Chapter 11: Solid Waste and Sanitation Services

A. INTRODUCTION

This chapter considers the effects of the Proposed Project on solid waste and sanitation services. According to the 2021 *City Environmental Quality Review (CEQR) Technical Manual,* a solid waste and sanitation services assessment determines 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 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 Proposed Project would redevelop a portion of Block 3247 in the Kingsbridge Heights neighborhood of the Bronx (the "Proposed Project") that includes the Kingsbridge Armory Site (the "Armory Site") at 1 West Kingsbridge Road (Block 3247, Lot 10), which is occupied by the Kingsbridge Armory (the "Armory") and the New York National Guard ("National Guard") Site (the "National Guard Site") at 10 West 195th Street (Block 3247, Lot 2) (collectively, the "Project Site").

In order to assess the effects of the Proposed Project on solid waste and sanitation services, this analysis estimates the amount of existing solid waste generated and provides a comparison of solid waste generation estimates under conditions without the Proposed Actions (the No Action condition) and with the Proposed Actions (the With Action condition) for the 2032 analysis year.

PRINCIPAL CONCLUSIONS

This analysis finds that the Proposed Project would not result in a significant adverse impact on solid waste and sanitation services. In addition, the Proposed Project would not directly affect a solid waste management facility. Based on estimated truck capacities, development resulting from the Proposed Project in the 2032 With Action condition would require up to two additional private carter collection trucks and one additional (New York City Department of Sanitation [DSNY]) truck per week compared to the No Action condition.

In the 2032 analysis year, the Proposed Project would result in a net increase in solid waste of approximately 30.2 tons per week, which would be an increase of approximately 10.7 tons of waste handled by DSNY and approximately 19.5 tons of waste handled by private carters when compared to the No Action condition. This correlates to an increment of up to one additional truckload per week that would be handled by DSNY and up to two additional truckloads per week that would be handled by private carters compared to the No Action condition.

Although this would be a net increase compared with the No Action condition, the additional solid waste resulting from the Proposed Project would be a negligible increase

relative to the approximately 12,260 tons of solid waste handled by DSNY or the 9,000 tons handled by private carters per day.[1] Therefore, the Proposed Project would not result in an increase in solid waste that would overburden available waste management capacity and there would be no significant adverse impact to solid waste. The Proposed Project also would not conflict with, or require any amendment to, the City's solid waste management objectives as stated in the SWMP.

B. METHODOLOGY

According to the *CEQR Technical Manual*, if a project may lead to substantial new development resulting in at least 50 tons (100,000 pounds) of solid waste generated per week, a detailed solid waste and sanitation services analysis is warranted in order to assess the impacts of the project on the City's waste management capacity. Using the solid waste generation rates noted in Table 14-1 of the *CEQR Technical Manual*, the Proposed Actions are anticipated to generate an increase of up to 30.2 tons of solid waste per week. Because the Proposed Actions would result in development and activities generating more than 50 tons of solid waste per week, an analysis was conducted.

An assessment of solid waste and sanitation services is a density-based technical analysis. The analysis describes existing and future solid waste disposal practices, including the collection system and disposal methods; estimates the solid waste generated by activities within the affected area under existing conditions and in the No Action condition for the 2032 analysis year; forecasts solid waste generation based on rates for typical land uses and activities as provided in the *CEQR Technical Manual*; and assesses the effects of the Proposed Project incremental solid waste generation on municipal and private sanitation services and on the community in the 2032 With Action condition. As described above, for this assessment of solid waste, the Proposed Project is analyzed in comparison with the No Action condition in the 2032 analysis year.

C. EXISTING CONDITIONS

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. In total, DSNY collects approximately 10,500 tons of residential and institutional refuse and 1,760 tons of recyclables per day. Under its mandatory organics program, DSNY collects food scraps and yard waste from special organics collection bins, which are set out at the curb.

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-

[1] About DSNY: https://www1.nyc.gov/assets/dsny/site/about, accessed March 2024.

hazardous industrial wastes, recyclables, and organics. 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 9,000 tons of MSW and recyclables daily. Under Local Law 199 of 2019 (Title 16-B of the New York City Administrative Code), Commercial Waste Zones were established throughout New York City. The program divided New York City into 20 zones, and authorizes up to three private carters per zone. DSNY also has established contracts with five carters to operate citywide to pick up containerized waste from compactors and businesses that have loading docks. This approach is expected to reduce inefficiencies in waste collection routes and substantially reduce carter truck miles. The program will be implemented over multiple years; a transition process started in 2024 and will be complete by 2026.

