

## **C.5 WASTE MANAGEMENT AND MINIMISATION**

### **5.1 INTRODUCTION**

New South Wales has a waste problem, which requires large areas of land to be filled, a controversial issue among our increasingly vigilant and concerned community.

All waste streams contain many resources that are useful products for our communities. Recovering, recycling and using these as secondary resources is a key element in working towards ecologically sustainable development (ESD).

The solutions have been summarised in what is called the waste management hierarchy:

- prevention;
- source reduction;
- minimisation;
- treatment; and
- disposal (as last resort).

Much of this waste can be reduced at its source. A further high percentage can be re-used and recycled if we take the time to source-separate, promote local markets and arrange for transportation.

#### ***Waste is not rubbish. It is a resource we haven't yet recovered!***

All levels of government are concerned about the growing waste problem. The Federal and NSW State Government have waste reduction targets of 50% and 60% (by the year 2000) accordingly. In NSW this is to be achieved through the cooperation of Local Government, and the Regional Waste Boards constituted under the terms of the *Waste Avoidance and Resource Recovery Act 2001*.

Local government has a key dual role to play. Firstly, as a service provider - arranging for collection services, and secondly, as a regulator of building and land use activity.

These guidelines have been produced with the strong belief that the amount of waste going to landfill can be reduced by local government action when an application is made for development and other related activities.

#### **5.1.1 Application**

This Chapter applies to land to which this DCP applies, and will be used in the assessment of:

- development applications (DAs) including subdivisions;
- applications for construction certificates (whether to Council or an accredited private certifier);
- applications for complying development certificates (whether to Council or an accredited private certifier);
- an application to Council to place a waste storage container (such as a skip) in a public place (such as a footpath or road); and
- the issuing of Orders for offences.

This section sets submission requirements and standards for subdivision, demolition, bulk waste container placement, construction and ongoing use of premises.

### 5.1.2 Purpose

To provide useful advice to applicants seeking Council approval for a development or other related activities on how to avoid and minimise waste and how to improve existing facilities.

### 5.1.3 Aims and Objectives

Aim: To reduce the demand for waste disposal.

Objectives:

- to maximise avoidance, reuse and recycling of subdivision debris / refuse, demolition waste, building / construction materials, household generated waste and industrial / commercial waste;
- to assist in achieving Federal and State Government waste minimisation targets in accordance with Regional Waste Plans;
- to minimise the overall environmental impacts of waste and foster the principles of ESD;
- to provide advice to intending applicants on how to prepare waste management plans, detailing actions to minimise waste generation and disposal;
- to provide advice to applicants on matters to be considered when assessing the waste implications of a variety of applications made under the *Environmental Planning and Assessment Act 1979* and the *Local Government Act 1993*;
- to require source separation and other design and location standards, which complement waste collection and management services, offered by Council and the private service providers;
- to provide advice to intending applicants on how to reduce and handle waste during the subdivision / demolition and construction phase;
- to encourage building designs and construction techniques which will minimise future waste generation; and
- to provide on-going control for waste handling and minimisation in premises.

## 5.2 KEY FEATURES

The Controls have four key features:

1. **A waste management plan** to be completed by the applicant.
2. **General advice** for all applicants on matters such as source separation, subdivisions, demolition, construction design and siting of waste storage and recycling facilities;
3. **Specific advice for particular uses** and activities such as multi dwelling housing, shops, offices, restaurants, clubs, pubs, hospitals and industry; and
4. **Detailed appendices** providing advice on calculating waste generation rates, facility design, Council services, and a list of contacts.

## 5.3 THE PERFORMANCE BASED APPROACH

The controls are written in a performance based style, with performance objectives and criteria, as well as numeric standards.

Compliance with the performance measures will be the overriding consideration when assessing applications. Where numeric standards are included, it is possible to vary them, where the applicant can show that the objectives and performance criteria are achieved.

## 5.4 HOW TO COMPLY WITH THESE GUIDELINES

Council requires that all relevant development applications (including subdivisions and demolition) shall be accompanied by a waste management plan, requiring the applicant to specify waste, by type and volume, and to nominate reuse and recycling potential.

*Note: Council may not require a Waste Management Plan for; minor building works, or removal of waste from private premises that do not involve current building or development activity.*

In assessing applications, details provided in the waste management plan and on the plan drawings will be checked for compliance with the performance criteria for the proposed use (e.g. multi dwelling housing, demolition) and against the general aims and objectives of the Chapter, as summarised in Table 1 below.

**Table 1: Submission Requirements**

Land Use or Activity Proposed	Is a Site Waste Management Plan Required?	Specific Details to be provided with the Application
Subdivision or demolition (involving vegetation removal), excavation and major renovations.	Yes: Section 1 only	<ul style="list-style-type: none"> <li>• on-site sorting and storage areas.</li> <li>• access for collection vehicles.</li> <li>• vegetation to be removed or retained.</li> </ul>
Placing a waste storage container (skip) in a public place (eg. on the road or footpath).	Yes: Section 1 only	<ul style="list-style-type: none"> <li>• proposed location relative to subject property, footpath and street alignment or intersections.</li> </ul>
Multi dwelling housing, residential flat buildings, shop top housing developments and Class 1b buildings accommodating more than 6 people in total.	Yes: Sections 2, 3 & 4 only	<ul style="list-style-type: none"> <li>• waste storage area or cupboard within each habitable unit.</li> <li>• a common waste storage and recycling area, or garbage and recycling room.</li> <li>• a collection area, chute system or volume reduction equipment (compactor), where appropriate.</li> <li>• access for collection vehicles.</li> <li>• provision for waste minimisation initiatives such as, worm farming or composting on-site or via commercial operators where appropriate.</li> </ul>
Pubs, serviced apartments, schools, large boarding houses, Class 3 buildings.	Yes: Sections 2, 3 & 4 only	<ul style="list-style-type: none"> <li>• waste storage area or cupboard within staff and / or common kitchen.</li> <li>• a common waste storage and recycling area, or garbage and recycling room.</li> <li>• a collection area, chute system or volume reduction equipment (compactor), where appropriate.</li> <li>• access for collection vehicles.</li> </ul>

Shops, Offices, Restaurants, Class 5 & 6 buildings.	Yes: Sections 2, 3 & 4 only	<ul style="list-style-type: none"> <li>waste storage area or cupboard within staff and / or common kitchen.</li> <li>a common waste storage and recycling area or garbage and recycling room.</li> <li>a collection area, chute system or volume reduction equipment (compactor) where appropriate.</li> <li>access for collection vehicles.</li> </ul>
Industry (eg. factory warehouses), Class 7 & 8 buildings.	Yes: Sections 2, 3 & 4 only	<ul style="list-style-type: none"> <li>waste storage area or cupboard within staff and / or common kitchen.</li> <li>a common waste storage and recycling area or garbage and recycling room.</li> <li>a collection area, chute system or volume reduction equipment (compactor) where appropriate.</li> <li>access for collection vehicles.</li> </ul>
Health Care (eg. public or private hospitals, nursing homes), Class 9(a) buildings.	Yes: Sections 2, 3 & 4 only	<ul style="list-style-type: none"> <li>waste storage area or cupboard within staff and / or common kitchen.</li> <li>a common waste storage and recycling area, or garbage and recycling room.</li> <li>a collection area, chute system or volume reduction equipment (compactor) where appropriate.</li> <li>access for collection vehicles.</li> </ul>
Assembly buildings, theatres, cinemas, Class 9(b) buildings.	Yes: Sections 2, 3 & 4 only	<ul style="list-style-type: none"> <li>waste storage area or cupboard within staff and / or common kitchen.</li> <li>a common waste storage and recycling area, or garbage and recycling room.</li> <li>a collection area, chute system or volume reduction equipment (compactor), where appropriate.</li> <li>access for collection vehicles.</li> </ul>
Entertainment & sporting facilities / events.	Yes: relevant sections according to activity or event.	<ul style="list-style-type: none"> <li>waste storage area or cupboard within staff and / or common kitchen.</li> <li>a common waste storage and recycling area, or garbage and recycling room.</li> <li>a collection area, chute system or volume reduction equipment (compactor), where appropriate.</li> <li>access for collection vehicles.</li> </ul>

#### 5.4.1 Exemptions For Certain Waste Management Activities

##### Place waste in a public place.

The placing of waste in a public place, if it is done in accordance with Council's normal waste and recycling collection services.

## 5.5 WASTE MANAGEMENT

### 5.5.1 What is a Waste Management Plan?

In simple terms, the Plan is a checklist that provides Council with details of the following:

- the volume and type of waste to be generated;
- how waste is to be stored and treated on site;
- how residual is to be disposed of; and
- how ongoing management will operate.

Completing the checklist should not be a difficult task. It will certainly require some research but it is hoped that the process will assist industry, commercial operators and site managers in planning their necessary waste management procedures.

In relation to subdivision, demolition and construction, it is good project management anyway. The time spent considering and planning waste management could be a cost-saving measure for the developer.

For example, considering the reuse of existing structures and materials and recycling on site could also save resources at the construction stage, as well as reducing transport and waste disposal costs. To assist in completing the Waste Management Plan, a completed example is included at Schedule 1.

### **5.5.2 When is a Different or Additional Application Needed?**

In most circumstances waste management is considered as part of the development application.

However, some waste related uses / activities require different or additional applications. These requirements are summarised in Table 2 (below).

**Table 2: Uses / Activities Requiring Specific Applications**

If this applies to you, contact the authority listed in the table below.

<b>Proposed Activity</b>	<b>Application Required</b>	<b>Comment</b>
Major waste management facilities	<ul style="list-style-type: none"> <li>• Designated Development Application to Council.</li> <li>• Application to the EPA for registration.</li> </ul>	Refer to DoP Controls (1995) and EPA Controls (1994)
Controlled waste activity / facility	<ul style="list-style-type: none"> <li>• Application to the EPA for licence.</li> </ul>	
Transport of waste over or under a public place	<ul style="list-style-type: none"> <li>• Application to the Council.</li> <li>• Application to the EPA for licence.</li> </ul>	<ul style="list-style-type: none"> <li>• Transportation of certain types and quantities of hazardous waste &amp; used tyres.</li> <li>• Transportation of non-hazardous waste.</li> </ul>
Placing waste in a public place (eg. roadway) other than in accordance with Council's normal collection.	Application to Council.	For a special purpose or private garbage collection where you intend to use the public place.
Placing waste on a state road, including builders waste storage containers.	Application to Roads & Traffic Authority.	
Disposal of liquid trade waste into the sewer.	Application to Hunter Water Corporation.	
Discharge into any water body.	Application to the EPA.	

## **5.6 SUBDIVISION, DEMOLITION OF BUILDINGS**

### **5.6.1 *Potential Waste Minimisation***

This is the stage with the greatest potential for waste minimisation, particularly in the Hunter Region where there are high levels of development.

The first thing that developers should consider is whether it is possible to re-use existing buildings, materials or parts thereof, for the proposed use.

The potential to incorporate existing trees / shrubs into the landscape plan should be a high priority. Design that reduces excessive excavation of the site is to be encouraged.

With careful on-site sorting and storage and by staging work programs it is possible to re-use many materials, either on-site or off-site.

In other words, to move the attitude of 'trashing the building' to require a number of colour-coded or clearly labelled bins on-site (rather than one size fits all) and education of staff and contractors.

### **5.6.2 *Special Waste***

Where special waste material is to be generated (such as medical wastes and household hazardous waste) special arrangements will be required.

