



Randwick City Council

Waste Management Guidelines for Proposed Developments



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1. Introduction

1.1 Purpose of the Guidelines

Randwick City Council (Council) seeks to manage waste holistically. Ensuring that proposed developments include waste management provisions, which integrate with Council's waste collection service, is vitally important as it enables council to provide a waste service to residents and businesses that is cost effective, efficient and of a standard that meets their expectations.

The purpose of these guidelines is to assist Council, town planners, architects, engineers, and developers to incorporate ecologically sustainable development principles through adequate provisions for waste handling, storage and collection in the design of new developments.

The guidelines outline essential waste management issues and Council's minimum requirements, which must be incorporated in all proposed developments.

1.2 Aims and Objectives:

The aims and objectives of these guidelines are to:

- ▶ Define and standardise the minimum design requirements for the effective and efficient management of wastes in developments;
- ▶ Encourage best practice in management of waste and recyclables thus helping to minimise the generation of waste and to maximise the recovery of recyclable materials;
- ▶ Minimise the overall impacts of waste management including protection of aesthetics, amenity, and public health;
- ▶ Contribute to state wide initiatives to achieve the target aims for waste reduction and resource recovery and reuse as specified in the NSW Waste Avoidance and Resource Recovery Strategy 2007.

1.3 Application and Use of the Guidelines

1.3.1 Development applications

In most cases a developer will be required to submit to Council a development application (DA), which is a formal request for permission to carry out a proposed development.

To assist developers prepare development applications (DAs), Randwick City Council has prepared "***The Randwick Development Application Guide***". The Development Application Guide explains how to prepare a development application. It provides a simple, step by step guide to all

the information and drawings that must be gathered before submitting an application.

All developers wishing to submit a DA to Council must read the Development Application Guide.

1.3.2 Pre-lodgement Service

Contact Council's Waste Management Section on:

Tel: 02 9093 6000

Email:
council@randwick.nsw.gov.au

Council provides a professional pre-lodgement service which is operated by a team of senior Council staff with wide experience in assessing applications. The team includes planning, building, waste management and engineering staff, and sometimes other specialists. The pre-lodgment service offers developers an opportunity to meet with Council's team to discuss development issues prior to lodgement of a DA. This enables most, if not all, issues to be dealt with at the pre-lodgement meeting.

While a pre-lodgment meeting is not mandatory, applicants who participate in a pre-lodgment meeting, and who heed the advice provided, usually save time and avoid problems with their DAs.

1.3.3 Waste Management Plan

The Waste Management Plan is an important piece of information about a proposed development that must be submitted with the DA. This is because Council cannot provide waste and recycling services to buildings and developments that do not meet its requirements in terms of access, physical space and layout.

A Waste Management Plan is required for demolition and building work and for any proposed development that generates household, commercial or industrial wastes, except for single-unit dwellings and minor dwelling alterations.

Developers are required to provide details in the Waste Management Plan, of waste management and minimisation activities that are to be carried out during demolition, construction and operation of a proposed development, and to estimate the likely volumes of waste generated.

The plan requires applicants to:

- ▶ Specify wastes by type and volume, and nominate reuse and recycling potential;
- ▶ Nominate siting of waste storage facilities for demolition, construction and for on-going use by residents or occupants;
- ▶ Specify how and where construction wastes will be disposed of; and
- ▶ Explain arrangements for storage and collection of wastes from the site on an on-going basis.

Waste Management Plans are to be prepared in accordance with these guidelines.

Forms for completing the Waste Management Plan are provided in **Appendix I**, while worked examples of completed Waste Management Plans for different types of developments are provided in **Appendix J**.

1.3.4 Preparing a development application and addressing waste management issues

Waste management planning for a proposed development is to be undertaken in parallel with preparing other DA documents.

The flowchart in Figure 1 shows the steps by which waste management is to be addressed when preparing a development application.

1.4 Contents of guidelines

1.4.1 Guidelines structure

The guidelines are divided into sections that describe the specific waste management requirements for different development types. The guidelines have the following sections:

- Section 1 -** Provides an introduction to the guidelines;
- Section 2 -** Describes general waste management requirements for all developments;
- Section 3 -** Waste management requirements for **all developments**
- Section 4 -** Waste management requirements for **single-dwelling** and dual occupancy developments;
- Section 5 -** Waste management requirements for **villas and townhouses**;
- Section 6 -** Waste management requirements for **medium-rise** developments;
- Section 7 -** Waste management requirements for **residential blocks** 4 to 6 storeys high;
- Section 8 -** Waste management requirements for **high-rise** developments;
- Section 9 -** Waste management requirements for **commercial** developments;
- Section 10 -** Waste management requirements for **recreational** facilities;
- Section 11 -** Waste management requirements for **educational** facilities; and
- Section 12 -** Waste management requirements for **mixed-use** developments.

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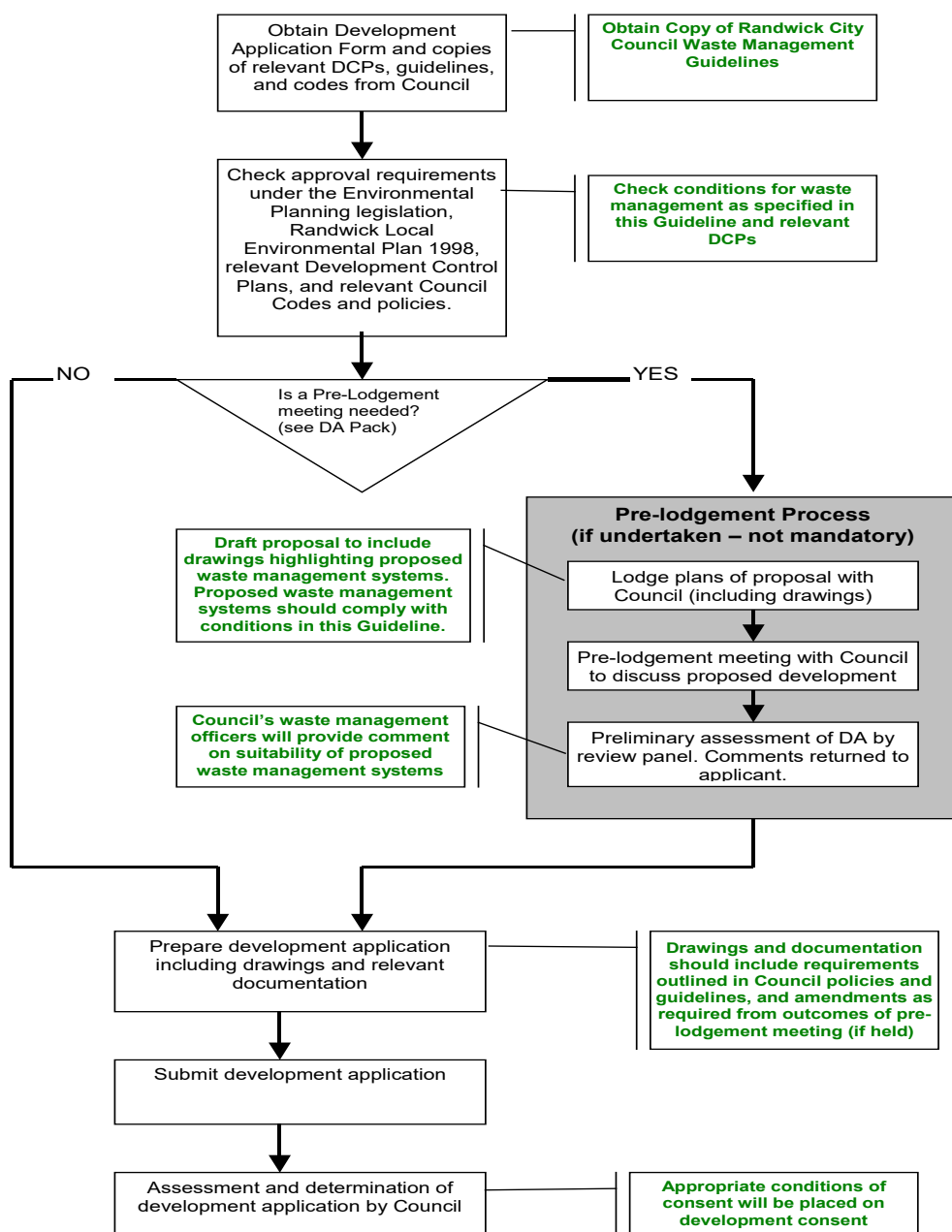


Figure 1 Flowchart showing preparation of a development application

Please note the flowchart is a simplified representation of the development application process. Detailed information about the development application process is provided in the Development Application Guide or can be provided by contacting Council.

