Chapter 11: Solid Waste and Sanitation Services

A. INTRODUCTION

This chapter considers the potential effects of the proposed actions on solid waste and sanitation services. Using the methodologies of the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, a solid waste assessment determines whether a project has the potential to cause a substantial increase in solid waste production that may overburden available waste management capacity, or would otherwise be inconsistent with the 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," the rezoning area is located in the Central Harlem neighborhood of Manhattan in Community District (CD) 10. The proposed actions include zoning map and text amendments, a large-scale special permit pursuant to ZR Section 74-743, a parking reduction special permit pursuant to ZR Section 74-533, and an authorization pursuant to ZR Section 25-631(f)(2) to permit the proposed curb cuts. In total, the proposed actions would result in approximately 1,488,758 gross square feet (gsf) of new residential use (approximately 1,711 dwelling units [DUs]), 39,845 gsf of new retail use, 15,055 gsf of new community facility use, and new private open space within the rezoning area.

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 solid waste generated within the rezoning area in existing conditions, and provides a comparison to solid waste generation estimates for the rezoning area under No Action and With Action conditions.

PRINCIPAL CONCLUSIONS

The analysis finds that the proposed actions would not result in a significant adverse impact on solid waste and sanitation services. The proposed actions would not directly affect a solid waste management facility. The proposed actions would collectively generate approximately 40 tons per week of solid waste over the No Action condition, of which approximately 88 percent (35.17 tons) would be handled by the New York City Department of Sanitation (DSNY), and approximately 12 percent (4.74 tons) would be handled by private carters. This correlates to approximately three additional truckloads per week of solid waste handled by DSNY and less than one additional truckload per week to be handled by private carters. The additional solid waste resulting from the proposed actions, to be handled by DSNY, would be a negligible increase relative to the approximately 12,260 tons of solid waste (including 10,500 tons of residential and institutional garbage, and 1,700 tons of recyclables) handled by DSNY every day[1], or the 12,000 tons handled by private carters. As such, the proposed actions would not result in an increase in solid waste that would overburden available waste management capacity.

[1] About DSNY: https://www1.nyc.gov/assets/dsny/site/about, accessed August 2018.

Furthermore, the proposed actions would not result in any conflicts with, or require any amendment to, the City's solid waste management objectives as stated in SWMP.

B. METHODOLOGY

According to the *CEQR Technical Manual*, projects with a generation rate of less than 50 tons (100,000 pounds) of solid waste per week 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 result in a net increase of less than 50 tons of solid waste per week, an assessment of solid waste and sanitation services is not warranted. Nevertheless, the *CEQR Technical Manual* recommends that a project's solid waste generation be calculated and disclosed; therefore, this chapter projects the amount of solid waste that would be generated by the proposed actions. In addition, as the proposed project would result in more than 500 new residential units, as per the *CEQR Technical Manual* discussion is provided of the project's waste and recycling set-out plans for collection.

An assessment of solid waste and sanitation services is a density-based technical 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 within the rezoning area under existing conditions and in the 2026 No Action condition. The analysis also estimates the proposed actions' solid waste generation based on rates for typical land uses and activities as provided in Table 14-1 of the *CEQR Technical Manual*, and assesses the effects of the proposed actions' solid waste generation, in comparison to the No Action condition, on municipal and private sanitation services and on the community.

C. EXISTING CONDITIONS

CURRENT SOLID WASTE SANITATION SERVICES

DSNY is the agency 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 (MSW), refuse, and designated recyclable materials generated by residential and institutional uses (including schools, some nonprofit institutions, and many City and State agencies), DSNY also collects waste from City litter baskets, street-sweeping operations, and lot-cleaning activities. In total, the DSNY collection fleet comprises over 2,000 waste collection trucks, with the typical waste truck carrying approximately 12.5 tons of waste material and the typical recycling truck carrying approximately 11.5 tons of paper or 10.0 tons of metal, glass, and plastic containers. As detailed above, in total DSNY collects approximately 10,500 tons of residential and institutional refuse and 1,760 tons of recyclables per day.

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 MSW, construction and demolition debris, non-hazardous industrial wastes, and recyclables. According to the *CEQR Technical Manual*, commercial carters typically carry between 12 and 15 tons of waste material per truck. The City's commercial establishments generate approximately 13,000 tons of MSW and recyclables daily.

