Solid Waste and Resource Storage Facility Requirements in Multi-Family Residential, Commercial, Industrial and Institutional Complexes

The purpose of this bulletin is to provide developers with information and requirements concerning solid waste and recycling in multi-family residential, commercial, industrial and institutional complexes.

"This information is provided for convenience only and is not in substitution of applicable City Bylaws or Provincial or Federal Codes or laws. You must satisfy yourself that any existing or proposed construction or other works complies with such Bylaws, Codes or other laws."

Overview

Solid waste management is an integral part of the development planning process for multi-family, mixed-use, commercial, industrial and institutional developments. Appropriate space allocation for waste storage facilities is required during the conceptual design stages of a rezoning, preliminary plan approval and/or building permit application.

This document provides developers, builders and designers requirements in order to appropriately incorporate solid waste and resource amenities into their building design. Other documents that may assist the design of these amenities include: Burnaby's Solid Waste and Recycling Bylaw, Metro Vancouver's Greater Vancouver Sewerage and Drainage District Bylaw, and Metro Vancouver's Integrated Solid Waste and Resource Management Plan.

The development applicant is responsible for designing and locating a storage facility that will provide adequate storage and collection of solid waste and resource materials that meets the current and future needs of the development. After the building is operational, the owner/operator is responsible to ensure waste management practices are conducted in accordance with the solid waste and resource requirements.

Solid waste and resource storage facility requirements are triggered for applicable commercial developments and multi-family residential developments that are not eligible to receive municipal curbside recycling collection services. These
developments may include rental apartments, condominiums, townhouse complexes and commercial properties. Institutional, industrial, commercial or mixed use development sites may be asked to submit a solid waste and resource plan for the management of material on site.

The applicant should be aware that these requirements must be met in order to obtain Preliminary Plan Approval and/or Building Permit.

This document is to be used in conjunction with, not in place of, the BC building code and Burnaby Zoning Bylaw. Further information on BC Building Code and Burnaby Zoning Bylaw can be obtained from the Burnaby Building Department and Planning Department.

Where any of the design requirements outlined in this document cannot be demonstrated to be achieved due to extraordinary site conditions, a variance may be requested.

**Definitions**

**Bulky Item** - means a household item which is larger than 1.2 m in any one dimension or weighs in excess of 20 kilograms, including furniture of the size and weight as determined by the Engineer. (Bylaw No. 13052)

**Collection Vehicle** – the vehicle which is designated to collect the garbage, recycling, green waste, bulky items, appliances or other materials from the Pickup Area(s)

**Jitney/Haul-out Vehicle** – specially modified vehicle used to transport large containers from the storage facility to the staging/pickup area. Jitney/haul-out vehicles generally pick up and drop off a single receptacle from the back of the vehicle.

**Pickup Area** – designated area where garbage and recycling receptacles are picked up and emptied by the collection vehicle on the designated pick up day;

**Staging Area** – designated area where garbage and recycling receptacles are temporarily stored on the designated pick up day. The staging area is also the pickup area for sites that cannot provide direct access for the collection vehicle to the storage facility.

**Storage Facility** – the permanent designated facility where garbage, recycling and bulky items (if required) are stored.
1.0 General Requirements

The space allocation required for new development applications is intended to provide sufficient storage space for solid waste, bulky items, and resource (recycling, food scraps, green waste, etc.) materials. These amenities should provide sufficient space for current and future recycling programs and will be accessible to both occupants and collection service providers.

This section outlines the use, location, minimum area and access requirements for the design of solid waste and resource facilities.

Use of Solid Waste and Resource Facilities

All space identified on the plans upon issuance of the building permit shall be used only for the purpose of depositing and collecting solid waste and resource material generated by occupants, visitors, and users of the principal building.