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Appendices to these Guidelines contain the following important information:

Appendix A -	Waste generation rates for all residential and commercial developments, and educational facilities
Appendix B -	Dimension of waste bins
Appendix C -	Council's requirements for Garbage and Recycling Enclosures / Rooms
Appendix D -	Council's requirements for Refrigerated Garbage Rooms
Appendix E -	A description of home composting and wormeries
Appendix F -	A description of waste handling and volume reduction equipment, and Council's requirements for this equipment
Appendix G -	A description of waste collection vehicles and their access requirements
Appendix H -	A catalogue of standard garbage and recycling signage
Appendix I -	Waste management plan forms
Appendix J -	A sample waste management plan

1.4.2 Types of developments

Developments referred to in these guidelines have been categorised as follows:

Development	Development description
Single dwellings	Properties containing a single dwelling (typically one or two habitable storeys).
Dual occupancy developments	A property containing two (but not more than two) dwellings.
Villas and townhouses	Typically 1 – 2 storey dwellings where there are three or more dwellings on the same parcel of land.
Medium-rise developments	2 – 3 storey buildings that typically contain separate dwellings on each floor and 4 – 12 dwellings in total. These developments are commonly called 'walk-ups' as access to the dwellings is via stairs. This is due to the low height of the development precluding the need for an elevator.
Residential blocks (4 to 6 storeys)	Medium sized developments with 4-6 storeys, typically containing numerous dwellings on each storey.
High-rise developments	High-rise developments with greater than 6 storeys, typically containing a number of dwellings on each storey.
Commercial developments	Developments used for trade and business including offices, retail outlets, accommodation, cafes and restaurants, wholesale trade and manufacturing.

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Recreational facilities	Developments used for a sporting, exercise, or leisure activity, including golf courses, racecourses, showgrounds, bowling greens, tennis courts, including ancillary buildings (where the ancillary building is not otherwise defined).
Educational facilities	Developments used for education (including teaching) and including schools, tertiary institutions, art galleries, libraries, and museums.
Mixed-use development	Developments that incorporate both residential dwellings and commercial properties (but may also contain recreational and educational facilities).
Other developments	Developments that are not categorised above, such as industrial developments.

* The above building definitions have been predominantly defined in accordance with the Better Practice Guide for Waste Management in Multi-Unit Dwellings (Resource NSW, 2000), Randwick Development Control Plan for Dwelling Houses and Attached Dual Occupancies, and the Randwick Local Environmental Plan 1998.

1.4.3 Components addressed by guideline

The waste handling, storage and management components of proposed developments addressed in these guidelines are:

Component	Reason for setting requirements
Waste bins	To ensure that the use of appropriately sized waste bins are used.
Storage facilities	To ensure that appropriate waste storage facilities are provided for different development types, to protect local and property amenity.
Storage space	To ensure that sufficient space is provided to permit handling, storage and collection of garbage, recycling and other wastes generated in premises.
Storage location	To specify locations for waste storage areas that are appropriate to the development type and provide convenience for both residents/tenants and waste collectors. To limit the distance for carting waste receptacles from the storage location to the collection point.
Access	To ensure that appropriate access to waste storage facilities are provided to commercial and domestic users and to waste collectors.
Collection point	To ideally standardise the collection point, but ensure that any variations meet specific access, location and construction requirements.
Lighting	To ensure that sufficient lighting is provided to enable users of the waste storage facility to safely access bins and dispose of wastes in bins correctly.
Ventilation	To ensure sufficient ventilation is provided in waste storage facilities.

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Component	Reason for setting requirements
Hygiene	To ensure good hygiene is maintained including minimising potential odours, litter and dust and preventing vermin from residing in the waste containers and storage area.
Safety	To minimise the risk of vandalism and theft and design and maintain systems that don't put the safety of users or waste collection operators at risk.
Cleaning	To ensure that responsibilities for cleaning of waste receptacles and storage areas are clearly defined and carried out.
On-Going management	To outline responsibilities for on-going management of waste storage and collection.
Noise	To minimise noise generation.
Construction and design standards	To provide minimum standards for construction.

The waste management components addressed in these guidelines are not exhaustive and there are likely to be others that need to be taken into consideration when planning proposed developments. It is therefore recommended that any additional issues specific to certain developments be discussed with Council staff prior to lodgement of a development application.

1.5 Glossary

A glossary of terms is provided in Table 1.

Table 1 Glossary of terms

Caretaker	Person or party appointed by managing agent to be responsible for the management of waste at a development. A caretaker could be a resident of the development or a third party.
Clean – up waste	Bulky household goods such as small furniture, white goods, appliances and mattresses.
Collection	Servicing of waste bins to remove contents into a waste collection vehicle for transport to a centralised waste facility.
Collection point	Point where garbage, recycling and green waste are loaded onto collection vehicles.
Co-mingled recycling	System of recycling where the generator segregates wastes according to material type and places them into a container for collection in co-mingled form for transportation to a Materials Recycling Facility.

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Compost	A stable and pasteurised material, high in organic matter, which is the product of an aerobic composting process. Compost is suitable for the use as soil conditioner and can improve soil structure, water retention, aeration erosion control and other soil properties.
Compostable material	Domestic kitchen and garden organics.
Composting	A process whereby organic materials are pasteurised and microbially transformed under aerobic and thermophilic conditions for a period of not less than 6 weeks to form a mature product free of plant pathogens and weed seeds.
Coved	Concave curve of not less than 25 mm in the angles formed by the intersection of the floor of a Garbage and Recycling Enclosure /Room with walls and plinths.
Chute	Duct in which deposited material descends from one level to another within the building
Dwelling	A habitable building or property
Domestic Waste	Represents all household waste placed on the kerbside for collection by council or council contractors.
Garbage	Refuse or waste material other than trade waste, effluent, compostable material, green waste or recyclable material
Garbage and Recycling Enclosure	Storage facility for garbage and recycling receptacles. For the purposes of this guideline, a garbage and recycling enclosure is taken to be a detached structure within the property boundary.
Garbage and Recycling Room	Storage facility for garbage and recycling receptacles. For the purposes of this guideline, a garbage and recycling room is taken to be a room internal to a main building.
Green waste	Vegetative matter including trees, branches, shrubs, cuttings, law clipping, and untreated timber and wood products
Garden Organics	See green waste
Loading hopper	Device for receiving garbage and discharging it into a chute
Receptacle	Approved container, bin, or other device designed and used for reception and storage of garbage and recycling
Recyclable	Capable of being reprocessed into useable material or reused
Recycling	Materials collected separately for recycling. These include: Paper and cardboard; and Commingle containers such as glass, PET plastic, aluminium and steel cans.

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Refrigerated garbage room	Garbage room which is refrigerated by a cooling system
Service compartment	Compartment or separate room which gives access to the loading hopper and service opening
Service opening	Opening provided in a wall of a service compartment in which the loading hopper is fitted
Storey	Habitable floors excluding underground parking
Trade waste	Refuse or waste material arising from any trade or industry but excludes liquid waste, demolition waste, building waste, special waste, contaminated waste, recyclable waste, or green waste
Volume reduction equipment	Equipment that reduces the volume of material including shredding, pulverising, and compressing devices.
Waste bin	MGBs and bulk bins
Waste receptacle	Receptacle into which waste is placed within a dwelling.
Waste cupboard	Area within each dwelling for the storage of waste
Waste storage area	An area for the storage of waste receptacles within the property boundary.
Waste storage facility	Facility (or combination of areas) for the storage of waste bins. A waste storage facility includes Garbage and Recycling Enclosures and Rooms, Refrigerated Garbage Rooms, and waste storage areas.

1.6 Abbreviations

MGB	Mobile Garbage Bin
L	Litres
m ³	Cubic metre
AS	Australian Standard
DECCW	Department of Environment, Climate Change and Water
LGA	Local Government Area
≤	Less than or equal to
>	Greater than

2. Council's waste collection services

2.1 Domestic service

Council provides domestic waste management services as part of their statutory requirements under Section 496 of the *Local Government Act 1993*.

The service provided by Council is summarised in Table 2.

Table 2 Current domestic waste collection services

Service	Description	Composition
Domestic waste services		
GARBAGE SERVICE Weekly collection	<p>The weekly collection service is provided to all residents and is collected at the kerb on a specific weekday.</p> <p>Single dwelling residents have 140 L mobile bin.</p> <p>Residents of multi-unit dwellings are supplied with a 240 L bin which is shared between 2 dwellings. These bins are also collected from kerbside.</p> <p>Under special arrangement, Council will supply bulk bins to multi-unit developments and provide internal servicing. These services are provided where the collection of MGBs from the kerbside would be impractical due to the number of units within the development.</p> <p>Bulk bins from 1.0m³ to 3.0 m³ are serviced in some multi-unit dwellings.</p> <p>Current services are provided by a Contractor.</p>	All domestic wastes except recyclables and green waste.
RECYCLING SERVICE Fortnightly collection	<p>Single dwelling residents have 240 L mobile bin.</p> <p>A 240 L mobile bin is provided to each dwelling with units, townhouse and villa units sharing one between every two units.</p> <p>Current services are provided by a Contractor.</p>	<p>Recycling includes:</p> <ul style="list-style-type: none"> ▶ glass bottles and jars; ▶ PET, HDPE and PVC plastics ▶ Aluminium, aerosol, and steel cans ▶ milk and juice cartons ▶ soft drink, milk, and shampoo containers ▶ cardboard, junk mail, newspapers and magazines
GREEN WASTE SERVICE Fortnightly collection	<p>Green waste is collected from the kerbside fortnightly from single unit dwellings in 240L MGBs.</p> <p>Green waste services to multi-unit dwellings are determined based on need.</p> <p>Current services are provided by Randwick City Council Staff.</p>	<p>Green waste includes:</p> <ul style="list-style-type: none"> ▶ flowers; ▶ lawn clippings; ▶ leaves; ▶ twigs and prunings; and ▶ weeds.
CLEAN UP SERVICE	Bulky items are collected twice per year for each street. Residents can also	Up to one cubic metre of material (each

Section 2- Council's waste management services

Service	Description	Composition
Bi-annual plus two on call	request up to 2 additional 'on-call' collection services per year. Current services are provided by Randwick City Council Staff.	collection), preferably separated into two piles – metals, and non-metals.

