A. INTRODUCTION

This chapter examines the potential for the proposed actions related to Block 675 East to result in significant adverse impacts on solid waste and sanitation services. According to the 2014 *City Environment Quality Review (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 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," and Chapter 2, "Analytical Framework," in the future with the proposed actions (the With Action condition), the Project Area would be redeveloped with two new mixed-use buildings on two project sites (project site A—601 West 29th Street and project site B—606 West 30th Street). The Project Area includes these two project sites as well as an intervening lot (Lot 38), which is not part of either project site. The two project sites currently contain the DSNY Manhattan District 6 (M6) Garage, consisting of a personnel building (locker rooms, wash rooms, and offices) on project site A, and the Garage's repair and maintenance facility on project site B. Following the loss of DSNY M6 off-street truck parking under the High Line due to the on-going Hudson Yards project, DSNY M6 trucks are stored on the street in the Project Area along West 29th Street between Eleventh and Twelfth Avenues, and along Twelfth Avenue. DSNY's application for approvals to build a new M6 Garage at 425 East 25th Street is a separate action for CPC review (CEQR#13DOS007M). The two project sites and Lot 38 would be rezoned and included in the Special Hudson River Park District. Overall, it is assumed that the Project Area would contain residential apartments, retail, accessory parking, and potentially a public facility (a Fire Department New York-Emergency Medical Service [FDNY-EMS] Station). To assess the potential effects of the proposed actions on solid waste and sanitation services, the analysis in this chapter estimates the amount of existing solid waste generated in the Project Area and provides a comparison of estimates in the future without the proposed actions (the No Action condition) and the future with the proposed actions (the With Action condition).

B. 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 and would not result in an increase in solid waste that would overburden available waste management capacity. The development resulting from the proposed actions would generate an increment above the No Action condition of approximately 28.13 tons per week of solid waste, of which approximately 25.95 tons would be handled by the New York City Department of Sanitation (DSNY), and 4.14 tons would be handled by private carters. Although this would be an increase compared with the

conditions in the No Action condition, the additional solid waste resulting from the proposed actions would be negligible compared to the approximately 12,260 tons of solid waste handled by the DSNY every day, or the 9,000 tons handled daily by private carters.[1] In addition, the proposed actions would not conflict with, or require any amendment to, the City's solid waste management objectives as stated in the SWMP.

C. 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 not result in a net increase of more than 50 tons of solid waste per week, a detailed assessment of solid waste 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 projects.

An assessment of solid waste and sanitation services is a density-based technical analysis; as a result, only development within the Project Area (project sites A, B, and Lot 38) forms the basis of the analysis. The analysis describes existing and future solid waste disposal practices in New York City, including systems for collection and disposal. The analysis will estimate the solid waste generated by activities on the Project Area under existing conditions and in the No Action condition for the 2022 analysis year. The chapter also 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 actions' incremental solid waste generation on municipal and private sanitation services in the With Action condition.

D. EXISTING CONDITIONS

DESCRIPTION OF CURRENT SOLID WASTE SANITATION SERVICES

DSNY is the City 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 total, DSNY collects approximately 10,500 tons per day of residential and institutional refuse and approximately 1,760 tons per day of recyclables.[2] 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. The City's businesses, whose waste is collected by private carting companies, generate approximately 9,000 tons of refuse each day.

Operating out of its various District garages, 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 such as sanitary landfills, construction and demolition debris landfills,

[1] About DSNY: http://www1.nyc.gov/assets/dsny/about/inside-dsny.shtml

[2] "DSNY Annual Report; New York City Municipal Refuse and Recycling Statistics: Fiscal Year 2016," http://www1.nyc.gov/assets/dsny/docs/about_dsny-non-dsny-collections-FY2016.pdf

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[3] 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.

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.

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. Under the SWMP, refuse from future residents of the project sites would be driven by DSNY to the Essex County Resource Recovery Facility in Newark, NJ, pursuant to a long-term DSNY contract. Separated metal, glass and rigid plastic recyclables from such future residents would be driven by DSNY to a Sims Municipal Recycling materials processing facility in Jersey City, NJ for sorting and further transport to processors. Paper and cardboard recyclables from such residents would be driven by DSNY to the West 59th Street Marine Transfer Station in Manhattan for transfer and barge transport to the Visy Paper recycling plant in Staten Island.

