Chapter 6: Shadows

A. INTRODUCTION

This chapter assesses the potential shadowing effects of development resulting from the Proposed Actions on publicly accessible open spaces and other sunlight-sensitive resources including greenstreets, natural resources, and sunlight-dependent features of architectural resources. According to the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, a shadows assessment is required if a project would introduce new structures 50 feet or taller, or if a new structure is built adjacent to or across the street from a sunlight-sensitive resource. As detailed in Chapter 1, "Project Description," the Reasonable Worst-Case Development Scenario (RWCDS) resulting from the Proposed Actions identifies 102 development sites (68 projected development sites and 34 potential development sites) within the rezoning area. The Proposed Actions could result in buildings that are equal in height or up to 330 feet taller than those that could be developed in the No Action Condition. In addition, some of these buildings would be adjacent to or across the street from sunlight-sensitive resources. Therefore, a shadows analysis was prepared to determine the potential for development resulting from the Proposed Actions to result in significant adverse shadow impacts on sunlight-sensitive resources.

PRINCIPAL CONCLUSIONS

A detailed shadow analysis concluded that development resulting from the Proposed Actions could result in significant shadow impacts on three sunlight-sensitive resources. The 102 Projected and Potential Development Sites identified in RWCDS could cast new shadow within the vicinity of the rezoning area. While most of this new shadow would not reach sunlight-sensitive resources due to existing and future intervening structures, new shadows originating from the RWCDS developments could reach 50 resources that are sensitive to sunlight and could potentially be significantly impacted by incremental shadows resulting from the Proposed Actions. Of these resources, 44 are open space resources and 6 are historic resources with architectural features sensitive to shadow. The affected open space resources include publicly accessible open spaces, community gardens, greenstreets, and recreational areas within New York City Housing Authority (NYCHA) housing complexes. The affected architectural features are found on New York City landmarks and other potentially historic buildings.

As explained in detail below, on all representative days of the detailed analysis, a majority of the affected sunlight-sensitive resources could experience less than 1 hour of new shadow from development resulting from the Proposed Actions. Approximately one-third of the affected resources could experience durations of new shadow lasting over 3 hours on at least one analysis day. The detailed analysis found that in all but three cases, the new shadow would not significantly alter the utilization of the open space, the vitality of plant life within the resources, or the public's enjoyment of architectural features on historic resources.

Of the 50 resources affected by new shadow, the detailed analysis found that El Catano Garden, Eugene McCabe Field, and Jackie Robinson Garden could be significantly impacted by new shadow originating from at least one of the RWCDS developments. The duration of incremental shadow cast on some areas of Eugene McCabe Field could reduce the hours of direct sunlight received by the resource by a maximum of nearly nine hours a day, potentially altering the public's use of the resource and its utilization rate. The incremental shadow that could be cast on a majority of the area within El Catano and Jackie Robinson Garden could potentially prevent these open spaces from supporting the same variety of plant life as they could in the No Action Condition.

B. DEFINITIONS AND METHODOLOGY

This analysis has been prepared in accordance with New York City CEQR procedures and follows the guidelines of the *CEQR Technical Manual*.

DEFINITIONS

Incremental shadow is the shadow cast by development resulting from the Proposed Actions that would be in addition to shadow cast by developments in the No Action Condition, developments occurring irrespective of the Proposed Actions and existing buildings.

Sunlight-sensitive resources are those that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity. Such resources generally include:

- *Public open space* such as parks, beaches, playgrounds, plazas, schoolyards (if open to the public during non-school hours), greenways, and landscaped medians with seating. Planted areas within unused portions of roadbeds that are part of the Greenstreets program are also considered sunlight-sensitive resources.
- *Features of architectural resources that depend on sunlight for their enjoyment by the public.* Only the sunlight-sensitive features need be considered, as opposed to the entire resource. Such sunlight-sensitive features might include: design elements that depend on the contrast between light and dark (e.g., recessed balconies, arcades, deep window reveals); elaborate, highly carved ornamentation; stained glass windows; historic landscapes and scenic landmarks; and features for which the effect of direct sunlight is described as playing a significant role in the structure's importance as a historic landmark.
- *Natural resources* where the introduction of shadows could alter the resource's condition or microclimate. Such resources could include surface water bodies, wetlands, or designated resources such as coastal fish and wildlife habitats.

Non-sunlight-sensitive resources include, for the purposes of CEQR:

- *City streets and sidewalks* (except Greenstreets);
- *Private open space* (e.g., front and back yards, stoops, vacant lots, and any private, non-publicly accessible open space);
- *Project-generated open space* cannot experience a significant adverse shadow impact from the project, according to CEQR, because without the project the open space would not exist. However, if the condition of project-generated open space is included in the qualitative analysis presented in the Open Space chapter of the Draft Environmental Impact Statement (DEIS), a discussion of how shadows could affect the new space may be warranted.

A significant adverse shadow impact generally occurs when the incremental shadow falls on a sunlight-sensitive resource for at least 10 minutes and substantially reduces or completely eliminates direct sunlight, thereby threatening the survival of vegetation within a resource, preventing public enjoyment of a sunlight-sensitive feature of a historic resource or reducing the usability of open space as a result of new shadow. Each case must be considered on its own merits based on the extent and duration of new shadow and an analysis of the resource's sensitivity to reduced sunlight.

METHODOLOGY

Following the guidelines of the *CEQR Technical Manual*, a preliminary screening assessment must first be conducted to ascertain whether a project's shadow could reach any sunlight-sensitive resources at any time of year. The preliminary screening assessment consists of three tiers of analysis. The first tier determines the longest shadow that could be cast by a structure by multiplying the structure's maximum height by 4.3, using the resulting distance as the radius, and drawing a circular study area around the proposed structure. If there are sunlight-sensitive resources within this radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project shadow by accounting for the fact that given the sun's trajectory through the sky at the latitude of New York City shadows can never be cast in the triangular area south of a structure between -108 and +108 degrees from true north.

If the second tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a third tier of screening analysis further refines the area that could be reached by project shadow by looking at specific representative days in each season and determining the maximum extent of shadow over the course of each representative day.

If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a detailed shadow analysis is required to determine the extent and duration of the incremental shadow resulting from the project. The detailed analysis provides the data needed to assess the shadow impacts. The effects of the new shadows on the sunlight-sensitive resources are described, and their degree of significance is considered. The results of the analysis and assessment are documented with graphics, a table of incremental shadow durations, and narrative text.

C. PRELIMINARY SCREENING ASSESSMENT

Development anticipated to result from the Proposed Actions in the With Action Condition under the RWCDS could occur on 102 developments sites within the rezoning area. The shadows analysis assesses the potential shadow impacts of both projected and potential sites. Maximum building height for each development site in the RWCDS as compared with maximum building height in the No Action Condition are shown in Appendix A-3." As shown in Appendix A-3, the Proposed Actions could result in buildings that are equal in height or up to 330 feet taller than those that could be developed in the No Action Condition. In accordance with CEQR, the shadow analysis must account for rooftop mechanical space and bulkhead. For this reason, an additional 15 feet of height was added to the maximum height of each development site in the RWCDS. With the additional height, 65 of the 102 sites in the RWCDS could contain structures 50 feet or taller than what would be developed in the No Action Condition, warranting shadow assessment. An additional 12 projected and potential sites could be located adjacent to or across the street from a sunlight-sensitive resource, also warranting shadow assessment.

Figure 6-1 illustrates the base map developed using Geographic Information Systems (GIS)[1] and the location of the 77 new buildings that could be developed under the RWCDS and require shadow assessment. In coordination with the land use, open space, and historic and cultural resources assessments presented in other chapters of this DEIS, potential sunlight-sensitive resources are identified and shown on the map. Open space resources include publicly accessible parks, community gardens, greenstreets and recreation areas within NYCHA developments. Community gardens assessed in the chapter are either located on DPR-controlled property, participate in the GreenThumb program, or located on private property controlled by a foundation with a community garden mission or mandate. Gardens were only considered publicly accessible during their posted hours of operation. Potential development on Site AD in the No Action Condition and under the RWCDS with the Proposed Actions would be coincident with the boundaries of Hope Community Garden. Under CEQR, the potential displacement of open space is disclosed in Chapter 5, "Open Space." Therefore, shadow impacts on Hope Community Garden are not disclosed within this chapter. Although recreation areas within NYCHA developments are restricted to NYCHA residents, these open spaces are analyzed within this chapter due to the significant population they serve.

TIER 1 SCREENING ASSESSMENT

For the Tier 1 assessment, the longest shadow that the proposed buildings could cast is calculated, and, using this length as the radius, a perimeter is drawn around each of the 77 development sights requiring shadow assessment. Anything outside this perimeter representing the longest possible shadow could never be affected by shadow created by development resulting from the Proposed Actions, while anything inside the perimeter needs additional assessment.

According to the *CEQR Technical Manual*, the longest shadow that a structure can cast at the latitude of New York City occurs on December 21, the winter solstice, at the start of the analysis day at 8:51 AM, and is equal to 4.3 times the height of the structure. **Figure 6-1** illustrates the combined longest shadow study area determined by the Tier 1 assessment relative to the location of sunlight-sensitive public open space, architectural and natural resources. Open spaces operated by NYCHA, although primarily used by residents of the NYCHA properties, are also illustrated on the map and are analyzed as sunlight-sensitive resources.

Because there are sunlight-sensitive resources identified within the longest shadow study area, the next tier of screening is required.

TIER 2 SCREENING ASSESSMENT

Because of the path that the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City this area lies between -108 and +108 degrees from true north. For the 77 sites requiring shadow assessment, **Figure 6-2** illustrates this area. The remaining portion of the longest shadow study area represents the remaining area that could potentially experience new shadow generated from the development resulting from the Proposed Actions.

[1] Software: Esri ArcGIS 10.3; Data: New York City Department of Information Technology and Telecommunications (DoITT) and other City agencies, and AKRF site visits.

Because there are sunlight-sensitive resources identified within the remaining portion of the longest shadow study area that could potentially be cast in new shadow, the next tier of screening is required.

TIER 3 SCREENING ASSESSMENT

The direction and length of shadows vary throughout the course of the day and also differ depending on the season. Shadows move constantly but more quickly at the start and the end of the day than they do in the middle of the day. In order to determine whether Proposed Action-generated shadow could fall on a sunlight-sensitive resource, three-dimensional computer mapping software is used in the Tier 3 assessment to calculate and display the incremental shadows from the RWCDS on individual representative days of the year. A computer model was developed containing three-dimensional representations of the elements in the base map used in the preceding assessments, the topographic information of the study area, and models of the RWCDS developments. The previous Tier 1 and Tier 2 assessments assumed the RWCDS developments would reach their maximum height throughout the extent of their footprint. However, the Tier 3 assessment accounts for the massing and setbacks of the buildings resulting from the Proposed Actions. As described above, CEQR requires rooftop mechanical equipment and bulkhead to be considered in the shadow assessment. To account for this bulkhead, the height of the tallest setback of each RWCDS development analyzed in the Tier 3 assessment was increased by 15 feet.

REPRESENTATIVE DAYS FOR ANALYSIS

Following the guidance of the *CEQR Technical Manual*, shadows on the summer solstice (June 21), winter solstice (December 21) and spring and fall equinoxes (March 21 and September 21, which are approximately the same in terms of shadow patterns) are modeled, to represent the range of shadows over the course of the year. An additional representative day during the growing season is also modeled, generally the day halfway between the summer solstice and the equinoxes, i.e., May 6 or August 6, which have approximately the same shadow patterns.

TIMEFRAME WINDOW OF ANALYSIS

The shadow assessment considers shadows occurring between 1 ½ hours after sunrise and 1 ½ hours before sunset. At times earlier or later than this timeframe window of analysis, the sun is down near the horizon and the sun's rays reach the Earth at very tangential angles, diminishing the amount of solar energy and producing shadows that are very long, move fast, and generally blend with shadows from existing structures until the sun reaches the horizon and sets. Consequently, shadows occurring outside the timeframe window of analysis are not considered significant under CEQR, and their assessment is not required.

TIER 3 SCREENING ASSESSMENT RESULTS

Figure 6-3 illustrates the range of shadows that could occur, in the absence of intervening buildings, from the 77 development sites requiring shadow assessment on the four representative days for analysis. The full extent of shadow is illustrated between the start of the analysis day (1 ½ hours after sunrise) to the end of the analysis day (1 ½ before sunset). **Figure 6-4** illustrates the combined extent of potential shadow on all analysis days relative to the location of sunlight-sensitive resources.

Table 6-1 lists the 52 sunlight-sensitive open space resources and 15 sunlight-sensitive architectural resources identified in The Tier 3 screening assessment that, in the absence of

intervening and No Action Condition buildings, could be cast in new shadow generated from development resulting from the Proposed Actions. The table also lists which analysis days the resources could potentially be cast in new shadow. A detailed analysis is needed to determine whether, in addition to existing and No Action Condition buildings, any of the resources identified would receive new shadow originating from any of the RWCDS developments.

Table 6-1
Tier 3 Assessment: Sunlight-Sensitive Resources

	March 21 7:36 AM— 4:29 PM	May 6 6:27 AM— 5:18 PM	June 21 5:57 AM— 6:01 PM	December 21 8:51 AM— 2:53 PM
Open Space Sunlight-Sensitive Resources				
103rd Street Community Garden		X	X	
335 East 111th Street Recreation Area		X	X	
Alice Kornegay Triangle	X	X	X	
Carver Community Garden	X	X	X	X
Clinton Houses Recreation Areas	X	X	X	X
Corozal Family Garden	X	X	X	X
Diamante Garden	X	X	X	X
Dr. Ronald E. McNair Playground	X	X	X	X
Dream Street Park	X	X	X	X
E. 124th Street & Second Avenue Greenstreet		X	X	X
E. 120th Street & Second Avenue Greenstreet	X	X	X	X
Each One Teach One Park	X			
El Catano Garden	X	X	X	X
El Gallo Community Garden	X	X	X	X
El Sitio Feliz	X	X	X	X
Eugene McCabe Field	X	X	X	X
Family Community Garden	X	X	X	X
Harlem Art Park	X	X	X	X
Harlem River Drive Park	X	X	X	
Harlem River Park		X	X	X
Harlem Rose Garden				X
Herb Garden	X	X	X	X
Hope Community Garden	X	X	X	X
Jackie Robinson Garden	X	X	X	X
Jackie Robinson Houses Recreation Area	X	X	X	X
James Weldon Johnson Playground	X	X	X	X
Jefferson Houses Recreation Areas	X	X	X	X
Johnson Houses Recreation Areas	X	X	X	X
La Casita Community Garden	X	X	X	X
La Cuevita Community Garden	X	X	X	X
Lehman Houses Recreation Areas				X
Life Spire Garden	X	X	X	X
Lincoln Houses Recreational Areas				X
Lydia's Magic Garden	X	X	X	X
Marcus Garvey Park	X	X	X	X
Mission Garden				X
Moore Playground	X	X		X
Othmar Ammann Playground			X	
P.S. 108 Peter Minuit Playground				X
P.S. 155 Playground	X		X	
Papo's Garden	X	X	X	X
Park Ave East Recreation Areas	X	X	X	X
Peaceful Valley Community Garden	X	X	X	X
Poor Richard's Playground	X	X	X	X

Table 6-1 (cont'd)
Tier 3 Assessment: Sunlight-Sensitive Resources

	March 21 7:36 AM— 4:29 PM	May 6 6:27 AM— 5:18 PM	June 21 5:57 AM— 6:01 PM	December 21 8:51 AM— 2:53 PM
Open Space Sunlight-Sensitive Resources (cont'd)				
Taft Houses Recreation Areas	X	X	X	X
Thomas Jefferson Park				X
Triboro Plaza	X	X	X	X
UPACA Recreation Areas	X	X	X	X
Wagner Houses Pool	X	X	X	
Wagner Houses Recreation Areas	X	X	X	
Wagner Playground	X	X	X	X
White Playground	X	X	X	X
Historic Resources with Sunlight-Sensitive Architectural Features				
17 East 128th Street				X
2050 Fifth Avenue				X
2118 Second Avenue	X	X	X	X
All Saint's Church	X	X	X	X
Chambers Memorial Baptist Church	X	X	X	X
Elmendorf Reformed Church	X	X	X	X
First Sharon Baptist Church	X	X	X	X
Greater Emanuel Baptist	X	X	X	
Hellenic Orthodox Church		X	X	
New York Public Harlem Library				X
New York Public Library—Aguilar	X	X	X	X
Public School 72	X	X	X	X
St. Andrew's Episcopal Church				X
St. Cecilia's Church	X	X	X	X
St. Paul's Roman Catholic Church	X	X	X	X

D. DETAILED SHADOW ANALYSIS

The purpose of the detailed analysis is to determine the extent and duration of incremental shadows that fall on sunlight-sensitive resources as a result of the development resulting from Proposed Actions and to assess their potential effects. To complete the assessment, a baseline or future No Action Condition is established by appending three-dimensional representations of the existing buildings, planned future developments, and developments under the No Action Condition within the vicinity of a given project site to the three-dimensional model used in the Tier 3 assessment. The With Action Condition and its shadows can then be compared with the baseline No Action Condition to determine the incremental shadows that could result under the RWCDS.

