Appendix A

Open Space

Appendix A: Alternative Quantified Open Space Assessment

A. INTRODUCTION

This appendix presents an alternative quantified assessment of the potential for significant adverse open space impacts for the 2021 (Phase 1) analysis year, and for full operations of the proposed project in 2031 (Phase 2) assuming that the following resources are publicly accessible passive open spaces:

Table A-1
Additional Resources Assumed to be Publicly Accessible Passive Open Spaces For Purposes of this Alternative Quantified Open Space Assessment

Fig 5-2 Map Letter	Name	Estimated SF/Acres	Agency with Jurisdiction	Condition	Features/Comments
A	LaGuardia Landscape	19,955/0.46*	NYCDOT	Good	Landscaping, paths, statue of LaGuardia. No formal or informal seating areas.
I		3,582/0.08*	NYCDOT		Landscaping that is separated from the sidewalk and adjacent Mercer Street Playground by tall fencing.
L_1, L_2, L_3	Bleecker Street Strip	8,320/0.19*	NYCDPR	Excellent	Landscaping, flowers, trees. Segments L1 and L2 include trees and landscaping within fenced-in areas (not publicly accessible); segment L3 (north of Coles Gym) includes flowers and trees and is not fenced.
Notes:	* Denotes open space acreage estimates based on survey data from Langan Engineering.				
Sources:	AKRF field visits conducted in November 2010 and May and June 2011; Langan Engineering.				

These resources are not considered quantitatively in the baseline assessment presented in Chapter 5, "Open Space," because they do not present "usable recreational areas" as defined by CEQR. All other analytical assumptions used in this alternative analysis are the same as described in Chapter 5.

B. PRINCIPAL CONCLUSIONS

This alternative quantified open space analysis finds that the Proposed Actions would not result in significant adverse quantified impacts in the 2021 or 2031 analysis years.

With or without the Proposed Actions, all open space ratios in the study areas would be below, and in many cases severely below, the levels recommended by the City's open space planning guidelines. However, it is generally recognized that these goals are not feasible for many areas of the City, and they are not considered impact thresholds for the determination of impacts under CEQR. Rather, quantified impact thresholds are based on percentage changes in the open space ratios. According to the *CEQR Technical Manual*, a project would result in a significant adverse impact if it reduced open space ratios 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, as they may result in overburdening existing facilities or further exacerbating a deficiency in open space.

By 2021, even when accounting for the increased demands associated with the proposed project, all open space ratios would remain virtually the same as compared to future conditions without the Proposed Actions (all changes in open space ratios would be less than 1 percent). Therefore there would be no other potential significant adverse quantified impacts with the Proposed Actions by 2021.

By 2031, all of the open space ratios would improve as compared to future conditions without the proposed project. Some of the improvements would be substantial; most notable are the approximately 16 percent increases in the open space ratios within the ¼-mile non-residential study area. These ratios are particularly important for an area with a large working and/or student population. Therefore, by 2031 the Proposed Actions would not result in any quantified significant adverse open space impacts.

C. EXISTING CONDITIONS

ADEQUACY OF OPEN SPACES

QUANTIFIED ASSESSMENT

Non-residential Study Area

The analysis of the non-residential (1/4-mile) study area focuses on passive open spaces that may be used by workers and students in the area; the adequacy of active open spaces within the non-residential study area is not analyzed because workers and students tend to use passive open space resources during their work day. To assess the adequacy of the open spaces in the area, the ratio of workers to acres of open space is compared to DCP's planning guideline of 0.15 acres of passive space per 1,000 workers. In addition, the passive open space ratio for both workers and residents in the area is compared to the recommended weighted average ratio.

The non-residential study area includes approximately 9.98 acres of passive open space and 4.23 acres of active open space. A total of 91,299 people work or study within the non-residential study area boundary, and 30,057 residents live within the study area, resulting in a combined population of 121,356 workers, students and residents.

Based on DCP guidelines, the non-residential study area has a passive open space ratio of approximately 0.109 acres of passive open space per 1,000 workers, which is below the City's guideline of 0.15 acres (see **Table A-2**). The combined passive open space ratio is 0.082 acres per 1,000 residents and workers, which is much lower than the recommended weighted average ratio of 0.24 acres per 1,000 residents and workers.

