



BURNSIDE

**Solid Waste Management Plan
Olde Oakville Multi-Use
Residential Development**

**First Capital Asset Management LP
85 Hanna Avenue
Toronto ON M6K 3S3**



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 August 27, 2020

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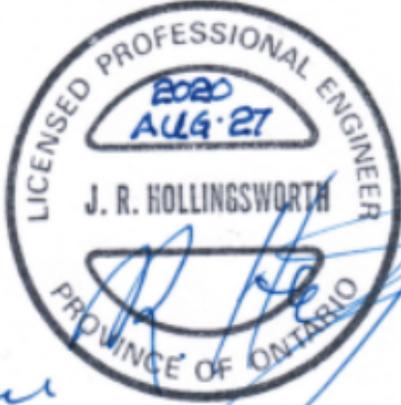
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1.0 Introduction

This document describes the Solid Waste Management Plan developed to consider issues and solutions related to solid waste management for the Olde Oakville Mixed-Use Development project (the Site). It is assumed that the overall site plan and related background for this phase of the project are described elsewhere. This plan is based on the understanding that the Site is comprised of commercial, retail, and residential spaces. Some buildings on the site are remaining, while two new towers, identified as Building C and Building D, are being developed. This report discusses only these new towers. The municipal addresses of this development are 485 Trafalgar Road and 271 Cornwall Road, Oakville.

The site layout drawings received from Giannone Petricone Associates Inc. dated August 23, 2020 were considered in developing this plan. The site layout may change prior to construction, though it is currently expected that the methods of handling solid waste as expressed in this report will remain unchanged.

In preparing this report, Burnside has considered the following:

- Interviews with a technical specialist from *Wilkinson Chutes Canada* to discuss current best practices and guidelines on chute system design.
- Waste Diversion Ontario – Continuous Improvement Fund (CIF) Report 219: *Best Practices for the Storage and Collection of Recyclables in Multi-Residential Buildings*, dated February 2011.
- Halton Region – Development Design Guidelines for Source Separation of Solid Waste, Regional Official Plan Guidelines, dated June 2014.
- *Ontario Food and Organic Waste Framework*, dated April 2018.

This Solid Waste Management Plan for the Site deals primarily with residential, commercial and retail waste storage and disposal. Grounds keeping, building maintenance and renovations are also discussed.

2.0 Residential Development

The residential development at the Site may use Halton Region waste collection services. The Halton Region Development Design Guidelines for Source Separation of Solid Waste document (Halton Guidelines) provides a comprehensive guideline for how wastes from multi-unit residential buildings are to be managed. The Halton Guidelines document incorporates waste storage requirements and contains additional design criteria to describe physical characteristics of the waste storage rooms and building requirements to accommodate waste collection vehicles.

Halton Region guidelines do not consider multi-unit residential buildings with a large number of units such as this development. The size of the development presents some unique waste management challenges. Due to this, Burnside has:

- Undertaken discussions with a Halton Region Multi-Residential Waste Diversion Coordinator regarding collection at the site.
- Developed equivalent volumes for front-load bin collection of recyclable waste based off the required number of semi-automated carts.
- Utilized semi-automated carts for the collection of organic waste, in keeping with Halton Guidelines and current collection services. However, Burnside allowed for the potential future use of front-load bins for organic waste collection in case that becomes an option.

In addition to the Halton Guidelines document, Burnside has also studied CIF Report 219. This CIF Report reviewed existing multi-unit residential buildings for their waste management effectiveness and made recommendations for the design and operation of new buildings. The findings of the CIF Report are consistent with the Halton Guidelines document. Burnside has also studied the Ontario Food and Organic Waste Framework which outlines the objective of increasing resource recovery (from food and organic waste in particular) from multi-unit residential buildings.

There will be two towers built on the Site – Building C and Building D. Based on the above, Burnside recommends each tower incorporate the following features:

- A single storage room for residential recycling, garbage, and organics waste.
 - Space for bulky waste will be accommodated in this room as required by Halton Guidelines.
- A chute system, accessible on each residential floor of the tower, will be used to deliver the waste to the waste storage room.
 - Controls at the chute access include an interlock to prevent simultaneous access and access during maintenance.
 - The controls will also indicate the type of waste being disposed by the resident. This will operate a tri-sorter will be used with three outlets: one for organics, another for (single stream) recycling, and a third for garbage.

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- A compactor will be used to minimize the number of bins required for garbage storage.
- Three and six cubic yard front-load bins will have wheels to allow maintenance staff to move the bins as required.
- The waste storage room will not be accessible to residents.
- The waste storage room will be rodent proof, properly ventilated, and include a hose bib and floor drain for periodically washing the room.

Based on the Halton Guidelines document, the residential development is expected to use Halton Region provided recycling, organics and refuse collection. The Site's waste management plan is sufficiently flexible to allow future revision of the Region's waste collection processes, including privatization. This same loading area will be used for retail/commercial wastes, not collected by the Region. Building staff will ensure retail/commercial waste collection does not interfere with (occur during) residential waste collection by the Region.