ANALYSIS RESULTS

The analysis found that 50 resources identified in the Tier 3 analysis could receive new shadow in the With Action Condition (44 open space resources and 6 architectural resources). **Table 6-2** describes the duration of new (incremental) shadows on the 50 resources identified in the detailed analysis that could experience new shadow. The table shows the entry and exit times and total duration of incremental shadow on the affected resources on each of the analysis days. The incremental shadows and their effect on the resources are illustrated in **Figures 6-5 through 6-115**. Figures were created for each analysis day with at least 10 minutes of incremental shadow for every resources **in Table 6-2**.

Following is a description of incremental shadow's effect on each sunlight-sensitive resource. The total duration of direct sunlight the resource could receive in the With Action Condition is compared with the total duration of sunlight in the No Action Condition and a determination is made whether the new shadows could result in a significant shadow impact on the resource. Generally, significant shadow impacts occur on open spaces when the duration or extent of new shadow would substantially reduce or eliminate direct sunlight on a resource, significantly altering the utilization of the resource or its ability to support vegetation. Significant shadow impacts occur on historic resources when the duration of new shadow would significantly impact public enjoyment of its sunlight-sensitive architectural features. Generally, an incremental shadow is not considered significant when its duration is no longer than 10 minutes at any time of year and the resource continues to receive substantial direct sunlight.

Table 6-2
Incremental Shadow Durations

Analysis day and timeframe window	March 21 7:36 AM-4:29 PM	May 6 6:27 AM-5:18 PM	June 21 5:57 AM-6:01 PM	December 21 8:51 AM-2:53 PM
Open Space Resources				
Alice Kornegay Triangle	4:05 PM—4:29 PM Total: 0 hr 24 min	4:20 PM—5:18 PM Total: 0 hr 58 min	4:45 PM—6:01 PM Total: 1 hr 16 min	Total: 0 hr 0 min
Carver Community Garden	7:45 AM—10:50 AM Total: 3 hr 5 min	6:50 AM—10:50 AM Total: 4 hr 0 min	6:55 AM—10:50 AM 5:55 PM—6:01 PM Total: 4 hr 1 min	Total: 0 hr 0 min
Clinton Houses Recreation Areas	7:36 AM—7:40 AM Total: 0 hr 4 min	Total: 0 hr 0 min	Total: 0 hr 0 min	8:51 AM—9:55 AM 10:05 AM—10:30 AM Total: 1 hr 29 min
Corozal Family Garden	2:30 PM—3:15 PM Total: 0 hr 45 min	6:30 AM—6:45 AM 7:25 AM—8:15 AM 5:05 PM—5:30 Pm Total: 1 hr 30 min	6:35 AM—8:50 AM 4:25 PM—6:01 PM Total: 3 hr 51 min	10:30 AM—1:05 PM 1:35—2:35 Total: 3 hr 35 min
Diamante Garden	Total: 0 hr 0 min	Total: 0 hr 0 min	2:15 PM—3:45 PM Total: 1 hr 30 min	2:25 PM—2:53 PM Total: 0 hr 28 min
Dr. Ronald E. McNair Playground	7:36 AM—7:40 AM 8:10 AM—10:25 AM Total: 2 hr 19 min	6:27 AM—9:40 AM 1:15 PM—2:20 PM Total: 4 hr 18 min	5:57 AM—8:25 AM 8:35 AM—9:15 AM 12:55 PM—4:25 PM 5:40 PM—6:01 PM Total: 6 hr 59 min	8:51 AM—12:20 PM Total: 3 hr 29 min
Dream Street Park	4:25 PM—4:29 PM Total: 0 hr 4 min	3:15 PM—5:18 PM Total: 2 hr 03 min	3:25 PM—6:01 PM Total: 2 hr 36 min	8:55 AM—9:50 AM Total: 0 hr 55 min
Each One Teach One Park	4:20 PM—4:29 PM Total: 0 hr 9 min	Total: 0 hr 0 min	Total: 0 hr 0 min	Total: 0 hr 0 min
East 120th Street & Second Avenue Greenstreet	3:30 PM—4:15 PM Total: 0 hr 45 min	2:40 PM—5:05 PM Total: 2 hr 25 min	2:45 PM—6:01 PM Total: 3 hr 16 min	Total: 0 hr 0 min
East 124th Street & Second Avenue Greenstreet	Total: 0 hr 0 min	3:45 PM—4:35 PM Total: 0 hr 50 min	3:30 PM—5:20 PM Total: 1 hr 50 min	2:50 PM—2:53 PM Total: 0 hr 3 min
El Gallo Community Garden	7:36 AM—7:45 PM Total: 9 min	7:05 AM—7:40 PM Total: 35 min	Total: 0 hr 0 min	Total: 0 hr 0 min
El Sitio Feliz	1:30 PM—3:50 PM Total: 2 hr 20 min	6:27 AM—6:35 AM 12:45 PM—3:20 PM Total: 2 hr 43 min	5:57 AM—6:15 AM 12:40 PM—3:35 PM Total: 3 hr 13 min	Total: 0 hr 0 min
Eugene McCabe Field	7:36 AM—4:29 PM Total: 8 hr 53 min	6:45 AM—9:40 AM 11:35 AM—3:40 PM Total: 7 hr 0 min	5:57 AM—9:15 AM 12:40 PM—3:10 PM Total: 5 hr 48 min	8:51 AM—2:53 PM Total: 6 hr 2 min

Table 6-2 (cont'd)
Incremental Shadow Durations

Analysis day and timeframe window	March 21 7:36 AM-4:29 PM	May 6 6:27 AM-5:18 PM	June 21 5:57 AM-6:01 PM	December 21 8:51 AM-2:53 PM
Open Space Resources (cont'd)				
Family Community Garden	8:05 AM—9:10 AM Total: 1 hr 5 min	6:55 AM—7:20 AM Total: 0 hr 25 min	Total: 0 hr 0 min	Total: 0 hr 0 min
Harlem Art Park	10:25 AM—12:50 PM Total: 2 hr 25 min	Total: 0 hr 0 min	5:30 PM—6:01 PM Total: 0 hr 31 min	8:51 AM—12:50 PM 1:05 PM—1:35 PM Total: 4 hr 29 min
Harlem River Drive Park	4:25 PM—4:29 PM Total: 0 hr 4 min	Total: 0 hr 0 min	5:50 PM—6:01 PM Total: 0 hr 1a min	Total: 0 hr 0 min
Harlem River Park	Total: 0 hr 0 min	Total: 0 hr 0 min	5:45 PM—6:01 PM Total: 0 hr 16 min	2:50 PM—2:53 PM Total: 0 hr 3 min
Herb Garden	7:50 AM—12:05 PM Total: 4 hr 15 min	6:27 AM—7:45 AM 8:40 AM—9:15 AM Total: 1 hr 53 min	7:10 AM—7:50 AM Total: 0 hr 40 min	9:25 AM—12:15 PM Total: 2 hr 50 min
Jackie Robinson Garden	1:20 PM—4:29 PM Total: 3 hr 9 min	12:45 PM—5:18 PM Total: 4 hr 33 min	12:40 PM—6:01 PM Total: 5 hr 21 min	1:40 PM—2:45 PM Total: 1 hr 5 min
Jackie Robinson Houses Recreation Area	4:10 PM—4:29 PM Total: 0 hr 19 min	3:25 PM—5:18 PM Total: 1 hr 53 min	3:45 PM—5:45 PM Total: 2 hr 0 min	Total: 0 hr 0 min
James Weldon Playground	8:55 AM—10:30 AM 12:25 PM—4:15 PM Total: 5 hr 25 min	6:27 AM—7:20 AM 9:40 AM—5:18 PM Total: 8 hr 23 min	5:57 AM—7:25 AM 10:15 AM—5:10 PM Total: 8 hr 25 min	1:20 PM—2:53 PM Total: 1 hr 34 min
Jefferson Houses Recreation Areas	7:36 AM—1:05 PM 2:20 PM—4:29 PM Total: 7 hr 38 min	6:27 AM—12:25 PM 2:25 PM—5:18 PM Total: 8 hr 43 min	5:57 AM—7:45 AM 8:40 AM—12:15 PM 3:55 PM—6:00 PM Total: 7 hr 28 min	8:50 AM—12:15 PM 2:25 PM—2:53 PM Total: 3 hr 53 min
Johnson Houses Recreation Areas	7:36 AM—9:15 AM 3:55 PM—4:29 PM Total: 2 hr 13 min	6:27 AM—6:40 AM Total: 0 hr 13 min	5:57 AM—6:10 AM Total: 0 hr 13 min	8:51 AM—9:50 AM 10:10 AM—11:40 AM 12:05 PM—1:15 PM Total: 3 hr 39 min
La Casita Community Garden	7:36 AM—8:30 AM Total: 0 hr 54 min	6:27 AM—7:55 AM 4:25 PM—4:35 PM Total: 1 hr 38 min	5:57 AM—6:20 AM 7:20 AM—7:25 AM 4:45 PM—4:55 PM Total: 0 hr 40 min	8:55 AM—9:00 AM Total: 0 hr 5 min
La Cuevita Community Garden	8:55 AM—11:30 AM 12:00 PM—12:10 Total: 2 hr 45 min	9:50 AM—11:55 AM Total: 2 hr 5 min	10:00 AM—11:45 AM Total: 1 hr 45 min	Total: 0 hr 0 min
Life Spire Garden	8:20 AM—9:20 AM Total: 1 hr 0 min	6:27 AM—6:45 AM Total: 0 hr 18 min	6:00 AM—6:50 AM Total: 0 hr 50 min	8:51 AM—9:35 AM 9:45 AM—11:05 AM Total: 2 hr 4 min
Lincoln Houses Recreational Areas	Total: 0 hr 0 min	Total: 0 hr 0 min	Total: 0 hr 0 min	1:55 PM—2:00 PM Total: 0 hr 5 min
Lydia's Magic Garden	3:20 PM—4:15 PM Total: 0 hr 55 min	4:20 PM—5:18 PM Total: 0 hr 58 min	3:50 PM—5:45 PM Total: 1 hr 55 min	Total: 0 hr 0 min
Marcus Garvey Park	7:36 AM—9:35 AM Total: 1 hr 59 min	6:27 AM—8:05 AM Total: 1 hr 38 min	5:57 AM—7:30 AM Total: 1 hr 33 min	8:51 AM—10:30 AM Total: 1 hr 39 min
Moore Playground	7:36 AM—7:40 AM Total: 0 hr 4 min	Total: 0 hr 0 min	Total: 0 hr 0 min	Total: 0 hr 0 min
Neighbors of Vega Baja	Total: 0 hr 0 min	Total: 0 hr 0 min	4:45 PM—5:05 PM Total: 0 hr 20 min	Total: 0 hr 0 min

Table 6-2 (cont'd)
Incremental Shadow Durations

Analysis day and timeframe window	March 21 7:36 AM-4:29 PM	May 6 6:27 AM-5:18 PM	June 21 5:57 AM-6:01 PM	December 21 8:51 AM-2:53 PM
Open Space Resources (cont'd)				
P.S. 108 Peter Minuit Playground	Total: 0 hr 0 min	Total: 0 hr 0 min	Total: 0 hr 0 min	8:51 AM—9:00 AM Total: 0 hr 9 min
P.S. 155 Playground	Total: 0 hr 0 min	Total: 0 hr 0 min	5:40 PM—6:01 PM Total: 0 hr 21 min	Total: 0 hr 0 min
Papo's Garden	3:25 PM—4:29 PM Total: 1 hr 4 min	6:27 AM—7:30 AM 3:45 PM—4:05 PM Total: 1 hr 43 min	6:00 AM—7:20 AM Total: 1 hr 20 min	Total: 0 hr 0 min
Peaceful Valley Community Garden	7:36 AM—7:50 Total: 0 hr 14 min	6:27 AM—7:15 AM Total: 0 hr 48 min	5:57 AM—7:05 AM Total: 1 hr 8 min	Total: 0 hr 0 min
Poor Richard's Playground	7:36 AM—8:20 AM 2:20 PM—4:29 PM Total: 2 hr 53 min	6:27 AM—8:00 AM 2:00 PM—5:18 PM Total: 4 hr 51 min	6:25 AM—8:15 AM 2:00 PM—6:01 PM Total: 5 hr 51 min	1:45 PM—1:55 PM 2:20 PM—2:53 PM Total: 0 hr 43 min
Taft Houses Recreation Areas	Total: 0 hr 0 min	Total: 0 hr 0 min	5:57 AM—6:45 AM Total: 0 hr 48 min	Total: 0 hr 0 min
Triboro Plaza	Total: 0 hr 0 min	4:00 PM—5:18 PM Total: 1 hr 18 min	4:25 PM—5:30 PM 5:40 PM—6:01 PM Total: 1 hr 26 min	Total: 0 hr 0 min
UPACA Recreation Areas	7:36 AM—8:00 AM 2:45 PM—4:29 PM Total: 2 hr 8 min	6:27 AM—6:30 AM 2:35 PM—5:18 PM Total: 2 hr 46 min	3:00 PM—6:01 PM Total: 3 hr 1 min	Total: 0 hr 0 min
Wagner Houses Pool	Total: 0 hr 0 min	4:30 PM—5:18 PM Total: 0 hr 48 min	4:45 PM—6:01 PM Total: 1 hr 16 min	Total: 0 hr 0 min
Wagner Houses Recreation Areas	Total: 0 hr 0 min	4:55 PM—5:18 PM Total: 0 hr 23 min	5:00 PM—5:30 PM 5:40 PM—6:01 PM Total: 0 hr 51 min	Total: 0 hr 0 min
Wagner Playground	3:00 PM—4:30 PM Total: 1 hr 30 min	3:05 PM—5:18 PM Total: 2 hr 13 min	1:20 PM—2:50 PM Total: 1 hr 30 min	Total: 0 hr 0 min
White Playground	7:36 AM—11:25 AM 3:50 PM—4:10 PM Total: 4 hr 9 min	6:27 AM—10:00 AM Total: 3 hr 33 min	5:57 AM—9:45 AM 2:10 PM—2:30 PM Total: 4 hr 8 min	8:51 AM—12:30 PM 2:30 PM—2:53 PM Total: 4 hr 2 min
Historical Resources with Sunlight-Sensitive Features				
First Sharon Baptist Church—front (south) façade windows	10:30 AM—11:55 AM Total: 1 hr 25 min	—	4:50 PM—5:18 PM Total: 28 min	5:40 PM—5:50 PM Total: 10 min
NYPL Harlem Library—front (south) façade 2nd floor windows	8:51 AM—9:00 AM Total: 9 min	—	—	—
NYPL Aguilar Branch—front (north) façade windows	—	—	6:27 AM—8:15 AM Total: 1 hr 48 min	5:57 AM—8:45 AM Total: 2 hr 48 min
PS 72—east façade windows	8:51 AM—9:30 AM Total: 39 min	7:36 AM—9:15 AM Total: 1 hr 39 min	6:27 AM—7:50 AM Total: 1 hr 23 min	5:57 AM—7:15 AM Total: 1 hr 18 min
St. Cecilia's Church	—	7:36 AM—7:50 AM Total: 14 min	6:27 AM—6:45 AM Total: 18 min	
St. Paul's Church	11:00 AM—1:15 PM Total: 2 hr 15 min	—	—	—

Notes:
Table indicates entry and exit times and total duration of incremental shadow for each sunlight-sensitive resource.
Daylight saving time is not used—times are Eastern Standard Time, per *CEQR Technical Manual* guidelines. However, as Eastern Daylight Time is in effect for the March/September, May/August, and June analysis periods, add one hour to the given times to determine the actual clock time.

E. OPEN SPACE RESOURCES

ALICE KORNEGAY TRIANGLE

Alice Kornegay Triangle is a 1.05-acre publicly accessible open space operated by New York City Department of Parks and Recreation (NYC Parks) and located on Lexington Avenue between East 128th Street and East 129th Street at the foot of the Third Avenue Bridge. Sunlight-sensitive features located within the resource include playgrounds, handball courts, and spray showers with benches as well as a canopy of trees (see **Figures 6-5 through 6-7**).

INCREMENTAL SHADOW

March 21

With the development resulting from the Proposed Actions, Alice Kornegay Triangle could receive a total duration of approximately 23 minutes of new shadow, from 4:05 PM to 4:29 PM, in the afternoon of the March 21 analysis day. Incremental shadow could be cast on benches, a paved playing area, and the canopy of several trees. All vegetation affected by incremental shadow could receive at least 8 hours of direct sunlight throughout the day.