Table A-2
Existing Conditions: Adequacy of Open Space Resources

Total Population		Open Space Acreage			Open Space Ratios per 1,000 People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Non-Residential Study Area										
Non-residents	91,299	14.22	4.23	9.98	N/A	N/A	0.109	N/A	N/A	0.15
Combined non-residents and residents	121,356				N/A	N/A	0.082	N/A	N/A	0.24*
Residential Study Area										
Residents	93,616	23.51	9.90	13.61	0.251	0.106	0.145	2.5	2.0	0.50
Combined non-residents and residents	268,500				N/A	N/A	0.051	N/A	N/A	0.27*

Note:
* Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents. Non-residents typically use passive spaces; therefore, for the non-residential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

Residential Study Area

The quantified 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 non-residents.

The residential study area has a total of 23.51 acres of publicly accessible open space, of which 9.90 acres are for active uses and 13.61 acres are for passive uses. With an estimated total residential population of 93,616, the residential study area has an overall open space ratio of 0.251 acres per 1,000 residents. This is substantially below the City's planning guideline of 2.5 acres of combined active and passive open space per 1,000 residents.

The residential study area's residential passive open space ratio is approximately 0.145 acres of passive open space per 1,000 residents, which is also well below the City's planning goal of 0.5 acres per 1,000 residents. The area's residential active open space ratio is 0.106 acres per 1,000 residents, which again is notably below the City's planning guideline of 2.0 acres per 1,000 residents.

When the employees who work and the daytime student population within the residential study area are added to the population, the passive open space ratio is lower. As described earlier, workers typically use passive open spaces during the workday, so the passive open space ratio is the relevant ratio for consideration. With a worker, student and residential population of 268,500, the combined passive open space ratio in the residential study area is approximately 0.051, much lower than the recommended weighted average guideline ratio of 0.27 acres per 1,000 residents and workers.

D. FUTURE WITHOUT THE PROPOSED ACTIONS

This section projects conditions in the study areas for the 2021 and 2031 analysis years without the proposed project, providing a baseline condition against which the impact of the project may be measured.

2021 PHASE 1

STUDY AREA OPEN SPACES

Non-residential Study Area

In the future without the Proposed Actions, by 2021 there would be two open space improvements in the ¼-mile non-residential study area, both occurring within the Proposed Development Area. It is anticipated that by 2012, an approximately 4,500-sf playground called Adrienne's Garden will be built on the LaGuardia Landscape (a portion of the LaGuardia Place Strip on the western edge of the North Block). The playground would displace a portion of the LaGuardia Landscape, activating what is currently a passive "walk-through" experience that offers no seating, but for purposes of this alternative analysis is considered publicly accessible passive open space. The playground will contain a fanciful dragon for young children to play upon and benches for parents and caregivers. Additionally, it is expected that the currently-closed, approximately 0.16-acre Coles Playground will be reopened. Together, these open spaces will provide approximately 0.27 acres of active open space to the study areas by 2021.

Residential Study Area

By 2021 there is a planned improvement to Duarte Square, located at Sixth Avenue and Canal and Grand Streets within the ½-mile residential study area. Duarte Square would be expanded by utilizing the above-grade portion of existing easements, adding 0.20 acres of passive open space for a total acreage of approximately 0.44 acres.

ADEQUACY OF OPEN SPACES: QUANTIFIED ASSESSMENT

Non-residential Study Area

By 2021 without the proposed project, the number of workers and students in the non-residential study area is expected to increase to 95,807 persons and the total amount open space is expected to increase slightly, to 14.38 acres. Given the projected growth in population relative to the lack of new passive open space offerings, the area's non-residential open space ratios would worsen slightly in the future without the Proposed Actions. As shown in **Table A-3**, the passive open space ratio would decrease to 0.103 acres per 1,000 non-residents, and would continue to fall below the City's guideline of 0.15 acres per 1,000 workers. The combined ratio for residents and non-residents would continue to fall well below the recommended weighted average ratio of 0.25 acres per 1,000 residents and workers.

