

A. INTRODUCTION

According to the 2014 *City Environmental 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.

As described in Chapter 1, "Projection Description," the proposed project would result in a 426,576-gsf enlargement of the Staten Island Mall (the Mall), a new structured parking facility, and landscaping improvements to the project site. This chapter discloses the proposed project's solid waste generation based on standard waste generation rates provided in the *CEQR Technical Manual* and examines the proposed project's potential effects on solid waste and sanitation services.

PRINCIPAL CONCLUSIONS

The proposed project would generate an estimated increment of 153,105 pounds (approximately 77 tons) per week of solid waste, which would be handled by commercial carters. This increase represents a negligible change relative to the approximately 13,000 tons of waste handled by commercial carters in New York City every day. The proposed project would not result in an increase in solid waste that would overburden available waste management capacity. It would also not conflict with, or require any amendments to, the City's solid waste management objectives as stated in the SWMP. Therefore, the proposed project would not result in a significant adverse impact on solid waste and sanitation services.

B. EXISTING CONDITIONS**CURRENT SOLID WASTE SANITATION SERVICES**

Solid waste management services in New York City are guided by the SWMP, which was prepared by the New York City Department of Sanitation (DSNY) and adopted by the City Council in 2006. 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, 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.

In accordance with the SWMP, and with DSNY's responsibilities under the City Charter, DSNY handles all residential and institutional refuse in the city. DSNY collects approximately 12,260 tons per day (tpd) of refuse and recyclables, of which approximately 1,760 tons are recycled.

Staten Island Mall Enlargement

Solid waste from commercial and manufacturing uses is collected by private carters, which handle another 13,000 tpd of recyclables and mixed municipal solid waste (MSW).¹ Commercial carters transport the MSW to transfer stations and recyclables to recycling facilities. At the transfer stations, MSW is consolidated into larger trucks or rail cars and transported to landfills or waste-to-energy facilities outside of New York City for disposal. Private carters also collect other waste such as mixed construction and demolition debris and dirt, rock, and masonry waste and deliver it to construction and demolition debris processing facilities where clean fill and other items of value are separated out for recycling and the residue is transferred to trucks, rail cars, or barges and sent for disposal. The SWMP includes solid waste transfer stations and special problem waste collection sites in each borough, as well as certain composting facilities, recycling facilities and private transfer stations.

New York City's Recycling Law requires that both DSNY and commercial carters collect certain designated recyclable materials and deliver them to material recovery facilities for sorting and recycling. New York City residents are required to separate recyclable aluminum foil, glass, plastic and metal containers, newspapers, and other paper wastes from other household waste for separate collection by DSNY. Commercial entities are also required to separate recyclables for collection by private carters. Businesses are required to source-separate certain types of paper, cardboard, metal, and construction wastes. Food and beverage establishments must separate these same wastes, as well as metal, glass and plastic containers, and aluminum foil.

The SWMP also proposes the following three broad categories of action to address traffic issues associated with commercial waste handling: (1) improve conditions at and around transfer stations through stricter operating rules; (2) use DSNY marine transfer stations and procurements to facilitate a transition from a commercial waste system highly reliant on trucks to one that relies increasingly on barge and rail; and (3) reduce private transfer station capacity in the four community districts that currently absorb the largest proportion of the system's impacts.

SOLID WASTE GENERATION

For this analysis, existing solid waste generation for the project site was calculated using the standard waste generation rates in Table 14-1 of the *CEQR Technical Manual*. As discussed in Chapter 1, "Project Description," the project site currently contains 1,228,814 gsf of Use Group 6 and Use Group 10 retail facilities, including food service facilities, with a worker population of approximately 2,750. For the purposes of this analysis, the existing facilities are assumed to produce solid waste at the rate of a general retail facility (79 pounds per employee per week) as defined in Table 14-1.²

As shown in **Table 9-1** below, the Mall currently generates approximately 217,250 pounds (109 tons) of solid waste per week. As noted above, commercial solid waste such as the solid waste generated by the project site is collected by private carters.

¹ *About DSNY*: <http://www.nyc.gov/html/dsny/html/about/about.shtml>, accessed June, 2014.

² The project site currently contains some food service facilities, which generate a higher amount of solid waste per employee (200 pounds per week for a restaurant or 251 pounds per week for a fast food facility). For the purposes of a conservative analysis, the existing food service facilities are assumed to generate solid waste at the lower general retail rate of 79 pounds per employee per week.

