# Chapter 3: Open Space

## A. INTRODUCTION

Under the 2014 *New York City Environmental Quality Review (CEQR) Technical Manual* guidelines, open space is defined as publicly accessible, publicly or privately owned land that operates or is available for leisure, play, or sport, or serves to protect or enhance the natural environment. According to the *CEQR Technical Manual*, an open space assessment should be conducted if a project would have a direct effect on open space, such as eliminating or altering a public open space, or an indirect effect, such as when new population overburdens available open space.

As described in Chapter 1, "Project Description," the proposed project would result in a new building, the Richard Gilder Center for Science, Education, and Innovation, in an approximately 105-foot-tall (five stories above grade; taking into account mechanical and elevator bulkheads, a portion of the rooftop would reach 115 feet) addition to the American Museum of Natural History (AMNH or the Museum). The site for the proposed project is on the west side of the Museum complex facing Columbus Avenue, within Theodore Roosevelt Park. With the proposed project, three existing buildings within the Museum complex would be removed to accommodate the project, thereby minimizing the proposed building's footprint on land that is now open space in Theodore Roosevelt Park to about 11,600 square feet (approximately 0.27 acres). Besides new construction in the Park, the project would result in a redesign of approximately 75,000 square feet of the western portion of Theodore Roosevelt Park. The proposed project's landscaping modifications and improvements are intended to address an increased number of Museum visitors in the Park and ensure Park users would continue to have access to areas for gathering, play, and respite, as well as pathways for Museum entry and traversing the Park.

This chapter assesses the proposed project's direct effects on Theodore Roosevelt Park, including the effect of the reduction in available open space serving the surrounding study area, for the first full year of operation of the project in 2021. Chapter 16, "Construction Impacts," assesses the potential for any temporary open space impacts during the construction of the proposed project.

Independent of the CEQR process, AMNH formed a community working group in February 2016 (the "Park Working Group") to advise on the proposed redesign of the portion of the west side of Theodore Roosevelt Park, described below, in coordination with the proposed Gilder Center project. Co-chaired by the Museum and Friends of Roosevelt Park, the Park Working Group includes representatives from the offices of Manhattan Borough President Gale Brewer, New York City Council Member Helen Rosenthal, State Senator José Serrano, and Assembly member Linda Rosenthal, as well as the West 77th Street Block Association, Theodore Roosevelt Park Neighborhood Association, Columbus Avenue Business Improvement District, and Defenders of Teddy Roosevelt Park. The landscape architecture firm Reed Hilderbrand, which developed the proposed park design, participates in the Park Working Group.

Representatives of the New York City Department of Parks and Recreation (NYC Parks) and Community Board 7 attend as observers to remain informed. The design of the park improvements are subject to NYC Parks approval.

## PRINCIPAL CONCLUSIONS

The proposed project would reconfigure paths and landscaping in Theodore Roosevelt Park adjacent to the building site to accommodate the new building and to provide more areas for seating and circulation. The proposed project also would result in a reduction in available open space in Theodore Roosevelt Park of approximately 0.27 acres (approximately 11,600 square feet). While adverse, this loss of open space would not result in a significant adverse impact under the guidelines of the *CEQR Technical Manual*. Nearby sections of the Park and other resources in the area would accommodate the largely passive recreation activities displaced from the affected area. With the project's proposed landscaping modifications and improvements, park users would continue to have access to areas for gathering, play, and respite, as well as pathways for Museum entry and traversing the Park. The overall quality in the rebuilt portion of the Park would be improved.

While the project would increase the number of Museum visitors and stimulate more activity on the Columbus Avenue side of the complex, this change would not overburden Park facilities, as the reconfigured Park paths would be expected to accommodate the anticipated pedestrian flow and there is a substantial supply of accessible open space in the immediate vicinity. The proposed project would expand areas available for gathering separated from the Museum entry paths and increase the number of benches available for park users.

It is currently expected that the proposed project would directly affect seven canopy trees in Theodore Roosevelt Park that would be removed and one understory tree that would be relocated. The Museum modified the design of the project with the goal of protecting and conserving two trees, a pin oak, and an English elm. Construction would be performed in compliance with an approved tree protection plan and NYC Parks tree protection protocols. Any trees that are removed and not transplanted would be replaced, consistent with NYC Parks rules and regulations, which would include six new canopy trees and thirteen new understory trees that would be planted post-construction as part of the landscape plan for the western portion of the Park.

With respect to the surrounding neighborhood, the site is located in an area identified by the *CEQR Technical Manual* as well-served by existing open space resources. In the future with the proposed project, the anticipated ratio of 3.68 acres of open space per 1,000 residents in the surrounding ½-mile study area would be well above the City's planning goal of 2.5 acres per 1,000 residents and the City-wide community district median of 1.5 acres per 1,000 residents. The total and passive open space ratios per 1,000 residents would decrease by less than one percent compared to the future without the proposed project; this decrease would not substantially change the availability of open space resources for study area residents. Even taking Museum attendance and utilization into account, the total open space ratio would be above the City's planning goal and the City-wide community district median. In addition, as described in Chapter 1, "Project Description," as typically occurs for a major new Museum facility, during the first year of operation there would likely be a ~~temporary~~ more pronounced attendance increase at all Museum entrances, including the primary entrance on Central Park West. This temporary condition would not be considered significant, since it would be short-term and the area would continue to be well-served by open space resources.

The loss of the 0.27 acres with the proposed project does not represent a significant impact. Nonetheless, in response to the loss of open space, the proposed open space plan incorporates enhancements that would result in a net increase in publicly accessible open space with the proposed project. Chapter 15, "Construction," examines the potential impacts from construction of the proposed project on open space. Overall, the proposed project would not result in significant adverse impacts on open space resources.

## B. DIRECT EFFECTS ASSESSMENT

### METHODOLOGY

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 results in increased noise or air pollutant emissions, odor, or shadows that would affect the usefulness of a public open space, whether on a permanent or temporary basis. A proposed project can also directly affect an open space by improving its condition or usefulness to the user population.

The proposed project would result in the loss of 11,600 square feet of open space at grade, and a redesign of approximately 75,000 square feet of the western portion of the Park. In addition, it would increase the number of Museum visitors who pass through the Park in this area. Accordingly, this assessment identifies the areas of Theodore Roosevelt Park that would be directly affected by the proposed project, and describes their characteristics, features, and context within the Park.