### **5.6.3 *Intent of Controls***

To promote improved design and project management to maximise avoidance, re-use and recycling of materials.

### **5.6.4 *Performance Criteria***

The intent may be achieved where:

- Section 1 of the Waste Management Plan (Schedule 1) is satisfactorily completed and details of on-site storage are provided on plans;
- avoidance, re-use and recycling of material is maximised;
- waste disposal is minimised; and
- evidence is provided that specified arrangements have been implemented.

### **5.6.5 *Submission Requirements***

The application shall include:

1. Section 1 of the Waste Management Plan (Schedule 1), completed; and
2. The following details on your plans:
  - location of on site and disposal, storage space for materials (for reuse) and containers for recycling;
  - vehicular access to the site and within the site; and
  - facilities for on site recycling of materials.

**Some examples of avoiding and recycling materials are provided in the following table to help you in preparing your waste management plan:**

**Table 3: Reuse, recycling potential**

<b>Materials On-site</b>	<b>Avoidance</b>	<b>Reuse &amp; Recycling</b>
Concrete	Retain existing driveways, paths, footings, slabs etc.	Reprocessed at commercial facility for use as road base & levelling material.
Bricks	Retain existing walls, buildings and fences.	Cleaned and / or rendered over for reuse on-site or off-site.
Roof-tile	Retention of existing roofs or colour treatments / cleaning.	Crushed, as landscaping, and driveways for reuse on-site or off-site.
Hardwood beams	Re-use or recycling on-site.	Fencing, furniture for re-use on-site or off-site.
Other timber	As above.	Formwork, bridging blocking and propping.
Doors, windows, fittings.	Design as an architectural feature of the new development.	Second-hand building materials.
Synthetic and recycled rubber (eg. under carpets).	Protect / cover and re-use.	Used by commercial operators for safety barriers, speed humps, sports surfaces.
Significant trees	Design into new development.	Relocated on-site or sold for use off-site.
Green Waste	As above.	Mulching, composting, for reuse as landscaping / fertilizer.
Overburden	Avoid excessive excavations.	Power screened for topsoil.

Where such materials cannot be recycled or reused on-site there is a growing market for such outlets (eg. second hand building yards) as provided in **Schedule 5**.

It is possible that owners, developers and builders can save money by not over ordering materials thus reducing purchase and delivery costs.

## **5.7 CONSTRUCTION STAGE**

### **5.7.1 Potential for Waste Minimisation**

You should consider the following measures that may also save resources and minimise waste at the construction stage.

Overseas studies show that up to 10% of timber delivered for residential construction is wasted, while a recent Australian pilot project suggests that up to 30% of plasterboard could be wasted on certain projects.

The Hunter Waste Board believes that the following construction wastes should be close to 100% recyclable if properly source separated and kept uncontaminated: steel; non-ferrous metals; glass; paper; concrete; and cardboard packaging material.

It is important to note that waste separation may offer cost savings on the usual costs of disposing of mixed waste at landfills, and that cost savings may also be achieved at the construction stage by purchasing reusable and recycled-content materials or reusing materials salvaged from the subdivision / demolition stage.

You should also consider these measures:

- a purchasing policy, which considers measures such as:
  1. ordering the right quantities of materials; and
  2. prefabrication of materials where possible.
- reusing formwork;
- modular construction and basic designs to reduce the need for off-cuts;
- minimising site disturbance, limiting unnecessary excavation;
- careful source separation of off-cuts to facilitate re-use, resale or efficient recycling;
- the demolition of the building when its useable life has expired (eg. can components be easily dismantled?);
- choice of landscaping to reduce green waste; and
- co-ordination and sequencing of various trades.

### **5.7.2 Intent of Controls**

To promote improved project management, avoid waste generation and maximise re-use and recycling.

### **5.7.3 Performance Criteria**

The intent may be achieved where:

- Section 2 of the Waste Management Plan (Appendix 1) is satisfactorily completed and details of on-site storage are provided on plans;
- re-use and recycling is maximised
- waste disposal is minimised; and
- evidence is provided that specified arrangements have been implemented.

### **5.7.4 Submission Requirements**

The application shall include:

1. Section 2 of the Waste Management Plan (Schedule 1), completed; and
2. the following details on the plans:
  - location of on-site storage space for materials (for re-use) and containers for recycling and disposal; and
  - vehicular access to the site and on-site.

Section 2 of the Waste Management Plan requires an estimation of the type and volume of waste to be generated and to nominate the destination of the material.

## **5.8 SINGLE UNIT RESIDENTIAL (DWELLING HOUSES)**

### **5.8.1 Intent of Controls**

To encourage waste avoidance, source separation, reuse and recycling and ensure appropriate storage and collection of waste and recyclables.



### **5.8.2 Performance Criteria**

The intent may be achieved where:

- appropriate space is provided within the dwelling house for source separation / sorting / storage of recyclables, garbage and compostable material; and
- an accessible and useable waste storage area is provided on-site.

### **5.8.3 Submission Requirements**

The application shall include:

- Section 2 of the Waste Management Plan (Schedule 1).

Advisory Note: waste storage and recycling areas shall be located so that they will not impact on adjoining premises or the streetscape.

### **5.8.4 Waste Storage and Recycling Area**

Each dwelling house shall be provided with an area capable of accommodating:

- Council's standard garbage and recycling containers (see Schedule 3 for details);
- residents shall also give consideration to the provision of an area suitable for accommodating a personal composting bin / worm farm.

### **5.8.5 Special Waste**

Where special waste material is to be generated (such as medical wastes and household hazardous waste) special arrangements will be required.

Contact should be made with the Council and the EPA.

## **5.9 MULTI DWELLING HOUSING, RESIDENTIAL FLAT BUILDINGS AND SENIORS LIVING**

### **5.9.1 Intent of Controls**

To encourage waste avoidance, source separation, reuse and recycling and ensure appropriate storage and collection of waste and recyclables and quality design of facilities.

### **5.9.2 Performance Criteria**

The intent may be achieved where:

- in circumstances where individual unit storage is proposed, an accessible and useable waste storage and recycling area is provided within the private yard of each unit;
- in circumstances where communal facilities are proposed, the area or room is of sufficient size to store Council's standard bins / bulk containers and is easily accessible from each unit and from Council's usual collection point;
- the location and design of facilities complement the streetscape and does not impact on adjoining premises or the amenity of the units within the development (eg. odour, noise).

### **5.9.3 Submission Requirements**

The application shall include:

- a completed Waste Management Plan (Schedule 1);
- a waste cupboard or other appropriate space is provided within the dwelling-house for source separation / sorting / storage of recyclables, garbage and compostable material; or located communally on-site, this could be a garbage and recycling room;
- details of design for waste storage and recycling area(s) or garbage and recycling room(s) shall be provided as follows: floorplan; elevations; cross section drawings of the room; materials and finishes; and proposed path of travel to enable residents to fully utilise the service, (eg. service lifts, garbage chutes, caretaker / janitor delivery);
- location of communal composting area;
- where applicable, design details of garbage chute system(s) and any volume reduction equipment; and
- location of collection area.

### **5.9.4 Special Waste**

Where special waste material is to be generated (such as medical wastes and household hazardous waste) special arrangements will be required.

Contact should be made with the Council and the EPA.

### **5.9.5 Communal Facilities** (Waste Storage and Recycling Areas or Garbage and Recycling Rooms)

In some circumstances waste management responsibility can be internalised, with each dwelling having its own bins (garbage and recycling) and individual unit holders taking responsibility for on-street placement. This would be the case for most small-scale multi dwelling housing developments (Class 2 buildings), dual occupancy and other residential buildings.

In these circumstances each unit may have a waste storage and recycling area, preferably at the rear and easily accessible to the collection point.

In the following circumstances a communal on-site waste storage and recycling area or garbage and recycling room shall be provided:

1. residential flat buildings;
2. multi dwelling housing developments where the number of bins would not fit comfortably on the street frontage or would detrimentally affect residential amenity;
3. where the status of the roadway (heavy traffic) requires on-site access;
4. where site characteristics make access to the street difficult for any individual unit holders, (eg. steep sites); and
5. where such arrangements suit collection services.

The area should be capable of accommodating Council's required number of standard recycling / garbage bins / bulk containers (Schedule 3) and should be designed in accordance with the standards provided in Schedule 4. Where such an area is proposed, additional space for the storage of bulky waste, such as clean-up materials awaiting removal, or recycling, should be provided.

On difficult or steep sites, or sites with particular natural features (such as watercourses), or

with two street frontages, it may be appropriate to have more than one waste storage and recycling area, to reduce / minimise travel distances, prevent site pollution and facilitate collection arrangements.

For large-scale proposals there may be a number of garbage & recycling rooms, operating in conjunction with a collection area/s located adjacent to the collection point. At appropriate times waste is transported from the rooms to this area for collection (see Schedule 3).

In each case the body corporate should ensure on-street placement wherever possible. Where this is not possible and the contractor's vehicles enter the site, a separate collection area should be part of the development and legal access agreements obtained.

## **5.10 MULTI-STOREY BUILDINGS**

### **5.10.1 Garbage Chute Systems**

Buildings containing more than four storeys (with one storey at ground level used for the accommodation of motor vehicles) shall be provided with a suitable system for the transportation of garbage from each floor level to the garbage and recycling room(s).

This may be a service lift or garbage chute system. Where such facilities are utilised, space shall be provided on each floor for the temporary storage of recyclables.

On-going management is a significant issue, details are to be provided in the waste management plan. More detail on garbage chute systems is provided in Schedule 4.

### **5.10.2 Volume Reduction Equipment and Food Waste Disposal Units**

Where it is considered necessary, compaction and other volume reduction equipment may be provided in the garbage and recycling room. Such equipment could save space on site, where difficult design constraints occur. Waste reduction equipment should be considered for all buildings greater than 25 metres high. Volume reduction equipment should not be used on recyclables as removing contaminants from compacted recyclables is almost impossible and markets will reject compacted loads containing any contaminants. Compaction equipment shall be suitably soundproofed.

In normal circumstances, there will not be a reduction in area requirements where such equipment is proposed. Council considers that area requirements should allow for possible changes in on-site waste management arrangements. Food waste disposal units are not permitted to be installed.

## **5.11 COMMERCIAL AND RETAIL PREMISES (eg. SHOPS), OFFICES, FOOD PREMISES, PUBS AND SERVICED APARTMENTS, REGISTERED CLUBS, EDUCATION ESTABLISHMENTS, ENTERTAINMENT FACILITIES AND HOSPITALS.**

### **5.11.1 Waste Storage and Recycling Area**

Every building shall be provided with a waste storage and recycling area designed and constructed to meet the requirements of Schedule 4 and be flexible in size and layout to cater for future changes of use.

The size is to be calculated on the basis of waste generation rates and proposed bin sizes.

Calculation of waste generation rates should be based on industry standards and discussed with the collection service provider (see Schedule 5 for contacts). Advice on anticipated generation rates is provided in Schedule 2, as a crosscheck. In all cases, source separation (eg. recyclables) is required.

In calculating generation rates and area requirements, the operation of staff kitchen facilities should also be included.

Where possible, access should be from the rear of the property.

In all cases, access to normal collection points shall be unimpeded. For large developments a collection area shall be included within the design.

#### **5.11.2 Special Waste**

Where special waste material is to be generated (such as chemicals and other products passed their expiry date) special arrangements will be required.

Contact should be made with the Council and the EPA.

#### **5.11.3 Intent of Controls**

To encourage waste avoidance, source separation, reuse and recycling and ensure appropriate storage / collection of waste recyclables and quality design of facilities.

