



WASTE MANAGEMENT PLAN

17 Sophia Street East
Barrie, Ontario

June 19, 2024

...

CINI-LITTLE INTERNATIONAL, INC.
TORONTO

Phone. c. 647-202-9729

Email. akiran@cinilittle.com

2300 Yonge Street, Suite 1600, Toronto ON M4P 1E4



TABLE OF CONTENTS

EXECUTIVE SUMMARY1

INTRODUCTION1

PROJECT COMPONENTS2

RESIDENTIAL WASTE MANAGEMENT3

GENERATION ESTIMATES3

WASTE HANDLING SYSTEM4

CITY OF BARRIE WASTE COLLECTION REQUIREMENT6

Waste Loading Area:.....6

OPTION 2 BASED ON FRONT END LOAD BINS PICKED UP BY PRIVATE WASTE HAULER 7

COMMERCIAL WASTE MANAGEMENT8

GENERATION ESTIMATES8

WASTE HANDLING SYSTEM9

APPENDIX 1.1 SITE PLAN.10

APPENDIX 1.2 RESIDENTIAL GARBAGE ROOM LAYOUT11

APPENDIX 1.3 RESIDENTIAL GARBAGE ROOM LAYOUT FOR OPTION 212

EXECUTIVE SUMMARY

Cini-Little International, Inc. has been retained by The Black Creek Group to investigate the waste handling alternatives for the 17 Sophia Street East, a new development located in Barrie, Ontario.

The development is a multi- residential building consisting of 260 units and Retail Unit on the Ground floor level. Waste program and design to follow **City of Barrie’s Solid Waste Guidelines** as it pertains to multi-residential properties.

Tables A below illustrate the waste and recyclable material generation estimates for the development.

Table A Residential Waste Generation Estimate

DESCRIPTION	TOTAL UNITS	A	B	C	D	E	F	G	H
		WASTE GENERATION ESTIMATE IN m ³	ORGANIC WASTE	CORRUGATED CARDBOARD	GLASS CANS	NEWSPRINT PAPER	REMOVABLE RECYCLABLE MATERIALS	TOTAL WASTE TO LANDFILL	COMPACTED AT 3:1 RATIO
		A	B	C	D	E	B+"C"+"D"+"E"	A-"F"	G/3
Residential	260	99.40	9.94	17.89	17.89	4.97	50.69	48.71	16.24

The development will have a **single chute system** which will be connected to a tri-sorter to separate garbage, recyclables and organics. The chute system include intake rooms on each residential floor and termination/receiving room at Ground Floor Level. The chute system for residents is utilized for general trash, organics (compostable wastes) and commingled recyclables (plastics, glass, metals). The chute receiving room also serve as staging for empty and full dumpster bins and carts. Additionally, there is a separate “bulk goods” waste staging room on the Ground Floor adjacent to the Garbage/chute receiving room.

Garbage will be compacted into 3 cubic yard (2.3 cubic meters) bins while the separated commingled recyclables and organics will be collected uncompacted in 95-gallon and 35-gallon carts respectively. Additionally the Cardboard and paper waste will also be manually disposed-off by the residents through a drop-off window from the bulk room into 95-gallon cart placed in the residential garbage room.

The loading area near the residential garbage room will be utilized for the waste pick-up by the front-end loading truck for garbage and rear or side loading truck for recyclables, cardboard and organics.

City’s Waste hauling services will be used for the principal waste streams (garbage, recycling, cardboard and organics). Property management will transport the bins and carts from the garbage room to the staging area near the loading area for pick up by waste hauler and emptied bins will be returned to the respective waste rooms.

The Retail waste will be separate from the residential waste and will be stored in-suite

Retail waste will be staged at staging area and picked up by a private waste hauler.

INTRODUCTION

The volumes and types of waste presented in this report are recommendations based on our own experience and empirical data as it pertains to development.

The goals of the preferred waste-handling program are to follow waste handling regulations and to minimize the cost of handling the materials while addressing the problems of storing both recyclable and non-recyclable waste material on site for pick-up. This report will act as a general guideline with the understanding that a specific detailed program may be refined by the Property Management Company of this complex.