Table A-3
2021 Future Without the Proposed Actions: Adequacy of Open Space Resources

Total Population		Open Space Acreage			Open Space Ratios per 1,000 People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Non-Residential Study Area										
Non-residents	95,807	14.38	4.50	9.88	N/A	N/A	0.103	N/A	N/A	0.15
Combined non-residents and residents	125,941				N/A	N/A	0.078	N/A	N/A	0.23*
Residential Study Area										
Residents	101,368	23.87	10.16	13.71	0.236	0.100	0.135	2.5	2.0	0.50
Combined non-residents and residents	284,288				N/A	N/A	0.048	N/A	N/A	0.27*

Note:
* Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents. Non-residents typically use passive spaces; therefore, for the non-residential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

Residential Study Area

In the future without the Proposed Actions by 2021 the residential (1/2-mile) study area will continue to fall well below City guidelines for open space ratios. The active open space ratio would be 0.100 acres per 1,000 residents, a decrease as compared to existing conditions and still much less than the City's planning guideline of 2.0 acres per 1,000 residents. The total residential open space ratio would be 0.236 acres per 1,000 residents, which is also much lower than the City's guideline of 2.5 acres per 1,000 residents. The combined residential and non-residential passive open space ratio within the residential study area would be approximately 0.048 acres per 1,000 residents and non-residents, which is much lower than the recommended weighted average ratio of 0.27 acres per 1,000 residents and workers.

2031 PHASE 2

STUDY AREA OPEN SPACES

Apart from the three open space improvements anticipated by 2021 (described above), there are no known plans to develop additional open spaces in the study area by 2031. However, based on utilization levels and normal wear-and-tear over the 20-year time horizon it is possible that other capital improvements would occur in some study open spaces by 2031.

ADEQUACY OF OPEN SPACES: QUANTIFIED ASSESSMENT

Non-residential Study Area

By 2031 without the proposed project, the number of non-residents in the non-residential study area is expected to increase to 98,413 and the total amount open space is expected to increase slightly, to 14.38 acres. Overall, however, given the assumed growth in population relative to new open space offerings, the area's open space ratios would not improve over existing conditions. In 2031, the ratio of passive open space per 1,000 non-residents would be 0.100, and would continue to fall below the City's guideline of 0.15 acres (see **Table A-4**). The combined residential and non-residential population passive open space ratio would be 0.077 acres per 1,000 people, which is much lower than the recommended weighted average ratio of 0.25 acres per 1,000 residents and workers.

Table A-4
2031 Future Without the Proposed Project: Adequacy of Open Space Resources

Total Population		Open Space Acreage			Open Space Ratios per 1,000 People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Non-Residential Study Area										
Non-residents	98,413	14.38	4.50	9.88	N/A	N/A	0.100	N/A	N/A	0.15
Combined non-residents and residents	128,546				N/A	N/A	0.077	N/A	N/A	0.23*
Residential Study Area										
Residents	101,368	23.87	10.16	13.71	0.236	0.100	0.135	2.5	2.0	0.50
Combined non-residents and residents	287,377				N/A	N/A	0.048	N/A	N/A	0.27*

Note:
* Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents. Non-residents typically use passive spaces; therefore, for the non-residential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

Residential Study Area

The combined residential and non-residential passive open space ratio within the residential study area would be 0.048 acres per 1,000 residents and non-residents, which is much lower than the recommended weighted average ratio of 0.27 acres per 1,000 residents and workers. The active open space ratio would be 0.100 acres per 1,000 residents, which is also much less than the City's planning guideline of 2.0 acres per 1,000 residents. The total residential open space ratio would be 0.236 acres per 1,000 residents.

E. FUTURE WITH THE PROPOSED ACTIONS

The future With-Action assessment analyzes conditions in the study areas for the build years with the proposed project, i.e., 2021 (Phase 1) and 2031 (Phase 2).

