Chapter 11: Solid Waste and Sanitation Services

11.1 Introduction

This chapter examines the Proposed Actions' potential to effect solid waste and sanitation services. In accordance with the 2014 New York *City Environmental Quality Review (CEQR) Technical Manual,* this assessment intends to determine whether the With-Action condition would cause a substantial increase in solid waste production that would overburden available waste management capacity, or 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 Jerome Avenue Rezoning consists of a series of land use actions (collectively, the "Proposed Actions") intended to facilitate the implementation of the objectives of the Jerome Avenue Neighborhood Plan (the "Plan"). The affected area comprises an approximately 92-block area primarily along Jerome Avenue and its east west commercial corridors in Bronx Community Districts (CDs) 4, 5, and 7 (the "rezoning area"). The rezoning area is generally bounded by 184th Street to the north and East 165th Street to the south, and also includes portions of 183rd Street, Burnside Avenue, Tremont Avenue, Mount Eden Avenue, 170th Street, Edward L. Grant Highway, and East 167th Street. Per the Reasonable Worst-Case Development Scenario (RWCDS), the Proposed Actions are expected to result in an incremental development of 3,228 DUs, 20,866 sf of commercial and 72,273 sf of community facility uses.

This chapter provides a detailed analysis of the estimated amount of solid waste generated on the projected development sites identified in the RWCDS and provides a comparison of estimates for the No-Action and With-Action conditions.

11.2 Principal Conclusions

The assessment detailed in this chapter indicates that the Proposed Actions would not result in a significant adverse impact on solid waste and sanitation services. Although it would generate an incremental increase above the No-Action condition of approximately 70 tons per week of solid waste, it would not directly affect a solid waste management facility. The New York City Department of Sanitation (DSNY) would handle approximately 97 percent of the additional solid waste generated by the

Proposed Actions, while the remaining three percent would be handled by private carters. This additional solid waste generated by the Proposed Actions would be expected to require approximately six additional DSNY truckloads per week and one additional private carter truckload per week. Although this would be an increase in the overall solid waste generated over the future No-Action condition, the incremental increase would be negligible relative to the future estimated 115,830 tons per week handled by DSNY and 74,000 tons per week handled by private carters. This represents approximately 0.04 percent of the City's anticipated future weekly DSNY and commercial managed waste generation in 2026, as projected in the SWMP. The Proposed Actions would not result in an increase in solid waste that would overburden available waste management capacity. Neither would it conflict with, or require amendments to, the City's solid waste management objectives as stated in the SWMP. Therefore, the Proposed Actions would not result in a significant adverse impact on solid waste and sanitations services.

11.3 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 it is estimated that the Proposed Actions would result in a net increase of more than 50 tons of solid waste, an assessment of solid waste and sanitation services is warranted.

Solid waste and sanitation services are density-based technical analyses, and as a result, only the anticipated development on the projected development sites form the basis of this assessment. Forecasts of solid waste generation by these projected developments are based on the solid waste generation rates for typical land uses and activities provided in Table 14-1 of the *CEQR Technical Manual*. The With-Action condition solid waste generation estimates are compared to estimates of existing conditions, as well as to estimates prepared for the No-Action condition for the 2026 analysis year.

11.4 Existing Conditions

DESCRIPTION OF CURRENT SOLID WASTE SANITATION SERVICES

The New York City Department of Sanitation (DSNY) is responsible for the collection and disposal of residential and institutional solid waste (including schools, some non-profit institutions and many City and State agencies), while private carters collect solid waste from commercial and manufacturing uses.

In addition to collecting solid waste, DSNY also collects waste from City litter baskets, street sweeping operations and lot cleaning activities. DSNY has over 2,000 waste collection trucks in its fleet. The typical collection truck for residential refuse carries approximately 12.5 tons of waste material and the typical recycling truck carry approximately 11.5 tons of paper or approximately 10.0 tons of metal, glass and plastic containers, according to the *CEQR Technical Manual*. In total, DSNY collects approximately 10,500 tons of residential and institutional refuse and 1,760 tons of recyclables per day[1].