#### **5.11.4 Performance Criteria**

The intent may be achieved where:

- the system for waste management is compatible with collection services;
- on-site source separation is facilitated;
- an appropriately designed and well located waste storage and recycling area and / or garbage and recycling room is provided on-site;
- clear access for staff and collection services is provided;
- facilities are carefully sited, well-designed and do not impact on adjoining premises or the amenity; and
- there are acceptable administrative arrangements for on-going waste management.

#### **5.11.5 Submission Requirements**

The application shall include:

Waste Management Plan (Schedule 1), containing;

- location of waste storage and recycling area(s) per unit or located communally on-site;
- details of design of waste storage and recycling area(s). This shall include floor plan, cross section and also show materials and finishes;
- where appropriate, design details of garbage and recycling room(s);
- where applicable, design **details** of service lifts / garbage chutes and volume reduction equipment; and
- access for collection vehicles.

### **5.11.6 When to have Communal Facilities**

Where multiple occupancy, such as a series of shops or an office complex, is proposed, communal facilities may be appropriate. For instance:

- where the design makes it difficult for all units to have ready access to a collection point; and
- where site characteristics restrict entry of collection vehicles.

The waste storage and recycling area shall be designed to enable each separately tenanted or separately occupied area within the building or complex to be provided with a designated and clearly identified space for the housing of sufficient commercial containers to accommodate the quantity of waste and recyclable material generated.

The use of volume reduction equipment may be appropriate where space is a problem and may be utilised.

A building of Class 5 or 6 containing more than three storeys shall be provided with an acceptable method for transporting waste from each level to a garbage and recycling room. This could be a goods lift, a chute system (designed in accordance with Schedule 4), or some other means of providing direct and convenient internal access. Where such facilities are utilised, space shall be provided at each level for temporary storage of waste material and recyclables.

On-going management is a significant issue, details are required in the waste management plan.

### **5.11.7 Paper and Cardboard**

For offices and commercial premises particular attention shall be paid to paper and cardboard recycling, with source separation firstly at the workstation and then the separated product conveyed to the waste storage and recycling area or garbage and recycling room. This shall be included in the waste management plan. Education of staff and regular collection services is also important.

### **5.11.8 Food Shops, Restaurants and Refrigerated Garbage Rooms**

Special attention shall be paid to food waste generation. Specialised containment shall be provided and a regular and frequent collection service arranged to ensure that no impacts result from the activity.

Refrigerated garbage rooms shall be provided when large volumes, perishables (such as seafood) and infrequent collection is proposed.

### **5.11.9 Grease Arresters**

Contact shall be made with the Hunter Water Corporation to obtain trade waste requirements for the installation of grease arresters and liquid waste.

## **5.12 INDUSTRY**

### **5.12.1 Intent of Controls**

To encourage waste avoidance source separation, reuse and recycling and ensure appropriate storage and collection of water and recyclables and quality design of facilities.

### **5.12.2 Performance Criteria**

The intent may be achieved where:

- the system for waste management is compatible with chosen collection service(s);
- sufficient space is provided on-site for careful separation and storage of recyclables and garbage;
- for multi-use and industrial units, a waste storage and recycling area is provided per unit or in communal space(s) and designs allow for a range of uses;
- the area is easily accessible from each unit and from the collection point and clear access for collection vehicles is provided;
- facilities are carefully sited and well designed;
- there are acceptable administrative arrangements for on-going waste management; and
- where applicable, design details of garbage chute system(s) and any volume reduction equipment.

### **5.12.3 Submission Requirements**

Your application shall include:

- a completed Waste Management Plan (Schedule 1);
- details of design for waste storage and recycling areas. This should include floor plans, elevations and show materials and finishes;
- where applicable, design details of any volume reduction equipment; and
- access for collection vehicles.

### **5.12.4 Special Waste**

Production, storage and disposal of hazardous wastes (such as contaminated or toxic material or products) require particular attention. Contact shall be made with the Environment Protection Authority.

### **5.12.5 Single Use Operations**

Every building shall be provided with a waste storage area, (designed and constructed to meet the requirements of Schedule 4), capable of providing source separation of paper, metal, plastics, putrescible and liquid waste and flexible in size and layout to cater for a range of uses.

The size is to be calculated on the basis of waste generation rates and proposed bin sizes.

Calculation of waste generation rates shall be based on industry standards and discussed with the collection service provider (see Schedule 5 for contacts). Advice on anticipated generation rates is provided at Schedule 2 (crosscheck). In all cases, source separation (eg. for recyclables) is required.

In calculating generation rates and area requirements, the operation of staff kitchen facilities shall also be included.

Where possible, access shall be from the rear of the property. In all cases, access to normal collection points shall be unimpeded. For large developments, a collection area shall be included within the design.

#### **5.12.6 Factory Units**

Factory-unit developments are less predictable than single-use operations. A number of basic decisions and assumptions need to be made up-front:

- individual or communal facilities?;
- degree of source separation; and
- how to estimate generation rates (and therefore area requirements)?

#### **5.12.7 Waste Generation Rates**

Waste generation rates vary over time. The waste management plan shall include:

- the use of volume reduction equipment, which may be appropriate where space is a problem and may be utilised; and
- the volume reduction equipment can only be permitted if recyclable material proposed for compaction is appropriately separated and does not contain contaminants.

#### **5.12.8 When to have Communal Facilities**

In some circumstances waste management responsibility can be internalised, with each unit having its own bins (garbage and recycling) and individual unit holders taking responsibility for putting them out for collection.

In the following circumstances a communal area should be provided:

- where the design makes it difficult for all units to have ready access to a collection point; and
- where site characteristics restrict entry of vehicles.

The waste storage and recycling area shall be designed to enable each separately tenanted or separately occupied area within the building or complex to be provided with a designated and clearly identified space for the housing of sufficient commercial containers to accommodate the quantity of waste and recyclable material generated.

The area(s) shall be flexible in design so as to allow for future 'changes of use' of the units.

### **5.13 PLACING A WASTE STORAGE CONTAINER IN A PUBLIC PLACE**

Approval is required under the *Local Government Act 1993* to place a waste storage container (skip) in a public place, such as on the roadway or on a footpath. Where the roadway is a state road approval of the RTA is required.

- Where an application is required, details can be provided with that application.
- To place a waste storage container in a public place, an application shall be lodged with Council's Traffic section (Works and Roads).
- To place a storage container on state road also requires the approval of the RTA.

### **5.13.1 Safety**

Matters relating to safety that shall be considered are:

1. location shall not interfere with sight lines of drivers entering or leaving premises; and
2. skips shall:
  - be clearly visible;
  - be located in well lit areas;
  - be lightly coloured;
  - have rear marking plates – complying with requirements for heavy vehicles / trailers under clause 56a of Part IVA of the motor traffic regulations;
  - have reflective tape;
  - have flashing yellow lights, if needed or required; and
  - all material shall be securely stored within the skip (see Traffic Authority guidelines).

### **5.13.2 Intent of Controls**

To encourage source separation and safe locations recycling and ensure that containers are placed in appropriate and safe locations.

### **5.13.3 Performance Criteria**

The intent may be achieved where:

- the location of the container does not disturb traffic flow or pedestrian movement; and
- the location of the container does not disturb normal stormwater flow.

### **5.13.4 Submission Requirements**

The application shall include:

- a plan showing the proposed location of the container (if the above criteria are not meet); and
- details of public liability insurance cover.

### **5.13.5 Numbers and Types of Containers**

While it is normal practice for single skips to be provided, for large-scale operations where a variety of distinct materials will be stored and transported, consideration shall be given to planning the operation (i.e. source separation) so that materials can be handled separately.

This will assist in maximising avoidance, re-use / recycling and thus minimising disposal at landfill.

Applicants are also encouraged to source separate materials of value, such as doors and windows. The list of local outlets at Schedule 5 should be of assistance.

The size of the container shall be appropriate to the nature of waste generated and the location. In general, the following dimensions are the acceptable ranges:



Length	2.0 – 5.5 metres
Width	1.5 – 2.2 metres
Height	1.0 – 1.5 metres

### **5.13.6 Location of Containers**

The following general prohibitions apply.  
Approval will NOT be given:

1. in circumstances where there is sufficient space for placement within the user's premises;
2. for skips fronting adjoining properties (without neighbour's approval);
3. for placement in on-road locations where parking, stopping and standing of motor vehicles are prohibited. These locations are often not signposted and include the following:
  - at an intersection or within 6.0 metres of the property line (where controlled by traffic signals or not);
  - within 9.0 metres of the approach side and 3.0 metres on the departure side of a pedestrian crossing;
  - within 18 metres of the approach side and 9.0 metres on the departure side of a children's crossing;
  - within 18 metres of the approach side and 9.0 metres of the departure side of a bus stop;
  - on a hill or curve where the view is not clear for at least 50 metres;
  - within 3.0 metres from any separation lines; or
  - on a median strip or traffic island.
4. for placement in on-road locations where kerb side parking restrictions apply (eg. no stopping, one hour parking);
5. for placement on footpath locations at an intersection or within 6.0 metres of a corner where there are large volumes of pedestrian traffic or where obstruction to vehicle access, sight lines or service facilities is likely; and
6. where skips are to be used to store putrescible, inflammable or explosive material or other material specified as prohibited by the Council, prior approval shall be obtained from the NSW Environment Protection Authority.

In assessing proposed locations, Council is concerned with disturbance to traffic flow and stormwater drainage.

The following locations are not preferred:

- on classified and arterial / sub-arterial roads;
- in narrow streets;
- where driveways will be blocked;
- where it would require pedestrians to use the roadway; or
- where stormwater drainage will be impeded.

## **SCHEDULE 1 – WASTE MANAGEMENT PLAN**

### ***SUBDIVISION, DEMOLITION, CONSTRUCTION & ON-GOING OPERATION PREMISES***

To facilitate waste minimisation Council requires on-site sorting and storage of waste products pending re-use or collection.

The applicable sections of this table shall be completed and submitted with the development application or the demolition of a building.

Completing this Table will assist you in identifying the type of waste that will be generated and in advising Council how you intend to reuse, recycle or dispose of the waste.

The information provided on the form (and on your plans) will be assessed against the Chapter's objectives (eg. to maximise re-use and minimise disposal) and the performance criteria for the particular use.

If space is insufficient in the table please provide attachments.

#### ***Outline of Proposal***

**Site Address:** *7 Jones Street, Anytown*

**Applicants name and address:** *J. Smith & Associates  
P.O. Box 3, Anytown, 2999.*

**Phone:** *4343-4343*

**Fax:** *4343-4342*

#### **Buildings and other structures currently on the site:**

*Brick dwelling house, concrete slab and driveway, timber fencing.*

#### **Brief Description of Proposal:**

*Two storey commercial premises (retailing electrical goods) plus office. Portal frame and brick construction.*

The details provided on this form are the intentions for managing waste related to this project.

