

2.11 SOLID WASTE AND SANITATION SERVICES

2.11.1 INTRODUCTION

According to the *CEQR Technical Manual*, a solid waste assessment determines whether a project has the potential to cause a substantial increase in solid waste production that 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. Most projects would not have the potential to generate sufficient waste to overburden the available waste management capacity and would not warrant a detailed solid waste analysis. However, it is recommended by the *CEQR Technical Manual* that the estimated demand for solid waste and services that could be generated by a proposed project be disclosed, if applicable.

2.11.2 METHODOLOGY

Table 14-1 of the *CEQR Technical Manual* provides weekly solid waste generation rates that are based on land use, including residential, general retail and community facility uses. The relevant solid waste generation rates used for the assessment of the Proposed Project are as follows:

- Residential - 41 pounds per week, per household
- Library (Community Facility) - 0.03 pounds per week, per square foot (based on the CEQR rate for institutional government offices).
- Public Elementary/Middle School – 3.5 pounds per week, per pupil (based on an average of three pounds per week for a public elementary school, and four pounds per week for a public intermediate school).
- General Retail - 79 pounds per week, per employee (with an average of 2.5 employees per 1,000 square feet of floor area).

The *CEQR Technical Manual* states that if a proposed project's generation of solid waste in the future with the Proposed Project would not exceed 50 tons per week, it may be assumed that there is sufficient public or private carting and transfer station capacity in the metropolitan area to absorb the increment, and further assessment is generally not required.

2.11.3 EXISTING CONDITIONS

2.11.3.1 Current Sanitation Services in New York City

In New York City, the Department of Sanitation ("DSNY") is the agency responsible for the collection and disposal of refuse and recyclable materials generated by residences, some non-profit institutions, tax-exempt properties, and City agencies. DSNY also collects waste from street litter baskets, and handles street-sweeping operations and lot cleaning activities. Commercial operations handle solid waste from other uses, including commercial retail, office, and industrial operations.

Most of the City's municipal solid waste is collected and delivered to transfer stations and then transported out of New York City. Private carters also consolidate solid waste from commercial and industrial operations and haul it to waste transfer facilities for transport to disposal facilities. It is estimated that DSNY collects approximately 10,500 tons of refuse (municipal solid waste, or "MSW") per day ("tpd"), and 1,760 tpd of designated recyclables. It is also estimated that the commercial solid waste stream is approximately 10,000 tpd (MSW and recyclables), plus approximately 28,000 tpd of mixed construction and demolition debris, and clean fill such as dirt, rock and masonry waste. Thus, in total the solid waste generated in the City averages approximately 50,000 tpd.¹

¹ DSNY Solid Waste Management Plan, citing 2003 figures.

As required by New York State law, the city has a comprehensive SWMP for the management of solid waste generated within its borders. The current SWMP was adopted in 2006. It addresses recycling, residential refuse, and commercial waste, providing a framework for waste collection and disposal through 2025. The SWMP provides a long-term export plan for residential refuse via four new Marine Transfer Stations using the City's waterways and certain existing rail-based private transfer stations for the containerization of MSW and the transport of the containerized MSW by rail or barge to remote disposal facilities. In addition, the SWMP includes contracting for capacity for residential MSW at a regional waste-to-energy plant in Newark, delivered directly in DSNY trucks. Pending completion of long-term contracts and construction of the Marine Transfer Facilities, the SWMP provides for short-term contracts with waste transfer facilities in the city and region, based on competitive bids. Residential and institutional waste generated within Staten Island is delivered by DSNY to DSNY's Staten Island Transfer Station, where it is loaded into containers and transported by rail to a landfill in South Carolina. With respect to commercial MSW and C&D debris, the SWMP aims to improve conditions at private transfer stations used for commercial MSW, C&D debris and fill material, respectively, facilitate private waste carters' transition from truck-based to barge- and rail-based transport, and ensure that certain communities are not disproportionately affected by private transfer activities. Finally, the SWMP addresses residential, institutional, and commercial recycling, and strategies for the stabilization and strengthening of recycling processes in the City, including the construction of a new City central recycling sorting plant in the South Brooklyn Marine Terminal. The SWMP provides that leaves and yard waste, including brush and tree branches, are to be turned into compost at certain City composting facilities.

New York City's Recycling Law, Local Law 19 of 1989, requires that DSNY and private carters collect designated recyclable materials and deliver them to material recovery facilities. New York City residents are required to separate aluminum foil, glass, plastic and metal containers, and newspapers and other paper wastes from household waste for separate collection. Recyclable paper and cardboard from residences in Staten Island are delivered to the Pratt Industries paper mill on Staten Island, while metal, glass and plastic is driven by DSNY trucks to a private recycling sorting facility in New Jersey. The Recycling Law also subjects commercial and industrial establishments to certain recycling requirements. 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, in addition to meeting other commercial recycling requirements.