May 6

With the development resulting from the Proposed Actions, Alice Kornegay Triangle could receive a total duration of approximately 58 minutes of new shadow, from 4:20 PM to 5:18 PM,in the afternoon of the May 6 analysis day. Incremental Shadow could be cast on benches, a playground, and the canopy of several trees for durations of at least 5 minutes. The benches and tree canopy located in the southwest portion of the resource along Lexington Avenue could be affected most by new shadow on this analysis day. With the development resulting from the Proposed Actions, all areas of the resource affected by incremental shadow could receive over 8 hours of direct sunlight throughout the day.

June 21

With the development resulting from the Proposed Actions, Alice Kornegay Triangle could receive a total duration of 1 hour and 14 minutes of new shadow, from 4:45 PM to 6:01 PM, at the end of the June 21 analysis day. Incremental shadow could fall on the southern half of the resource for a minimum duration of approximately 5 minutes, affecting benches, a playground, and the canopy of several trees. The benches and tree canopy within the southwest portion of the resource at the corner of Lexington Avenue and East 128th Street could be affected most by new shadow on this analysis day. With development resulting from the Proposed Actions, all areas of the resource affected by new shadows could receive over 10 hours of direct sunlight throughout the day.

SHADOW IMPACT

The development resulting from Proposed Actions could cast new shadow on Alice Kornegay Triangle on the March 21, May 6, and June 21 analysis day. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow would be relatively short and would not significantly reduce the amount of direct sunlight the resource receives. Nearly all of the portions of the resource would receive ample light to support vegetation. Therefore, Alice

Kornegay Triangle would not experience a significant shadow impact due to the development resulting from Proposed Actions.

CARVER COMMUNITY GARDEN

Carver Community Garden is a 0.3-acre community garden operated by the Manhattan Land Trust and is located at 242 East 124th Street. It is a well maintained community garden and farm surrounded on three sides by buildings with many trees (see **Figures 6-8 through 6-10**). Sunlight-sensitive features located within the resource include benches, garden plots, and a tree canopy.

INCREMENTAL SHADOW

March 21

With the development resulting from the Proposed Actions, garden plots and the canopy of several trees located in the northern half of Carver Community Garden could receive a total duration of approximately 3 hours of 5 minutes of new shadow, from 7:45 AM to 10:50 AM, in the morning of the March 21 analysis day. However, no single area within the garden would receive more than 1 hour of new shadow. In the No Action Condition, the garden plots and canopy of several trees located within the southern half of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the garden plots located in another, approximately 250-square-foot patch of the garden's northeast corner from receiving over 4 hours of direct sunlight throughout the day.

May 6

With the development resulting from the Proposed Actions, garden plots and the canopy of several trees within Carver Community Garden could receive a total duration of approximately 4 hours of new shadow, from 6:50 AM to 10:50 AM, in the morning of the May 6 analysis day. However, no single area within the garden would receive more than 1 hour and 30 minutes of new shadow. In the No Action Condition, the trees and garden plots within the southwest corner of the resource receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the garden plots located in another, approximately 250-square-foot patch of the garden's southwest corner from receiving over 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, garden plots and the canopy of several trees within Carver Community Garden could receive a total duration of approximately 4 hours and 1 minute of new shadow, from 6:55 AM to 10:50 AM and 5:55 PM to 6:01 PM, in the early morning and late afternoon of the June 21 analysis day. However, no single area within the garden would receive more than 1 hour and 40 minutes of new shadow. In the No Action Condition, the trees within the southeast corner of the resource receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Carver Community Garden on the March 21, May 6, and June 21 analysis days. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource or its ability to support vegetation. As described above, the total duration of new shadow on the March 21, May 6, and June 21 analysis days could be relatively long but would not be cast on the same area within the garden for more than 1 hour and 40 minutes on any of the analysis days. Because of this, the quantity of direct sunlight the resource receives would not significantly change. Most of the new shadow would occur in the early morning, when the garden is closed to the public.

All analysis days with incremental shadow are within the growing season when most plants require at least 4 hours of direct sunlight. However, the areas of the resource not receiving enough direct sunlight to support a variety of plant life would only increase slightly compared with the No Action Condition and would not significantly alter the types of vegetation supported in the garden. Therefore, Carver Community Garden would not experience a significant shadow impact due to development resulting from the Proposed Actions.

CLINTON HOUSES RECREATION AREAS

The Clinton Houses Recreation Areas are the open spaces within the Clinton Houses NYCHA complex located between Park Avenue and Madison Avenue from East 104th Street to East 106th Street and East 108th Street to East 110th Street. Together, these spaces are 0.76 acres. Sunlight-sensitive features located within the resource include benches, a basketball court, and a playground, all covered by a generous canopy of trees (see **Figure 6-11**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, the Clinton Houses Recreation Areas could receive a total duration of approximately 4 minutes of new shadow, from 7:36 AM to 7:40 AM, in the early morning of the March 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include a basketball court. Incremental shadow would not be cast on any vegetation within the resource.

December 21

With development resulting from the Proposed Actions, the Clinton Houses Recreation Areas could receive a total duration of approximately 1 hour and 29 minutes of new shadow, from 8:51 AM to 9:55 AM and 10:05 AM to 10:30 AM, in the morning of the December 21 analysis day. Incremental shadow could fall on a playground, seating areas, and a basketball court in the vicinity on East 109th Street between Park and Lexington Avenues. The southwest portion of the basketball court could receive the longest duration of new shadow, at approximately 50 minutes. From 9:05 AM to 9:40 AM, development resulting from the Proposed Actions could prevent any direct sunlight from reaching the basketball court.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the Clinton Houses Recreation Areas on the March 21 and December 21 analysis days. The incremental shadow

would not significantly alter the NYCHA residents' use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow would be considerably short on the March 21 analysis day. The duration of new shadow could be longer on the December 21 analysis day but would mainly be limited to the southwest corner of the basketball court along East 109th Street. The December incremental shadow would occur early in the morning during a colder month, when resource use would be expected to be low. Incremental shadow on both analysis days would not significantly reduce the amount of direct sunlight the resource receives or significantly alter the use of the resource. Incremental shadow would not be cast on any vegetation on the March 21 analysis day. The December 21 analysis day is outside the growing season and any new shadow on this day would not affect the vitality of the resource's vegetation. Therefore, the Clinton Houses Recreation Areas would not experience a significant shadow impact due to development resulting from the Proposed Actions.

COROZAL FAMILY GARDEN

Corozal Family Garden is a community garden operated by GreenThumb and located at 170 East 117th Street. The garden has a low utilization rate and is in good condition. Sunlight-sensitive within the resource include a garden area with plots, seating, and a tree canopy (see **Figures 6-12 through 6-15**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions the rear portion of Corozal Family Garden could receive a total duration of 45 minutes of new shadow, from 2:30 PM to 3:15 PM, on the March 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include plantings, garden plots and several trees. The longest duration of incremental shadow would fall on the southern portion of the garden, affecting a portion of a mature tree canopy located towards the back of the garden, farthest from the street. In the No Action Condition, vegetation located in the northern half and extreme rear of the garden receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions Corozal Family Garden could receive a total duration of approximately 1 hour and 30 minutes of new shadow, from 6:30 AM to 6:45 AM, 7:25 AM to 8:15 AM and 5:05 PM to 5:30 PM, on the May 6 analysis day. Sunlight-sensitive features that could be cast in new shadow include plantings, garden plots and several trees. The longest duration of incremental shadow would fall on the tree canopy located in the northwestern portion of the garden for nearly one hour. In the No Action Condition, the trees, garden plots and plantings located within the northern half of the resource receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the Garden from receiving at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions Corozal Family Garden could receive a total duration of 3 hours and 51 minutes of new shadow, from 6:35 AM to 8:50 AM and 4:25 PM to 6:01 PM, in the early morning and late afternoon of the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include plantings, garden plots, and several trees. The longest duration of incremental shadow could fall on the garden plots and tree canopy located in the northwestern corner of the garden for over two hours. The southern portion of the garden would be cast in approximately 1 hour of new shadow in the afternoon. This shadow could affect both a portion of a mature tree canopy toward the back of the garden, as well as a vegetated garden bed inclusive of an immature tree toward the front of the garden. In the No Action Condition, the trees, garden plots, and plantings within the northern half of the resource receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could also prevent another, approximately 150-square-foot area in the northwest corner of the garden from receiving over 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, Corozal Family Garden could receive a total duration of 3 hours and 35 minutes of new shadow, from 10:30 AM to 1:05 PM and 1:35 PM to 2:35 PM, on the December 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include garden plots and a seating area. The longest duration of incremental shadow could fall on the garden plots located in the central portion of the garden. With development resulting from the Proposed Actions, the central portion of the garden that receives between 2 and 4 hours of direct sunlight in the No Action Condition would instead receive less than 2 hours of direct sunlight on the December 21 analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Corozal Family Garden on all four analysis days. Total shadow durations could last from 45 minutes on March 21 to over 3 hours on December 21. However, the incremental shadow would not significantly alter the public's use of the open space resource or threaten the vitality of its vegetation. Corozal Family Garden is only accessible to the public from 4:00 PM to 6:00 PM, Monday through Saturday. As described above, most of the new shadow on the garden occurs outside the garden's open hours and would have no impact on the public's utilization of the resource. Incremental shadow on the analysis days within the growing season would not significantly reduce the amount of direct sunlight the resource receives. In March and May all portions of the garden that receive at least 4 hours of direct sunlight in the No Action Condition could also receive over 4 hours of direct sunlight with development resulting from the Proposed Actions. On June 21, a small portion of the northwest corner of the garden approximately 200 square feet in size would no longer receive at least 4 hours of direct sunlight, but overall, the garden would be able to support the same variety of plant life as it would in the No Action Condition. The December 21 analysis day is outside the growing season and any new shadow on this day would not affect the vitality of the resource's vegetation. Therefore, Corozal Family Garden would not experience a significant shadow impact due to development resulting from the Proposed Actions.

DIAMANTE GARDEN

Diamante Community Garden, hosted by GreenThumb is 0.19-acre community garden located at 306-310 East 118th Street. Sunlight-Sensitive features located within the resource include benches, a tree canopy, and planted garden plots. (see **Figures 6-16 through 6-17**).

INCREMENTAL SHADOW

June 21

With development resulting from the Proposed Actions, the northernmost section of Diamante Garden could receive a total duration of 1 hour and 30 minutes of new shadow, from 2:15 PM to 3:45 PM, in the afternoon of the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include planted vegetation and garden plots. The longest duration of incremental shadow falling on any one portion of the garden would not exceed approximately 20 minutes. With development resulting from the Proposed Actions, all areas of the resource would receive at least 6 hours of direct sunlight.

December 21

With development resulting from the Proposed Actions, the Diamante Garden could receive a total duration of approximately 28 minutes of new shadow, from 2:25 PM to 2:53 PM, at the end of the December 21 analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the Diamante Garden on the June 21 and December 21 analysis days. The incremental shadow would not significantly alter the public's use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow on any single area of the garden would not exceed approximately 20 minutes on the June 21 analysis day. The duration of new shadow on the December 21 analysis day would be relatively short. Incremental shadow on both analysis days would not significantly reduce the amount of direct sunlight the resource receives or significantly alter the use of the resource. On the June 21 analysis day the entire garden would receive enough direct sunlight to support a variety of plants. The December 21 analysis day is outside the growing season and any new shadow on this day would not affect the vitality of the resource's vegetation. Therefore, the Diamante Garden would not experience a significant shadow impact due to development resulting from the Proposed Actions.

DR. RONALD E. MCNAIR PLAYGROUND

Dr. Ronald E. McNair Playground is a 0.6-acre publicly accessible playground located near Lexington Avenue between East 122nd Street and East 123rd Street. Sunlight-sensitive features include a playground, a landscaped lawn, and benches (see **Figures 6-18 through 6-21**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, McNair Playground could receive a total duration of approximately 2 hours and 19 minutes of new shadow, from 7:36 AM to 7:40 AM and 8:10 AM to 10:25 AM, in the morning of the March 21 analysis day. Sunlight-sensitive

features that could be cast in new shadow include benches, landscaping, and a grass play area. New shadow could affect nearly half the area of the playground with the longest durations of new shadow falling on the grass play area in the center of playground. In the No Action Condition, landscaping located in the eastern edge of the playground receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day but section of the park

May 6

With development resulting from the Proposed Actions, the southern and northern edge of McNair Playground could receive a total duration of approximately 4 hours and 18 minutes of new shadow, from 6:27 AM to 9:40 AM and 1:15 PM to 2:20 PM, in the morning of the May 6 analysis day. However, no one area of the resource would be cast in more than 1 hour and 30 minutes of new shadow. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, a grass play area, and a playground. In the No Action Condition, the plantings and grass located in the eastern edge of the park and immediately adjacent to surrounding buildings receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, McNair Playground could receive a total duration of approximately 6 hours and 59 minutes of new shadow, from 5:57 AM to 8:25 AM, 8:35 AM to 9:15 AM, 12:55 PM to 4:25 PM, and 5:40 PM to 6:01 PM, throughout the June 21 analysis day. However, no one area of the resource would be cast in more than approximately 3 hours of new shadow. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, and a playground. The longest durations of new shadow could fall on the northern end of the resource and the playground and benches within it. With the development resulting from the Proposed Actions, some sections of the park receiving over 8 hours of direct sunlight could instead receive at least 6 hours of direct sunlight. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, McNair Playground could receive a total duration of approximately 3 hours and 29 minutes of new shadow, from 8:51 AM to 12:20 PM, in the morning and early afternoon of the December 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, a grass play area and a playground. Some new shadow could be cast on almost all areas of the resource, with the longest durations of new shadow falling on benches, paved walkways and a grass play area in the southern portion of the playground. Incremental shadow from the development resulting from Proposed Actions could prevent all direct sunlight from reaching the resource from the beginning of the analysis day to approximately 9:20 AM. With development resulting from the Proposed Actions, the sections of the park receiving over 4 hours of direct sunlight could instead receive between 2 and 4 hours of direct sunlight, and one area of the resource's southwest corner could receive no sunlight throughout the analysis day.

SHADOW IMPACT

The development resulting from Proposed Actions could cast new shadow on McNair Playground on all analysis days. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the new shadow on March 21 could occur in the early morning when park utilization would be lower than in the later morning and afternoon preventing the incremental shadow from significantly altering the public's use of the park. The May 6 and June 21 incremental shadows could be longer in duration but would be dispersed through different sections of the playground and would never prevent all direct sunlight from reaching the resource. On these analysis days the overall duration of direct sunlight falling on the park could change modestly but would not significantly alter the playground's use. The incremental shadow on the December 21 analysis day could reduce the quantity of direct sunlight received by the resource and create an area within the playground that no longer receives any direct sunlight throughout the analysis day. However, the new shadows in December would not significantly change the public's use of the resource because they would mainly occur in the early morning of a colder month when park use would be relatively low.

With development resulting from the Proposed Actions within the growing season, the areas of the park receiving sufficient durations of direct sunlight to support vegetation would remain. The new shadows on December 21 would occur outside the growing season. Therefore, McNair Playground would not experience a significant shadow impact due to development resulting from the Proposed Actions.

DREAM STREET PARK

INCREMENTAL SHADOW

Dream Street Park is a 0.27-acre publicly accessible park operated by NYC Parks located on East 124th Street between Second and Third Avenues surrounded on three sides by buildings. Sunlight-sensitive features within the resource include an open lawn, benches, and several trees. There are pathways that form a heart shape surrounding the lawn (see **Figures 6-22 through 6-24**).

March 21

With the development resulting from Proposed Actions, the grass within the northeast corner of Dream Street Park could receive a total duration of approximately 4 minutes of new shadow, from 4:25 PM to 4:29 PM, in the morning of the March 21 analysis day. In the No Action Condition, the grass and vegetation located in the eastern quarter of the park receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

May 6

With development resulting from Proposed Actions, the southern half of Dream Street Park could receive a total duration of approximately 1 hour and 55 minutes of new shadow, from 3:15 PM to 5:18 PM, in the afternoon of the May 6 analysis day. Sunlight-sensitive features that could be cast in new shadow include a grass lawn and the canopy of several trees. The longest durations of new shadow could fall on these features located in the area of the resource closest to East 124th Street. Development resulting from the Proposed Actions could prevent the trees and

grass located in an approximately 600-square-foot patch of the garden's eastern section from receiving over 4 hours of direct sunlight throughout the day. From 4:10 PM to the end of the analysis day, development resulting from the Proposed Actions could prevent all direct sunlight from reaching the resource.

