of air out of the chute.

### Garbage chute service room design controls

(1) The service opening (for depositing rubbish into the main chute) on each floor of the building must be located in a dedicated service room.

(2) The charging device for each service opening must be self-closing and must not project into the main chute.

(3) Branches connecting service openings to the main chute are to be no more than 1m long.

(4) Each service room must include containers for the storage of recyclable materials.

(5) Signage regarding the materials that can be recycled should be displayed near these containers.

(6) Each service room must be located for convenient access by users and must be well ventilated and well lit.

(7) The floors, walls and ceilings of service rooms must be finished with smooth, durable materials that are capable of being easily cleaned.

(8) Service rooms must include signage that clearly describes the types of materials that can be deposited into the garbage chute and the types of materials which should be deposited into recycling bins.

### Garbage chute service room management controls

(1) Garbage chutes are not to be used for the disposal of recyclable materials. Signage to this effect should be displayed near service openings.

(2) Arrangements must be in place for the regular maintenance and cleaning of garbage chutes and any associated service rooms, service openings and charging devices.

(3) Arrangements must be in place for the regular transferral of recyclable materials (which are sorted in service rooms) to the main waste/recycling storage room.

(4) Garbage chutes are not to be used for the disposal of recyclable materials. Signage to this effect should be displayed near service openings.

(5) Arrangements must be in place for the regular maintenance and cleaning of garbage chutes and any associated service rooms, service openings and charging devices.

(6) Arrangements must be in place for the regular transferral of recyclable materials (which are sorted in service rooms) to the main waste/recycling storage room.

## 14.3.4 Commercial, Industrial and Mixed Use Development

### Waste and Recycling Storage Areas Design Controls

(1) Waste/recycling storage areas must be constructed in accordance with the requirements of the Building Code of Australia (BCA).

(2) Waste/recycling storage areas must be integrated into the design of the overall development. Materials and finishes that are visible from the outside should be similar in style and quality to the external materials used in the rest of the development.

(3) Waste/recycling storage areas must be located and designed in a manner that reduces adverse impacts upon neighbouring properties and the streetscape. The location and design of the areas should minimise adverse impacts associated with:

- (a) The proximity of the area to dwellings;
- (b) The visibility of the area;
- (c) Noise generated by any equipment located within the area;
- (d) Noise generated by the movement of bins into and out of the area;
- (e) Noise generated by collection vehicles accessing the site; and
- (f) Odours emanating from the area.

(4) Waste/recycling storage areas must be of adequate size to comfortably accommodate all waste and recycling bins associated with the development.

(5) Waste/recycling storage areas must be able to accommodate separate general waste bins and recycling bins

which are of sufficient volume to contain the quantity of waste generated (at the rate described in Appendix B) between collections.

(6) The gradient of waste/recycling storage area floors and the gradient of any associated access ramps must be sufficiently level so that access for the purpose of emptying containers can occur in accordance with WorkCover NSW Occupational Health and Safety requirements.

(7) Within waste/recycling storage areas, containers used for the storage of recyclable materials should be kept separate from (but close to) general waste containers, so that the potential for contamination of recyclable materials is minimised.

(8) The development must be designed to allow access by collection vehicles used by the nominated waste contractor. Wherever possible, the site must be configured to allow collection vehicles to enter and exit the site in a forward direction and so collection vehicles do not impede general access to, from and within the site. Access driveways to be used by collection vehicles must be of sufficient strength to support such vehicles.

(9) Servicing arrangements for the emptying of bins must be compatible with the operation of any other loading/unloading facilities on-site.

(10) Access for the purpose of emptying waste/recycling storage containers must be able to occur in accordance with WorkCover NSW Occupational Health and Safety requirements.

(11) In commercial development, public buildings and industrial development, there must be convenient access from each tenancy to the waste/recycling storage area(s). There must be step-free access between the point at which bins are collected/emptied and the waste/recycling storage area(s).

(12) Arrangements must be in place so that the waste/recycling storage area is not accessible to the general public.

(13) Vermin must be prevented from entering the waste/recycling storage area.

(14) Waste/recycling storage areas must have a smooth, durable floor and must be enclosed with durable walls/fences that extend to the height of any containers which are kept within.

(15) Doors/gates to waste/recycling storage areas must be durable. There must be a sign adjacent to the door/gate that indicates that the door/gate is to remain closed when not in use. All doors/gates are to be opened from both inside and outside the storage area and must be wide enough to allow for the easy passage of waste/recycling containers.

(16) Waste/recycling storage areas must be serviced by hot and cold water provided through a centralised mixing valve. The hose cock must be protected from the waste containers and must be located in a position that is easily accessible when the area is filled with waste containers.

