A. INTRODUCTION

An open space assessment may be necessary if a Proposed Action could potentially have a direct or indirect effect on open space resources in the area. According to the *2012 New York City Environmental Quality Review Technical Manual* (*CEQR Technical Manual*), a direct open space impact would "physically change, diminish, or eliminate an open space or reduce its utilization or aesthetic value." An indirect effect may occur when the population generated by a proposed project would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population. The Proposed Action and associated RWCDS would result in an increase in the number of new residents and daytime users in the study area beyond the *2012 CEQR Technical Manual*'s thresholds, and therefore has the potential to affect the way residents and daytime users of the surrounding community use parks, playgrounds, and other open spaces in the area.

According to the *2012 CEQR Technical Manual*, an open space analysis is generally conducted if a proposed project would generate more than 200 residents or 500 employees. However, the need for an analysis varies in certain areas of the city that have been identified as either underserved or well-served by open space.[1] If a project is located in an underserved area, the threshold for an open space analysis is 50 residents or 125 workers. If a project is located in a well-served area, the threshold for an open space analysis is 350 residents or 750 workers. Maps in the Open Space Appendix of the *2012 CEQR Technical Manual* identify the proposed rezoning area as an underserved area. As such, the analysis threshold used in this analysis is for an area that is underserved (i.e., a threshold of 50 residents or 125 employees is used).

The Proposed Action would rezone an area encompassing approximately 6 blocks. For analysis purposes, as described in Chapter 1, "Project Description," the reasonable worst-case development scenario (RWCDSs) has been identified for the Proposed Action, resulting in a total of 8 projected development sites. The Proposed Action would allow for the development of new uses and higher densities at the projected and potential development sites. In the future with the Proposed Action, it is expected that a total of approximately 1,076 dwelling units, of which 215 are expected to be affordable to low-to moderate-income households, and 81,790 sf (net 74,194 sf) of local retail.

Based on 2010 Census Data for a half mile radius around the rezoning area, it is projected that the average household size for the projected residential development would be approximately 2.95 persons per dwelling unit. With the projected developments combined, the Proposed Action would add approximately 3,174 new residents. In addition, applying space occupancy rates typically used in CEQR documents, the Proposed Action would generate approximately 223 new employees (3 employees/1,000 sf of retail). Also using typical rates, the Proposed Action would remove 46 employees from the projected development sites. This would result in a net increase of 177 employees in the proposed rezoning area.

[1] The *CEQR Technical Manual* defines underserved areas as areas of high population density in the City that are generally the greatest distance from parkland, where the amount of open space per 1,000 residents is currently less than 2.5 acres. Well-served areas are defined as having an open space ratio above 2.5 accounting for existing parks that contain developed recreational resources; or are located within 0.25 mile (approximately a 10-minute walk) from developed and publicly accessible portions of regional parks.

As the RWCDS would result in a net increase in the number of residents and employees as compared with No-Action conditions, and this increase would exceed the *2012 CEQR Technical Manual* thresholds requiring a detailed analysis. Therefore, an open space assessment is warranted to examine the change in total population relative to the total open space in the area, to determine whether the increase in user population would significantly reduce the amount of open space available for the area's population. The analysis year for the Proposed Action is 2016.

B. PRINCIPAL CONCLUSIONS

According to the *CEQR Technical Manual*, a Proposed Action may result in a significant impact on open space resources if (a) there would be direct displacement/alteration of existing open space within the study area that has a significant adverse effect on existing users; or (b) it would reduce the open space ratio and consequently result in the overburdening of existing facilities or further exacerbates a deficiency in open space. The *CEQR Technical Manual* also states that "if the area exhibits a low open space ratio indicating a shortfall of open space, even a small decrease in the ratio as a result of the action may cause an adverse effect." A five percent or greater decrease in the open space ratio is considered to be "substantial," and a decrease of less than one percent is generally considered to be insignificant unless open space resources are extremely limited.

The Proposed Action would not have a direct impact on any open space resource in the study area. No open space would be displaced and no significant shadows would be cast on any publically accessible open spaces. The Proposed Action would not affect any particular user group, nor would it introduce a population with any unusual characteristics. The Proposed Action would not increase the amount of publicly accessible open space in the study area, although the proposed contextual zoning districts to be mapped as part of the Proposed Action require that new residential developments provide on-site recreation space for building residents in accordance with the provisions of the Quality Housing program. This open space would be a combination of passive and active recreation open space including landscaped seating areas and paths and children's play equipment. This on-site recreation space would help to partially offset the increased residential population's additional demand on the study area's open space resources.

In the future with the Proposed Action, the ¼-mile nonresidential study area would remain well-served by passive open spaces, with a ratio of 0.852 acres of passive open space per 1,000 nonresidents. Although the passive open space ratio would decrease by 2.18% for nonresidents and by 12.46% over No-Action conditions for the total daytime population, the ratios would remain above the city's guideline ratio of 0.15 acres per 1,000 nonresidents, however, it would be slightly below the calculated guidance ratio of 0.381 acres per 1,000 total population (nonresidents and residents). As the passive open space ratio for nonresidents in the With-Action condition would continue to be higher than the NYCDCP guideline measure for adequacy, the study area would continue to be well-served by passive open space, and there would be no significant adverse open space impacts in the nonresidential study area as a result of the Proposed Action.

The residential study area's total open space ratio in the future with the Proposed Action would be 0.411 acres per 1,000 residents, which represents a reduction of approximately 3.97% (0.017 acres per 1,000 residents) from No-Action conditions. The active open space ratio in the residential study area would decrease from 0.265 acres per 1,000 residents to 0.255 acres per 1,000 residents in the future with the Proposed Action, a 3.77% decrease. The passive open space ratio for residents would decrease from 0.163 acres per 1,000 residents 0.156 acres per 1,000 residents, a 4.29% decrease.

The qualitative assessment indicates that the quality and low utilization of a number of the study area open spaces combined with the availability of open spaces outside the study area would somewhat

alleviate the burden on open spaces in the future action conditions. However, the rezoning area is located in an area underserved by open space and the decrease of 3.97% in the total open space ratio as a result of the Proposed Action is sizeable. Because of this, the Proposed Action would result in a significant adverse open space impact. The significant adverse impact would remain unmitigated, as discussed in Chapter 18, "Unavoidable Adverse Impacts." ~~Possible partial~~ Partial mitigation measures are discussed in Chapter 16, "Mitigation."

C. OPEN SPACE STUDY AREA AND METHODOLOGY

The analysis of open space resources has been conducted in accordance with the guidelines established in the *2012 CEQR Technical Manual*. Using CEQR methodology, the adequacy of open space in the study area is assessed quantitatively using a ratio of usable open space acreage to the study area population, referred to as the open space ratio. This quantitative measure is then used to assess the changes in the adequacy of open space resources in the future, both without and with the Proposed Action. In addition, qualitative factors are considered in making an assessment of the Proposed Action's effects on open space resources.

Open Space Study Area

According to CEQR, worker and residential populations use different open space areas. Workers typically use passive open spaces within walking distance of their workplaces. Residents are more likely to travel farther to reach parks and recreational facilities, and they use both passive and active open spaces. According to CEQR methodologies, the open space study area is based on the distance a person is assumed to walk to reach a neighborhood open space. Workers or daytime users of open space are assumed to walk approximately 10 minutes (¼-mile distance) to reach neighborhood open spaces, and residents are assumed to walk approximately 20 minutes (½-mile distance). Because the Proposed Action would have components that would generate both new residents and workers in excess of the CEQR threshold for analysis, two study areas were evaluated: a worker or nonresidential study area based on a ¼-mile distance from the proposed rezoning area, and a residential study area based on a ½-mile distance.