Under New York City's mandatory Recycling Law (Title 16 of the New York City 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, and newspapers and other paper waste 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 (including aluminum foil), glass, and plastic containers, in addition to meeting the commercial recycling requirements.

As required by New York State Law (Section § 27-0107 of the Environmental Conservation 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 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 City's commercial solid waste generation is projected to increase to approximately 74,000 tons per week by the year 2025.[2] The total amount of DSNY-managed waste for export, recycling, compost and reuse is projected to increase to approximately 115,830 tons per week by the year 2026.[3] DSNY is currently working on the updated 2026 SWMP.

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 mandates that solid waste be transferred to solid waste management facilities located in each borough, including special (hazardous materials) waste collection sites, composting facilities, and bulk residential waste sites. Local Law 19 of 1989 requires that DSNY and private carters

[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.

collect recyclable materials and deliver them to material recovery facilities. The SWMP also provides 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 waste that is 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, such as 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 is delivered to transfer stations for transport to disposal facilities. Non-putrescible waste, such as construction and demolition debris, is typically 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 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. Designated recyclable materials are delivered to privately operated materials recovery facilities (MRFs) in the City and surrounding communities.

SOLID WASTE GENERATION ON THE DEVELOPMENT SITE

The Project Site is currently occupied by the Armory and National Guard buildings. The 588,765-gross-square-foot (gsf) Armory is currently vacant, while the 26,000-gsf National Guard buildings are used as office and garage space. Based on City-wide average rates for solid waste generation used in the SWMP (and provided in Table 14-1 of the *CEQR Technical Manual*), as well as rates used in prior environmental analyses, the existing uses on the Project Site generate a total of approximately .1 tons of solid waste per week. As shown in **Table 11-1**, all existing waste is generated by the National Guard office and handled by DSNY.

Table 11-1
Existing Solid Waste Generation on Project Site

Component	Use	Floor Area (gsf)	Population/DU	Solid Waste Generation Rate (lbs/wk)	Solid Waste Generation (lbs/week)	Solid Waste Generation (tons/wk)
Armory Site	Vacant	-	-	-	-	-
National Guard Site	Office/garage	26,000	15 employees	13 per individual	195	0.10
Total Solid Waste Generation					**195**	**0.10**
Solid Waste Handled by DSNY (includes residential and all CF uses)					**195**	**0.10**
Solid Waste Handled by Private Carters					**-**	**-**

Notes:
National Guard Site employee population provided by the New York City Economic Development Corporation (NYCEDC).
Solid waste generation is based on City-wide average waste generation rates presented in Table 14-1 of the *CEQR Technical Manual*, and estimates of workers by use, as follows:
Commercial office: 13 lbs/wk per employee

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

As described in Chapter 1, "Project Description," absent the Proposed Project, none of the Proposed Actions would be sought or approved, and the Project Site would remain unchanged from its current state. The approximately 588,765-gsf Armory would remain vacant and substantially underutilized. In the No Action condition, the existing two National Guard buildings totaling approximately 26,000 gsf would remain on the Project Site and in use by the National Guard. Uses on the Project Site will still produce 0.1 tons of solid waste per week, all of which will be handled by DSNY.

E. THE FUTURE WITH THE PROPOSED ACTIONS

PROPOSED PROJECT

With the Proposed Project, the Armory would be adaptively reused to provide up to approximately 735,800 gsf of new uses, including a mix of community facility and cultural space, light manufacturing space, commercial office space, a 17,000-person capacity live event venue, and other entertainment uses, along with parking and loading docks. The National Guard Site would be redeveloped with a new residential building (up to approximately 494,500 gsf) containing 500 new permanently affordable dwelling units (DUs) and approximately 14,400 gsf of retail. The Proposed Project would include a total of up to approximately 1,230,300 gsf of development at the Project Site.

