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## CHAPTER 16: SOLID WASTE AND SANITATION SERVICES

### A. INTRODUCTION

The development associated with the Proposed Action would add new residents and employees to the Project Area by 2018. Although present uses of the projected development sites generate a level of solid waste, development that could potentially result from the Proposed Action would result in an associated increase in solid waste. This chapter evaluates the potential impacts of the Proposed Action on the collection and disposal of municipal solid waste and recyclable materials. The analyses utilized in this chapter follow the guidelines contained in Section 3M of the *CEQR Technical Manual*.

### B. OVERVIEW

No significant adverse impacts on solid waste collection and disposal are expected to result from the Proposed Action. The New York City Department of Sanitation (DSNY) is responsible for the collection and disposal of municipal solid waste and recyclables generated by residences, city agencies, tax exempt properties and some nonprofit organizations. Solid waste and recyclables from commercial and industrial establishments are collected and disposed of by private carters. Private carters use manual and containerized collection methods, depending on the source, amount and collection route, and generally bill customers on a per-cubic-yard basis. Litter basket waste, street sweeping and lot cleaning activities are also under the jurisdiction of DSNY.

In accordance with the city's mandatory recycling law, DSNY has implemented recycling rules for residential buildings, city agencies and institutions that require the separation of designated recyclable materials<sup>1</sup> and other related materials from household waste for separate collection.

DSNY does not collect commercial waste, regulated medical waste, asbestos, hazardous or industrial wastes, construction and demolition debris, dredge spoils or fill materials. For an assessment of the Proposed Action's potential solid waste impacts during construction, please refer to Chapter 22, "Construction Impacts."

DSNY is the world's largest manager of solid waste, collecting over 12,000 tons of residential and institutional refuse and recyclables (solid waste) a day. The city's businesses (whose waste is collected by private carting companies) generate another 13,000 tons of refuse daily. The department operates out of 59 districts, using approximately 2,230 collection trucks, 450 mechanical street sweepers, 275 specialized collection trucks, 365 salt/sand spreaders, 298 front end loaders, and 2,360 various other support vehicles.<sup>2</sup>

DSNY transports the collected municipal solid waste to transfer stations, or solid waste management facilities, which are located throughout the city. Transfer stations process the waste for delivery to out-of-city disposal facilities, regardless of whether the waste experienced treatment or a reduction in volume at the transfer station.

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<sup>1</sup> Pursuant to §§ 16-304 and 16-305 of the New York City Administrative Code, designated recyclable materials are defined as metal cans, metal items, aluminum foil, containers made of glass, plastic bottles, jugs and beverage cartons; and newspapers, magazines, catalogs, phone books, mixed paper and corrugated cardboard.

<sup>2</sup> DSNY website: <http://www.nyc.gov/html/dsny/html/about/about.shtml> (December 8, 2008).

## **Broadway Triangle**

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Under the New York State Solid Waste Management Act of 1988, the city's solid wastes must be managed in compliance with a state-approved Comprehensive Solid Waste Management Plan (SWMP). The city's first SWMP was approved in 1992, amended in 1996 and again in 2000, and provided the framework for solid waste management and recycling through April 2005.

In September 2006 the city adopted a new SWMP. Proposed for a 20-year planning period, the new SWMP builds on the previous SWMP to provide for the long-term management of all solid waste generated in the city. Programs designed to reduce, reuse, prevent, recycle and compost solid waste will be continued under the new SWMP. A key component of the new SWMP is the development of state-of-the-art marine transfer stations (Converted MTSs) at four of DSNY's existing MTS sites. These new facilities will receive and containerize DSNY-managed waste for transport by barge to an out-of-city disposal site. Through containerization, the Converted MTSs will enable the city to maximize transport and disposal options, and control costs in an environmentally-responsible manner.

With respect to solid waste, the *CEQR Technical Manual* stipulates that actions involving construction of housing or other development generally do not require an evaluation of solid waste impacts unless they are unusually large. This is because the city's SWMP assumes projected rates of growth in the generation of solid waste. For example, residential waste projections are based on presumed increases in population and presumed increases in waste generated per household. A very large project, or an action involving a use with unusual waste generation characteristics, could potentially increase an element of the city's waste stream beyond the projections incorporated in the SWMP. Under CEQR, a solid waste generation rate of less than 10,000 pounds per week is not considered large. Medical and other waste with special characteristics must comply with specific waste handling and disposal regulations. Generally, compliance with all applicable rules and regulations would eliminate the potential for significant adverse impacts. Given the scale of the projected development that is expected to result from the Proposed Action and the associated potential solid waste generation, this chapter provides a detailed analysis of the impacts to solid waste and sanitation services.