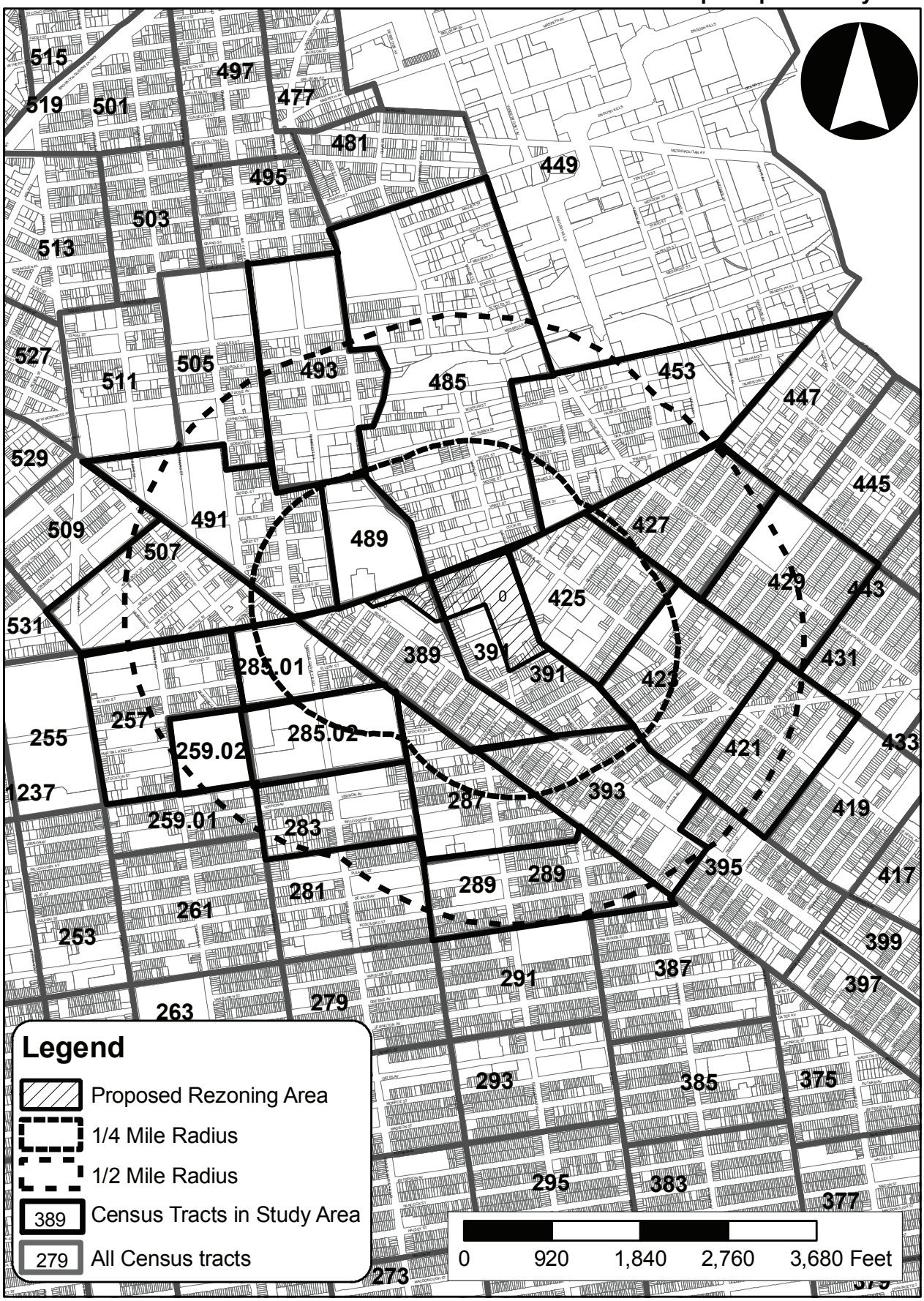
Nonresidential Study Area

Pursuant to CEQR guidelines, the nonresidential open space study area comprises all census tracts that have 50 percent or more of their area located within ¼ mile of the proposed rezoning area. Those census tracts with less than 50 percent of their area in the ¼-mile radius were excluded, and the study area boundary was adjusted accordingly. Figure 5-1 shows the resultant nonresidential open space study area boundary. All open spaces, as well as all employees and residents within census tracts that comprise this study area for nonresidents were included in the analysis.

Residential Study Area

Pursuant to CEQR guidelines, the residential open space study area includes all census tracts that have at least 50 percent of their area located within ½-mile of the proposed rezoning area. Figure 5-1 shows the resultant residential open space study area boundary. All open spaces, as well as residents and employees of all census tracts comprising the residential study area were included in the analysis. As described above, residents typically walk up to ½-mile for recreational spaces.

Open Space Study Area



Analysis Framework

Direct Effects Analysis

According to the *CEQR Technical Manual*, a proposed action would have a direct effect on an open space if it causes the physical loss of public open space because of encroachment onto the space or displacement of the space; changes the use of an open space so that it no longer serves the same user population; limits public access to an open space; or causes increased noise or air pollutant emissions, odors, or shadows that would affect its usefulness, whether on a permanent or temporary basis. The direct effects analysis is included as part of the detailed analysis in Section D of this chapter.

Indirect Effects Analysis

Indirect effects occur to an area's open spaces when a proposed action would add enough population, either workers or residents, to noticeably diminish the ability of an area's open space to serve the existing or future population. The *CEQR Technical Manual* methodology suggests conducting an initial quantitative assessment to determine whether more detailed analyses are appropriate, but also recognizes that for projects that introduce a large population in an area that is underserved by open space, it may be clear that a full, detailed analysis should be conducted.

With an inventory of available open space resources and potential users, the adequacy of open space in the two study areas can be assessed both quantitatively and qualitatively. The quantitative approach computes the ratio of open space acreage to the population in the study area and compares this ratio with certain guidelines. The qualitative assessment examines other factors that can affect conclusions about adequacy, including proximity to additional resources beyond the study area, the availability of private recreational facilities, and the demographic characteristics of the area's population. Specifically, the analysis in this chapter includes:

- Characteristics of the two open space user groups: residents and workers/daytime users. To determine the number of residents in the study areas, 2010 census data have been compiled for census tracts comprising the nonresidential and residential open space study areas. Because the study areas are characterized by a workforce and daytime population that may also use open spaces, the number of employees in the study areas has also been calculated, based on reverse journey-to-work census data (2000 Census). This information was updated for 2010 based on an annual growth rate derived from a comparison of New York State Department of Labor (NYSDOL) private sector employment data for zip codes 11206, 1121, 11237 (comprising the approximate ½-mile area surrounding the rezoning area) for the 3rd quarter of 2000 and the 3rd quarter of 2010.
- An inventory of all publicly accessible passive and active recreational facilities in the nonresidential and residential open space study areas.
- An assessment of the quantitative ratio of open space in the two study areas by computing the ratio of open space acreage to the population in each study area and comparing this open space ratio with certain guidelines. For the residential population, there are generally two guidelines that are used to evaluate residential open space ratios. The New York Department of City Planning (NYCDCP) generally recommends a comparison to the median ratio for community districts in New York City, which is 1.5 acres of open space per 1,000 residents. Alternately, the NYCDCP has established an optimal level, or planning goal, of 2.5 acres of open space per 1,000 residents, including 2.0 acres of active open space and 0.5 acres of passive open space. To determine the adequacy of open space resources for the worker or daytime user population, the NYCDCP has established a ratio of 0.15 acres of passive open space per 1,000 workers/daytime users as representing a reasonable amount of open space. The needs of workers and residential populations are also considered together in each study area because it is assumed that both will use the same passive open spaces. Therefore, a

weighted average is also considered for the analysis that balances the amount of open space necessary to meet the NYCDCP guideline of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 nonresidents. Because this ratio changes depending on the proportion of residents and nonresidents in each study area, the tables summarizing the open space ratios outline the amount of open space needed in each condition in each study area, and calculate the weighted average ratio of passive open space acres per 1,000 combined residents and nonresidents.

- An evaluation of qualitative factors affecting open space use.
- A final determination of the adequacy of open space in the nonresidential and residential open space study areas.

Impact Assessment

Impacts are based in part on how a project would change the open space ratios in the study area. According to the *CEQR Technical Manual*, if a proposed project would result in a decrease in open space ratios compared with those in the future without the project, the decrease is generally considered to be a substantial change, warranting a detailed analysis, if it would approach or exceed 5 percent. Or, if a study area exhibits a low open space ratio (e.g., below 1.5 acres per 1,000 residents or 0.15 acres of passive space per 1,000 nonresidential users), indicating a shortfall of open space, smaller decreases in that ratio as a result of the action may constitute significant adverse impacts. In addition to the quantitative factors cited above, the *CEQR Technical Manual* also recommends consideration of qualitative factors in assessing the potential for open space impacts. These include the availability of nearby destination resources, the beneficial effects of new open space resources provided by a project, and the comparison of projected open space ratios with established city guidelines. It is recognized that the open space ratios of the city guidelines described above are not feasible for many areas of the city, and they are not considered impact thresholds on their own. Rather, these are benchmarks that indicate how well an area is served by open space.

D. PRELIMINARY ASSESSMENT

According to the *CEQR Technical Manual*, an initial quantitative open space assessment may be useful to determine if a detailed open space analysis is necessary, or whether the open space assessment can be targeted to a particular user group. This initial assessment calculates an open space ratio by relating the existing residential and nonresidential populations to the total open space in the study area. It then compares that ratio with the open space ratio in the future with the proposed action. If there is a decrease in the open space ratio that would approach or exceed 5 percent, or if the study area exhibits a low open space ratio from the onset (indicating a shortfall of open spaces), a detailed analysis is warranted. The detailed analysis examines passive and active open space resources available to both residents and nonresidents (e.g., daily workers and visitors) within study areas delineated in accordance with the *CEQR Technical Manual*.

Pursuant to the guidelines of the *CEQR Technical Manual*, a preliminary open space assessment was conducted. As the residential study area exhibits a low open space ratio (i.e., below the citywide average of 1.5 acres per 1,000 residents) under existing conditions and in the future with the Proposed Action, a detailed open space analysis is warranted and is provided below.