Commercial establishments in the City contract with private carters for the collection, processing and disposal of commercial and manufacturing's solid waste. This includes municipal solid waste (MSW), construction and demolition debris, non-hazardous industrial waste, and recyclables. The City's Business Integrity Commission licenses over 4,000 private carting trucks to collect the City's commercial municipal solid waste and recyclables and over 4,000 more trucks to haul private sector construction and demolition debris (2013 figures from *the CEQR Technical Manual*) which carry between 12 and 15 tons of waste material per truck. NYC commercial businesses whose waste is collected by private carting companies generate approximately 9,000 tons of MSW and recyclables daily.[1]

Under the NYC's mandatory Recycling Law (Title 16 of the NYC Administrative Code, Chapter 3), DSNY establishes and enforces rules requiring that certain designated recyclable materials (glass, aluminum foil, metal containers, paper, bulk metal, glass containers, rigid plastics, etc.) be separated from household waste. Commercial establishments are also subject to mandatory recycling requirements. Businesses must source-separate certain types of recycling materials, including paper waste, cardboard, metal items, and construction waste. In addition, food and beverage establishments must recycle metal, glass, plastic containers, and aluminum foil. Private carters may also separate other types of recyclables from the waste after collection.

DSNY collects residential refuse and delivers it to waste transfer facilities located throughout the City. At the transfer facilities, the refuse is unloaded, compacted into containers and transported to landfills or waste-to-energy facilities. Residential waste from the Bronx goes by rail to a landfill in Virginia, where landfill gas is purified for industrial uses. Commercial refuse that is not carted directly to disposal facilities by private carters is also delivered to transfer facilities.

Since the closing of the Fresh Kills Landfill in 2001, NYC has no public or private local disposal facilities. Solid waste that is not recycled, reused or converted into a product at a transfer station must be exported to facilities out of the City. Designated recyclable materials are delivered to privately operated Material Recovery Facilities (MRFs) for sorting and further tansport, with the exception of paper products in Manhattan, Staten Island and parts of Brooklyn, which are delivered to the Pratt Industries Paper Plant on Staten Island, for use in the production of linerboard and similar products.

[1] "Inside DSNY," http://www1.nyc.gov/assets/dsny/about/inside-dsny.shtml, accessed June 2017.

New York City has adopted a comprehensive *Solid Waste Management Plan* (SWMP), as required by New York State law, for the long-term management of solid waste generated by the City. Adopted in 2006, the SWMP estimates waste quantities that must be managed over a planning period (up to 2025 in most cases) and identifies processing, transfer and disposal capacity. Commercial solid waste generation handled by private carters is projected to increase to approximately 74,000 tons per week by the year 2025.[2] Residential solid waste handled by DSNY is projected to increase to approximately 115,830 tons per week by the year 2026.[3]

The SWMP includes initiatives and programs that support the plan's hierarchy of waste management methods such as waste minimization, reuse, recycling, composting, conversion and energy production, and lastly, landfill.

The Mayor has announced that DSNY will expand voluntary residential food waste collection to the entire City in the next few years. Such 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 large food waste generators such as food wholesalers, larger hotels, and arenas. The food waste is taken to composting facilities and anaerobic digestion facilities in the region.

SOLID WASTE GENERATION ON PROJECTED DEVELOPMENT SITES

The 45 projected development sites are currently occupied by 106 residential DUs, 471,512 sf of commercial uses and 47,795 sf of community facility uses. Based on the citywide average rate for solid waste generation (Table 14-1 of the *CEQR Technical Manual*) the existing uses on the projected development site currently are estimated to generate a total of approximately 60 tons of solid waste per week, as shown in Table 11-1, "Existing Solid Waste Generation – Projected Development Sites." Approximately 95 percent (about 60 tons per week) of existing solid waste is handled by private carters and approximately 5 percent (about 3 tons per week) is handled by DSNY.

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

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

Table 11-1: Existing Solid Waste Generation – Projected Development Sites

Use	Floor Area/Units		Occupants		Generation Rate (pounds per week)[1]		Solid Waste Generation	
							lbs/week	tons/week
Residential[2]	106	Units	106	Households	41	per household	4,346	2
Commercial[3]	471,512	square feet	1,415	Employees	79	per employee	111,785	56
Industrial[4]	47,795	square feet	48	Employees	182.5	per employee	8,760	4
Community Facility[5]	46,799	square feet	--		0.03	per square foot	1,404	1
Total Solid Waste Generation							**126,295**	**63**
Amount Handled by DSNY (Residential and CF)							**5,750**	**3**
Amount Handled by Private Carters (Commercial)							**120,545**	**60**

Notes:

[1]Solid waste generation is based on citywide average waste generation presented in Table 14-1 of the *CEQR Technical Manual*

[2]Residential: assumes all DUs are > 4 and generate 41 lbs/wk per DU. Data provided by Jerome Avenue Rezoning Environmental Assessment Statement, August 29, 2016.

