11.0 Solid Waste and Sanitation Services

A. Introduction

This chapter examines the Proposed Actions' potential to result in significant adverse impacts on solid waste and sanitation services. According to the 2021 *CEQR Technical Manual*, a solid waste and sanitation services assessment is intended to determine whether a project has the potential to cause a substantial increase in solid waste production. Such an increase may overburden available waste management capacity or otherwise be inconsistent with New York City's Solid Waste Management Plan (SWMP) or with state policy related to the City's integrated solid waste management system.

As described in Chapter 1, "Project Description," under the RWCDS, the Proposed Actions would facilitate the incremental development of 9,676 DUs, or 9,786,389 gsf of residential floor area, 462,129 gsf of local retail space, and 81,755 gsf of community facility space. The Proposed Actions would also result in a net decrease of 225 accessory parking spaces, 732,619 gsf of commercial office, 52,396 gsf of warehouse, 17,386 gsf of industrial, and 1,093,808 gsf of non-residential floor area on the 61 projected development sites and conversion sites. The Proposed Actions would add a projected population of approximately 16,256 residents to the Project Area compared with the No-Action condition. In addition, the Proposed Actions are anticipated to result in a decrease of 5,523 workers in the Affected Area. The analysis year for the Proposed Actions is 2034.

To assess the potential effects of the Proposed Actions on solid waste and sanitation services, the detailed analysis in this chapter estimates the amount of existing solid waste generated on the projected development sites identified in the RWCDS and compares these estimates under No-Action and With-Action conditions for the 2034 analysis year.

B. Principal Conclusions

Compared with the No-Action condition, the Proposed Actions would result in an approximately 198.7-ton per week increase in solid waste handled by the New York City Department of Sanitation (DSNY) and an approximately 4.6-ton per week increase in solid waste handled by private carters. The increase in DSNY-handled waste would represent about 0.17 percent of the anticipated future waste generation handled by DSNY in the 2034 analysis year, as projected in the 2006 SWMP, while the increase in private carter-handled waste would represent less than 0.01 percent of the City's anticipated future commercial waste handled by private carters (DSNY 2006a).

Based on the typical DSNY collection truck capacity of approximately 12.5 tons, the new residential and community facility uses introduced by the Proposed Actions are expected to generate solid waste equivalent to approximately 16 truckloads per week. This increase is not expected to overburden DSNY's solid waste handling services.

Based on the typical commercial carter capacity of between 12 and 15 tons of waste material per truck, implementation of the Proposed Actions would require roughly 1 additional collection truck per week compared with the No-Action condition. Commercial collection fleets are expected to be sufficiently flexible to accommodate this increased demand for solid waste collection.

Overall, the Proposed Actions would not conflict with the SWMP or have a direct effect on a solid waste management facility. The incremental solid waste generated by the Proposed Actions would not overburden the City's solid waste handling systems; therefore, the Proposed Actions would not have a significant adverse impact on the City's solid waste and sanitation services.

C. Methodology

According to Chapter 14 of the 2021 *CEQR Technical Manual*, projects with a generation rate of less than 50 tons (100,000 pounds) per week of solid waste would not result in a significant adverse impact to the City's waste management capacity and do not warrant detailed analysis. Because the Proposed Actions would generate a net increase of more than 50 tons per week of solid waste, an assessment of solid waste and sanitation services is warranted. In addition, the Proposed Actions could result in more than 500 new residential units and, per the guidance contained in the *CEQR Technical Manual*, a discussion of the anticipated waste and recycling plans for collection is therefore provided.

An assessment of solid waste/sanitation services is a density-based technical analysis; as such, only development on identified projected development sites forms the basis of the analysis. The analysis describes existing and future New York City solid waste disposal practices (including the collection system and disposal methods) and estimates the solid waste generated by activities on the projected development sites and areas to be converted to residential use under existing conditions and under the No-Action condition for the 2034 Build Year. The analysis also forecasts solid waste generation based on rates for typical land uses and activities, as recommended by the *CEQR Technical Manual*, and assesses the effects of the Proposed Actions' incremental solid waste generation on municipal and private sanitation services under the With-Action condition.