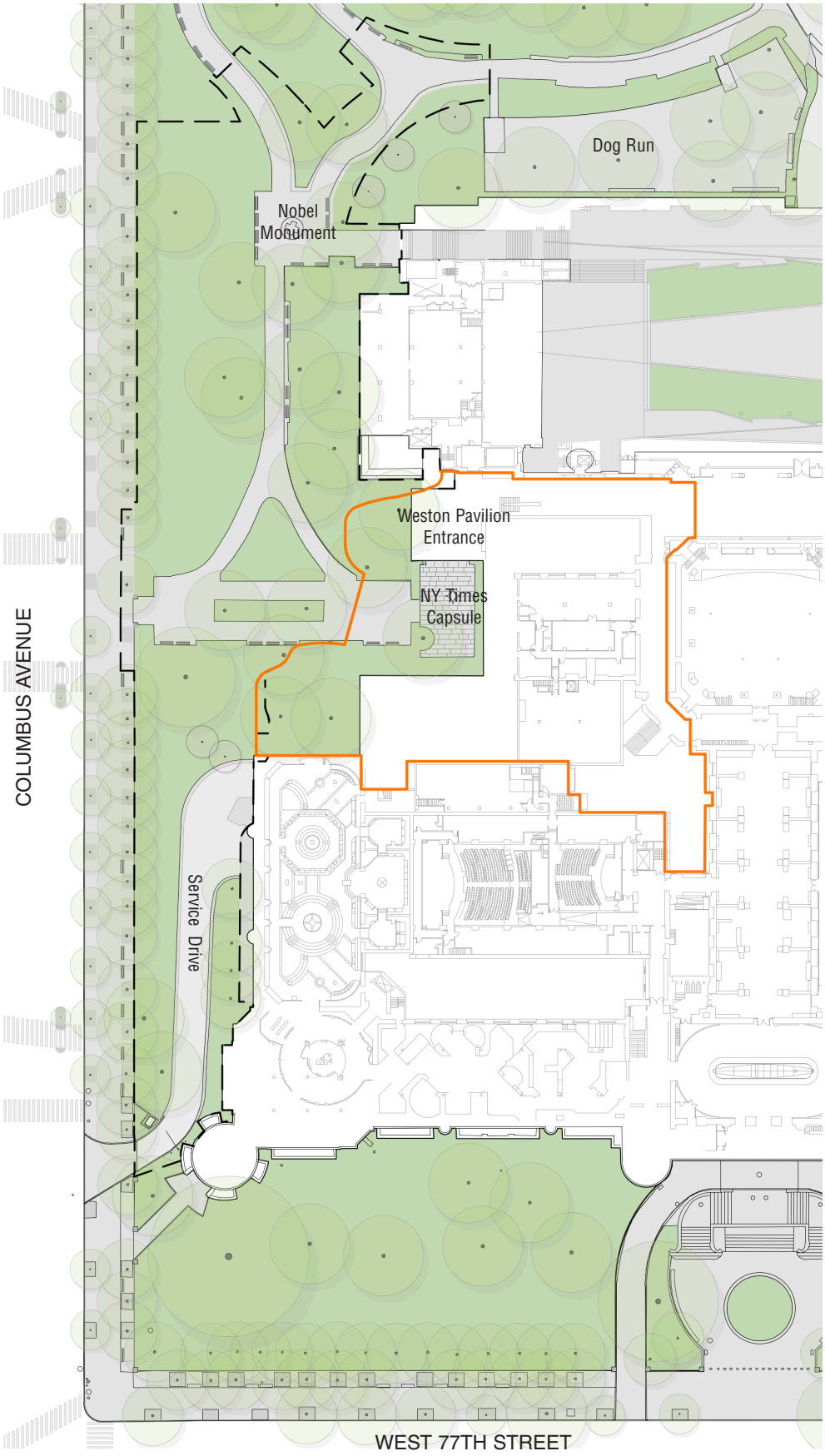
The building site for the proposed project is 43,691 square feet at grade (35,307 square feet below-grade). 11,600 square feet of the at-grade footprint is outside the existing built area of the Museum (see **Figure 3-1**).

### LEGISLATIVE AUTHORIZATION

The Museum and its original buildings were created pursuant to New York State statutes passed between 1869 and 1875. In 1876, a State statute set aside the entire site of Manhattan Square (now known as Theodore Roosevelt Park) for the Museum and authorized the City's then Department of Public Parks to enter into a contract (the Museum's lease) granting the Museum exclusive use of the buildings erected or to be erected in Manhattan Square. Thus, the Museum is a legislatively expressed and otherwise proper permitted use in the Park.

### EXISTING CONDITIONS

Theodore Roosevelt Park is located on the superblock formed by West 81st Street, West 77th Street, Central Park West, and Columbus Avenue, and covers 17.58 acres in total. Beyond the Museum complex, the Park contains 9.88 acres of open space. Spaces in Theodore Roosevelt Park include bench-lined walking paths, fenced lawns and gardens, and a dog run. On the west side of the park, *The New York Times* Capsule, designed by architect Santiago Calatrava, is located on a terrace adjacent to the Weston Pavilion. A protected bike lane runs along Columbus Avenue, adjacent to the western boundary of Theodore Roosevelt Park. Uses of the western area of Theodore Roosevelt Park include passive activities, such as gathering, play, and respite; and pedestrian circulation, including Museum entry and traversing the Park.




*Building Site* *Park Improvement Boundary*

Existing Site Plan

**AMNH Gilder Center for Science, Education, and Innovation**

**Figure 3-1**

*OPEN SPACE USER SURVEY*

Field surveys were conducted in the summer and fall of 2015 to characterize the existing use of this portion of Theodore Roosevelt Park. Observations were made of the terrace adjacent to the Weston Pavilion and the network of paths that connect West 79th Street and Columbus Avenue to the Weston Pavilion entrance of the Museum. The study area was selected to cover the anticipated building site for the proposed project as well as the surrounding area that would be affected by the project. Since the building site would cover existing buildings and portions of the Park that are not publicly accessible (such as fenced lawns and gardens), the terrace adjacent to the Museum's Weston Pavilion entrance and connecting paths are the primary usable Park areas that were observed.

A series of observations were conducted over two weeks in late July and early August of 2015, and in late October of 2015. In total, sample pedestrian counts and usage-pattern observations were collected on four weekend days and four weekdays, from 10:00 a.m. to 6:00 p.m.; the locations are described below:

- The area adjacent to the Museum's Weston Pavilion entrance, which contains a terrace with a sculpture (*The New York Times* capsule).
- The entrance to the Park from Columbus Avenue at 79th Street. This entrance leads to parallel paths that run perpendicular from Columbus Avenue and lead to the terrace adjacent to the Museum's Weston Pavilion entrance.
- Intersecting the northern side of the parallel paths are two branches of a converging path that extends north into other areas of the Park, away from the building site. The western verging branch feeds to and from Columbus Avenue, and was observed to handle more foot traffic than did the eastern verging branch, which feeds to and from the Museum entrance.
- Usage of the park benches along these paths was also recorded.

Usage of this portion of the Park was variable, with higher use observed in the summer and moderate use observed in the fall. The terrace adjacent to the Museum's Weston Pavilion entrance, containing *The New York Times* Capsule, was primarily used for access to the Museum and by young children and their parents or caretakers for play and rest. At times this entry pavilion area was vacant, especially in the fall. The maximum number of users observed in the entry plaza at a single moment in time during the summer observations was 24 (on a weekend day), when a large group was congregating there. The maximum number of users observed at a single moment in time in the entry plaza during the fall observations was 10 (also on a weekend day).

Usage of the paths between the Weston Pavilion and Columbus Avenue was generally found to be high, especially during the summer on weekend days and during the mid-day periods. A large number of park users were passing through the area either to access the Museum entrance or going to or from other parts of the Park and Columbus Avenue. The entrance to the Park from Columbus Avenue was the highest trafficked area, as more than 100 people passed through the area during several of 15-minute observation periods in both the summer and the fall. The highest observation was from 2:15-2:30 p.m. on Saturday, August 1, when 165 adults and 42 children passed through the western entrance to the Park over the 15 minute period. The highest observation in the fall was from 12:45-1:00 p.m. on Sunday, October 25, when 148 adults and 34 children passed through this area over the 15 minute period.

Park benches in the study area were also used by a substantial number of people, including both adults and children for activities including relaxing, sitting, and reading. At a few of the busiest times (at lunch time in the summer), every bench in this area had at least one user.

## THE FUTURE WITHOUT THE PROPOSED PROJECT

In the No Action condition, no substantial changes are expected to Theodore Roosevelt Park within the proposed building site. The portion of the Park within and adjacent to the building site is anticipated to continue to be utilized by visitors of all age groups, especially for access to the Museum (including the Weston Pavilion), passing through the area on the path network, and sitting on benches or playing in *The New York Times* Capsule terrace area in warmer weather. There would be increased utilization due to growth in the neighborhood's population and in Museum attendance and utilization.