**Signature of Applicant:** *J Smith*

**Date:** *23/6/08*

**SECTION ONE – SUBDIVISION, DEMOLITION STAGE**

Materials on Site		Destination		
Type of Material	Estimated Volume (M <sup>3</sup> )	Reuse and Recycling		Disposal
		ON-SITE *specify proposed reuse or on-site recycling methods (see p.18 for suggestions)	OFF-SITE * specify contractor & recycling outlet (see Appendix 5) * see p.18 for suggestions.	* specify contractor and landfill site (see appendix 5).
Excavated Material	200	<i>Keep and reuse topsoil for landscaping, store on-site. Use behind retaining walls, etc.</i>		<i>Remainder to _____ landfill site by XYZ waste contractor.</i>
Green Waste	60	<i>Separated, with some chipped and stored on-site for reuse on landscaping.</i>	<i>Remainder to _____ landscape supplies for composting / reuse.</i>	<i>Stumps and large trunks separated and to _____ landfill site by XYZ waste contractor.</i>
Bricks	50	<i>Clean and reuse lime mortar bricks for footings. Broken bricks for internal walls.</i>	<i>Concrete mortar bricks to _____ crushing and recycling company.</i>	<i>Nil</i>
Concrete	15	<i>Existing driveway to remain during construction.</i>	<i>On completion to _____ crushing and recycling company.</i>	<i>Nil</i>
Timber (specify) • Oregon • Pine	5	<i>Reuse for formwork &amp; studwork. Chip remainder for use in landscaping.</i>	<i>To stockpile at _____ landfill by XYZ waste contractor.</i>	<i>Nil</i>
Plaster board	3	<i>Break up &amp; use in landscaping.</i>	<i>Remainder to _____ landscape supplies</i>	<i>Nil</i>

**SECTION ONE – SUBDIVISION, DEMOLITION STAGE - continued**

Materials on Site		Destination		
Type of Material	Estimated Volume (M <sup>3</sup> )	Reuse and Recycling		Disposal
		ON-SITE *specify proposed reuse or on-site recycling methods (see p.18 for suggestions)	OFF-SITE * specify contractor & recycling outlet (see Appendix 5) * see p.18 for suggestions.	
Metals (specify) <ul style="list-style-type: none"> <li>• hot water system</li> <li>• pipes</li> <li>• gutters</li> <li>• lead</li> </ul>	1	Nil	To _____ metal recyclers.	Nil
Other (specify) <ul style="list-style-type: none"> <li>• tiles</li> <li>• door fittings</li> </ul>	5	Broken tiles for fill, on-site sale	Remainder to _____ building supplies.	Nil

**SECTION TWO – CONSTRUCTION STAGE**

Materials on Site		Destination		
Expected Waste Materials	Estimated Volume (M <sup>3</sup> )	Reuse and Recycling		Disposal
		ON-SITE *specify proposed reuse or on-site recycling methods (see p.18 for suggestions)	OFF-SITE * specify contractor & recycling outlet (see Appendix 5) * see p.18 for suggestions.	
Excavation Material  Green Waste		Covered in section 1 as part of demolition.		
Bricks	2	Use for fill behind retaining walls.	Remainder to _____ crushing & recycling company.	Nil
Concrete	5	Use for fill behind retaining walls.	Remainder to _____ building supplies.	Nil

**SECTION TWO – CONSTRUCTION STAGE - Continued**

Materials on Site		Destination		
Type of Material	Estimate Volume (M <sup>3</sup> )	Reuse and Recycling		Disposal
		ON-SITE *specify proposed reuse or on-site recycling methods * (see p.18 for suggestions)	OFF-SITE * specify contractor & recycling outlet (see Appendix 5) * see p.18 for suggestions.	* * specify contractor and landfill site (see appendix 5).
Timber (specify) • Oregon • Pine • Particle Board • Finishes	3    1	Chip for landscaping. Sell some on-site for firewood.	Remainder to _____ landscape supplies for chipping and composting.	Nil
Plasterboard		Break up & use in landscaping.	Remainder to _____ landscape supplies	Nil
Metals (specify) • Copper • Aluminium	3	Nil	Some to _____ metal recyclers for reuse.	Remainder to _____ landfill site by XYZ waste contractor.
Other - Please specify: Plastics	1	Nil		To _____ landfill site by XYZ waste contractor.

**SECTION THREE – USE OF PREMISES**

TYPE OF WASTE TO BE GENERATED	EXPECTED VOLUME PER WEEK	PROPOSED ON-SITE STORAGE AND TREATMENT FACILITIES	DESTINATION
Specify: glass, paper, food, waste, offcuts, etc.	Litres or m <sup>2</sup> (see Appendix 2 for estimates)	For example: -waste storage & recycling area; - garbage chute; - on-site composting; - compaction equipment.	- Recycling - Disposal (see Appendix 5 for contacts). -specify contractor.
Recyclables: 1. Office / retail paper & cardboard. 2. Glass, aluminium & plastic (bottles). 3. Timber pallets. 4. Electrical fittings 5. Reject trade –ins.	360 litres  50 litres  5 per week 5 litres 2 units	Temporary storage bins in upstairs office (scraps, recyclables). Two bins / bales (for paper / cardboard) & two crates (for glass, plastics, aluminium) in waste storage & recycling area. <i>Note: specific area for removal/storage of CFCs.</i>	Paper/cardboard to _____ recyclers.  Glass/aluminium to _____ recyclers. Pallets, electrical fittings & CFCs to manufacturers

**SECTION THREE – USE OF PREMISES- Continued**

TYPE OF WASTE TO BE GENERATED	EXPECTED VOLUME PER WEEK	PROPOSED ON SITE STORAGE AND TREATMENT FACILITIES	DESTINATION
Non-Recyclables: 1. Food scraps etc; 2. Other plastics (eg. wrapping); 3. Unrecyclable retail waste.	50 litres 240 litres 25 litres	Temporary storage bins in upstairs office. Two 240 litre bins in on site waste & recycling area.	To _____ landfill site by XYZ waste contractors.

**SECTION FOUR – ON-GOING MANAGEMENT**

Describe how you intend to ensure on-going management of waste site (eg. lease conditions, caretaker / manager on site).

1. *The company will prepare an Environmental Management System addressing office and retail waste and recycling. This will include expectations and achievable objective for sorting and separating waste. Also, a regular waste audit will be conducted.*
2. *An information kit for employees. Followed up every 12 months.*
3. *The waste storage and recycling area will be suitably located and bins clearly labelled.*
4. *A staff member (or cleaner) will be responsible for transferring materials to the area and for keeping the area clean and tidy.*

**SCHEDULE 2 – WASTE GENERATION RATES**

<b>Type of Premises</b>	<b>Waste Generation</b>	<b>Recycling Generation</b>
Backpackers accommodation	40L / occupant / week	20L / occupant / week
Boarding house, Guest house	60L / occupant / week	20L / occupant / week
<i>Food premises</i>		
Butcher	80L / 100m <sup>2</sup> floor area / day	Discretionary
Delicatessen	80L / 100m <sup>2</sup> floor area / day	Discretionary
Fish Shop	80L / 100m <sup>2</sup> floor area / day	Discretionary
Green grocer	240L / 100m <sup>2</sup> floor area / day	120L / 100m <sup>2</sup> floor area / day
Hairdresser	60L / 100m <sup>2</sup> floor area / day	Discretionary
Restaurant	10L / 1.5m <sup>2</sup> floor area / day	2L / 1.5m <sup>2</sup> floor area / day
Supermarket	240L / 100m <sup>2</sup> floor area / day	240L / 100m <sup>2</sup> floor area / day
Takeaway	80L / 100m <sup>2</sup> floor area / day	Discretionary
Pub	5L / bed / day 50L / 100m <sup>2</sup> floor area / bar area / day 10L / 1.5m <sup>2</sup> floor area / dining area / day	50L / 100m <sup>2</sup> floor area / bar & dining areas / day
Registered club	50L / 100m <sup>2</sup> floor area / bar area / day 10L / 1.5m <sup>2</sup> floor area	50L / 100m <sup>2</sup> floor area / bar & dining areas / day
Serviced apartments (without public restaurant)	5L / bed / day 10L / 1.5m <sup>2</sup> floor area / dining area / day	1L / bed / day
Offices	10L / 100m <sup>2</sup> floor area / day	10L / 100m <sup>2</sup> floor area / day
<i>Retail (other than food sales)</i>		
Shop < 100m <sup>2</sup> floor area	50L / 100m <sup>2</sup> floor area / day	25L / 100m <sup>2</sup> floor area / day
Shop > 100m <sup>2</sup> floor area	50L / 100m <sup>2</sup> floor area / day	50L / 100m <sup>2</sup> floor area / day
Showrooms	40L / 100m <sup>2</sup> floor area / day	10L / 100m <sup>2</sup> floor area / day

Table 4. Typical Waste Generation Rates

Source: Waverley Council. Code for the Storage and Handling of Waste

### SCHEDULE 3 – COUNCIL'S STANDARD BIN SIZES AND ACCESS REQUIREMENTS

Council provides dwelling houses with:

- 240 litre mobile garbage bin (MGB) per dwelling house or 240 litre M.G.B. for each two dwellings in seniors housing developments collected weekly;
- 240 litre mobile recycling bins (MRB) per dwelling house or a 240 litre M.R.B. for every two dwellings in multi dwelling housing, residential flat building & shop top housing developments collected fortnightly;
- for multi dwelling housing, residential flat building & shop top housing developments, Council may provide a bulk bin service in accordance with the following table, dependant on site conditions and building design.

MGB's and MRBs shall not be kept at the front of the premises, unless an appropriately screened Waste Storage and Recycling Area is provided.

MGB's and recycling containers are to be placed at the collection point (20 - 50 cm from the kerb of the streets pavement with handle closest to the roadway), no earlier than the evening prior to the collection day.

All MGB's and MRB's are to be removed from the public place by the property owner or occupier as soon as practicable after service, but not later than the evening of the collection day.

Council generally does not collect waste from within the site. If on-site collection is essential, Council may enter into a legal agreement for the service.

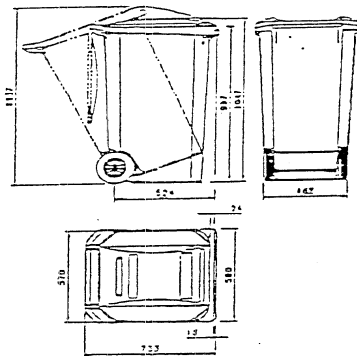
In certain circumstances, and where the storage enclosure is located in close proximity to the entrance driveway of the development or where the service vehicle can turn within the site, Council may require the Waste Service Contractor to pick up the MGB's, MRB's or Bulk Bins from the storage enclosure within the site, service the bins and then return the bins to the storage area.