D. Existing Conditions

Description of Current Solid Waste Sanitation Services

DSNY is responsible for the collection and disposal of residential and institutional solid waste in the City, while private carters collect solid waste from commercial and manufacturing uses. In addition to collecting municipal solid waste, refuse, and designated recyclable materials generated by residential and institutional uses, including schools, some nonprofit institutions, and many City and state agencies, DSNY collects waste from City litter baskets, street-sweeping operations, and lot cleaning activities. The DSNY collection fleet comprises more than 2,000 waste collection trucks, with the typical refuse collection truck carrying approximately 12.5 tons of waste material, and the typical recycling truck carrying about 11.5 tons of paper, or approximately 10.0 tons of metal, glass, and plastic containers. In total, DSNY collects approximately 9,566 tons per day of residential and institutional refuse and approximately 1,880 tons per day of recyclables (DSNY 2023).

Commercial establishments (e.g., restaurants, retail facilities, offices, and industries) in New York City contract with private carters for collection and processing and/or disposal of various kinds of solid waste, including municipal solid waste, construction and demolition debris, non-hazardous industrial wastes, and recyclables. According to the *CEQR Technical Manual*, commercial carters typically carry between 12 to 15 tons of waste material per truck. City businesses, using private carting companies, generate approximately 13,000 tons of refuse each day.

Under New York City's mandatory Recycling Law (Title 16 of the NYC Administrative Code, Chapter 3), DSNY has established and enforces rules requiring that certain designated recyclable materials be separated from household waste for separate collection. New York City residents are required to separate aluminum foil, glass, plastic, and metal containers; newspapers and other paper waste; and organics from household waste for separate collection. Commercial establishments are also subject to mandatory recycling requirements. Businesses must source-separate certain types of paper waste, cardboard, metal items, and construction wastes. Food and beverage establishments must recycle metal, glass, and plastic containers, and aluminum foil, in addition to meeting the commercial recycling requirements. Under Local Law 146, commercial businesses of a certain size/use are required to separate their organic waste (food scraps, food-soiled paper, and plant waste).

DSNY delivers most of the refuse it collects to certain public or private solid waste management facilities known as transfer stations in the City or in adjoining communities for processing and transporting to out-of-city disposal facilities. Solid wastes that are not recycled, reused, or converted to a useful product locally must be exported from the City for disposal because New York City does not have public or private local disposal facilities like sanitary landfills, construction and demolition debris landfills, traditional incinerators, or waste-to-energy resource recovery facilities. Similarly, commercial refuse and other solid waste that is not carted directly to disposal facilities are delivered to transfer stations for transport to disposal facilities. Non-putrescible waste, such as construction and demolition debris, is typically sorted at transfer stations that remove clean fill materials, metal, and wood for recycling, and send the residue to landfills for disposal. Designated recyclable materials are delivered to privately operated materials recovery facilities in the City and surrounding communities.

Under the Commercial Waste Zone (CWZ) program, the city is divided into 20 zones, each served by up to three carters who collect commercial waste. The program seeks to reduce heavy duty truck miles driven on NYC streets each year and eliminate overlapping routes.

As required by New York State Law, the City has adopted a comprehensive SWMP for the long-term management of solid waste generated within its borders. The current SWMP was adopted in 2006 and covers the period through October 2026. The SWMP estimates public- and private-sector waste quantities that must be managed over the planning period and identifies processing, transfer, and disposal capacity that will be necessary for such waste. According to the SWMP, the amount of DSNY-managed waste is projected to increase to approximately 115,830 tons per week (DSNY 2006b), and the City's commercial solid waste generation is projected to increase to approximately 74,000 tons per week by 2025 (DSNY 2006c). The City is working on SWMP 2026, which will build on ongoing programs to prevent, reuse, recycle, and

compost waste, pursuant to the requirements of the New York State Solid Waste Management Act.

The SWMP considers the objectives of New York State's solid waste management policy with respect to the preferred hierarchy of waste management methods, in order of preference: waste reduction, recycling, composting, resource conservation and energy production, and landfill disposal. The SWMP includes initiatives and programs for waste minimization, reuse, recycling, composting, and siting a new waste conversion facility to derive energy from waste, waste transfer, transport, and out-of-city disposal at waste-to-energy facilities and landfills.