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, cardboard, and other paper waste from household waste for separate collection. Commercial establishments are also subject to mandatory recycling requirements. Businesses must source-separate for recycling paper, cardboard, bulk metal, and metal, glass, and plastic containers.

DSNY operates a voluntary residential food waste organics collection program, for which large residential buildings in Manhattan can sign up. Such organic waste is to be converted in the region to compost, biogas, and/or other beneficial use. DSNY's voluntary organics program enables it to increase the diversion of food and other organic waste from landfills and waste-to-energy plants, in accordance with the SWMP and the Mayor's *One NYC: The Plan for a Strong and Just City*. The City also mandates composting or biogas production for the food waste from certain commercial food waste generators such as food manufacturers with at least 25,000 square feet (sf) of floor area, food wholesalers (at least 20,000 sf), restaurants of hotels with at least 150 rooms, stadiums, arenas, retail food stores (at least 25,000 sf), food service establishments (at least 15,000 sf), and chain food service establishments with at least 100 locations in New York City. The food waste is taken to composting facilities and anaerobic digestion facilities in the region.

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 2025. 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 City's commercial solid waste generation is projected to increase to approximately 74,000 tons per week by the year 2025.[2] The amount of DSNY-managed waste is projected to increase to approximately 115,830 tons per week by the year 2026.[3]

The City's solid waste management services are undertaken by DSNY in accordance with the SWMP. The SWMP takes into account the objectives of New York State's solid waste management policy with respect to the preferred hierarchy of waste management methods: first waste reduction, then recycling, composting, resource conservation and energy production, and, lastly, 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. The SWMP reduces waste hauling traffic, provides for solid waste to be transferred at various solid waste transfer stations located in each borough, and includes drop-off sites for certain problem wastes such as latex paint and batteries, and composting facilities. Local Law 19 of 1989 requires that DSNY and private carters collect recyclable materials and deliver them to material recovery facilities. Local law also mandates that commercial establishments are subject to the recycling requirements described above.

DSNY delivers most of the refuse it collects to certain public or private solid waste management facilities, known as transfer stations, within the City or 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

[2] Comprehensive Solid Waste Management Plan, September 2006; Attachment IV, Table IV 2-2.

[3] Comprehensive Solid Waste Management Plan, September 2006; Attachment II, Table II 2-6.

York City does not have public or private local disposal facilities, such as sanitary landfills, construction and demolition debris landfills, traditional incinerators, or waste-to-energy resources recovery facilities. Similarly, commercial refuse and other solid waste that is not carted directly to disposal facilities is delivered to transfer stations for transport to disposal facilities. Non-putrescible waste such as construction and demolition debris typically is sorted at transfer stations, which remove clean fill materials, metal, and wood for recycling, and send the residue to landfills for disposal. With respect to commercial waste, the SWMP provides the capacity for barge export of certain amounts of commercial refuse from four converted DSNY marine transfer stations (MTS), provides for barge export of construction and demolition waste from the existing DSNY MTS at West 59th Street, and requires rail export of commercial refuse from the three private transfer stations that also contract to handle DSNY refuse. The SWMP also includes more stringent restrictions on the siting and operation of commercial solid waste transfer stations. Under the SWMP, DSNY-collected refuse from Manhattan's CD10 is driven to the Essex County Resource Recovery Facility in Newark, NJ where it is combusted to produce energy, and metals are recovered from the ash.

Designated recyclable materials are delivered to privately operated materials recovery facilities (MRFs) in the City and surrounding communities. Under the SWMP, metal, glass and plastic recyclables from Manhattan CD10 are driven by DSNY to the private Sims Municipal Recycling transfer facility in the Bronx, where it is transferred to barge and hauled to the Sims material recovery facility on Pier 30 in Brooklyn for sorting and then export from the City. Paper recyclables collected by DSNY in Manhattan, Staten Island, and parts of Brooklyn are not taken to an MRF, but are transported directly to the Pratt Industries Paper Plant in Staten Island, which processes them for use in the production of liner board and similar products. Paper recyclables from Manhattan CD10 are transferred to barge at the West 59th Street MTS for transport by water to the paper plant in Staten Island.