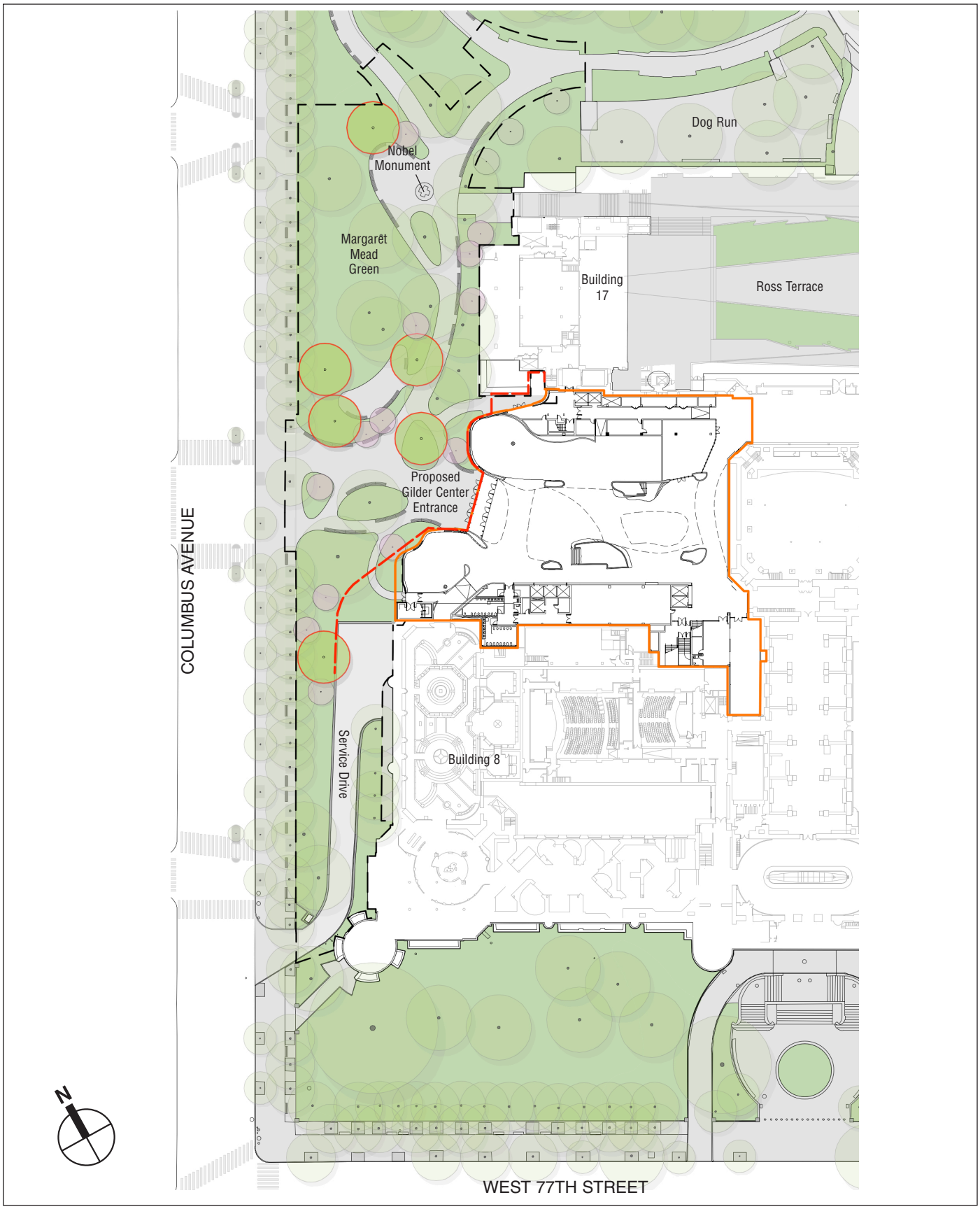
## PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would result in the construction of an approximately 105-foot-tall (five stories above grade; taking into account mechanical and elevator bulkheads, a portion of the rooftop would reach 115 feet) addition to the Museum facing Columbus Avenue. 11,600 square feet of the at-grade footprint is outside the existing built area of the Museum (13,730 square feet of the below-grade footprint is outside the existing built area of the Museum), and improvements would also be completed to an approximately 75,000 square-foot adjacent area of Theodore Roosevelt Park (see **Figure 3-2**). In addition, annual Museum total attendance and utilization would be expected to increase by approximately 745,000 people. Compared to the No Action condition, more of the Museum population would be expected to pass through the western portion of Theodore Roosevelt Park to access the new Gilder Center entrance from Columbus Avenue.

It is expected that the proposed project would directly affect seven canopy trees in Theodore Roosevelt Park that would be removed and one understory tree that would be relocated. AMNH is developing plans to protect and conserve two trees, a Pin oak and an English elm. Construction would be performed in compliance with an approved tree protection plan and NYC Parks tree protection protocols. Any trees that are removed and not transplanted would be replaced, consistent with NYC Parks rules and regulations, which would include six new canopy trees and thirteen new understory trees that would be planted post-construction as part of the landscape plan for the western portion of the Park.

As noted above, independent of the CEQR process, AMNH formed the Park Working Group in February 2016, to advise on the proposed redesign of the portion of the west side of Theodore Roosevelt Park, in coordination with the proposed Gilder Center project. The plan for open space improvements described below was developed by the Park Working Group with the participation of the landscape architecture firm Reed Hildebrand. Under this plan, paths and landscaping in Theodore Roosevelt Park adjacent to the building site would be modified to accommodate the proposed project and to provide more areas for seating and circulation, as shown on **Figure 3-3**. It is anticipated that these changes would include:

- Path adjustments by the Nobel Monument area to improve circulation, provide more seating, and create a gathering space off of the path network and away from Museum entry (see **Figure 3-4**).




**AMNH Gilder Center for Science, Education, and Innovation**

Proposed Site Plan
**Figure 3-2**

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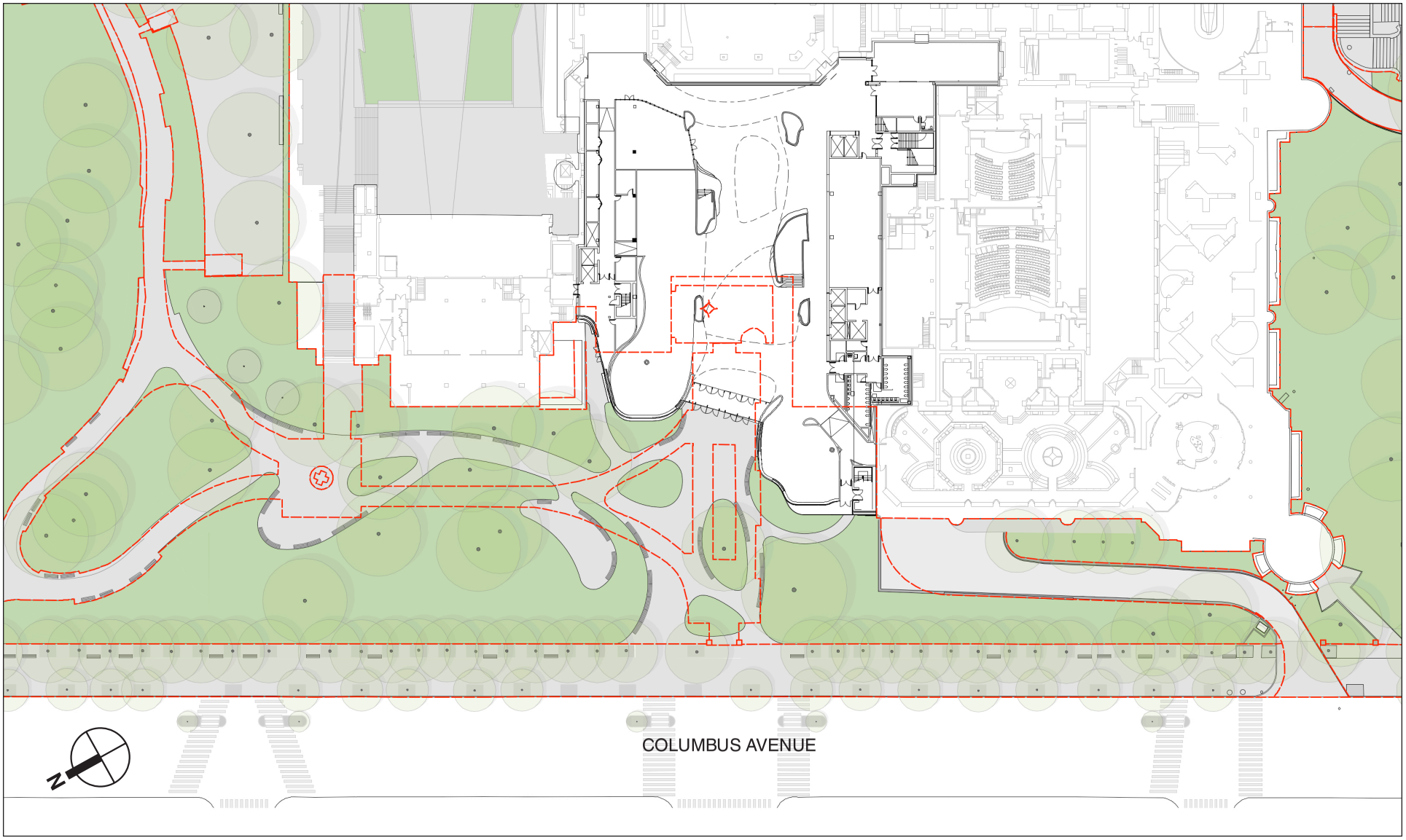



