

Metro Vancouver

Guide for Builders

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Guide for Builders, Designers and Developers

This Guide is intended to assist builders, designers and developers with the design of recycling amenities in new and retrofitted buildings and will provide sufficient space for recycling programs that are accessible to both occupants and collection service providers. The Guide will also assist builders, designers and developers with meeting the requirements of relevant municipal bylaws.

Table of Contents

Acknowledgements

A Note to Municipalities About These Documents

	page
1. Introduction	1
2. Targeted Sectors.....	2
3. Application of the Guide.....	2
3.1 Important Information for Development Proponents.....	2
3.2 Application to New Construction.....	3
3.3 Application to Building Alterations	3
3.4 Alternative Approach for Building Alterations.....	4
3.5 Opportunities for Variances.....	4
4. Targeted Materials	4
4.1 Additional Target Materials for Multi-Family Developments.....	5
4.2 Additional Target Materials for Food-Service Establishments (Stand-Alone or in Mixed Commercial Developments)	5
5. Requirements for Recycling Amenities.....	5
5.1 Space Allocation.....	5
5.1.1 Size Requirements.....	5
5.1.1.1 Background	6
5.1.1.2 Multi-Family Residential Building and Hospitality Lodging Developments	6
5.1.1.3 Considerations for Commercial Buildings	7
5.1.1.4 Retail Building Developments	8
5.1.1.5 Office Building Developments	8
5.1.1.6 Venue Building Developments	9
5.1.1.7 Restaurant Developments.....	10
5.1.2 Location Requirements.....	10
5.1.3 Design Requirements.....	11
5.2 Vehicle Access Route and Loading Area.....	11
5.2.1 Loading Area.....	12
5.2.2 Temporary Recycling Storage Area	12
5.2.3 Vehicle Access Route.....	12
5.3 Occupant Access.....	13
5.3.1 Occupant Access to Recycling Storage Areas	13
5.3.2 In-Suite Recycling Storage Provisions	14

List of Figures

Figure 1. Examples of In-Suite Storage Solutions (under sink and vertical storage in closet) 14

List of Tables

Table 1. Requirements for Recycling Amenities by Type of Building Alteration 3

Table 2. Expected Container Allocations for Multi-Family Residential and Hospitality Lodging Recycling 7

Table 3. Expected Container Allocations for Retail Building Developments 8

Table 4. Expected Container Allocations for Office Building Developments 9

Table 5. Expected Container Allocations for Venue Building Developments 9

Table 6. Expected Container Allocations for Restaurant Developments..... 10

1. Introduction

Metro Vancouver has prepared a draft Integrated Solid Waste and Resource Management Plan that targets a 70% waste diversion rate by 2015. One strategy for working towards this goal is to improve diversion rates in the multi-family residential sector and institutional, commercial, and industrial (ICI) sectors by improving recycling facilities.

Challenges that may be affecting recycling in existing multi-family and ICI buildings are:

- the lack of sufficient space for storage of recyclables
- problematic access to recycling storage space for building occupants and for collection service vehicles
- the voluntary approach to recycling
- the difficulty of enforcing material disposal bans at the source

To address these issues, Metro Vancouver retained AECOM to engage stakeholders and work with member municipalities, the development community, waste collection service providers, property management firms, and business and residential associations to develop an approach that would address the challenges noted above. This recommended approach may include amendment of applicable zoning and/or development permit bylaws currently administered by member municipalities, to include recycling space allocation and access requirements in addition to requirements for shared space for garbage deposit and collection.

As a result, **<Municipality Name>** created **<Municipal Bylaw Citation>**, which defines recycling space requirements for multi-family residential and commercial complexes. Requirements for new construction and for major building alterations have been considered, and are addressed in this Guide. Although institutional and light industrial building uses are not specifically addressed, recycling spaces should still be provided in the design of buildings to meet the waste management needs for the building's planned use. This Guide can be used as a tool for allocating space for recycling when planning construction or renovation of these types of buildings.

This Guide is intended to assist designers and developers with the design of recycling amenities for new buildings, and for those undergoing major alterations. These amenities will provide sufficient space for recycling programs and will be accessible to both occupants and collection service providers. Using the information in this Guide will assist developers with meeting the requirements of **<Municipal Bylaw Citation>**.

