STRATHFIELD MUNICIPAL COUNCIL

PART H

of

Strathfield

Consolidated Development

Control Plan 2005

Waste Minimisation and

Management Plan

Adopted 21 July 2015

Commenced 28 July 2015

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1.0 INTRODUCTION

Refer to the "General Introduction" of the Consolidated Development Control Plan for Background, General Introduction and Definitions, etc.

1.1 Purpose of Part H

Part H gives effect to the aims and objectives of the Strathfield Local Environmental Plan (LEP) 2012. It is further informed by the Strathfield Community Strategic Plan 2025 which sets out Council's and the community's shared long-term vision, priorities and strategies to 2025. Part H specifically outlines Council's requirements in pursuit of waste minimisation and resource recovery strategies in new and substantially renovated development whilst having regard to the relevant legislative and policy context discussed in Section 1.2 below.

1.2 Legislative and Policy Context

1.2.1 National Waste Policy

With an increase in population over the period 2006-07 to 2010-11, Australia has seen a 9.1% increase in waste generation rates nationally. (Department of Sustainability, Environment, Water, Population and Communities) An increase in resource recovery has occurred during this period, however greater work is required to minimise waste to landfills and reuse waste resources. Since the 1992 National Strategy for Ecologically Sustainable Development was agreed by the Council of Australian Governments, the Federal Government has been involved in waste policy formulation. The National Waste Policy is the current document that provides a guidance framework to all jurisdictions for managing waste through to 2020 and has the following aims;

- Avoid the generation of waste, reduce the amount of waste (including hazardous waste) for disposal,
- Manage waste as a resource,
- Ensure that waste treatment, disposal, recovery and re-use is undertaken in a safe, scientific and environmentally sound manner, and
- Contribute to the reduction in greenhouse gas emissions, energy conservation and production, water efficiency and the productivity of the land.

The National Waste Policy establishes 6 key areas and identifies 16 strategies across these areas for all government jurisdictions to work towards waste minimisation and resource recovery.

1.2.2 NSW 2021 (State Plan)

NSW 2021 is the 10 year State plan that aims to rebuild the economy, return quality services, renovate infrastructure, restore accountability to government and strengthen our local environment and communities. One of the key priorities of the plan is to achieve the recycling targets set for 2014 (Goal 23). In addition, the Waste Less, Recycle More Initiative invests $465.7 million over 5 years towards waste and resource recovery programs.

The draft Waste Avoidance and Resource Recovery Strategy 2013 – 2021 establishes a range of priority areas over the next 10 years in pursuit of more efficient use of resources and to achieve improvements in the well-being of the environment, community and economy. The draft strategy has been developed from the waste hierarchy which underpins the objectives of the Waste Avoidance and Resource Recovery Act 2001.

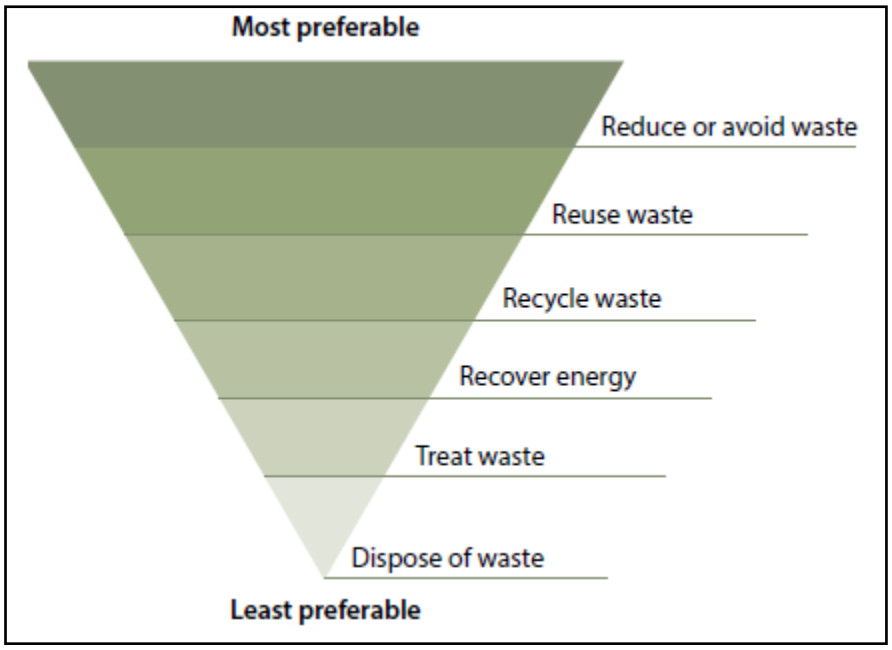


Figure 1: The Waste Hierarchy, draft Waste Avoidance and Resource Recovery Strategy 2013 – 2021 (NSW Environment Protection Agency).

NSW Environment and Heritage has produced a model DCP known as the 'Waste Not DCP' together with Better Practice Guide for Waste Management in Multi-unit Dwellings. These guidelines seek to promote the provision of garbage, recycling, organic and bulky waste services whilst maximising resource recovery and tailoring solutions to individual situations. Part H is informed by these documents and references specific sections throughout.

The Protection of the Environment (Operations) Act 1997 and the Protection of the Environment Operations (Waste) Regulation 2005 together with the Food Act 1989 and Food Regulations 2001 provide further statutory guidance for managing waste in the environment and in food preparation premises. The Environmental Planning and Assessment Act, 1979 establishes an environmental assessment regime that requires the consideration of waste minimisation and management through the principles of ecologically sustainable development and statutory matters for consideration. This legislative framework provides mechanisms in which to deal with waste minimisation, management and resource recovery in NSW. Part H provides a tailored approach to realising the aims and objectives of this legislation and guidance from the State Government in the Strathfield Local Government Area (LGA).

1.2.3 Strathfield Community Strategic Plan 2025

The Strathfield Community Strategic Plan 2025 (Community Plan) sets out Council's and the community's shared long-term vision, goals and strategies to 2025. It is the product of extensive community consultation and participation through which the community and Council have developed a shared vision. An effective waste minimisation and management policy will contribute positively towards the achievement of the following priorities of the Community Plan:

Well maintained local area

- Clean and attractive town centres and neighbourhoods
- Reduce litter and dumping and take action on pollution e.g. air, noise, water etc
- Well maintained public areas, open spaces and parks
- Little tolerance for offenders

Local environment

- High quality and well-designed development
- Sustainable development
- Protect natural environment including air and water quality

These priorities recognise Council and the community's aspirations for safe, clean, healthy and attractive environments. Clean and well-maintained streets, parks and open spaces and efficient and effective waste and recycling services are identified to contribute to and support public amenity and the enjoyment of our local areas. The guidelines and requirements of Part H will assist Council and the community achieving the abovementioned priorities.

1.3 Key Features

This Plan has four key features:

- Part 1: Introduction to the waste legislative and policy context for waste minimisation and management.
- Part 2: General introduction to a Waste Management Plan (WMP) and its requirements for different types of development (e.g. Development Applications, Complying Development Certificates and in some instances, Construction and Occupation Certificate Applications).
- Part 3: Specific advice for particular uses and scale of development such as multi dwelling housing, residential flat buildings and mixed-use development, commercial and industrial uses.
- Part 4: Series of appendices which provide detailed guidance on meeting the relevant development controls for certain types of development. These provide information on calculating waste generation rates, storage and collection area design requirements, Council services and standard notices for display.

1.4 Name of this Plan

This Plan is entitled 'Part H – Waste Minimisation and Management' and forms part of the Strathfield Consolidated Development Control Plan (DCP) 2005.

1.5 Land to which this Plan applies

This Plan applies to all land within the Strathfield Municipal Council local government area as shown in the Land Application Map of the Strathfield Local Environmental Plan (LEP) 2012.