*Source: Park Working Group*

*Proposed Benches* *Proposed Paths* *Existing Paths*

Proposed Landscape with Overlay of Existing Conditions

**AMNH Gilder Center for Science, Education, and Innovation**

**Figure 3-3**

Proposed View towards Nobel Plaza from South

- Enlargement of Margaret Mead Green (from approximately 26,725 square feet to approximately 27,137 square feet) by shifting a park path farther to the east, and addition of an adjacent hard scape gathering area with seating that would be away from the path network, Museum entry, and the street (see **Figure 3-5**).
- Relocation of *The New York Times* Capsule to a location adjacent to the Rose Center entrance (see **Figure 3-6**).
- A wider entrance from Columbus Avenue and path adjustments between Columbus Avenue and the Gilder Center entrance to accommodate greater pedestrian traffic. The paths and entrance would be designed to be accessible to children, strollers and the mobility-impaired.
- New planted islands would be created, incorporating the pin oak and English elm trees that the Museum plans to protect and conserve, and areas for respite would be provided away from the path network and Museum entry (see **Figure 3-7**).
- New and revitalized plant beds, extending from the Nobel Monument to the service drive, would incorporate the existing oaks and Siberian elm trees. Species would be selected for native and adaptive characteristics, and would include shade- and moisture-tolerant groundcovers and shrubs, flowering understory trees, and ephemeral bulbs, providing year-round interest.
- Installation of 15 new benches, increasing the total number in this area from 23 to 38.
- Park infrastructure improvements, including upgraded fencing, and drainage and irrigation where needed.

Taking into account the improvements associated with the proposed project, the character of the Park along Columbus Avenue would be similar to that of the existing paths and landscaped areas, with a focus on walking and quiet activities. Since the character and design of the Park modifications are in keeping with the existing Park, usage of Theodore Roosevelt Park is not expected to notably change as a result of the project, aside from increased AMNH visitation. The existing dog run and the path at the entrance of the dog run are outside of the project area and would not be altered.

The paths in this portion of the Park already experience a high level of pass-through activity to and from Columbus Avenue, as described above under "Open Space User Survey." As with the existing Weston Pavilion entry, the area in front of the Gilder Center would provide an entrance point to the Museum. Given the prominence of the design and the anticipated increase in attendance and utilization, access to the Columbus Avenue entrance would be more heavily utilized by Museum visitors than in the existing condition, and could therefore at times be more populated and active, with visitors sometimes queuing for entry on the Museum's more heavily visited days. While there would be an increased number of Museum visitors in the Park, this change would not overburden Park facilities, as the reconfigured Park paths would be expected to accommodate the anticipated pedestrian flow.

Chapter 9, "Transportation," includes an assessment of pedestrian volumes in park paths within Theodore Roosevelt Park. To assess pedestrian circulation patterns on park paths that would be affected by the proposed project, pedestrian counts were conducted during the weekday midday, weekday PM, and Saturday peak periods. With the proposed changes in configuration and dimensions of the paths, and the projected increase in pedestrian volumes on these paths associated with the proposed project, park paths are expected to continue to operate within favorable levels of service (LOS).

Proposed View towards Margaret Mead Green Lawn & Paved Terrace

5.16.17

Proposed View of Times Capsule Location

**AMNH Gilder Center for Science, Education, and Innovation**

**Figure 3-6**

**Source:** *Park Working Group*

Aerial View of Proposed Landscape with Street Trees

As noted above, the proposed project would result in a reduction in available open space in Theodore Roosevelt Park of approximately 11,600 square feet (approximately 0.27 acres). While adverse, this loss of open space would not result in a significant adverse impact. Relocation of the existing park use from within the building site would not be expected to have a significant adverse effect on park users or create a strain on other sections of Theodore Roosevelt Park because nearby sections of the Park would accommodate the largely passive recreation activities that would be displaced from the affected area. The proposed project would also result in a wider entrance from Columbus Avenue and path adjustments to accommodate greater pedestrian traffic. In concert with widening the Park entrance at Columbus Avenue and removing the fence, the promenade would be widened and given softer, curved edges, and the path to the Nobel monument would be realigned in a curve. In addition, the site of the Nobel monument would be transformed from a small, square plaza with multiple intersecting paths into an oblong paved space with benches and a teardrop shaped garden set off from the path system. These path adjustments by the Nobel Monument area are intended to create a gathering space off of the path network with increased seating. The proposed design would also include a new paved area in an enlarged Margaret Mead Green. The design would locate these gathering areas away from the busier areas of Museum entry or general park circulation. The proposed project would increase the number of trees in the Park, and the proposed increase in the number of benches would provide additional opportunities for passive use of the Park. With the proposed path and landscaping modifications, park users would continue to have access to pathways for walking and running. The quality of plantings and infrastructure in the rebuilt portion of the Park would be improved. Overall, with the project's proposed landscaping modifications and improvements, park users would continue to have access to areas for gathering, play, and respite, as well as pathways for Museum entry and traversing the Park. Therefore, the loss of 11,600 square feet of open space and changes to Theodore Roosevelt Park would not result in any significant adverse impacts due to direct effects. In addition, as described in greater detail below, the proposed project is located in an area identified by the *CEQR Technical Manual* as well-served by existing open space resources, and the proposed project would not substantially decrease the availability of open space resources in the study area. Chapter 15, "Construction Impacts," assesses the potential for any temporary open space impacts during the construction of the proposed project.