The Guide describes general requirements for recycling amenities related to:

- size and design of the recycling storage area
- size and design of loading area
- collection vehicle access
- occupant access

The Guide also clarifies the target sectors (who this applies to); trigger points (circumstances under which the requirements apply) and how alternate proposals or variances will be handled.

It should also be noted that this document is to be used in conjunction with, not in place of, all applicable building codes and the Site Plan Control process. Further information on these building codes and the Site Plan Control process can be obtained from the **<Municipality Name>** Planning department.

Municipal Notes

To assist municipal staff, information and implementation considerations are highlighted throughout the Guide. Refer to these blue boxes for additional information.

2. Targeted Sectors

<**Municipal Bylaw Citation**> identifies the mandatory recycling space allocations for new construction and major building alterations for the following sectors:

• Multi-family residential and hospitality lodging	• Commercial – offices	• Mixed residential/commercial
• Commercial – restaurant	• Commercial – venues	• Commercial – retail

Recycling space and access requirements are triggered for applicable commercial developments and multi-family residential developments that are not eligible to receive municipal curbside recycling collection services for **individual units off public roads**. These developments may include rental apartments, condominiums, and townhouse complexes. Buildings that qualify for curbside collection from **individual units off internal roads** need to meet the vehicle access requirements listed herein.

Developments that **combine multi-family residential and commercial uses** should provide separate recycling amenities for commercial and residential occupants. The commercial amenities should meet the same standard as comparable commercial-only developments; and the multi-family amenities should meet the same standard as comparable multi-family only developments.

Developments that **combine different commercial sectors** within a complex must provide recycling amenities that meet the targeted material and space allocation requirements for each sector included.

3. Application of the Guide

3.1 Important Information for Development Proponents

Developers, builders and designers should review the contents of this Guide, as well as <**Municipal Schedule Name**> of <**Municipal Bylaw Citation**> to make themselves aware of all requirements to incorporate recycling amenities into the building design.

Development proponents should be advised that these requirements are necessary to obtain a development permit, or a building permit (in certain cases where a development permit is not required for new construction or building alterations). Unless the project receives a variance or an alternative proposal is submitted and accepted, development permits or building permits, where applicable, will not be granted until the building design includes the appropriate recycling space and access provisions.

Typically, staff can request clarification or additional information during the review process, to allow developers to demonstrate how they will comply with the stated requirements, and to present comparable alternatives if necessary. However, development proponents are encouraged to provide sufficient information regarding a proposed development or re-development at the first point of contact with <**Municipality Name**>, to show how the requirements will be met. Development proponents should be aware that the requirements outlined in this Guide may also apply during a rezoning application.

Municipal Notes

The recycling space requirements contained in this Guideline should be presented and discussed with developers and builders at the first point of contact with municipal staff, such as a request for rezoning or a development permit. However, each municipality will decide how and when to enforce the recycling space requirements.

Municipal Notes

When determining how to integrate these responsibilities into an existing permit review process, municipalities should consider the time it takes to process applications and documentation. Richmond, for example, report that the time to review the recycling space requirements, depending on the size of the project, takes up to two hours.

<Municipality Name> reserves the right to review site plans again if more than three (3) years have elapsed between the approval of the site plan and the start of construction. New or additional requirements, as a result of operational changes or municipal policies, may be imposed upon follow-up review.

3.2 Application to New Construction

All permit applications to build new multi-family or commercial developments, regardless of size or project value, are required to meet all recycling space and access requirements contained in <Municipal Schedule Name> and outlined in this Guide.

Municipal Notes

Some developments covered in Table 1 may face unique challenges when trying to adhere to the requirements outlined in this Guide. Section 3.4 outlines a mechanism for alternative arrangements.

3.3 Application to Building Alterations

Space allocation requirements are also mandated for applicable building alteration projects in <Municipal Schedule Name> and vary by project type. These project types and their associated requirements are detailed in Table 1.