We welcome comment on the findings herein and will work closely with The Black Creek Group, Studia JCI and retained professionals and the City of Barrie to ensure that appropriate waste handling facilities are incorporated. Our goal is to develop a functional project that meets the needs of its owners, tenants, users, and surrounding community, while following practical waste handling regulations.

PROJECT COMPONENTS

17 Sophia Street East Yonge project will incorporate:

- 260 units.
- Retail unit on Ground Floor
- Residential Garbage and Recycling Room located Ground Floor level.
- Front-end loading area.

NOTE: Site will be designed to satisfy most of City of Barrie’s requirements for waste pick-up of garbage and recycling materials for the multi-residential building.

RESIDENTIAL WASTE MANAGEMENT

GENERATION ESTIMATES

Table 1 below illustrates the waste and recyclable material generation estimates for the development. The estimates are calculated in volumes shown as cubic meters per week. All calculations are shown uncompacted except column H. These volumes, in conjunction with the architectural plans, are used to determine the equipment, spaces and frequency of collection recommended to service the Tower.

TABLE 1.

DESCRIPTION	TOTAL UNITS	A	B	C	D	E	F	G	H
		WASTE GENERATION ESTIMATE IN m ³	ORGANIC WASTE	CORRUGATED CARDBOARD	GLASS CANS PLASTIC	NEWSPRINT PAPER	REMOVABLE RECYCLABLE MATERIALS	TOTAL WASTE TO LANDFILL	COMPACTED AT 3:1 RATIO
		A	B	C	D	E	B+"C"+"D"+"E"	A-"F"	G/3
Residential	260	99.40	9.94	17.89	17.89	4.97	50.69	48.71	16.24

Based on the calculations above, it is estimated that residential property will generate **99.4 cubic meters** of waste per week of which **50.69 cubic meters** can be easily removed for recycling. Therefore, a total of **16.25 cubic meters** of compacted waste will be collected by bulk-lift vehicles belonging to the city and taken to the landfill site.

WASTE HANDLING SYSTEM

A single chute system with garbage compactor and tri-sorter is proposed for development for residents to conveniently source separate their Garbage, Recyclables, and Organics. Residents will dispose of their waste and recycling in the appropriate chute located on each floor, which will be collected in dumpster bins and carts placed in the residential garbage room located on **Ground Floor Level**. Recyclables and Organics will be collected uncompacted in 95-gallon and 35-gallon carts respectively. Garbage will be compacted and collected in 3-cubic yard bins. Additionally, the Cardboard and paper waste will also be manually disposed-off by the residents through a drop-off window from the bulk room into 95-gallon cart placed in the residential garbage room.

96 square meters for space for **Residential Garbage and Recycling Room is recommended** to store principal waste streams and based on once-a-week pick-up. An additional space of **10 square meters** for **Bulk Waste Items** is required. **40 square meters** of space shall be provided as **Staging Area** adjacent to the loading dock to stage the bins to be emptied by Bulk Lift collection vehicle belonging to the city. The following is recommended to store the above expected waste volumes (see **Table 2**):

TABLE 2. WASTE REQUIREMENTS

NUMBER OF BINS FOR	260	UNITS	
Landfill Waste	9	3-CY (2.3 CM) Bin (Compacted)	
Commingled Recycling	19	95-Gallon (360-litre) Cart	
Cardboard and Paper	19	95-Gallon (360-litre) Cart	
Organics	13	35-Gallon (120-litre) Cart	
RECOMMENDED RESIDENTIAL WASTE ROOM SIZE			
	Storage area required for 3-CY Bins	Storage area required for Carts	Total [m ²]
Solid Waste Storage Room	45	51	96
Bulk Items			10
Hazardous Waste Item(Recommended)			2.6
Bulk Item Room (Hazardous Waste recommended to be part of the Bulk Item Room)			12.6
REQUIRED BIN STAGING AREA ADJACENT TO LOADING AREA			40 SQ.MT.

General Garbage

- Residents will dispose of their garbage in the chute which will be sorted and compacted into dumpster bins in the residential garbage and recycling room located on Ground floor level.
- The garbage waste will require Nine (9) 3 cubic yard (2.3 cubic meter) bins for compacted Garbage.
- During pick-up days/time property management will maneuver bins to the staging area near loading dock to be collected and emptied by Front-end load vehicle belonging to the city and return empty bins to the residential waste rooms.