The loss of the 0.27 acres with proposed project is adverse, but under the guidelines of the *CEQR Technical Manual* does not represent a significant impact. Nonetheless, in response to the loss of open space, the proposed open space plan incorporates two enhancements that would result in a net increase in the amount of publicly accessible space in the park. Specifically, as part of the proposed project, the enlarged, approximately 27,137-square-foot Margaret Mead Green lawn, which is currently fenced and not open to the public, would be made available for managed public access in a manner consistent with and supportive of the current character of Theodore Roosevelt Park. It is anticipated that the lawn would continue to be fenced, access would be available through one or more public gates, and plantings and other improvements would be made within the lawn area. The Museum, in consultation with NYC Parks, would develop a proposed operating and maintenance plan for providing and managing public access to the lawn while also protecting the grass and surrounding plantings (e.g., during reseeding, wet conditions, etc.). In addition, a portion of the lawn area adjacent to the Columbus Avenue sidewalk between West 78th Street and West 79th Street would be made available for public access. This approximately 6,400-square foot lawn is located behind the Park boundary fence, between the existing entrance to the Museum's West 78th Street service driveway and the proposed new entry paths in front of the proposed Gilder Center. The Museum, in consultation with NYC Parks would develop a proposed operating and maintenance plan, as well as a design

for any needed improvements (such as seating), for providing and managing public access within this area while also protecting the grass and surrounding plantings and maintaining security along the Museum's service driveway. The Museum would also consult with the Park Working Group as plans and designs for these two areas are developed. These enhancements would respond to the project's loss of open space by ~~increasing the amount~~making additional existing ~~of publicly accessible~~ open space within Theodore Roosevelt Park publicly available to park users, resulting in a net increase of publicly accessible open space with the proposed project. In addition, the Museum has committed to provide One Hundred Thousand Dollars ($100,000) per year for a minimum of 10 years for the management and maintenance of Theodore Roosevelt Park. Even if the proposed project were determined to have significant adverse open space impacts, the inclusion of these enhancements would effectively comply with the mandate of CEQR for practicable mitigation.

Chapter 15, "Construction," examines the potential impacts from construction of the proposed project on open space.

# C. INDIRECT EFFECTS ASSESSMENT

## METHODOLOGY

### *OVERVIEW*

Following the methodology of the *CEQR Technical Manual*, indirect open space impacts may occur when a proposed action would add enough population, either residents or non-residents, to noticeably diminish the ability of an area's open space to serve the existing or future population. Given the presence of Theodore Roosevelt Park and the proximity of Central Park, the proposed project is located in an area identified by the *CEQR Technical Manual* as well-served by existing open space resources. The *CEQR Technical Manual* provides for an assessment of indirect effects when a project located in a well-served area would introduce 350 residents or 750 or more workers to an area. The proposed project would not meet either of these thresholds; however, a preliminary assessment of indirect effects is provided in this chapter to assess the degree to which the loss of 11,600 square feet of open space would affect open space conditions in the surrounding study area. In addition, the assessment accounts for the effect of increased visitation at the Museum.

The assessment of indirect effects is based 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 reduce an open space ratio and consequently result in overburdening existing facilities, or if it would substantially exacerbate an existing deficiency in open space, it may result in a significant impact on open space resources. In general, if the assessment shows that a study area's open space ratio falls below the City guidelines of 2.00 acres of active open space and 0.50 acres of passive open space per 1,000 residents; and a proposed action would result in a decrease in the ratio of more than 5 percent, it could be considered a substantial change warranting a more detailed analysis. However, in areas where the ratio is closer to 2.50 acres per 1,000 residents, a greater percentage of change (more than 5 percent) may be tolerated. Conversely, 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.

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 and the comparison of projected open space ratios with established City guidelines.

*STUDY AREA*

The *CEQR Technical Manual* recommends establishing study area boundaries as the first step in an open space analysis. Following *CEQR Technical Manual* guidelines, residents use both passive and active open spaces and are assumed to travel up to ½ mile to reach neighborhood recreational spaces. Thus, as recommended in the *CEQR Technical Manual*, an analysis was performed focusing on the project's effects on open spaces located within a ½ mile of Theodore Roosevelt Park.

The study area for the proposed project was adjusted to include all census tracts that fall at least 50 percent within a ½-mile radius around Theodore Roosevelt Park. The portion of Central Park that is within the ½-mile boundary is also included in the analysis. **Figure 3-8** shows the residential study area.

*OPEN SPACE USER POPULATIONS*

*Existing Conditions*

Data was compiled from the 2010 Census for the census tracts in the residential study area to determine the number of residents within the study area. In addition, as a conservative measure, Museum attendance and utilization is included in the analysis.

*No Action Condition*

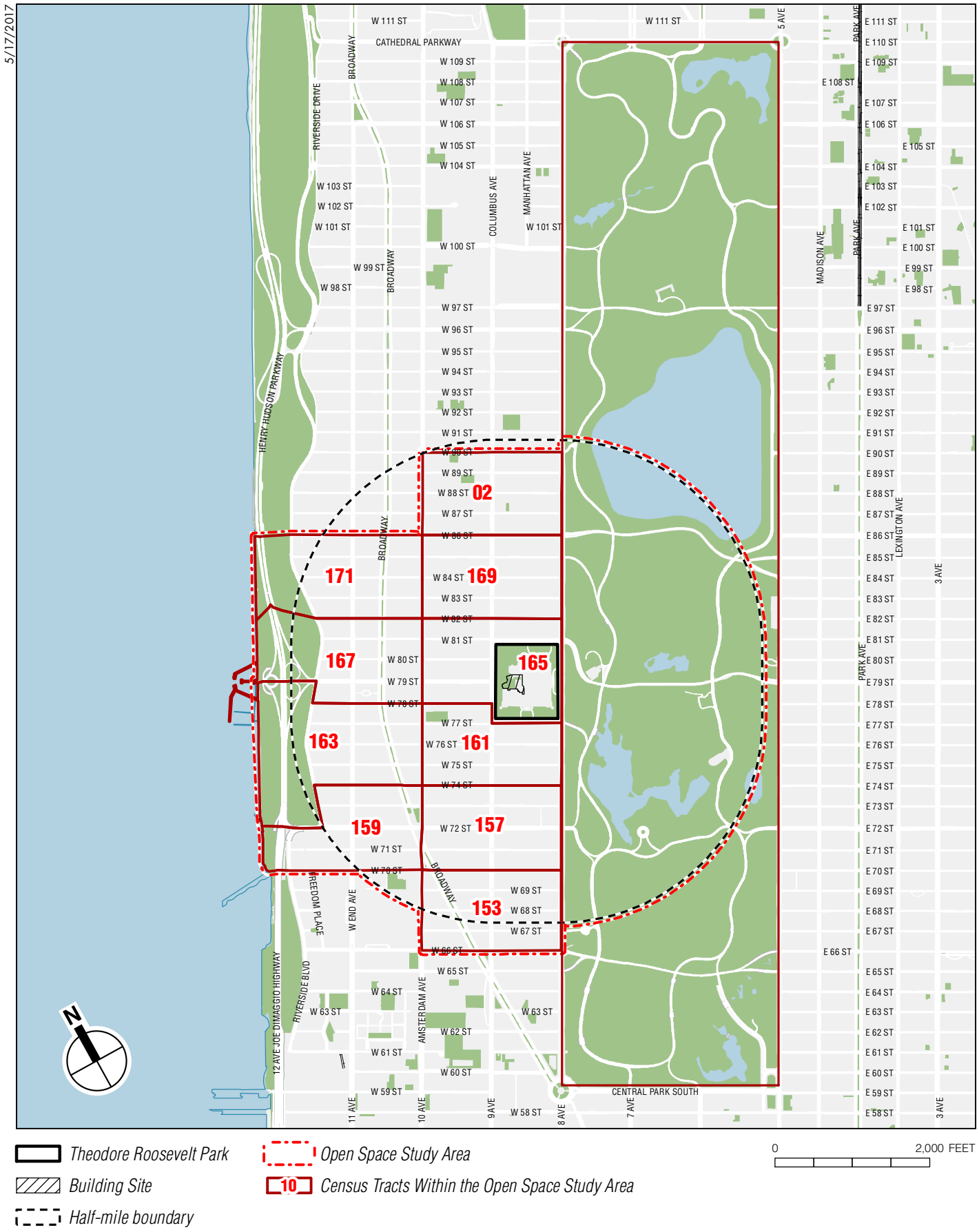
Several new developments are anticipated to be completed in the open space study area by 2021. The residential population in the No Action condition was estimated by applying the average household size of 1.87 persons per household for Community District (CD) 7 to the number of new residential units expected to be added to the study area. These development projects are estimated to result in a total of 839 new residents in the study area.