Council's preferred collection point is the kerbside of a public road. However, in general, Council requires that no more than twenty 240 L MGB (or smaller) or five plastic 660 L bulk bins, from any one development be placed on the kerbside for collection. Where kerbside space is limited, Council may require fewer bins be placed at the kerbside. Where kerbside collection is not undertaken, provisions for onsite collection must be provided.

2.2 Commercial

In accordance with the business type adequate waste storage and a presentation area should be allocated for all commercial premises.

3. All Developments

3.1 General requirements

- i. All developments are to include the necessary provisions to enable Council to provide effective and efficient waste collection services to the development. Waste management provisions shall be constructed, arranged and equipped to meet the requirements of these guidelines.

3.2 Waste Management Plans

- i. A Waste Management Plan (WMP) must be completed and submitted to Council with the development application. The WMP is used to inform Council of the waste management arrangements incorporated into a proposed development. Waste management arrangements incorporated into proposed developments must be in accordance with these guidelines.

Waste Management Plan forms are provided in Appendix H. Examples of completed Waste Management Plan forms are provided in Appendix I.

3.3 Waste bins

- i. All garbage, recycling and green waste generated by a development are to be stored in the appropriate waste bins determined by Council.
- ii. For single unit dwellings the Council prefers the use of 140 L and 240 L bins for storage of garbage, recycling and green waste. Examples of bins provided by Council are shown in Figure 2 (240 L MGBs).



Figure 2 Randwick City Council's standard waste bins

- iii. For multi unit dwellings the Council provides 240 L bins for storage of garbage, recycling and green waste. However, bulk bins up to 1.1 m³ for garbage may be more appropriate for use in some

developments. Council must approve the use of bulk bins in developments where their use has not been recommended in these guidelines.

3.4 Waste storage

3.4.1 Waste storage facility and location

- i. All developments shall be provided with a waste storage facility for the storage of garbage, recycling and green waste in appropriate bins.
- ii. The waste storage facility shall be located entirely within each property boundary.
- iii. Waste storage facilities shall be located in positions that will:
 - ▶ Permit easy, direct and convenient access for the users of the facility; and
 - ▶ Permit easy transfer of bins to the kerbside or to the onsite collection point.
- iv. The waste storage facility is to be located in a suitable location so as to avoid vandalism, nuisance and visual clutter.
- v. The waste storage facility should not be located between the front alignment of the building and the road.
- vi. The waste storage facility must comply with the Building Code of Australia (BCA) and relevant Australian Standards.
- vii. Council approved signage shall be used in all communal waste storage facilities to inform users of the appropriate bins for disposing of waste and guidance for the separation of garbage, recyclables and green waste.

3.4.2 Storage space

- i. Sufficient space must be provided in all developments for all equipment to handle, store and transfer to the collection point the waste likely to be generated on each premises;
- ii. The space allocated must be sufficient to store, in separate bins, the volume of garbage and recycling (and green waste where appropriate) likely to be generated at the development during the period between collections;
- iii. Where onsite collection of waste is proposed, space for the placement of bulky items suitable for collection on Clean –Up days, shall be provided adjacent to the waste storage facility;

- iv. Council supports composting. Space for composting facilities should be provided in all developments where possible. Composting areas should be located in consideration of:
 - ▶ the positioning of dwellings (onsite and in adjoining properties);
 - ▶ potential for odour generation; and
 - ▶ the location of the site drainage.
- v. Space, with the capacity to store at least 1-days worth of waste, must be allocated inside each residence.

3.5 Waste collection

3.5.1 Collection point

- i. Waste will only be collected from the nominated Collection Point. Council's standard collection point is the kerbside of public roads. Kerbside collection points must not be located in narrow lanes, near roundabouts or intersections;
- ii. Council may require a proposed development to contain an onsite collection point. An onsite collection may be required by Council where:
 - ▶ there is insufficient space on the kerbside to temporarily place bins for waste collection;
 - ▶ collection of waste from the kerbside would be unsafe;
 - ▶ collection of waste from the kerbside would cause significant traffic disruptions;
 - ▶ collection of waste from the kerbside would occur in an excessively restrictive area; or
 - ▶ Council considers kerbside collection inappropriate.
- iii. Onsite collection points shall be located:
 - ▶ So that collection vehicles do not interfere with the use of access driveways, loading bays or parking bays during collections;
 - ▶ Close to waste storage facilities to permit easy transfer of bins to the collection point;
 - ▶ In a relatively flat area and on the same level as the collection vehicle (ie bins should not be placed for collection on elevated loading bays or nature strips / footpaths); and
 - ▶ In a position that provides collection vehicles safe access to the collection point and has adequate clearance and manoeuvring space;

3.5.2 Access for residents

- i. Residents should only be required to transport the waste bins a reasonable distance to the collection point. When determining a reasonable distance, the following should be considered as a minimum:
 - ▶ Whether the development is for aged persons and persons with restricted mobility;
 - ▶ Appropriate gradient of traverse (recommended maximum 1:10);
 - ▶ The capacity/volume of the bins;
 - ▶ The compaction of waste in the bins.
- ii. The path over which bins are to be transferred from the waste storage facility to the collection point should be free of lips, steps and other obstacles. Bins should not have to be moved through the inside of dwellings to reach the collection point.

3.5.3 Access for Collection Vehicles

- i. Where collection vehicles are required to enter private property to collect waste, adequate vehicle clearance is required. Collection vehicles must be able to enter and exit a property in a forward direction.
- ii. Property owners must indemnify Council and its waste collection contractor against damage to private property prior to the commencement of onsite waste collection services to the development.

3.6 Noise

- i. The ground area of the pathway between the bin storage and collection area should be of a smooth finish that enables easy movement of bins and minimises noise from bin movements.

3.7 Amenity

- i. The potential for noise, odour and visual impacts from waste and recycling storage and collection must be minimised.
- ii. All waste management facilities must be adequately screened and shall not be readily visible from any public place.

3.8 Lighting

- i. Lighting must be provided for Garbage and Recycling Enclosures / Rooms in accordance with the relevant Australian Standards and the Building Code of Australia to enable safe and appropriate disposal of waste at all times.

3.9 Ventilation

- i. Garbage and recycling Enclosures / Rooms shall be ventilated by:
 - ▶ An approved system of mechanical exhaust ventilation in accordance with the requirements of the Building Code of Australia and AS 1668.2; or
 - ▶ Permanent, unobstructed natural ventilation openings, direct to the external air, having an aggregate of not less than one-twentieth (1/20) the floor area, and providing cross-ventilation.
- ii. Ventilation openings should be protected against flies and vermin and located as near the ceiling and floor as possible, but away from the windows of dwellings.

3.10 Safety

- i. Storage areas should be designed to prevent theft and vandalism.
- ii. Internal waste storage areas must be fire isolated and fitted with fire alarms or fire sprinklers in accordance with the requirements of the Building Code of Australia.
- iii. Adequate weather protection of waste management facilities should be provided where appropriate.
- iv. Doorways on garbage storage areas housing bulk bins should be fitted with galvanised angle iron to protect them against potential damage caused from bin movements in and out of the area.

3.11 Special waste

- i. Arrangements for storage and collection of special wastes (medical waste and household hazardous chemical wastes) should be made after consulting with Council and the Department of Environment, Climate Change and Water.

4. Single and dual occupancy dwellings

4.1 Outline of dwelling type



Figure 3 Single dwelling (one storey)

A single dwelling, as considered in these guidelines, is a property that contains a single residence, typically one or two storeys high.

A dual occupancy dwelling, as considered in these guidelines, is a property that contains two (but no more than two) dwellings. The dwellings are typically single storey semi detached or fully detached.

Examples of single unit dwellings in Randwick LGA are shown in Figures 3 and 4.

4.2 Council's Standard Services

4.2.1 Waste bins

Council will provide each single unit dwelling and dual occupancy dwelling with the following waste bins:

- ▶ one 140 L MGB each or one 240 L MGB shared for garbage;
- ▶ one 240 L MGB each or shared for recycling; and
- ▶ one 240 L MGB each or shared for green waste.



Figure 4 Single dwelling (two storeys)

4.2.2 Collection service

Council's standard waste service for single unit and dual occupancy dwellings includes:

Waste stream	Collection frequency	Standard collection point
Garbage	Weekly	Kerbside
Recycling	Fortnightly	Kerbside
Green waste	Fortnightly	Kerbside
Clean-up	Four times per year (two scheduled and two on-call)	Kerbside

Council's standard collection point, for single unit and dual occupancy dwellings, is the kerbside of public roads.

4.3 Waste storage requirements

4.3.1 Storage facility and location

- i. The storage of waste bins shall be in a Waste Storage Area.

Section 4 - Single and dual occupancy dwellings

- ii. Where possible, Waste Storage Areas should be located at the rear of yards or specific areas incorporated into garages or carports where appropriately screened.

4.3.2 Storage Space

Waste generation rates

- i. For single unit dwellings and dual occupancy dwellings, the amount of storage space required in the Waste Storage Area is to be based on the following waste generation rates:
 - ▶ 140 L/week garbage;
 - ▶ 120 L/week recycling;
 - ▶ 120 L/week green waste.

Storage outside dwelling

- ii. The Waste Storage Area in each dwelling will require a minimum area of approximately 1.8 m x 0.8 m for storage of a garbage, recycling, and green waste bins.

4.4 Example development layouts

Example layouts of waste storage arrangements and collection points in single unit dwellings are shown in Figure 5.