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 (MTSs); provides for barge export of construction and demolition waste from the existing DSNY MTSs 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.

DSNY currently has a voluntary organics collection program for certain residences, schools and Greenmarkets in 18 sanitation districts. The program enables DSNY to increase the diversion of organic waste (source-separated food waste and other biodegradable organic waste such as yard waste and food-soiled paper) from landfills and waste-to-energy plants, in accordance with the SWMP and the Mayor's OneNYC: The Plan for a Strong and Just City (OneNYC plan). DSNY will expand voluntary residential organics 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.

In addition, New York City requires separate organics waste management from larger food waste generators such as food manufacturers or wholesalers, larger hotels with food service

[3] Non-putrescible waste consists of waste that does not contain organic matter. Most construction and demolition waste is considered non-putrescible. Non-Putrescible waste includes but is not limited to dirt, earth, plaster, concrete, rock, rubble, slag, ashes, waste timber, lumber, plexiglass, fiberglass, ceramic tiles, asphalt, sheetrock, tar paper, tree stumps, wood, window frames, metal, steel, glass, plastic pipes, plastic tubes, rubber hoses, rubber tubes, electric wires, electric cables, paper, cardboard.

establishments, and arenas. The rules require such commercial facilities to keep their organic waste separate from their refuse and recyclables. The organics must be composted or converted on-site, or transported off-site to facilities in the region for conversion into a beneficial use. Furthermore, the Mayor's OneNYC plan includes a Zero Waste by 2030 initiative, which will eliminate the need to send out waste to out-of-state landfills, thus minimizing the overall environmental impact of our trash.

SOLID WASTE GENERATION ON PROJECT AREA

In total, the three Project Area is currently occupied by 55,809 sf of commercial office space (artist studios and offices, and the DSNY staff building); and 28,396 sf of auto-related and storage use (gas station, vehicle storage and maintenance, and an auto repair shop). Based on citywide average rates for solid waste generation used in the SWMP (and provided in Table 14-1 of the *CEQR Technical Manual*), the existing uses on the Project Area generate a total of approximately 1.96 tons of solid waste per week. As shown in **Table 12-1**, all of the solid waste is handled by private carters.

Table 12-1
Existing Solid Waste Generation – Project Area

Use	Floor Area (sf)	Population	Solid Waste Generation Rate (lbs/wk)	Solid Waste Generation	
				(lbs/wk)	(tons/wk)
Artist Studios (Office)	43,859	150	13	1,950	0.98
DSNY Staff Building	11,950	48	13	624	0.31
Gas Station[1]	9,875	10	75.2	752	0.38
Auto Repair	18,521	8	75.2	602	0.30
Total Solid Waste Generation				***3,928***	***1.96***
Solid Waste Handled by DSNY (includes residential and all CF uses)				***0***	***0***
Solid Waste Handled by Private Carters				***3,928***	***1.96***

Notes: Solid waste generation is based on citywide average waste generation rates presented in Table 14-1 of the *CEQR Technical Manual.*
Commercial/DSNY: (assumed office use) 13 lbs/wk per employee.
Gas Station and auto-related: (assumed an average of retail and wholesale rate) 75.2 lbs per worker; assume 1 employee per 1,000 sf.
[1] This includes entire gas station lot area, including the 1,056 square-foot building.
Source: *CEQR Technical Manual,* Table 14-1.

E. THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the No Action condition, it is assumed that the existing structures will remain on the Project Area with uses similar to or the same as existing uses; and 100 percent of the solid waste would be handled by private carters. DSNY would relocate its M6 Garage from the Project Area to a location closer to the M6 service district on the East Side of Manhattan, and cease the storage of DSNY trucks on West 29th Street and on Twelfth Avenue in the Project Area.

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 a 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.[4] The amount of DSNY managed waste is projected to increase to approximately 118,830 tons per week.[5] The SWMP encompasses the known plans to manage the City's future solid waste management practices closest to the 2022 build year.

F. THE FUTURE WITH THE PROPOSED ACTIONS

In the With Action condition, it is assumed that the Project Area would contain dwelling units, retail and parking uses; in addition to a public facility, anticipated to be an FDNY-EMS station. As compared with the No Action condition, the proposed actions would result in a decrease in commercial space, decrease in auto-related and storage space, and an increase in residential uses.