2021 PHASE 1

ADEQUACY OF OPEN SPACES – QUANTIFIED INDIRECT EFFECTS ANALYSIS

Non-residential Study Area

Under RWCDS 1, the number of non-residents in the non-residential study area is forecast to increase to 98,121 and the total amount of publicly accessible open space is expected to increase to 14.76 acres, of which an estimated 4.72 acres would be active open space and 10.04 acres would be passive open space. As shown in **Table A-5**, by 2021 the ratio of passive open space per 1,000 non-residents would be 0.102, which is below the City's guideline of 0.15 acres, but would be nearly the same as the 0.103 ratio in the future without the Proposed Actions by 2021. For the combined residential and non-residential population, the passive open space ratio would be 0.078 acres per 1,000 people, which is much lower than the recommended weighted average ratio of 0.25 acres per 1,000 residents and workers, but would be virtually the same as compared to the 0.078 ratio for the future without the Proposed Actions by 2021.

Table A-5
2021 Future With the Proposed Actions: Adequacy of Open Space Resources

Total Population		Open Space Acreage			Open Space Ratios per 1,000 People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Non-Residential Study Area										
Non-residents	98,121	14.76	4.72	10.04	N/A	N/A	0.102	N/A	N/A	0.15
Combined non-residents and residents	128,854				N/A	N/A	0.078	N/A	N/A	0.23*
Residential Study Area										
Residents	103,118	24.25	10.38	13.87	0.235	0.101	0.135	2.5	2.0	0.50
Combined non-residents and residents	288,352				N/A	N/A	0.048	N/A	N/A	0.28*

Note:
* Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents. Non-residents typically use passive spaces; therefore, for the non-residential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

Residential Study Area

The combined residential and non-residential passive open space ratio within the residential study area would be 0.048 acres per 1,000 residents and non-residents, which is much lower than the recommended weighted average ratio of 0.27 acres per 1,000 residents and workers, but would be virtually the same as the 0.048 ratio in the future without the Proposed Actions. The active open space ratio would be 0.101 acres per 1,000 residents, which is notably less than the City's planning guideline of 2.0 acres per 1,000 residents, but is nearly the same as the 0.100 ratio in the future without the Proposed Actions. The total open space ratio would be 0.235 acres per 1,000 residents, which is well below the City's planning guideline of 2.5 acres per 1,000 residents, but would be nearly the same as the total open space ratio in the future without the Proposed Actions by 2021.

Overall, all open space ratios would remain constant in the future with the Proposed Actions by 2021 (between 0.4 percent increases and 0.8 percent decreases). Unlike the analysis in Chapter 5, "Open Space," there would slight reductions in most open space ratios, due to the proposed project's displacement of a portion of the LaGuardia Landscape, which for purposes of this alternative analysis is considered publicly accessible passive open space.

QUANTIFIED IMPACT DETERMINATION

With or without the proposed project, all open space ratios in the study areas would be below, and in many cases severely below, the levels recommended by DCP. However, it is generally recognized that these goals are not feasible for many areas of the City, and they are not considered impact thresholds for the determination of impacts under CEQR. Rather, quantified impact thresholds are based on percentage changes in the open space ratios. According to the *CEQR Technical Manual*, a project would result in a significant adverse impact if it reduced open space ratios 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, as they may result in overburdening existing facilities or further exacerbating a deficiency in open space.

As shown in **Table A-6**, even when accounting for the increased demands associated with the proposed project, all open space ratios would remain virtually the same as compared to future

conditions without the Proposed Actions (all changes in open space ratios would be less than 1 percent). Therefore, by 2021 the Proposed Actions would not result in any quantified significant adverse open space impacts.

Table A-6
2021 Open Space Ratios Summary

Ratio	DCP Guideline	Existing Ratio	Future Without the Proposed Project Ratio	Future With the Proposed Project Ratio	Percent Change (Future With vs. Future Without)
Non-Residential Study Area					
Passive/non-residents	0.15	0.109	0.103	0.102	-0.8%
Passive/total population	0.24*	0.082	0.078	0.078	-0.7%
Residential Study Area					
Total/residents	2.5	0.251	0.236	0.235	-0.1%
Passive/residents	0.5	0.145	0.135	0.135	-0.5%
Active/residents	2.0	0.106	0.100	0.101	0.4%
Passive/total population	0.27*	0.051	0.048	0.048	-0.3%