1.6 Aims and Objectives

This Plan aims to encourage waste minimisation and facilitate appropriate and sustainable waste storage and collection arrangements in all stages of development. It is designed to be consistent with the Federal and State Government legislative and policy context whilst meeting the vision and priorities set by the Strathfield community in the Strathfield Community Strategic Plan 2025. The specific objectives of the Plan are:

a) To maximise reuse and recycling of building and construction materials, household generation waste, industrial and commercial waste.

b) To assist in achieving Federal and State Government waste minimisation targets.

c) To minimise the overall environmental impacts of waste and to provide advice to the community on how to prepare Waste Management Plans, detailing actions to minimise waste generation and disposal.

d) To provide advice to the community on matters to be considered when assessing the waste implications of applications made under the Environmental Planning and Assessment Act 1979 and the Local Government Act 1993.

e) To require source separation and other design and location standards which complement waste collection and management services offered by Council and private operators.

f) To provide advice to the community on how to reduce and handle waste during the demolition and construction phase.

g) To encourage building designs and construction techniques that will minimise future waste generation.

h) To provide details for the design and construction of waste handling storage facilities in buildings.

i) To prevent large quantities of bins from being placed on street frontages and detracting from the visual amenity of the area by requiring onsite collection.

j) To facilitate safe and practical collection options in new development for Council collection staff and contractors.

k) To ensure that medium and high density development in the Parramatta Road Corridor are adaptable for future connection to an automated waste collection system.

2.0 GENERAL REQUIREMENTS

For all types of development the ongoing management of waste must be considered. This not only reduces waste but also ensures that the management and collection of waste and recyclables is user-friendly for all stakeholders (ie: building occupants, neighbours, waste contractors and other service providers)

The provision of waste management systems aims to facilitate and enhance the quality of the development as well as address every activity and function associated with on-site waste management. Resources such as the EPA's *Better Practice Guide for Waste Management in Multi-unit Dwellings* and *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* should be used to inform design and waste management outcomes in new and existing development.

All waste management systems must comply with the Building Code of Australia and all relevant Australian Standards.

The proposed waste management system for the development should be discussed with Council prior to submission of a development application. For larger developments, the proposed system can be discussed as part of a pre-lodgement meeting.

2.1 Waste Management Plans

All applications for development, including demolition, construction and the on-going use of land or building must be accompanied by a Waste Management Plan (WMP) that outlines measures to minimise and manage waste generated during:

- demolition
- construction
- ongoing use of the land and/or building

In doing so, the WMP nominates the:

- volume and type of waste and recyclables to be generated
- storage and treatment of waste and recyclables on site
- disposal of residual waste and recyclables
- operational procedures for ongoing waste management once the development is complete

The WMP should also highlight the method of recycling or disposal and the waste management service provider. A WMP is a written document that addresses the above requirements together with supporting information and drawings. A template for the compilation of a WMP is provided in Appendix A. It is further expected that waste servicing and collection arrangements are clearly depicted and annotated on architectural drawings.

2.2 Application

The provision of waste minimisation and management strategies should be considered at the earliest possible design stage of a development or use to avoid difficult revisions or retrofit at a later stage.

2.2.1 Development Applications

A WMP is required for all types of development including demolition, construction and ongoing use of land and/or building including local, integrated, regional, state significant and other major project development types. It is expected that the details provided in a WMP are commensurate to the scale of the development and extent of any activities proposed (i.e. the larger the development or use, the more comprehensive the requirements of the WMP and the more detail should be provided).

2.2.2 Exempt Development

A WMP is not required in association with Exempt Development carried out in accordance with Strathfield LEP 2012 or relevant State Environmental Planning Policies (SEPPs) such as State Environmental Planning Policy (Exempt and Complying Development Codes) 2008. However, a person undertaking such development should seek to minimise the generation of waste in the construction and operation of any such use or activity and deal with any waste generated in accordance with the objectives herein.

2.3 Waste and Recycling Generation Rates

Waste and recycling generation rates are provided in Appendix B and should be used to calculate an appropriate waste storage and collection capacity for development and uses. This will determine the waste storage area capacity requirements.

2.4 Implementing a Waste Management Plan

When implementing a Waste Management Plan, the applicant must ensure that:

- Footpaths, public reserves and street gutters are not used as places to store waste or materials of any kind without Council approval.
- Any material moved offsite should be transported in accordance with the requirements of the Protection of the Environment Operations Act (1997).
- Waste should only be transported to a place that can lawfully be used as a waste facility.
- Generation, storage, treatment and disposal of hazardous waste and special waste (including asbestos) is conducted in accordance with the relevant waste legislation administered by the NSW EPA and work, health and safety requirements under WorkCover NSW.
- Evidence such as weighbridge dockets and invoices for waste disposal or recycling services must be retained as proof of appropriate disposal in accordance with legislative requirements.

2.5 Identification and Educational Signage

The installation of signage to inform and educate residents and users of waste storage and collection room(s)/area(s) is important in promoting effective waste minimisation, resource recovery and management. Signage provision must be included in a waste management plan, and include the following information;

i) Types of signage – including general waste, recycling, organics and bulk-waste room signage,
ii) Number of signs – must include signage within each collection room as a minimum,

iii) Locations of signs – must be visible at all times and well lit. Bin lid stickers must also be attached to each bin to advise waste types for that bin.

The design of signs for garbage, recycling and organics bins should be prepared consistent with Council's requirements, including provision of multi-lingual signage. Downloadable content of approved signage types and sizes can be found on Council's website.

For additional information, the NSW EPA provides standard wall posters and bin stickers as free downloads from http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm

2.6 Additional Approval Requirements

2.6.1 General

Certain types of waste and/or activities that produce large quantities of waste may be subject to classification, further regulation and/or licensing requirements under the Protection of the Environment Operations Act, 1997 (POEO Act). Some of these are discussed below and further information is available from http://www.epa.nsw.gov.au/waste/types.htm

2.6.2 Trade Waste

Premises discharging trade wastewater must do so only in accordance with a written agreement from the local sewer authority. In the Sydney metropolitan area, the local sewer authority is usually Sydney Water. Trade wastewater is defined as "any liquid, and any substance contained in it, which may be produced at the premises in an industrial and commercial activity, but does not include domestic wastewater (e.g. from hand-basins, showers and toilets)". Further information is available from www.sydneywater.com.au.

2.6.3 Clinical Waste

The Protection of the Environment Operations Act, 1997 defines clinical and related waste to include clinical waste; cytotoxic waste; pharmaceutical, drug or medicine waste; and sharps waste. Additional licensing and requirements for the transportation, storage, treatment and disposal of clinical and related waste may be required under the POEO Act and the Protection of the Environment Operations (Waste) Regulation 2005.

2.6.4 Hazardous and Liquids Waste

Hazardous wastes including hazardous liquid wastes are potentially harmful to human health or the environment. NSW legislation may require the generation, transportation, storage, treatment and disposal of hazardous and liquid waste to be subject to further environmental assessment, licensing and/or regulations. The NSW EPA provides further information on hazardous wastes http://www.epa.nsw.gov.au/owt/index.htm

2.6.5 Asbestos

Asbestos fibres may be released into the air when products containing asbestos are handled, stored or transported incorrectly. Asbestos can be harmful to human health when inhaled and may have adverse impacts on the environment. Many old dwelling houses and sheds in Sydney contain building materials such as fibro sheeting which contain asbestos and require licensed contractors to manage and remove. Detailed resources and further information for safely managing asbestos are available from the NSW EPA website at

http://www.epa.nsw.gov.au/waste/asbestos.htm
http://www.epa.nsw.gov.au/wasteregulation/asbestos-monitor.htm
http://www.epa.nsw.gov.au/managewaste/house-asbestos.htm

2.6.6 Compaction

Compaction of waste is not generally supported by Council. Damage to bins/equipment and overloading of bins and trucks is common where compaction facilities are used. Council may, however, approve the use of compaction equipment should this be proven effective and sustainable for a site. Approval for the use of compaction facilities will be entirely at the discretion of Council.