As discussed in **Chapter 2.1**, "Land Use, Zoning and Public Policy," the entire Development Area is vacant, undeveloped and covered with vegetation, including the area for the construction of Englewood Avenue. The degree of overgrowth varies across the Development Area, with the majority covered by trees and other vegetation. Open-field areas are located within the northern portion of the Development Area, parts of which were previously cleared between 2002 and 2004 for an earlier plan to create Fairview Park. The western portion of the Development Area contains some vacant open areas, with trees along the east side of Arthur Kill Road. As a result, total solid waste generation in the Development Area is estimated to be zero.

2.11.4 FUTURE NO-ACTION CONDITIONS

Under the Future No-Action Condition, if the Proposed Project is not approved, the Development Area is expected to remain in its existing vacant condition, as is the area for the construction of Englewood Avenue. No other projected development is planned or considered likely to occur in the Development Area by the 2015 or 2020 analysis years of the proposed Charleston Mixed-Use Development. Therefore, total solid waste generation in the Development Area under Future No-Action conditions is expected to remain at zero.

2.11.5 FUTURE WITH-ACTION CONDITIONS

The Proposed Project would result in changes to the land uses within the Development Area, which as noted above is currently vacant and undeveloped. The Proposed Project would promote the development of an approximately 66-acre city-owned parcel, along with the construction of a new public street (Englewood Avenue), as well as map as parkland an existing Conservation Area located in Charleston, Staten Island. The overall Project Area, including the Conservation Area and other street mappings, encompasses approximately 90 acres.

Developments of the Proposed Project are expected to be completed over several years. Construction of Retail Site "A" and Fairview Park are expected to be completed by the year 2015. Construction of remainder of the Development Area is expected to be completed by the year 2020, including the developments of Retail Site "B", the combined public elementary/intermediate school, and the senior housing, as well as the Englewood Avenue and other road constructions.

2.11.5.1 Year 2015 Analysis

As part of the Proposed Project, by the year 2015, the City would develop a new 23-acre park, which is not expected to generate any additional notable amounts of MSW. Woody waste from the park would be chipped and composted either within the park, or at DSNY's Staten Island Composting Facility. Adjacent to the park, the 11-acre site of Retail Site "A" is expected to be developed by a private developer with approximately 195,000 square feet of commercial space for medium- and large-format retail stores. This site would also include an approximately 15,000-square-foot branch of the New York Public Library, which would share parking with the retail uses.

Table 2.11-1 shows the solid waste expected to be generated by Retail Site "A" by 2015 in the Future No-Action Scenario and the Future With-Action Scenario, as well as the net incremental change in solid waste generation associated with the Future With-Action Scenario, compared to the Future No-Action Scenario. As the Development Area is projected to remain vacant under the Future No-Action scenario, these figures represent the net incremental increase over Future No-Action conditions. As shown in **Table 2.11-1**, the proposed development of Retail Site "A" and the library by 2015 would create an incremental solid waste generation of approximately 39,002 pounds (19.5 tons) of solid waste per week compared to Future No-Action conditions. This would be in addition to solid waste generated during construction, such as clean fill from excavations, and mixed construction and demolition (C&D) debris, both of which would be managed by private carters and private transfer stations in the region.

Table 2.11-1
Estimated Weekly Solid Waste Generated by Proposed Project in 2015

Use	FUTURE NO-ACTION		FUTURE WITH-ACTION			INCREMENT
	Square Feet/ Dwelling Units	Solid Waste Generated (pounds per week)	Square Feet/ Dwelling Units	Generation Rate Factor	Solid Waste Generated (pounds per week)	Solid Waste Generated (pounds per week)
Library	0	0	15,000 SF	0.03 lbs. per SF	450	450
General Retail ¹	0	0	195,000 SF	79 lbs. per employee	38,552	38,552
TOTAL	0	0	-		39,002	39,002

Notes: ¹ The number of retail employees assumes 2.5 employees per 1,000 SF.

Although the proposed parking and publicly-accessible open space would generate some solid waste, this demand would be negligible.

2.11.5.2 Year 2020 Analysis

By the year 2020, the remainder of the Development Area would be redeveloped with additional retail space, a combined public elementary/intermediate school and senior housing, along with the mapping and construction of Englewood Avenue. Along Arthur Kill Road, Retail Site "B" consists of approximately 7.3 acres that would also be privately developed in the future with an anticipated approximately 90,000 square feet of neighborhood retail space. The City would offer an approximately 9.1-acre site for senior housing along Englewood Avenue for up to 162 units, consisting of 80 affordable multi-family rental units and 82 detached units of age-restricted for-sale housing. To the east, a combined elementary/middle school on an approximately 5.9-acre site would be constructed with an approximate 750-seat capacity for kindergarten through 8th grade.