Comingled Recyclable (Glass, Metal & Plastic)

- Residents will dispose of their recyclables in the chute which will be sorted and collected into 95-gallon carts in the residential garbage and recycling room located on Ground floor level.
- The recyclable waste will require Nineteen (19) 95-gallon carts.
- During pick-up days/time property management will maneuver carts to the staging area near loading dock to be collected and emptied by rear or side load vehicle belonging to the City and return empty bins to the residential waste rooms.

Cardboard & Newsprint

- Residents will manually dispose-off cardboard and paper through a drop-off window from the bulk room into 95-gallon cart placed in the residential garbage room..
- Cardboard waste will require Nineteen (19) 95-gallon carts.
- During pick-up days/time property management will maneuver carts to the staging area near loading dock to be collected and emptied by rear or side load vehicle belonging to the City and return empty bins to the residential waste rooms.

Organics/Compostables

- Residents will dispose of their organic waste in the chute which will be sorted and collected into 35-gallon carts in the residential garbage and recycling room located on Ground floor level.
- The recyclable waste will require Thirteen (13) 35-gallon carts.
- During pick-up days/time property management will maneuver carts to the staging area near loading dock to be collected and emptied by rear or side load vehicle belonging to the City and return empty bins to the residential waste rooms.

Bulk Items

- Residents of the development will bring down the larger pieces of furniture like Mattresses, couches etc. directly to the Tower's respective bulk waste staging room.
- A separate "bulk goods" waste staging room is provided on the Ground floor adjacent to the Residential Trash room
- On the collection day, property management will take the bulk waste items to the curbside for collection after making proper arrangements with the Waste Hauler.

Other Waste Materials

Universal and Recyclable Hazardous Waste:

- E-Waste includes items such as print cartridges, computers, electronic cords, phones, etc. Recyclable hazardous waste includes such items as batteries, light bulbs, etc.
- Residential tenants will utilize the same holding collections area for disposal. Drop areas with different carts/bins depending on level of separation of the various waste types should be provided for depositing of this waste.

Non-Recyclable Hazardous Waste:

- Non-recyclable hazardous waste includes materials such as paints, aerosol cans, chemicals, hazardous oils, medical waste, sharps (needles), etc.
- Non-flammable cabinets are recommended for holding the majority of the other hazardous waste types.

Landscape Waste

- There is no landscape waste associated with this development project as it is expected the Landscape Contractor will be responsible

...

for removing their own materials from the site.

CITY OF BARRIE WASTE COLLECTION REQUIREMENT

Waste Loading Area:

- In addition to the location of loading area ensure a minimum of 18 meter 'straight ahead' approach is shown.
- Minimum dimensions required for a waste loading space and staging area:
 - (12.0 m + length required for staging the bins) x 6.0m (width) x7m (vertical clearance)

OPTION 2: BASED ON FRONT END LOADING BINS FOR ALL WASTE TYPES PICKED-UP BY A PRIVATE WASTE HAULER

A single chute system with garbage compactor and tri-sorter is proposed for development for residents to conveniently source separate their Garbage, Recyclables, and Organics. Residents will dispose of their waste and recycling in the appropriate chute located on each floor, which will be collected in dumpster bins placed in the residential garbage room located on **Ground Floor Level**. Garbage will be compacted and collected in 3-cubic yard bins whereas Recyclables and Organics will be collected in 3-cubic yard and 2-cubic yard bins respectively. Additionally, the Cardboard and paper waste will be manually disposed-off by the residents through a drop-off window from the bulk room into a 3-cubic yard bin placed in the residential garbage room.

Based on twice-a-week pick-up, **66 square meters** for space for **Residential Garbage and Recycling Room is recommended** to store **TWO** 3-cubic yard dumpster bins for Garbage, **TWO** 2-cubic yard dumpster bins for Organics, **THREE** 3-cubic yard dumpster bins for Recyclables and **FOUR** 3-cubic yard dumpster bins for Cardboard and Paper. The following is recommended to store the above expected waste volumes (see **Table 3**):

TABLE 3.