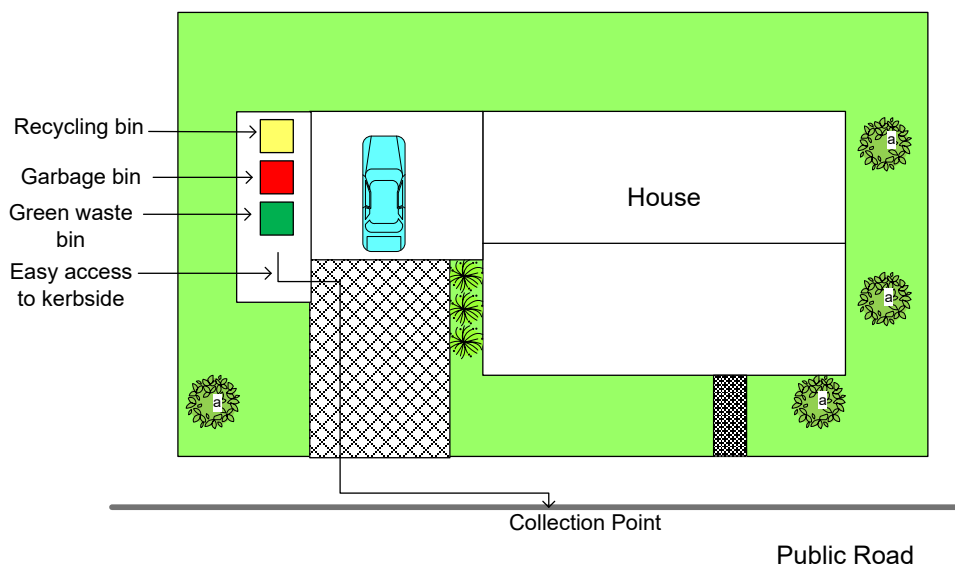


Figure 5 Example layout - single dwelling

5. Villas and Town Houses



Figure 6 Villa / townhouse development

5.1 Outline of dwelling type

Villas and Town Houses, as considered in these Guidelines, are defined in Section 1.3 as those dwellings, typically one or two storeys high, where there are three or more dwellings on the same parcel/s of land.

An example of a villa / townhouse development in Randwick LGA is shown in Figure 6.

5.2 Council's Standard Service

5.2.1 Waste bins

Council will provide each villa or townhouse with the following waste bins:

If bins are stored in each residence:

- ▶ one 140 L MGB for garbage;
- ▶ one 240 L Split MGB for recycling; and
- ▶ one 240 L MGB for green waste.

If bins are stored in a communal storage compartment:

- ▶ one 240 L MGB for garbage, on a ratio of one bin per two units;
- ▶ one 240 L Split MGB for recycling, on a ratio of one bin per two units;
- ▶ one 240 L MGB for green waste, on a ratio of one bin per two units.

5.2.2 Collection service

Council's standard waste service for villa and townhouse developments includes:

Waste stream	Collection frequency	Standard collection point
Garbage	Weekly	Kerbside
Recycling	Fortnightly	Kerbside
Green waste (if provided)	Fortnightly	Kerbside
Clean-up	Four times per year (two scheduled and two on-call)	Kerbside

Council's standard collection point, for villas and townhouses, is the kerbside of public roads.

5.3 Waste storage requirements

5.3.1 Storage facilities and location

- i. The storage of waste bins shall be in:
 - ▶ a Waste Storage Area (allocated within each residence); or
 - ▶ a Garbage and Recycling Enclosure (typically a centralised communal compound external to the villas and townhouses).
- ii. A Garbage and Recycling Enclosure should be used where:
 - ▶ there is insufficient space for separate storage of waste bins within individual dwellings;
 - ▶ design makes it difficult to transfer bins for all dwellings to the kerbside collection point;
 - ▶ there is insufficient space on the kerbside for the temporary storage of bins prior to waste collection (in a Garbage and Recycling Enclosure, bins are typically shared between units and therefore the total number of bins used by a development is minimised); or
 - ▶ traffic and/or access conditions at the kerbside create difficult operating conditions for waste collectors creating a need for onsite collection.
- iii. Waste Storage Area should be located within rear yards or specific areas incorporated into garages or carports.

5.3.2 Storage Space

Waste generation rates

- i. For villas and townhouses, storage space estimates are to be based on the following waste generation rates:
 - ▶ 120 L/week garbage;
 - ▶ 60 L/week recycling;
 - ▶ 60 L/week green waste.

Storage outside dwellings

- i. Where a Waste Storage Area is to be provided in each dwelling, an area of approximately 1.8m x 0.8m is required for the storage of 140L garbage, 240L recycling, and a 240L green waste bin.
- ii. Where a Garbage and Recycling Enclosure is provided, sufficient space must be provided in the Garbage and Recycling Enclosure to adequately house all 240L bins needed to store all garbage, recycling and green waste arising from the premises.

Section 5 - Villas and Town Houses

5.4 Example development layouts

Example layouts of waste storage arrangements and collection points in villa and townhouse developments are shown in Figure 7.

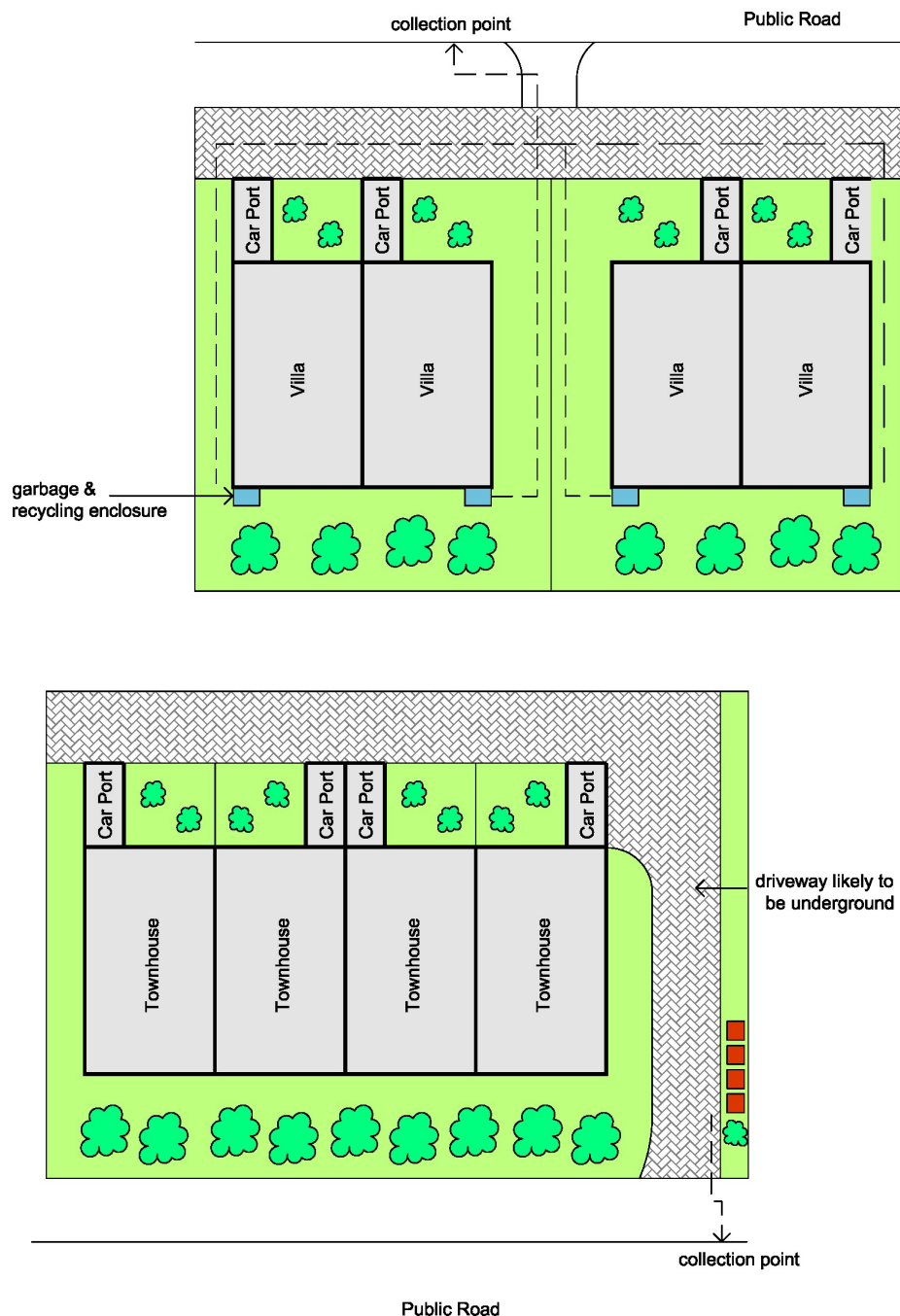


Figure 7 Example layout - Villa / Townhouse development.

6. Medium-Rise Developments

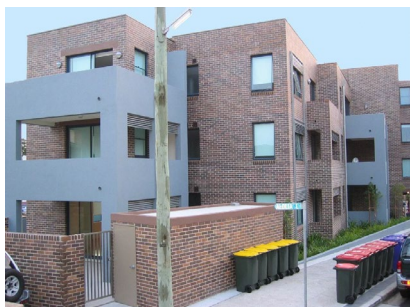


Figure 8 Medium-rise development

6.1 Outline of dwelling type

Medium-rise developments or 2 - 3 storey walk-ups as considered in these Guidelines are defined in Section 1.3.