### **C. METHODOLOGY**

To evaluate the Proposed Action in context and assess the potential for impacts, *CEQR Technical Manual* generation rates have been utilized to calculate conservative solid waste generation estimates. Specifically, the solid waste currently being generated on the projected development sites was calculated. The solid waste anticipated to be generated on the projected development sites in the future, both with and without the Proposed Action was then calculated. The increment between the two future scenarios represents the project-generated waste. The *CEQR Technical Manual* states that most actions should use the citywide average solid waste generation rates that have been established in the SWMP.

### **D. EXISTING CONDITIONS**

As shown in Table 16-1, the existing uses on the 34 projected development sites in the Project Area are estimated to generate approximately 19,263 pounds of solid waste per week. In arriving at this figure, it was estimated that each of the existing 13 dwelling units on these sites contained one household. Per the guidelines contained in the *CEQR Technical Manual*, each of these households was assumed to generate 41 pounds of solid waste per week. It was estimated that the existing retail uses on these sites have a density of 3 employees per 1,000 square feet of floor area and therefore generate 79 pounds of solid waste per week per employee. Per the *CEQR Technical Manual*, the existing office uses on these sites were estimated to have a density of 1 employee per 250 square feet of floor area and therefore generate 13 pounds of solid waste per week per employee. Since the *CEQR Technical Manual* provides generation

rates for only two types of industrial uses, their average was calculated and applied to an employment density of one worker per 1,000 square feet of floor area.

**Table 16-1  
Estimate of Existing Solid Waste Generation  
at Projected Development Sites within the Project Area**

Use	Floor Area/ Dwelling Units (DUs) <sup>1</sup>	Solid Waste Generated (pounds/week)
Retail <sup>2</sup>	14,344 sf	3,400
Office <sup>3</sup>	0 sf	0
Industrial/ Manufacturing <sup>4</sup>	83,775 sf	15,331
Residential <sup>5</sup>	13 DU	533
<b>Total Solid Waste Generation</b>		<b>19,263</b>

**Notes:**

- 1 Uses generation rates from the *CEQR Technical Manual*, except where noted.
- 2 Assume 3 employees per 1,000 sf and 79 pounds of solid waste per week per employee.
- 3 Assume 1 employee per 250 sf and 13 pounds of solid waste per week per employee
- 4 Assume 1 employee per 1,000 sf and 183 pounds of solid waste per week per employee (based on the average of the two industrial use rates contained in the *CEQR Technical Manual*).
- 5 Residential calculations assume 41 pounds of solid waste per week per household.

Source: *CEQR Technical Manual and NYCDCP*.

**E. FUTURE CONDITION WITHOUT THE PROPOSED ACTION**

This condition assumes that the 34 projected development sites would either remain unchanged from their existing condition, or would be developed with uses that are permitted under the existing zoning regulations as indicated in Chapter 2, “Land Use, Zoning and Public Policy.”

In this scenario, the projected development parcels in the Project Area would contain 18 dwelling units, approximately 83,944 square feet of retail space, 19,600 square feet of office space, 114,660 square feet of hotel space, 51,275 square feet of industrial space and no community facility space. As shown in Table 16-2, these uses would generate approximately 35,335 pounds of solid waste per week, an increase of approximately 16,071 pounds per week from the existing rate. The information contained in Table 16-2 was derived using the same generation rates and *CEQR Technical Manual* assumptions used in calculating the existing conditions.

**F. FUTURE CONDITION WITH THE PROPOSED ACTION**

Under the 2018 Build Condition, the total development expected to occur on the 34 projected development sites includes approximately 1,869 dwelling units, 187,230 square feet of retail floor area, 43,122 square feet of office floor area, and 35,456 square feet of community facility floor area. Relative to the No Build Condition, the incremental increase in solid waste generated by residential and community facility uses is estimated to be approximately 75,891 and 1,064 pounds per week, respectively. The resulting total impact to DSNY from the Proposed Action is estimated to be approximately 76,955 pounds per week (see Table 16-3).

