

**A. INTRODUCTION**

The workers, visitors, and shoppers that would be introduced to the Kingsbridge Armory site as a result of the proposed project would create new demands for solid waste disposal and sanitation services. This chapter evaluates the potential effects of the proposed project on these services.

As described in detail below, the analysis concludes that the proposed project would not result in any significant adverse impacts on solid waste and sanitation services. While the proposed project would create new demands on these services, the sanitation systems serving the project site would have adequate capacity to meet the projected increases in solid waste generation.

**B. METHODOLOGY**

This chapter describes the existing solid waste management services on the project site, using solid waste generation rates for typical land uses and activities provided in the 2001 *City Environmental Quality Review (CEQR) Technical Manual*; determines future solid waste demands with the proposed project for 2013; and assesses the effects of this incremental demand on municipal and private sanitation services.

**C. EXISTING CONDITIONS****SOLID WASTE SERVICES**

The New York City Department of Sanitation (DSNY) manages the disposal of municipal solid waste and recyclable materials it collects from residences, public areas, nonprofit institutions, and government offices. DSNY also collects wastes from street litter baskets, street sweeping operations, and lot cleaning activities. The City does not operate any incinerators or waste-to-energy facilities, and individual apartment house incinerators are prohibited under Local Law 39 of 1989. Commercial solid waste from offices, restaurants, retail stores, and other businesses is collected and disposed by private carters.

The Fresh Kills Landfill, which was New York City's last operating landfill, was officially closed in March 2001. DSNY continues to collect residential and institutional solid waste and recyclables (the municipal waste stream), which are now transported out of the City. Currently, most of the City's municipal solid waste is collected and delivered to transfer stations for sorting and transfer to larger "hopper" trucks and then transported out of the City. Private carters also consolidate solid waste from commercial and industrial operations and haul it to waste transfer facilities both inside and outside New York City, where it is transported to out-of-City disposal facilities. It is estimated that DSNY collects more than 12,000 tons of residential and

institutional refuse and recyclables (solid waste) per day.<sup>1</sup> In addition, the non-residential (commercial/industrial) waste stream is estimated at about 13,000 tons per day (tpd)<sup>1</sup>. Therefore, the total solid waste generated in the City averages approximately 25,000 tpd.

The City's solid waste management services are undertaken in accordance with a 20-year Solid Waste Management Plan (SWMP). DSNY developed a new Comprehensive SWMP that was approved by the New York State Department of Environmental Conservation (DEC) on October 27, 2006. The new SWMP recognizes and addresses the interdependency of the systems for managing recycling, residential waste, and commercial waste. It introduces a shift from the current mode of truck-based export to export by barge and/or rail.

Local Law 19 of 1989 requires that the DSNY and private carters collect certain recyclable materials and deliver them to material recovery facilities. City residents are required to separate metal, glass, plastic, and newspapers and other mixed paper from household waste for separate collection. Local Law 19 also requires commercial establishments to recycle. Businesses must source-separate certain types of paper wastes, cardboard, metal items, and construction wastes. Food and beverage establishments must recycle metal, glass and plastic containers, and aluminum foil, as well as meet the other commercial recycling requirements.

In New York City fiscal year 2006 (ended June 30, 2006), DSNY handled about 5,154 tpd of recyclables and about 11,784 tpd of solid waste, for a total of about 16,938 tpd, or 5,115,360 tons from fiscal year 2006. Private carters handled about 14,830 tpd of recyclables and solid waste. In addition, private carters handled about 19,070 tpd of construction debris and excavated material.

#### **SOLID WASTE GENERATION**

The project site is currently occupied by the Armory, which is substantially vacant, as well as small portions of Reservoir Avenue and West 195th Street. A small portion of the Armory building is currently dedicated to parking for graffiti removal trucks. There is minimal existing solid waste generation on the project site.

#### **D. THE FUTURE WITHOUT THE PROPOSED PROJECT**

In 2013, in the future without the proposed project, no major changes are expected in the city's solid waste management handling practices. Likewise, it is assumed that the Armory will continue to remain substantially vacant in the absence of the proposed project.

#### **E. PROBABLE IMPACTS OF THE PROPOSED PROJECT**

The proposed project would increase the volume of solid waste generation at the site. It also would be required to comply with the City's recycling program. This includes source separation of solid waste in conformance with City recycling regulations and state solid waste laws. Materials to be separated include paper, cardboard, metal, and certain plastics, all of which reduces the stream of waste to landfills. The analysis below conservatively does not include the reduction in solid waste generation expected from the proposed project's compliance with the City's recycling program.

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<sup>1</sup> DSNY website: <http://www.nyc.gov/html/dsny/html/about/about.shtml> (September 2008).

The proposed project would redevelop the Armory with approximately 605,370 square feet of new programming, including approximately 57,485 square feet of entertainment uses (a cinema), 27,000 square feet of community facilities, 33,240 square feet of space for a fitness club, and 377,235 square feet of retail and restaurant space, including both neighborhood and destination retail. The proposed project will also include a 164,285 square feet parking garage, which will accommodate approximately 400 cars. Solid waste projections are provided below based on the types of uses expected at the site. Estimated solid waste generation with the proposed project is shown in **Table 11-1**, below.

**Table 11-1  
Projected Solid Waste Generation**

Use <sup>3</sup>	Size (square feet)/units	Persons/ Employees <sup>1</sup>	Solid Waste Generation Rate (pounds per week) <sup>2</sup>	Commercial Solid Waste (pound per week)
Retail	345,675	864	79	68,256
Restaurant	31,560	158	251	39,658
Fitness Club	33,240	20	79	1,580
Community Facility (office)	27,000	108	13	1,404
Cinema	57,485	36	200	7,200
<b>Total</b>				<b>118,098</b>
<b>Notes:</b>	<sup>1</sup> The following employee generation rates were used: for community facility use, 1 full time employee (FTE) employee/250 sf; for retail use, 1 FTE/400 sf; for food court/restaurant use, 1 FTE/200 sf; for cinema and fitness club uses, employment at comparable locations <sup>2</sup> Since solid waste generation rates for fitness club and cinema were unavailable, rates for retail and fast food restaurant were used, respectively. <sup>3</sup> There is no anticipated solid waste generation in the parking area of the proposed project. Therefore, the parking garage is not included in the solid waste generation analysis.			
<b>Sources:</b>	Solid waste generation calculations are based on the <i>CEQR Technical Manual</i> .			

As shown in the table, the total weekly solid waste generation with the proposed project would amount to 178,612 pounds per week (about 59 tons), based on the project's size and anticipated uses. All solid waste would be handled by private carters. The approximately 59 tons per week of solid waste to be generated by the proposed project is a small percentage of the 175,000 tons per week of solid waste generated in New York City. An average garbage truck for containerized collections carries about 16 tons. The proposed project would therefore generate about 4 truck loads per week. In sum, the proposed project would represent a very small increase in the amount of solid waste generated, and therefore would not have an adverse impact on solid waste handling and disposal systems. \*