Table 1. Requirements for Recycling Amenities by Type of Building Alteration

Type of Building Alteration Project ¹	Requirements for Recycling Amenities (Reference Section)
Major horizontal additions are additions which increase the total aggregate floor area by more than the smaller of 25% or 500 m ² .	<ul style="list-style-type: none"> Storage Space Size (Sec. 5.1.1) Storage Space Location (Sec. 5.1.2) Storage Space Design (Sec. 5.1.3) Vehicle Access Route & Loading Area (Sec. 5.2) Occupant Access (Sec. 5.3)
Minor horizontal additions are additions that increase the total aggregate floor area by less than the smaller of 25% or 500 m ² .	<ul style="list-style-type: none"> Storage Space Size (Sec. 5.1.1) Storage Space Location (Sec. 5.1.2) – where practical* Storage Space Design (Sec. 5.1.3) Occupant Access (Sec. 5.3)
Reconstruction means any project where extensive renovations are being carried out throughout the building, which involve substantial reconstruction of the interior floor space that exposes the building’s structure. Reconstruction may include repair, renovation, alteration or combination thereof.	<ul style="list-style-type: none"> Storage Space Size (Sec. 5.1.1) Storage Space Location (Sec. 5.1.2) Storage Space Design (Sec. 5.1.3) Occupant Access (Sec. 5.3)
Change in Major Occupancy Classification - type projects are limited to a change of use within a building or portion thereof such that the proposed use is outside of the existing major occupancy classification.	<ul style="list-style-type: none"> Storage Space Size (Sec. 5.1.1) Storage Space Location (Sec. 5.1.2) – where practical* Storage Space Design (Sec. 5.1.3) Occupant Access (Sec. 5.3)
Major renovations are limited to work within multiple occupied spaces. Major renovations may include re-configuration of the interior space, interconnected floor spaces, and exterior alterations that affect a building’s recycling or garbage storage space.	<ul style="list-style-type: none"> Storage Space Size (Sec. 5.1.1) Storage Space Location (Sec. 5.1.2) – where practical* Storage Space Design (Sec. 5.1.3) Occupant Access (Sec. 5.3)
Major vertical additions are additions that add an additional floor level (mezzanine or storey) to a building that increases the total aggregate floor area by more than the smaller of 25% or 500 m ² .	<ul style="list-style-type: none"> Storage Space Size (Sec. 5.1.1) Storage Space Location (Sec. 5.1.2) – where practical Storage Space Design (Sec. 5.1.3) Occupant Access (Sec. 5.3)
Minor vertical additions are additions that add an additional floor level (mezzanine or storey) to a building that increases the total aggregate floor area by less than the smaller of 25% or 500 m ² .	<ul style="list-style-type: none"> Storage Space Size (Sec. 5.1.1) Storage Space Location (Sec. 5.1.2) – where practical* Storage Space Design (Sec. 5.1.3) Occupant Access (Sec. 5.3)

* Municipal planners will work with permit applicants to ensure that the recycling space requirements meet as many of the location requirements as practical.

¹ The types of building alteration projects are based on definitions used by the City of Vancouver.

3.4 Alternative Approach for Building Alterations

Some development plans that undertake building alterations (as listed in Table 1) face unique challenges when trying to adhere to the Guide requirements. In these situations, the permit applicant may propose alternative approaches provided the end result meets the intent of the recycling amenities requirements. **<Municipality Name>** reviewing staff member(s) will work with the developer to determine an appropriate alternative approach to meet the intent of **<Municipal Bylaw Citation>**, as outlined in this Guide.

One possible approach is to increase the building's collection frequency. The recycling storage space size requirements are based on weekly collection. In situations where the collection frequency can be increased, the formula below should be used to calculate the minimum recycling storage space size requirement which corresponds to the increased collection frequency:

$$\text{Adjusted storage space requirement} = \frac{\text{Original storage space requirement}}{\text{Number of collections per week}}$$

For collection frequencies that are less than once per week, for example, the number of collections per week would be 0.5 for bi-weekly collection and 0.25 for monthly collection.

Note: *The adjusted storage space requirement must not be less than the minimum requirement for each sector, listed in Section 5.*

3.5 Opportunities for Variances

If a project is unable to meet one or more of the requirements under this bylaw, the development proponent may seek a variance from some or all of the requirements of **<Municipal Bylaw Citation>** through the established process for seeking a variance. **<Municipality Name>** reserves the right to request additional information from the developer in support of a variance application process.

4. Targeted Materials

The space allocation required for new building developments and applicable building alterations in each sector is intended to provide sufficient storage space for recyclable materials currently banned from disposal by Metro Vancouver. The following materials are suggested as a minimum list for consideration:

- corrugated cardboard
- recyclable paper
- containers made of glass, metal or recyclable plastics (#1, 2, 4 and 5)
- beverage containers

An up-to-date list of banned materials is available at Metro Vancouver's website:

<http://www.metrovancouver.org/services/solidwaste/disposal/Pages/bannedmaterials.aspx>.