An example of a medium-rise development in the Randwick LGA is shown in Figure 8. See Section 12 for mixed developments.

6.2 Council's standard services

6.2.1 Waste bins

Council will provide the following receptacles to medium-rise developments:

- ▶ One 240L MGB for garbage, on a ratio of one bin per two dwellings;
- ▶ One 240L MGB for recycling, on a ratio of one bin per two dwellings.

Council may provide a green waste bin (240 L MGB) to medium-rise developments where it is requested by residents and approved by Council, or where it is deemed to be required by Council. Provision of a green waste service should be discussed with Council prior to submitting a development application.

6.2.2 Collection service

Council's standard waste collection service for medium-rise developments is as follows:

Waste stream	Collection frequency	Preferred collection point
Garbage	Weekly	Kerbside where adequate kerbside space exists, otherwise onsite collection is required.
Recycling	Fortnightly	
Green waste (if provided)	Fortnightly	
Clean-up	Four times per year (two scheduled and two on-call)	

The standard collection point is the kerbside of public roads. In certain circumstances, Council may require a proposed development to have an onsite collection point.

6.3 Waste storage requirements

6.3.1 Storage facilities and location

- i. Storage of waste bins shall be in:
 - ▶ a Garbage and Recycling Enclosure (typically a centralised communal compound located to the rear or side of the property); or alternatively
 - ▶ a Garbage and Recycling Room (typically a communal room located within the main building's undercroft or subbasement).

6.3.2 Storage space

Waste generation rates

- i. For medium-rise developments, storage space estimates are to be based on the following waste generation rates:
 - ▶ 120 L/week garbage;
 - ▶ 60 L/week recycling;
 - ▶ 60 L/week green waste.

Storage in waste storage facility

- i. Space shall be provided in the Garbage and Recycling Enclosure / Room for the storage of all waste bins.
- ii. Where onsite collection is to occur, an area for the placement of bulky items suitable for collection during Clean Up days shall be provided in the Garbage and Recycling Enclosure / Room.

6.4 Example development layouts

Example layouts of low-rise developments containing Garbage and Recycling Enclosures/ Rooms are shown in Figure 9.

Section 6 - Medium-Rise Developments

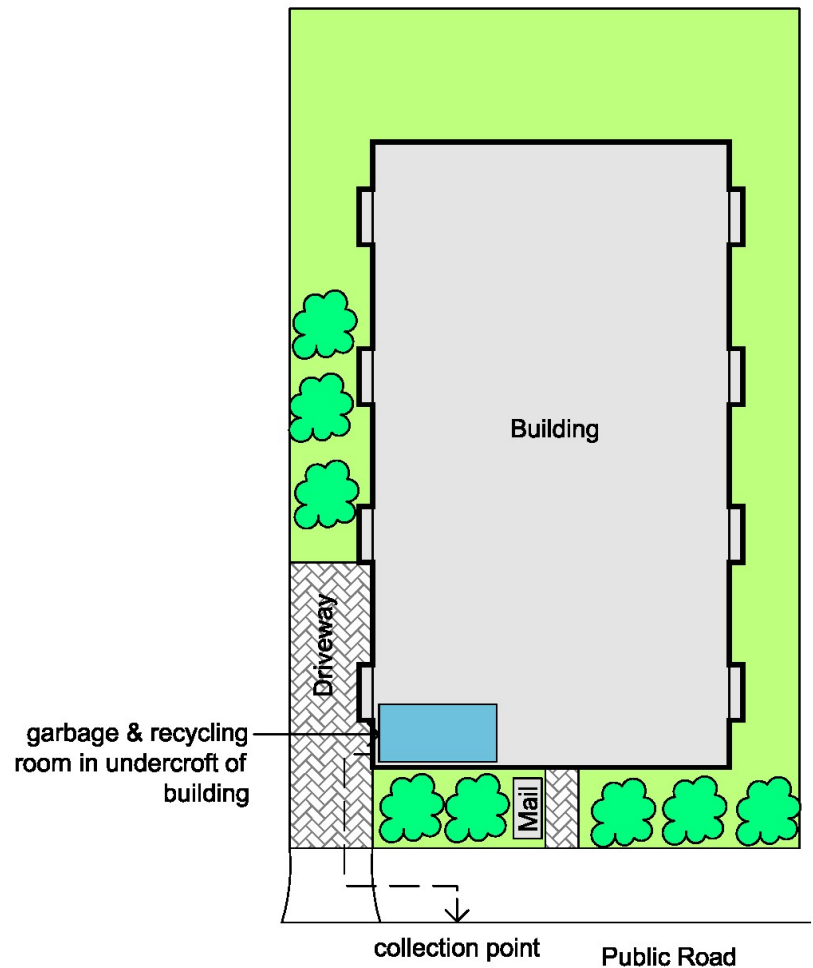


Figure 9 Example layout - low-rise development

Section 7 - Residential Blocks (between 4 and 6 storeys)

7. Residential Blocks (between 4 and 6 storeys)



Figure 10 Residential Block

7.1 Outline of dwelling type

Residential blocks as considered in these guidelines are defined in Section 1.4.2 as blocks between four and seven storeys high.

An example of a residential block located within Randwick LGA is shown in Figure 14.

7.2 Council's Standard Services

7.2.1 Waste bins

For Residential Blocks, Council prefers the use of:

For garbage

- ▶ one 240L MGB, on a ratio of one bin per two (2) units; or
- ▶ 660 L bulk bin, based on garbage generation rate 120L/unit; or
- ▶ 1.1 m³ bulk bins based on garbage generation rate 120L/unit; and

For recycling

- ▶ One 240L MGB, on a ratio of one bin per two units; and

For green waste

Council may provide a green waste bin (240 L MGB on a ratio of one bin per two units) to Residential Blocks where it is requested by residents and approved by Council, or where it is deemed to be required by Council. Requirements for provision of a green waste service should be discussed with Council prior to submitting a development application.

7.2.2 Collection service

Council's standard waste collection service for residential developments is as follows:

Section 7 - Residential Blocks (between 4 and 6 storeys)

Waste stream	Collection frequency	Preferred collection point
Garbage	Weekly	Kerbside for MGBs or 660 L bulk bins where adequate kerbside space exists, otherwise onsite collection is required.
Recycling	Fortnightly	
Green waste (if provided)	Fortnightly	
Clean-up	Four times per year (two scheduled and two at call)	

The standard collection point for MGBs and 660 L bulk bins is the kerbside of public roads. In certain circumstances, Council may require a proposed development to have an onsite collection point for MGBs and 660 L plastic bulk bins.

7.3 Waste storage requirements

7.3.1 Storage facilities and location

- Storage of waste bins shall be in a Garbage and Recycling Room (typically a communal room located within the main building's undercroft, subbasement, internal basement car park).
- Space for the storage of recycling in bins is to be provided in the service compartments on each floor.
- Council may approve alternative proposed waste storage facility arrangements. Developers should consult Council when proposing an alternative.

7.3.2 Waste handling within development

- All residential block developments with four (4) or more habitable storeys shall contain a waste chute/s.
- Garbage compaction equipment shall be used in residential block developments where there are more than twenty (20) units proposed.

7.3.3 Storage space

Waste generation rates

- For Residential Block developments, storage space estimates are to be based on the following waste generation rates:

Section 7 - Residential Blocks (between 4 and 6 storeys)

- ▶ 120 L/week garbage;
- ▶ 60 L/week recycling.

Storage within waste storage facility

- ii. Space shall be provided in the Garbage and Recycling Room for the storage of all waste handling and compaction equipment, and waste bins. An area for the storage of bulky items suitable for collection during Clean Up days shall also be provided.

7.4 Example development layout

An example layout of a residential block development containing a Garbage and Recycling Room is shown in Figure 11.

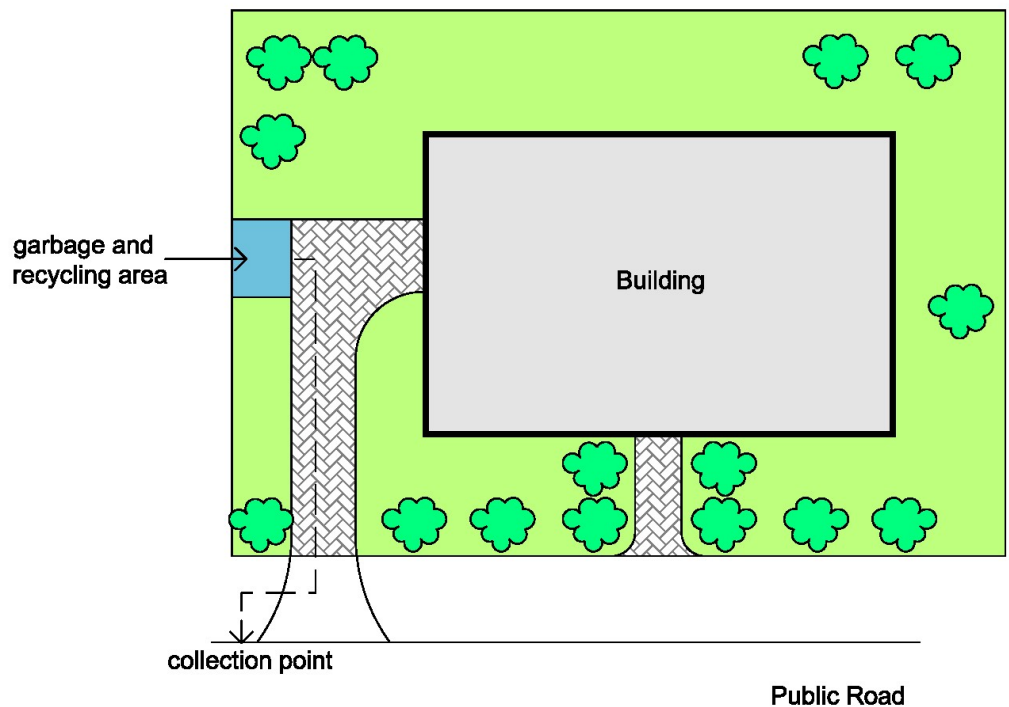


Figure 11 Example layout - residential block

8. High-Rise Towers (greater than 6 storeys)



Figure 12 High-rise development

8.1 Outline of dwelling type

High-Rise Tower developments, as considered in these Guidelines, are residential block developments greater than 6 storeys and are defined in Section 1.3.