Note:
* Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents. Non-residents typically use passive spaces; therefore, for the non-residential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

2031 PHASE 2

ADEQUACY OF OPEN SPACES – QUANTIFIED INDIRECT EFFECTS ANALYSIS

Non-residential Study Area

Under RWCDS 1, by 2031 the number of non-residents in the non-residential study area is forecast to increase to 102,957 persons, and the total amount of publicly accessible open space is expected to increase to 17.18 acres, of which 5.15 acres would be active open space and 12.03 acres would be passive. In 2031, the ratio of passive open space per 1,000 non-residents would be approximately 0.117, substantially improving on conditions as compared to the future without the Proposed Actions, but still falling below the City's guideline of 0.15 acres (see **Table A-7**). For the combined residential and non-residential population, the passive open space ratio would be 0.089 acres per 1,000 people, which is also a substantial improvement as compared to future conditions without the Proposed Actions, but would still fall below the recommended weighted average ratio of 0.23 acres per 1,000 residents and workers.

Residential Study Area

The combined residential and non-residential passive open space ratio within the residential study area would be 0.055 acres per 1,000 residents and non-residents, which is a substantial improvement as compared to conditions in the future without the Proposed Actions, but would still fall below the recommended weighted average ratio of 0.27 acres per 1,000 residents and workers. The active open space ratio would be 0.105 acres per 1,000 residents, which is notably less than the City's planning guideline of 2.0 acres per 1,000 residents, but an improvement for the study area as compared to conditions in 2031 without the proposed project.

Table A-7
2031 Future With the Proposed Actions: Adequacy of Open Space Resources

Total Population		Open Space Acreage			Open Space Ratios per 1,000 People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Non-Residential Study Area										
Non-residents	102,957	17.18	5.15	12.03	N/A	N/A	0.117	N/A	N/A	0.15
Combined non-residents and residents	134,841				N/A	N/A	0.089	N/A	N/A	0.23*
Residential Study Area										
Residents	103,118	26.68	10.81	15.86	0.259	0.105	0.154	2.5	2.0	0.50
Combined non-residents and residents	290,875				N/A	N/A	0.055	N/A	N/A	0.27*

Note:
* Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents. Non-residents typically use passive spaces; therefore, for the non-residential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

QUANTIFIED IMPACT DETERMINATION

With or without the proposed project, all open space ratios in the study areas would be below, and in many cases severely below, the levels recommended by DCP. However, it is generally recognized that these goals are not feasible for many areas of the City, and they are not considered impact thresholds for the determination of impacts under CEQR. Rather, quantified impact thresholds are based on percentage changes in the open space ratios. According to the *CEQR Technical Manual*, a project would result in a significant adverse impact if it reduced open space ratios 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, as they may result in overburdening existing facilities or further exacerbating a deficiency in open space.

Table A-8
2031 Open Space Ratios Summary

Ratio	DCP Guideline	Existing Ratio	Future Without the Proposed Project Ratio	Future With the Proposed Project Ratio	Percent Change (Future With vs. Future Without)
Non-Residential Study Area					
Passive/non-residents	0.15	0.109	0.100	0.117	16.4%
Passive/total population	0.24*	0.082	0.077	0.089	16.1%
Residential Study Area					
Total/residents	2.5	0.251	0.236	0.259	9.9%
Passive/residents	0.5	0.145	0.135	0.154	13.8%
Active/residents	2.0	0.106	0.100	0.105	4.6%
Passive/total population	0.27*	0.051	0.048	0.055	14.3%

Note:
* Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents. Non-residents typically use passive spaces; therefore, for the non-residential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

As shown in **Table A-8**, even when accounting for the increased open space demands of the project-generated population, all of the open space ratios would improve as compared to future conditions without the proposed project. Some of the improvements would be substantial; most

notably the approximately 16 percent increases in the open space ratios within the ¼-mile non-residential study area. These ratios are particularly important for an area with a large working and/or student population. Therefore, by 2031 the Proposed Actions would not result in any quantified significant adverse open space impacts. ✷