Location of the storage facility and staging/pickup area

The location of the solid waste and resource storage facility and pickup area must be:

- within the legal parcel for all storage areas, including bulky items;
- in an area such that noise and odour impacts to building occupants and neighbouring developments are minimized;
- accessible to all occupants of the development, including those with restricted mobility;
- storage facility not to be located more than 2 levels above or below grade of access; and
- staging/pickup area provided at ground level
1.1 Design elements of the storage facility

All solid waste and resource facilities should be equipped with, but are not limited to:

<table>
<thead>
<tr>
<th>Element</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>Concrete Pad</td>
<td>• Minimum 15.25 cm thick reinforced concrete pads</td>
</tr>
<tr>
<td>Drainage</td>
<td>• Must drain to sanitary sewer</td>
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<td></td>
<td>• Grease interceptor required</td>
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<tr>
<td>Door</td>
<td>• Double doors with a minimum 2.4 m opening</td>
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<tr>
<td></td>
<td>• Vertical clearance of min 2.2 m</td>
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<tr>
<td></td>
<td>• Can be propped or locked open with a bumper guard</td>
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<tr>
<td>Electricity</td>
<td>• Power shall be provided for equipment inside the facility</td>
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<tr>
<td>Lighting</td>
<td>• Lighting shall be provided around and inside the facility</td>
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<tr>
<td>Hose Bib</td>
<td>• At least (1) hose bib for cleaning the facility and containers as needed</td>
</tr>
<tr>
<td>Ventilation</td>
<td>• Suitable ventilation to the exterior of the building to release odour/stale air in compliance with applicable Building Code requirements</td>
</tr>
<tr>
<td>Closed Roof</td>
<td>• Facility must be designed such that the facility’s sanitary drain will not receive rain water</td>
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<tr>
<td></td>
<td>• Roof and/or other provided rain water diversion features will be in compliance with applicable Building Code requirements</td>
</tr>
<tr>
<td>Security</td>
<td>• Be sufficiently secure to minimize pest and wildlife access</td>
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<tr>
<td></td>
<td>• Be protected from unlawful entry through the use of strike-plate locks and astragals to close clearance gaps between doors and frames</td>
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</tbody>
</table>
2.0 Access and Pickup Requirements

2.1 Route for Jitney/Haul-out Vehicle

The design of the jitney/haul-out access route, must:

i. be designed in such a way as to allow a jitney/haul-out vehicle to enter the site, collect the container and exit the site in a forward motion, or via the use of a turnaround area allowing for a 3-point turn of not less than one truck length;

ii. provide a minimum width of 3.4 m (including driveways and gate console areas) and a minimum turning radius of 7.9 m throughout the entire access route;

iii. maintain a minimum vertical clearance of 2.2 m throughout the entire access route;

iv. ensure the grade breaks (the change in slope between adjacent inclines) on any driveway should not exceed 10% and should be spaced a minimum 6 m apart;

v. ensure that the slope of the access route does not exceed 12%; and

vi. be accessible to the jitney/haul-out vehicle at required times.

<table>
<thead>
<tr>
<th>Jitney/Haul-out Vehicle Dimensions</th>
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<tbody>
<tr>
<td>Overall length of truck</td>
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<tr>
<td>Height of truck</td>
</tr>
<tr>
<td>Width of truck</td>
</tr>
<tr>
<td>Min turning radius</td>
</tr>
</tbody>
</table>

*These are approximate dimensions based on a modified Ford F550.

2.2 Garbage & Recycling Staging/Pickup Area

If the storage facility is not directly accessible to the collection vehicle, a ground level staging/pickup area for containers must be provided for use on collection days.

The staging/pickup area must:

i. have a level and 15 cm reinforced concrete pad;

ii. have an appropriate slope as per applicable building code requirements, to facilitate drainage to the designated stormwater management system for the site, and to avoid settling of liquids within the staging/pickup area;

iii. be configured such that no horizontal dimension is less than 2.4 m and maintain a minimum vertical clearance of 7.5 m;

iv. not require manual adjustment for pickup;

v. be connected to the collection vehicle route via a level grade or continuous slope of no more than 6% and no more than 2.5% roll;

vi. be designed to prevent containers on castors from rolling away;

vii. be equal in size to 45% of the storage space allocation; and

viii. be available for container storage on the day of collection but may be used for other purposes at other times (for smaller or heavily constrained sites only)
2.3 Route for Collection Vehicle

The collection vehicle route should meet the following minimum design criteria:

i. provide a driving surface sufficiently constructed to accommodate a 28-tonne collection vehicle;

ii. be situated in a location that will minimize any interface with pedestrian traffic and public vehicular access to the building’s main parking area, including underground garage and visitor parking areas;

iii. access from the laneway where a laneway exists;

iv. on-site maneuvering shall be no more than a 3-point turn to service the site;

v. collection vehicle shall not back across any public sidewalk or onto a public street;

vi. accommodate container pickup from front and right side loading; and

vii. maintain minimum dimensions of 4.5 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.