An example of a High-Rise development located within Randwick LGA is shown in Figure 16.

8.2 Council's Standard Services

8.2.1 Waste bins

For High-Rise Tower developments, Council prefers the use of:

For garbage

- ▶ one 240 L MGB, on a ratio of one bin per two (2) units; or
- ▶ one 660 L bulk bins, based on garbage generation rate 120L/unit; or
- ▶ one 1.1 m³ bulk bins based on garbage generation rate 120L/unit; and

For recycling

- ▶ one 240L MGB for recycling, on a ratio of one bin per two (2) units.

For Green waste

Council may provide a green waste bin (240 L MGB) to high-rise developments where it is requested by residents and approved by Council, or where it is deemed to be required by Council. Requirements for provision of a green waste service should be discussed with Council prior to submitting a development application.

8.2.2 Collection service

Council's standard waste collection service for residential developments is as follows:

Waste stream	Collection frequency	Preferred collection point
Garbage	Weekly	Kerbside for MGBs or plastic 660 L bulk bins where adequate kerbside space exists, otherwise onsite
Recycling	Fortnightly	
Green waste (if provided)	Fortnightly	

Section 8 – High Rise Developments

Waste stream	Collection frequency	Preferred collection point
Clean-up	Four times per year (two scheduled and two at call)	collection is required.

The standard collection point for MGBs and 660 L plastic bulk bins is the kerbside of public roads. In certain circumstances, Council may require a proposed development to have an onsite collection point for MGBs and 660 L plastic bulk bins. Waste from all other bins is to be collected from onsite collection points.

8.3 Waste storage requirements

8.3.1 Storage facilities and location

- i. Storage of waste bins shall be in a Garbage and Recycling Room.
- ii. Space for the storage of recycling in bins is to be provided in the service compartments on each floor.
- iii. Council may approve alternative proposed waste storage facility arrangements. Applicants should consult Council when proposing an alternative waste storage facility arrangement.

8.3.2 Waste handling within development

- i. All High-Rise developments shall contain a waste chute/s.
- ii. A service lift should also be provided in High-Rise developments for the transfer of recycling bins from service compartments to the waste storage facility. Developers should consult with Council where a service lift is not proposed.
- iii. Garbage compaction equipment shall be used in High-Rise Tower developments where more than twenty (20) units are proposed.

8.3.3 Storage space

Waste generation rates

- i. For high-rise developments, storage space estimates are to be based on the following waste generation rates:
 - ▶ 120 L/week garbage;
 - ▶ 60 L/week recycling.

Storage outside dwellings

- ii. Space shall be provided in the Garbage and Recycling Room for the storage of all waste handling and compaction equipment, and

Section 8 – High Rise Developments

waste bins. An area for the storage of bulky items suitable for collection during Clean Up days shall also be provided.

8.4 Example waste management infrastructure for High-Rise Tower developments

In example of a chute and service lift system in a high-rise development is provided in Figure 13.

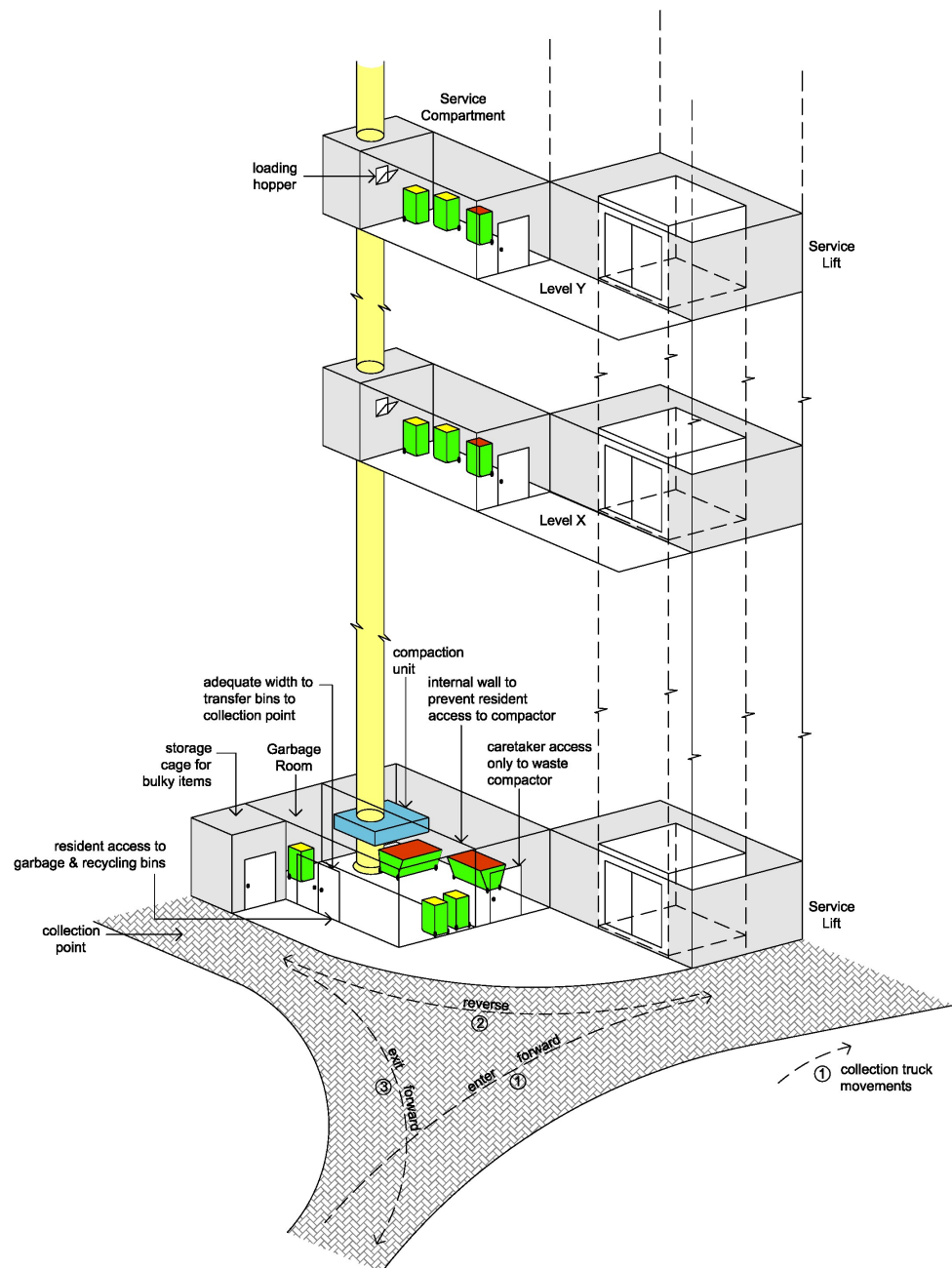


Figure 13 Example layout - high-rise development

9. Commercial Developments

9.1 Outline of development

Commercial developments as considered in these Guidelines are defined in Section 1.3. Also see Section 12 for mixed developments.

Commercial developments in Randwick LGA range from small retail and food outlets (typically with a street frontage) to large developments such as shopping centres, warehouses, retail outlets and light industrial developments.

9.2 Council's standard service

9.2.1 Waste bins

Council collects commercial waste from bins of varying sizes depending on the needs of each commercial operation. Council prefers commercial customers to utilise 120 L or 240 L MGBs.

9.2.2 Collection service

Council operates a commercial waste collection service that offers collection of garbage up to 7 days per week.

The commercial service includes:

- ▶ A garbage collection service; and
- ▶ A paper and cardboard collection service.

Other recycling and green waste services are not offered by Council to commercial customers. Other waste collection providers may offer these services and should be consulted when determining waste provisions.

Council's standard waste collection service for commercial developments includes:

Waste stream	Collection frequency	Standard collection point
Garbage	Up to 7 days per week	Kerbside (preferred) or onsite (where approved or required by Council)
Cardboard recycling	Up to 7 days per week	Kerbside (preferred) or onsite (where approved or required by Council)

Development applicants should contact Council to discuss commercial waste servicing arrangements prior to submitting the development application.

Section 9 – Commercial Developments

Commercial developments that would generate significant quantities of recyclable materials (such as glass bottles) are strongly encouraged to include provisions to allow these recyclable materials to be separated, stored onsite and collected by a private waste contractor. Council is able to provide help with building designs to facilitate commercial recycling.