SOLID WASTE GENERATION WITHIN REZONING AREA

In total, the rezoning area is currently occupied by 1,716 dwelling units (DUs), 77,835 gsf of retail space[4], 73,059 gsf of community facility space, and 478 accessory parking spaces. Based on citywide average rates for solid waste generation used in SWMP (and provided in Table 14-1 of the *CEQR Technical Manual*), the existing uses located within the rezoning area generate approximately 45 tons of solid waste per week. As shown in **Table 11-1**, approximately 9 tons (21 percent) per week of the existing solid waste generated within the rezoning area is handled by private carters, and approximately 79 percent (or 36 tons) per week is handled by DSNY.

[4] Total leased space.

Table 11-1
Existing Solid Waste Generation within Rezoning Area

Use	Floor Area (sf)	Population	Solid Waste Generation Rate (lbs/wk)	Solid Waste Generation (lbs/wk)	Solid Waste Generation (tons/wk)
Residential	1,716 units	2,917 residents	41 per household	70,356	35.18
Retail	77,835	234 employees	79 per employee	18,486	9.24
Community Facility	73,059	73 employees	13 per employee	949	0.47
Total Solid Waste Generation				***89,791***	***44.9***
Solid Waste Handled by DSNY (includes residential and all CF uses)				***71,305***	***35.65***
Solid Waste Handled by Private Carters				***18,486***	***9.24***

Notes: Solid waste generation is based on citywide average waste generation rates presented in Table 14-1 of the *CEQR Technical Manual*, and estimates of workers by use, as follows:
Residential use: 41 lbs/wk per dwelling unit.
General retail: 79 lbs/wk per employee; assume 3 employees per 1,000 sf.
Community facility uses: 13 lbs/wk per employee (same generation rate as office).
Source: *CEQR Technical Manual* Table 14-1.

D. FUTURE WITHOUT THE PROPOSED PROJECT

For the purposes of a conservative analysis, it is assumed that the rezoning area would continue in its current condition in the No Action scenario (both 2026 and 2023), with the exception that currently vacant retail space on the proposed development site would likely be re-tenanted depending upon market conditions. While it has been reported that the Metropolitan AME Church could be redeveloped independent of the proposed actions, the No Action scenario will assume that the projected future development site would continue in its current condition. No new development would occur within the rezoning area. **Table 11-2** summarizes the No Action conditions for the rezoning area.

SWMP encompasses the known plans to manage the City's future solid waste management practices closest to the 2026 build year. As described above, the amount of DSNY-managed waste is projected to increase to approximately 115,830 tons per week by the year 2026, and the City's commercial solid waste generation is projected to increase to approximately 74,000 tons per week.[5]

Table 11-2
No Action Solid Waste Generation within Rezoning Area

Use	Floor Area (sf)	Population	Solid Waste Generation Rate (lbs/wk)	Solid Waste Generation (lbs/wk)	Solid Waste Generation (tons/wk)
Residential	1,716 units	2,917 residents	41 per household	70,356	35.18
Retail	95,655[1]	287 employees	79 per employee	22,673	11.34
Community Facility	73,059	73 employees	13 per employee	949	0.47
Total Solid Waste Generation				***93,978***	***46.99***
Solid Waste Handled by DSNY (includes residential and all CF uses)				***71,305***	***35.65***
Solid Waste Handled by Private Carters				***22,673***	***11.34***

Notes: Solid waste generation is based on citywide average waste generation rates presented in Table 14-1 of the *CEQR Technical Manual*, and estimates of workers by use, as follows:
Residential use: 41 lbs/wk per dwelling unit.
General retail: 79 lbs/wk per employee; assume 3 employees per 1,000 sf.
Community facility uses: 13 lbs/wk per employee (same generation rate as office).
1) Assumes re-tenanting of all existing retail space including fire-damaged areas.
Source: *CEQR Technical Manual* Table 14-1.

[5] SWMP, September 2006. Attachment IV, Table IV 2-2 and Attachment II, Table II 202.

E. FUTURE WITH THE PROPOSED PROJECT

As detailed in Chapter 1, "Project Description," it is anticipated that in the With Action condition, the proposed actions would result in the development of approximately 1,711 new residential units, 39,845 sf of additional retail space[6], and 15,055 sf of additional community facility space to the rezoning area in comparison to the No Action condition.