<b>Multi Dwelling Housing and Seniors Housing Service Requirements and Bin Capacities</b>		
<b><i>Units</i></b>	<b><i>Bulk Bin Capacity (m<sup>3</sup>)</i></b>	<b><i>Services per week</i></b>
5	1.1	1
6 – 10	1.1 or 3.0	2 1
11 – 20	2.0 x 1.1 or 3.0	2 2
21 – 30	3.0 x 1.1 or 3.0	2 2
31 – 40	4.0 x 1.1 or 3.0	2 3
41 – 50	5.0 x 1.1 or 2.0 x 3.0	2 2

*Note: Seniors Housing calculated at half the above rates or lesser as considered appropriate by Council for the particular development.*



**MOBILE GARBAGE /  
RECYCLING BIN 240 LITRE**



**MOBILE GARBAGE /  
RECYCLING BIN 120 LITRE**

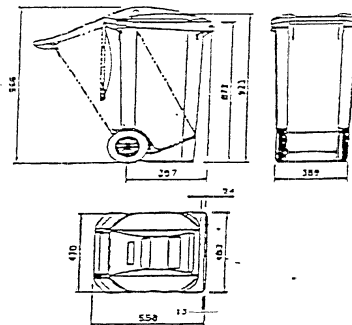
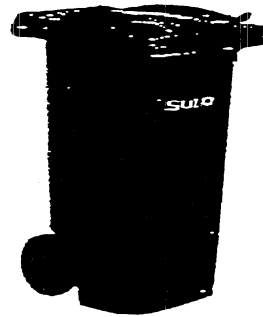
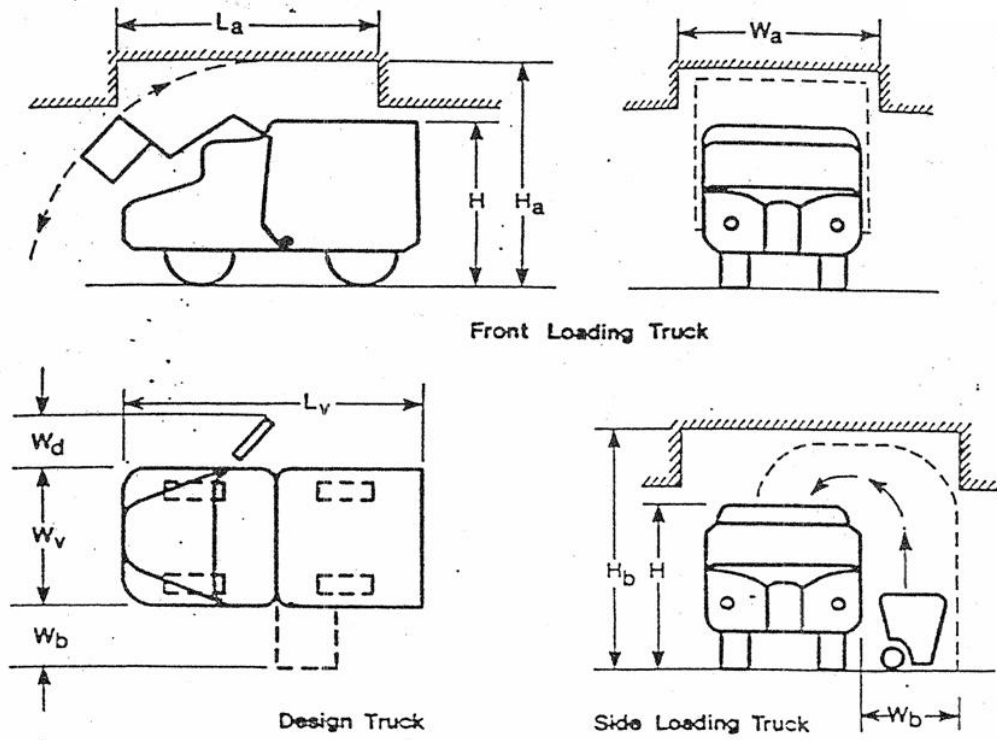


Figure 3. Council's Standard Bin Sizes

### GARBAGE VEHICLE CHARACTERISTICS



Design Truck	Length	$L_v$	11000 mm
	Width	$W_v$	2500
	Door Open	$W_d$	960
	Height	$H$	4300
Front Loading (top charge)	Extended Height	$H_a$	5800
	Overhead Clearance Area	$L_a$	7600
$W_a$		3000	
Side Loading (side charge)	Extended Width	$W_b$	1700
Side Loading (top charge)	Extended Height	$H_b$	6400
	Extended Width	$W_b$	1700
Roll-Off	Extended	$H_d$	6800
Rear Hoist	Height	$H_e$	4600

Figure 4. Garbage Vehicle Characteristics

Source: Metropolitan Waste Disposal Authority

## **SCHEDULE 4 – LOCATION AND DESIGN OF WASTE FACILITIES**

Waste storage and handling facilities can be:

- **Waste Storage and Recycling Areas**, where waste and recyclable material are stored in the open and properly screened;
- **Garbage and Recycling Rooms**, within buildings, for holding waste and recyclable material. **Compaction** equipment can be provided and rooms could be refrigerated;
- **Garbage Chute and Service Lifts Systems**, for transporting waste in multi storey buildings; and
- **Collection Areas**, separate from storage areas, where waste is located immediately before collection.

Which facilities are used will depend upon the nature and size of the use. The facilities can also be used in combination. Figure 5 provides a number of examples.

### **GENERAL PRINCIPLES**

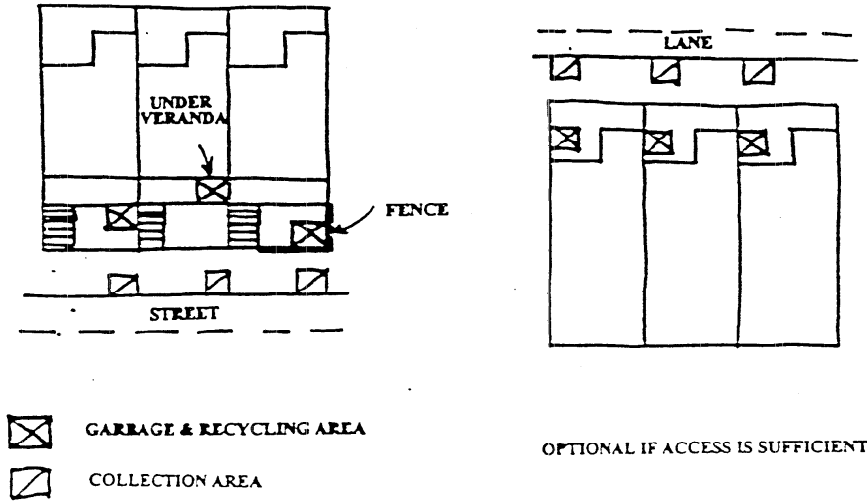
**There are number of general principles for the design and on-site location of waste management facilities.**

Waste management facilities shall:

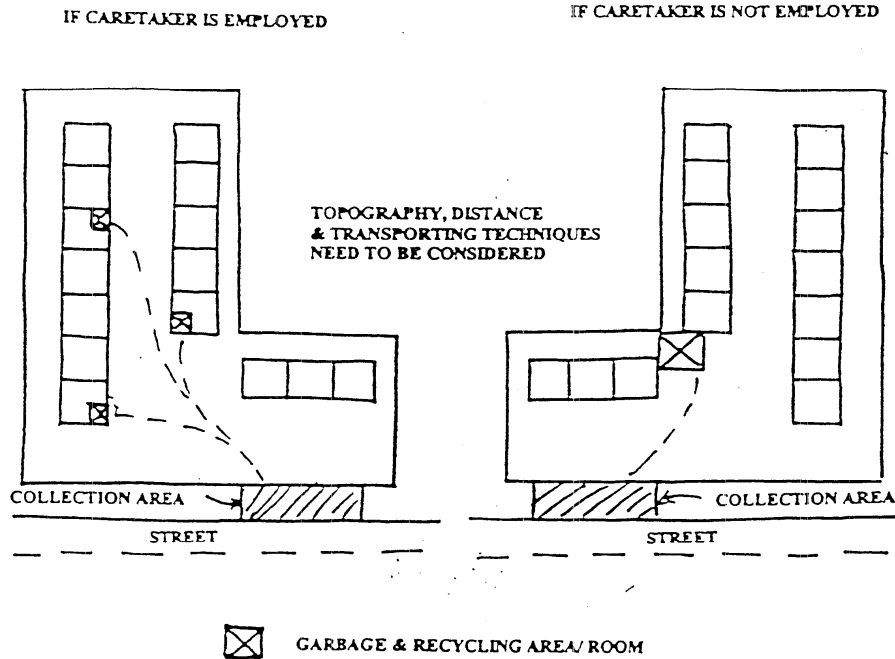
- be conveniently located to enable access for on-site movement and collection;
- relate to other loading / unloading facilities;
- have sufficient space for the quantity of waste generated and careful source separation of materials (eg. recyclables);
- have sufficient space to comfortably contain any on-site treatment facilities (eg. compaction equipment);
- have adequate weather protection where appropriate or required to be enclosed or undercover;
- be secure and lockable, where appropriate;
- be well ventilated and drained to the sewer;
- be attractive, adding to the streetscape, not detracting from it; and
- be clearly signposted to ensure appropriate use.

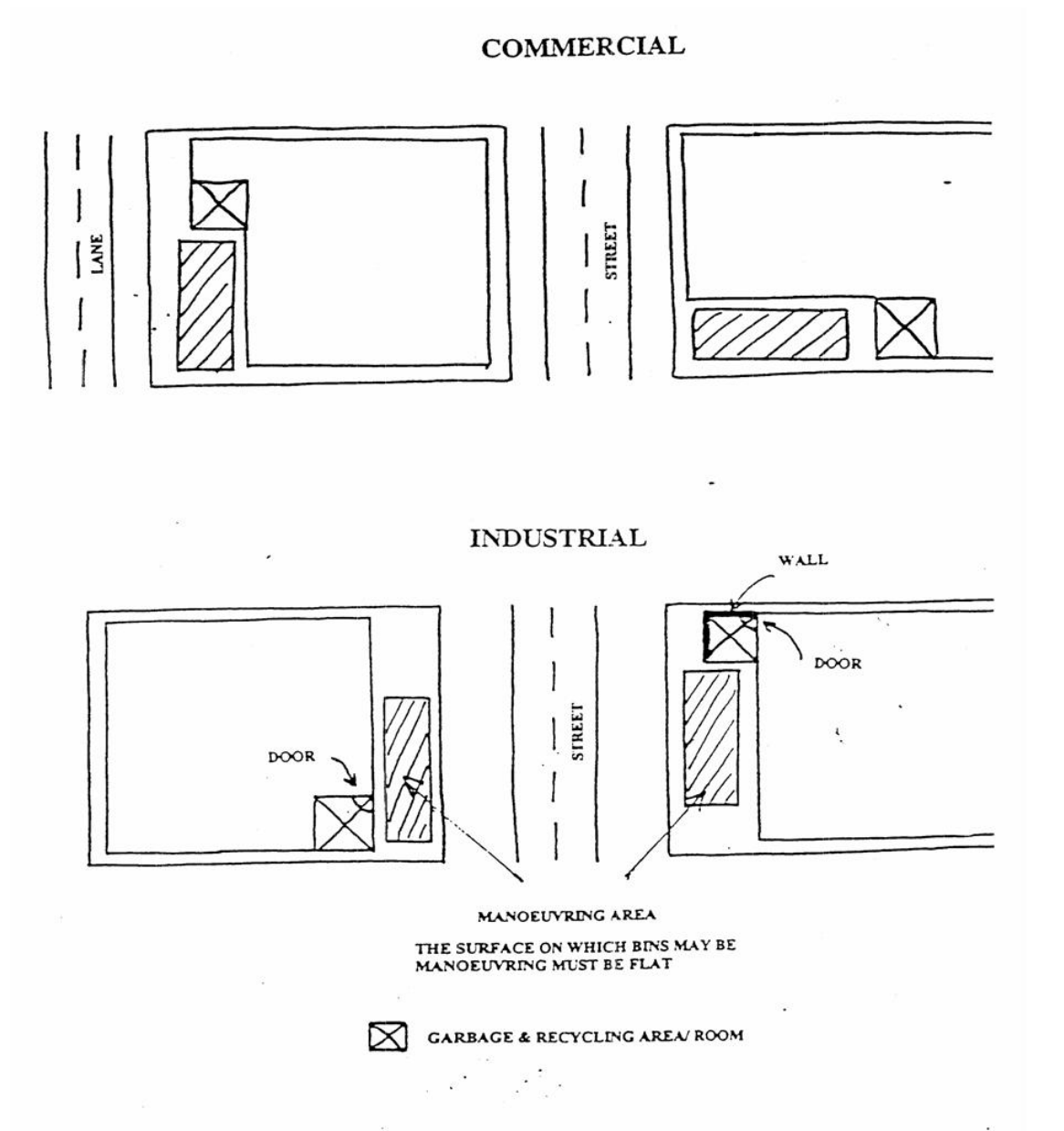
Figure 5

**SINGLE UNIT RESIDENTIAL**



**MULTI-UNIT RESIDENTIAL**





*Figure 5. Types of Waste Storage Facilities*

## LOCATION AND ACCESS

Perhaps the most obvious requirement for waste collection service is accessibility.