June 21

With the development resulting from Proposed Actions, Dream Street Park could receive a total duration of approximately 2 hours and 36 minutes of new shadow, from 3:25 PM to 6:01 PM, by the end of the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include a grass lawn and the canopy of several trees. The longest durations of new shadow could fall on these features located in the area of the resource closest to East 124th Street. With development resulting from the Proposed Actions, the southern corner of the park could receive approximately 2 hours less of direct sunlight, a modest decrease. All vegetation affected by incremental shadow could receive at least 4 hours of direct sunlight throughout the day. From 4:40 PM to the end of the analysis day, the development resulting from Proposed Actions could prevent all direct sunlight from reaching the resource.

December 21

With development resulting from the Proposed Actions, the southwestern half of Dream Street Park could receive a total duration of approximately 55 minutes of new shadow, from 8:55 AM to 9:50 AM, in the morning of the December 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include a grass lawn and planted vegetation.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Dream Street Park on all analysis days. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the new shadow on March 21 could occur in the early morning and would be considerably short. The May 6 and June 21 incremental shadows could be longer in duration but would not prevent the resource from receiving long hours of direct sunlight throughout the day. The incremental shadow on the December 21 analysis day could reduce the quantity of direct sunlight falling on the park, but would occur in the morning of a colder month when park utilization would be relatively low.

With development resulting from the Proposed Actions and within the growing season, the areas of the park receiving sufficient durations of direct sunlight to support vegetation would only change modestly. The areas of the park able to support a variety of plant life would not change significantly from the No Action Condition. The new shadows on December 21 would occur outside the growing season and would not affect the vitality of the resource’s vegetation. Therefore, Dream Street Park would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

EACH ONE TEACH ONE PARK

Each One Teach One Park is a 1.43-acre publicly accessible park operated by NYC Parks located within the Third Avenue Bridge off-ramp loop at approximately East 129th to East 130th Streets on the west side of Lexington Avenue. Sunlight-sensitive features include four basketball courts, six handball courts, landscaping, and bleacher-style seating.

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, Each One Teach One Park could receive a total duration of approximately 9 minutes of new shadow, from 4:20 PM to 4:29 PM, at the end of the March 21 analysis day. The new shadow could fall on the central portion of the park along Lexington Avenue which includes benches, basketball courts, and landscaping. With development resulting from the Proposed Actions, almost all areas of the resource would receive over 8 hours of direct sunlight.

SHADOW IMPACT

Development resulting from the Proposed Actions would cast new shadow on Each One Teach One Park on the March 21 analysis day. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow would be very short and would not significantly reduce the amount of direct sunlight the resource receives. All portions of the resource would receive ample direct sunlight to support vegetation. Therefore, Each One Teach One Park would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

EAST 120TH STREET & SECOND AVENUE GREENSTREET

This is a greenstreet located on Second Avenue and East 120th Street. It features landscaping and several trees (see **Figures 6-25 through 6-27**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, the sunlight-sensitive features within the greenstreet could receive a total duration of approximately 45 minutes of new shadow, from 3:30 PM to 4:15 PM, in the afternoon of the March 21 analysis day. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, the sunlight-sensitive features within the greenstreet could receive a total duration of approximately 2 hours and 25 minutes of new shadow, from 2:40 PM to 5:05 PM, in the afternoon of the May 6 analysis day. All vegetation affected by incremental shadow would receive at least 6 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, the sunlight-sensitive features within the greenstreet could receive a total duration of approximately 3 hours and 16 minutes of new shadow, from 2:45 PM to 6:01 PM, in the afternoon of the June 21 analysis day. All vegetation affected by incremental shadow would receive at least 8 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the greenstreet at East 120th Street and Second Avenue in the afternoon of the March 21, May 6, and June 21 analysis days. The new shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. The greenstreet contains no resources for passive public use and development resulting from the Proposed Actions would not significantly alter the public's use of the resource or the bike path within it. On all affected analysis days, all portions of the resource would receive enough direct sunlight to support a variety of plant life. Therefore, the greenstreet at East 120th Street and Second Avenue would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

EAST 124TH STREET & SECOND AVENUE GREENSTREET

This greenstreet is located on Second Avenue and East 124th Street. It features landscaping and several trees (see **Figures 6-28 through 6-29**).

INCREMENTAL SHADOW

May 6

With development resulting from the Proposed Actions, the sunlight-sensitive features within the greenstreet could receive a total duration of approximately 50 minutes of new shadow, from 3:45 PM to 4:35 PM, in the afternoon of the May 6 analysis day. All vegetation affected by incremental shadow would receive at least 8 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, the sunlight-sensitive features within the greenstreet would receive a total duration of approximately 1 hour and 50 minutes of new shadow, from 3:30 PM to 5:20 PM, in the afternoon of the June 21 analysis day. All vegetation affected by incremental shadow would receive at least 8 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, the sunlight-sensitive features within the greenstreet could receive a total duration of approximately 3 minutes of new shadow, from 2:50 PM to 2:53 PM, at the end of December 21 analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the greenstreet at East 124th Street and Second Avenue in the afternoon of the May 6, June 21, and December 21 analysis days. The new shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow would be relatively short. The greenstreet contains no resources for passive public use and development resulting from the Proposed Actions would not significantly alter the public's use of the resource. On the analysis days within the growing season, all portions of the resource would receive enough direct sunlight to support a variety of plant life. Therefore, the greenstreet at East 124th Street and Second Avenue would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

EL CATANO GARDEN

El Catano Garden is a community garden operated by the New York Restoration Project located at 171 East 110th Street. The garden is located at 171 East 110th Street and set on a thin lot between two buildings. Sunlight-sensitive features located within the resource include planted vegetation and seating (see **Figures 6-30 through 6-33**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, El Catano Garden could receive a total duration of approximately 5 hours and 35 minutes of new shadow, from 7:36 AM to 1:10 PM, in the morning and early afternoon of the March 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include seating and planted vegetation. Most of the garden could be affected by new shadow with the longest durations of new shadow falling on seating and planted vegetation located in the center of the garden. In the No Action Condition, the plantings in all portions of the garden, with the exceptions of those in the extreme rear of the garden, receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, El Catano Garden could receive a total duration of approximately 6 hours and 3 minutes of new shadow, from 6:27 AM to 12:30 PM, in the morning and early afternoon of the May 6 analysis day. Sunlight-sensitive features that could be cast in new shadow include seating, planted vegetation and garden plots. Most of the garden could be affected by new shadow with the longest durations of new shadow falling on the seating and planted vegetation located in the center of the garden. In the No Action Condition, the vegetation in an approximately 1,250-square-foot area of the garden receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the vegetation located in another, approximately 900-square-foot patch of the garden's central section from receiving over 4 hours of direct sunlight throughout the day. From 6:45 AM to 7:20 AM and from 8:30 AM to 9:40 AM development resulting from the Proposed Actions would prevent any direct sunlight from reaching the garden.

June 21

With development resulting from the Proposed Actions, El Catano Garden could receive a total duration of approximately 6 hours and 28 minutes of new shadow, from 5:57 AM to 12:25 PM, in the morning and early afternoon of the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include seating and planted vegetation. Most of the garden could be affected by new shadow with the longest durations of new shadow falling on seating and planted vegetation located in the center of the garden. Compared with the No Action Condition, development resulting from the Proposed Actions would prevent most areas of the garden from receiving over 4 hours of direct sunlight. From 6:30 AM to 6:50 AM development resulting from the Proposed Actions would prevent any direct sunlight from reaching the garden.

December 21

With development resulting from the Proposed Actions, the vegetation and seating in El Catano Garden could receive a total duration of approximately 4 hours and 44 minutes of new shadow, from 8:51 AM to 1:35 PM, in the morning and early afternoon of the December 21 analysis day. The northern half of the garden could be affected by new shadow with the longest durations of new shadow falling on the seating located in the rear of the garden. The area of the garden receiving no direct sunlight throughout the analysis day could increase. From 11:55 AM to 12:35 PM development resulting from the Proposed Actions would prevent any direct sunlight from reaching the garden.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast El Catano Garden in new shadow on all analysis days. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource but may significantly change the variety of plant life supported in the park. As described above, the duration of new shadow on the analysis days would be relatively long. However, most of the new shadow would occur before the garden's 10:00 AM opening hour. Garden users wishing to enjoy sun would, in most cases, find direct sunlight in a nearby area of the small garden. The time of day on May 6 and June 21 when the development resulting from the Proposed Actions would prevent any direct sunlight from reaching the garden occur when the garden is closed. During December, the garden would be expected to be closed to the public for most of the day.

However, development resulting from the Proposed Actions could significantly reduce the hours of direct sunlight received by the park on the analysis days within the growing season. On March 21, most of the garden could receive less than 2 hours of direct sunlight. On May 6 and June 21, the area of the garden receiving at least 4 hours of direct sunlight could be mostly eliminated, instead receiving less than 2 hours of direct sunlight. With the limited hours of direct sunlight, it is possible that the garden would no longer be able to support the variety of plant life that it could in the No Action Condition. Therefore, El Catano Garden would experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

EL GALLO COMMUNITY GARDEN

El Gallo Community Garden is a 0.08 acre community garden operated by NYC Parks and located at the southeast corner of East 118th Street and Lexington Avenue. Sunlight-sensitive features within the resource include vegetation, seating areas, and several garden plots (see **Figure 6-34**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, the northern edge of El Gallo Community Garden could receive a total duration of approximately 9 minutes of new shadow, from 7:36 AM to 7:45 PM, in the early morning of the March 21 analysis day. At this time, the garden would not receive any direct sunlight. Sunlight-sensitive features that could be cast in new shadow include garden plots, planted vegetation, and the canopy of a tree. In the No Action Condition, the garden plots, trees and plantings located in the majority of the garden, with the exception of those in the northwest corner, receive less than 4 hours of direct sunlight

throughout the day. Development resulting from the Proposed Actions could prevent the garden plots located in an additional approximate 75-square-foot patch of the garden's northeast corner from receiving over 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, the garden plots and planted vegetation within El Gallo Community Garden could receive a total duration of approximately 35 minutes of new shadow, from 7:05 AM to 7:40 PM, in the morning of the May 6 analysis day. The longest durations of new shadow could fall on the planted vegetation located in the northeast corner of the resource. In the No Action Condition, the garden plots and vegetation located in the southeast half of the garden closest to East 105th Street receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on El Gallo Community Garden for short durations on March 21 and May 6. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource or its ability to support vegetation. As described above, the duration of new shadow on the March 21 and May 6 would be short and would occur early in the morning before the garden is open to the public. Therefore, the new shadow would not affect the garden's use and would not result in a significant change compared with the No Action Condition.

Within the growing season, the areas of the resource not receiving enough direct sunlight to support vegetation would not change compared with the No Action Condition and would not significantly alter the variety of plant life supported in the garden. Therefore, the El Gallo Community Garden would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

EL SITIO FELIZ

El Sitio Feliz is a 0.46-acre garden operated by NYC Parks and located at 203 East 104th Street. Sunlight-sensitve features within the resource include garden plots, trees, planted vegetation an amphitheater, and a large, vine-covered pergola (see **Figures 6-35 through 6-37**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, the northernmost portion of El Sitio Feliz could receive a total duration of approximately 2 hours and 20 minutes of new shadow, from 1:30 PM to 3:50 PM, in the afternoon of the March 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include the amphitheater and planted vegetation. The longest durations of new shadow could fall on the amphitheater in the narrowest portion of the garden close to East 105th Street. In the No Action Condition, the planted vegetation located along the eastern edge of the garden receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the vegetation located in

another approximately 350-square-foot patch of the garden's rear and center from receiving over 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, El Sitio Feliz could receive a total duration of approximately 2 hours and 43 minutes of new shadow, from 6:27 AM to 6:35 AM and 12:45 PM to 3:20 PM, in the beginning and in the afternoon of the May 6 analysis day. Sunlight-sensitive features that could be cast in new shadow include the amphitheater, garden plots and the canopy of several trees. The longest durations of new shadow could fall on the amphitheater and the northwestern corner of the resource. In the No Action Condition, the vegetation in the rear area of the garden closest to East 105th Street receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the vegetation located in another, approximately 350-square-foot patch of the garden's rear section from receiving over 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, El Sitio Feliz could receive a total duration of approximately 3 hours and 13 minutes of new shadow, from 5:57 AM to 6:15 AM and 12:40 PM to 3:35 PM, in the beginning and in the afternoon of the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include the amphitheater, garden plots and the canopy of several trees. The longest durations of new shadow could fall on the amphitheater and the northern narrowest section of the garden near East 105th Street. Incremental shadow could also fall on the central portion of the garden, but for no more than approximately 20 minutes. In the No Action Condition, the vegetation in the rear area of the garden closest to East 105th Street receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent another, approximately 750-square-foot area of the garden and the vegetation within it from receiving less than 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on El Sitio Feliz on March 21, May 6, and June 21 analysis days. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource or its ability to support vegetation. As described above, the duration of new shadow on the March 21, May 6, and June 21 analysis days could last several hours but the longest durations of new shadow could be restricted to the northernmost section of the garden. At no time would incremental shadow completely block all direct sunlight from reaching the resource. The total duration of direct sunlight on this section of the park would be short, but would not result in a significant change compared with the No Action Condition and would not affect the garden's use.

Within the growing season, the areas of the resource not receiving enough direct sunlight to support vegetation could slightly grow compared with the No Action Condition and would not significantly alter the variety of plant life supported in the garden. The amphitheater area that could receive the longest durations of new shadow is mostly paved and has less plant life than other sections of the garden. The section of the garden with growing plots would not be cast in as much new shadow and could receive enough direct sunlight to support a variety of plant life.

Therefore, the El Sitio Feliz would not experience a significant adverse shadow impact due to the Proposed Actions.

EUGENE MCCABE FIELD

Eugene McCabe Field is a 0.79-acre publicly accessible open space located on Park Avenue between East 120th and East 121st Streets. Sunlight-sensitive features within the field include a synthetic turf soccer field, landscaping, and benches (see **Figures 6-38 through 6-41**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, McCabe Field could receive a total duration of approximately 8 hours and 29 minutes of new shadow, from 7:36 AM to 4:29 PM, throughout the March 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, and a synthetic grass athletic field. All of the field could be affected by new shadow with the longest durations of new shadow falling on the southern corner of the field and surrounding benches. Compared with the No Action Condition, development resulting from the Proposed Actions could prevent any portion of the open space from receiving more than 8 hours of direct sunlight. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day. From 7:36 AM to 7:45 AM development resulting from the Proposed Actions would prevent any direct sunlight from reaching the resource.

May 6

With development resulting from the Proposed Actions, McCabe Field could receive a total duration of approximately 7 hours of new shadow, from 6:45 AM to 9:40 AM and 11:35 AM to 3:40 PM, throughout the May 6 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, and a synthetic grass athletic field. New shadow could fall on the southern half of the field with the longest durations of new shadow affecting the field's southern corner and adjacent benches. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, McCabe Field could receive approximately 5 hours and 48 minutes of new shadow, from 5:57 AM to 9:15 AM and 12:40 PM to 3:10 PM, throughout the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches and the synthetic grass athletic field. New shadow could fall on the southern half of the field with the longest durations of new shadow affecting the field's southern corner and the adjacent benches. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, McCabe Field could receive a total duration of approximately 6 hours and 2 minutes of new shadow, from 8:51 AM to 2:53 PM, throughout the December 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, and the synthetic grass athletic field. All of the field could be affected by new shadow with the longest durations of new shadow falling on the area of the

field closest to East 120th Street. Compared with the No Action Condition, development resulting from the Proposed Actions could prevent approximately 2 hours of direct sunlight from reaching all areas of the field.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast McCabe Field in new shadow on all analysis days. Compared with the No Action Condition, the incremental shadow could significantly alter the public's use of the open space resource but would not significantly impact the limited vegetation growing within the park. As described above, the duration of new shadow on the analysis days could be long. On March 21 and December 21, all areas of the field could experience a 2-hour reduction in the duration of direct sunlight. On the May 6 and June 21 analysis days, incremental shadow could be restricted to the southern corner of the resource, but would result in a more significant change to the duration of direct sunlight falling on the resource. The addition of shadow on all analysis days may change user's experience within a resource that, in the No Action Condition, receives long, interrupted durations of direct sunlight.