**Table 9-1
Existing Conditions: Solid Waste Generation**

Use	Workers	Solid Waste Generation Rate (pounds per employee per week)	Solid Waste Generation (pounds per week)
Mall Retail	2,750	79 ¹	217,250
Total Solid Waste Generation			217,250
Notes: ¹ Assumes both retail facilities and food services facilities generate waste at the general retail rate.			
Source: 2014 CEQR Technical Manual			

C. FUTURE WITHOUT THE PROPOSED PROJECT

Absent the proposed project, no new development is anticipated to occur on the project site. The project site would continue in active use in its existing conditions, and solid waste generation would not change.

D. FUTURE WITH THE PROPOSED PROJECT

As described in Chapter 1, “Project Description,” the Reasonable Worst-Case Development Scenario (RWCDS) for the proposed actions includes a variety of commercial facilities that would produce solid waste: 88,007 gsf of non-department store retail; 41,208 gsf of department store retail; 33,665 gsf of restaurants; 10,831 gsf of new food court; a 50,000-gsf supermarket; a 54,488-gsf cinema; and a 75,000-gsf enlargement of the existing Macy’s department store.³ Based on standard industry employment density ratios, the enlargement is expected to introduce an estimated 943 new workers (see Table 1-2 in Chapter 1, “Project Description”). **Table 9-2** below shows the cumulative solid waste expected to be generated by the project site in the future With Action condition: an estimated 370,355 pounds (or approximately 185 tons) of solid waste per week.

**Table 9-2
With Action Condition: Solid Waste Generation**

Use	Additional GSF	Workers ¹	Generation Rate (pounds per employee per week)	Solid Waste Generation (pounds per week)
Non-Department Store Retail	88,007	220	79	17,380
Department Store Retail ²	116,208	233	79	18,407
Restaurant	33,665	168	251	42,168
Food Court	10,831	72	200	14,400
Supermarket	50,000	200	284	56,800
Cinema	54,488	50	79	3,950
Project Increment		943		153,105
Existing Conditions (see Table 9-1)		2,750		217,250
Total with the Proposed Project		3,693		370,355
Notes: ¹ Worker estimates for the new addition facilities based on standard industry employment ratios: 1 worker/400 gsf (non-department store retail), 1 worker/500 gsf (large-format and department store retail), 1 worker/200 gsf (restaurant), 1 worker/150 gsf (food court), and 1 worker/250 gsf (supermarket). Cinema employment estimated based on size, hours, and employment in comparable theaters.				
² Includes both new department store space (40,067 gsf) and the Macy’s enlargement (75,000 gsf).				
Source: 2014 CEQR Technical Manual				

³ The proposed enlargement would also include 73,377 gsf of common, service and receiving areas which would not generate additional solid waste and are therefore not included in this analysis.

Staten Island Mall Enlargement

In the With Action condition, the amount of solid waste generated by the Mall would increase by an estimated 153,105 pounds (or approximately 77 tons) per week. Given that a private carter truck typically carries between 12 and 15 tons of solid waste, the proposed project would require approximately 6 or 7 additional truck trips per week. Although this would represent a net increase over the future without the proposed project, it would be a negligible increase relative to the approximately 13,000 tons of waste handled by commercial carters every day. There are more than 2,000 private carting businesses that are 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.

Overall, the proposed project is expected to generate solid waste equivalent to approximately six or seven commercial carter truck loads per week. This minimal increase would not overburden existing commercial solid waste handling services. Therefore, the proposed project would not overburden the city's solid waste management capacity and would not have significant adverse impacts on solid waste and sanitation services.

E. FUTURE WITH 2019 COMPLETION DATE

As detailed in Chapter 1, "Project Description," there is the possibility that Macy's would elect to postpone commencement of construction of its proposed 75,000-gsf enlargement, in which case the Macy's enlargement and a portion of the proposed structured parking garage would be expected to be complete by 2019, rather than by 2017. In this event, the effects of the proposed project on solid waste and sanitation services would be substantially similar to those described above for the 2017 analysis year. This 2019 Full-Build Scenario would postpone the introduction of some proposed retail uses to the study area, which would reduce the amount of solid waste produced at the project site by 2017 as compared to the analysis presented in Section D, above. Under this 2019 Full-Build Scenario, the total amount of solid waste and the associated sanitation services demand generated at the completion of the proposed project's build-out by 2019 would be the same as the amount estimated for the 2017 Full-Build condition—153,105 pounds (or approximately 77 tons). As described in Section D, this minimal increase would not overburden existing commercial solid waste handling services and would not have significant adverse impacts on solid waste and sanitation services. *