3.0 DEVELOPMENT CONTROLS

3.1 Demolition of Buildings or Structures

3.1.1 General

The demolition stage is a primary opportunity for waste minimisation. All possible methods to reuse existing buildings or structures, materials or parts thereof are encouraged to be investigated and implemented.

3.1.2 Objectives

a) Optimise adaptive reuse opportunities of existing buildings or structures.

b) Maximise reuse and recycling of materials.

c) Minimise waste generation.

d) Ensure appropriate storage and collection of waste.

e) Minimise the environmental impacts associated with waste management.

f) Avoid illegal dumping.

g) Promote improved project management.

3.1.3 Controls

a) A Waste Management Plan (WMP) is required to accompany all Development Applications or Complying Development Certificates for demolition in accordance with the guidelines below.

3.1.4 Guidelines

- The WMP should be prepared in accordance with the template contained in Appendix A of this Plan.
- Depictions and annotations of storage, stockpiling and collection arrangements including turning circles for collection vehicles (where greater than a Medium Rigid Vehicle) are to be included on the Site or Demolition Plan.
- Opportunities for the reuse and recycling of materials in accordance with Table 1 below should be included in the WMP.
- The allocation of an area for the storage or stockpiling of waste should be mindful of slope, drainage, location of waterways, stormwater outlets, vegetation and access and handling requirements.
- Sediment and erosion control measures should be implemented in accordance with the Managing Urban Stormwater: Volume 1 (commonly referred to as the 'Blue Book') and available from http://www.environment.nsw.gov.au/stormwater/publications.htm. These measures should prevent damage by the elements, odour and health risks and dispersal of windborne litter.
- Minimise site disturbance and limit unnecessary excavation.

Material	Reuse/Recycling Potential
Concrete	Reused for filling, levelling or road base
Bricks and Pavers	Can be cleaned for reuse or rendered over or crushed for use in landscaping and driveways
Roof Tiles	Can be cleaned and reused or crushed for use in landscaping and driveways
Untreated Timber	Reused as floorboards, fencing, furniture, mulched or sent to second hand timber suppliers
Treated Timber	Reused as formwork, bridging, blocking and propping or sent to second hand timber suppliers
Doors, Windows, Fittings	Sent to second hand suppliers
Glass	Reused as glazing or aggregate for concrete production
Metals (fittings, appliances and wiring)	Removal for recycling
Synthetic Rubber (carpet underlay)	Reprocessed for use in safety devices and speed humps
Healthy Trees	Relocated either onsite or offsite
Garden Waste	Mulched, composted
Carpet	Can be sent to recyclers or reused in landscaping
Plasterboard	Removal for recycling or return to supplier

Table 1: Examples of the potential reuse and recycling opportunities of demolition materials, Waste Not DCP 2008 (NSW Environment and Heritage)

3.2 Construction of Buildings or Structures

3.2.1 General

Attention to design, estimating of materials and waste sensitive construction techniques and management practices can achieve significant rewards in managing waste.

3.2.2 Objectives

a) Maximise reuse and recycling of construction materials

b) Minimise waste generation.

c) Ensure appropriate storage and collection of construction waste.

e) Avoid illegal dumping.

f) Promote improved project management.

g) Optimise adaptive reuse opportunities of existing building/structures.

3.2.3 Controls

a) A Waste Management Plan (WMP) is required to accompany all Development Applications for construction in accordance with the guidelines below.

3.2.4 Guidelines

- The WMP should be prepared in accordance with the template contained in Appendix A of this Plan.
- Estimate volumes of materials to be used and so that the correct quantities are purchased. For small-scale building projects, an indication is provided in Appendix B.
- Identify potential reuse and recycling opportunities of excess construction materials.
- Incorporate the use of prefabricated components and recycled materials.
- Arrange for the delivery of materials on an 'as needed' basis to prevent degradation of material through weathering and moisture damage.
- Areas identified for the storage of materials for use, recycling and disposal should be selected having regard to slope, drainage, location of waterways, stormwater outlets and vegetation.
- Promote separate collection bins or areas for the storage or residual waste.
- Clearly signpost the purpose and content of the bins and storage areas.
- Minimise site disturbance and limit unnecessary excavation.
- Retain all records demonstrating lawful disposal of waste and keep them readily accessible for inspection by regulatory authorities such as Council, WorkCover NSW or NSW EPA.

3.3 Design and Use of Buildings

3.3.1 Provision of On-site Waste Collection

a) Development for the purposes of multi-unit housing, residential flat buildings, serviced apartments, mixed use and commercial development must provide onsite, underground collection of waste.

b) Access for waste collection vehicles shall be provided from a secondary street frontage. Where only one street frontage is available, the design of the building should ensure that the driveway location minimises impacts on the streetscape and building façade design. Developments where the access driveway dominates the building frontage are not encouraged.

c) Collection vehicles must be able to service the development efficiently and effectively, with minimal need to reverse and manoeuvre. The building should be designed to ensure access and manoeuvring requirements of vehicles can be met. Flexibility of facilities to adapt to changing vehicle sizes over time should be included.

Architectural and waste management plans must be developed in accordance with the requirements and numerical standards of Appendix E, and provide the following:

i) Provision of a waste collection area in close proximity to the street.
ii) Sufficient headroom for the full path of travel to and from the waste and recycling room, including ramps, access roads, turning circles and

basement/loading areas. The clearance is to be kept free of any overhead conduits, ducting, services or other obstructions. Typical Council collection vehicle specifications are shown in Appendix F.

iii) Adequate turning circles to allow collection vehicles to enter and exit the site in a forward direction. Vehicles should not be required to undertake more than a 3-point turn to achieve this and adequate clearances from walls, kerbs and structural columns should be provided.

iv) Ramp and driveway gradients suitable for collection vehicle access.

v) Slab and driveway construction capable of accommodating the weight of a fully loaded collection vehicle. Weight and structural requirements for Council collection vehicles are included in Appendix E. For all other providers, engineering requirements for proposed collection vehicles must be provided.

vi) Collection vehicles must not impede access to, within or from the site for other users.

vii) If a vehicle turntable is to be used, the physical specifications of the turntable must be capable of accommodating the weight and wheel base dimensions of the proposed collection vehicles. The area it is located in must accommodate the full turning circle of the vehicle, including any overhang. Flexibility to adapt to changing vehicle size and weight should be considered when determining the appropriate turntable size and any area it is located within.

d) Prior to pouring of the ground floor slab, the applicant must submit to the relevant certifying authority, certification by a qualified surveyor that the headroom approved in the waste management plan and on the approved plans has been met. The relevant ceiling heights for Council's collection vehicles are provided in Appendix E.

e) The room/s for storing waste and recycling must be located in a position that is convenient for both users and waste collection staff.

f) The Waste Management Plan and application plans must demonstrate how bins are to be transferred to collection vehicles. Plans must show the location and configuration of bins at the point of collection and ensure there is adequate room for;

i) all bins to be collected in one visit, and
ii) the necessary manoeuvring of bins within the area during collection.

Drivers must not be required to leave the vehicle to move bins.

3.3.2 Exemptions to underground collection

On a merit basis, Council may consider alternative onsite collection arrangements to underground waste collection, provided the applicant can justify this departure with relevant reports. Only in exceptional circumstances will Council consider kerb-side collection for the above development types.

A decision to support an exemption to underground or onsite collection will be based on assessment of a range of factors, such as ability to comply with the broader objectives of the Strathfield Consolidated Development Control Plan, site constraints, locality constraints, scale of the development and alternative development options.