Development resulting from the Proposed Actions would not significantly alter the resource's ability to support vegetation. The field is synthetic turf and does not require sunlight. The limited landscaping around the edges of the field could receive enough direct sunlight within the growing season to support its vitality. However, because the duration of incremental shadow may significantly impact use of the resource, McCabe Field would experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

FAMILY COMMUNITY GARDEN

Family Community Garden is a 0.02-acre community garden operated by GreenThumb and located at 159 East 111th Street. The garden has a low utilization rate and is in fair condition. Relatively small, the garden sits between a six-story building and a four-story building. Sunlight-sensitive resources located within the garden include garden plots and a tree located toward the north side of the garden with a canopy that covers the sidewalk and parking lane (see **Figures 6-42 through 6-43**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, the landscaping in Family Community Garden could receive a total duration of approximately 1 hour of new shadow, from 8:05 AM to 9:10 AM, in the morning of the March 21 analysis day. The longest duration of incremental shadow could fall on the landscaping within the southern quarter of the garden. This shadow could affect the garden shed and garden plots located toward the back of the garden, farthest from the street. In the No Action Condition, approximately three-quarters of the garden receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the vegetation located in another, approximately 50-square-foot patch of the garden's rear from receiving over 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, the garden plots located in the northern portion of Family Community Garden could receive a total duration of approximately 25

minutes of new shadow, from 6:55 AM to 7:20 AM, in the early morning of the May 6 analysis day. In the No Action Condition, the garden plots located in the central section of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the garden from receiving at least 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Family Community Garden on the March 21 and May 6 analysis days. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource or its ability to support vegetation. As described above, the duration of new shadow would be relatively short and would be cast in the early morning. Family Community Garden is open from 2:00 PM to 6:00 PM on Tuesdays and Thursdays with varying hours Friday through Sunday. The new shadow originating would likely be cast when the garden is not open to the public and could not affect the public's utilization of the resource; almost all areas of the garden affected by new shadow would receive enough sunlight to support a variety of vegetation. Therefore, Family Community Garden would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

HARLEM ART PARK

Harlem Art Park is a 0.35-acre publicly accessible open space located at the intersection of 120th Street and Sylvan Place operated by NYC Parks. Sunlight-sensitive features within the park include a generous tree canopy, benches, and landscaping (see **Figures 6-44 through 6-46**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, Harlem Art Park could receive a total duration of approximately 2 hours and 25 minutes of new shadow, from 10:25 AM to 12:50 PM, in the late morning and early afternoon of the March 21 analysis day. The portion of the resource farthest to the south featuring benches and landscaping would be affected most by new shadow on this analysis day. In the No Action Condition, the trees and landscaping located in the extreme east of the park receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the landscaping and vegetation located in another, approximately 300-square-foot patch of the garden's southeast corner from receiving over 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, Harlem Art Park could receive a total duration of approximately 31 minutes of new shadow, from 5:30 PM to 6:01 PM at the end of the June 21 analysis day. The short duration of new shadow would be cast on the vegetation and benches of the park that are located in the southern and western corners of the park. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, Harlem Art Park could receive a total duration of approximately 4 hours and 29 minutes of new shadow, from 8:51 AM to 12:50 PM and 1:05 PM to 1:35 PM, in the morning and early afternoon of the December 21 analysis day. However, new shadow would not be cast on any one location within the park for more than 2 hours. Most of the new shadow on this analysis day would fall on the northernmost corner of the open space which includes benches, landscaping and the canopy of several trees. With development resulting from the Proposed Actions, the area of the resource receiving no direct sunlight could increase slightly into the center of the park.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Harlem Art Park on the March 21, June 21, and December 21 analysis day. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow on June 21 could be very short and would not significantly reduce the amount of direct sunlight the resource receives and the park's utilization would not change due to new shadows. New shadow on December 21 could be of longer duration but would occur in a winter month when park utilization would be lower. The new shadow on December 21 would occur outside the growing season and would not affect the vitality of the resource's vegetation. Therefore, Harlem Art Park would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

HARLEM RIVER DRIVE PARK

INCREMENTAL SHADOW

Harlem River Drive Park is a 2.18-acre publicly accessible park operated by NYC Parks located along the Harlem River between East 135th and East 145th Streets. It features a greenway and an esplanade with benches along the river (see **Figure 6-47**).

March 21

With development resulting from the Proposed Actions, a small portion of Harlem River Drive Park which includes vegetation could receive a total duration of approximately 4 minutes of new shadow, from 4:25 PM to 4:29 PM, at the end of the March 21 analysis day. All vegetation affected by incremental shadow would receive at least 8 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, a small portion of Harlem River Drive Park which includes vegetation could receive a total duration of approximately 11 minutes of new shadow, from 5:50 PM to 6:01 PM, at the end of the June 21 analysis day. All vegetation affected by incremental shadow would receive at least 8 hours of direct sunlight throughout the day.

SHADOW IMPACT

The development resulting from the Proposed Actions could cast new shadow on Harlem River Drive Park on the March 21 and June 21 analysis days. The short duration and small extent of

incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow could be very short and would not significantly reduce the amount of direct sunlight the resource receives. All portions of the resource would receive ample direct sunlight to support vegetation. Therefore, Harlem River Drive Park would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

HARLEM RIVER PARK

Harlem River Park is a 4.62-acre publicly accessible park operated by NYC Parks located between Lexington Avenue, East 128th Street, and Harlem River Drive. Sunlight-sensitive features include benches, a soccer field, a baseball diamond, and open fields (see **Figure 6-48**).

INCREMENTAL SHADOW

June 21

With development resulting from the Proposed Actions, a small portion of Harlem River Park which includes benches and a synthetic grass field could receive a total duration of approximately 16 minutes of new shadow, from 5:45 PM to 6:01 PM, at the end of the June 21 analysis day. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, a small portion of Harlem River Park could receive a total duration of approximately 3 minutes of new shadow, from 2:50 PM to 2:53 PM, at the end of the December 21 analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Harlem River Park on the June 21 and December 21 analysis days. The short duration and small extent of incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow could be very short and would not significantly reduce the amount of direct sunlight the resource receives. All portions of the resource would receive ample direct sunlight to support vegetation. Therefore, Harlem River Park would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

HERB GARDEN

The Herb Garden is a 0.08-acre garden operated by the New York Restoration Project and is located at 176 East 111th Street. Sunlight-sensitive features within garden include garden plots, seating, and other vegetation (see **Figures 6-50 through 6-53**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, the Herb Garden could receive a total duration of approximately 4 hours and 15 minutes of new shadow, from 7:50 AM to 12:05 PM,

in the morning and early afternoon of the March 21 analysis day. New shadow could fall on the garden plots located in the southern half of the garden with the portion of the garden closer to the entrance receiving the longest durations of new shadow. In the No Action Condition, nearly all of the garden's plots and vegetation receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the vegetation located in another, approximately 125-square-foot patch of the garden's southeast section from receiving over 4 hours of direct sunlight throughout the day. From approximately 9:15 AM to 10:05 AM, development resulting from the Proposed Actions could prevent any direct sunlight from reaching the resource.

May 6

With development resulting from the Proposed Actions, the Herb Garden could receive a total duration of approximately 1 hour and 55 minutes of new shadow, from 6:27 AM to 7:45 AM and 8:40 AM to 9:15 AM, in the morning of the May 6 analysis day. New shadow could fall on garden plots and seating in the front and rear of the garden with the northernmost corner of the garden receiving the longest durations of new shadow. In the No Action Condition, the garden plots located in an approximately 800-square-foot section of the garden near the entrance receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the garden plots located in another, approximately 175-square-foot patch of the garden near the entrance from receiving over 4 hours of direct sunlight throughout the day. From approximately 6:40 AM to 7:10 AM, the Proposed Actions could prevent any direct sunlight from reaching the resource.

June 21

With the development resulting from the Proposed Actions, the Herb Garden could receive a total duration of approximately 40 minutes of new shadow, from 7:10 AM to 7:50 AM, in the morning of the June 21 analysis day with the garden plots located in the northeast corner of the garden receiving the longest durations of new shadow. In the No Action Condition, the garden plots located in an approximately 1000-square-foot section of the garden near the entrance receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the garden from receiving at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, the Herb Garden could receive a total duration of approximately 2 hours and 5 minutes of new shadow, from 9:25 AM to 12:15 PM, in the morning and early afternoon of the December 21 analysis day. New shadow could fall on most areas of the garden with the garden plots located in the center of the garden receiving the longest durations of new shadow. Development resulting from the Proposed Actions could prevent almost all areas of the garden from receiving any direct sunlight throughout the December 21 analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the Herb Garden on all analysis days. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource or its ability to support vegetation. As described above, the duration of new shadow on March 21 and December 21 would be

relatively long but would occur partially in the early morning when the garden, which is open only 20 hours a week, would likely not be open to the public. New shadow durations on the May 6 and June 21 analysis days would be shorter and would also partially occur during hours the garden would likely be closed to the public. None of the new shadow on any of the analysis days would significantly impact the public's use of the garden.

Of the analysis days within the growing season, the new shadows on March 21 could eliminate a small area of the park that, in the No Action Condition, receives over 4 hours of direct sunlight and could create a small area within the garden that would receive no direct sunlight throughout the analysis day. However, compared with the No Action Condition, this would not significantly change the duration of direct sunlight falling on the garden and would not significantly change the variety of plant life supported within the garden. The same is true on the May 6 and June 21 analysis days when the durations of new shadow would be shorter. The December 21 analysis day is outside the growing season and any new shadow on this day would not affect the vitality of the resource's vegetation. Therefore, the Herb Garden would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

JACKIE ROBINSON COMMUNITY GARDEN

Jackie Robinson Community Garden, hosted by NYC Parks, is an approximately 0.05-acre community garden located at 1761 Park Avenue. Sunlight-sensitive features within the garden include a garden plots and other vegetation. As described in Chapter 5, "Open Space," under the RWCDS, most of the garden would be displaced by Projected Development Site 69. The shadow assessment below therefore applies to the remaining portion of the garden located on tax Block 1771, Lot 5 (see **Figures 6-53 through 6-56**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, Jackie Robinson Garden could receive a total duration of approximately 3 hours and 9 minutes of new shadow, from 1:20 PM to 4:29 PM, in the afternoon of the March 21 analysis day. New shadow could fall on most areas within the garden with the garden plots in the southwest portion of the garden receiving the longest durations of new shadow. In the No Action Condition, the garden plots located in approximately half of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the garden plots located in another, approximately 900-square-foot central area of the garden from receiving over 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, Jackie Robinson Garden could receive a total duration of approximately 4 hours and 33 minutes of new shadow, from 12:45 PM to 5:18 PM, in the afternoon of the May 6 analysis day. New shadow could fall on most areas within the garden with the plots located in the southwest portion of the garden receiving the longest durations of new shadow. In the No Action Condition, the garden plots located in an approximately 450-square-foot rear section of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the garden plots located in approximately half the garden from receiving over 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, Jackie Robinson Garden could receive a total duration of approximately 5 hours and 21 minutes of new shadow, from 12:40 PM to 6:01 PM, in the afternoon of the June 21 analysis day. New shadow could fall on most areas within the garden with the plots located in the southwest portion of the garden receiving the longest durations of new shadow. Development resulting from the Proposed Actions could substantially decrease the areas of the garden receiving more than 4 hours of direct sunlight. In the No Action Condition, the garden plots located in an approximately 400-square-foot central section of the garden near receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could result in approximately half the garden's area, and the plots within it, from receiving over 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, Jackie Robinson Garden could receive a total duration of approximately 1 hour and 34 minutes of new shadow, from 1:40 PM to 2:45 PM, in the afternoon of the December 21 analysis day. New shadow could fall on the garden plots located in the northern half of the garden with the rear portion of the garden receiving the longest durations of new shadow. Development resulting from the Proposed Actions would not substantially decrease the limited duration of direct sunlight falling on the garden in the No Action Condition.

SHADOW IMPACT

The development resulting from Proposed Actions could cast Jackie Robinson Garden in new shadow on all analysis days. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource but may significantly change the variety of plant life supported in the park. As described above, the duration of new shadow on the analysis days could be relatively long. Even though most of new shadow would occur in the afternoon when the garden would presumably be open to the public, at no time would the new shadow prevent all direct sunlight from reaching the garden. Garden users wishing to enjoy direct sunlight in the newly shaded areas could find direct sunlight in a different location of the garden.

However, development resulting from the Proposed Actions could significantly alter the hours of direct sunlight received by the park on the analysis days within the growing season. On March 21, few areas of the garden would receive more than 4 hours of direct sunlight. On May 6 and June 21, when compared with the No Action Condition, most of the garden would change from receiving over 4 hours of direct sunlight to most of it receiving less than 4 hours of direct sunlight. Because at least 4 hours of direct sunlight is needed to support a variety of plant life, it is possible that the garden could no longer support the same plant life that it would in the No Action Condition. Therefore, the Jackie Robinson Community Garden would experience a significant adverse shadow impact due to the development resulting from the Proposed Actions.

JACKIE ROBINSON HOUSES RECREATION AREA

Jackie Robinson Houses Recreation Area are the open spaces within the Jackie Robinson Houses NYCHA complex located between Lexington and Park Avenues from East 126th to East 128th Streets intended for NYCHA residents. Together these resources are 0.13 acres. The sunlight-

sensitive features within these open spaces include a playground and benches, all covered by a generous canopy of trees (see **Figures 6-57 through 6-59**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, a small portion of the Jackie Robinson Houses Recreation Area could receive a total duration of approximately 19 minutes of new shadow, from 4:10 PM to 4:29 PM, at the end of the March 21 analysis day, preventing the resource from receiving any direct sunlight at this time. Sunlight-sensitive features that could be cast in incremental shadow include benches and a playground. Incremental shadow would not be cast on any vegetation within the resource

May 6

With development resulting from the Proposed Actions, the southern half of the Jackie Robinson Houses Recreation Area could receive a total duration of approximately 1 hour and 53 minutes of new shadow, from 3:25 PM to 5:18 PM, in the afternoon of the May 6 analysis day. Sunlight-sensitive features that could be cast in incremental shadow include benches and a playground. The longest durations of new shadow would affect the playground and benches located closest to East 128th Street. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day. From approximately 4:05 PM to 5:18 PM, development resulting from the Proposed Actions could prevent any direct sunlight from reaching the resource.

June 21

With development resulting from the Proposed Actions, the southern half of the Jackie Robinson Houses Recreation Area could receive a total duration of approximately 2 hours of new shadow, from 3:45 PM to 5:45 PM, in the afternoon of the June 21 analysis day. Sunlight-sensitive features that could be cast in incremental shadow include benches and a playground. The longest durations of new shadow could affect benches and the playground located closest to East 128th Street. From approximately 4:25 PM to 5:40 PM, development resulting from the Proposed Actions could prevent any direct sunlight from reaching the resource. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

The development resulting from Proposed Actions could cast new shadow on the Jackie Robinson Houses Recreation Area on the March 21, May 6, and June 21 analysis days. The new shadow would be modest in duration but would not significantly alter NYCHA residents' use of the open space resource or threaten its ability to support vegetation. As described above, the duration of new shadow would be very short on March 21 and would be limited to the southern half of the resource on May 6 and August 21. The new shadow would not significantly reduce the amount of direct sunlight the resource receives and the resource would continue to receive hours of direct sunlight in the morning of all analysis days and enough direct sunlight through the analysis day to support plant life. The recreation area features very little vegetation, but with the development resulting from the Proposed Actions all areas of the resource would receive enough direct sunlight to support a variety of plant life during the growing season.

JAMES WELDON PLAYGROUND

James Weldon Playground is an approximately 1.05-acre publicly accessible open space located on Lexington Avenue near East 115th Street. The playground, which is jointly operated with the adjacent public school, is currently being reconstructed and will feature benches, playing fields, a playground, and landscaping (see **Figures 6-60 through 6-63**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, James Weldon Playground could receive a total duration of approximately 5 hours and 25 minutes of new shadow, from 8:55 AM to 10:30 AM and 12:25 PM to 4:15 PM, throughout the March 21 analysis day. However, no single area of the resource would be cast in new shadow for more than 3 hours and 30 minutes. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, and a basketball court, with the longest durations of new shadow falling on the benches and landscaping located in the westernmost corner. Development resulting from the Proposed Actions could prevent the landscaping located in an approximately 1,500-square-foot southeast section of the garden from receiving over 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, James Weldon Playground could receive a total duration of approximately 8 hours and 33 minutes of new shadow, from 6:27 AM to 7:20 AM and 9:40 AM to 5:18 PM, throughout the May 6 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, a playground, and sprinklers. Most of the affected area would experience less than 1 hour of new shadow with the longest durations of new shadow restricted to the southwestern corner of the playground which features benches and landscaping. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, James Weldon Playground could receive a total duration of approximately 8 hours and 23 minutes of new shadow, from 5:57 AM to 7:25 AM and 10:15 AM to 5:10 PM, throughout the June 21 analysis day. New shadow could fall on the western half of the playground but most of the affected area would experience less than 2 hours of incremental shadow. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, a playground, and a basketball court and sprinklers. The longest durations of new shadow could be restricted to the southwest corner of the playground, which includes benches and landscaping. With development resulting from the Proposed Actions, some sections of the park receiving over 10 hours of direct sunlight could instead receive between 8 and 10 hours of direct sunlight. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, James Weldon Playground could receive a total duration of approximately 1 hour and 34, from 1:20 PM to 2:53 PM, in the afternoon of the December 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, and a playground. New shadow could fall on the area of the

playground closest to Lexington Avenue with the longest durations of new shadow in the southwest corner of the playground which features benches and landscaping. With development resulting from the Proposed Actions, additional areas within the park could receive no sunlight.