*INVENTORY OF OPEN SPACE RESOURCES*

All publicly accessible open spaces and recreational facilities located within the study area were inventoried using information from NYC Parks and field visits conducted in December 2015.

The *CEQR Technical Manual* defines public open space as open space that is regularly open to the public during designated daily periods. Open spaces that do not fit this definition because they are not available to the public on a regular basis or are available only to a limited set of users are considered private open space and are not included in the quantitative open space analysis.

The character, condition, and use of the publicly accessible open spaces and recreational facilities within the study area were recorded during field visits. Active and passive amenities were noted at each open space. Active facilities are intended for vigorous activities, such as jogging, field sports, and children's active play. Such facilities might include basketball and handball courts, jogging paths, ball fields, and playground equipment. Passive facilities encourage such activities as strolling, reading, sunbathing, and people watching. Passive open spaces are characterized by picnic areas, walking paths, or gardens. Certain areas, such as lawns or public esplanades, can serve as both active and passive open spaces.




# Open Space Study Areas

**Figure 3-8**

*ADEQUACY OF OPEN SPACE RESOURCES*

The following benchmark ratios for residential populations are used for the open space analysis:

- In New York City, local open space ratios vary widely, and the median ratio at the community district level is 1.5 acres of open space per 1,000 residents.
- An open space planning goal established for the City of 2.50 acres per 1,000 residents—2.00 acres of active and 0.50 acres of passive open space per 1,000 residents—for large scale plans and proposals.

However, these goals are often not feasible for many areas of the City, and they are not considered an impact threshold. Rather, they are used as benchmarks to represent how well an area is served by its open space resources.

## EXISTING CONDITIONS

*STUDY AREA POPULATION*

Based on 2010 Census data, the ½-mile open space study area has a population of approximately 81,779 residents (see **Table 3-1** and **Figure 3-8**).

**Table 3-1**
**Existing Residential Population—2010 Census**

| Census Tract | Residential Population |
|---|---|
| 153 | 8,957 |
| 157 | 10,423 |
| 159 | 8,483 |
| 161 | 6,467 |
| 163 | 7,390 |
| 165 | 7,062 |
| 167 | 6,705 |
| 169 | 7,577 |
| 171 | 9,532 |
| 173 | 9,183 |
| **Total** | **81,779** |

**Source:** U.S. Census Bureau, 2010 Census.

In addition, attendance and utilization at the Museum for fiscal year 2015 on a high-activity (85th percentile[1]) day was 17,843 people on a weekday and 23,018 people on a Saturday. As described in Chapter 1, "Project Description," Museum attendance and utilization primarily consists of ticketed visitors, tracked through AMNH's ticketing system. It also includes visiting scientists, graduate school students, vendors, people attending public programs and events, visitors to free spaces, and other miscellaneous trips. The primary activity for this population is typically to visit the Museum, rather than extended use of the Park. However, to provide a conservative analysis, the Saturday attendance and utilization is used in this assessment.

[1] Consistent with the analyses presented in Chapter 9, "Transportation," 85th percentile attendance and utilization days are considered to be high activity.

*STUDY AREA OPEN SPACE INVENTORY*

The project site is located within Theodore Roosevelt Park, a public open space resource under the jurisdiction of NYC Parks. There are a total of nine publicly accessible open spaces in the ½-mile study area, including Theodore Roosevelt Park and a portion of Central Park (see **Figure 3-9**). These resources provide 303.99 acres of open space, of which 58.55 acres are considered active recreational open space and 245.44 acres are considered passive open space (see **Table 3-2**).

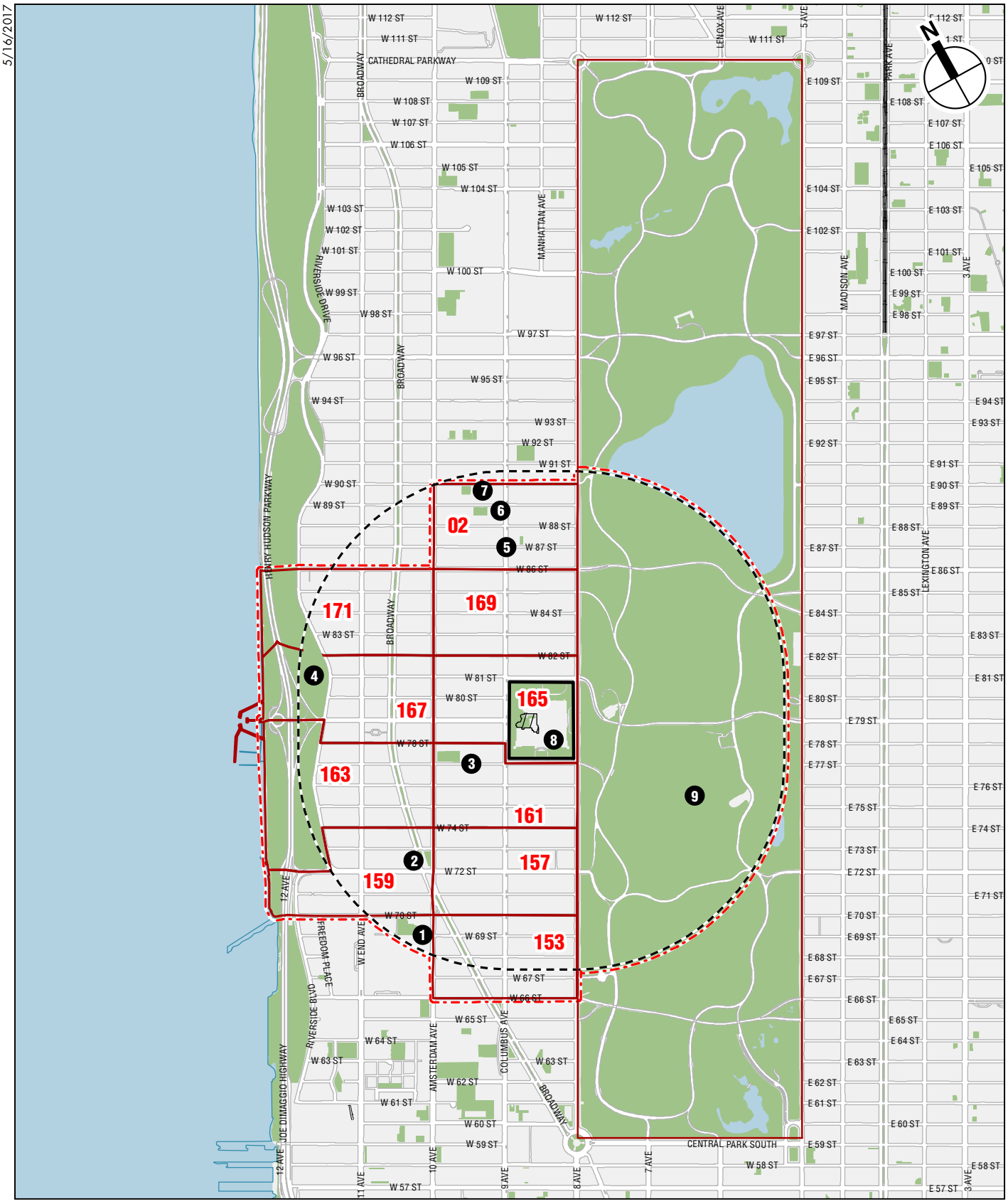
**Table 3-2**
**Study Area Open Space Inventory**