E. DETAILED ANALYSIS

Existing Conditions

Study Area Population

Nonresidential (¼-Mile) Study Area

Nonresidential Population

As shown in Table 5-1, based on 2000 Census reverse journey to work data compiled by NYCDCP, the 2000 worker population for the nonresidential open space study area is estimated at approximately 4,875 workers. Using an annual growth rate of 4.1%[2], the current 2010 worker population is estimated at approximately 7,286 for the nonresidential open space study area.

Residential Population

To determine the residential population served by existing open space resources, 2010 Census data were compiled for the census tracts comprising the nonresidential study area. As shown in Table 5-2, 2010 Census data indicate that the study area has a residential population of approximately 15,387 people. As shown in the table, people between the ages of 20 and 64 make up the majority (approximately 61 percent) of the residential population. Children and teenagers (0 to 19 years old) account for approximately 22 percent of the entire residential population. Persons 65 years and over account for approximately 10 percent of the nonresidential study area population.

Total User Population

Within the nonresidential study area, the total population (residents plus nonresidents) is estimated at 22,673 (refer to summary Table 5-3 below). Although this analysis conservatively assumes that the residents and employees are separate populations, it is possible that some of the residents live near their workplace. As a result, there is likely to be some double-counting of the daily user population in which residential and nonresidential populations overlap, resulting in a more conservative analysis.

Residential (½-Mile) Study Area

The residential study area includes all of the census tracts comprising the nonresidential study area, plus 16 additional census tracts, as illustrated in Figure 5-1.

Nonresidential Population

As shown in Table 5-2, based on 2000 Census reverse journey to work data compiled by NYCDCP, the 2000 worker population for the residential open space study area is estimated at approximately 20,690 workers. Using an annual growth rate of 4.1%[2], the current 20,690 worker population is estimated at approximately 29,980 for the residential open space study area.

[2] Based on a comparison of NYSDOL private sector employment data for zip codes 11206, 11221, and 11237 which are equivalent to an approximate ½-mile radius, for the 4th quarter of 2000 and the 4th quarter of 2010.

Residential Population

2010 Census data were compiled for the census tracts comprising the residential study area. As shown in Table 5-2, 2010 Census data indicate that the study area has a residential population of approximately 74,811 people. As shown in the table, people between the ages of 20 and 64 make up the majority (approximately 64 percent) of the residential population. Children and teenagers (0 to 19 years old) account for approximately 27 percent of the entire residential population, and persons 65 years and over account for approximately 9 percent of the residential study area population.

Within a given area, the age distribution of a population affects the way open spaces are used and the need for various types of recreational facilities. Typically, children 4 years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages 5 through 9 typically use traditional playgrounds, as well as grassy and hard-surfaced open spaces, which are important for activities such as ball playing, running, and skipping rope. Children ages 10 through 14 use playground equipment, court spaces, little league fields, and ball fields. Teenagers' and young adults' needs tend toward court game facilities such as basketball and field sports. Adults between the ages of 20 and 64 continue to use court game facilities and fields for sports, as well as more individualized recreation such as rollerblading, biking, and jogging, requiring bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, ad hoc active sports such as Frisbee, and recreational activities in which all ages can participate. Senior citizens engage in active recreation such as tennis, gardening, and swimming, as well as recreational activities that require passive facilities. The demographic data for the residential open space study area suggest a need for facilities geared towards the recreational needs of adults, as the study area exhibits a very high percentage of residents in the 20 to 64 year age bracket, as well as a need for various kinds of active and passive recreation facilities in the study area, including those with amenities that can be used by adults and senior citizens.

Table 5-1
Existing Worker Population in Open Space Study Areas

Cenus Tract	2000 Worker Population
Non-Residential Study Area	
285.01	2,715
285.02	185
389	655
391	325
425	840
489	155
Total 2000 Worker Population	**4,875**
Adjusted 2010 Total Worker Population	**7,286**
Additional Census Tracts within Residential Study Area	
257	2,215
259	210
283	230
287	245
289	320
393	530
421	180
423	495
427	435
429	435
453	740
483	1,810
487	1,175
489	2,285
491	2,485
493	500
507	895
Subtotal 2000 Worker Population	**15,185**
2000 Total for Residential Studay Area	**20,060**
Adjusted 2010 Total Worker Population	**29,980**

TABLE 5-2
2010 Residential Population and Age Distribution in the Non-Residential and Residential Open Space Study Areas

2010 Census Tract	Total Population	Under 5		5 to 9		10 to 14		15 to 19		20 to 64		65+ Years	
		#	%	#	%	#	%	#	%	#	%	#	%
NON-RESIDENTIAL STUDY AREA													
285.01	428	36	8.4%	34	7.9%	30	7.0%	28	6.5%	291	68.0%	9	2.1%
285.02	2802	149	5.3%	192	6.9%	247	8.8%	297	10.6%	1520	54.2%	397	14.2%
389	2773	163	5.9%	158	5.7%	168	6.1%	172	6.2%	1,881	67.8%	231	8.3%
391	2303	141	6.1%	183	7.9%	160	6.9%	154	6.7%	1,453	63.1%	212	9.2%
425	3042	230	7.6%	201	6.6%	237	7.8%	226	7.4%	2025	66.6%	123	4.0%
489	4039	304	7.5%	288	7.1%	339	8.4%	411	10.2%	2,182	54.0%	515	12.8%
Total for Non-Residential Study Area	**15,387**	**1,023**	6.6%	**1,056**	6.9%	**1,181**	7.7%	**1,288**	8.4%	**9,352**	**60.8%**	**1,487**	**9.7%**
ADDITIONAL CENSUS TRACTS WITHIN RESIDENTIAL STUDY AREA													
257	2,131	162	7.6%	150	7.0%	147	6.9%	164	7.7%	1,387	65.1%	121	5.7%
259.02	3,419	230	6.7%	260	7.6%	359	10.5%	431	12.6%	1,815	53.1%	324	9.5%
283	4,097	288	7.0%	275	6.7%	336	8.2%	378	9.2%	2,487	60.7%	333	8.1%
287	2,991	216	7.2%	207	6.9%	187	6.3%	187	6.3%	1,873	62.6%	321	10.7%
289	3,538	242	6.8%	244	6.9%	255	7.2%	299	8.5%	2,116	59.8%	382	10.8%
393	3,549	213	6.0%	210	5.9%	170	4.8%	232	6.5%	2,502	70.5%	222	6.3%
421	3,920	282	7.2%	282	7.2%	268	6.8%	306	7.8%	2,513	64.1%	269	6.9%
423	4,217	332	7.9%	292	6.9%	268	6.4%	307	7.3%	2,649	62.8%	369	8.8%
427	5,074	371	7.3%	347	6.8%	313	6.2%	347	6.8%	3,503	69.0%	193	3.8%
429	5,630	465	8.3%	351	6.2%	372	6.6%	424	7.5%	3,738	66.4%	280	5.0%
453	2,017	77	3.8%	80	4.0%	81	4.0%	91	4.5%	1,614	80.0%	74	3.7%
485	2,510	73	2.9%	54	2.2%	63	2.5%	106	4.2%	2,121	84.5%	93	3.7%
491	6,418	334	5.2%	336	5.2%	357	5.6%	471	7.3%	3,864	60.2%	1,056	16.5%
493	7,625	409	5.4%	399	5.2%	445	5.8%	532	7.0%	4,985	65.4%	855	11.2%
507	2,288	417	18.2%	389	17.0%	296	12.9%	162	7.1%	**983**	**43.0%**	**41**	**1.8%**
Subtotal	**59,424**	**3,949**	**6.6%**	**3,876**	**6.5%**	**3,917**	**6.6%**	**4,273**	**7.2%**	**38,150**	**64.2%**	**4,933**	**8.3%**
Total for Residential Study Area	***74,811***	***4,972***	***6.6%***	***4,932***	***6.6%***	***5,098***	***6.8%***	***5,561***	***7.4%***	***47,502***	***63.5%***	***6,420***	***8.6%***

Total User Population

As shown in Table 5-3 below, within the defined residential study area, the total current population (residents plus nonresidents) is estimated to be 104,791. Although this analysis conservatively assumes that residents and daytime users are separate populations, it is possible that some of the residents live near their workplace. As a result, there is likely to be some double counting of the daily user population in the study area, resulting in a more conservative analysis.

TABLE 5-3
Summary of 2010 Open Space User Groups Within the Two Study Areas

User Group	Nonresidential Study Area 2010 Population	Residential Study Area 2010 Population
Residents	15,387	74,811
Workers/Daytime Users	7,286	29,980
Combined Residents and Nonresidents	22,673	104,791

Inventory of Publicly-Accessible Open Space

According to the *2012 CEQR Technical Manual*, open space may be public or private and may be used for active or passive recreational purposes. Pursuant to CEQR, public open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for impacts under CEQR rules, whereas private open space is not accessible to the general public on a regular basis, and is therefore only considered qualitatively. Field surveys and secondary sources were used to determine the number,

availability and condition of publicly accessible open space resources in the nonresidential and residential study areas.