3.3.3 Alternative onsite collection arrangements

a) Where an exemption for onsite collection is deemed appropriate, the following alternatives may be considered:

   i) Collection in a loading dock facility, where collection vehicles reverse into the dock and exit in a forward direction.
   ii) Collection from an at-grade, on-site location, where bins are transferred to the collection area from the garbage room and returned following collection. Vehicles reverse into the site and exit in a forward direction.

b) Where onsite collection is to be provided at grade, the storage and collection area(s) must comply with Council's controls and Section 3.3.1, (b)-(f) and 3.3.2 of this Part, and provide the following:

   i) Minimal reversing to access the collection point.
   ii) Compliance with the requirements of Appendix E.
   iii) Be located so that the collection vehicle does not obstruct access for other users.
   iv) Provision for the vehicle to be contained within the site, with no obstructions over public property.
   v) Address tree overhang and other likely obstructions.
   vi) Ensure adequate turning circles are available on street to allow for reversing into the site, with the waste management plan detailing measures required to allow for access needs, eg: no standing zones alongside driveways etc.

3.3.4 Onsite Collection Access

As a minimum requirement for Council collection access, Council will require:

a) A Positive Covenant under Section 88E of the Conveyancing Act, 1919 is required to be created on the property title in order to formalise access by Council staff or its authorised contractors where onsite waste collection is required. This is usually applied through a condition of Development Consent with evidence of the registration of the covenant submitted to Council prior to the issue of the Occupation Certificate. The standard condition used for this purpose is as follows:

   A Positive Covenant under Section 88E of the Conveyancing Act, 1919 shall be created on the title of the property as follows:

   i) Full and free right must be provided to Strathfield Council employees or its authorised contractors to enter upon the land and remove any waste products using any vehicle or equipment as necessary; and
   ii) The owner of the lot burdened shall be solely responsible for the cost of maintaining in good and sufficient repair at all times the internal roads or access ways used by Strathfield Council or its authorised contractors for the purposes of exercising its rights as set out in Clause (1) above.

   The wording of the Instrument shall be submitted to and approved by Strathfield Council prior to lodgement at Land and Property Information NSW. The Instrument shall be registered and a registered copy of the document shall be submitted to and accepted by the Strathfield Council **prior to the issue of an Occupation Certificate.**

This control may be revised or substantially modified to suit different site and development circumstances at Council's discretion.

b) Indemnity against claims for loss or damage to the pavement or other driving surface. Council may also require indemnity against liabilities, losses, damages and any other demands arising from any on-site collection service.

c) A master access key/control device to be provided to Council for any gate or roller door, with access arrangements to be negotiated with Council.

3.4 Provision for Automated Waste Collection System (AWCS)

3.4.1 General

This section applies to new development within the Parramatta Road Corridor, as shown in Appendix G.

An automated waste collection system (AWCS) is a mechanical vacuum system which is used to transport waste via an underground pipe network. It has specific design elements that need to be considered, including inlets, pipe networks and a collection station. Design considerations include system capacity and infrastructure requirements for the pipe system.

3.4.2 Objectives

a) To ensure that medium and high density development in the Parramatta Road Corridor are adaptable for future connection to an automated waste collection system.

3.4.3 Controls

a) The design and construction of all medium and high density buildings within the Parramatta Road Corridor must provide a conventional waste collection system that is adaptable to an AWCS, including adaptable waste rooms.

b) Developments must be designed to allow for future connection of the AWCS, with the space and infrastructure needed for installation/retrofitting of the system included. This must be provided in accordance with Council requirements.

c) Council may request detailed design drawings for the AWCS provision, including details of waste collection rooms, air inlet facilities, waste inlet areas, pipe access spaces and connection points in order to:

i) Ensure the development will meet the requirements outlined in these controls;

ii) Ensure that the building will be capable of adaptation when the building is integrated into the wider AWCS; and

iii) Provide detailed advice, either from Council, or from Council's service provider, in regard to whether the detailed design is suitable for the AWCS.

3.5 Single Dwellings, Semi-Detached and Dual Occupancy Development

3.5.1 General

The design of waste and recyclables storage areas within the home and property affect ease of use, amenity and the movement and handling of waste for the life of the development.

3.5.2 Objectives

a) Maximise reuse and recycling of materials.

b) Minimise waste generation.

c) Ensure appropriate collection and storage of waste.

d) Minimise the environmental impacts associated with waste management.

e) Avoid illegal dumping.

3.5.3 Controls

a) A Waste Management Plan (WMP) is required for single dwelling, semi-detached and dual occupancy development in accordance with the guidelines below.

3.5.4 Guidelines

- The WMP should be prepared in accordance with the template contained in Appendix A of this Plan.
- Council's residential waste collection service offers one (1) x 120 litre (L) general waste bin, one (1) x 240L recycling bin and one (1) x 240L garden vegetation bin per dwelling for single dwellings, semi-detached and dual occupancy development.
- Waste containers should be stored in a suitable place to avoid vandalism, nuisance (odour, vermin) and adverse visual impacts on residents and the streetscape. They should be located to minimise the distance of travel to the collection point, be easily accessible and be of sufficient size to accommodate the necessary waste storage bins in accordance with Appendix C.
- Each dwelling should identify the location of indoor waste/recycling cupboard on the floor plans.
- A composting area/container should be provided for each dwelling and located so as not to impact adjoining properties by way of odour, vermin or other nuisance.

3.6 Multi Dwelling Housing (Town Houses and Villas) and Residential Flat Buildings

3.6.1 General

Note: Refer to 'Better Practice Guide for Waste Management in Multi Unit Dwellings' EPA 2008

The design of waste and recycling storage areas within the unit and property affects ease of use, amenity, movement and handling of waste for the life of the development. Multiple households within the property increase challenges with regard to waste volume, ease of access and operation of waste sorting and removal systems.

The placement of an excessive number of bins on the nature strip results in an unacceptable visual amenity impact on the streetscape. The provision of bulk bin storage and onsite collection improves the visual quality of streets, allows for a coordinated design approach to providing dedicated waste storage and collection areas and improves the safety and efficiency of collection by removing potential conflicts with vehicles and other obstacles that may impede access.

This section will also be applied to nursing homes and retirement villages.

3.6.2 Objectives

a) Ensure appropriate, safe and practical waste storage facilities and collection arrangements.

b) Maximise source separation and recovery of recyclables.

c) Ensure waste management systems are as intuitive for occupants as possible and are readily accessible.

d) Minimise adverse environmental impacts associated with waste management.

e) Discourage illegal dumping by providing onsite storage and removal services.

f) Reduce visual amenity impacts of bins on the nature strip by collecting waste from locations away from the public space.

g) Improve the efficiencies of waste storage and collection through bulk bin storage and onsite collection.

3.6.3 Controls

A Waste Management Plan (WMP) is required for all multi dwelling housing and residential flat buildings prepared in accordance with the guidelines below and the following requirements:

a) Provision for onsite collection is required in accordance with Section 3.3 and Appendix E

b) A dedicated waste storage room(s) or area(s) are to be provided in accordance with the standards in Appendix D.

c) Bulk bin storage is to be provided based on the use of 660L bins for general waste and 240L bins for recycling material, in accordance with the generation rates in Appendix B.

d) Council will consider the following waste arrangements for multi dwelling housing where the reduced scale of the development and its impacts support this (eg 4-dwelling townhouse developments) :

i) Bins are to be provided at a rate of one (1) x 120L general waste and one (1) x 240L recycling bin per dwelling.
ii) Bins may be stored within the private open space of each dwelling or alternatively in an easily accessible communal storage area that meets the standards in Appendix D and E.
iii) Individual dwellings will be responsible for the management of their own waste.

e) An additional storage area is to be provided for the temporary storage of bulky items (e.g. mattresses/furniture) at a rate of $4m^2$ per 10 units.

f) A caretaker or individual(s) shall be nominated as being responsible for transferring the bins to the collection point and back into the waste storage room/area.

g) Residential units shall be insulated from noise if adjacent to or above:

i) Waste and recycling storage facilities,
ii) Chute and compaction systems,
iii) Waste and recycling collection and vehicle access points.