SHADOW IMPACT

The development resulting from Proposed Actions could cast new shadow on James Weldon Playground on all analysis days. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadows could be very long on all analysis days (with the exception of the December 21 analysis day). However, the bulk of incremental shadow would be restricted to a relatively small portion of the park in the southwest corner of the resource. Following the resource's reconstruction, resources in the affected area would include benches, landscaping, and a paved walkway. The playground will feature many benches, and resource users wishing to enjoy sun will be able to find other areas in the open space still in direct sunlight, precluding development resulting from the Proposed Actions from significantly impacting park utilization.

With the development resulting from the Proposed Actions and within the growing season, almost all affected areas of the resource would receive enough direct sunlight to support plant life. The area of the playground that could receive less than 4 hours of direct sunlight on some analysis days is small in extent. The new shadows on December 21 would occur outside the growing season. Therefore, James Weldon Playground would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

JEFFERSON HOUSES RECREATION AREAS

The Jefferson Houses Recreation Areas are the open spaces within the Jefferson Houses NYCHA complex located between First and Third Avenues from East 112th Street to East 115th Street intended for NYCHA residents. Together they total 2.2 acres. Sunlight-sensitive features within these areas include seating, playgrounds, planted gardens, and basketball courts covered by a generous canopy of trees (see **Figures 6-64 through 6-67**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, the Jefferson Houses Recreation Areas located between Second and Third Avenues could receive a total duration of approximately 7 hours and 38 minutes of new shadow throughout the March 21, from 7:36 AM to 1:05 PM and 2:20 PM to 4:29 PM, analysis day. The longest durations of new shadow could fall on a playground between Jefferson Houses Buildings 16 and 17. Within this specific playground, areas that receive over 8 hours of direct sunlight in the No Action Condition could instead receive as little as 2 hours of sunlight.

May 6

With development resulting from the Proposed Actions, the Jefferson Houses Recreation Areas located between Second and Third Avenues could receive a total duration of approximately 8 hours and 51 minutes of new shadow, from 6:27 AM to 12:25 PM and 2:25 PM to 5:18 PM, throughout the May 6 analysis day. The longest durations of new shadow could fall on the playground between Jefferson Houses Buildings 16 and 17. Almost all other recreation areas

affected by new shadow would experience less than 1 hour of new shadow. Within the specific playground, half of the area that receives over 8 hours of direct sunlight could instead receive between 6 and 8 hours of direct sunlight.

June 21

With development resulting from the Proposed Actions, the Jefferson Houses Recreation Areas could receive a total duration of approximately 7 hours and 28 minutes of new shadow, from 5:57 AM to 7:45 AM, 8:40 AM to 12:15 PM and 3:55 PM to 6:00 PM, throughout the June 21 analysis day. The new shadow could fall on several of the recreation areas between Second and Third Avenues and one basketball court east of Second Avenue and south of Jefferson Houses Building 2. No single recreation area would receive more than 3.5 hours of new shadow and most of the affected areas would receive less than 1 hour of new shadow. Almost all other recreation areas affected by new shadow could experience less than 1 hour of new shadow.

December 21

With development resulting from the Proposed Actions, the Jefferson Houses Recreation Areas could receive a total duration of approximately 3 hours and 53 minutes of new shadow, from 8:50 AM to 12:15 PM and 2:25 PM to 2:53 PM, throughout the December 21 analysis day. The new shadow could fall on several of the recreation areas between Second and Third Avenues and one playground east of Second Avenue between Jefferson Houses Buildings 9 and 10. The longest durations of new shadow could fall on the playground between Jefferson Houses Buildings 16 and 17. Within the specific playground, development resulting from the Proposed Actions could prevent additional areas from receiving any sunlight throughout the analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the Jefferson Houses Recreation Areas on all analysis days. While the new shadow durations are long, they are spread out on two super blocks containing the large housing complex. The incremental shadow would not significantly alter NYCHA residents' use of the open space resource or threaten the vitality of its vegetation. As described above, one playground between Jefferson Houses Buildings 16 and 17 could experience the longest durations of new shadow. Residents could however choose to use other open space resources within the Jefferson Houses complex. Several other play areas within its grounds would be in direct sunlight when the playground between Buildings 16 and 17 would experience shadow. The development resulting from the Proposed Actions could result in a very small portion of the affected area receiving less than 4 hours of direct sunlight on March 21. This area of the same playground described above is mostly paved and features sparse landscaping. Therefore, the Jefferson Houses Recreation Areas would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

JOHNSON HOUSES RECREATION AREAS

The Johnson Houses Recreation Areas are the open spaces within the Johnson Houses NYCHA complex located between Park and Third Avenues from East 112th to East 115th Street. They are intended for use by NYCHA residents. Together the areas total 0.53 acres. Sunlight-sensitive features in these areas include a playground, benches, and a generous canopy of trees (see **Figures 6-68 through 6-70**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, a playground located between Lexington and Third Avenues within Johnson Houses could receive a total duration of approximately 2 hours and 13 minutes of new shadow, from 7:36 AM to 9:15 AM and 3:55 PM to 4:29 PM, throughout the March 21 analysis day. Within this specific playground, all areas receiving over 8 hours of direct sunlight in the No Action Condition could instead receive as little as 2 hours of sunlight.

May 6

With development resulting from the Proposed Actions, the Johnson Houses Recreation Areas could receive a total duration of approximately 13 minutes of new shadow, from 6:27 AM to 6:40 AM, in the morning of the May 6 analysis day. The new shadow could fall on the small portions of a playground behind Johnson Houses Building 5 and a plaza behind Building 10. Neither would experience new shadow lasting longer than approximately 30 minutes.

June 21

With development resulting from the Proposed Actions, the Johnson Houses Recreation Areas could receive a total duration of approximately 13 minutes of new shadow, from 5:57 AM to 6:10 AM, at the end of the June 21 analysis day. The new shadow could fall on several very small portions of the recreation areas between Lexington and Park Avenues that feature benches and a playground. No single recreation area would receive new shadow lasting longer than approximately 30 minutes.

December 21

With development resulting from the Proposed Actions, the Johnson Houses Recreation Areas could receive a total duration of approximately 3 hours and 39 minutes of new shadow, from 8:51 AM to 9:50 AM, 10:10 AM to 11:40 AM, and 12:05 PM to 1:15 PM, throughout the December 21 analysis day. The new shadow would fall on the recreation areas between Lexington and Third Avenues and one garden at the corner of Park Avenue and East 112th Street. The longest durations of new shadow would fall on the resources between Lexington and Third Avenues and would not last more than approximately 1 hour.

SHADOW IMPACT

The development resulting from Proposed Actions could cast new shadow on the Johnson Houses Recreation Areas on all analysis days. The new shadow durations are modest and spread out on two super blocks containing the large housing complex. The incremental shadow would not significantly alter use of the open space resource or threaten the vitality of its vegetation. As described above, only small portions of the recreation areas would experience incremental shadow and NYCHA resident's experience within the open spaces would not be significantly altered. Development resulting from the Proposed Actions would not result in any portion of the affected area from receiving less than 4 hours of direct sunlight within the growing season and the overall durations of direct sunlight would not significantly change. Therefore, the Johnson Houses Recreation Areas would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions

LA CASITA COMMUNITY GARDEN

INCREMENTAL SHADOW

La Casita Community Garden is a newly reconstructed 0.06-acre community garden operated by the New York Restoration Project and located at 223 East 119th Street. Sunlight-sensitive features within the garden include benches and landscaping (see **Figures 6-74 through 6-76**).

March 21

With development resulting from the Proposed Actions, La Casita Community Garden could receive a total duration of approximately 54 minutes of new shadow, from 7:36 AM to 8:30 AM, at the beginning of the March 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, and a performance stage. A portion of the garden receiving over 6 hours of direct sunlight in the No Action Condition could instead receive between 4 and 6 hours of direct sunlight throughout the day. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, La Casita Community Garden could receive a total duration of approximately 1 hour and 38 minutes of new shadow, from 6:27 AM to 7:55 AM and 4:25 PM to 4:35 PM, throughout the May 6 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, and a performance stage. Almost all portions of the garden could be affected by new shadow with the longest durations of new shadow falling on the southeast portion of the garden. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, the southern half of La Casita Community Garden could receive a total duration of approximately 40 minutes of new shadow, from 5:57 AM to 6:20 AM, 7:20 AM to 7:25 AM and 4:45 PM to 4:55 PM, throughout the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, and a performance stage. The longest durations of new shadow could fall on the southeast corner of the garden, which features benches and landscaping. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, benches and landscaping within La Casita Community Garden could receive a total duration of approximately 5 minutes of new shadow, from 8:55 AM to 9:00 AM, throughout the December 21 analysis day. The longest durations of new shadow could fall on the southeast corner of the garden.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on La Casita Community Garden on all analysis days. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource or its ability to support vegetation. As described above, the duration of new shadow an all analysis days would be relatively short and, on some days, restricted to the southern portion of the garden. The quantity of direct sunlight falling on the garden would not significantly change and

users could continue to enjoy hours of sunlight. On the analysis days within the growing season, all areas of the garden would receive enough sunlight to support vegetation. While the southern corner could receive less direct sunlight, the reduction would not be substantial enough to change the variety of plan life supported in the garden. Therefore, La Casita Community Garden would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

LA CUEVITA COMMUNITY GARDEN

La Cuevita Community Garden is a 0.06-acre community garden operated by GreenThumb and located at 71 East 115th Street. The garden has a low utilization rate and is in good condition. Sunlight-sensitive features within the garden include raised wood-frame garden beds accessible by concrete footpaths, and a few immature trees located farther into the garden. The garden sits between two five-story buildings (see **Figures 6-74 through 6-76)**.

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, La Cuevita Community Garden could receive a total duration of approximately 2 hours and 45 minutes of new shadow, from 8:55 AM to 11:30 AM and 12:00 PM to 12:10 PM, in the morning and early afternoon of the March 21 analysis day. The longest duration of incremental shadow could fall on the vegetation located in the rear of the garden for approximately 2 hours. In the No Action Condition, nearly all of the vegetation within the garden receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, the northern half of La Cuevita Community Garden could receive a total duration of approximately 2 hours of new shadow, from 9:50 AM to 11:55 AM, in the morning of the May 6 analysis day. The longest duration of incremental shadow could fall on vegetation located near the rear of the garden for approximately 1 hour. In the No Action Condition, the plantings and grass in all but the rear of the garden receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could result in plantings located in another, approximately 275-square-foot rear area of the garden from receiving over 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, the vegetation located in the central portion of La Cuevita Community Garden could receive a total duration of approximately 1 hour and 45 minutes of new shadow, from 10:00 AM to 11:45 AM, in the late morning of the June 21 analysis day. In the No Action Condition, the vegetation in approximately three-quarters of the garden receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the garden from receiving at least 4 hours of direct sunlight throughout the day.

Shadow Impact Development resulting from the Proposed Actions could cast new shadow on La Cuevita Community Garden on all analysis days within the growing season. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource or its ability to support vegetation. The garden is open to the public from 1:00 PM to 7:00 PM, Wednesday through Saturday. As described above, all of the new shadow would be cast in the morning and early afternoon before the garden is accessible to the public, preventing the new shadow from affecting the public's utilization of the resource. On May 6, a small portion of the garden's rear would no longer receive 4 hours of direct sunlight and may not support the same variety of plant life as it would in the No Action Condition. Overall, however, most of the area affected by new shadow on the March, May, and June analysis days could experience a significant change in the total hours of direct sunlight received throughout the day and would continue to be able to support the same variety of plant life as it would in the No Action Condition. Therefore, La Cuevita Community Garden would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

LIFE SPIRE GARDEN

Life Spire Garden, hosted by NYC Parks, is a 0.02-acre community garden located at 2015 Lexington Avenue set on a thin lot between two buildings. Sunlight-sensitive features within the garden include garden plots and benches (see **Figures 6-77 through 6-79**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, Life Spire Garden could receive a total duration of approximately 1 hour of new shadow, from 8:20 AM to 9:20 AM, in the morning of the March 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include plantings and garden plots. All portions of the garden could be affected by new shadow, with the longest durations of new shadow falling on the southeast portion of the garden which features planted vegetation. In the No Action Condition, the garden plots and plantings located in all but the rear of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the plantings located in another, approximately 50-square-foot section of the garden's rear area from receiving over 4 hours of direct sunlight throughout the day. From approximately 8:20 AM to 8:30 AM, development resulting from the Proposed Actions could cast Life Spire Garden completely in shadow.

May 6

With development resulting from the Proposed Actions, Life Spire Garden could receive a total duration of approximately 18 minutes of new shadow, from 6:27 AM to 6:45 AM, in the beginning of the May 6 analysis day and could cause the entire garden to be cast in shadow during this time. New shadow could fall on the vegetation located in the southeast portion of the garden. Compared with the No Action Condition, the development resulting from the Proposed Actions could increase a very small portion of the garden receiving less than 4 hours of direct sunlight.

June 21

With development resulting from the Proposed Actions, Life Spire Garden could receive a total duration of approximately 50 minutes of new shadow, from 6:00 AM to 6:50 AM, in the early morning of the June 21 analysis day and could cause the entire garden to be cast in shadow during this time. New shadow would be limited to the southeast portion of the garden which features planted vegetation. In the No Action Condition, the plantings in the central section of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, Life Spire Garden could receive a total duration of approximately 2 hours and 4 minutes of new shadow, from 8:51 AM to 9:35 AM and 9:45 AM to 11:05 AM, in the morning of the December 21 analysis day and could cause the entire garden to be cast in shadow for most of this time. The eastern section of the resource toward the back of the garden could receive the most incremental shadow on this analysis day. Compared with the No Action Condition, development resulting from the Proposed Actions could slightly increase the portion of the garden receiving no sunlight on this analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Life Spire Garden on all analysis days. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource or its ability to support vegetation. As described above, the duration of new shadow on the March 21, May 6, and June 21 analysis days would be relatively short and would not significantly reduce the amount of direct sunlight the resource receives. The duration of new shadow on the December 21 analysis day could be longer but would occur in the morning during a colder month when resource use would be relatively low. On the analysis days within the growing season, the areas of the resource not receiving enough direct sunlight to support vegetation would grow only slightly compared with the No Action Condition, and would not significantly alter the variety of plant life supported in the garden. The December 21 analysis day is outside the growing season and any new shadow on this day would not affect the vitality of the resource's vegetation. Therefore, the Life Spire Garden would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

LINCOLN HOUSES RECREATIONAL AREAS

The Lincoln Houses Recreation Areas are the open spaces within the Lincoln Houses complex located at 2161 Fifth Avenue intended for NYCHA residents. Together these spaces total 0.42 acres. Sunlight-sensitive features within these areas include benches, playgrounds, a basketball court, and trees.

INCREMENTAL SHADOW

December 21

With development resulting from the Proposed Actions, a small portion of a basketball court within the Lincoln Houses Recreation Areas could receive a total duration of approximately 5

minutes of new shadow, from 1:55 PM to 2:00 PM, in the afternoon of the December 21 analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the Lincoln Houses Recreation Areas on the December 21 analysis day. The short duration and small extent of incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow would be very short and would not significantly reduce the amount of direct sunlight the resource receives. The December 21 analysis day is outside the growing season and any new shadow on this day would not affect the vitality of the resources vegetation. Therefore, the Lincoln Houses Recreation Areas would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

LYDIA'S MAGIC GARDEN

Lydia's Magic Garden is a 0.1-acre garden operated by NYC Parks and located at 1665 Park Avenue surrounded on three sides by buildings. Sunlight-sensitive features within the area include a garden plots and a seating area (see **Figures 6-80 through 6-82**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, Lydia's Magic Garden could receive a total duration of approximately 55 minutes of new shadow, from 3:20 PM to 4:15 PM, in the afternoon of the March 21 analysis day. Only the vegetation located in the northwest portion of the garden could be affected by the new shadow. In the No Action Condition, the garden plots and plantings located in all but the northwestern corner of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the garden plots and grass located in another, approximately 150-square-foot section of the garden's northeast corner from receiving over 4 hours of direct sunlight throughout the day. From approximately 3:35 PM to 3:50 PM, development resulting from the Proposed Actions could cast Lydia's Magic Garden completely in shadow.