17 SOPHIA STREE, BARRIE				
RESIDENTAIL				
WASTE EQUIPMENT & SPACE PROGRAM				
TRASH AREAS				
Waste Type	Location	Equipment		Notes
General / Landfill Trash (Compacted)	Residentail Garbage Room	2 x 3-CY Dumpster Bins + Compactor	10	Pick-up two times per week.
Organic/Compostable Waste	Residentail Garbage Room	2 x 2-CY Dumpster Bins	10	Pick-up two times per week.
Co-Mingled Recyclables (plastics, cans/metals, glass)	Residentail Garbage Room	3 x 3-CY Dumpster Bins	15	Pick-up two times per week.
Cardboard & Mixed Paper	Residentail Garbage Room	4 x 3-CY Dumpster Bins	20	Pick-up two times per week.
Universal / E-Waste / Recyclable Hazardous	Residentail Garbage Room	1 x Shelf	3	Pick-up one time per week or as required
Non-Recyclable Hazardous	Residentail Garbage Room; Secure Cabinet	Hazardous Waste Cabinets (x1), Shelving	3	Option location within Facility Maintenance Dept.
Cart Wash	Residentail Garbage Room	Hose Reel, Mixing Cabinet & Handsink	5	
TOTAL			66	

The loading area near the residential garbage room will be utilized for the waste pick-up by the front-end loading truck for garbage, recyclables, cardboard and organics.

Private Waste hauling services will be used for the principal waste streams (garbage, recycling, cardboard and organics). Property management will transport the bins from the garbage room to the staging area near the loading area for pick up by private waste hauler and emptied bins will be returned to the respective waste rooms.

RETAIL WASTE MANAGEMENT

GENERATION ESTIMATES

Table 3 summarizes the estimated waste generation from the retail component.

TABLE 3

WASTE SUMMARY	Total Waste Generation Estimate (CM) per week	Total Waste Diversion Estimate (CM/Wk)	General Trash Uncompacted (CM/Wk)	General Trash Compacted 3:1 Ratio (CM/Wk)
RETAIL	3.6	2.2	1.4	0.5

RECYCLABLES BREAK-DOWN	(1) Organics (CM/Wk)	(2) Corrugated Cardboard & Paper (CM/Wk)	(3) Commingled Recyclable (CM/Wk)	(4) Mixed Paper (CM/Wk)	(5) E-Waste & Recyclable Hazardous (CM/Wk)	(6) Non-Recyclable Hazardous (CM/Wk)
RETAIL	0.5	0.7	0.7	0.2	0.0	0.0

- (1) **Organic Wastes** include items such as fruits, vegetables, eggs, paper egg containers, plants, coffee grounds, filters, tea bags, soiled paper products (napkins, towels), daily on-site yard maintenance, etc.
- (2) **Corrugated Cardboard**
- (3) **Co-mingled Recyclables** include plastics, cans/metals (single stream).
- (4) **Mixed Paper** includes newsprint, fine paper, glossy paper, etc.
- (5) **E-Waste & Recyclable Hazardous Materials** include print cartridges, computers, phones, electronic cords, batteries, light bulbs, cooking oil, etc.
- (6) **Non-Recyclable Hazardous Wastes** include paints, aerosol cans, chemicals, hazardous oils, etc.

WASTE HANDLING SYSTEM

Retail tenant and staff will dispose of their waste manually in the waste carts stored in-suite.

Table 4 summarizes the waste equipment and space recommended for retail waste room.

TABLE 4

RETAIL				
WASTE EQUIPMENT & SPACE PROGRAM				
TRASH AREAS				
Waste Type	Location	Equipment	* Area (SM)	Notes
General / Landfill Trash	Retail Garbage Room	2 x 95-gallon carts	3	Pick-up two times per week.
Organic/Compostable Waste	Retail Garbage Room	2 x 65-gallon carts	3	Pick-up two times per week.
Co-Mingled Recyclables (plastics, cans/metals, glass)	Retail Garbage Room	1 x 95-gallon carts	2	Pick-up two times per week.
Cardboard & Mixed Paper	Retail Garbage Room	2 x 95-gallon carts	3	Pick-up two times per week.
Universal / E-Waste / Recyclable Hazardous	Residentail Garbage Room	1 x Shelf	2	Pick-up one time per week or as required
TOTAL			12	

Notes:

* - Areas are estimated and do not include general circulation (corridor access) but does include equipment and operational area.

Areas do not include truck access / parking

APPENDIX 1.2 Residential Garbage Room Layout.