Table 2.11-2 shows the solid waste expected to be generated by the proposed development by the year 2020 under the Future No-Action Condition and under the Future With-Action Condition, as well as the net incremental change in solid waste generation associated under the Future With-Action Condition, compared to the Future No-Action Condition.

As indicated in **Table 2.11-2**, by the year 2020, the Proposed Project would generate incremental solid waste at a rate of 69,080 pounds (approximately 34.5 tons) per week. Of this amount, about 4.9 tons per week would be handled by DSNY, and private carters would handle about 29.6 tons per week. Additional solid waste generated during construction, such as excavated material and C&D debris, would be managed by the private carting and waste transfer system in the region, likely including facilities in New Jersey, with adequate capacity for such materials.

Table 2.11-2
Estimated Weekly Solid Waste Generated by Proposed Project in 2020

Use	FUTURE NO-ACTION		FUTURE WITH-ACTION			INCREMENT
	Square Feet/ Dwelling Units	Solid Waste Generated (pounds per week)	Square Feet/ Dwelling Units	Generation Rate Factor	Solid Waste Generated (pounds per week)	Solid Waste Generated (pounds per week)
Community Facility						
Library	0	0	15,000 SF	0.03 lbs. per SF	450	450
Public School ¹	0	0	100,000 SF	3.5 lbs. per pupil ²	2,625	2,625
Community Facility Sub-Total	0	0	115,000 SF	-	3,075	3,075
Residential	0	0	162 units	41 lbs. per household	6,642	6,642
General Retail	0	0	285,000 SF	79 lbs. per employee	56,288	56,288
TOTAL	0	0	-		69,080	69,080

Notes: ¹ An estimated 750 seats were assumed for a 100,000 SF primary/middle school.

² 3.5 pounds per week, per pupil is based on an average of three pounds per week for a combined public elementary school, and four pounds per week for a public intermediate school.

See **Table 2.11-1** for retail employment generation and related assumptions.

The incremental increase of approximately 4.9 tons per week, as a result of the Proposed Project, in residential and community facility-related solid waste to be picked up by DSNY is relatively small compared to the estimated nearly 13,000 tons of residential and institutional refuse and recyclables collected by DSNY per day. In addition, due to the Proposed Project, the net incremental non-residential waste collected by private carters would increase by approximately 29.6 tons per week over the Future

No-Action Scenario, an insignificant amount compared to the estimated 10,000 tons of commercial MSW and recyclables currently removed by private carters per day. Furthermore, the total incremental increase in solid waste generated by the Proposed Project of approximately 34.5 tons per week is less than the 50 tons per week CEQR screening threshold, and therefore the Proposed Project does not warrant a detailed solid waste assessment.

As such, the Proposed Project would not lead to significant adverse impacts to municipal or commercial solid waste collection and disposal services, nor would the proposed project conflict with or affect the City's SWMP. Therefore, the Proposed Project would not have a significant adverse impact on the City's solid waste and sanitation services.

Commercial Development

The *CEQR Technical Manual* requires that any commercial development of more than 100,000 square feet should indicate the location and method of storage of solid waste at the proposed buildings in the EIS. The only commercial element of the Proposed Project going for site plan approval at this time is Retail Site "A," which would include up to approximately 195,000 square feet of retail space, plus an approximately 15,000 square foot library. The conceptual plans for the proposed commercial buildings on that site include specified areas for the storage and pick-up of solid waste and recyclables in the rear of each building, in locations and with screening consistent with zoning and building code requirements.

Site plans for Retail Site "A" currently contain five buildings, consisting of four retail buildings (Buildings 'A' through 'D') and the public library building (Building 'C') at the northwest corner of the site. Buildings 'A' and 'D' would be large big box buildings for regional retail stores, while Buildings 'B1' and 'B2' would be smaller buildings for neighborhood retail stores.

Building 'A' would be located in the eastern portion of the Retail Site "A" parcel. Plans for this building have two dumpster locations along the buildings eastern side behind the building, between the back of the building and the eastern property line, adjacent to separate loading births for this building.

Buildings 'B1' and 'B2' would be located along the northern side of the Retail Site "A" parcel. The dumpster locations for these buildings would be situated near one another, in-between these two retail buildings adjacent to loading births, screened from adjacent parking and bicycle racks.

Building 'D' would be located along the western property line of Retail Site "A". Plans for this building have two dumpster locations along the buildings western side behind the building, between the back of the building and the western property line, adjacent to separate loading births for this building.

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