As this list of materials may expand over time, development proponents are encouraged to refer to the link above for the most current set of materials.

The increase in recycling diversion is expected to decrease the quantity of garbage generated. This could partly offset the increased space required for recycling.

Municipal Notes
Municipalities should be aware of disposal bans that are in effect at Metro Vancouver facilities in order to determine on target materials for waste diversion. This language may need to be updated over time to reflect such changes.

4.1 Additional Target Materials for Multi-Family Developments

A ban on the disposal of food scraps is currently under consideration, and it is anticipated that recycling of residential food scraps will be targeted at the earliest opportunity. Food scraps recycling provisions have therefore been incorporated into the space allocations for multi-family developments.

The need to provide opportunities for multi-family residents to store other reusable or recyclable materials, such as used furniture or electronics, has also been incorporated into the space allocations. This has been done through the inclusion of a “flex space” in addition to the minimum requirements. This space could be used for this purpose, should a building choose to implement a system for exchange and removal of these materials.

4.2 Additional Target Materials for Food-Service Establishments (Stand-Alone or in Mixed Commercial Developments)

Food-service establishments generate more food scraps than other commercial building uses. Because banning food scraps from disposal is currently under consideration, provisions for food waste recycling have been incorporated into the space allocation requirements for restaurants and other food-service establishments. Buildings and complexes designed for more than one commercial sector, such as an office building with cafeterias, must provide recycling amenities that meet the targeted material and space allocation requirements of each anticipated commercial sector.

Amenities for food scraps collection remain optional for other commercial development types.

5. Requirements for Recycling Amenities

This section elaborates on the minimum recycling amenity requirements identified in *<Municipal Schedule Name>* of *<Municipal Bylaw Citation>*, and provides supporting information to help developers meet these requirements. However, developers are encouraged to seek the input of a professional in the design of their development’s recycling amenities.

Municipal Notes
For commercial buildings, it is recognized that the user of the building space may change over time, potentially resulting in different volumes and types of recyclable materials. The space allocations outlined in the sample Bylaw and Schedule are expected to provide a reasonable amount of space for most building uses; if necessary, recycling collection service contracts can be adjusted to meet the specific needs of the building users.

5.1 Space Allocation

5.1.1 Size Requirements

The intent of these size requirements is to create sufficient space to store all recycling between collection days and to permit easy movement of recycling storage containers into and out of that space.

The designer will use the required minimum space or space allocation per unit of measurement to determine the size of the centralized recycling storage area. The unit of measurement refers to housing units for multi-family buildings and unit floor area for commercial buildings.

5.1.1.1 Background

The recycling storage area size requirements were determined based on the following considerations:

- **Garbage Storage:** The recycling storage area size requirements do not include garbage storage space because many municipalities already have guidelines or requirements for garbage amenities. Storage of garbage may be contiguous to the recycling storage area, as long as the dedicated recycling storage area meets the size requirements specified in this section.
- **Quantity of Diverted Material:** The recycling storage area size requirements are calculated based on the expected types and amounts of materials that will need to be handled in the space, for the building occupants to meet the regional recycling targets set by **<Municipality Name>** and the region in the Integrated Solid Waste and Resource Management Plan.
- **Collection Frequency:** Because most municipalities collect multi-family recyclables on a weekly basis, all size requirement calculations assume a **once per week pick-up schedule**, unless otherwise noted.
- **Size of recycling area:** The size of the storage area is a function of the number of containers and the space required for each container. The quantity of containers is multiplied by the footprint of each tote, plus space for the tote to be maneuvered, rolled out, and replaced without having to take out other containers. This also allows enough space for occupants to access each container to drop off their recyclable materials.
- **Quantity of Containers:** The quantity of containers is a function of the amount of each type of material to be diverted, the collection frequency, the number of units that will generate material, and the size of the containers. Multi-family buildings will have enough space and containers to allow occupants to meet the regional recycling goals and have access to typical recycling containers for food scraps, mixed containers, newspaper, mixed paper, and, for buildings with over 20 units, cardboard. Commercial buildings will have enough space for one or more containers for each material stream anticipated from the targeted commercial activities. Commercial buildings can increase the collection frequency more flexibly than the multi-family sector, if additional storage capacity is needed.
- **The minimum size allocation** allows for at least one container for each type of material, plus the space for maneuvering and rolling out the container. In multi-family buildings, this minimum size allocation assumes that there will not be enough household units in the building to warrant a separate container for cardboard. Occupants will place cardboard in the container for mixed paper.