The vehicle access route must, at a minimum, accommodate a collection vehicle with the following approximate physical characteristics:

<table>
<thead>
<tr>
<th>Collection Vehicle Dimensions</th>
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</thead>
<tbody>
<tr>
<td>Wheelbase</td>
</tr>
<tr>
<td>Overall length of truck</td>
</tr>
<tr>
<td>Width of truck</td>
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</tbody>
</table>

*These are approximate dimensions based on the City of Vaughan (Ontario)’s Waste Collection Design Standards Policy. Actual dimensions may vary.*
3.0 Size Requirements for Storage Facilities

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

Developments that combine different commercial sectors within a complex must provide solid waste and resource amenities that meet the targeted material and space allocation requirements of each sector included.

3.1 Multi-Family Developments

Solid Waste and Resource Storage Facility

The minimum size of the solid waste and resource storage facility for multi-family residential buildings shall be the greater of:

(a) 5 m² or
(b) the space allocation is determined by multiplying the number of housing units by 0.44 m² (up to a maximum of 150 m² per building) is required
(c) be configured such that no horizontal dimension (width or depth) is less than 2.0 m.

The total storage area may be divided into separate areas within the site as long as each facility meets the general requirements. Separation of materials by room is not permitted.

Bulky Item Storage

Bulky item storage is required for multi-family residents to temporarily store large household furniture and appliance items. The Bulky Item storage location must be accessible to collection vehicles and may be separate from the storage facility.

The minimum size shall be the greater of:

(a) 5 m² or
(b) the space allocation is determined by multiplying the number of housing units by 0.22 m² (up to a maximum of 50 m² per building) is required
(c) be configured such that no horizontal dimension (width or depth) is less than 2.0 m.
3.2 Commercial, Hospitality, Industrial and Institutional Developments

Solid Waste and Resource Storage Facility

The minimum size of the solid waste and resource storage facility for commercial buildings shall be the greater of:

(a) 4 m² or
(b) the space allocation determined by multiplying the commercial floor area by the space allocation ratios defined in the table below for the listed building type to a maximum requirement of 100 m², at which point the frequency of collection can increase beyond once per seven days and
(c) be configured such that no horizontal dimension (width or depth) is less than 2.0 m

<table>
<thead>
<tr>
<th>Building Development Type</th>
<th>Space Allocation per m² of floor area</th>
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<tbody>
<tr>
<td>Retail</td>
<td>0.018 m²</td>
</tr>
<tr>
<td>Office</td>
<td>0.008 m²</td>
</tr>
<tr>
<td>Public Assembly or Entertainment Use</td>
<td>0.014 m²</td>
</tr>
<tr>
<td>Restaurant/Grocery Stores</td>
<td>0.025 m²</td>
</tr>
</tbody>
</table>

The minimum size of the solid waste and resource storage space for hotels/motels shall be the greater of:

(a) 5 m² or
(b) the space allocation determined by multiplying the number of housing units by 0.44m²
   In the case of hospitality lodgings, up to a maximum of 100 m² is required, at which point the frequency of collection can increase beyond once per seven days and
(c) be configured such that no horizontal dimension (width or depth) is less than 2.0 m.

Although institutional and industrial building uses are not specifically addressed, space should still be provided in the design of the building to meet the waste management needs of the building’s planned use. A **solid waste and resource management plan** may be requested for these developments.
4.0 Solid Waste and Resource Management Plan

A Solid Waste and Resource Management Plan must be submitted that illustrates the proposed movement of the Solid Waste services through the building site. The Solid Waste and Resource Management Plan should:

- indicate the size and location of the storage facility, size and location of the staging area/pickup area including bin layout;
- show the size of the collection vehicle, size of the jitney/haul-out vehicle and their access routes; have profiles to show that the required clearance and ramp grades have been met;
- include the turning path analysis for each type of vehicle along the entire access and collection routes; and
- demonstrate how the development will meet or exceed the current solid waste regulations.

Industrial, commercial, institutional or mixed developments may be required to submit supplementary plans if there are multiple uses of the development site or if the intended uses of the site would generate Special Waste (e.g. dry cleaners, automotive shops, salons, etc.). The supplementary plans may:

- identify types of waste(s) anticipated to be generated on site;
- outline how hazardous/prohibited materials will be collected and handled appropriately;
- describe any specific or unusual material generation and/or collection circumstances; and
- describe any special material, WHMIS and HAZMAT procedures.