An open space is determined to be active or passive by the uses which the design of the space allows. Active open space is the part of a facility used for active play such as sports or exercise and may include playground equipment, playing fields and courts, swimming pools, skating rinks, golf courses, lawns and paved areas for active recreation. Passive open space is used for sitting, strolling, and relaxation, and typically contains benches, walkways and picnicking areas. However, some passive spaces can be used for both passive and active recreation; such as a green lawn or riverfront walkway, which can also be used for ball playing, jogging or rollerblading.

All of the publicly accessible open space and recreational resources within the two defined study areas are shown in Figure 5-2 and listed in Table 5-4.

Nonresidential (¼-Mile) Study Area

As shown in Table 5-4, the nonresidential study area contains a total of 14.37acres of open space, of which approximately 6.65 acres are passive open space and 7.71 acres are active open space. As shown in Figure 5-2 and Table 5-4, 8 publicly accessible open space and recreational resources are located within the nonresidential study area. They consist of a mix of city playgrounds, larger city parks with a mix of passive and active recreational facilities, and planted sitting areas. Four of the largest open spaces within the nonresidential study area are described below.

Green Central Knoll

Green Central Knoll (No. 2 in Figure 5-2) is under the jurisdiction of the New York City Department of Parks and Recreation (DPR). The park is located along Evergreen Avenue, Central Avenue, and Noll Street. The 2.74-acre park provides a number of active uses, including a baseball field, a playground, and spray showers. The park also includes a sitting area with plantings, benches, a bear sculpture, a drinking fountain, and a decorative gate. The playground design reflects a nautical theme with a Parks flag perched on a yardarm and mast located at the highest point. Water runs from this area through a rocky stream bed. The stream has brass casts of fish, such as perch, trout and bass. The stream meanders downward to the park's lower end where the water pours into a catch basin adjacent to an area adorned with spray showers.

Sumner Houses Open Space

Sumner Houses Open Space (No. 6 in Figure 5-2) is under the ownership of the New York City Housing Authority. The park is located within the Sumner Houses residential housing complex along Throop Avenue, Park Avenue, Marcus Garvey Boulevard, and Myrtle Avenue. The 2.07-acre open space provides mostly passive open space with seating areas. The park also contains active uses that include play equipment and a basketball court.

Bushwick Houses Open Space

Bushwick Houses Open Space (No. 7 in Figure 5-2) is under the ownership of the New York City Housing Authority. The park is located within the Bushwick Houses residential housing complex along Moore Street, Bushwick Avenue, Flushing Avenue, and Humboldt Street. The 4.40-acre open space provides mostly passive open space with seating areas. The park also contains active uses that include play equipment, a basketball court, and a baseball field.