Specific requirements are identified in **<Municipal Schedule Name>** of **<Municipal Bylaw Citation>** and discussed in the following subsections.

5.1.1.2 Multi-Family Residential Building and Hospitality Lodging Developments

Municipal Notes
 Those municipalities collecting single stream recycling might consider increasing the space allocation proportional to the decrease in density of comingled recycling.

The recycling space for all multi-family residential buildings and hospitality lodgings, including hotels and motels, shall meet the following requirement:

- Be the greater of 5 m² or 0.19 m²/unit.

There are no maximum size restrictions for required storage space area for multi-family residential buildings and developments, because municipalities generally collect recyclables from multi-family residential buildings no more than once per week. As per Section 3.4, an alternative proposal can be submitted for building alterations if the frequency of collection needs to be increased.

In the hospitality industry, up to a maximum of 50 m² is required for each building, after which the collection frequency can be increased to address the buildings needs.

To assist developers with the layout and sizing of the storage area, Table 2 lists the number of totes and bins required, based on the number of residential units in a multi-family development or hospitality lodging. The expected number of bins and totes was calculated to accommodate the tonnages and corresponding volumes that multi-family residents are expected to recycle to achieve the regional waste diversion goals.

Table 2. Expected Container Allocations for Multi-Family Residential and Hospitality Lodging Recycling

# of Residential Units	Mixed Containers	Old Newspaper	Mixed Paper with Cardboard	(Or) Mixed Paper without Cardboard	(plus) Cardboard bin	Food Scraps
5-10	1	1	1	1	0	1
11-20	1	1	2	1	0	1
21-30	1	1	3	1	1	1
31-40	1	1	4	2	1	1
41-50	2	1	5	2	1	1
51-60	2	1	6	2	1	2
61-70	2	1	8	3	1	2
71-80	3	1	9	3	1	2
81-90	3	2	10	4	1	3
91-100	3	2	11	4	1	3

* Bulk densities of the material streams were obtained from the Residential GAP - Manual on Generally Accepted Principles (GAP) for Calculating Municipal Solid Waste System Flow, Corporations Supporting Recycling, November 2003.

Similar container allocations should be considered for hospitality lodging until more specific data becomes available. The allocation for food scraps can vary, depending on whether in-suite cooking facilities are available or a food-service establishment with separate food scraps collection is present on-site.

Additional Requirements for New Multi-Family Residential Construction Only

In addition to the space requirements for recycling bins or containers, “Flex Space” must be provided for storage of other reusable or recyclable materials for **new** multi-family buildings. The required size of this space is 50% of the space allocation for recyclable materials. The provision of flex space was included to support the ability of building occupants to readily set aside additional materials for reuse or recycling that may not fit easily into standard containers.

5.1.1.3 Considerations for Commercial Buildings

For commercial buildings, it is recognized that the occupants of the building space may change over time, potentially resulting in different volumes and types of recyclable materials generated. The space allocations specified in **<Municipal Schedule Name>** of **<Municipal Bylaw Citation>** are expected to provide a reasonable amount of space for most building uses. It is expected that recycling collection service contracts can be tailored to meet the specific needs of the building users.

5.1.1.4 Retail Building Developments

The recycling space allocations for retail building developments shall meet the following requirement. In this document, retail includes wholesale activities.

- Be the greater of 4 m² or 0.015 m² per m² of floor area for all retail space, to a maximum requirement of 20 m², after which the frequency of collection can be increased to ensure adequate recycling storage capacity.

To assist developers with the layout of the storage area, Table 3 lists the minimum number of totes and bins required, based on the size of the retail development. This table was adapted from the City of Vancouver’s “Solid Waste Storage Facility Design Supplement for Developments and Redevelopments”.