2.1 Waste Collection and Storage

2.1.1 Three Stream Waste Disposal

Located on the ground floor of each building, the waste collection rooms are to provide a chute and tri-sorter to facilitate the collection of recycling, organics and garbage. It is recommended that posters are displayed near the tri-sorters that educate the residents on waste diversion, waste reduction, and acceptable wastes¹ for disposal.

The chute will lead waste directly into the front load bins for recycling, semi-automated carts for organics and a compactor for garbage which are located on the ground level of each development. Three cubic yard compaction-type bins will be used for garbage, and six cubic-yard bins are used for recycling. These bins are all kept in the waste storage room. Organic waste is collected in 360 litre plastic, semi-automated, wheeled carts. Section 2.3 outlines waste bin, carts and equipment requirements for this plan. Maintenance staff will check the bins and carts daily to ensure those reaching capacity are exchanged for empty units. Maintenance staff will control access to the waste storage room as there are some related safety concerns with the chute, tri-sorter and the garbage compactor.

Halton Region collects garbage twice per week, though our plan assumes only one collection per week. Organics and recycling are also collected (separately) once per week however, it was noted by Halton staff that twice per week collection can be provided if required. On each collection day by 7:00 a.m., maintenance staff will move the bins or carts from the waste storage room to the Waste Loading Area. The Waste Loading Area allows for the units awaiting collection to be orientated such that the waste

¹ These educational materials are generally provided by Halton Region.

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collection service provider (collection vehicle) does not need to exit the vehicle. Facility maintenance staff will transport the empty containers back to the waste storage rooms for continued use by residents. There is capacity in the waste storage rooms to accommodate once per week waste collection, as required in the Region's Guidelines.

2.1.2 Bulky Waste Disposal

A bulky waste storage area is incorporated into each tower's waste storage room. Bulky waste items such as used furniture, mattresses, appliances, etc., will be stored in the waste collection room. This material will be collected by the Region as coordinated by the Property Manager.

In general, materials that are subject to a stewardship program or Product Care Association and items such as automotive tires, paints, and electronics, will not be accepted as bulky waste.

Residents will not have general access to this room. Residents may contact the Property Manager or other applicable person to gain access to this room (generally escorted access).

Halton Region also supplies a 40 cubic yard roll-off bin twice per year for bulky waste collection. If required, this bin will be placed in the outdoor parking area near each tower. The Property Manager will contact the Region to coordinate delivery and collection of the bin.

2.2 Materials Not Collected

Materials that are not collected by Halton Region will not be collected or stored in the development's waste storage rooms. Although not exhaustive, the following provides details for the more common wastes likely to be encountered for the condominium and its residents. Generally, Halton Region provides all other waste management requirements at the Halton Waste Management Site, which incorporates the Halton Household Hazardous Waste Depot. This may change as Individual Producer Responsibility (IPR) stewardship programs are developed under the Resource Recovery and Circular Economy Act (RRCEA).

Municipal Hazardous and Special Waste (MHSW) and Waste Electronics and Electrical Equipment (WEEE) will not be accepted by the Site's three stream waste collection system (Section 2.1.1). Residents with MHSW or WEEE will be directed to return it to an appropriate recovery facility, such as retailers with take-back programs or to the Region. The residents are responsible for the storage and disposal of these materials.

2.2.1 Grounds Keeping, Maintenance and Renovations

It is anticipated that waste generated by minor building maintenance activities, such as replacing broken fixtures, light bulbs, etc., can be accommodated in the waste rooms.

Grounds' keeping is expected to be a contracted service that will remove the leaf and yard waste as part of the service.

Contractors will typically undertake significant renovations or maintenance projects. It is expected that wastes generated during the work will be removed as part of their contract.

2.3 Residential Waste Management System Requirements

Table 1 and Table 2 outline the system requirements for residential waste management at the Site.

Table 1: Equipment Requirements – Building C

| Quantity | Item | Use |
|--|---|--------------------------------|
| 2 | 6 cubic yard front load waste bin | Recycling (uncompacted) |
| 2 | 3 cubic yard front load waste bin (compaction type bin) | Garbage (compacted) |
| 7 | 360 litre semi-automated carts | Organics |
| 1 | Waste Compactor | Compacts garbage into the bins |
| <i>Note: An additional container for each waste stream can be left in the waste storage room to allow resident disposal during collection (when containers are in the loading area).</i> | | |

Table 2: Equipment Requirements – Building D

| Quantity | Item | Use |
|--|---|--------------------------------|
| 2 | 6 cubic yard front load waste bin | Recycling (uncompacted) |
| 2 | 3 cubic yard front load waste bin (compaction type bin) | Garbage (compacted) |
| 6 | 360 litre semi-automated carts | Organics (uncompacted) |
| 1 | Waste Compactor | Compacts garbage into the bins |
| <i>Note: An additional container for each waste stream can be left in the waste storage room to allow resident disposal during collection (when containers are in the loading area).</i> | | |

The waste storage room is able to facilitate all items listed in Table 1 or Table 2, as well as the movement and jockeying of bins and carts as they reach capacity plus space for bulky waste.

