



TECHNICAL MEMORANDUM

ISSUED FOR USE

To:	Helen Xie. Mattamy Homes	Date:	August 24, 2023
c:		Memo No.:	03
From:	David Walmsley, Walmsley Environmental	File:	WE2023 - 07

Subject: Updated Waste Management Plan for the Development of 3085 Hurontario Street in the City of Mississauga

Introduction

Walmsley Environmental consulting services (WE) in collaboration with RWDI Air Inc. (RWDI) is pleased to submit this Technical Memorandum that documents the results of our analysis of the solid waste management system and infrastructure needs of the current, proposed, 3085 Hurontario Str. development. Equity Three Holdings Inc (Equity Three) together with Mattamy Homes (Mattamy) are proceeding with the development of a high-density residential & retail complex at 3085 Hurontario Street in the City of Mississauga. One element of the submission for approval from the City of Mississauga and Region of Peel is a Waste Management Plan for the proposed high-density, mixed-use complex. This reporting memorandum represents the WMP.

The WMP has been prepared based on the following key tasks:

- Review of the revised Floor Plans to confirm the number and size of the proposed residential suites.
- Calculate the quantity of Blue Box (BB) recyclables and mixed waste that would be generated from the residential suites followed by the number and size of waste containers needed based on volumetric calculations by materials type.
- Confirm the size and operating functionality of the waste receipt & storage rooms, located on Parking Level 1, as well as the ground floor waste staging & collection facility based on the volumetric calculations and the number of collection bins needed to manage a week's worth of waste in compliance with the Region of Peel's Standards.
- Confirm that there is space provided for the storage of bulky items in compliance with the Region's Standards.
- Confirm that a Region of Peel solid waste collection vehicle can access the collection facility in compliance with the Region's Standards as provided in the Region's Waste Collection Design Standards Manual, 2020 (WCDSM)/

Summary Description of the Proposed Development

Our team completed a review of the most-recent Floor Plans for the development with particular focus on the waste staging & collection facility on the ground floor (Level 1 Plan) and the waste receipt and storage rooms in the P1 Level Plan. The Level 1 Plan depicts the location and components of the solid waste infrastructure on the ground floor of the podiums. The key piece of solid waste management infrastructure entails the waste staging and collection facility including access and egress via future Street C. There is also a separate storage and collection system for the waste generated from the retail spaces.

There are 5 enclosed rooms in the Level 1 parking facility that have been placed to receive residential wastes via a chute system from the podiums and each of the residential towers. The materials will be transferred from the parking Level 1 rooms to the ground floor for staging on either in the evening before or in the morning of each collection day.

Waste Volumes and Number of Required Bins

We based our analysis of the revised Plans on a “first principles” approach by calculating the composition and quantity of Blue Box recyclables and mixed wastes (garbage) that would be generated by the increased number of residents in the proposed podiums and towers. Since the Region undertakes 2-stream collection (i.e., BB recyclables and mixed waste) from multi-residential developments we completed our calculation for only these 2 waste streams. The volumetric calculations were completed to establish a basis for determining the size and number of bins required to service the proposed development. Also, we concluded that compacting the garbage stream would be undertaken to reduce the number of bins requiring transfer and storage before collection.

The revised Site Plan is designed around 4 residential towers sitting on 7-storey podiums. The tabulated data in the Site Plan package identifies that a total of 1,658 residential suites are proposed. This number is split into 74% 1-bedroom units and 26% 2-bedroom units. We considered whether there would be an appreciable difference in the amount of waste generated from these 2 apartment types. Ultimately, there would not be enough difference to change the bin counts for the development, so we decided not to work this differentiation into the calculations.

Based on most-recent waste-generation data from the Region, we established that 681 kg. of waste would be generated from each household (hh) in the multi-residential complex each year. This total was split into 30% BB recyclables (i.e., 204 kg/hh/yr.) and 70% mixed waste. (i.e., 477 kg/hh/yr.).

There is also a total of 1,148 m² of retail space identified on the ground floor of the development. It isn't known what types of uses will be housed in this space. Regardless, for the purposes of the WMP, we undertook some preliminary calculations which will provide a “ballpark” estimate of the volume of waste that would be generated from the retail spaces. The Region does not automatically provide collection services to commercial land uses, so in the event there is a decision by the property management group to apply for this service, it would be based on waste generation calculations for the known retail uses at that time.

The calculations for the number and size of required bins are as follows.

Phase 1, Bldg. 1, Village Plaza: The podiums under the towers have been identified as “Bldg. 1” in the Site Plan data table. Also, there are 430 residential units on the ground and upper 6 floors of the podiums and the tower. For the purposes of this WMP, we assumed an even distribution of bins among the 4 waste rooms on Parking Level 1. There is one ancillary waste storage room under the South Tower.

- BB recyclables
 - Quantity- $(681 \times 0.3/52) \times 430 = 1,689$ - kg/week.
 - Bins – $(1689/70) \times 1000/765 = \text{five, 6-yd. bins.}$
- Mixed waste
 - Quantity – $(681 \times 0.7/52) \times 430 = 3943$ kg/week or 1,971 kg/ twice-weekly collection.
 - Bins – $(3,943/500) \times 1000/765 = \text{three, 4-yd. bins.}$
- Waste from Retail Spaces
 - We recommend that these materials be collected separately in carts and either transferred to the staging & collection facility or set out on the curb along Street C if private services are used. As identified above, this decision would be confirmed once the building Management group knows what retail uses will be occupying the designated space. For the purposes of this Plan, however, we have completed some calculations which will provide an idea of the volume of mixed waste that may be generated from the Commercial space. The waste generation for the commercial space has been calculated based on a referenced number = $0.05 \text{ kg/m}^2/\text{day} \times 1,148 \text{ m}^2 \text{ of space} = 57 \text{ kg of waste per day} \times \text{an assumed six working days per week} = 344 \text{ kg of total waste per week.}$ Assuming the following breakdown: 60% BB recyclables (mainly fibers) and, 40% garbage, (including organics from lunches, etc.) the quantities per collection for the commercial space are estimated to be:

- BB recyclables $344 \times 0.60 = 206$ kg per weekly collection
- Garbage: $344 \times 0.40 = 138$ kg per weekly collection.