9.3 Waste storage requirements

9.3.1 Storage facilities and location

- i. Storage of waste bins shall be in:
 - ▶ An onsite storage area (for smaller developments typically requiring space up to three 240 L MGBs; or
 - ▶ A Garbage and Recycling Enclosure; or
 - ▶ A Garbage and Recycling Room; or
 - ▶ A Refrigerated Garbage Room.
- ii. Refrigerated garbage rooms shall be provided where large quantities of perishable wastes are generated.
- iii. Where multiple tenant commercial developments are proposed, communal waste storage facilities should be provided.

9.3.2 Waste handling within development

Service lifts

- i. For multi storey commercial developments, a separate service lift (or goods lift) shall be provided to transfer waste from the various building floors to the waste storage facility.

Compaction equipment

- ii. Consideration should be given to the use of garbage and/or cardboard compaction equipment in commercial developments. Compaction equipment should be located in the Garbage and Recycling Room.

9.3.3 Storage space

Waste generation rates

- i. The commercial waste generation rates provided in **Appendix A** shall be used to estimate the required space for the storage of all wastes arising from a commercial premise. The size of a waste storage facility should be calculated based on estimated waste generation rates, proposed bin capacities and collection frequencies.

Section 9 – Commercial Developments

Service lifts

- ii. Service lifts shall have sufficient space to easily transfer at least two loaded waste bins per transfer from the floors to the waste storage facility.

Storage areas on each floor

- iii. Sufficient space should be allowed in a service compartment on each level for the storage of sufficient bins required to store at least one day's waste generated on each floor of the development.

Storage within waste storage facility

- iv. Space shall be provided in the waste storage facility for the storage of all waste handling and compact equipment, and waste bins required to store all waste generated by the development between collections.
- v. The provision of space for the source separation and storage of commercial garbage and recycling should be included in all commercial developments.

9.4 Requirements for particular commercial developments

9.4.1 Restaurants, Food Retailers, Cafes, Clubs, Takeaways, Supermarkets, Shopping Centres, Hostels, Hotels, Motels, Serviced Apartments and Institutional Premises

- i. Space shall be allocated for source separation and storage of recyclable materials such as plastics, metals (eg steel and aluminium cans) cardboard, glass and organic wastes.
- ii. Space must be allocated for the separate storage of waste cooking oil when used in a development. The waste cooking oil storage area must be bunded and drain to a grease trap.
- iii. Frequent waste collections must be arranged from premises that generate significant quantities of perishable wastes.
- iv. Individual restaurants, clubs, and hotels that generate significant amounts of waste and recyclables must have a separate, dedicated Garbage and Recycling Rooms (separate from any other commercial unit within the property).
- v. For small food outlets such as street front restaurants and cafes, the waste storage facility shall have sufficient space for the separate collection of garbage and cardboard. Space for storage of recycling (such as glass and plastics) should be considered.
- vi. Grease trap waste must only be removed by appropriately licensed waste contractors and in accordance with the

Section 9 – Commercial Developments

requirements of Sydney Water and the Department of Environment, Climate Change and Water. If the grease arrestor room does not have access from the street, provision must be made for a waste line to the boundary alignment to allow pumping from the street.

9.4.2 Offices

- i. In addition to general space requirements for garbage and recycling (see Section 9.3) provision must be made on each office floor and in the waste storage area for the separation and storage of all recyclable cardboard, paper, and paper products that are likely to be generated on the premises.

9.4.3 Health care facilities

- i. Waste storage and handling must be in accordance with requirements of NSW Health (see Waste Management Guidelines for Health Care Facilities, 1998).
- ii. The waste storage facility must allow for the separate storage of:
 - ▶ Clinical, hazardous and related wastes;
 - ▶ Garbage and recycling.
- iii. There must be clear physical separation of clinical and related wastes from garbage and recyclable materials at all times.
- iv. Clinical and related wastes must be stored in appropriately colour-coded containers, clearly labelled according to the NSW Health Waste Management Guidelines for Health Care Facilities, 1998.
- v. All waste generated from health care facilities must be managed in accordance with the *Environmental Guidelines: Assessment and classification of liquid and non liquid wastes* (EPA, 1999).

9.4.4 Retail (non-food)

- i. For multi storey retail outlets, a dedicated service compartment must be provided on each storey of the building. Space shall be provided in the service compartment to store at least one day's generation of garbage and recycling on each floor.
- ii. In multi tenanted buildings, a communal Garbage and Recycling Room shall be considered.
- iii. Provision must be made for the separation of cardboard for recycling in the waste service compartments and in the centralised Garbage and Recycling Room.

Section 9 – Commercial Developments

- iv. If more than 10m³ of garbage and recycling is likely to be generated per day, then the central Garbage and Recycling Room must be separate from any goods receipt dock, and waste reduction equipment must be used to compact garbage.

Note: Change of Use

Proposals for change of use must have regard to the above and show how the intent of these guidelines can be met with alternative proposals.

10. Recreational facilities

10.1 Outline of development

Recreational facilities as considered in these Guidelines are defined in Section 1.3.

Examples of recreational facilities located within Randwick include (see Figures 14 and 15):

- ▶ Sporting clubs (tenpin bowl alleys, lawn bowls, croquet, golf, tennis, football and rugby clubs);
- ▶ Gymnasiums;
- ▶ Surf lifesaver clubs;
- ▶ Dance halls; and
- ▶ Baths.

10.2 Council's Standard Service

The waste generated by recreational facilities is considered as commercial waste. Recreational facilities can therefore utilise Council's commercial waste collection service.

Council's commercial waste collection service is described in Section 9.2.

Recreational facilities that generate significant quantities of recyclable materials (such as glass bottles) are strongly encouraged to engage a private waste contractor to collect and recycle these materials.

10.3 Waste storage requirements

10.3.1 Storage facilities and location

- iv. Storage of waste bins shall be in:
 - ▶ An onsite storage area (for smaller developments typically requiring space up to three 240 L MGBs; or
 - ▶ A Garbage and Recycling Enclosure; or
 - ▶ A Garbage and Recycling Room; or
 - ▶ A Refrigerated Garbage Room.
- v. Refrigerated garbage rooms shall be provided where large quantities of perishable wastes are generated.
- vi. Where multiple tenant recreational developments are proposed, communal waste storage facilities should be provided.



Figure 14 Recreational facility (bowling club)



Figure 15 Recreational facility (tennis club)

Section 10 – Recreational facilities

10.3.2 Waste handling within development

Service lifts

- i. For multi storey recreational developments, a separate service lift (or goods lift) shall be provided to transfer waste from the various building floors to the waste storage facility. Service lifts / passenger lifts shall have sufficient space to easily transfer at least two loaded waste bins (240 L MGBs) together from the floors to the waste storage facility.

Compaction equipment

- ii. Consideration should be given to the use of garbage and/or cardboard compaction equipment in recreational developments. Compaction equipment should be located in the Garbage and Recycling Room.

10.3.3 Storage space

Waste generation rates

- i. Waste generation rates for recreational facilities should be based on industry standards and the commercial waste generation rates provided in Appendix A where appropriate.

Service lifts

- vi. Service lifts shall have sufficient space to easily transfer at least two loaded waste bins per transfer from the floors to the waste storage facility.

Storage areas on each floor

- vii. Sufficient space should be allowed in a service compartment on each level for the storage of sufficient bins required to store at least one day's waste generated on each floor of the development.

Storage within waste storage facility

- viii. Space shall be provided in the waste storage facility for the storage of all waste handling and compact equipment, and waste bins required to store all waste generated by the development between collections.
- ix. The provision of space for the source separation and storage of commercial garbage and recycling should be included in all recreational developments.

11. Educational facilities

11.1 Outline of development

Educational facilities as considered in these Guidelines are defined in Section 1.3.

Examples of educational facilities located within Randwick include:

- ▶ Child care centres;
- ▶ Primary schools;
- ▶ Secondary schools;
- ▶ Tertiary educational facilities (eg. Universities and TAFE Colleges).

Many educational facilities contain food outlets, gymnasiums and other retail outlets.

11.2 Council's Standard Service

Waste generated by educational facilities is commercial waste.

Educational facilities can therefore utilise Council's commercial waste collection service.

Council's commercial waste collection service is described in Section 9.2.

Bins that are typically used by educational facilities include MGBs and / or bulk bins. Council prefer the use of 240 L MGBs, placed at the kerbside for waste collection.

Bin should be chosen that are appropriate for the type of waste generated. For example, bulky wastes such as automotive parts require bulk bins for disposal or recycling, whereas paper generated in computing classrooms may be best recycled using MGBs of 140L capacity.

11.3 Waste storage requirements

11.3.1 Storage facility and location

- i. The storage of waste bins shall be in:
 - ▶ An onsite storage area (for smaller developments typically requiring space for two or three 240 L bins); or
 - ▶ A Garbage and Recycling Enclosure; or
 - ▶ A Garbage and Recycling Room; or
 - ▶ A Refrigerated Garbage Room.

Section 11 – Educational Facilities

- ii. Storage of garbage and recycling bins will vary according to the type of teaching activity that occurs within the facility, and the number of students and staff. A number of waste storage areas may be appropriate.
- iii. Refrigerated garbage rooms shall be provided where there are large quantities of perishable wastes and infrequent collections.

11.3.2 Waste handling within educational facilities

Service lifts

- i. For multi storey educational facilities, a service lift (or goods lift) shall be provided to transfer waste from the various building floors to the waste storage facility. Service lifts / passenger lifts shall have sufficient space to easily transfer at least two loaded waste bins (240 L MGBs) together from the floors to the waste storage facility.