With the Proposed Project, there would be an increase in solid waste generation on the Project Site compared to the No Action condition. The Proposed Project would generate approximately 30.3 tons of solid waste per week, of which approximately 10.8 tons of solid waste would be handled by DSNY and approximately 19.5 tons of solid waste would be handled by private carters. Typical commercial trucks have a capacity of between 12 and 15 tons of waste material per truck, and typical DSNY collection trucks have a capacity of 12.5 tons of waste material per truck. Based on these truck capacities, development resulting from the Proposed Actions would require up to two additional private carter collection trucks and one additional DSNY truck per week.

As shown in **Table 11-2**, most of the solid waste per week generated on the Project Site would be generated by the entertainment venue events, light manufacturing and residential uses. Solid waste generated by all non-residential uses would be collected by private commercial carters; and commercial uses on the Project Site would be subject to mandatory recycling requirements for paper, metals, construction waste, aluminum foil, glass, and plastic containers.

Table 11-2
Proposed Project Solid Waste Generation on Project Site

Component	Use	Floor Area (gsf)	Population/DU	Solid Waste Generation Rate (lbs/wk)	Solid Waste Generation (lbs/week)	Solid Waste Generation (tons/wk)
Armory Site	Museum and Community Facility	84,400	84 employees	13 per individual	1,092	0.55
	Office	73,000	292 employees	13 per individual	3,796	1.90
	Recreation/ Entertainment and Flex Space/ Sport Fields	152,700	97 employees	13 per individual	1,261	0.63
	Light Manufacturing/ Incubator Space	87,800	88 employees	182.5 per individual	16,060	8.03
	Entertainment Venue					
	Full-time Employees	99,800	21 employees	13	273	0.14
	Events		17,000 attendees and 383 employees	.7 per individual	14,281	7.14
National Guard Site	Residential	438,500	500 units	41 per unit	20,500	10.25
	Retail	14,400	42 employees	79 per individual	3,318	1.66
Total Solid Waste Generation					**60,581**	**30.3**
Solid Waste Handled by DSNY (includes residential and all CF uses)					**21,592**	**10.8**
Solid Waste Handled by Private Carters					**38,989**	**19.5**

Note: Venue event waste calculated assuming 50 full-capacity events, 25 mid-size events, and 25 small events per year.
Source: *CEQR Technical Manual* Table 14-1, NYCEDC

As shown in **Table 11-3**, compared with the No Action condition, the Proposed Project would result in an approximately 10.8-ton and 19.5-ton net increases in weekly solid waste handled by DSNY and private carters, respectively. With the Proposed Project, there would be an approximately 10.7-ton increase in the amount of solid waste to be handled by DSNY (approximately 10.8 tons/week, compared to 0.1 tons/week in the No Action condition) and an approximately 19.5-ton increase in the amount of solid waste to be handled by private carters (up from 0 tons/week in the No Action Condition).

Table 11-3
Comparison of Weekly Solid Waste Generation in Tons on Development Site

Solid Waste	No Action Condition (tons/week)	With Action Condition – Proposed Project (tons/week)	With Action Increment – Proposed Project (tons/week)
Total solid waste generation	0.10	30.3	30.2
Solid waste handled by DSNY	0.10	10.8	10.7
Solid waste handled by Private Carters	0	19.5	19.5

Based on estimated truck capacities, development resulting from the Proposed Actions would require up to two additional private carter collection trucks per week and one additional DSNY truck per week, compared to the No Action condition. It is expected that DSNY and private carter collection fleets operating within the Commercial Waste Zones regulatory framework would be sufficiently flexible to accommodate this increased demand for solid waste collection. Therefore, the incremental commercial solid waste handled by DSNY and private carters as a result of the Proposed Actions would not overburden the City's waste management system.

The Project Site would incorporate on-site trash storage within the armory building and residential building to minimize placement of trash on sidewalks. Trash at the Project Site would be compacted and containerized prior to collection; recyclables would also be containerized. It is expected that trash would be picked up two or three times per week depending on the use. By containerizing and minimizing the placement of trash on sidewalks, rodents, odors, and other related nuisances would be minimized in the With Action condition.

Overall, the Proposed Actions would not conflict with the SWMP or have a direct effect on a solid waste management facility. The incremental difference in 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. ✴