As shown in **Table 12-2**, the total solid waste generation under the proposed actions would be approximately 30.09 tons per week. As shown in **Table 12-2**, commercial and parking uses would generate approximately 4.14 tons of solid waste per week.

Table 12-2
With Action Solid Waste Generation – Project Area

Use	Floor Area (sf)	Population	Solid Waste Generation Rate (lbs/wk)	Solid Waste Generation (lbs/wk)	Solid Waste Generation (tons/wk)
Residential	1,242 units	1,242 households	41 per household	50,922	25.46
Retail	40,028	100 employees	79 per employee	7,900	3.95
Accessory Parking	252	5 employees	75.2 per employee	376	0.19
EMS[1]	12,500	75 employees	13 per employee	975	0.49
Total Solid Waste Generation				***60,173***	***30.09***
Solid Waste Handled by DSNY (includes residential and all CF uses)				***51,897***	***25.95***
Solid Waste Handled by Private Carters				***8,276***	***4.14***

Notes:
[1] Solid waste generation rates based on office use. Employment estimate provided by the Applicant A.
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. Assumed 1 employee per 400 sf.
EMS: (assumed office use) 13 lbs/wk per employee.
Parking: (assumed an average of retail and wholesale rate) 72.5 lbs/wk per employee; assumes 1 employee per 50 parking spaces.
[2] Totals may not add due to rounding.
Source: *CEQR Technical Manual* Table 14-1.

Solid waste generated by commercial uses would be collected by private commercial carters, and commercial real estate developed under the proposed actions would be subject to mandatory recycling requirements for paper, metals, construction waste, aluminum foil, glass and plastic containers. Residential uses would generate 25.95 tons of solid waste per week under the With Action condition (refer to **Table 12-2**). Solid waste generated by residential uses would be collected by DSNY trucks and would be served by existing DSNY collection routes. As a

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

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

general practice, DSNY adjusts its operations to service the community. Residents will be required to participate in the City's recycling program for paper, metals, and certain types of plastics and glass.

As shown in **Table 12-3**, compared with the No Action condition, the proposed actions would result in an approximately 28.13 ton increment in weekly solid waste handled by DSNY. This would represent approximately 0.02 percent of the City's anticipated future waste generation handled by DSNY (it is estimated that DSNY will manage 115,830 tons of solid waste for export, recycling compost and refuse per week 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 would be expected to generate solid waste equivalent to approximately 2.07 truckloads per week. This increase is not expected to overburden the DSNY's solid waste handling services.

Table 12-3
Comparison of Weekly Solid Waste Generation on Project Area(Existing, No Action, With Action Conditions)

	Existing Condition	No Action Condition	With Action Condition	Increment (No Action to With Action)
Total Solid-Waste Generation (tons/wk)	1.96	1.96	30.09	28.13
Solid Waste Handled by DSNY (tons/wk)	0.00	0.00	25.95	25.95
Solid Waste Handled by Private Carters (tons/wk)	1.96	1.96	4.14	2.18

As shown in **Table 12-3**, compared with the No Action condition, conditions with the proposed actions would result in an approximately 2.18 ton increase in weekly solid waste handled by private carters. This would represent an insignificant increase in the City's anticipated future commercial waste generation, as it is estimated that private carters will carry 74,000 tons of solid waste per week by 2025, as projected in the SWMP.[6] Based on the typical commercial carter capacity of between 12 and 15 tons of waste material per truck, the proposed actions would increase the number of collection trucks by 0.15 and 0.18 trucks per week, as compared with the No Action condition. There are more than 2,000 private carting businesses authorized to serve New York City, and it is expected that their collection fleets would be sufficiently flexible to accommodate this increased demand for solid waste collection. Therefore, the net increment in commercial solid waste handled by private carters would not overburden the City's waste management system.

Overall, the proposed actions would not conflict with the SWMP, or have a direct effect on a solid waste management facility. The proposed actions would generate approximately two DSNY truck loads and a reduction in commercial carter truckloads of refuse per week. 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. ✷

[6] Comprehensive Solid Waste Management Plan, September 2006; Attachment II, Table IV 2-2, p. 4. Accessed August 8, 2016.