Compaction equipment

- ii. Consideration should be given to the use of garbage compaction units and cardboard compaction units in educational facilities where volumes of generated garbage and cardboard are likely to be significant.

11.3.3 Storage space

Waste generation rates

- i. Waste generation rates provided in **Appendix A** should be used as a guide when estimating the required space for the storage of all wastes arising from an educational facility.
- ii. The space requirements for the waste storage facility should be determined by considering estimated waste generation rates, proposed bin capacities and collection frequencies. Calculation of waste generation rates should also be based on industry standards.

Storage areas on each floor

- iii. Space must be provided on each floor for temporary storage of garbage and recyclables, such as recyclable cardboard, paper, and paper products, prior to transfer to the waste storage facility.

Storage within educational facilities

- iv. All wastes generated at an educational facility shall be stored in appropriately sized bins in the waste storage facility.
- v. The use of compaction equipment should be considered for the compaction of garbage and, paper and cardboard recycling.

Section 11 – Educational Facilities

- vi. Sufficient space should be allocated in each classroom / teaching area for management of recyclables as appropriate. For example, each desk-based teaching classroom or lecture theatre should have sufficient space for a paper recycling bin, hospitality cooking rooms should have provisions for metal and plastics recycling, etc.
- vii. Examples of typical recyclables for different teaching areas are provided below, these are provided as a guide only. The development applicant should consider the type of teaching activity to be carried out in each area when determining appropriate space to allow for recycling.

Type of activity	Potential recyclables
General – all educational facilities	Paper and cardboard
Cafeteria/eatery	Recyclable containers (aluminium, PET, HDPE) Glass
Administration areas	Paper and cardboard Printer toners
Business studies, commerce, mathematics, general classroom work etc	Paper and cardboard Printer toners
Computing, engineering	Paper and cardboard Printer toners Metals Computer parts
Hospitality	Food waste (including waste oil) Plastic containers Glass Metal
Engineering, trades such as plumbing, electrical work, metalwork, automotive, etc	Metal
Science laboratories	Glass
Textiles and design	Textiles – can be recycled via programs such as “Reverse Garbage” (http://www.reversegarbage.org.au/)
Woodwork	Sawdust – can be recycled where there are composting facilities Untreated wood offcuts – may be able to be collected by organic waste processor

11.4 Example development layouts

Example layout of a preschool and a secondary school are shown in Figures 16 and 17.

Section 11 – Educational Facilities

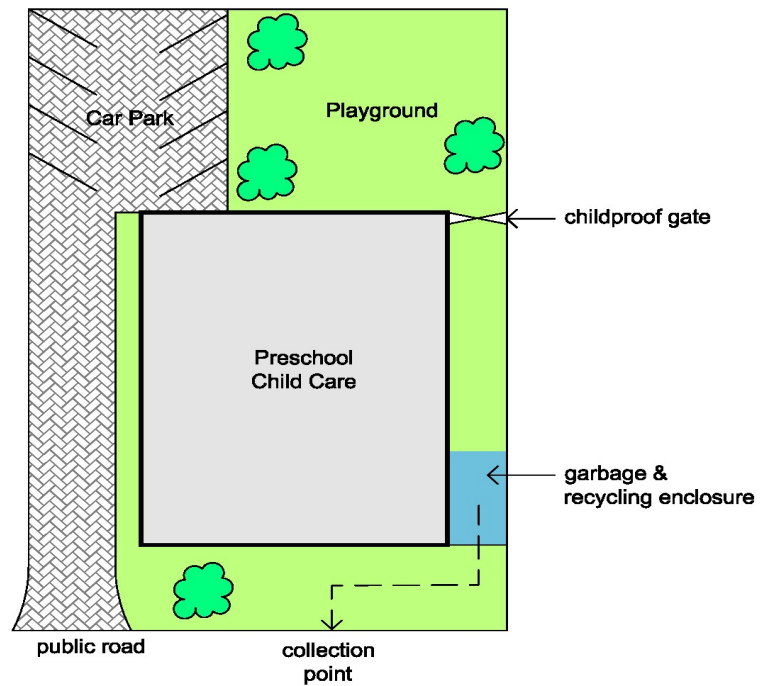


Figure 16 Example layout – Pre school

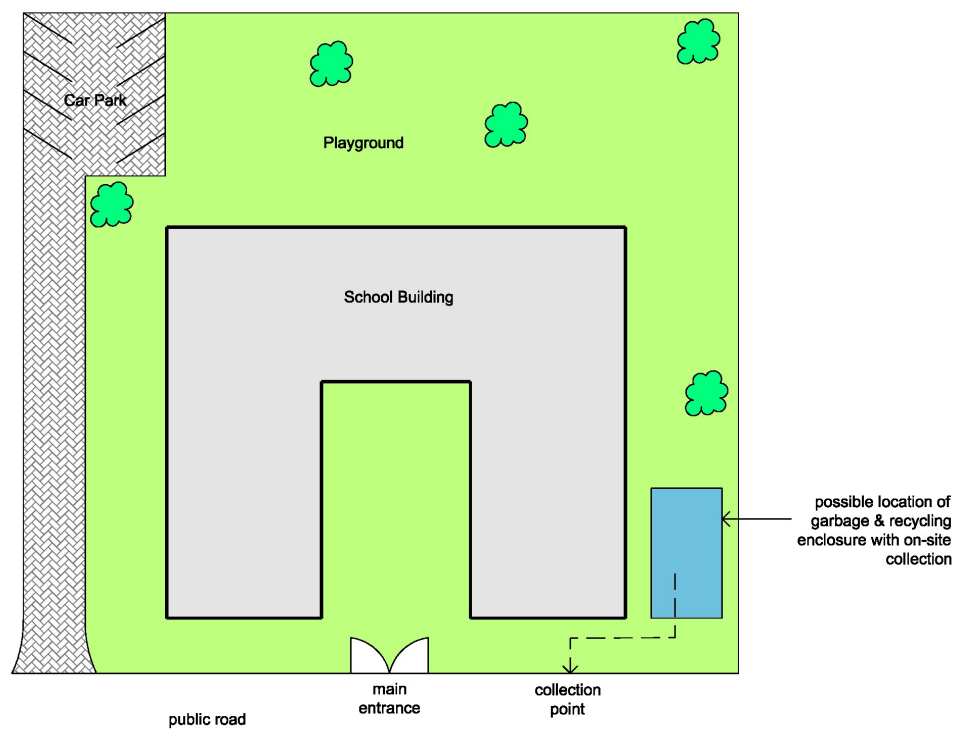


Figure 17 Example layout - Secondary school

12. Mixed-use developments



Figure 18 Mixed-use development

12.1 Outline of development

- i. Mixed-use developments as considered in this Guideline are defined in Section 1.3 as developments that typically contain both commercial and residential facilities. Mixed-use developments may also contain recreational or other facilities. An example of a Mixed-use development located within Randwick LGA is shown in Figure 18.
- ii. Small mixed-use developments are typically two storey developments with the residential dwelling located above the commercial outlet on the ground floor (street level).
- iii. Larger mixed-use developments typically have one or two levels (or more) of commercial dwellings beneath low-rise or larger residential developments

12.2 Council's Standard Services

- i. Council provides domestic waste collection services to residential dwellings in mixed-use developments. Waste bins used and collection services provided are described in Section 7.2.
- ii. Waste generated in commercial tenants (or recreational and educational facilities) of mixed-use developments, is commercial waste. Council's commercial waste collection service is described in Section 9.2.

12.3 Waste storage requirements

12.3.1 Storage facilities and location

- i. The handling and storage of domestic and commercial waste from mixed-use developments must be undertaken using separate bins and separate self-contained Garbage and Recycling Rooms.
- ii. Sufficient space should be allowed for separation of waste streams, (particularly separating garbage from recyclables) in both the commercial and domestic waste storage facilities.
- iii. Waste handling and storage requirements for residential and commercial occupants are described in Sections 7.3 and 9.3.
- iv. Communal facilities shall be provided for all residential unit blocks irrespective of design difficulties.
- v. When provided, each commercial unit must have a clearly defined storage space within the communal area that is sufficient to house

Section 12 - Mixed-use developments

all the garbage, recyclables and other waste generated by that unit between collection times.

12.3.2 Waste handling within development

Service lifts

- iii. For multi storey Mixed-use developments, a separate service lift (or goods lift) shall be provided to transfer waste from the various building floors to the waste storage facility. Service lifts / passenger lifts shall have sufficient space to easily transfer at least two loaded waste bins (240 L MGBs) together from the floors to the waste storage facility.

Compaction equipment

- iv. Commercial tenants in Mixed-use developments should give consideration to the use of garbage and/or cardboard compaction equipment. Compaction equipment should be located in the Garbage and Recycling Room.

12.3.3 Storage space

Waste generation rates

- i. Waste generation rates for both commercial and residential tenants are provided in **Appendix A**.

Service lifts

- ii. Service lifts shall have sufficient space to easily transfer at least two loaded waste bins per transfer from the floors to the waste storage facility.

Storage areas on each floor

- iii. Sufficient space should be allowed in a service compartment on each level for the storage of sufficient bins required to store at least one day's waste generated on each floor of the development.

Storage within waste storage facility

- iv. Space shall be provided in each waste storage facility for the storage of all waste handling and compact equipment, and waste bins required to store all waste generated by the commercial and residential tenants.
- v. The provision of space for the source separation and storage of garbage and recycling should be included in all Mixed-use developments.

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