Study Area Open Space Resources
Figure 5-2

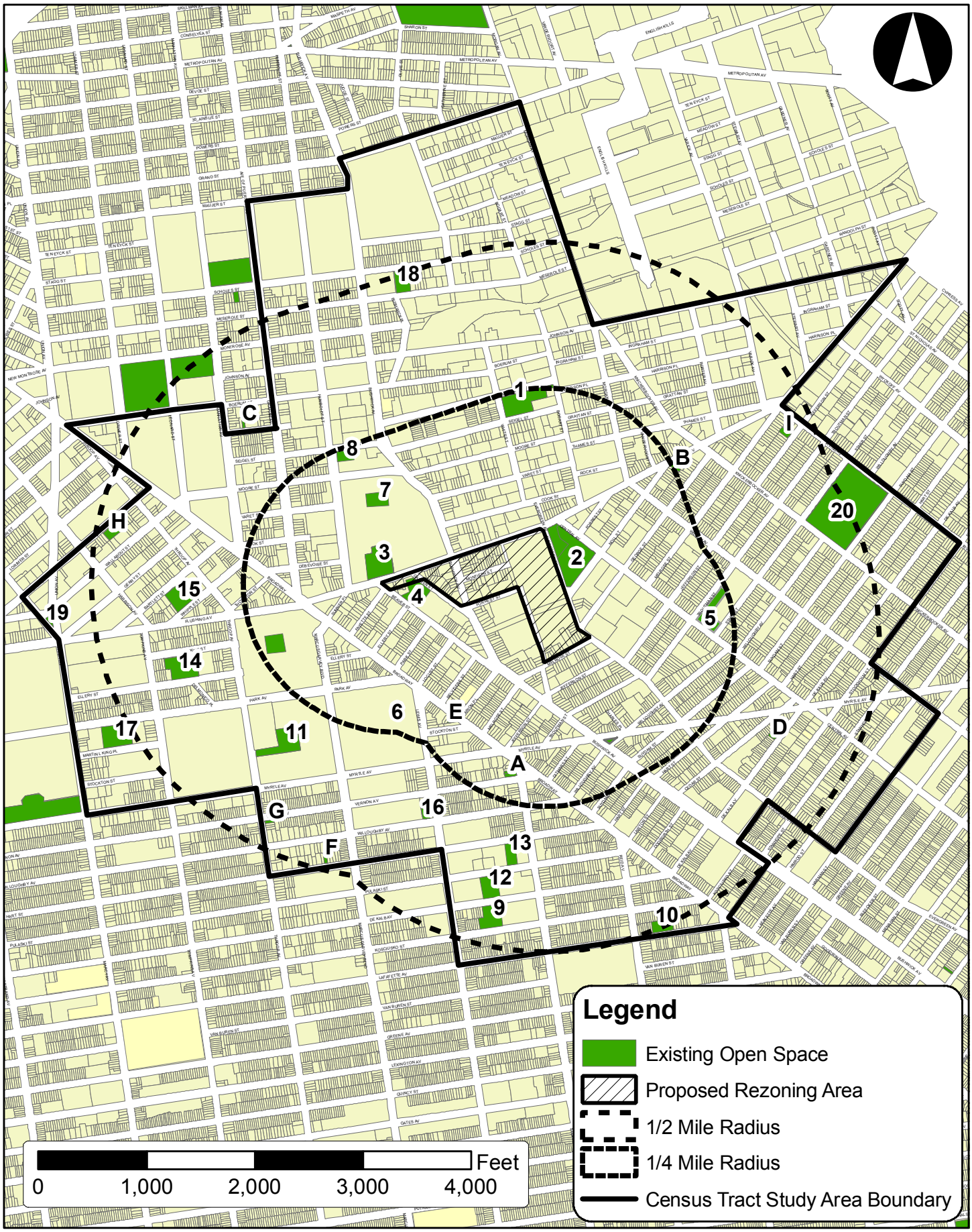


TABLE 5-4

Inventory of Existing Open Space and Recreational Facilities

MAP NO	PARK NAME	LOCATION	OWNER/JURISDICTION	DESCRIPTION	HOURS OF ACCESS	TOTAL ACRES	% PASSIVE	PASSIVE ACRES	% ACTIVE	ACTIVE ACRES	CONDITION*	DPR INSPECTION **	UTILIZATION
NON-RESIDENTIAL STUDY AREA													
1	Gilbert Ramirez Park	McKibbin St, Bogart St, White St, and Siegel St	NYCDPR	play equipment, benches, trees	closes at dusk	1.18	30%	0.35	70%	0.83	Excellent	Unacceptable	Light
2	Green Central Knoll Park	Evergreen Ave, Central Ave, and Noll St	NYCDPR	play equipment, baseball field, benches	closes at dusk	2.74	10%	0.27	90%	2.47	Excellent	Acceptable	Light
3	Bushwick Playground and Pool	Flushing Ave, Humboldt St, and Bushwick Ave	NYCDPR	play equipment, handball courts, benches, outdoor pool	closes at dusk	1.29	10%	0.13	90%	1.16	Excellent	Unacceptable	Light
4	Garden Playground	Garden St, Beaver St, Bushwick Ave, Flushing Ave	NYCDPR/NYCDOE	play equipment, basketball couts, benches	after school hours; weekends; summer recess	0.92	70%	0.64	30%	0.27	Good	Acceptable	Light
5	Fermi Playground	Central Ave, Troutman St, Starr St, Wilson Ave	NYCDPR/NYCDOE	play equipment, comfort station, basketball courts, benches	after school hours; weekends; summer recess	1.06	40%	0.42	60%	0.64	Good	Acceptable	Light
6	Sumner Houses Open Space	Throop Ave, Park Ave, Marcus Garvey Blvd, Myrtle Ave	NYCHA	play equipment, basketball court, benches, lawn	24 hours/day	2.07	67%	1.39	33%	0.68	Good	N/A	Moderate
7	Bushwick Houses Open Space	Moore St, Bushwick Ave, Flushing Ave, Humboldt St	NYCHA	benches, lawn, play equipment, basketball courts, baseball field	24 hours/day	4.40	67%	2.95	33%	1.45	Good	N/A	Heavy
8	Mayor John Hylan Houses Open Space	Seigel St, Bushwick Ave, Moore St, Humboldt St	NYCHA	play equipment, lawn	24 hours/day	0.71	70%	0.50	30%	0.21	Good	N/A	Heavy
				NON-RESIDENTIAL STUDY AREA TOTAL		**14.37**	**46%**	**6.65**	**54%**	**7.71**			
ADDITIONAL OPEN SPACES WITHIN RESIDENTIAL STUDY AREA													
9	Eleanor Roosevelt Playground	Dekalb Ave and Kosciusko St	NYCDPR/NYCDOE	play equipment, basketball courts, handball courts, seating	after school hours; weekends; summer recess	1.33	20%	0.27	80%	1.06	Good	Acceptable	Heavy
10	Lafayette Playground	Lafayette Ave and Malcolm X Blvd	NYCDPR	play equipment, handball courts, basketball courts, benches	Dawn to Dusk	0.53	30%	0.16	70%	0.37	Good	Unacceptable	Moderate
11	Sumner Playground	Throop Ave and Park Ave	NYCDPR/NYCDOE	play equipment, basketball courts, handball courts, seating	after school hours; weekends; summer recess	2.60	10%	0.26	90%	2.34	Excellent	Unacceptable	Heavy
12	Eleanor Roosevelt Houses I (south) Open Space	Pulaski St, Dekalb Ave, Lewis Ave, Stuyvesant Ave	NYCHA	play equipment, basketball court, sitting area	24 hours/day	0.73	10%	0.07	90%	0.66	Good	N/A	Heavy
13	Eleanor Roosevelt Houses II (north) Open Space	Hart St, Pulaski St, Lewis Ave, Stuyvesant St	NYCHA	basketball court, sitting area	24 hours/day	0.46	50%	0.23	50%	0.23	Good	N/A	Moderate
14	Charlie's Place	Hopkins St, Tompkins Ave, Ellery St, Throop Ave	NYCDPR/DOE	benches, tables, play equipment	after school hours; weekends; summer recess	1.26	75%	0.95	25%	0.32	Good	Acceptable	Light
15	Bartlett Playground	Bartlett St, Whipple St, Throop Ave	NYCDPR	play equipment, benches, slides, basketball courts	Dawn to Dusk	0.92	25%	0.23	75%	0.69	Good	Acceptable	Light
16	Lewis Playground	Willoughby St btw Lewis Ave and Marcus Garvey Blvd	NYCDPR	play equipment, benches and tables	Dawn to Dusk	0.16	40%	0.06	60%	0.10	Excellent	N/A	Light
17	Stockton Playground	Park Av, Martin Luther King Pl, Marcy Ave, Tompkins Ave	NYCDPR/DOE	benches, play equipment, handball court, basketball court, baseball diamond	after school hours; weekends; summer recess	1.09	10%	0.11	90%	0.98	Good	Acceptable	Moderate

*Based on PHA field surveys

**Based on DPR's most recent inspection of the facility

TABLE 5-4 (cont'd)

Inventory of Existing Open Space and Recreational Facilities

MAP NO	PARK NAME	LOCATION	OWNER/JURISDICTION	DESCRIPTION	HOURS OF ACCESS	TOTAL ACRES	% PASSIVE	PASSIVE ACRES	% ACTIVE	ACTIVE ACRES	CONDITION*	DPR INSPECTION **	UTILIZATION
18	Ten Eyck Playground	Scholes St, Meserole St, Bushwick Ave	NYCDPR/NYCDOE	play equipment, benches, handball courts, basketball courts	Dawn to Dusk	1.31	20%	0.26	80%	1.05	Good	Acceptable	Light
19	Green Street	Marcy Ave, Union Ave, Wallabout St	NYCDPR	Benches, trees, planters	24 hours/day	0.03	100%	0.03	0%	0.00	Excellent	N/A	Moderate
20	Maria Hernandez Park	Irving Ave, Suydam St, Kinckerbocker Ave, Starr St	NYCDPR	play equipment, bocce courts, basketball courts	Dawn to Dusk	7.74	40%	3.10	60%	4.64	Excellent	Unacceptable	Moderate
				TOTAL HALF-MILE STUDY AREA		**32.53**	**40%**	**12.38**	**60%**	**20.15**			
ADDITIONAL OPEN SPACES WITHIN RESIDENTIAL STUDY AREA													
A	John the Baptist Community Center Inc.	Vernon Ave, Stuyvesant Ave	Trust for Public Land	benches, garden, stage	Minimum of 10 hours/week	0.08	100%	0.08	0%	0.00	Good	N/A	N/A
B	La Finca (community garden)	Flushing Ave, Noll St	Trust for Public Land	tables, trees	Th-Sat 2-6PM	0.05	100%	0.05	0%	0.00	Good	N/A	N/A
C	Sunshine Community Garden	McKibbin St btw Manhattan Ave and Graham Ave	NYCDPR	vegetable gardens, tables	M + T - 2-4PM, W 1-3PM, 5-6PM, TH - 12-2PM, 5-6PM, F 11AM-3PM	0.12	100%	0.12	0%	0.00	Good	N/A	Light
D	Mayaguez Association	Dekalb St btw Evergreen Ave and Myrtle Ave	NYPD	tables and chairs	Sat & Sun 7AM-10PM	0.03	100%	0.03	0%	0.00	Good	N/A	N/A
E	LDC of Broadway	Broadway btw Lewis Ave and Stockton St	NY Garden Trust	community garden	N/A	0.02	100%	0.02	0%	0.00	Good	N/A	N/A
F	Hart Street Vegetable Garden	Hart St btw Throop Ave and Marcus Garvey Blvd	Habitat for Humanity	Benches, tables and vegetable garden	Mon-Fri 9AM-12PM	0.06	100%	0.06	0%	0.00	Excellent	N/A	N/A
G	Vernon/Throop Ave Block Association	Vernon St and Throop Ave	NYCHPD	Benches, trees, vegetable garden	Mon, Tues, Thurs-Sat 10AM-2PM	0.04	100%	0.04	0%	0.00	Good	N/A	N/A
H	Project Roots/IS 318	Walton St btw Harrison and Throop Ave	NYCDPR	vegetable garden, benches, chairs, plantings	Minimum of 10 hours/week	0.17	100%	0.17	0%	0.00	Excellent	N/A	N/A
I	BKCB4 Community Garden 1	Jefferson Ave btw Knickerbocker Ave and Iriving Ave	Groveland Garden Association	community garden with benches and planting	N/A	0.12	100%	0.12	0%	0.00	Fair	N/A	N/A
				TOTAL ADDITIONAL OPEN SPACE NOT INCLUDED IN ANALYSIS		0.68	30%	0.68	70%	0.00			

*Based on PHA field surveys

**Based on DPR's most recent inspection of the facility

Bushwick Playground & Pool

The Bushwick Houses Playground & Pool (No. 3 in Figure 5-2) is under the jurisdiction of the DPR. The park is located within the Bushwick Houses residential housing complex along Flushing Avenue, Humboldt Street, and Bushwick Avenue. The 1.29-acre park provides basketball courts, handball courts, a pool, spray showers, and seating areas.

Residential (½-Mile) Study Area

The residential study area includes all open spaces in the nonresidential study area. In addition to the 8 open space resources within the nonresidential study area, there are 12 other publicly accessible open spaces and recreational facilities within the residential study area that serve the surrounding residential and commercial populations (refer to Table 5-4 and Figure 5-2). The residential study area contains a total of approximately 32.53 acres of publicly accessible open space (including all of the public parks and open spaces listed in the nonresidential study area). Of this total, approximately 12.38 acres are passive space and 20.15 acres are active space (see Table 5-4). The open spaces within this study area consist of a mix of city playgrounds, larger city parks with a mix of passive and active recreational facilities, and planted street malls. In addition to the four open spaces described above, other prominent open spaces that fall within the residential study area are described below.

Maria Hernandez Park

Maria Hernandez Park, (No. 20 in Figure 5-2) is under the jurisdiction of the DPR and the largest open space resource in the study area. The park is located along Suydam Street, Irving Avenue, Knickerbocker Avenue, and Starr Street. The 7.74-acre park provides a number of active uses, including basketball courts, handball courts, play equipment, spray showers, fitness paths, fitness equipment, a baseball diamond, bocce courts, and an eatery. The park also includes landscaped seating areas and lawns.

Sumner Playground

Sumner Playground (No. 11 in Figure 5-2) is a Jointly Operated Program between the DPR and the New York City Department of Education (DOE). Open space resources that are Jointly Operated Programs are available to the community after school hours, weekends, and during summer recess. The playground is located at Throop Avenue and Park Avenue. The 2.60-acre playground provides mostly active recreation uses such as play equipment, basketball courts, handball courts, and spray showers. The park also provides seating areas.

Eleanor Roosevelt Playground

Eleanor Roosevelt Playground (No. 9 in Figure 5-2) is a Jointly Operated Program between the DPR and DOE. The playground is located at Dekalb Avenue and Kosciusko Street. The 1.33-acre playground provides mostly active recreation uses such as play equipment, basketball courts, handball courts, and spray showers. The park also provides seating areas.