Local Law 199

Currently, any neighborhood in the City may be serviced by dozens of commercial solid waste carters in an inefficient, hazardous, and unsustainable system. Local Law 199 of 2019 reformed this haphazard system by establishing new safety standards for workers in the commercial carting industry, improving service for businesses by increasing diversion rates, and reducing vehicle miles traveled as well as harmful emissions from waste hauling vehicles.

Among other things, Local Law 199 established the Commercial Waste Zone (CWZ) program that divides the City into 20 zones and assigns 3 competitively priced commercial carters to service each zone (with an additional 5 carters authorized to operate Citywide). The Queens Central zone, which includes Jackson Heights, Corona, and Elmhurst, will come online as the pilot district of the program in fall 2024. The Affected Area is located across three zones: Midtown North, Midtown South, and Manhattan West. There is currently no scheduled rollout date for these zones. The commercial carters authorized to service each zone under the CWZ program are expected to accommodate the Proposed Actions' increased demand for solid waste collection.

Solid Waste Generation on Projected Development Sites

The projected development sites and areas to be converted are currently primarily occupied with commercial, manufacturing/warehouse, and parking uses with some residential uses. Based on Citywide average rates for solid waste generation used in the SWMP (as provided in Table 14-1 of the 2021 *CEQR Technical Manual*), the existing uses on the projected development sites and areas to be converted generate approximately 104.4 tons per week of solid waste. As shown in **Table 11-1**, DSNY handles approximately 1.1 percent or 1.2 tons per week, while private carters handle approximately 98.9 percent (or almost 103.2 tons per week of existing non-residential solid waste).

Table 11-1: Existing Solid Waste Generation on Projected Development Sites and Conversion Area

Use	Floor Area (sf)	Population	Solid Waste Generation Rate (lbs./week)	Solid Waste Generation	
				(lbs./week)	(tons/week)
Residential	81,610	54 households	41 per household	2,214	1.1
Office	799,323	3,197 employees	13 per employee	41,561	20.8
Commercial Conversion Area	1,093,808	4,375 employees	13 per employee	56,875	28.4
Local Retail	431,623	1,296 employees	79 per employee	102,384	51.2
Warehouse	52,396	52 employees	66 per employee	3,458	1.7
Industrial	17,386	17 employees	125 per employee	2,125	1.1
House of Worship	13,984	13 employees	13 per employee	169	0.1
Total Solid Waste Generation				**208,786**	**104.4**
Solid Waste Handled by DSNY (Includes Residential and All Community Facility Uses)				**2,383**	**1.2**
Solid Waste Handled by Private Carters (Includes All Commercial and Industrial Uses)				**206,403**	**103.2**

Notes:
Solid waste is based on Citywide average waste generation rates presented in Table 14-1 of the *CEQR Technical Manual*, unless otherwise noted.
Residential use: 41 lbs/week per DU.
Office: 13 lbs/week per employee; assume 1 employee per 250 sf.
Local retail: 79 lbs./week per employee; assume 1 employee per 333 sf.
Warehouse: 66 lb./week; assume 1 employee per 1,000 sf.
Industrial: 125 lb./week; assume 1 employee per 1,000 sf.
House of Worship: 13 lbs./week per employee; assume 1 employee per 1,000 sf.

E. No-Action Condition

As discussed in Chapter 1, “Project Description,” under the Future without the Proposed Actions (the No-Action condition), the projected development sites and conversion area would remain the same as under existing conditions. The amount of solid waste generated under No-Action conditions at the projected development sites and conversion area would remain the same as shown in **Table 11-1**.

F. With-Action Conditions

Under the With-Action condition, the 61 projected development sites and conversion area are expected to result in approximately 9,730 DUs, 893,752 gsf of local retail space, 66,704 gsf of office space, 13,984 gsf of house of worship space, and a 81,755 gsf community facility, which will be analyzed as a 238-seat school in this chapter in order to present a conservative analysis.

As shown in **Table 11-2**, the total solid waste generation under the Proposed Actions would be approximately 307.7 tons per week, which represents an additional 203.2 tons in weekly solid waste generation compared with the No-Action condition.