| Map ID No.[1] | Name | Location | Jurisdiction | Total Acres in the Study Area | Active Acres | Passive Acres | Amenities | Condition/ Utilization |
|---|---|---|---|---|---|---|---|---|
| 1 | Playground 70 (Mathew P. Sapolin Park) | 210 West 70th Street | NYC Parks | 0.95 | 0.95 | 0.00 | Basketball courts, bathrooms, handball courts, playgrounds | Good condition/moderate utilization |
| 2 | Verdi Square | West 73rd Street between Broadway and Amsterdam Avenues | NYC Parks | 0.10 | 0.00 | 0.10 | Verdi Monument, Verdi Square | Good Condition/high utilization |
| 3 | Tecumseh Playground | West 78th Street | NYC Parks | 0.74 | 0.74 | 0.00 | Basketball courts, bathrooms, playgrounds | Good condition/high utilization |
| 4 | Riverside Park | 79th and Riverside Drive | NYC Parks | 12.69 | 5.08 | 7.61 | Dog-friendly areas, benches, fields | Good condition/moderate utilization |
| 5 | West 87th Street Garden[3] | 55-57 West 87th Street | NYC Parks Green-thumb | N/A | N/A | N/A | Garden | Moderate condition/seasonal utilization |
| 6 | Playground 89 | West 89th Street between Columbus and Amsterdam Avenues | NYC Parks | 0.40 | 0.40 | 0.00 | Playgrounds, benches, spray showers | Good condition |
| 7 | St. Gregory's Playground | West 90th Street between Amsterdam and Columbus Avenues | NYC Parks | 0.23 | 0.23 | 0.00 | Playgrounds | Good condition/high utilization |
| 8 | Theodore Roosevelt Park and Ross Terrace | Between 77th and 81st Streets and Central Park West and Columbus Avenues | NYC Parks | 10.88[2] | 0.00 | 10.88 | Pathways, benches, monuments, dog run, Ross Terrace | Good condition/high utilization |
| 9 | Central Park | Portion within ½-mile study area | NYC Parks | 278.0 | 51.15 | 226.85 | Pathways, benches, fields, dog-friendly areas, playgrounds, spray showers, bathrooms | Excellent condition/high utilization |
| **Study Area Total** | | | | **303.99** | **58.55** | **245.44** | | |

**Notes:**
NYC Parks = New York City Department of Parks and Recreation
[1] See **Figure 3-9** for open space resources.
[2] Includes Theodore Roosevelt Park (9.88 acres) and the Ross Terrace (approximately 1 acre)
[3]Since this resource is only open to the public on a seasonal basis, it has conservatively not been included in the quantitative analysis.

Central Park is the largest open space resource in the study area. The portion of Central Park, located within the ½-mile study area boundary includes numerous active and passive uses, including playgrounds, baseball fields, pathways, benches, spray showers, comfort stations, historic houses, and bicycle paths. Of the approximately 278 acres of Central Park that are within the ½-mile study area boundary, approximately 51.15 acres are for active recreational uses and 226.85 acres are for passive recreational uses, using *CEQR Technical Manual* guidelines.

Theodore Roosevelt Park is the third largest open space resource in the study area. Beyond the AMNH complex, the park contains 9.88 acres of passive open space, consisting of multiple




# Open Space Resources in the Study Areas

**AMNH Gilder Center for Science, Education, and Innovation**

**Figure 3-9**

walkways, benches, monuments, and dog friendly areas. The Ross Terrace was built above the Museum's parking garage as part of the Rose Center project. It provides approximately one acre of publicly accessible passive open space, including seating, plantings, and a fountain.

A portion of NYC Parks' Riverside Park is the second largest open space resource in the study area. Riverside Park offers both active and passive recreational space, including basketball courts, water fountains, spray showers, monuments, playgrounds, pathways, and benches. The portion of Riverside Park within the study area totals 12.69 acres, of which approximately 5.08 acres are for active uses, including playgrounds and basketball courts, and approximately 7.61 are for passive uses.

Other NYC Parks resources in the study area include Tecumseh Playground, Playground 70, P.S. 166 Playground, and St. Gregory's park. These parks include amenities such as monuments, basketball and handball courts, playgrounds, benches, spray showers, and bathrooms.

Additional open space resources in the study area not accounted for the quantitative analysis include the West 87th Street Community Garden, Sherman Square, and Greenstreets such as the Broadway Malls. The West 87th Street Community Garden is open to the public during the April to October growing season, from 9:00 am to dusk. Since this resource is only open to the public on a seasonal basis, it has conservatively not been included in the quantitative analysis. Sherman Square, a war memorial, is a fenced 0.07 acres triangular plot of land found between Amsterdam Avenue and Broadway along West 70th Street. The Greenstreets are planted medians. Planted medians are not considered publicly accessible open spaces. While these resources are not included in the quantitative analysis, they do serve as important visual resources to the community.

*ADEQUACY OF OPEN SPACES*

The residential study area has a total of approximately 303.99 acres of open space, including 58.55 acres of active space and 245.44 acres of passive space. With an estimated population of 81,779 residents, the residential study area has a total open space ratio of 3.72 acres per 1,000 residents (see **Table 3-3A**). This ratio substantially exceeds the City's goal of 2.50 total acres of open space per 1,000 residents. The study area's residential active open space ratio is 0.72 acres per 1,000 residents, which is less than the City's planning guideline of 2.00 acres per 1,000 residents. The area's residential passive open space ratio is 3.00 acres of passive open space per 1,000 residents, which exceeds the City's benchmark of 0.50 acres of passive space per 1,000 residents.

**Table 3-3A**
**Existing Conditions: Adequacy of Open Space Resources**

| Residential Population | Open Space Acreage | | | Open Space Ratios per 1,000 People | | | City Open Space Guidelines | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Active | Passive | Total | Active | Passive | Total | Active | Passive |
| 81,779 | 303.99 | 58.55 | 245.44 | 3.72 | 0.72 | 3.00 | 2.50 | 2.00 | 0.50 |

Conservatively incorporating Saturday Museum attendance and utilization, the study area continues to exhibit an open space ratio that is well above the City's planning goals, as the total open space ratio including this additional population is 2.90 acres per 1,000 persons in the residential and Museum populations (see **Table 3-3B**).

**Table 3-3B**
**Existing Conditions: Adequacy of Open Space Resources, Including Saturday Museum Attendance and Utilization**

| Residential and Museum Population | Open Space Acreage | | | Open Space Ratios per 1,000 People | | | City Open Space Guidelines | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Active | Passive | Total | Active | Passive | Total | Active | Passive |
| 104,797 | 303.99 | 58.55 | 245.44 | 2.90 | 0.56 | 2.34 | 2.50 | 2.00 | 0.50 |

## THE FUTURE WITHOUT THE PROPOSED PROJECT

*STUDY AREA POPULATION*

In the No Action condition, background development projects are expected to add 449 residential units in the ½-mile open space study area. These projects are expected to increase the study area population by approximately 839 new residents. Altogether, the population of the study area is forecast to increase to 82,619 in the No Action condition.

Based on analysis of the Museum's historic attendance data and market penetration, Museum attendance and utilization on a high-activity (85th percentile) Saturday is forecast to increase from 23,018 to 23,166 people in the No Action condition.

*ADEQUACY OF OPEN SPACES*

In the No Action condition, the ratio of total acres of open space per 1,000 residents will decrease from 3.72 to 3.68, due to the expected increase in population. The total open space ratio will remain above the City's goal of 2.50 total acres per 1,000 residents and above the City-wide median open space ratio of 1.50 acres per 1,000 residents (see **Table 3-4A**). The active open space ratio is estimated to be 0.71 acres per 1,000 residents, remaining below the city's benchmark of 2.00 acres of active open space per 1,000 residents. The passive open space ratio is expected to be 2.97 acres per 1,000 residents; this ratio will be above the City's benchmark of 0.50 acres of passive open space per 1,000 residents.