3.6.4 Guidelines

- The WMP should be prepared in accordance with the template contained in Appendix A of this Plan.
- The waste storage capacity for the proposed development should be calculated in accordance with Appendix B.
- Waste containers should be stored in a suitable place to avoid vandalism, nuisance (odour, vermin) and adverse visual impacts on residents and the streetscape. They should be located to minimise the distance of travel to the collection point, be easily accessible and be of sufficient size to accommodate the necessary waste storage bins in accordance with Appendix C.
- Each dwelling should identify the location of indoor waste/recycling cupboard on the floor plans.
- A composting area of suitable capacity should be provided for the development and located so as not to impact adjoining properties by way of odour, vermin or other nuisance.

3.7 COMMERCIAL PREMISES AND CHANGE OF USE APPLICATIONS

3.7.1 General

Note: Refer to the EPA's *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*

This section applies to a range of non-residential uses such as commercial premises (e.g. shops, restaurants and cafes), educational establishments, entertainment facilities, medical centres and health consulting rooms, child care centres, hotels and motels amongst others.

Flexibility in size and layout is often required to cater for the different needs and waste volumes of multiple tenants as well as future changes in use.

3.7.2 Objectives

a) Ensure appropriate waste storage and collection facilities

b) Maximise source separation and recovery of recyclables

c) Ensure waste management systems are as intuitive for users as possible and readily accessible to occupants and service providers

d) Minimise risk to health and safety associated with handling and disposal of waste and recycled material and ensure optimum hygiene

f) Minimise adverse environmental impacts associated with waste management

g) Discourage illegal dumping by providing onsite storage and removal services

h) Improve the efficiencies of waste storage and collection through bulk bin storage and onsite collection.

3.7.3 Controls

A Waste Management Plan (WMP) is required for all commercial and non-residential Development Applications prepared in accordance with the guidelines below and the following requirements:

a) Where development provides for construction of a new building, provision for onsite collection is required in accordance with Section 3.3 and Appendix E.

b) The development must include a designed waste/recycling storage area or room(s) designed in accordance with Appendix D.

c) A collection point for the collection and emptying of waste and recycling bins should be identified.

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

e) The onsite path of travel for collection vehicles (for larger non-residential development schemes with internal roadways) must be designed to accommodate the largest size of vehicle likely to access the site/collection point and shall be specified in the waste management plan.

f) Written evidence of valid contracts for the regular collection and disposal of waste and recyclables generated on the site (e.g. medical related waste, trade waste or excessive waste volumes generated etc) by a licensed waste contractor must be maintained.

3.7.4 Guidelines

- The WMP should be prepared in accordance with the template contained in Appendix A of this Plan.
- An indication of waste generation rates for some non-residential uses is provided in Appendix B below. The type and capacity of waste containers and storage areas should be compatible with the collection practices of the nominated waste contractor.
- Access to waste collection areas from classified road frontages should be avoided
- The size and layout of the waste/recycling storage room/area should be capable of accommodating reasonable future changes in use in the development.
- Arrangements must be in place regarding the regular maintenance and cleaning of waste management facilities.

3.8 Mixed-Use Development

3.8.1 General

Note: Refer to 'Better Practice Guide for Waste Management in Multi Unit Dwellings' EPA 2008 and *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*

In mixed-use development, particularly with a residential component, waste minimisation and management arrangements will need to be appropriately balanced and include a consideration of the preservation of residential amenity for residents on the site and adjoining properties. This will be achieved by requiring mixed-use development to provide separate and self-contained waste storage areas and collection arrangements for residential and non-residential uses or other uses.

3.8.2 Objectives

a) Ensure appropriate waste storage and collection facilities

b) Maximise source separation and recovery of recyclables

c) Ensure waste management facilities are safely and easily accessible to occupants and service providers

d) Minimise risk to health and safety associated with handling and disposal of waste and recycled material and ensure optimum hygiene

e) Minimise adverse environmental impacts associated with waste management

f) Discourage illegal dumping by providing onsite storage and removal services

g) Prevent large quantities of bins resulting in an unacceptable visual amenity impact when positioned on the nature strip for collection.

h) Improve the efficiencies of waste storage and collection through bulk bin storage and onsite collection.

3.8.3 Controls

A Waste Management Plan (WMP) is required for all mixed-use development applications prepared in accordance with the guidelines below and the following:

a. Provision for onsite collection is required in accordance with Section 3.3 and Appendix E.

b. Waste management must comply with the objectives, controls and guidelines of the other sections of this Part, based on the types of development proposed (e.g. Clause 3.6 for Residential and Clause 3.7 for Commercial).

c. Separate waste storage rooms/areas must be provided for residential and non-residential uses.

d. Residential units shall be insulated from noise if adjacent to or above:

   i) Waste and recycling storage facilities,
   ii) Chute and compaction systems,
   iii) Waste and recycling collection and vehicle access points.

e. Separate waste management systems must be designed so that they can effectively operate without conflict or adversely affecting amenity

f. The WMP should be prepared in accordance with the template contained in Appendix A of this Plan.

3.8.4 Guidelines

- The main principle for waste management in mixed use developments is that the waste storage and collection arrangements should be designed to minimise the risk of contamination between waste streams from different tenancies and occupations. An example of this is the residential component having a separate waste storage area from the commercial component in a mixed-use development and that cross access to these areas is prevented.

3.9 Industrial

3.9.1 General

Note: Refer to the EPA's *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*

Industrial development can produce a diverse range of waste products. It is important to maintain waste separation to allow efficient reuse and resource recovery and prevent the distribution of toxic material through a large volume of non-toxic wastes. Additional approval(s) may be required for certain types of hazardous waste or be subject to more stringent standards and protocols for the handling and management under legislation.

3.9.2 Objectives

b) Ensure appropriate waste storage and collection facilities.

c) Maximise source separation and recovery of recyclables.

c) Ensure waste management facilities are as intuitive as possible and readily accessible to both users and service providers.

d) Minimise risk to health and safety associated with handling and disposal of waste and recycled material and ensure optimum hygiene.

e) Minimise adverse environmental impacts associated with waste management.

f) Discourage illegal dumping by providing on site storage and removal services.

3.9.3 Controls

A Waste Management Plan (WMP) is required for all industrial development applications prepared in accordance with the guidelines below and the following:

a) The WMP should be prepared in accordance with the template contained in Appendix A of this Plan.

b) Written evidence of a valid contract with a licensed waste contractor for the regular collection and disposal of all waste streams generated should be maintained at all times on site.

c) evidence of compliance or ability to meet compliance with specific industrial waste laws/protocols that apply due to the nature of activity undertaken or the type of waste produced (refer Clause 2.6 above)

d) For multi-unit industrial development, there must be convenient access from each tenancy and/or larger waste producing area of the development to the waste/recycling storage room(s) or area(s). There must be step-free access between the point at which bins are collected/emptied and the waste/recycling storage room(s) or area(s).

e) Every development must include a designated general waste/recycling storage room(s) or area(s) designed in accordance with Appendix D as well as an appropriately designed storage area for industrial waste streams.

f) The waste/recycling storage room(s) or area(s) must be designed to accommodate sufficient storage capacity for the likely waste generated between collections.

g) Waste management storage room(s) or area(s) must be suitably enclosed, covered and maintained so as to prevent polluted wastewater runoff from entering the stormwater system.

h) The type and volume of containers used to hold waste and recyclable materials should be compatible with the collection practices of the nominated waste contractor.

i) Arrangements should be in place regarding the regular maintenance and cleaning of waste management facilities.