Phase 1, Bldg. 2, Village Plaza:

- BB recyclables
 - Quantity – $(681 \times 0.3/52) \times 501 = 1,968$ kg/week.
 - Bins – $(1,968/70) \times 1000/765 =$ **six, 6-yd bins.**
- Mixed Waste
 - Quantity – $(681 \times 0.7/52) \times 501 = 4,593$ kg/week or 2,296 kg/twice-weekly collection.
 - Bins – $(4,593/500) \times 1000/765 =$ **three, 4-yd bins.**

Bldg. 3:

- BB recyclables
 - Quantity – $(681 \times 0.3/52) \times 355 = 1,395$ kg/week.
 - Bins – $(1,395/70) \times 1000/765 =$ **four, 6 yd bins.**
- Mixed Waste
 - $(681 \times 0.7/52) \times 355 = 3,254$ kg/week or 1,627 kg/twice-weekly collection.
 - Bins – $(3,254/500) \times 1000/765 =$ **three, 4-yd bins.**

Bldg. 4:

- BB recyclables
 - Quantity – $(681 \times 0.3/52) \times 372 = 1,462$ kg/week.
 - Bins – $(1,462/70) \times 1000/765 =$ **five, 6-yd bins.**
- Mixed Waste
 - $(681 \times 0.7/52) \times 372 = 3410$ kg/week or 1,705 kg/twice-weekly collection.
 - Bins – $(3410/500) \times 1000/765 =$ **three, 4-yd bins.**

These calculations provided the basis for the preparation of the drawings that accompany this WMP.

Material Management Design Considerations

The waste material handling for the proposed development was evaluated based on the material volume calculations outlined in the above-outlined calculations as well as the associated requirements set forth in the Region's WCDSM.

Approval of the application will require that the Region's Waste Management staff sign off on a Waste Management Plan for the development which outlines how the system and infrastructure for the transfer, storage, staging and the collection of Blue Box (BB) recyclables and mixed waste will be designed and operated in compliance with the WCDSM. In accordance with the Standards Manual, the Region will provide front-end collection of recyclables and garbage subject to the following conditions:

- Identified vehicle access and egress routes.
- Minimum turning radius of 13 metres (m) from the centre line of turns on the internal laneways.
- Minimum internal roadway width of 6 m.
- Minimum straight head-on approach to the collection point of 18 m.
- Minimum clear height of 7.5 m from the concrete pad comprising the floor of the collection point which must be clear of sprinkler systems and ducts and should be large enough to accommodate the set-out of the required number of bins without jockeying being required for collection.
- An area of 10 m² for both the storage and set out of bulky items.
- Enough space for the storage of both Blue Box (BB) recyclables and garbage bins.

- The Plan, outlined herein, presents the calculated waste material quantity and characteristics that are anticipated to be generated from the development and presents a preliminary plan for the storage and collection of the generated waste materials in compliance with the Region’s Standards.

Solid waste materials will be carried from the suites by residents to an identified chute (garbage) room on each floor of the podiums and towers. The materials will be transferred to a storage room on Parking Level 1 via a bi-sorter chute system. There are several different designs for these systems each of which offer different mechanisms. These fully enclosed and ventilated rooms have been identified on Parking Level 1. The waste materials will be transferred to the staging and collection facility located on the ground floor of the development. The waste staging & collection facility will be designed in compliance with the width and height requirements set out in the Region’s Standards for “Multi-Residential Apartment Buildings”. Our analysis has determined that a standard front-end collection vehicle can access and egress the collection facility which is directly accessible from future Street C. Finally, the Region requires that space equal to 10 m² be allocated for the storage of bulky items such as furniture, appliances, etc.

The accompanying Figure 1 “Recyclables and Mixed Waste Storage Plan – P1 Level” depicts the location for each of the waste chute and storage rooms on Parking Level 1. The drawing identifies that there is sufficient space to store the required number of bins including the required 10 m² space for the storage of bulky items. Accompanying Figure 2 “Recyclables Staging and Collection Plan – Ground Floor” depicts staging of the total number of BB recyclables bins to be collected each week. There is sufficient space for the storage of bulky items depicted in the drawing. This is the highest number of bins that would have to be staged and collected on a given week. The bins would be jockeyed into place by building maintenance staff for collection. Per the Region’s Standards, the vehicle driver would not leave the vehicle during as the bins are jockeyed into place. Bulky items would be collected with the mixed waste materials.

Conclusions & Closing

After analysis of the solid waste management infrastructure identified on the revised Site Plan drawings for the 3085 Hurontario Str. development, it is concluded that this infrastructure, as depicted, provides sufficient space for the size and number of bins required to manage the waste materials generated from the residential units as well as the materials generated by the retail uses once they become confirmed. Further, the on-site movements of the collection vehicle comply with the Region’s Standards including the need for an 18 m approach to the collection platform and a 7.5 m vertical clearance above the platform. Finally, sufficient space has been designed to allow the collection vehicle to safely reverse so that it will egress the facility in a forward motion.

We trust this report meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
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