[3]Commercial: assumes 3 employees per 1,000 sq. ft. Data provided by Jerome Avenue Rezoning Environmental Assessment Statement, August 29, 2016.

[4]Industrial use: Data provided by Jerome Avenue Rezoning Reasonable Worst-Case Development Scenario. As in the East New York FEIS it is estimated that there would be one employee per 1,000 sf of industrial building floor area

[5]Community Facility: Data provided by Jerome Avenue Rezoning Environmental Assessment Statement, August 29, 2016.

Source: New York City Department of City Planning, 2017; CSA Group, 2017.

11.5 The Future without the Proposed Actions (No-Action Condition)

As described in the Project Description, the total No-Action development on the 45 projected development sites in the RWCDS will comprise 780 residential units (894,761 sf), 532,608 sf of commercial uses, 47,795 sf of industrial uses, and 82,919 sf community facilities. Overall, the amount of solid waste generated by the projected development sites will increase with the No-Action condition, as discussed below.

With the No-Action condition, a total of approximately 84 tons per week of solid waste will be generated by the projected development sites, which is an increase of approximately 21 tons per week over the 63 tons per week generated with existing conditions. This includes about 14 additional tons per week handled by DSNY and approximately 7 additional tons per week handled by private carriers. These results are shown in Table 11-2, "No-Action Solid Waste Generation – Projected Development Sites," below.

Table 11-2: No-Action Solid Waste Generation – Projected Development Sites

Use	Floor Area/Units		Occupants		Generation Rate (pounds per week)[1]		Solid Waste Generation	
							lbs/week	tons/week
Residential[2]	780	Units	780	Households	41	per household	31,980	16
Commercial[3]	532,608	square feet	1598	Employees	79	per employee	126,242	63
Industrial[4]	47,795	square feet	48	Employees	182.5	per employee	8760	4
Community Facility[5]	82,919	square feet	--		0.03	per square foot	2,488	1
Total Solid Waste Generation							**169,470**	**84**
Amount Handled by DSNY (Residential and CF)							**34,468**	**17**
Amount Handled by Private Carters (Commercial)							**135,002**	**67**

Notes:

[1]Solid waste generation is based on citywide average waste generation presented in Table 14-1 of the *CEQR Technical Manual*

[2]Residential: assumes all DUs are > 4 and generate 41 lbs/wk per DU. Data provided by Jerome Avenue Rezoning Environmental Assessment Statement, August 29, 2016.

[3]Commercial: assumes 3 employees per 1,000 sq. ft. Data provided by Jerome Avenue Rezoning Environmental Assessment Statement, August 29, 2016.

[4]Industrial use: Data provided by Jerome Avenue Rezoning Reasonable Worst-Case Development Scenario. As in the East New York FEIS it is estimated that there would be one employee per 1,000 sf of industrial building floor area

[5]Community Facility: Data provided by Jerome Avenue Rezoning Environmental Assessment Statement, August 29, 2016.

Source: New York City Department of City Planning, 2017; CSA Group, 2017.

11.6 The Future with the Proposed Actions (With-Action Condition)

In the With-Action condition, the 45 projected development sites are expected to accommodate 4,008 DUs (4,103,185 sf), 553,474 sf of commercial uses, and 155,192 sf of community facility uses. As discussed below, based on the citywide average rates for solid waste generation the proposed With-Action condition would result in an overall increase in solid waste generation.

Solid waste generated due to the With-Action condition would be approximately 150 tons per week, a 65.6-ton increment over the weekly waste generation with the No-Action condition of 80 tons per week. The incremental increase of 65.6 tons per week represents an increase of 0.04 percent over the City's current waste generation of 151,560 tons per week. It also represents an increase of 0.03 percent of the City's estimated future weekly total of waste generation in 2026 of 189,830, as projected in the SWMP.

