WASTE MANAGEMENT PLAN

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MISSISSAUGA, ONTARIO

PRESENTED BY:

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EXECUTIVE SUMMARY

Cini•Little International Inc. has been retained by Edenshaw SSR Developments Limited to investigate the waste handling alternatives for "49 South Service Road" a new residential development Located on the intersection of Hurontario Street and 49 South Service Road in Mississauga, Ontario.

The development is a residential development comprising of one high rise tower. The Tower will be 26 storeys high consisting of 352 units. The tower will have a single Chute system connected to a Bi-Sorter. The chute system for residents is utilized for general trash and commingled recyclables (plastics, glass, metals, paper, small cardboard). The chute receiving rooms to also serve as staging for empty and full dumpster bins. Staging area for bins is determined for the residences per Region of Peel, Waste Collection Design Standards 2020.

Based on the calculations above, it is estimated that the development will generate 107.96 cubic meters of waste per week, of which 59.38 cubic meters can be easily removed for recycling. 16.19 cubic meters of compacted waste shall be picked by Region of Peel.



49 SOUTH SERVICE ROAD INTRODUCTION

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

The goals of the preferred waste-handling programme 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.

Waste Handling System for the development is being planned based on Gravity Chute System as per Region of Peel's **Waste Collection Design Standards Manual, 2020.**

We welcome comments on the findings herein and will work closely with the Edenshaw SSR Developments Limited, Kirkor Architects and Planners, retained professionals, and the Region of Peel 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

The 49 South Service Road development will incorporate:

- Highrise Tower: 26 Storeys high consisting 352 Units
- Residential Garbage and Recycling Rooms for the Tower is located on the Ground Floor level.
 - The site will be designed to satisfy the Region of Peel requirements for waste pick up of garbage and recycling materials for the residential building.



49 South Service Road, Mississauga, *ON* October 12th, 2022

GENERATION ESTIMATES

Table 1 below illustrates the waste and recyclable material generation estimates for the 352 units in the development. The estimates are calculated in volumes shown as cubic meters per week. All calculations are shown uncompacted. These volumes, in conjunction with the architectural plans, are used to determine the equipment, spaces and frequency of collection required to service the building.

TABLE 1

WASTE GENERATION ESTIMATE(m3)		Α	В	С	D	E	F	G	н	I	J	
DESCRIPTION	TOTAL UNITS	TOTAL AREA	WASTE GENERATION ESTIMATE IN m ³	ORGANIC WASTE	CORRUGATED CARDBOARD	GLASS CANS	NEWSPRINT PAPER	E-WASTE	HAZARDOUS MATERIALS	REMOVABLE RECYCLABLE MATERIALS	TOTAL WASTE TO	COMPACTED AT 3:1
			LUTINAL			TLASTIC						Rafio
			Α	В	C	D	E	E	E	B+C+D+E+F+G	A - H	I/3
RESIDENTIAL UNITS	352	-	107.96	21.59	10.80	21.59	5.40	1.08	0.54	59.38	48.58	16.19
Total Residential	352	-	107.96	21.59	10.80	21.59	5.40	1.08	0.54	59.38	48.58	16.19

Based on the calculations above, it is estimated that the residential 352 units will generate 107.96 cubic meters of waste per week of which 59.38 cubic meters can be easily removed for recycling. Using a typical compaction ratio of 3:1, a total of 16.19 cubic meters of uncompacted waste will be collected weekly by bulk-lift vehicles and taken to the landfill site.

According to Region of Peel guidelines for Multi residential complexes, one 3-cubic yards (2.1 cubic meters) Dumpster Bin should be provided to store compacted garbage of maximum 54 units, and one 3-cubic yards (2.1 cubic meters) Dumpster Bin should be provided to store comingled recyclables of maximum 45 units using the bulk lift method. The waste rooms should be planned to have sufficient area to store apartment compactor and all the bins required as per region guidelines. An additional 10 square meters space for bulky waste items is also required for each building. 5 square meters space will be required for 1 bin staging area for pick-up at a Garbage Loading Bay (one bin would remain under chute, given chute system implementation).