May 6

With development resulting from the Proposed Actions, Lydia's Magic Garden could receive a total of approximately 58 minutes of new shadow, from 4:20 PM to 5:18 PM, in the afternoon of the May 6 analysis day, affecting the vegetation located in the northern portion of the garden. In the No Action Condition, the plantings located in all but the rear quarter of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the garden from receiving at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, Lydia's Magic Garden could receive a total duration of approximately 1 hour and 55 minutes of new shadow, from 3:50 PM to 5:45 PM, in the afternoon of the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include vegetation and garden plots. Most of the garden could be affected by new

shadow on this analysis with the longest durations of new shadow falling on the northeast portion of the garden. The longest duration of incremental shadow falling any one portion of the garden would not exceed approximately 1 hour and 10 minutes. In the No Action Condition, the plantings and vegetation located in the northeast quarter of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could result in another, approximately 75-square-foot patch located in the rear area of the garden from receiving over 4 hours of direct sunlight throughout the day. This area includes grass and other vegetation. From approximately 3:35 PM to 3:50 PM, development resulting from the Proposed Actions could cast Lydia's Magic Garden completely in shadow.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Lydia's Magic Garden on the March 21, May 6, and June 21 analysis days. Compared with the No Action Condition, the incremental shadow would not significantly alter the public's use of the open space resource or its ability to support vegetation. As described above, the duration of new shadow on the March 21 and May 6 and analysis days would be relatively short and would not significantly reduce the amount of direct sunlight the resource receives. The duration of new shadow on the June 21 analysis day could be longer but would only affect the areas of the garden receiving the longest durations of direct sunlight. The areas of the resource not receiving enough direct sunlight to support vegetation would not noticeably increase compared with the No Action Condition and would not significantly alter the variety of plant life supported in the garden.

MARCUS GARVEY PARK

Marcus Garvey Memorial Park is a 20-acre publicly accessible park located on Madison Avenue between East 120th Street and East 124th Street, bounded to the west by Mt. Morris Park West. Sunlight-sensitive features within the park include basketball courts, playgrounds, spray showers, an outdoor pool, and amphitheater (see **Figures 6-83 through 6-86**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, the northeastern section of Marcus Garvey Memorial Park could receive a total duration of approximately 1 hour and 59 minutes of new shadow, from 7:36 AM to 9:35 AM, in the early morning of the March 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, a grass lawn, a playground, and the canopy of several trees. The areas of the park closer to Madison Avenue could receive the longest duration of incremental shadow at approximately 1 hour and 20 minutes. All affected areas of the resource would receive at least 6 hours of direct sunlight on this analysis day.

May 6

With development resulting from the Proposed Actions, the southeast section of Marcus Garvey Memorial Park could receive a total duration of approximately 1 hour and 38 minutes of new shadow, from 6:27 AM to 8:05 AM, in the early morning of the May 6 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, a grass lawn, a playground, a basketball court, and the canopy of several trees. The areas of the park closer to

Madison Avenue could receive the longest duration of incremental shadow. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, the southeast section of Marcus Garvey Memorial Park could receive a total duration of approximately 1 hour and 33 minutes of new shadow, from 5:57 AM to 7:30 AM, in the early morning of the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, a grass lawn, a playground, a basketball court, and the canopy of several trees. The areas of the park closer to Madison Avenue could receive the longest duration of incremental shadow. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, the southeast and northeast corners of Marcus Garvey Memorial Park could receive a total duration of approximately 1 hour and 39 minutes of new shadow, from 8:51 AM to 10:30 AM, in the early morning of the December 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, landscaping, a grass lawn, a playground, a basketball court, and the canopy of several trees. The areas of the park closer to East 124th Street and at the corner of East 120th Street and Madison Avenue could receive the longest duration of incremental shadows.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Marcus Garvey Memorial Park in the morning of all four analysis days. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the extent of new shadow would be restricted to the northeastern and southeastern corners of the park at times when other areas of the resource would be in direct sunlight. New shadows could occur in the early morning on all analysis days, when park use would be relatively low. The amount of direct sunlight the park receives would not be significantly reduced on any analysis day. On analysis days within the growing season, all affected areas of the park would receive enough direct sunlight to support a variety of plant life. Therefore, Marcus Garvey Memorial Park would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

MOORE PLAYGROUND

Moore Playground is a 0.77-acre playground operated by NYC Parks and located next to P.S. 133 located on the east side of Madison Avenue between East 130th and East 131st Streets. Sunlight-sensitive features within the park include basketball courts, playgrounds, spray showers, and seating and trees along the periphery.

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, a small portion of Moore Playground featuring several trees could receive a total duration of approximately 4 minutes of new shadow,

from 7:36 AM to 7:40 AM, in the early morning of the March 21 analysis day. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the Moore Playground on the March 21 analysis day. The short duration and small extent of incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow would be very short and would not significantly reduce the amount of direct sunlight the resource receives. All portions of the resource would receive ample direct sunlight to support vegetation. Therefore, Moore Playground would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

NEIGHBORS OF VEGA BAJA

Neighbors of Vega Baja is a 0.07-acre community garden operated by GreenThumb and located on East 109th Street between First and Second Avenues. Sunlight-sensitive resources include a large soil bed and vegetation. It is surrounded by a concrete footpath, and sits between a four-story building to the west and a five-story building to the east (see **Figure 6-87)**.

INCREMENTAL SHADOW

June 21

With development resulting from the Proposed Actions, a small portion of Neighbors of Vega Baja Community Garden featuring garden plots could receive a total duration of approximately 20 minutes of new shadow, from 4:45 PM to 5:05 PM, in the afternoon of the June 21 analysis day. In the No Action Condition, the plantings located in approximately four-fifths of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on a portion of Neighbors of Vega Baja Community Garden on the June 21 analysis day. The short duration and relatively small extent of incremental shadow would not significantly alter the use of the open space resource or threaten the vitality of any vegetation it contains. As described above, the duration of new shadow would be short and limited in extent. Both in the No Action and the With Action Conditions, most of the garden would receive less than 4 hours of direct sunlight. Development resulting from the Proposed Actions would not significantly alter the amount of direct sunlight that the resource receives. All affected portions of the resource could support the same variety of vegetation as in the No Action Condition. Therefore, Neighbors of Vega Baja Community Garden would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

P.S. 108 PETER MINUIT PLAYGROUND

Peter Minuit Playground is a 0.94-acre NYC Parks-operated, publicly accessible open space located between East 108th and East 109th on Park Avenue. Sunlight-sensitive features in the playground include benches and handball and basketball courts.

INCREMENTAL SHADOW

December 21

With development resulting from the Proposed Actions, a small area in the northwestern corner Peter Minuit Playground featuring a basketball court could receive a total duration of approximately 9 minutes of new shadow, from 8:51 AM to 9:00 AM, in the early morning of the December 21 analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Peter Minuit Playground on the December 21 analysis day. The short duration and small extent of incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow would be very short and would not significantly reduce the amount of direct sunlight the resource receives. The December 21 analysis day is outside the growing season and any new shadow on this day would not affect the vitality of the resources vegetation. Therefore, the Peter Minuit Playground would not experience a significant shadow adverse impact due to development resulting from the Proposed Actions.

P.S. 155 PLAYGROUND

P.S. 155 Playground is a NYC-parks operated 0.83-acre publicly accessible open space located between First and Second Avenues spanning a portion of the block between East 117th and East 118th Streets. Sunlight-sensitive features within the playground include basketball courts, handball courts, playgrounds, and benches along its periphery (see **Figure 6-88**).

INCREMENTAL SHADOW

June 21

With development resulting from the Proposed Actions, a small area in the northwest corner of P.S. 155 Playground featuring benches could receive a total duration of approximately 21 minutes of new shadow, from 5:40 PM to 6:01 PM, at the end of the June 21 analysis day. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on P.S. 155 Playground on the June 21 analysis day. The short duration and small extent of incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow would be very short and would not significantly reduce the amount of direct sunlight the resource receives. All portions of the resource would receive ample direct sunlight to support vegetation. Therefore,

P.S. 155 Playground would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

PAPO'S GARDEN

Papo's Garden is a 0.09-acre community garden operated by the Manhattan Land Trust and located at 220 East 119th Street. The garden has a low utilization rate and is in good condition. Sunlight-sensitive features within the garden include vegetated garden beds, large bushes, and small trees (see **Figures 6-89 through 6-91)**.

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, Papo's Garden could receive a total duration of approximately 1 hour of new shadow, from 3:25 PM to 4:29 PM, in the afternoon of the March 21 analysis day. The longest duration of incremental shadow falls on vegetated garden beds in the central portion of the garden and could last up to 35 minutes. In the No Action Condition, the garden plots located in all but the southwestern corner of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions would not prevent vegetation in any additional sections of the park from receiving at least 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, Papo's Garden could receive a total duration of approximately 1 hour and 45 minutes of new shadow, from 6:27 AM to 7:30 AM and 3:45 PM to 4:05 PM, on the May 6 analysis day. The longest duration of incremental shadow could fall on garden beds in the northern portion of the garden for approximately 1 hour In the No Action Condition, the trees and garden plots located in the central section of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could result in plantings located in another, approximately 200-square-foot section of the garden near the entrance from receiving over 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, garden beds in the northwest corner of Papo's Garden could receive a total duration of approximately 1 hour and 20 minutes of new shadow, from 6:00 AM to 7:20 AM, on the June 21 analysis day. The longest duration of incremental shadow could fall on the northern portion of the resource which features garden plots. In the No Action Condition, the garden plots and tree canopy located in approximately half of the garden receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent garden plots and plantings located in another, approximately 225-square-foot section of the garden near the entrance from receiving over 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on portions of Papo's Garden on all analysis days within the growing season. The relatively short durations and small extent of incremental shadow would not significantly alter the use of the open space resource or

threaten the vitality of any vegetation it contains. Papo's Garden is only open to the public for 2 to 4 hours in the afternoon of the three days during the week. As described above, most of the new shadow could fall in the morning before the garden is open to the public and so would not significantly change the public's utilization of the resource. Both in the No Action and With Action Conditions, significant portions of the garden receive less than 4 hours of direct sunlight. The new shadow introduced would not significantly change the portions of the garden receiving over 4 hours of direct sunlight. Most of the affected portions of the resource could support the same variety of vegetation as in the No Action Condition. Therefore, Papo's Garden would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

PEACEFUL VALLEY COMMUNITY GARDEN

Peaceful Valley Community Garden is a 0.07-acre community garden operated by GreenThumb and located at 1781 Madison Avenue. The garden has a low utilization rate and is in good condition. It occupies the southeast corner of Madison Avenue and East 117th Street. Sunlight-sensitive features within the garden include approximately five trees of varying species, a table with seating, benches, and flowering vegetation (see **Figures 6-92 through 6-94)**.

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, Peaceful Valley Community Garden could receive a total duration of approximately 15 minutes of new shadow, from 7:36 AM to 7:50 AM, in the early morning of the March 21 analysis day. Incremental shadow falls on most of the garden's area, which includes vegetated garden beds, immature trees, and seating areas. In the No Action Condition, the trees and vegetation located in all but the northwestern corner of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the garden plots and grass located in another, approximately 50-square-foot section of the garden's northwest corner from receiving over 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, Peaceful Valley Community Garden could receive a total duration of approximately 50 minutes of new shadow, from 6:27 AM to 7:15 AM, in the early morning of the May 6 analysis day. Incremental shadow falls on most of the garden's area, which includes vegetated garden beds, immature trees, and seating areas. In the No Action Condition, the vegetation and garden plots located in slightly less than half of the garden receive less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent another, approximately 325-square-foot central section of the garden from receiving over 4 hours of direct sunlight throughout the day. This area of the garden includes plantings and trees.

June 21

With the Proposed Actions, Peaceful Valley Community Garden could receive a total duration of approximately 1 hour of new shadow, from 5:57 AM to 7:05 AM, in the early morning of the June 21 analysis day. The incremental shadow falls on most of the garden's area, with the central portion receiving the longest duration of new shadow. This new shadow could fall on

vegetated garden beds, immature trees, and the benches within the garden.In the No Action Condition, the planted vegetation located in an approximately 400-square-foot central section of the garden receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent the plantings located in another, approximately 75-square-foot portion of the eastern area of the garden from receiving over 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Peaceful Valley Community Garden on all analysis days within the growing season. The relatively short durations of early morning incremental shadow would not significantly alter the use of the open space resource or threaten the vitality of any vegetation it contains. Peaceful Valley Community Garden is only open to the public in the afternoon of weekdays. As described above, all new shadow could fall in the early morning before the garden is open to the public and so would not change the public's utilization of the resource. Both in the No Action and With Action Conditions, significant portions of the eastern part of the garden could receive less than 4 hours of direct sunlight. The new shadow introduced would not significantly decrease the portions of the garden receiving over 4 hours of direct sunlight. Most of the affected portions of the resource could support the same variety of vegetation as in the No Action Condition. Therefore, Peaceful Valley Community Garden would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

POOR RICHARD'S PLAYGROUND

INCREMENTAL SHADOW

Poor Richard's Playground is a 1.58-acre publicly accessible open space located on East 109th Street between Second and Third Avenues. Sunlight-sensitive features located within the resource include playgrounds, spray showers, and a kickball diamond (see **Figures 6-95 through 6-98**).

March 21

With development resulting from the Proposed Actions, Poor Richard's Playground could receive a total duration of approximately 2 hours and 53 minutes of new shadow, from 7:36 AM to 8:20 AM and 2:20 PM to 4:29 PM, throughout the March 21 analysis day. However, no single area of the resource would be cast in new shadow for more than 1 hour and 15 minutes. Sunlight-sensitive features that could be cast in new shadow include benches, planted vegetation, landscaping, a playground, several paved courts and the canopy of several trees. New shadow would affect most locations within the playground with the longest durations of new shadow falling on the playground and benches along Third Avenue.

May 6

With development resulting from the Proposed Actions, Poor Richard's Playground could receive a total duration of approximately 4 hours and 51 minutes of new shadow, from 6:27 AM to 8:00 AM and 2:00 PM to 5:18 PM, throughout the May 6 analysis day. However, the new shadow would be spread throughout the playground and no single area of the resource would be cast in new shadow for more than 2 hours. Sunlight-sensitive features that could be cast in new shadow include benches, planted vegetation, a playground, several paved courts and the canopy of

several trees. The longest durations of new shadow could fall on the basketball courts near the western corner of the resource. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, Poor Richard's Playground could receive a total duration of approximately 5 hours and 51 minutes of new shadow, from 6:25 AM to 8:15 AM and 2:00 PM to 6:01 PM, throughout the June 21 analysis day. However, the new shadow would be spread throughout the playground and no single area of the resource would be cast in new shadow for more than 2 hours. With development resulting from the Proposed Actions, some sections of the park that receive over 10 hours of direct sunlight could instead receive at least 8 hours of direct sunlight. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, Poor Richard's Playground could receive a total duration of approximately 43 minutes of new shadow, from 1:45 PM to 1:55 PM and 2:20 PM to 2:53 PM, in the afternoon of the December 21 analysis day. The new shadow would be spread throughout the playground and no single area of the resource would be cast in new shadow for more than 30 minutes.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Poor Richard's Playground on all analysis days. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadows could be relatively long on all analysis days (with the exception of the December 21 analysis day). However, the incremental shadow would be spread throughout the park that spans an entire avenue. Courts and seating areas within the affected area would still receive hours of direct sunlight throughout the day, preventing development resulting from the Proposed Actions from significantly impacting park utilization.

With development resulting from the Proposed Actions and within the growing season, almost all affected areas of the resource would receive enough direct sunlight to support plant life. The area of the playground that would receive less than 4 hours of direct sunlight on some analysis days is small in extent. The new shadows on December 21 would occur outside the growing season. Therefore, Poor Richard's Playground would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

TAFT HOUSES RECREATION AREAS

The Taft Houses Recreation Areas are the open spaces within the Taft Houses NYCHA complex located between Fifth and Park Avenues from East 112th Street to East 115th Street intended for NYCHA residents. Together these spaces total 0.71 acres. Sunlight-sensitive features within these areas include a playground and trees (see **Figure 6-99**).

INCREMENTAL SHADOW

June 21

With development resulting from the Proposed Actions, a playground within the Taft Houses Recreation Areas could receive a total duration of approximately 48 minutes of new shadow, from 5:57 AM to 6:45 AM, at the end of the June 21 analysis day. Incremental shadows could be cast on the northern half of the playground at the end of the analysis day. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the Taft Houses Recreation Areas on the June 21 analysis day. The short duration and relatively small extent of incremental shadow would not significantly alter the use of the open space resource or threaten the vitality of any vegetation it contains. As described above, the duration of new shadow would be short and limited to the northern half of one playground within the Taft Houses Recreation Areas. Development resulting from the Proposed Actions would not significantly reduce the amount of direct sunlight the resource receives. All portions of the resource would receive ample direct sunlight to support vegetation. Therefore, the Taft Houses Recreation Areas would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

TRIBORO PLAZA

Triboro Plaza is a 1.76 acre NYC-owned park at the foot of the Triboro Bridge. Sunlight-sensitive features within these areas include a playground, landscaping, and trees (see **Figures 6-100 through 6-101**).