Assessment of Open Space Adequacy

Nonresidential (¼-Mile) Study Area

As described above, the analysis of the nonresidential study area focuses on passive open spaces that may be used by workers and other daytime users in the area. To assess the adequacy of the open spaces in the area, the ratio of nonresidents to acres of passive open space is compared with the City's planning

guideline of 0.15 acres of passive space per 1,000 workers. In addition, the passive open space ratio for both nonresidents and residents in the area is compared with the recommended weighted average ratio.

Quantitative Assessment

The nonresidential study area includes a total of 14.37 acres of open space, of which approximately 6.65 acres are passive space. A total of 15,387 residents live within this study area, and 7,286 people work or study within the nonresidential study area boundary. The combined residential and nonresidential population is 22,673.

Based on *CEQR Technical Manual* methodology, the area has a passive open space ratio of 0.913 acres of passive open space per 1,000 nonresidents; which is substantially higher than the City's guideline of 0.15 acres (see Table 5-5 below). The combined passive open space ratio is 0.293 acres per 1,000 residents and nonresidents, which is slightly lower than the recommended weighted average ratio of 0.388 acres per 1,000 combined users (refer to Table 5-5 below). However, there is sufficient passive open space within the nonresidential study area to serve the nonresident and the combined nonresident and resident populations.

TABLE 5-5
Existing Conditions: Adequacy of Open Space Resources

	Total Population	Open Space Acreage			Open Space Ratios Per 1,000 People			NYCDCP Open Space Guidelines		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-Residential Study Area										
Non-Residents	7,286	14.37	6.65	7.71	N.A.	0.913	N.A.	N.A.	0.15	N.A.
Combined Non-Residents and	22,673				N.A.	0.293	N.A.	N.A.	0.388 *	N.A.
Residential Study Area										
Residents	74,811	32.53	12.38	20.15	0.435	0.165	0.269	2.50	0.50	2.00
Combined Residents and Non Residents	104,791				N.A.	0.118	N.A.	N.A.	0.400 *	N.A.

* Based on a target open space ratio established by creating a weighted average of the amount of open space necessary to meet the City guideline of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 non-residents is considered in this analysis. Non-residents typically use passive spaces; therefore, for the nonresidential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

Qualitative Assessment

As shown in Table 5-4, the nonresidential study area open spaces are mostly in good or excellent condition, and use levels are moderate at the majority of these facilities. The nonresidential study area includes a number of passive open space with features such as lawns, benches, and pathways suitable for use by the worker and other nonresidential populations in the area.

It should also be noted that several open space facilities located within the nonresidential open space study area were not taken into account as part of the quantitative analysis but their presence should be noted. As shown in Table 5-4, there are a number of community gardens that were not included in the quantitative assessment because they either had limited hours or did not have posted hours, were very small, or did not include any seating or other amenities. Although they are not included in the quantitative analysis, these community gardens are open to the public by appointment or on special occasions, and provide additional passive recreational opportunities.

Residential (½-Mile) Study Area

Quantitative Assessment

The following analysis of the adequacy of open space resources within the residential study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents, as well as the ratio of passive open space per 1,000 combined residents and nonresidents.

With a total of 32.53 acres of open space, of which approximately 20.15 acres are for active use and 12.38 acres are for passive use, and a total residential population of 74,811, the residential study area has an overall open space ratio of 0.435 acres per 1,000 residents (see Table 5-5). This is less than the City's planning guideline of 2.5 acres of combined active and passive open space per 1,000 residents. The study area's residential passive open space ratio is 0.165 acres of passive open space per 1,000 residents, which is below the City's planning goal of 0.5 acres per 1,000 residents. The area's residential active open space ratio is 0.269 acres per 1,000 residents, which is also below the City's planning guideline of 2.0 acres per 1,000 residents, indicating that there is a shortfall of both active and passive open space in the study area.

When the employees who work within the residential study area are added to the population, the passive open space ratio is lower. As described earlier, workers and other daytime users typically use passive open spaces during the workday, so the passive open space ratio is the relevant ratio for consideration. With a combined nonresidential and residential population of 104,791, the combined passive open space ratio in the residential study area is 0.118 per 1,000 users, which is below the recommended weighted average guideline ratio of 0.400 acres per 1,000 residents and nonresidents.

Qualitative Assessment

As shown in Table 5-4, the residential study area open spaces are mostly in good or excellent condition, and use levels are moderate at the majority of these facilities. While the study area includes a number of parks with active recreational facilities such as ball fields and playgrounds, given that the age distribution in the residential study area includes a high number of children and teens, it is desirable to have a higher proportion of active open space. Although the residential study area currently has a shortage of active and passive open space, it should be noted that there are also several large and destination open space resources nearby that provide additional active open space resources, such as Sternberg Park, Marcy Playground, Cooper Park, McCarren Park, Herbert Von King Park, and Highland Park. Although it is unlikely that residents within the study area would travel more than a mile to a park on a regular basis, some of the parks described below are considered destination open spaces (McCarren Park, Highland Park) and therefore, residents within the study area may occasionally travel outside the study area to utilize these larger open space resources.

Sternberg Park is located just outside the study area (approximately 0.5 miles from the rezoning area) along Lorimer Street between Montrose Street and Boreum Avenue. The 4.04-acre park includes basketball courts, baseball fields, handball courts, fitness equipment, play equipment, benches, and picnic tables.

Marcy Playground is located just outside the study area (less than 1 mile from the rezoning area) along Marcy Avenue, Myrtle Avenue, and Nostrand Avenue. The 3.2-acre park includes basketball courts, a playground, spray showers, handball courts, volleyball courts, baseball diamond, and seating areas.

Cooper Park is located along Maspeth Avenue and Sharon Street between Olive Street and Morgan Avenue, approximately 1.1 miles from the rezoning area. It is a 6.40-acre park and contains many active and passive recreation amenities, including playgrounds, a fitness path, fitness equipment, basketball courts, a dog run, handball courts, spray showers, bocce courts, and sitting areas.

McCarren Park, which is located along North 12th Street, Lorimer Street, and Manhattan Avenue between Bayard Street, Berry Street and Nassau Avenue, is a destination park in the Williamsburg neighborhood of Brooklyn. The 35.1 acre park is located approximately 1.7 miles away from the rezoning area and contains many active and passive recreation amenities, including a pool, baseball fields, basketball courts, a running track, a football field, playgrounds, a recreation center, handball courts, fitness equipment, spray showers, soccer fields, a dog run, and many seating areas.

Herbert Von King Park, located approximately 1 mile from the rezoning area, along Lafayette Avenue, Marcy Avenue, Greene Avenue, and Tompkins Avenue, is a 7.82 acre park that contains a variety of active open space resources such as baseball fields, handball courts, fitness equipment, and a playground. The park also contains a recreation center which houses Eubie Blake Auditorium, a senior citizen and teen center, and an amphitheater.

Highland Park is a 101.28-acre park located approximately 2.5 miles from the rezoning area along the border of Brooklyn and Queens. Highland Park contains many active and passive recreation amenities including tennis courts, football fields, baseball fields, basketball courts, handball courts, fitness equipment, playgrounds, barbecuing areas, a children's garden, grassy fields, and seating areas.

The on-street bicycle facilities in the study area also qualitatively enhance open space conditions for the local population. These currently include on-street striped bicycle lanes, known as "Class 2" facilities, on Throop Avenue (northbound), Manhattan Avenue (northbound), Leonard Stree/Wallabout Street/Harrison Avenue/Tompkins Avenue (southbound), Willoughby Avenue (eastbound), Evergreen Avenue (northbound), Central Avenue (southbound), and Dekalb Avenue (westbound). These lanes, which connect with the larger City-wide bicycle network, directly benefit the community by providing an active recreation facility as well as dedicated cycling space, which encourages ridership and increases safety for parks outside the study area such as McCarren Park, Cooper Park, Herbert Von King Park, and Highland Park.

As noted above, the quantitative analysis is conservative as it assumes that residents and daytime users are separate populations, whereas it is possible that some of the residents live near their workplace, resulting in some double counting of the daily user population in the study area.

The Future Without the Proposed Action (No-Action)

Study Area Population

Nonresidential (¼-Mile) Study Area

In the absence of the Proposed Action, it is expected that the existing zoning, land uses and recent development patterns within the nonresidential study area would continue. The recent trends in development demonstrate a continued demand for housing, as well as a substantial demand for local retail and community facility uses. As discussed in Chapter 2, "Land Use, Zoning, and Public Policy," none of the projected development sites within the proposed rezoning area are anticipated to be redeveloped in the 2016 future without the Proposed Action.