3.9.4 Guidelines

- Individual waste storage/recycling areas may be required for each tenancy in multi-unit industrial development.
- All waste/recyclable materials generated on site must be kept in enclosed bins with securely fitted lids so the contents are not able to leak or overflow.

APPENDICES

APPENDIX A: Waste Management Plan Template

Applicant and Project Details (All Developments)	
Applicant Details	
Application No.	
Name	
Address	
Phone No.	
Email	
Project Details	
Site Address	
Existing building(s) and/or other structure(s) on site	
Description of proposed development	
The details on this form are the provisions and intentions for minimising and managing waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as Council, WorkCover NSW, NSW Environment Protection Agency and/or the NSW Department of Environment and Heritage.	
Name	
Signature	
Date	

Demolition (all types of demolition works)				
	Reuse	**Recycle**	**Disposal**	
Type of Waste Generated	*Estimate Volume (m^3) or weight (t)*	*Estimate Volume (m^3) or weight (t)*	*Estimate Volume (m^3) or weight (t)*	**Specify method of onsite reuse, contractor and recycling outlet and/or waste depot to be used**
Excavation Material				
Timber (specify)				
Concrete				
Bricks/Pavers				
Tiles				
Metal (specify)				
Glass				
Furniture				
Fixtures and fittings				
Floor coverings				
Packaging (used pallets, pallet wrap)				
Garden Organics				
Containers (cans, plastic, glass)				
Paper/Cardboard				
Residual Waste				
Hazardous/Special Waste e.g. asbestos (specify)				
Other (specify)				

Construction (all types of construction developments)				
	Reuse	**Recycle**	**Disposal**	
Type of Waste Generated	*Estimate Volume (m^3) or weight (t)*	*Estimate Volume (m^3) or weight (t)*	*Estimate Volume (m^3) or weight (t)*	**Specify method of onsite reuse, contractor and recycling outlet and/or waste depot to be used**
Excavation Material				
Timber (specify)				
Concrete				
Bricks/Pavers				
Tiles				
Metal (specify)				
Glass				
Plasterboard (offcuts)				
Fixtures and fittings				
Floor coverings				
Packaging (used pallets, pallet wrap)				
Garden Organics				
Containers (cans, plastic, glass)				
Paper/Cardboard				
Residual Waste				
Hazardous/Special Waste e.g. asbestos (specify)				
Other (specify)				

Ongoing Operation (residential, multi dwelling, commercial, mixed-use and/or industrial)					
	Recyclables		**Compostables**	**Residual Waste**	**Other**
	Paper/Cardboard	*Metals/Plastics /Glass*			
Amount generated (L per unit per day)					
Amount generated (L per unit per week)					
Total amount generated for development					
Any reduction due to compacting equipment					
Frequency of collections					
Number and size of storage bins required					
Waste room floor area and dimensions required for storage of bins					

Note: Show the total volume of waste expected to be generated by the development and the associated waste storage requirements.

Ongoing Operation (residential, multi dwelling, commercial, mixed-use and/or industrial)

ONSITE WASTE COLLECTION	
Driveway location	
Driveway and access route width	
Type of waste collection area, ie basement, loading dock etc	
Maximum reversing distance for collection vehicles and configuration of path (straight, curved etc)	
Distance from collection area to the property boundary (<15m)	
Headroom along vehicle travel path - measured at its lowest point from ceiling, ducting, conduits or any other obstruction.	
Dimensions for vehicle manoeuvring/ turning circles, including on-street turning circles.	
Structural capacity of slab for collection areas.	
Ramp gradients	
Vehicle turntable use - Weight capacity - Max wheel base - Provision for overhang	
Dimensions, layout and floor area provided at bin collection point	
Dimensions, layout and floor area provided for collection vehicle standing/collection area.	

ONSITE WASTE COLLECTION	
Grade of bin collection area, including for waste collection vehicle.	
Obstructions to other users during waste collection	
Legal arrangements for access for collection staff	
Screening and amenity of collection areas.	

Construction Design (all types of development)
Outline how measures for waste avoidance have been incorporated into the design, material purchasing and construction techniques of the development (refer Section 3.2 of this Plan).
Materials
Lifecycle
Detail the arrangements that would be appropriate for the ongoing use of waste facilities as provided in the development. Identify each stage of waste transfer between residents' units/commercial tenancies and loading into the collection vehicle, detailing the responsibility for and location and frequency of, transfer and collection.

Plans and Drawings (all developments)	
All Drawings	**Yes (Y) / No (N)**
Submitted to scale (1:100, 1:200 or 1:500)	
Clearly indicate location of and provisions for storage and collection of waste and recyclables during: • Demolition • Construction • Ongoing operation	
Demolition	
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	
Construction	
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	
Ongoing Operation	
Space	
Size and location(s) of waste storage areas	
Recycling bins placed next to residual waste bins	
Space provided for access to and the manoeuvring of bins/equipment	
Any additional facilities	
Access	
Access route(s) to deposit waste in storage room/area	
Access route(s) to collect waste from storage room/area	
Bin carting grade	
Location of final collection point and space required for collection service	
Clearance, turning circles, gradients and strength of internal access driveways and roads	
Direction of traffic flow for internal access driveways and roads	
Amenity	
Aesthetic design of waste storage areas	
Signage – type and location	
Construction details of storage rooms/areas including floor, walls, doors, ceiling design, sewer connection, lighting, ventilation, security, wash down provisions etc)	

APPENDIX B: Waste and Recycling Generation Rates

Construction Waste – Renovations and Small Home Building

'Rule of Thumb' for renovations and small home building:

- Timber 5-7% of material ordered
- Plasterboard 5-20% of material ordered
- Concrete 3-5% of material ordered
- Bricks 5-10% of material ordered
- Tile 2-5% of material ordered

Waste and Recycling Generation Rates

Premises Type	Waste Generation	Recyclable Material Generation
Backpackers' Hostel	40L/occupant space/week	20L/occupant space/week
Boarding House, Guest House	60L/occupant space/week	20L/occupant space/week
Community Facilities	480L/100m^2/week	240L/100m^2/week
Food Premises: Butcher Delicatessen Fish Shop Greengrocer Restaurant, Cafe Supermarket Takeaway food shop	 80L/100m^2 floor area/day 80L/100m^2 floor area/day 80L/100m^2 floor area/day 240L/100m^2 floor area/day 10L/1.5m^2 floor area/day 240L/100m^2 floor area/day 80L/100m^2 floor area/day	 Variable Variable Variable 120L/100m^2 floor area/day 2L/1.5m^2 floor area/day 240L/100m^2 floor area/day Variable
Hairdresser, Beauty Salon	60L/100m^2 floor area/week	Variable
Hotel, Licensed Club, Motel	5L/bed space/day 50L/100m^2 bar area/day 10L/1.5m^2 dining area/day	1L/bed space/day 50L/100m^2 bar area/day 50L/100m^2 dining area/day
Offices	10L/100m^2 floor area/day	10L/100m^2 floor area/day
Shop less than 100m^2 floor area Shop greater than 100m^2 floor area	50L/100m^2 floor area/day 50L/100m^2 floor area/day	25L/100m^2 floor area/day 50L/100m^2 floor area/day
Showroom	40L/100m^2 floor area/day	10L/100m^2 floor area/day
Multi Dwelling, Residential Flat Buildings and Residential Accommodation in Mixed-Use Development	120L/unit/week	60L/unit/week

Table 2: Waste and Recycling Generation Rates for different types of development (sourced from the Model Waste Not DCP Chapter 2008 prepared by the NSW Department of Environment and Climate Change).