Table 3. Expected Container Allocations for Retail Building Developments

Retail Floor Area (m ²)	Mixed Containers	Mixed Paper	Cardboard
	360 L totes		3 yd ³ bins
<100	1	1	-
101 - 200	1	1	-
201 - 300	1	2	-
301 - 400	1	2	-
401 - 500	1	3	1
501 - 600	2	3	1
601 - 700	2	3	1
701 - 800	2	4	1
801 - 900	2	4	1
901 - 1000	2	5	2
1001 - 2000	4	9	3
2001 - 3000	6	13	4
3001 - 4000	8	17	5
4001 - 5000	10	21	6

5.1.1.5 Office Building Developments

The recycling space allocations for office building developments shall meet the following requirement:

- Be the greater of 4 m² or 0.005 m² per m² of floor area for all office space, to a maximum requirement of 50 m², after which the frequency of collection can be increased to ensure adequate recycling storage capacity.

To assist developers with the layout of the storage area, Table 4 lists the minimum number of totes and bins required for each recyclable, based on the size of the office building development. This table was adapted from the City of Vancouver’s “Solid Waste Storage Facility Design Supplement for Developments and Redevelopments”.

Table 4. Expected Container Allocations for Office Building Developments

Office Floor Area (m ²)	Mixed Containers	Mixed Paper with Cardboard
	360 L totes	
<100	1	1
101 - 200	1	1
201 - 300	1	1
301 - 400	1	1
401 - 500	1	1
501 - 600	1	2
601 - 700	1	2
701 - 800	1	2
801 - 900	1	2
901 - 1000	2	2
1001 - 2000	3	4
2001 - 3000	4	6
3001 - 4000	5	8
4001 - 5000	6	10

5.1.1.6 Venue Building Developments

Large venue building developments consist of facilities that expect to receive more than 2000 visitors per day for special events or exhibits, such as certain convention centres, tourist attractions, sports arenas, and theatres. The recycling space allocations for large venue building developments shall meet the following requirement:

- Be the greater of 4 m² or 0.011 m² per m² of floor area for all venue space, to a maximum requirement of 30 m², after which the frequency of collection can be increased to ensure adequate recycling storage capacity.

To assist developers with the layout of the storage area, Table 5 lists the minimum number of totes and bins required for each recyclable, based on the size of the venue development. This table was developed using data from the City of Vancouver's "Solid Waste Storage Facility Design Supplement for Developments and Redevelopments".

Table 5. Expected Container Allocations for Venue Building Developments

Venue Floor Area (m ²)	Mixed Cont.	Mixed Paper	Cardboard
	360 L totes	360 L totes	3 yd ³ bins
<100	1	1	-
101 - 200	1	1	-
201 - 300	2	2	-
301 - 400	2	2	-
401 - 500	3	3	-
501 - 600	3	3	1
601 - 700	4	3	1
701 - 800	4	4	1
801 - 900	5	4	1
901 - 1000	5	5	1
1001 - 2000	10	9	2
2001 - 3000	15	13	3
3001 - 4000	19	17	4
4001 - 5000	24	21	5

5.1.1.7 *Restaurant Developments*

The recycling space allocation for restaurant building developments incorporate the provision of space for storage of the minimum target recyclable materials as well as food scraps. Because of the potential for public health concerns associated with the storage of food scraps on restaurant premises, the space allocations for this recyclable has been calculated assuming twice weekly pickup.

The recycling space allocations for restaurant building developments are as follows:

- Be the greater of 4 m² or 0.022 m² per m² of floor area for all restaurant space, to a maximum requirement of 30 m², after which the frequency of collection can be increased to ensure adequate recycling storage capacity

To assist developers with the layout of the storage area, Table 6 lists the minimum number of totes and bins required for each recyclable, based on the size of the restaurant development. This table was adapted from the City of Vancouver’s “Solid Waste Storage Facility Design Supplement for Developments and Redevelopments”.

Table 6. Expected Container Allocations for Restaurant Developments

Restaurant Floor Area - m ²	Mixed Containers		Cardboard	Food Waste	
	360 L Totes	(or) 3 yd ³ Bins	3 yd ³ Bins	360 L Totes	(or) 3 yd ³ Bins
<100	1		-	1	
101 - 200	2		-	1	
201 - 300	2		1	1	
301 - 400	3		1	1	
401 - 500	3		1	1	
501 - 600	4		2	2	
601 - 700	4		2	2	
701 - 800	5		2	2	
801 - 900	5		2	3	
901 - 1000	6	1	2	3	
1001 - 2000	12	2	4	6	1
2001 - 3000	17	3	6	8	1
3001 - 4000	23	4	7	11	2
4001 - 5000	28	5	9	14	2

5.1.2 Location Requirements

The criteria for selecting the location of the recycling storage space support should be based on ease of access by building occupants and collection service vehicles, as well as the provisions of applicable building codes and safety requirements. The storage space shall be located:

- on the lot of the structure it serves;
- in an area to minimize noise and odour impacts to building occupants and neighbouring buildings;
- at ground level, or no more than one story below grade; and
- adjacent to the designated garbage storage area for the development.