Based on 352 units, the tower would require Seven 3-cubic yards (2.1 cubic meters) Dumpster Bins for storing the compacted garbage and Eight 3-cubic yards (2.1 cubic meters) Dumpster Bins for storing the comingled recyclables from the residential units. This will create total space requirement for 95 SM of space for Residential Garbage and Recycling Room to store the apartment compactor and bins. 45 SM of space shall be required in front of Garbage Loading Bay to stage the bins and the bulky waste from the Tower, to be collected and emptied by Bulk Lift Collection Vehicle belonging to Region of Peel. Please refer to Table 2:

TABLE 2

Number of Units	352	Room Size			
Number of Garbage Bins	1				
3 CY	6.52	7	3 CY Bins	75	
Number of Recycling Bins			Compactor	10	
3 CY	7.82	8		85	SM
			Plus 10 SM Bulk Space	95	SM
				Bin Staging Area	
			3 CY Bins	7	
Total bins		15	Staging Area(including 10SM for bulky waste items)	45	SM

COLLECTION POINT REQUIREMENTS

Table 3 illustrates Region of Peel guidelines following are the requirement for Indoor Collection Points:

TABLE 3

ELEMENT	DESIGN STANDARDS
	A solid, level (maximum 2% Slope) and reinforced concrete Pad.
Structure	• Must be able to support 35-tonne fully loaded collection vehicle
Approach	A minimum of 18 m straight head-on approach to the Collection Point
	Minimum width of 6m for the storage of multiple Front-End Bins.
Size	• Minimum depth of 2m for 3 cubic yard Bins
Overhead Clearance	• Overhead Clearance of 7.5 meters from the obstructions such as overhead utility wires, ducts, sprinklers etc.
Access	• A minimum unobstructed distance of 18m must be provided to enable the Waste Collection Vehicle to wholly enter the Indoor Collection
	Bollards or a concrete curb must also be installed at the rear of the Collection Point to protect the structural wall from damage when Front-
Bollards	Bins are picked up or returned in place by the Waste Collection Vehicle.
Area Requirement	• The Collection Point should be designed with sufficient area to eliminate the need for the property management staff to jockey Front-End
	make them accessible to the Waste Collection Vehicle.

49 South Service Road shall meet all the above requirement as per region guidelines. The development will require 45 SM of space to stage the bins and for staging the bulky waste. Garbage Loading Bay and Staging area is located on southwest corner of the development with access from the south service road.

WASTE HANDLING SYSTEM

General Garbage

- The tower will have a single chute system connected to a Bi-Sorter to sort the recyclables and garbage. Garbage will be compacted using an apartment compactor connected to the Bi-Sorter. Chute will terminate on • ground floor level
- Residents will dispose their garbage through the communal chute rooms located on each floor which dispatches to residential garbage and recycling room located on ground floor of the development. .
- Ground floor residents will dispose waste into the 95-gallon cart located in the Garbage room accessible through wall pass thru hopper doors. .
- 3-cubic yard/ 2.3 cubic meters dumpster bins will be used to collect general trash. •
- During pick-up days/time building management will maneuver full bins to the staging area located on southwest corner of the development to be collected and emptied by Bulk collection vehicle belonging to Region of Peel and return empty bins.
- One bin must remain under each chute system at all times.

Recyclable Materials

- Residents will dispose their recyclables through the communal chute rooms located on each floor which dispatches to residential garbage and recycling room located on ground floor of the development.
- Ground floor residents will dispose the recyclables into the 95-gallon cart located in the Garbage room accessible through wall pass thru hopper doors.

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- 3-cubic yard/ 2.3 cubic meters dumpster bins will be used to collect comingled recyclables.
- During pick-up days/time building management will maneuver full bins to the staging area located on southwest corner of the development to be collected and emptied by Bulk collection vehicle belonging to Region of Peel and return empty bins.
- One bin must remain under each chute system at all times.

Bulk Items

- 10 SM of space shall be provided in the residential garbage and recycling room to enable residents to dispose of the bulk furniture items.
- On the day of Bulk Items pickup, property management will move the bulk good to the garbage loading bay to be collected by appropriate vehicle.

Hazardous 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.
- Both residential and commercial tenants will utilize the same holding collections area for disposal. Drop area with different carts/bins depending on level of separation of the various waste types should be provided for depositing of this waste.
- It is recommended for carts to be taken to building maintenance area to secure and hold for pick-up. Area requirement depends on the pick-up frequency.

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 required for holding the majority of the other hazardous waste types
- Both residential and commercial tenants will utilize the same holding collections area for disposal. Drop area with different carts/bins depending on level of separation of the various waste types should be • provided for depositing of this waste.
- It is recommended for carts to be taken to building / facility maintenance area or other secure area to hold for pick-up by specialty haulers. Area requirement depends on the pick-up frequency.

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.

We welcome comments on the information contained above and will work closely with Edenshaw SSR Developments Limited, Kirkor Architects and Planners, retained professionals, and the Region of Peel to ensure that appropriate waste handling facilities are incorporated.

If you have any questions, please do not hesitate to contact the writer.

Sincerely,

CINI•LITTLE INTERNATIONAL. INC.

Navih Kaboor

Kavish Kapoor Associate

Appendix I – Site Plan



Appendix II – Waste Management Plan



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