Table 11-2: With-Action Solid Waste Generation on Projected Development Sites and Conversion Area

Use	Floor Area (sf)	Population	Solid Waste Generation Rate (lbs./week)	Solid Waste Generation	
				(lbs./week)	(tons/week)
Residential (Projected Development Sites and Conversion Area)	9,823,703	9,730 households	41 per household	398,930	199.5
Office	66,704	267 employees	13 per employee	3,469	1.8
Commercial Conversion Area	0	0 employees	79 per employee	0	0.0
Local Retail	893,752	2,684 employees	79 per employee	212,036	106.0
Industrial	0	0 employees	125 per employee	0	0.0
Warehouse	0	0 employees	66 per employee	0	0.0
House of Worship	13,984	13 employees	13 per employee	169	0.1
Elementary School	81,755	238 students	3 per student	714	0.4
Total Solid Waste Generation				**615,318**	**307.7**
Solid Waste Handled by DSNY (Includes Residential and All Community Facility Uses)				**399,813**	**199.9**
Solid Waste Handled by Private Carters (Includes All Commercial and Industrial Uses)				**215,505**	**107.8**

Notes:
Solid waste is based on citywide average waste generation rates presented in Table 14-1 of the CEQR Technical Manual, unless otherwise noted.
Residential use: 41 lbs/week per DU.
Office: 13 lbs/week per employee; assume 1 employee per 250 sf.
Local retail: 79 lbs./week per employee; assume 1 employee per 333 sf.
Warehouse: 66 lb./week; assume 1 employee per 1,000 sf.
Industrial: 125 lb./week; assume 1 employee per 1,000 sf.
House of Worship: 13 lbs./week per employee; assume 1 employee per 1,000 sf.
Elementary School: 3 lbs./week per student.

As shown in **Table 11-2**, commercial uses under the Proposed Actions would generate approximately 107.8 tons of solid waste per week. Private commercial carters would collect solid waste generated by commercial uses, and commercial buildings developed under the Proposed Actions would be subject to the CWZ plan and mandatory recycling requirements for paper; metals; construction waste; aluminum foil; metal, glass, and plastic containers; and organics.

Depending on the exact commercial use and its size, organics would need to be separated per Local Law 146. Residential and community facility uses would generate approximately 199.9 tons of solid waste per week under the With-Action condition (**Table 11-2**). DSNY trucks would collect solid waste generated by residential and community facility uses as part of existing DSNY collection routes. As a general practice, DSNY adjusts its operations to service the community. Residents would be required to participate in the City's recycling program for paper, metals, most types of rigid plastics and glass, and would be required to source-separate organics.

As shown in **Table 11-3**, compared with the No-Action condition, the Proposed Actions would result in an approximately 198.7-ton increase in weekly solid waste handled by DSNY, which would represent approximately 0.17 percent of the City's anticipated future waste generation handled by DSNY. DSNY is expected to manage 115,830 tons per week of solid waste for export, recycling, organics, and refuse by 2025, as projected in the 2006 SWMP.

Based on the typical DSNY collection truck capacity of approximately 12.5 tons, the new residential and community facility uses introduced by the Proposed Actions are expected to generate solid waste equivalent to approximately 16 truckloads per week. This increase is not expected to overburden DSNY's solid waste handling services.

Table 11-3: Comparison of Weekly Solid Waste Generation on Projected Development Sites

	Existing Condition	No-Action Condition	With-Action Condition	Increment
Total Solid Waste Generation (tons/week)	104.4	104.4	307.7	**203.3**
Solid Waste Handled by DSNY (tons/week)	1.2	1.2	199.9	**198.7**
Solid Waste Handled by Private Carters (tons/week)	103.2	103.2	107.8	**4.6**

Compared with the No-Action condition, conditions with the Proposed Actions would result in an approximately 4.6-ton increase in weekly solid waste handled by private carters under the CWZ plan, which would represent less than 0.01 percent of the City's anticipated future (2025) commercial waste generation of 74,000 tons per week as estimated in the SWMP. Based on the typical commercial carter capacity of between 12 and 15 tons of waste material per truck, implementation of the Proposed Actions would require roughly 1 additional private carter collection truck per week compared with the No-Action condition.

G. Conclusion

Overall, the Proposed Actions would not conflict with the SWMP or have a direct effect on a solid waste management facility or the CWZ program. The Proposed Actions would generate a net increase of approximately 16 DSNY truckloads and 1 commercial carter truckload of refuse per week. The incremental solid waste generated by the Proposed Actions would not overburden the

City's solid waste handling systems; therefore, the Proposed Actions would not have a significant adverse impact on the City's solid waste and sanitation services.