3.0 Retail/Commercial Development

Since the Site, and each building, is a mixture of residential and retail/commercial development, residential waste must be kept separate from commercial waste by means of separate waste rooms in each building. Segregated residential and retail/commercial waste is required by the Halton Guidelines.

Private waste collection services must be arranged for the retail/commercial areas in the development. To facilitate this, each building will share one retail/commercial waste room for all their material storage needs. Burnside has used industry standards for waste room sizing for retail/commercial use. There is a great deal of variability in waste disposal requirements depending upon the type of tenants in a commercial building. Due to the preliminary nature of this Site's design, specifics of future tenants are not currently known.

Generally, commercial and retail waste streams for this type of development generate mainly cardboard and paper products. The main exceptions to this are grocery stores and quick-serve restaurants which can generate significant organic wastes. Burnside recommends the size of the waste storage rooms, containing both recycling, organics and garbage, be sized as shown in Table 3. These waste rooms can then hold front load, two, three or four cubic yard bins, or various sized carts for storage of the waste materials, segregated by waste type. As with the residential waste storage rooms, the commercial waste storage rooms will have appropriate ventilation, a floor drain and hose bib.

Burnside notes that the minimum separation required is a two-stream system with recyclables and garbage streams. Increased diversion efforts should be made wherever practical and, in many cases can decrease total disposal costs. Operational flexibility for the inclusion of additional waste streams such as organics has been considered to allow for compliance with future waste management regulations. With legislation such as the Waste Free Ontario Act and the Resource Recovery and Circular Economy Act, it is expected that commercial and retail facilities will be required to collect organic wastes soon.

Waste will be taken to the storage room and placed into the correct bin as required (once or twice daily) by either the commercial tenants or building management. In the case of restaurants, we anticipate the tenants will use smaller waste carts, perhaps 180 or 240 litre carts, for the organics stream if applicable. The tenant delivering a full cart to the waste room will take an empty cart from the waste room back to their restaurant.

Public areas of the site, including parking areas, will use two or three stream waste collection bins placed at convenient locations. Clear bags will be used for these collection bins. Maintenance staff can be instructed by the private waste service providers on the acceptable level of contamination for each waste stream. Maintenance

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staff will collect the wastes from these bins and deliver them to the waste rooms. Bags are then placed into the appropriate bin by staff.

Wastes generated in maintenance, mechanical, electrical, storage, vestibule or related areas of the development will be collected by maintenance staff and taken to the appropriate waste storage room. These areas are not anticipated to generate any significant waste quantities.

Like the residential waste system, property maintenance staff will be responsible for movement of the two, three or four cubic yard bins and carts from the waste storage rooms to the appropriate loading dock for pick-up by front-load waste collection vehicles.

It is anticipated that once per week waste collection will be sufficient, though this could change depending on waste quantities and characteristics of the commercial tenants. Since collection for commercial/retail areas at the site is to be facilitated by a private contractor, it is recommended that the collection day(s) for waste be coordinated such that private collection and Halton Region collection does not occur on the same day.

Waste compactors can easily be added to the system to address quantity/volume requirements. Odour and insect issues can also be addressed by increasing the ventilation, reducing the storage temperature (air conditioning) or adding odour neutralizer sprays.

3.1 Commercial/Retail Waste Management System Requirements

Burnside has used Industry Guidelines for retail/commercial waste storage room sizing. Table 3 outlines the guidelines for room areas as it relates to the area of the retail / commercial facilities. Table 4 summarizes the overall waste storage room sizes for retail/commercial wastes at the development.

Table 3: Retail/Commercial Waste Room Guidelines

| Commercial Building Area Range (m ²) | | Recommended Room (m ²) |
|--|---------|------------------------------------|
| 0 | 465 | 15.2 |
| 466 | 1,400 | 23.2 |
| 1,401 | 4,650 | 32.6 |
| 4,651 | 9,300 | 41.8 |
| 9,301 | 18,600 | 51.2 |
| 18,601 | or more | 93.0 |

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Table 4: Commercial and Retail Waste Room Sizes

| Building | C | D |
|--|--------------|--------------|
| Floor Space (m²) | | |
| Retail | 310 | 679 |
| Commercial | 1,655 | 1,421 |
| Total | 1,965 | 2,100 |
| Recommended Waste Room Size (m²) | | |
| Retail/Commercial | 32.6 | 32.6 |
| Approximate Waste Room Size (m²) | | |
| Retail/Commercial | 32 | 32 |

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4.0 Conclusions

From the research completed in preparing this report, Burnside believes that the design of the Olde Oakville Mixed-Use Development project will be able to provide flexibility in current and future solid waste management systems at the Site for both residential and commercial/retail uses.