If the collection point is on the street, the concern is with maneuverability of the collection vehicles through the street. Generally, this is a large scale subdivision matter. Most applications will relate to an existing street system.

The first decision is whether access onto the site is required. This would depend on the following:

- the size of the development and whether travel distances for occupants require on-site storage and collection; and
- the volume of waste and whether the number of bins is too great for the width of street frontage.

If access onto the site is required and Council agrees to collect the waste by its Waste Services Contractor, the following matters shall be considered:

- the convenient placement of waste storage and recycling areas and recycling rooms;
- proposed sizes of collection vehicles that will enter the site;
- driveway widths and adequate height at entrance ways;
- structural capability of driveway to carry fully loaded waste collection vehicles;
- turning circles or three point turn arrangements so that vehicles enter and leave the site moving in a forward direction;
- on-site maneuverability, for all site users; and
- ensuring legality of access and the need for private arrangements for such on-site collection.

A useful document, providing such information, is the *Policy Controls and Procedures for Traffic Generating Developments* published by the Roads & Traffic Authority of NSW.

In all cases the location on-site shall also reflect consideration of the following:

- accessibility to the usual (or arranged) collection point (on or off-site);
- access for individual occupants; and
- proximity to site occupants and adjacent properties in terms of noise and odour control.

## DESIGN OF AREAS AND ROOMS

In some cases, a waste storage and recycling area could simply be a nominated area of the site, well drained and easily accessible from the collection point.

For instance, individual dwelling houses, multi dwelling housing developments or factory units, where each unit is responsible for their own waste.

In other cases, such as where a communal area is required, a more detailed design required.

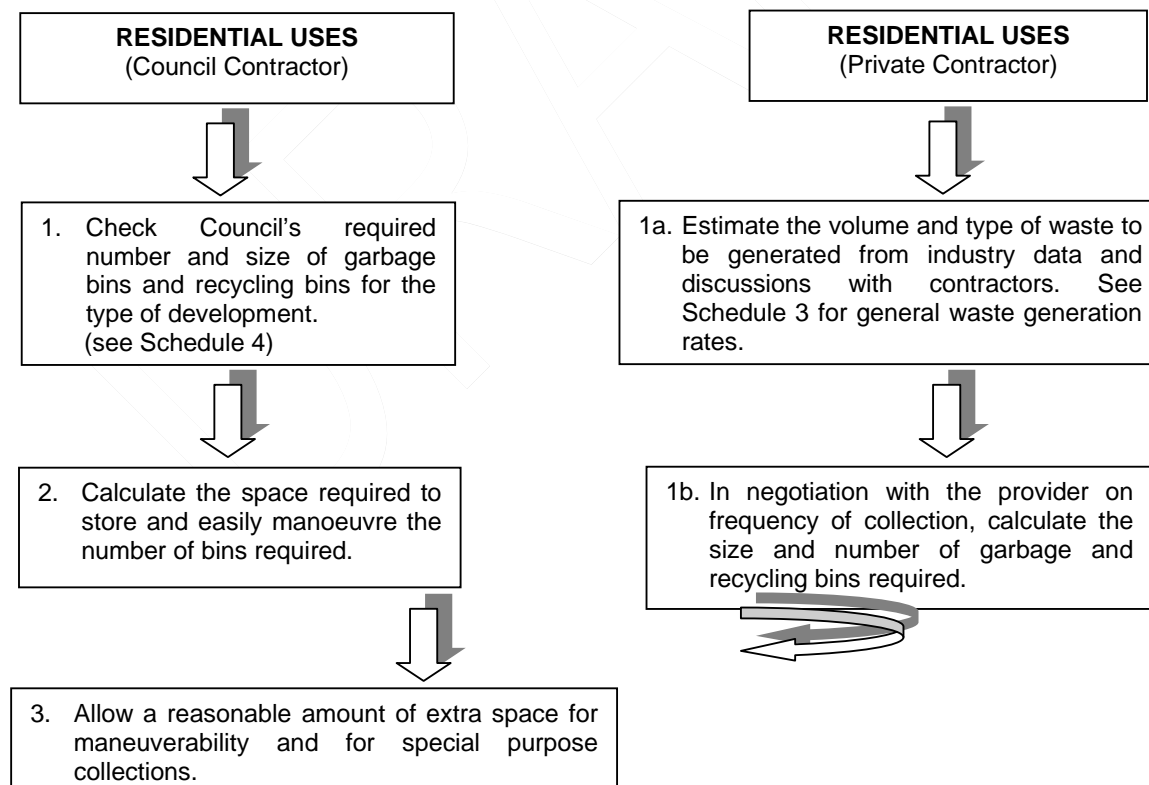
The first step in designing areas and rooms is to calculate floor area requirements. The flowchart below presents a step-by-step guide on how to calculate area requirements.

Once area requirements are considered, more detailed design can proceed.

Table 5 lists the performance criteria that shall be addressed in locating and designing waste storage and recycling areas, including basic standards. Examples of design are shown in Figure 6.

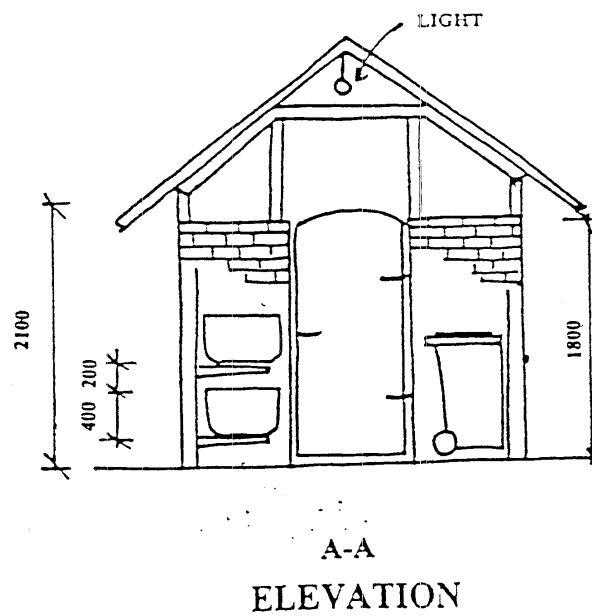
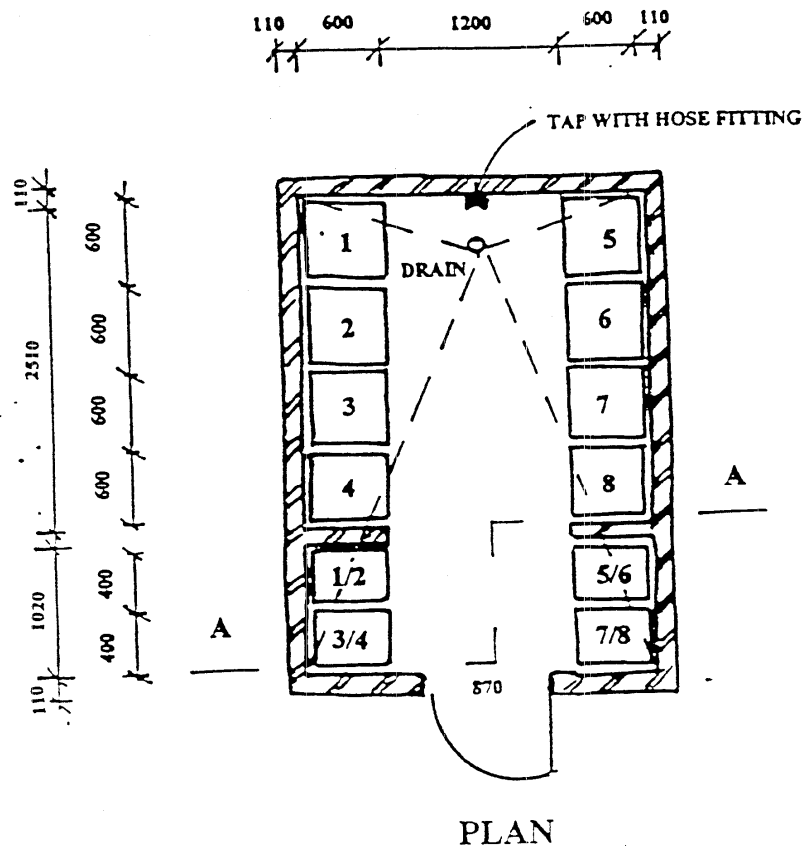
It may be appropriate in larger-scale residential and commercial developments to provide a garbage and recycling room within the building.

Table 6 lists the performance criteria for such rooms, including basic standards. Examples of good design are shown in Figure 7.









*Plan and Elevation of Waste Storage and Recycling Room*

## GARBAGE AND RECYCLING ROOMS

<b>Intent of Controls</b>	<b>Performance Criteria (Intent may be achieved where)</b>	<b>Standards-based Solution</b>
Adequate dimensions to accommodate garbage & recyclables.	<ul style="list-style-type: none"> <li>❖ The area is of adequate size. <i>Note: Follow steps on page 31 to calculate area.</i></li> <li>❖ Ceiling height is appropriate to type of service.</li> <li>❖ Door width is sufficient for installation &amp; maintenance. Wider for containers.</li> <li>❖ Equipment is carefully installed, clear of walls &amp; supported on plinths or legs.</li> </ul>	<ul style="list-style-type: none"> <li>❖ 2100 mm</li> <li>❖ 820mm minimum widths (1800 for containers)</li> <li>❖ Plinths at least 75 mm</li> <li>❖ Legs 150 mm high</li> </ul>
Ready access to waste receptacles.	<ul style="list-style-type: none"> <li>❖ The room is accessible for occupants.</li> <li>❖ The room is accessible for collection service operators. This may require the provision of a Collection Area readily accessible from the room.</li> <li>❖ If on-site access is required: ⇒driveways are of adequate strength, width &amp; design. ⇒vehicle movement is in a forward direction.</li> <li>❖ Entrance heights allow access for collection vehicles.</li> <li>❖ On-site maneuverability is unimpeded for all site users.</li> </ul>	<ul style="list-style-type: none"> <li>❖ As per waste storage &amp; recycling room requirements.</li> <li>❖ As per Table 5.</li> <li>❖ As per Table 5.</li> </ul>
Clean & healthy, free from dust, litter, odour & noise.  Safe for collectors.	<ul style="list-style-type: none"> <li>❖ There is adequate ventilation: ⇒mechanical; and ⇒natural.</li> <li>❖ There is adequate water supply: ⇒hot water for commercial uses; ⇒hose cocks protected; and ⇒hose available.</li> <li>❖ The room is well drained to a floor waste connected to the sewer.</li> <li>❖ Floors, walls and ceilings are of impervious material.</li> <li>❖ Entry of vermin is prevented.</li> <li>❖ Adequate separation from walls where containers are used is provided.</li> </ul>	<ul style="list-style-type: none"> <li>❖ BCA</li> <li>❖ Openings 5% of floor area and position to provide cross-floor ventilation.</li> <li>❖ Recessed into the wall.</li> <li>❖ Floor waste is located beneath hose cock or in close proximity to it.</li> <li>❖ Steel trowel finished concrete floor (min. 75 mm thick) and cement rendered walls.</li> <li>❖ Ceilings to be durable and smooth.</li> <li>❖ Doors to be self-closing and close-fitting.</li> <li>❖ Bump rail 50 mm clear of walls.</li> </ul>
Safety	<ul style="list-style-type: none"> <li>❖ Doors are durable and door openable from inside and outside.</li> <li>❖ Maneuverability of full bins is easy, adequate space and ease of movement.</li> <li>❖ The room is appropriately signposted (eg. for recycling bins).</li> <li>❖ Adequate lighting, controllable from outside &amp; inside, is provided</li> <li>❖ The room is well ventilated.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Solid core doors</li> <li>❖ Workcover Authority requirements.</li> <li>❖ Flat surface over which bins are maneuvered.</li> <li>❖ BCA.</li> </ul>

Table 6. Garbage and Recycling Rooms.