As shown in Table 11-3, "With-Action Solid Waste Generation – Projected Development Sites," commercial uses in the With-Action condition would generate approximately 66 tons of solid waste per week. Solid waste generated by commercial uses would be collected by private carters. Commercial facilities would also be subject to mandatory recycling requirements for paper, metals, construction waste, metal, aluminum foil, metal, glass and plastic containers.

Residential and community facility uses in the With-Action conditions would generate approximately 84 tons of solid waste per week and would be collected by DSNY trucks on existing DSNY collection routes, although DSNY often adjusts its operations to best service the community. Residents would be required to participate in the City's recycling program for paper, metals and certain types of plastic and glass containers.

Table 11-3: With-Action Solid Waste Generation – Projected Development Sites

Use	Floor Area/Units		Occupants		Generation Rate (pounds per week)[1]		Solid Waste Generation	
							lbs/week	tons/week
Residential[2]	4,008	Units	4,008	Households	41	per household	164,328	82
Commercial[3]	553,474	square feet	1,660	Employees	79	per employee	131,173	66
Industrial[4]	0	square feet	0	Employees	182.5	per employee	0	0
Community Facility[5]	155,192	square feet	--		0.03	per square foot	4,656	2
Total Solid Waste Generation							**300,157**	**150**
Amount Handled by DSNY (Residential and CF)							**168,984**	**84**
Amount Handled by Private Carters (Commercial)							**131,173**	**66**

Notes:

[1]Solid waste generation is based on citywide average waste generation presented in Table 14-1 of the *CEQR Technical Manual*

[2]Residential: assumes all DUs are > 4 and generate 41 lbs/wk per DU. Data provided by Jerome Avenue Rezoning Reasonable Worst-Case Development Scenario.

[3]Commercial: assumes 3 employees per 1,000 sq. ft. Data provided by Jerome Avenue Rezoning Reasonable Worst-Case Development Scenario.

[4]Industrial use: Data provided by Jerome Avenue Rezoning Reasonable Worst-Case Development Scenario.

[5]Community Facility: Data provided by Jerome Avenue Rezoning Reasonable Worst-Case Development Scenario.

Source: New York City Department of City Planning, 2017; CSA Group, 2017.

Table 11-4, "Comparison of Weekly Solid Waste Generation on Projected Development Sites," shows the incremental change between the No-Action condition and With-Action condition. As a result of the With-Action condition, there would be an increase of approximately 67 tons per week of solid waste handled by DSNY. This would represent approximately 0.06 percent increase in City's anticipated future solid waste generation of 115,830 tons per week that would be handled by DSNY. Based on the typical DSNY collection truck capacity of approximately 12.5 tons, the residential and community facility uses introduced by the With-Action condition would be expected to generate solid waste equivalent to approximately seven truckloads per week. This increase is not expected to overburden the DSNY's solid waste handling facilities.

In addition, there would be an increase of approximately 1.4 tons per week of solid waste handled by private carters. This would represent approximately 0.01 percent increase in City's anticipated future commercial solid waste generation of 74,000 tons per week that would be handled by private carters, according to the SWMP. Based on the typical commercial carter truck capacity of 12 to 15 tons of waste

material per truck, the commercial uses introduced by the With-Action conditions would be expected to generate solid waste equivalent to approximately one truckload per week. There are more than 2,000 private commercial carting businesses authorized to serve New York City. It is expected that their fleets would be sufficient to accommodate this increase. Therefore, the net increment in commercial solid waste handled by private carters would not overburden the City's waste management system.

Table 11-4: Comparison of Weekly Solid Waste Generation on Projected Development Sites

	Existing Conditions	No-Action Conditions	With-Action Conditions	Increment (No-Action to With-Action)
Total Solid-Waste Generation (tons/week)	63.1	84.4	150	65.6
Solid Waste Handled by DSNY (tons/week)	2.9	17	84	67
Solid Waste Handled by Private Carters (tons/week)	60.2	67.4	66	-1.4

Source: CSA Group, 2017.

Overall, the With-Action condition is expected to generate solid waste equivalent to seven DSNY truckloads and one private carter truckload per week. This increase would not overburden the DSNY or commercial solid waste handling services. Therefore, the proposed With-Action condition would not overburden the City's solid waste management capacity and would not have significant adverse impacts on solid waste and sanitation services. It would not conflict with the SWMP or have a direct effect on a solid waste management facility. As a result, no significant adverse impact on the City's solid waste and sanitation services would occur.