A number of new residential, commercial, community facility, and mixed-use projects are expected to be completed in the nonresidential study area, resulting in an increase in residential and worker populations by the 2016 analysis year. As shown in Table 5-6, planned development projects expected to be completed by 2016 within the nonresidential study area, include several sites projected for development as part of the Bedford-Stuyvesant North Rezoning project (refer to Chapter 2, "Land Use, Zoning, and Public Policy," for details). Those planned development sites that are expected to be completed by 2016

would add an estimated 345 workers and 687 residents to the nonresidential study area. This would bring the study area's daytime population to persons in the future without the Proposed Action, and the combined residential and daytime population in the nonresidential study area is projected at 23,705 persons.

TABLE 5-6
Development Projects Anticipated to be Completed in the No-Action Within the Defined Open Space Study Areas[1]

Project Name	Address	No-Action Residents [2]	No-Action Employees [3]
NONRESIDENTIAL STUDY AREA			
Beford-Stuyvesant North Rezoning	Varies	687	345
RESIDENTIAL STUDY AREA			
Beford-Stuyvesant North Rezoning	Varies	502	102
TOTALS FOR NONRESIDENTIAL STUDY AREA		**687**	**345**
TOTALS FOR RESIDENTIAL STUDY AREA		**1,189**	**447**

Notes:

[1] Based on info from Beford-Stuyvesant North Rezoning EAS provided by DCP

[2] Based on an assumption of 2.95 residents per unit, based on average number of residents per occupied housing unit calculated from 2010 Census data

[3] Based on information provided in respective environmental review documents or, if unavailable, an assumption of 1 employee per 250 SF of office, 3 employees per 1000 SF of retail, and 1 employee per 300 SF

Residential (½-Mile) Study Area

Residential and worker populations within the residential study area are also expected to increase by 2016 in the future without the Proposed Action. As shown in Table 5-6, in addition to the development sites associated with the Bedford-Stuyvesant North Rezoning project included in the nonresidential study area, two additional development sites are projected within the residential study area.

The two additional development sites associated with the Bedford-Stuyvesant North Rezoning project is estimated to add 502 residents and 102 workers to the study area. Therefore, all of the planned development projects that are expected to be completed by 2016 would generate an estimated 1,189 residents and 447 workers within the study area by 2016. This would bring the study area's 2016 population to an estimated 76,000 residents and 30,427 daytime users, for a total combined residential and nonresidential population of 106,427 persons. No substantial changes in the age group structure of the residential population are expected by 2016.

Open Space Resources

There are no publicly accessible open spaces planned within the study area by the build year of 2016. Therefore, the 35.8 acres of open space under existing conditions would remain constant in the Future No-Action scenario.

Assessment of Open Space Adequacy

Nonresidential (¼-Mile) Study Area

As discussed above, it is anticipated that new development in the study area will result in an increase in

the population in the future without the Proposed Action. The ratio of passive open space per 1,000 nonresidents will be 0.871 in the future No-Action. The ratio for the combined population of residents and nonresidents will be 0.281, which is below the calculated recommended weighted ratio of 0.387.

TABLE 5-7

No-Action Conditions: Adequacy of Open Space Resources

	Total Population	Open Space Acreage			Open Space Ratios Per 1,000 People			NYCDCP Open Space Guidelines		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-Residential Study Area										
Non-Residents	7,631	14.37	6.65	7.71	N.A.	0.871	N.A.	N.A.	0.15	N.A.
Combined Non-Residents and	23,705				N.A.	0.281	N.A.	N.A.	0.387 *	N.A.
Residential Study Area										
Residents	76,000	32.53	12.38	20.15	0.428	0.163	0.265	2.50	0.50	2.00
Combined Residents and Non Residents	106,427				N.A.	0.116	N.A.	N.A.	0.400 *	N.A.

* Based on a target open space ratio established by creating a weighted average of the amount of open space necessary to meet the City guideline of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 non-residents is considered in this analysis. Non-residents typically use passive spaces; therefore, for the nonresidential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

Residential (½-Mile) Study Area

In 2016, the additional population introduced to the study area by expected developments in the future without the Proposed Action will increase the demand on the area's open spaces. With that new population t, the residential study area will continue to be underserved by open spaces in comparison to the city's guideline ratios. The overall open space ratio will decrease from 0.435 acres per 1,000 residents under existing conditions to 0.428 acres per 1,000 residents, which will remain considerably lower than the city's planning guideline ratio of 2.5 acres of total open space per 1,000 residents and the citywide median of 1.5 acres per 1,000 residents (see Table 5-7). The active open space ratio will decrease from 0.269 to 0.265 acres per 1,000 residents, and will continue to fall well below the city's planning guideline of 2.00 acres of active open space. The passive open space ratio for residents will decrease from 0.187 to 0.184acres per 1,000 residents, which is below the city's planning guideline of 0.50 acres of passive open space.

The combined passive open space ratio of 0.116 acres per 1,000 total users will be below the calculated recommended weighted ratio of 0.400 acres per 1,000 residents and nonresidents.

The total and active open space ratios within the residential study area would remain substantially below the guideline of adequacy in the future without the Proposed Action.

The Future With the Proposed Action (With-Action)

This section describes the open space conditions that would result from the RWCDS associated with the Proposed Action by 2016. It evaluates the potential for the Proposed Action to result in significant adverse impacts to open space resources directly and indirectly based on a comparison of the No-Action condition (described above) to the With-Action condition.

The RWCDS would introduce a total of 3,174 new residents and 177 new workers. Residential population estimates for the RWCDS are based on the 2010 Census average household size of 2.95 persons per household for the census tracts comprising the rezoning area and an approximate 1/2-mile radius around it, and conservatively assume full occupancy. Worker population estimates are based on standard industry ratios of employment per square foot for the projected uses.

Direct Effects Analysis

None of the projected development sites identified as part of the RWCDS for the Proposed Action currently contain any open space resources. As such, the Proposed Action would not have a direct effect on any study area open spaces. Construction and operation of the RWCDS projected development sites associated with the Proposed Action would not cause the physical loss of public open space because of encroachment or displacement of the space; would not change the use of an open space so that it no longer serves the same user population; and would not limit public access to an open space. In addition, as discussed in other chapters of this EIS, the Proposed Action would not cause increased noise or air pollutant emissions, odors, or shadows that would significantly affect the usefulness or utilization of any study area open spaces, whether on a permanent or temporary basis.

Indirect Effects Analysis

Open Space Study Area Population

Nonresidential (¼-Mile) Study Area

With the additional residents and workers introduced by the Proposed Action, the nonresidential study area would contain an estimated total of 7,808 daytime users and 19,239 residents, for a total population of 27,047 workers/daytime users and residents in the future with the Proposed Action in 2016.

Residential (½-Mile) Study Area

With the additional residents and workers introduced by the Proposed Action, the residential study area would include an estimated total of 79,158 residents and 30,604 workers for a total population of 109,762 residents and workers/daytime users in the future with the Proposed Action in 2016.

Open Space Resources

The Proposed Action does not include the development of new public open space resources. Therefore, the total acreage of open space resources in the nonresidential open space study area would remain at 14.37 acres in the future With-Action scenario (6.65 acres of passive open space and 7.71 acres of active space). For the residential study area, the total open space acreage would remain at 32.53 acres, comprised of 12.38 acres of passive open space and 20.15 acres of active open space.

The Proposed Action would not increase the amount of publicly accessible open space in the study area, although the proposed contextual zoning districts to be mapped as part of the Proposed Action require that new residential developments provide on-site recreation space for building residents in accordance with the provisions of the Quality Housing program. The total open space provided would total approximately 17,276 sf (approximately 0.40 acres). This open space would be a combination of passive (approximately 13,632 sf or 0.31 acres) and active (approximately 3,644 sf or 0.08 acres) recreation open space including landscaped seating areas and paths and children's play equipment. There would be a total of ten play areas for children distributed among the Applicant's sites. This on-site recreation space would help to

partially offset the increased residential population's additional demand on the study area's open space resources.

Assessment of Open Space Adequacy

Nonresidential (¼-Mile) Study Area

Quantitative Assessment

In the future with the Proposed Action, the nonresidential study area would remain well served by passive open spaces to meet the needs of the nonresidential and residential populations. The ratio of passive open space per 1,000 daytime users would decrease from 0.871 in the No-Action to 0.852 in the With-Action, but would remain well above the city's guideline ratios (see Table 5-8 below). The ratio of passive open space for the total population (nonresidents and residents) in the nonresidential study area would also decrease, from a ratio of 0.281 in the No-Action to a ratio of 0.246 acres per 1,000 users in the With-Action. This ratio would be below the weighted guideline ratio of 0.399 acres per 1,000 total users.

TABLE 5-8

With-Action Conditions: Adequacy of Open Space Resources

	Total Population	Open Space Acreage			Open Space Ratios Per 1,000 People			NYCDCP Open Space Guidelines		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-Residential Study Area										
Non-Residents	7,808	14.37	6.65	7.71	N.A.	0.852	N.A.	N.A.	0.15	N.A.
Combined Non-Residents and	27,056				N.A.	0.246	N.A.	N.A.	0.399 *	N.A.
Residential Study Area										
Residents	79,174	32.53	12.38	20.15	0.411	0.156	0.255	2.50	0.50	2.00
Combined Residents and Non Residents	109,778				N.A.	0.113	N.A.	N.A.	0.402 *	N.A.