Municipal Notes
 The Planning Director or the Planning Director’s designate may make exceptions to the location requirements when there are no other feasible placement alternatives.

In recognition of the need to comply with applicable building codes, fire codes, safety requirements, or other components of <Municipality Name> building requirements, the recycling storage area must not be located in any of the following locations:

- in alleys or other publicly owned rights-of-way where it may disrupt traffic circulation patterns;
- between a street-facing facade of the structure and the street if the area is located outdoors;
- in any required driveways, parking aisles, or parking spaces for the structure; and
- in any location that may block or impede fire exits, public rights-of-ways or pedestrian and vehicular access.

Municipal Notes

As an incentive for developers to provide adequate space for recycling, it may be beneficial to exclude centralized recycling storage areas built at ground level from the floor space ratio calculations.

To account for these requirements, development proponents are encouraged to consider the proposed property configuration in its entirety, at the earliest opportunity.

5.1.3 Design Requirements

The size and location of the storage space should be designed such that effective use of the space is achieved for both the building occupant and recycling collection provider. Ideally, the storage space would have a rectangular shape. The space's dimensions would allow for the containers to be easily accessible to occupants and collection crews.

The design of the storage space shall therefore incorporate the following elements:

- floor of the storage space to be level and hard-surfaced;
- configuration must allow each recycling storage container to be individually accessible so as to be removed and replaced without having to take out other containers;
- the storage space must have no horizontal dimension (width and depth) less than 2 m, to ensure that even the narrowest dimension allows for the placement, access to, and rolling out of the containers;
- the storage area entry point shall be no less than 1.5 m in width for multi-family buildings over 25 units and for all commercial developments;
- ensure adequate ventilation to the exterior of the building, in compliance with applicable building code requirements for the storage of garbage;
- be sufficiently secure to minimize pest and wildlife access;
- be protected from unlawful entry through the use of strike-plates, locks, and astragals to close clearance gaps between doors and frames, if the storage area is located indoors;
- be well lit, both as a security measure and for ease of access; and
- have white or pale-coloured interior walls to enhance lighting, if the storage area is enclosed.

Municipal Notes

Municipal staff may wish to have flexibility in the process by permitting alternative approaches. An applicant for a development or building permit may propose an alternative arrangement for the storage of waste and recyclables other than the specific requirements listed in this Guide, so long as the proposal meets the intent of the recycling space requirements. This may include the use of compactors for larger facilities.

Secure access should also be considered by the development proponents.

5.2 Vehicle Access Route and Loading Area

The provisions for vehicle access and loading area requirements focus on the interaction of collection service providers with the building site. The loading area is where the collection truck stops to tip the totes and/or bins and could be located immediately next to the recycling storage area, somewhere else within the site, or offsite on an adjacent alley or street. If the loading area is on the building site, then vehicle access requirements apply. If the

loading area is offsite, the vehicle access requirements do not apply. The vehicle access requirements are intended to ensure adequate clearance for safe manoeuvring of the collection vehicle between the public street and the loading area.

5.2.1 Loading Area

The loading area is the space provided for servicing of recycling collection containers. It may be located on site, or on an adjacent public alley or street. It provides a location for the collection vehicle to park while servicing the containers one at a time on collection day. The loading area must be within 100 feet of either the recycling storage space or the temporary storage area.

To meet these requirements, the loading area shall meet the following minimum design criteria:

- not located near the fresh air intakes for the building.
- connected to the recycling storage space or temporary storage area via a level grade or continuous slope of no more than 6%, to facilitate movement of wheeled containers from the storage area to the loading area for servicing.

If the loading area is located on the building site, it shall also meet the following minimum design criteria:

- directly accessible by a driving surface meeting the Vehicle Access Route requirements.
- appropriately sloped as per applicable building code requirements to facilitate drainage to the designated storm water management system for the site, and to avoid accumulation of liquids within the loading area.
- driving surface to be constructed to accommodate a 28 tonne collection vehicle.
- minimum dimensions of 7.5 m high, 6.0 m wide, and 15.0 m long. All dimensions are to be unencumbered (i.e., unrestricted by fixtures such as sprinkler systems, meters, surveillance cameras, mirrors, landscaping, etc.).