APPENDIX C: Indicative Bin Sizes

These dimensions are a guide only and confirmation from Council's Waste Supervisor/contractor or private service operator should be sought prior to finalising waste storage and collection arrangements.

Mobile Garbage Bins (MGBs)					
All MGBs should comply with Australian Standard for Mobile Waste Containers (AS 4123) which establishes standard size and colour requirements for bodies and lids based on materials contained.					
Bin Type (2 wheels)	**80L**	**120L**	**140L**	**240L**	**360L**
Height (mm)	870	940	1065	1080	1100
Depth (mm)	530	560	540	735	885
Width (mm)	450	485	500	580	600
Bin Type (4 wheels)	**660L**	**770L**	**1100L**	**1300L**	**1700L**
Height (mm)	1250	1425	1470	1480	1470
Depth (mm)	850	1100	1245	1250	1250
Width (mm)	1370	1370	1370	1770	1770
Bin Type (bulk bins)	**2.0m^3 Skip**	**3.0m^3 Skip**	**4.5m^3**		
Height (mm)	865	1225	1570		
Depth (mm)	1400	1505	1605		
Width (mm)	1830	1805	1805		

Table 3: Indicative Bin Sizes sourced from the Better Practice Guide for Waste Management in Multi-unit Dwellings, Department of Environment & Climate Change NSW 2008.

APPENDIX D: Waste and Recycling Storage Room/Area Design

The design of waste and recycling storage room(s) and/or area(s) should be in accordance with the following principles and standards:

Waste and Recycling Storage Room/Area Design Checklist (residential development)			
	Principle	**Requirement/Standard**	**Yes (Y) / No (N)**
1.	Building Code of Australia (BCA)	Waste and recycling storage rooms must be constructed in accordance with the requirements of the BCA	
2.	Appearance	Waste/recycling storage rooms must be integrated into the design of the overall development.	
		Ideally located behind the front building line or basement location in the main building envelope/footprint.	
		Materials and finishes visible from communal or private open space, the public domain and/or adjoining and nearby properties should be of a similar style and quality to the external materials used in the host building.	
3.	Location	Location and design should minimise adverse impacts associated with: • Proximity of the room/area to any dwellings; • Visibility of the room/area; • Noise generated by any equipment located within the room; • Noise generated by the movement of bins into and out of the room; • Noise generated by collection vehicles accessing the site; and • Odours emanating from the room.	
4.	Size	Waste/recycling storage room(s) or area(s) must be of adequate size to comfortably accommodate all waste and recycling bins associated with development.	
5.	Layout	The waste/recycling storage room(s) or area(s) should be graded to allow for: • ease of movement for the emptying of containers in accordance with any WorkCover NSW Work Health and Safety requirements; and • to allow for washing and cleaning of the room/area and bins graded to drain to the sewer.	
		Containers used for recyclable materials should be separate from general waste containers to minimise contamination.	
		The opening into the waste storage/recycling room/area shall be of a sufficient size to allow the easy movement of bins to the waste collection point and for maintenance and equipment access purposes (e.g. to service waste compaction or chute equipment)	
		For development requiring a separate bulky goods storage area, this shall be separately delineated and signposted.	
6.	Use	Have a minimum of one (1) hose cock to allow for the connection of a hose for washing and cleaning purposes.	
		Have sufficient signage installed to inform, educate and encourage residents and/or users of the appropriate waste bins to use and storage methods (refer Clause 2.5)	

Waste and Recycling Storage Room/Area Design Checklist (non-residential development)			
	Principle	**Requirement/Standard**	**Yes (Y) / No (N)**
1.	Building Code of Australia (BCA)	Waste and recycling storage rooms must be constructed in accordance with the requirements of the BCA	
2.	Appearance	Waste/recycling storage rooms and areas must be integrated into the design of the overall development and utilise compatible materials and finishes similar in style and quality.	
3.	Location	Location and design should minimise adverse impacts associated with: • Proximity of the room/area to any dwellings; • Visibility of the room/area; • Noise generated by any equipment located within the room; • Noise generated by the movement of bins into and out of the room; • Noise generated by collection vehicles accessing the site; and • Odours emanating from the room.	
4.	Size	Waste/recycling storage room(s) or area(s) must be of adequate size to comfortably accommodate all waste and recycling bins associated with the development.	
5.	Layout	The waste/recycling storage room(s) or area(s) should be graded to allow for: • ease of movement for the emptying of containers in accordance with any WorkCover NSW Work Health and Safety requirements; and • to allow for washing and cleaning of the room/area and bins graded to drain to the sewer.	
		Containers used for recyclable materials should be separate from other waste containers to minimise contamination.	
		For development requiring a separate bulky goods storage area, this shall be separately delineated and signposted.	
6.	Use	Access for collection vehicles should allow entry and exit in a forward direction and driveways have sufficient structural capacity to support collection vehicles.	
		Servicing arrangements for the emptying of bins must be compatible with the operation of any other loading/unloading facilities on-site.	
		There must be convenient access from each tenancy to the waste/recycling storage area(s).	
		Waste/recycling storage areas should have a smooth, durable floor and must be enclosed with durable walls/fences that extend to the height of any containers which are kept within.	
		Doors/gates to waste/recycling storage areas must be durable. There must be a sign adjacent to the door/gate stating that the door/gate should remain closed when not in use. All doors/gates should be openable from both inside and outside the storage area and allow the easy passage of waste/recycling containers and maintenance or servicing equipment.	
		Have a minimum of one (1) hose cock to allow for the connection of a hose for washing and cleaning purposes.	
		Have sufficient signage installed to inform, educate and encourage users of the appropriate waste bins to use and storage methods (refer Clause 2.5)	

Garbage Chute Design and Management Requirements			
	Principle	**Requirement/Standard**	**Yes (Y) / No (N)**
1.	Chute Design	Constructed in accordance with the Building Code of Australia.	
		Located and insulated to reduce noise impacts.	
		Constructed of material that is smooth, durable, impervious, non-corrosive and fire resistant.	
		Chutes, service openings and charging devices must be easily cleaned.	
		Chutes should be cylindrical with a minimum diameter of 0.5m and no bends or sections of reduced diameter.	
		Chutes must deposit directly into a bin or compactor located in a waste/recycling storage room.	
		The bottom of the chute should be capable of being closed off when the bin or compacting device is withdrawn or replaced.	
		The upper end of the chute should be weather protected in a manner that doesn't impede the upward movement of air out of the chute.	
2.	Garbage Chute Service Room Design	Service opening for depositing rubbish into the main chute on each floor must be located in a dedicated service room.	
		The charging device for each opening should be self-closing and mot project into the main chute.	
		Branches connecting service openings to the main chute are to be no more than 1m in length.	
		Each service room must include containers for the storage of recyclable materials. Signage regarding the materials that can be recycled should be displayed near these containers.	
		Each service room should be easily located for convenient access and well ventilated and lit.	
		The floors, walls and ceiling of service rooms must be finished with smooth, durable materials that are capable of being easily cleaned.	
		Service rooms must include signage that clearly describes the types of materials that can be deposited into the garbage chute and the types of materials which should be deposited into recycling bins.	
3.	Management	Garbage chutes are not to be used for the disposal of recyclable materials due to damage and fire hazards that may result.	
		Arrangements must be in place for the regular maintenance and cleaning of garbage chutes and any associated service rooms, service openings and charging devices.	
		Arrangements must be in place for the regular transferral of recyclable materials (stored in service rooms) to the main waste/recycling storage room.	