**Table 3-4A**
**No Action Condition: Adequacy of Open Space Resources**

| Residential Population | Open Space Acreage | | | Open Space Ratios per 1,000 People | | | City Open Space Guidelines | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Active | Passive | Total | Active | Passive | Total | Active | Passive |
| 82,619 | 303.99 | 58.55 | 245.44 | 3.68 | 0.71 | 2.97 | 2.50 | 2.00 | 0.50 |

Incorporating No Action condition Saturday Museum attendance and utilization, the study area is expected to continue to exhibit an open space ratio that is well above the City's planning goals, as the total open space ratio including this additional population will be 2.88 acres per 1,000 persons in the residential and Museum populations (see **Table 3-4B**).

**Table 3-4B**
**No Action Condition: Adequacy of Open Space Resources, Including Saturday Museum Attendance and Utilization**

| Residential and Museum Population | Open Space Acreage | | | Open Space Ratios per 1,000 People | | | City Open Space Guidelines | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Active | Passive | Total | Active | Passive | Total | Active | Passive |
| 105,785 | 303.99 | 58.55 | 245.44 | 2.88 | 0.55 | 2.32 | 2.50 | 2.00 | 0.50 |

## PROBABLE IMPACTS OF THE PROPOSED PROJECT

*STUDY AREA POPULATION*

The proposed project would not increase the residential population; therefore in the With Action condition, the total study area residential population would remain unchanged from the No Action condition, at 82,619 people.

In addition to the study area residential population, the Museum population utilizes Theodore Roosevelt Park. Based on an analysis of the Museum's historic attendance data and the impact of major capital projects at other museums and visitor attractions, Museum attendance and utilization on a high-activity (85th percentile) Saturday is forecast to increase from 23,166 people in the No Action condition to 26,405 people in the With Action condition.

*STUDY AREA OPEN SPACES*

As described above, the proposed project would result in the loss of 11,600 square feet (approximately 0.27 acres) of open space. Therefore, in the With Action condition, the available open space in the study area would decrease from 303.99 acres in the No Action condition to 303.72 acres, composed of 58.55 acres of active recreational open space and 245.18 acres of passive open space.

*ADEQUACY OF OPEN SPACES*

In the With Action condition, the total open space ratio in the study area (3.68 acres per 1,000 residents) would remain substantially unchanged from the No Action condition and would continue to be well above the City's planning guideline of 2.5 acres per 1,000 residents and the City-wide community district median of 1.5 acres per 1,000 residents. As shown in **Table 3-5A**, the active open space ratio would be 0.71 acres per 1,000 residents (remaining below the City's guideline of 2.0 acres of active open space per 1,000 residents) and the passive open space ratio would be 2.97 acres per 1,000 residents (remaining above the City's guideline of 0.50 acres of passive open space per 1,000 residents).

**Table 3-5A**
**Future with the Proposed Project: Adequacy of Open Space Resources**

| Residential Population | Open Space Acreage | | | Open Space Ratios per 1,000 People | | | City Open Space Guidelines | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Active | Passive | Total | Active | Passive | Total | Active | Passive |
| 82,619 | 303.72 | 58.55 | 245.18 | 3.68 | 0.71 | 2.97 | 2.50 | 2.0 | 0.50 |

As noted above, the Museum population utilizes Theodore Roosevelt Park. However, for this population, their primary activity is typically visiting the Museum rather than extended use of

the Park. In any case, conservatively incorporating forecast Saturday Museum attendance and utilization, the study area would continue to exhibit an open space ratio that is well above the City's planning goals, as the total open space ratio including this additional population will be 2.79 acres per 1,000 persons in the residential and Museum populations (see **Table 3-5B**).

**Table 3-5B**
**Future with the Proposed Project: Adequacy of Open Space Resources, Including Saturday Museum Attendance and Utilization**

| Residential and Museum Population | Open Space Acreage | | | Open Space Ratios per 1,000 People | | | City Open Space Guidelines | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Active | Passive | Total | Active | Passive | Total | Active | Passive |
| 109,024 | 303.72 | 58.55 | 245.18 | 2.79 | 0.54 | 2.25 | 2.50 | 2.0 | 0.50 |

*IMPACT SIGNIFICANCE*

As noted above and summarized in **Table 3-6**, the study area would continue to be well-served by open spaces resources in the With Action condition. The total, passive, and active open space ratios would remain substantially the same as in the No Action condition, although the total and passive ratios would both decrease by approximately 0.1 percent. Although the proposed project would result in a slight decrease in the total and passive open space ratios, these minimal decreases would not significantly change the availability of open space resources in the study area. In addition, even taking into account the projected increase in Museum attendance and utilization, the area would continue to be well-served by open space resources, and the open space ratios would decrease by between approximately 1.8 and 3 percent—less than the five percent threshold identified in the *CEQR Technical Manual* as warranting further assessment.

**Table 3-6**
**Future with the Proposed Project: Open Space Ratios Summary**

| Ratio | City Guideline | Open Space Ratios | | | Percent Change from No Action to With Action |
|---|---|---|---|---|---|
| | | Existing | No Action | With Action | |
| **Residential (½-Mile) Study Area: Residential Population Analysis** | | | | | |
| Total/Residents | 2.50 | 3.72 | 3.68 | 3.68 | -0.11% |
| Active/Residents | 2.00 | 0.72 | 0.71 | 0.71 | 0.00% |
| Passive/Residents | 0.50 | 3.00 | 2.97 | 2.97 | -0.10% |
| **Residential (½-Mile) Study Area: Residential Analysis with Saturday Museum Attendance and Utilization** | | | | | |
| Total/Residential & Museum Population | N/A | 2.90 | 2.88 | 2.79 | -2.92% |
| Active/ Residential & Museum Population | N/A | 0.56 | 0.55 | 0.54 | -1.82% |
| Passive/Residential & Museum Population | N/A | 2.34 | 2.32 | 2.25 | -3.02% |
| **Note:** Ratios in acres per 1,000 people. | | | | | |

In addition, as typically occurs for a major new Museum facility, during the first year of operation there would likely be a temporary attendance increase. During this temporary condition, there could be an increase in visitors above the stabilized attendance increment considered in Table 3-6. The temporary condition would not be considered significant, since it would be short-term and the area would continue to be well-served by open space resources. In any case, the Central Park West entrance would continue to serve as the Museum's primary entrance.

Overall, while the proposed project would result in a reduction in available open space in Theodore Roosevelt Park of 0.27 acres, this change would not result in a significant adverse open space impact, due to the availability of other open space resources in this well-served area as well as the project's proposed landscaping modifications and improvements. Park users would continue to have access to areas for gathering, play, and respite, as well as pathways for Museum entry and traversing the Park and the overall quality in the rebuilt portion of the Park would be improved. The proposed open space plan also incorporates two enhancements that would result in a net increase in the amount of publicly accessible open space in the park. Specifically, as part of the proposed project, the enlarged, approximately 27,137-square-foot Margaret Mead Green lawn, which is currently fenced and not open to the public, would be made available for managed public access in a manner consistent with and supportive of the current character of Theodore Roosevelt Park. It is anticipated that the lawn would continue to be fenced, access would be available through one or more public gates; plantings and other improvements would be made within the lawn area. The Museum, in consultation with NYC Parks, would develop a proposed operating and maintenance plan for providing and managing public access to the lawn while also protecting the grass and surrounding plantings (e.g., during reseeding, wet conditions, etc.). In addition, a portion of the lawn area adjacent to the Columbus Avenue sidewalk between West 78th Street and West 79th Street would be made available for public access. This approximately 6,400-square foot lawn is located behind the Park boundary fence, between the existing entrance to the Museum's West 78th Street service driveway and the proposed new entry paths in front of the proposed Gilder Center. The Museum, in consultation with NYC Parks, would develop a proposed operating and maintenance plan, as well as a design for any needed improvements (such as seating), for providing and managing public access within this area while also protecting the grass and surrounding plantings and maintaining security along the Museum's service driveway. The Museum also would consult with the Park Working Group as plans and designs for these two areas are developed. ✷