5.2.2 Temporary Recycling Storage Area

If the loading area will be located more than 100 feet from the recycling storage area, a closer temporary collection day storage area for recycling containers must be provided for use on collection days.

The temporary storage area must:

- (a) have a level and hard surfaced floor
- (b) be configured such that no horizontal dimension is less than 1 m
- (c) be located within 100 feet of the loading area to facilitate collection
- (d) be connected to the loading area and recycling storage space via a level grade or continuous slope of no more than 6%
- (e) be equal in size to 45% of the recycling storage space allocation
- (f) be available for recycling container storage on the day of collection but may be used for other purposes at other times

5.2.3 Vehicle Access Route

The vehicle access route provides a means for the collection service vehicles to access the loading area to collect recyclable materials. The vehicle access route must therefore, as a minimum, accommodate the collection vehicles

to prevent damage to people or property. As noted in Table 7, the approximate dimensions of the collection vehicle should be accommodated along the vehicle access route:

Table 7. Approximate Collection Vehicle Dimensions

Collection Vehicle Dimensions			
Wheelbase	5.49 m	Approximate weight fully loaded	28,000 kg
Overall length of truck	12.0 m	Height of truck	4.1 m
Width of truck	2.4 m	Outside turning radius	12.5 m
-	-	Inside turning radius	10.0 m

* These are approximate dimensions based on the City of Vaughan (Ontario)'s Waste Collection Design Standards Policy. Actual dimensions may vary.

The vehicle access route requirements are also intended to minimize traffic disruptions and avoid unnecessary manoeuvring by collection vehicles. Whether provided indoors or outdoors, the vehicle access route shall:

- Be designed in such a way that collection vehicles can enter the site, collect the garbage/recycling and exit the site in a forward motion, or via the use of a turnaround area allowing for a three-point turn of not less than one truck length – trucks will not be allowed to reverse onto a public road;
- Be situated in a location that will minimize interface with pedestrian traffic and public vehicular access to the building's main parking area, including underground garage and visitor parking areas;
- Be constructed to accommodate the weight of a 28-tonne collection vehicle;
- Provide a minimum width of 4.5 m throughout the vehicle access route and access driveways with a minimum width of 6 m at the points of entrance and exit for the site;
- Maintain a minimum vertical clearance of 4.4 m throughout the entire access route;
- Provide the collection vehicle a minimum turning radius of 12.5 m throughout the entire access route; and
- Ensure that the slope of the access route does not exceed 6%.

The site plan should include a diagram illustrating the anticipated movement of the collection vehicle through the building site. This diagram should indicate turning radii, and show how the layout of the loading area meets the necessary turning radius requirement for an appropriately sized collection vehicle.

Where the Official Community Plan (OCP) or other regulatory instruments used by **<Municipality Name>** indicate a preference for particular access configurations, the developer should indicate how any additional configuration requirements stemming from **<Municipal Bylaw Citation>** will be met.

5.3 Occupant Access

5.3.1 Occupant Access to Recycling Storage Areas

The centralized storage area for recyclables must be accessible to all occupants of the development, and as accessible as the garbage containers. The following criteria must be observed:

- the storage area must be well lit and conveniently accessible to occupants of the development;
- occupant access to the storage area should be shown on plans;
- bins and containers should be configured so that residents have direct access to each container, without having to move any other containers or manoeuvre around other containers; and
- the storage area should be accessible to all occupants, including those with restricted mobility.

5.3.2 In-Suite Recycling Storage Provisions

In addition to providing a common area for waste storage, developers and builders of multi-family residential buildings are **encouraged to include recycling space or systems within each individual residential suite**. Space within the suite should be allocated for both current and future diversion programs, and may take the form of built-in systems under sinks, in the pantry, or in other convenient locations. **At least three cubic feet (0.085 m³) of space per suite is recommended**. The following photos show two examples of in-suite storage systems for recycling.

Municipal Notes
It is recognized that at the point of the development permit stage, there may not be sufficient detail available to make definitive decisions with regard to the level of in-suite recyclables storage provided. Consideration should be given to assessing these provisions at the building permit stage, where additional detail about in-suite configurations is more likely to be available.



Figure 1. Examples of In-Suite Storage Solutions (under sink and vertical storage in closet)