**Table 16-2  
Solid Waste Generation at Projected Development Sites  
In the Future Without the Proposed Action**

<b>Use</b>	<b>Floor Area/ Dwelling Units (DUs)</b>	<b>Solid Waste Generated <sup>1</sup> (pounds/week)</b>	<b>Floor Area/ DU Increment from Existing Conditions</b>	<b>Solid Waste Increment from Existing Conditions (pounds/week)</b>
Retail <sup>2</sup>	83,944 sf	19,895	69,600 sf	16,495
Office <sup>3</sup>	19,600 sf	1,019	19,600 sf	1,019
Industrial/ Manufacturing <sup>4</sup>	51,275 sf	9,383	-32,500 sf	-5,948
Residential <sup>5</sup>	18 DU	738	5 DU	205
Hotel <sup>6</sup>	114,660 sf	4,300	114,660 sf	4,300
Community Facility <sup>7</sup>	0 sf	0	0 sf	0
<b>Total</b>		<b>35,335</b>	<b>--</b>	<b>16,071</b>

**Notes:**

- 1 Uses generation rates from the *CEQR Technical Manual*, except where noted.
- 2 Assume 3 employees per 1,000 sf and 79 pounds of solid waste per week per employee.
- 3 Assume 1 employee per 250 sf and 13 pounds of solid waste per week per employee
- 4 Assume 1 employee per 1,000 sf and 183 pounds of solid waste per week per employee (based on the average of the two industrial use rates contained in the *CEQR Technical Manual*).
- 5 Residential calculations assume 41 pounds of solid waste per week per household.
- 6 Assume 1 employee per 2,000 sf and 75 pounds of solid waste per week per employee
- 7 Assume 0.03 pounds of solid waste per week per sf.

Source: *CEQR Technical Manual and NYCDCP.*

**G. CONCLUSION**

The Proposed Action is expected to result in a net increase of approximately 76,955 pounds per week (5.5 tons per day) of solid waste from residences and community facilities located in the Project Area. This figure amounts to approximately 0.05 percent of the solid waste collected by DSNY in the city each day. Based on the assumption that the average DSNY collection truck has a capacity of 12.5 tons, the Proposed Action would require an additional 3.1 trucks to service the Project Area each week. Therefore, given that the SWMP assumes projected rates of growth in the generation of solid waste for housing developments, the Proposed Action would not result in a significant adverse impact on solid waste and sanitation services and would not conflict with the city’s SWMP.

**H. NEPA CONSIDERATION**

The CEQR analysis provided above has been relied upon to evaluate the potential effects on solid waste and sanitation services as a result of the Proposed Action. As concluded above, the Proposed Action would result in a net increase of approximately 5.5 tons per day. Compared to the overall amount of solid waste collected by DSNY in the city each day, this represents 0.05 percent. Therefore, the Proposed Action is not anticipated to result in a significant adverse impact.

**Table 16-3  
Solid Waste Generation at Projected Development Sites  
In the Future With the Proposed Action**

Use	Floor Area/ DUs	Solid Waste Generated <sup>1</sup> (pounds/week)	Floor Area/ DU Increment from No Build Condition	Solid Waste Increment from No Build Condition (pounds/week)
Retail <sup>2</sup>	187,230 sf	44,374	103,286 sf	24,479
Office <sup>3</sup>	43,122 sf	2,242	23,522 sf	1,223
Industrial/ Manufacturing <sup>4</sup>	0 sf	0	-51,275 sf	-9,383
Residential <sup>5</sup>	1,869 du	76,629	1,851 du	75,891
Hotel <sup>6</sup>	0 sf	0	-114,660 sf	-4,300
Community Facility <sup>7</sup>	35,456 sf	1064	35,456 sf	1,064
<b>Total</b>		<b>124,309</b>	-	<b>88,974</b>

**Notes:**

- 1 Uses generation rates from the *CEQR Technical Manual*, except where noted.
- 2 Assume 3 employees per 1,000 sf and 79 pounds of solid waste per week per employee.
- 3 Assume 1 employee per 250 sf and 13 pounds of solid waste per week per employee.
- 4 Assume 1 employee per 1,000 sf and 183 pounds of solid waste per week per employee (based on the average of the two industrial use rates contained in the *CEQR Technical Manual*).
- 5 Residential calculations assume 41 pounds of solid waste per week per household.
- 6 Assume 1 employee per 2,000 sf and 75 pounds of solid waste per week per employee.
- 7 Assume 0.03 pounds of solid waste per week per sf.

Source: *CEQR Technical Manual and NYCDCP*.

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