(17) The floor must be graded so that any water is directed to a sewer authority approved drainage connection located upon the site.

(18) Waste/recycling storage areas must include signage that clearly describes the types of materials that can be deposited into recycling bins and general garbage bins.

(19) Arrangements must be in place for the regular maintenance and cleaning of waste/recycling storage areas. Waste/recycling containers must only be washed in an area which drains to a sewer authority approved drainage connection.

(20) The “Better Practice Guide for Waste Management in Multi-Unit Dwellings” gives detailed information about waste recycling/storage rooms and facilities. The Guide was substantially reviewed in 2007 and is available on the Department of Environment and Climate Change NSW website (www.environment.nsw.gov.au).

### 14.3.5 Indicative Waste & Recycling Generation Rates

#### Construction waste 'Rule of Thumb' for renovations and small home building

- Timber:  5 -7% of material ordered
- Plasterboard: 5 - 20% of material ordered
- Concrete:  3 - 5% of material ordered

- Bricks: 5 - 10% of material ordered
- Tiles: 2 - 5% of material ordered

Source: *Waste Planning Guide for Development Application*, Inner Sydney Waste Board, 1995)

## Ongoing Operation

| Premises Type | Waste Generation | Recyclable Material Generation |
|---|---|---|
| Backpackers Hostel | 40L occupant space/week | 20L occupant space/week |
| Boarding House | 60L occupant space/week | 20L occupant space/week |
| Food premises: | | |
| Butcher | 80L/100m2 floor area/day | Variable |
| Delicatessen | 80L/100m$^2$ floor area/day | Variable |
| Fish Shop | 80L/100m$^2$ floor area/day | Variable |
| Greengrocer | 240L/100m$^2$ floor area/day | 120L/100m$^2$ floor area/day |
| Restaurant, Cafe | 10L/1.5m$^2$ floor area/day | 2L/1.5m$^2$ floor area/day |
| Supermarket | 240L/100m$^2$ floor area/day | 240L/100m$^2$ floor area/day |
| Takeaway food shop | 80L/100m$^2$ floor area/day | Variable |
| Hairdresser, Beauty Salon | 60L/100m$^2$ floor area/day | Variable |
| Hotel, Licensed Club, Motel | 5L/bed space/day<br>50L/100m$^2$ bar area/day<br>10L/1.5m$^2$ dining area/day | 1l/bed space/day<br>50L/100m$^2$ bar area/day<br>50L/100m$^2$ dining area/day |
| Offices | 10L/100m$^2$ floor area/day | 10L/100m$^2$ floor area/day |
| Shop less than 100m$^2$ floor area | 50L/100m$^2$ floor area/day | 25L/100m$^2$ floor area/day |
| Shop greater than 100m$^2$ floor area | 50L/100m$^2$ floor area/day | 50L/100m$^2$ floor area/day |

| | | |
|---|---|---|
| Showroom | 40L/100m² floor area/day | 10L/100m² floor area/day |
| Multi-unit Dwellings | 80L/unit/weel | 40L/unit/week |

Sources: Adapted from Waverley Council Code for the Storage and Handling of Waste.

### 14.3.6 Waste / Recycling Storage Rooms

#### Design controls

(1) Waste/recycling storage rooms must be constructed in accordance with the requirements of the Building Code of Australia (BCA).

(2) Waste/recycling storage rooms must be integrated into the design of the overall development. It is preferable that such rooms be located behind the front building line.

(3) Where possible, the room should be in a basement location within the main building envelope (rather than a separate stand-alone structure). Materials and finishes visible from outside should be similar in style and quality to the external materials used in the rest of the development.

(4) Waste/recycling storage rooms must be located and designed in a manner that reduces adverse impacts upon the inhabitants of any dwellings on the site and upon neighbouring properties.

(5) The location and design of the room should minimise adverse impacts associated with:

- (a) the proximity of the room to any dwellings;
- (b) the visibility of the room;
- (c) noise generated by any equipment located within the room;
- (d) noise generated by the movement of bins into and out of the room;
- (e) noise generated by collection vehicles accessing the site; and
- (f) odours emanating from the room.

(6) Waste/recycling storage rooms must be of adequate size to comfortably accommodate all waste and recycling bins associated with the development.

(7) The gradient of waste/recycling storage room floors and the gradient of any associated access ramps must be sufficiently level so that access for the purpose of emptying containers can occur in accordance with WorkCover NSW Occupational Health and Safety requirements.

(8) Within waste/recycling storage rooms, containers used for the storage of recyclable materials should be kept separate from (but close to) general waste containers, so that the potential for contamination of recyclable materials is minimised.