Table 4: Waste and Recycling Storage Room/Area Design Checklist (residential development)

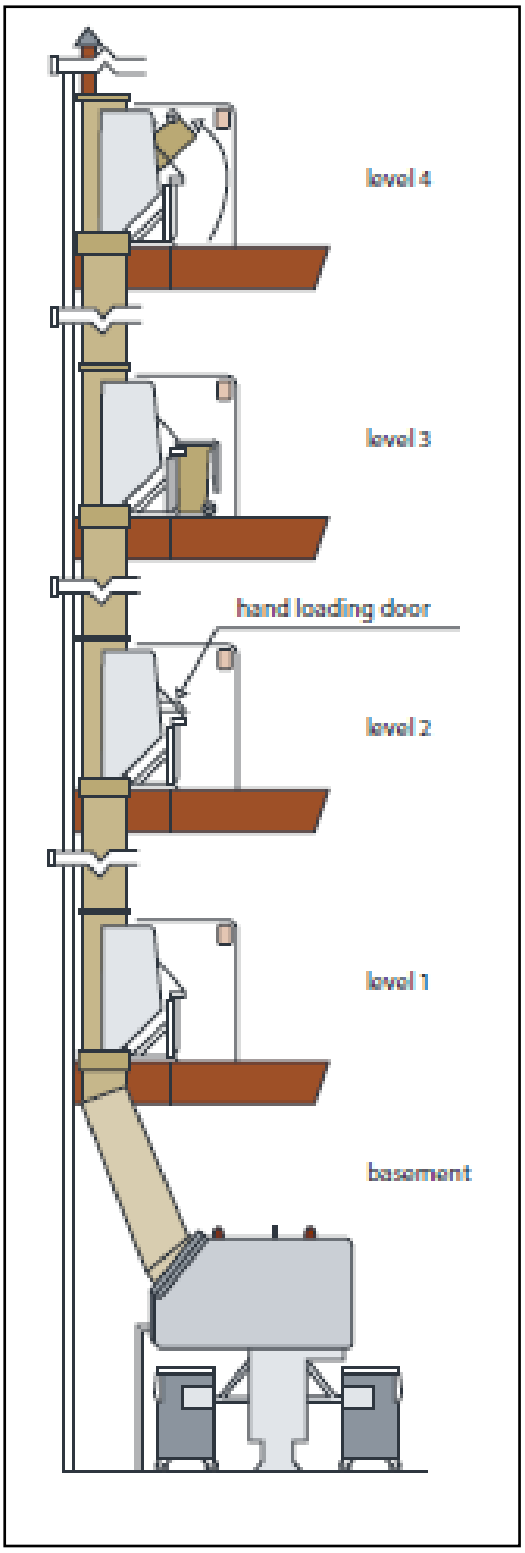


Figure 2: Example of a Garbage Chute System sourced from the Better Practice Guide for Waste Management in Multi-unit Dwellings, Department of Environment & Climate Change NSW 2008.

APPENDIX E: Onsite Waste Collection Guidelines/Checklist

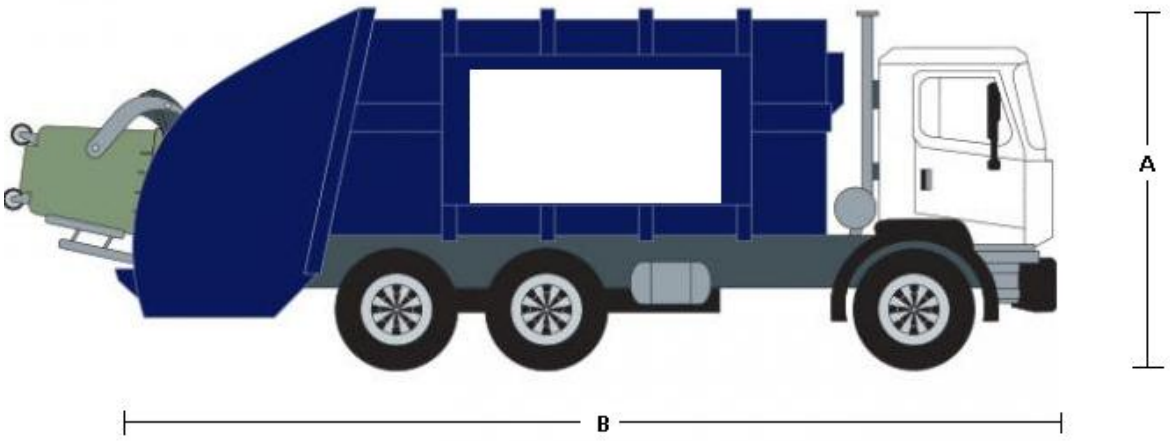
For new development where it has been determined that onsite collection is required, the following design standards are required to be satisfied in order to ensure sufficient space is available.

Onsite Waste Collection Requirements (all developments requiring onsite collection)			
	Principle	**Requirement/Standard**	**Yes (Y) / No (N)**
1.	Consultation	Consult with Council's Planning and Waste Servicing Officers during pre-lodgement process to determine the most suitable servicing arrangement and collection point. See also the EPA's *Better Practice Guide for Waste Management in Multi-unit Dwellings* and *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*	
2.	Design and Access	Driveway and access routes must be a minimum width of 3.6m. Vehicle standing areas must have minimum dimensions of 10m x 3.6m *Underground collection* • A waste collection point is to be provided within the first level of the basement. • Vehicles must enter and exit the site in a forward direction. *At-grade collection* • A waste collection point is to be provided: ➢ behind the front building line, ➢ along-side the driveway into the site. • Collection vehicles are to reverse into the driveway and exit in a forward direction.	
		The waste collection point shall be no more than 15m from the property boundary at the street.	
		There should be convenient and step free access between the waste storage room/area and the collection point.	
		The collection area must be designed so that the bin standing area, and the standing area for the vehicle, is level.	
		The bin collection area shall provide sufficient space for the standing of all waste bins to be collected in a single trip, as well as manoeuvring space for bins as they are emptied.	
		Any shutter or roller door providing access to the site/waste collection point must be fitted with a master key to Council's requirements to allow access.	
3.	Structural Capacity	The driveways and basement floor must be designed and constructed to offer sufficient structural capacity to accommodate Council's, Council's contractor or other private service provider's collection vehicle when at capacity. **Council vehicles at capacity = 16 tonne**	
4.	Onsite Manoeuvring	Plans will need to demonstrate that sufficient space for access and the turning of proposed collection vehicles is available. Refer to Australian Standard 2890.2 Parking Facilities: Off-Street Commercial Vehicle Facilities for a medium rigid vehicle (MRV).	P.T.O

		Notwithstanding the above and subject to Council's assessment of the waste collection service available, the following minimum requirements may be acceptable: • turning circle - 18m kerb to kerb (plus additional for vehicle overhang where walls/columns etc occur) • **height clearance 3.6m** (along the entire length of travel) • **Length of vehicle standing area 10m** • **Width of vehicle standing area 3.6m** • **Gradient of ramps maximum 1:5 (20%)**	
5.	Appearance	At grade collection areas shall be suitably screened to minimise the appearance of waste bins from the public domain and adjoining or nearby properties. At a minimum, the screen shall reach the top of the height of the bins to be stored at the collection point.	

Table 5: Onsite Waste Collection Requirements (all developments requiring onsite collection)

APPENDIX F: Typical Vehicle Used for Basement Waste Collection.



Typical medium sized, rear loading collection vehicle specifications		Design Requirements
Width	2.2 - 2.5m	3.6m (one way)
Height (A)	2.5 - 3.0m	3.6m
Length (B)	8.64 -9.4m	10m
Maximum Loaded weight	16 t	16 t
Turning Circle (kerb to kerb)	16.8m	18m
Note: Turning circles are kerb to kerb. Design specifications must provide necessary overhang and clearance room.		

Note: Design requirements allow additional area for body clearance and changing vehicle size

APPENDIX G: Parramatta Road Corridor - Automated Waste Collection System