* Based on a target open space ratio established by creating a weighted average of the amount of open space necessary to meet the City guideline of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 non-residents is considered in this analysis. Non-residents typically use passive spaces; therefore, for the nonresidential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

Qualitative Assessment

In the future with the Proposed Action, the nonresidential study area population will continue to be well-served by the passive open spaces in the study area. As discussed above, the nonresidential study area open spaces are mostly in good or excellent condition, and use levels are moderate at the majority of these facilities. The nonresidential study area includes a large proportion of passive open space with features such as lawns, benches, and pathways suitable for use by the worker and other nonresidential populations in the area.

Residential (½-Mile) Study Area

Quantitative Assessment

Under With-Action conditions, total open space ratios in the residential (½-mile) study area would decrease slightly, from 0.428 in the No-Action to 0.411 acres per 1,000 residents in the With-Action (see Table 5-9). The active open space ratio would decrease slightly compared to No-Action conditions, from 0.265 to 0.255 acres per 1,000 residents, which would continue to be below the city's guidance ratio of 2.0 acres per 1,000 residents. The passive open space ratios per 1,000 residents would also decrease compared to No-Action conditions, from 0.163 to 0.156 acres per 1,000 residents, and would remain below the city's guideline ratio of 0.50. The passive open space ratio for combined residential and nonresidential populations would decrease from 0.116 under No-Action conditions to 0.113 acres per 1,000 users, and would be below the calculated guidance ratio of 0.402.

Qualitative Assessment

In the future with the Proposed Action, ratios of open space would continue to be lower than the measure of open space adequacy and the optimal planning goals furnished by DCP. The population to be generated by the Proposed Action is not expected to have any special characteristics, such as a disproportionately younger or older population, that would place heavy demand on facilities that cater to specific groups.

As discussed above, it should be noted that the Proposed Action would include private open space areas for resident use only. The total open space provided would total approximately 17,276 sf (approximately 0.40 acres). This open space would be a combination of passive (approximately 13,632 sf or 0.31 acres) and active (approximately 3,644 sf or 0.08 acres) recreation open space including landscaped seating areas and paths and children's play equipment. There would be a total of ten play areas for children distributed among the Applicant's sites. As shown below in Table 5-9, the private open space amenities would improve open space conditions on the sites of future development and help alleviate future open space shortfalls. However, as this open space would not be public space, it would not improve the study area's open space ratios and the shortfalls in the open space ratios in the quantitative analysis described above would remain.

Table 5-9: With-Action OSR: Private Open Space

	Total Open Space (acres)	Private Open Space (acres)	Total (acres)	With-Action Population	With-Action OSR (w/out private open space)	With-Action OSR (w/ private open space)
Residential Open Space Study Area	32.53	0.40	32.93	79,158	0.411	0.416

Additionally, in the future with the Proposed Action, the proximity of McCarren Park, Cooper Park, Herbert Von King Park, and Highland Park would continue to be a factor in alleviating the study area's open space deficiency. These large open spaces provide 150.6 acres. These public parks are located near the study area boundary and are prominent open spaces in this area. These resources' numerous

amenities would provide many opportunities for residents in the study area to enjoy both passive and active open space recreation. Similarly, on a smaller scale, bicycle lanes and other private open spaces in the study area, such as community gardens listed in Table 5-4, would also provide open space for some study area residents.

Determining Impact Significance

As stated above and in the *CEQR Technical Manual*, a ratio of 2.5 acres per 1,000 residents represents an area well-served by open spaces, and is consequently used as an optimal benchmark for residential populations in large-scale plans and proposals. Ideally, this would comprise 0.50 acres of passive open space and 2.0 acres of active open space per 1,000 residents. The *CEQR Technical Manual* also states that to be considered reasonably well served, an area should have at least 1.5 acres of open space per 1,000 residents (which a citywide survey had indicated is the median of the ratios for the city's community districts). The City seeks to attain a planning goal of a balance of 20 percent passive open space and 80 percent active open space.

A significant adverse open space impact may occur if a Proposed Action would reduce the open space ratio by more than 5 percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. In areas that are extremely lacking in open space, a reduction as small as 1 percent may be considered significant, depending on the area of the City. These reductions may result in overburdening existing facilities or further exacerbating a deficiency in open space. Table 5-10 expresses the percentage change from No-Action to With-Action conditions for both the nonresidential and residential study areas.

Nonresidential (¼-Mile) Study Area

In the future with the Proposed Action, the ¼-mile nonresidential study area would remain well-served by passive open spaces, with a ratio of 0.852 acres of passive open space per 1,000 nonresidents. Although the passive open space ratio would decrease by 2.18% for nonresidents and by 12.46% over No-Action conditions for the total daytime population (see Table 5-10), the ratios would remain above the city's guideline ratio of 0.15 acres per 1,000 nonresidents, however, it would be slightly below the calculated guidance ratio of 0.381 acres per 1,000 total population (nonresidents and residents). As the passive open space ratio for nonresidents in the With-Action condition would continue to be higher than the NYCDCP guideline measure for adequacy, the study area would continue to be well-served by passive open space, and there would be no significant adverse open space impacts in the nonresidential study area as a result of the Proposed Action.

Residential (½-Mile) Study Area

In the future with the Proposed Action, ratios of open spaces to residents would continue to be lower than both the 1.5 acres per 1,000 residents measure of open space adequacy and the optimal planning goals furnished by NYCDCP.

TABLE 5-10
2016 Future With the Proposed Action: Open Space Ratios Summary

RATIO	DCP Open Space Guideline	Open Space Ratios Per 1,000			Percent Change
		Existing	No-Action	With-Action	Future No-Action to Future With Action
Non-Residential Study Area					
Passive - Nonresidents	0.15	0.913	0.871	0.852	-2.18%
Passive - Total Population	Weighted 0.398 / 0.384 / 0.381* Existing / No-Action / With Action	0.293	0.281	0.246	-12.46%
Residential Study Area					
Total - Residents	2.5	0.435	0.428	0.411	-3.97%
Passive - Residents	0.5	0.165	0.163	0.156	-4.29%
Passive - Total Population	Weighted 0.371 / 0.365 / 0.364* Existing / No-Action / With Action	0.118	0.116	0.113	-2.59%
Active - Residents	2.0	0.269	0.265	0.255	-3.77%

* Based on a target open space ratio established by creating a weighted average of the amount of open space necessary to meet the City guideline of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 non-residents is considered in this analysis. Non-residents typically use passive spaces; therefore, for the nonresidential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated. Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents.
Because this guideline depends on the proportion of non-residents and residents in the study area's population, it is different for existing, No Build, and Build conditions. Each of these ratios is listed in this table.

As shown in Table 5-10, the residential study area's total open space ratio in the future with the Proposed Action would be 0.411 acres per 1,000 residents, which represents a reduction of approximately 3.97% (0.017 acres per 1,000 residents) from No-Action conditions. The active open space ratio in the residential study area would decrease from 0.265 acres per 1,000 residents to 0.255 acres per 1,000 residents in the Future with the Proposed Action, a 3.77% decrease. The passive open space ratio for residents would decrease from 0.163 acres per 1,000 residents 0.156 acres per 1,000 residents, a 4.29% decrease.

The qualitative assessment indicates that the quality and low utilization of a number of the study area open spaces combined with the availability of open spaces outside the study area would somewhat alleviate the burden on open spaces in the future action conditions. However, the rezoning area is located in an area underserved by open space and the decrease of 3.97% in the total open space ratio as a result of the Proposed Action is sizeable. Because of this, the Proposed Action would result in a significant adverse open space impact. The significant adverse impact would remain unmitigated, as discussed in Chapter 18, "Unavoidable Adverse Impacts." ~~Possible partial~~ Partial mitigation measures are discussed in Chapter 16, "Mitigation."

It should be noted that the significant adverse open space impact is expected to occur after projected development sites 1, 2, 6, 7, and 8 are completed and operational by first quarter 2016 (the three remaining projected development sites would be under construction at this time). These five sites would include 520 dwelling units that would result in 1,534 residents. As shown in Table 5-11, this would result in a total open space ratio of 0.420 acres per resident which is a 1.98% decrease in the residential study area's total open space ratio. As stated above, in areas that are extremely lacking in open space, a

reduction as small as 1 percent may be considered significant, depending on the area of the City. As such, the open space impact would occur after the completion of Sites 1, 2, 6, 7, and 8.

Table 5-11: Partial With-Action Open Space Ratio

	Total Open Space (acres)	No-Build 2016 Population	New Residents Generated by Sites 1, 2, 6, 7, 8	Partial With-Action Population	No-Action OSR	Partial With-Action OSR	% Decrease in OSR
Residential Open Space Study Area	32.53	76,000	1,534	77,534	0.428	0.420	**1.98%**