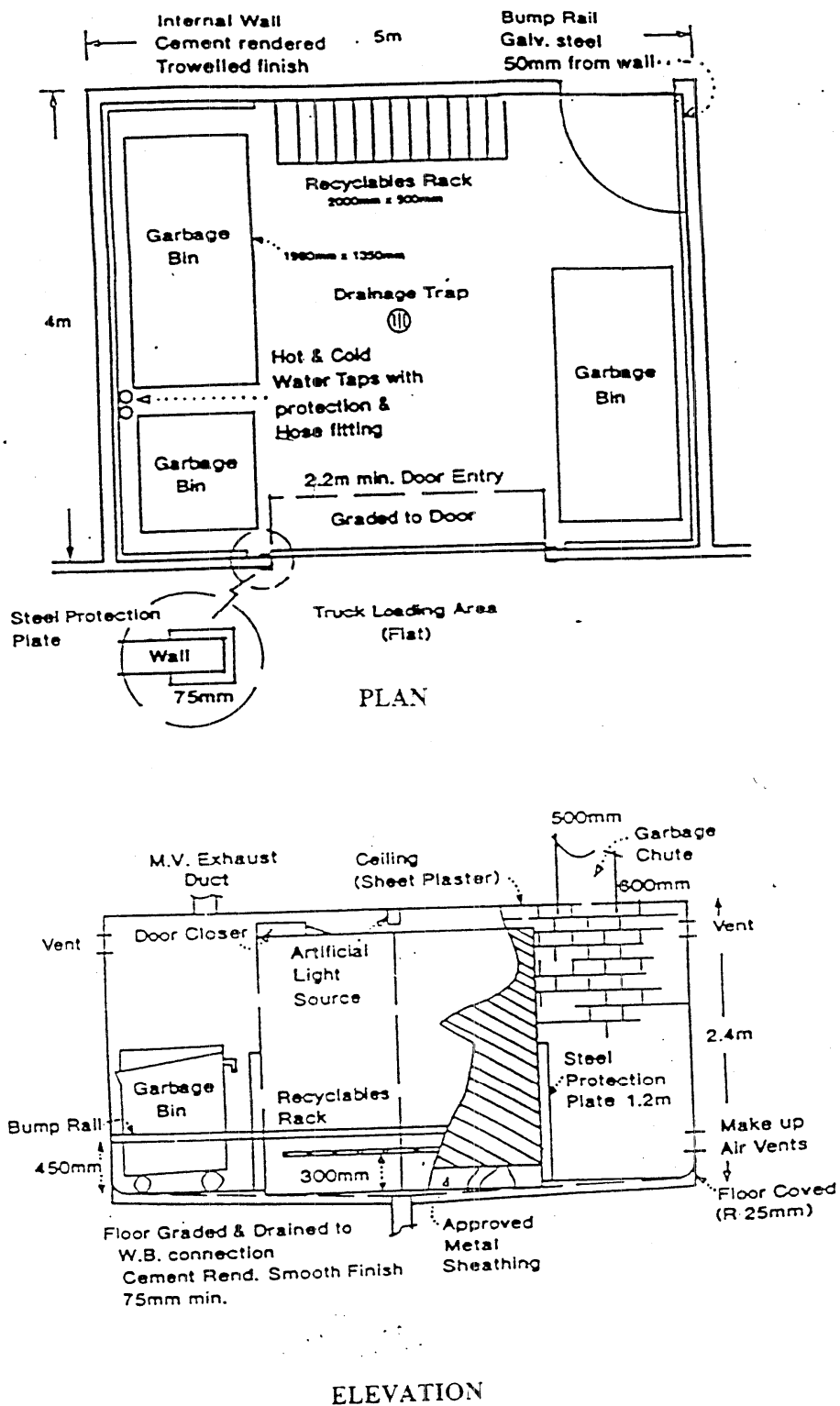


Figure 7. Commercial / Industrial Garbage and Recycling Rooms

Source: Modified City of Sydney Council. 'Code for Waste Handling in Buildings'.

## GARBAGE CHUTE SYSTEMS AND SERVICE LIFTS

In multi-storey residential buildings it may be appropriate to provide a garbage chute system or service lifts to convey garbage to Garbage and Recycling Room.

In conjunction with such systems, each level of the building must have a service compartment with adequate space for the storage of recyclable materials. Furthermore, where such a system is proposed adequate arrangements must be made for ongoing management.

The key features of a garbage chute and recycling system are shown in Figure 8 below.

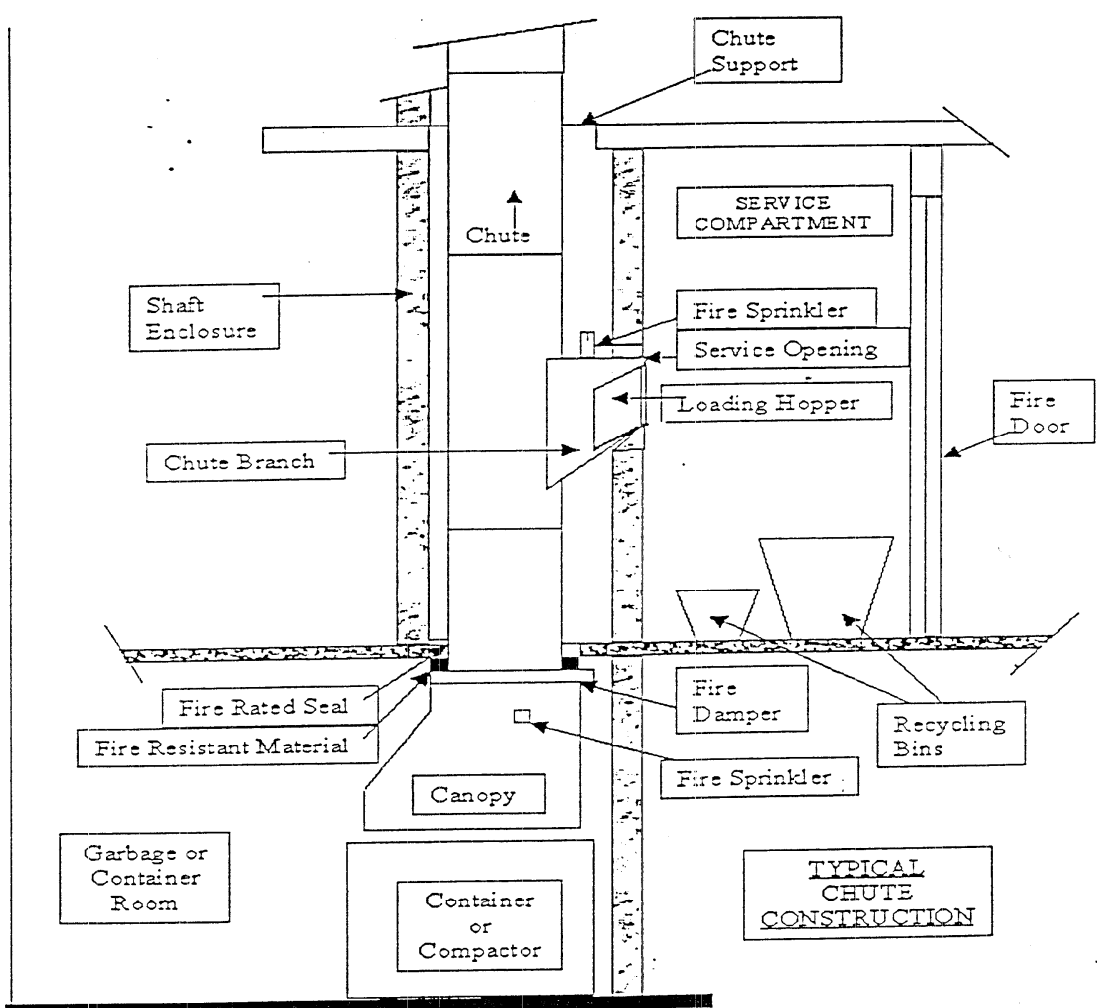


Figure 8. Garbage Chutes and Recycling Rooms

Source: Willoughby City Council. Code for Installation, Construction and Operation of Garbage Handling Facility

The following requirements are industry standards and Council requirements.

- ★ chutes must be cylindrical; and
- ★ there should be no bends in the main shaft.

Other design features should satisfy the Performance Criteria in Table 7.

## GARBAGE CHUTE SYSTEMS

<i>Intent of Controls</i>	<i>Performance Criteria (Intent may be achieved where)</i>	<i>Standard-based Solution</i>
Ensure suitable design and materials.	<ul style="list-style-type: none"> <li>❖ Chutes are of an appropriate width for volume of materials.</li> <li>❖ Internal overlaps follow direction of flow.</li> <li>❖ Chutes, hoppers, service openings and service compartments are smooth faced, durable, impervious, non-corrosive, distortion and made of fire resistant material.</li> <li>❖ There a minimal number of seamless joints.</li> </ul>	<ul style="list-style-type: none"> <li>❖ 500 mm diameter.</li> </ul>
Unimpaired flow directly to facilities in garbage room.	<ul style="list-style-type: none"> <li>❖ Branches to hopper are not too long.</li> <li>❖ Hoppers are of appropriate size and flush with chute.</li> <li>❖ Size of service openings relates to diameter of chute.</li> </ul>	<ul style="list-style-type: none"> <li>❖ not exceeding 1000 mm.</li> <li>❖ area not less than 60% size of chute.</li> </ul>
Ventilation.	<ul style="list-style-type: none"> <li>❖ Chutes extend an appropriate distance above the roofline &amp; are weather protected.</li> <li>❖ There is no airflow into service compartments.</li> </ul>	
Health and Safety.	<ul style="list-style-type: none"> <li>❖ Chutes and hoppers are contained in a service compartment or room, so as not to open directly into a habitable area.</li> <li>❖ The room is appropriately surfaced, with artificial light (controllable from outside &amp; inside) and well ventilated.</li> <li>❖ There is a cut-off door at or near the base of the chute to allow container movement and work on facilities such as compactors. <b>Note: this can double as a fire damper.</b></li> <li>❖ Service opening &amp; entrance to service compartment are appropriately signposted.</li> <li>❖ There is an appropriate system for cleaning and maintenance of chute and hoppers.</li> </ul>	<ul style="list-style-type: none"> <li>❖ ventilation in accordance with BCA.</li> <li>❖ brushes, sanitisers.</li> <li>❖ water supply point and sanitisers at the top.</li> </ul>
Safe to load.	<ul style="list-style-type: none"> <li>❖ Service openings are of adequate height from floor level.</li> </ul>	<ul style="list-style-type: none"> <li>❖ 850 mm to 1000 mm, from the floor to the lowest edge of the opening.</li> </ul>
Safe from fire	<ul style="list-style-type: none"> <li>❖ Hopper doors have an effective self-closing and sealing system. <b>Note: this is also appropriate for fire, noise and odour controls.</b></li> <li>❖ An appropriate sprinkler system is provided at the top of the chute &amp; at service opening.</li> <li>❖ Service compartments and shaft have appropriate Fire Resistance Level.</li> <li>❖ Smoke detectors are provided.</li> </ul>	<ul style="list-style-type: none"> <li>❖ BCA</li> </ul>