As shown in **Table 11-3**, the incremental solid waste generation in the future with the proposed project would be approximately 79,826 pounds per week, which represents an additional 40 tons (approximately) in weekly solid waste generation as compared with the No Action condition.

Table 11-3
With Action Solid Waste Generation within Rezoning Area

Use	Floor Area (sf)	Population	Solid Waste Generation Rate (lbs/wk)	Solid Waste Generation (lbs/wk)	Solid Waste Generation (tons/wk)
Residential *(New)*	1,711 units	4,004 residents	41 per household	70,151	35.08
Residential *(Remaining)*	1,716 units	4,015 residents		70,356	35.18
Retail	135,500	407 employees	79 per employee	32,153	16.08
Community Facility *(New)*	15,055	15 employees	13 per employee	195	0.10
Community Facility *(Remaining)*	73,059	73 employees		949	0.47
Total With Action Solid Waste Generation				***173,804***	***86.9***
With Action Incremental Solid Waste Generation				***79,826***	***39.91***
Incremental Solid Waste to be Handled by DSNY (includes residential and all CF uses)				***70,346***	***35.17***
Incremental Solid Waste to be Handled by Private Carters				***9,480***	***4.74***

Notes: Solid waste generation is based on citywide average waste generation rates presented in Table 14-1 of the *CEQR Technical Manual*, and estimates of workers by use, as follows:
Residential use: 41 lbs/wk per household.
General retail: 79 lbs/wk per employee; assume 3 employees per 1,000 sf.
Community facility uses: 13 lbs/wk per employee (same generation rate as office).
Source: *CEQR Technical Manual* Table 14-1.

As shown in **Table 11-3**, the proposed actions would generate approximately 4.74 tons of commercial waste per week, over the No Action condition. Solid waste generated by the proposed retail uses would be collected by private commercial carters. The proposed residential and community facility uses would generate approximately 35 tons of solid waste per week. Solid waste generated by the proposed residential and community facility uses would be collected by DSNY trucks and would be served by existing DSNY collection routes. As a general practice, DSNY adjusts its operations to service the community. The proposed projects would be subject to mandatory recycling requirements for paper, metals, construction waste, aluminum foil, and metal, glass, and plastic containers.

As shown in **Table 11-4**, compared with the No Action condition, the proposed actions would result in an approximately 35-ton increase in weekly solid waste handled by DSNY. This would represent approximately 0.03 percent of the City's future waste generation handled by DSNY. Based on the typical DSNY collection truck capacity of approximately 12.5 tons, the new

[6] In addition to the 95,655 gsf of retail space in the No Action condition, which assumes a re-tenanting of all existing retail space.

residential and community facility uses introduced by the proposed actions would be expected to generate solid waste equivalent to approximately three truckloads per week. This increase is not expected to overburden DSNY's solid waste handling services.

Table 11-4
Comparison of Solid Waste Generation within Rezoning Area

	No Action Condition	With Action Condition	Increment (No Action to With Action)
Total Solid Waste Generation (tons/wk)	46.99	86.90	39.91
Solid Waste Handled by DSNY (tons/wk)	35.65	70.83	35.17
Solid Waste Handled by Private Carters (tons/wk)	11.34	16.08	4.74

Overall, the proposed actions would not conflict with SWMP, or have a direct effect on a solid waste management facility. The proposed actions would generate approximately three DSNY truckloads and less than one commercial carter truckload of refuse per week. At this time, the proposed location and method of storage of refuse and recyclables prior to collection has not been finalized; however, the applicant is evaluating a number of options, including containerized collection and consolidated pick-ups. If containerized collection is pursued, it is anticipated that the location of the containers would be located as close to the site perimeter as feasible. The use of compactor containers and/or dumpsters is being considered to minimize or avoid bag placement at the sidewalks prior to curb-side pick-up collection. It is possible that some or all of the proposed buildings may participate in DSNY's voluntary organic waste collection program. The incremental solid waste generated by the proposed actions would not overburden the City's solid waste handling systems, and therefore the proposed actions would not have a significant adverse impact on the City's solid waste and sanitation services. ✷