Encourage recycling.	<ul style="list-style-type: none"><li>❖ Adequate space is provided within the service compartment for source separation and storage of recyclables.</li><li>❖ Appropriate type and number of recycling bins are provided in the service compartment.</li><li>❖ An appropriate management system is provided for handling recyclables.</li></ul>	<ul style="list-style-type: none"><li>❖ Workcover Authority requirements</li></ul>
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Table 7. Garbage Chute Systems

**SCHEDULE 5 – LIST OF SITE, FACILITIES AND OUTLETS IN THE LOWER HUNTER**

<b>Organisation</b>	<b>Address</b>	<b>Telephone</b>
Acrobat Removals	6 / 1d George Street, Mayfield, 2304.	4960 0688
Allied Recycling Group	161 Main Road, Cardiff, 2285.	4941 1155
AMS Recycling	475 Pacific Highway, Lake Munmorah, 2259.	4972 5999
Australian Waste Oil Refineries	62 Kyle Street, Rutherford, 2320.	4932 0488
Awaba Reuse Centre	60 Wilton Road, Awaba, 2283.	4959 5763
A1 cartridges	Roma Road, Valentine, 2280.	4946 1214
Bag It Recycling	70 Hillsborough Road, Hillsborough, 2290.	4942 3079
Bags of Rags	10 / 30 Kallaroo Road, Redhead, 2290.	4944 8369
Battery World Heatherbrae	2376 Pacific Highway, Heatherbrae, 2324.	4983 1385
Battery World Maitland	201 High Street, Maitland, 2320.	4936 6176
Best House Demolition	Wyee, 2259.	4357 1306
Boolaroo Recycled Computers	15 Main Road, Boolaroo, 2284.	4958 9656
Boral Recycling	Egret Street, Kooragang Island, 2304.	4967 5988
BP	25 Maitland Road, Mayfield, 2304.	-
BP	Parry Street, Newcastle West, 2302.	-
Bumper's Used Furniture	59 Maitland Road, Sandgate, 2304.	4967 6091
C & R Tyre Recycling	36 Stenhouse Drive, Cameron Park, 2285.	4902 6777
Cartridge Conservation	24 Ash Street, Soldiers Point, 2317.	4982 0355
Cartridge World Charlestown	Shop 2, 222 Pacific Highway, Charlestown, 2290.	4946 2800
Cartridge World Newcastle	Shop 11, 810 Hunter Street, Newcastle, 2300.	4969 7272
Cartridge World Raymond Terrace	Shop 4, 26 Sturgeon Street, Raymond Terrace, 2324.	4987 1166
Castle Technology	25 Jamieson Street, Gateshead, 2290.	4947 8709
Cessnock Waste & Reuse Centre	Old Maitland Road, Cessnock, 2325.	4993 4369
Citycare Newcastle	317 Wharf Road, Newcastle, 2300.	4927 1888
Cleanaway	19 Egret Street, Kooragang Island, 2304.	4920 1455
Clean Valley	7 Enterprise Drive, Tomago, 2322.	4963 5555
Combined Packaging	9 Rural Drive, Sandgate, 2304.	4967 2922
Concrush	21 Racecourse Road, Teralba, 2284.	4958 3777
Drewcol Recycling	P.O. Box 350, Cardiff, 2285.	0418 113 935
East Cessnock Recycling	Old Maitland Road, Cessnock, 2325.	4991 1115
Environmental Waste Managers	99 Kyle Street, Rutherford, 2320.	4932 4466

ERS Australia	41 Munibung Road, Cardiff, 2285.	4956 6422
Favourite Plastics Australia	40 Darling Street, Carrington, 2294.	4961 1255
Garry Brown Office Supplies	104 Munibung Road, Cardiff, 2285.	4954 7399
HLA Envirosiences	18 Warabrook, Boulevarde, 2304.	4968 0044
Hunter Cartridge Services	485 High Street, Maitland, 2320.	4934 4844
Hunter Recyclers	8 Gross Street, Carrington, 2294.	4969 5502
Hunter Resource Recovery	5 / 3 Skyline Way, Gateshead, 2290.	1800 838 884
Hunter Valley Bandag	Maitland Road, Cessnock, 2325.	4990 1508
J R Richards and Sons	25 – 27 Oakdale Road, Gateshead, 2290.	1800 425 700
Kurri Used Building Supplies & Demolition	Mitchell Avenue (cnr Northcote Street), Kurri Kurri, 2327.	4937 1077
Lake Macquarie City Council	126-138 Main Road, Speers Point, 2284.	4921 0333
Lake Macquarie City Council Depot	Creek Reserve Road (carpark), Boolaroo, 2284.	4921 0333
Lemon Tree Passage Waste Transfer Station	Lemon Tree Passage Road, Lemon Tree Passage, 2319.	4982 4633
Liberty	317 Pacific Highway (southbound), Highfields, 2289.	-
Like-Nu Appliances	64 Broadmeadow Road, Broadmeadow, 2292.	4969 1788
Lucky's Scrap Metals	Lot 2 Racecourse Road, Teralba, 2284.	4958 1271
Maitland City Council Waste Disposal Depot	109 Mt Vincent Road, East Maitland, 2323.	4934 1888
Mobil Service Station	Anderson Drive, Beresfield, 2322.	-
Mobil Service Station	cnr Main Road & Lowry Street, Glendale, 2285.	4956 5991
Mobil Service Station	cnr Lexington Parade & Park Avenue, Kotara South, 2289.	-
Mobil Service Station	cnr Young & Turton Roads, Lambton, 2299.	-
Mobil Service Station	cnr Pacific Highway & Marks Point Road, Marks Point, 2280.	4947 7132
Mobil Service Station	608 Fishery Point Road, Morisset, 2264.	4973 4772
Mobil Service Station	cnr Thorne & Cary Streets, Toronto, 2283.	4959 3125
Mobil Service Station	Hillsborough Road, Warners Bay, 2282.	4954 6774
Nationwide Oil	99 Kyle Street, Rutherford, 2320.	4931 9283
Newcastle Cartridges	20 Kendall Street, Lambton, 2299.	4957 4633
Newcastle Eco Source	1 Euston Close, Edgeworth, 2285.	0427 531 661
O'Davis Service Centre	Cnr Dudley & Burwood Roads, Whitebridge, 2290.	-
Port Stephens Waste Management Group	330 Newline Road, Raymond Terrace, 2324.	4987 4524



Refused & Reused Recycling Centre	360 Soldiers Point Road, Salamander Bay, 2317.	4984 6244
Rod Scott & Son Pty Ltd	84 Chin Chen Street, Islington, 2296.	4961 4739
RJW Recycling	30 Church Street, Maitland, 2320.	4933 9562
Rustic Reproductions	642 Glebe Road, Adamstown, 2289.	4952 2122
Salamander Bay Waste Transfer Station	360 Soldiers Point Road, Salamander Bay, 2317.	4982 7514
Simply Recycled Timber & Building Materials	155 Wine Country Drive, Nulkaba, 2325.	4991 4622
Simsmetal Ltd	Cormorant Road, Kooragang Island, 2304.	4928 2522
Singleton Scrap Metal	P.O. Box 947, Branxton, 2335.	0402 291 814
Sludge King	843 John Renshaw Drive, Black Hill, 2322.	4930 3000
Smorgon Steel Recycling Hexham	107 Sparke Street, Hexham, 2322.	4964 8388
Spero J & M	4 Margaret Street, Mayfield, 2304.	4967 2725
Summerhill Waste Management Centre	off Minmi Road, Wallsend, 2287.	4985 6600
Summerhill Reuse Centre	Astra Street, Shortland, 2307.	0412 630 011
Tanilba Bay Service Centre	46 President Wilson Walk, Tanilba Bay, 2319.	4982 3291
T C Waste Pty Ltd	232 Talga Road, Rothbury, 2320.	4930 7642
Thiess Services	34 Waterloo Avenue, Thornton, 2322.	4921 7600
Toner Express	Newcastle, 2300.	4966 4852
Tony's Auto Parts	29 Wallsend Road, Sandgate, 2304.	4968 9111
Transpacific Industries	11 Kyle Street, Rutherford, 2320.	4939 1111
Transpacific Technical Service	Raven Street, Kooragang Island, 2304.	4920 1638
Treloar Group	25 – 33 Gardiner Street, Rutherford, 2320.	4932 7055
Valley Cardboard & Paper Recycling	65 Turton Street, Metford, 2323.	4934 8899
Veolia Environmental Services / Collex	19 Toronto Street, 2283.	4950 3300
Vodafone Charlestown	Shop 206, Charlestown Square, Charlestown, 2290.	4947 8807
Vodafone Glendale	Shop 34a Stockland Super Centre, Glendale, 2285.	4956 6000
Vodafone Kotara	Shop 1062, Westfield Shopping Centre, Northcott Drive, Kotara, 2289.	4957 1111
Vodafone Salamander Bay	Shop 14, Salamander Bay Shopping Centre, Salamander Bay, 2317.	4919 1051
Wallsend Demolition Yard	112 Glenwood Drive, Thornton, 2322.	4966 4947

**Disclaimer**

Whilst every effort has been made to ensure that the information provided is up to date (April 2008), Cessnock City Council does not endorse any of the facilities or service providers listed nor does the list represent that a facility holds all the necessary approvals and licenses. It is your responsibility to check these details before taking any materials to the places listed.

This list has been based on information received from the Department of Environment and Climate Change to provide wider dissemination for public purposes.

## **SCHEDULE 6 – CONSULTATION**

Persons making submissions to Council are advised to consult with Council's Development Services Division prior to the lodgement of a development application.

Preliminary plans shall include the following:

- site waste management plan completed;
- the volume and type of waste to be generated;
- how the waste is to be stored, separated and treated on-site;
- how the residual is to be disposed of;
- how on-going management will operate;
- location of waste cupboard space for recyclables;
- location of a composting area;
- location of waste storage and recycling area(s);
- location of collection area of waste and recyclables; and
- access and manoeuvring area to collection area.

The application shall be assessed in accordance with Tables 1 & 2.

In the case of a large complex development it is advisable to arrange an appointment with Council's Development Control Unit to discuss the details for appropriate waste management.

### **CHECKLIST**

Does your application include the following:

- is the site waste management plan satisfactorily completed?
- is a waste cupboard space for waste and recyclables provided?
- is a waste storage and recycling area or garbage and recycling room provided?
- is the location of a composting area provided?
- are there acceptable administrative arrangements for on-going waste management provided?
- is easy access to the recycling room for residents and collection services provided?
- is a waste collection area provided?
- is an unobstructed vehicular access to the collection area provided?
- is a manoeuvring area provided for waste collection for commercial / industrial and multi dwelling housing development?
- does the submitted plan for the construction / demolition show details of on-site storage space for construction materials and materials to be recycled and disposed?