INCREMENTAL SHADOW

May 6

With development resulting from the Proposed Actions, the portion of Triboro Plaza in the vicinity of East 124th Street and Second Avenue could receive a total duration of approximately 1 hour and 18 minutes of new shadow, from 4:00 PM to 5:18 PM, at the end of the May 6 analysis day. The affected portion of the resource contains only landscaping. All of the affected area of the open space would receive at least 8 hours of direct sunlight on the analysis day.

June 21

With development resulting from the Proposed Actions, the portion of Triboro Plaza in the vicinity of East 124th Street and Second Avenue could receive a total duration of approximately 1 hour and 10 minutes of new shadow, from 4:25 PM to 5:30 PM and 5:40 PM to 6:01 PM, at the end of the June 21 analysis day. The affected portion of the resource contains only landscaping. All of the affected area of the open space would receive at least 10 hours of direct sunlight on the analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the portion of Triboro Plaza in the vicinity of East 124th Street and Second Avenue on the May 6 and June 21

analysis days. The short durations and relatively small extent of incremental shadow would not significantly alter the use of the open space resource or threaten the vitality of any vegetation it contains. As described above, the durations of new shadow would be short and limited in extent. Development resulting from the Proposed Actions would not significantly reduce the amount of direct sunlight the resource receives. All affected portions of the resource contain only landscaping and would receive ample direct sunlight to support vegetation. Therefore, Triboro Plaza would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

UPACA RECREATION AREAS

The UPACA Recreation Areas are the open spaces within the UPACA Houses Complex located at Lexington Avenue and 123rd Street and intended for NYCHA residents. Together these spaces are 0.32 acres. Sunlight-sensitive features within these areas include seating areas, trees, and minimal surrounding vegetation. (see **Figures 6-102 through 6-104**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, the UPACA Recreation Areas and the benches within it could receive a total duration of approximately 2 hours and 8 minutes of new shadow, from 7:36 AM to 8:00 AM and 2:45 PM to 4:29 PM, throughout the March 21 analysis day. Almost all portions of the recreation areas within UPACA Houses could experience new shadow on this day with the longest durations of new shadow affecting the northwestern corner of a seating area behind UPACA Site 5. In the No Action Condition, roughly half of the vegetation located within the resource receives less than 4 hours of direct sunlight throughout the day. Development resulting from development resulting from the Proposed Actions could prevent any vegetation within another, approximately 2,000-square-foot section of the resource from receiving over 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, the UPACA Recreation Areas and the benches and vegetation within it could receive a total duration of approximately 2 hours and 46 minutes of new shadow, from 6:27 AM to 6:30 AM and 2:35 PM to 5:18 PM, throughout the May 6 analysis day. The longest durations of new shadow could affect the seating areas behind UPACA Site 5. In the No Action Condition, the vegetation located within an approximately 500-square foot section of the resource receives less than 4 hours of direct sunlight throughout the day. Development resulting from the Proposed Actions could prevent vegetation within another, approximately 1,300-square-foot section of the resource from receiving over 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, the UPACA Recreation Areas and the benches within it could receive a total duration of approximately 3 hours and 1 minute of new shadow, from 3:00 PM to 6:01 PM, in the afternoon of the June 1 analysis day. The longest durations of new shadow could affect a seating area behind UPACA Site 5. Development resulting from the Proposed Actions could prevent the vegetation located in an approximately

100-square-foot patch of the resource from receiving over 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on the UPACA Recreation Areas on the March 21, May 6, and June 21 analysis days. The new shadow durations last several hours but are spread out among housing complex's four seating areas. The incremental shadow would not significantly alter NYCHA resident's use of the open space resource or threaten the vitality of its vegetation. As described above, the new shadow does not affect all of the UPACA Recreation Areas and NYCHA resident's wishing to sit in the sun would be able find direct sunlight and benches within close proximity. Development resulting from the Proposed Actions would not result in additional portions of the affected area from receiving less than 4 hours of direct sunlight within the growing season but the overall durations of direct sunlight would not significantly change. Therefore, the UPACA Recreation Areas, would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions

WAGNER HOUSES POOL

Wagner Houses Pool (also known as Mayor Wagner Pool) is a publicly accessible pool located at East 124th Street between First and Second Avenues and operated by NYC Parks. The open space is approximately 0.74 acres. Sunlight-sensitive resources include the larger main pool as well as a wading pool for younger patrons. The space also contains seating areas (see **Figures 6-105 through 6-106**).

INCREMENTAL SHADOW

May 6

With development resulting from the Proposed Actions, the western portion of Wagner Houses Pool could receive a total duration of approximately 48 minutes of new shadow, from 4:30 PM to 5:18 PM, at the end of May 6 analysis day. All affected areas of the resource could receive over 10 hours of direct sunlight throughout the day. Incremental shadow would not be cast on any vegetation within the resource.

June 21

With development resulting from the Proposed Actions, Wagner Houses Pool could receive a total duration of approximately 1 hour and 16 minutes of new shadow, from 4:45 PM to 6:01 PM, at the end of June 21 analysis day. The longest durations of new shadow could fall on the westernmost corner of the resource. All affected areas of the resource would receive over 10 hours of direct sunlight throughout the day and incremental shadow would not be cast on any vegetation within the resource.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Wagner Houses Pool on the May 6 and June 21 analysis day. The relatively short duration of incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadow would be short and restricted to

the end of the analysis day and would not significantly reduce the amount of direct sunlight the resource receives. All portions of the resource affected by new shadow from the Proposed Action would receive ample direct sunlight to support vegetation. Therefore, Wagner Houses Pool would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

WAGNER HOUSES RECREATION AREAS

The Wagner Houses Recreation Areas are the open spaces within the larger Wagner Houses NYCHA complex located at 2342 First Avenue and intended for NYCHA residents. Together these spaces total 0.65 acres. Sunlight-sensitive features within these areas include seating areas, playgrounds, and trees (see **Figures 6-107 through 6-108**).

INCREMENTAL SHADOW

May 6

With development resulting from the Proposed Actions, the southern portion of a baseball field within the Wagner Houses could receive a total duration of approximately 23 minutes of new shadow, from 4:55 PM to 5:18 PM, at the end of the May 6 analysis day. Almost all of the affected area of the field would receive at least 8 hours of direct sunlight on the analysis day.

June 21

With development resulting from the Proposed Actions, a small portion of a baseball field and playground within the Wagner Houses could receive a total duration of approximately 51 minutes of new shadow, from 5:00 PM to 5:30 PM and 5:40 PM to 6:01 PM, in the afternoon of the June 21 analysis day. All affected areas of the field and playground would receive a minimum of 6 hours of direct sunlight on the analysis day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on a baseball field and playground within the Wagner Houses Recreation Areas on the May 6 and June 21 analysis days. The short durations and relatively small extent of incremental shadow would not significantly alter the use of the open space resource or threaten the vitality of any vegetation it contains. As described above, the durations of new shadow would be short and limited to specific areas of the affected resource. Development resulting from the Proposed Actions would not significantly reduce the amount of direct sunlight the resource receives. All portions of the resource would receive ample direct sunlight to support vegetation. Therefore, the Wagner Houses Recreation Areas would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

WAGNER PLAYGROUND

Wagner Playground is a 1.27-acre publicly accessible open space operated by NYC Parks located on the corner of 120th Street and Second Avenue between First and Second Avenues. Sunlight-sensitive features include handball courts, a playground, a well-maintained soccer field surrounded by trees, and benches on the periphery (see **Figures 6-109 through 6-111**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, Wagner Playground could receive a total duration of approximately 1 hour and 30 minutes of new shadow, from 3:00 PM to 4:30 PM, in the afternoon of the March 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, a synthetic grass field, planted vegetation, and the canopy of several trees. New shadow could affect most of the playground with the longest durations of new shadow being cast along Second Avenue. With development resulting from the Proposed Actions, all vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day. .

May 6

With development resulting from the Proposed Actions, the southern half of Wagner Playground could receive a total duration of approximately 2 hours and 13 minutes of new shadow, from 3:05 PM to 5:18 PM, in the afternoon of the May 6 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, a synthetic grass field, planted vegetation, and the canopy of several trees The longest durations of new shadow would be cast on the area of the park farthest to the west. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, Wagner Playground could receive a total duration of approximately 2 hours and 25 minutes of new shadow, from 1:20 PM to 2:50 PM, throughout the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, a synthetic grass field, planted vegetation, and the canopy of several trees. New shadow could affect the southern half of the playground with the longest durations of new shadow falling along Second Avenue. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on Wagner Playground on the Match 21, May 6, and June 21 analysis days. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadows could last over 1 hour on all analysis days. However, the incremental shadow would not prevent the affected areas from still receiving hours of direct sunlight throughout the morning and early afternoon and would not significantly impact the playgrounds utilization.

With development resulting from the Proposed Actions and within the growing season, all affected areas of the resource would receive enough direct sunlight to support plant life. Therefore, Wagner Playground would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

WHITE PLAYGROUND

White Playground is a 0.68-acre publicly accessible open space operated by NYC Parks, spanning a midblock site between East 105th Street and East 106th Street on the block between

Lexington and Third Avenues. Sunlight-sensitive features located within the playground include extensive playground equipment, benches and basketball and handball courts (see **Figures 6-112 through 6-115**).

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, White Playground could receive a total duration of approximately 4 hours and 9 minutes of new shadow, from 7:36 AM to 11:25 AM and 6:27 AM to 10:00 AM, throughout the March 21 analysis day. However, no single area of the resource would be cast in new shadow for more than 1 hour and 15 minutes. Sunlight-sensitive features that could be cast in new shadow include benches, a playground, a handball court, basketball courts, and the canopy of several trees. New shadow could affect most of the playground with the longest durations of new shadow falling to the east. Development resulting from the Proposed Actions could prevent another, approximately 500-square-foot vegetated section of the playground's eastern edge from receiving over 4 hours of direct sunlight throughout the day.

May 6

With development resulting from the Proposed Actions, White Playground could receive a total duration of approximately 3 hours and 33 minutes of new shadow, from 6:27 AM to 10:00 AM, in the morning of the May 6 analysis day. However, no single area of the resource would be cast in new shadow for more than 1 hour and 45 minutes. Sunlight-sensitive features that could be cast in new shadow include benches, a playground, a handball court, basketball courts, and the canopy of several trees. New shadow could affect most of the playground with the longest durations of new shadow falling to the center of the playground and to the north. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

June 21

With development resulting from the Proposed Actions, White Playground could receive a total duration of approximately 3 hours and 48 minutes of new shadow, from 5:57 AM to 9:45 AM and 2:10 PM to 2:30 PM, throughout the June 21 analysis day. Sunlight-sensitive features that could be cast in new shadow include benches, a playground, a handball court, basketball courts, and the canopy of several trees. New shadow would affect most of the playground with the longest durations of new shadow falling on the playground’s northern corner. With development resulting from the Proposed Actions, the sections of the park receiving over 10 hours of direct sunlight in the No Action Condition instead receive 8 to 10 hours of direct sunlight. All vegetation affected by incremental shadow would receive at least 4 hours of direct sunlight throughout the day.

December 21

With development resulting from the Proposed Actions, White Playground could receive a total duration of approximately 4 hours and 2 minutes of new shadow, from 8:51 AM to 12:30 PM and 2:30 PM to 2:53 PM, throughout the December 21 analysis day. New shadow could affect most of the playground, with the longest durations of new shadow falling on the playground’s northern and western portions. Sunlight-sensitive features that could be cast in new shadow include benches, a playground, a handball court, basketball courts, and the canopy of several

trees. With development resulting from the Proposed Actions, the Proposed Actions, no sections of the park would receive over 4 hours of direct sunlight.

SHADOW IMPACT

Development resulting from the Proposed Actions could cast new shadow on White Playground on all analysis days. The incremental shadow would not significantly alter the public use of the open space resource or threaten the vitality of its vegetation. As described above, the duration of new shadows would be relatively long on all analysis days. However, the incremental shadow would be spread across the resource and individuals sections of the playground would be cast in new shadow for shorter durations. The playground would still receive ample quantities of direct sunlight, preventing development resulting from the Proposed Actions from significantly impacting the playground's utilization.

With development resulting from the Proposed Actions and within the growing season, almost all affected areas of the resource would receive enough direct sunlight to support plant life. The area of the playground that could receive less than 4 hours of direct sunlight would only increase slightly on March 21. All other areas of the resource on March 21 and the entire playground on May 6 and June 21 would receive suitable duration of direct sunlight to support a variety of plant life. The new shadows on December 21 would occur outside the growing season. Therefore, White Playground would not experience a significant adverse shadow impact due to development resulting from the Proposed Actions.

F. HISTORIC RESOURCES

FIRST SHARON BAPTIST CHURCH

First Sharon Baptist Church, formerly the East Harlem Presbyterian Church, is a historic resource located at 233 East 116th Street (see Chapter 7, "Historic Resources"). The stained-glass windows on the front (south) façade are sunlight-sensitive features. Based on preliminary research, these sunlight-sensitive windows are only visible from the entry vestibule and are not visible from within the sanctuary (see **Figure 6-116**).

INCREMENTAL SHADOW

May 6

With development resulting from the Proposed Actions, incremental shadow could shade portions of the front façade windows from 4:50 PM to 5:18 PM. The new shadow would not fully eliminate all sunlight on the windows during this time until the last three minutes of the analysis day, from 5:15 PM to 5:18 PM. The windows would remain entirely in sun from approximately 9:45 AM (earliest that direct sunlight can reach the southern façade on this date) until 4:50 PM, a total of 7 hours and 5 minutes of direct sun.

June 21

With development resulting from the Proposed Actions, from 5:40 PM to 5:50 PM, incremental shadow could pass across a portion of the lower front façade windows. The shadow would cover only a portion of these lower windows and would not fall on the upper windows during this 10-minute period and would not eliminate all sunlight from the façade. The windows would remain entirely in sun from approximately 10:15 AM (the earliest that direct sunlight can reach the

southern façade on this date) until 5:40 PM, and would again be in sun from 5:50 PM to 6:01 PM, the end of the analysis day, for a total of 7 hours and 36 minutes of direct sun.

December 21

With development resulting from the Proposed Actions, the front façade windows would be entirely in sun from the start of the analysis day at 8:51 AM until 10:30 AM. Incremental shadow could move across the entire front façade from 10:30 AM to 11:55 AM. Between 10:50 AM and 11:30 AM the incremental shadow could eliminate all sun from the front façade windows. The windows would be entirely in sun from 11:55 AM until approximately 12:45 PM, a total of 50 minutes of direct sun. Portions of the windows would be in shadow in both the With Action and No Action Conditions from 12:45 PM to 2:53 PM, while other portions would remain in sun. Therefore, portions of the front façade would be in sun for an additional 2 hours and 8 minutes.

SHADOW IMPACT

Development resulting from the Proposed Actions would not eliminate the last 10 minutes of direct sunlight on any analysis day. In any case, as noted above, based on preliminary research, the front façade windows of the church are not visible from within the sanctuary; they are only visible from the entry vestibule. Therefore, given that the incremental shadow could only affect the circulation space in the entry vestibule and not the sanctuary interior proper, and further that it would be limited to 1 ½ hours in winter, a ½ hour or less in the late spring and summer, and none in the early spring and the fall, development resulting from the Proposed Actions would not result in significant adverse shadow impacts to this potential historic resource.

NYPL HARLEM LIBRARY

Located at 9 West 124th Street, this branch of the NYPL is State and National Register (S/NR)-Listed. It was built in 1909 and designed by McKim, Mead, and White with funding from Andrew Carnegie. While the windows have been replaced, the large second-floor windows provide natural lighting for the original reading room and are a sunlight-sensitive contributing feature.

INCREMENTAL SHADOW

December 21

With development resulting from the Proposed Actions, incremental shadow could fall on the second-floor reading room windows for the first nine minutes of the winter analysis day morning, 8:51 AM to 9:00 AM. After that, the windows would be in direct sun for the rest of the analysis day, 9:00 AM to 2:53 PM, a total of 5 hours and 50 minutes of direct sun.

SHADOW IMPACT

Incremental shadow lasting less than 10 minutes is not considered significant, per *CEQR Technical Manual* guidelines. Therefore, the 9 minutes of incremental shadow as a result of development from the Proposed Actions, would not cause a significant adverse impact.

NYPL AGUILAR BRANCH

The Aguilar Branch of the New York Public Library, (NYCL, S/NR-Eligible) located at 174 East 110th Street, was built in 1904 with funding from Andrew Carnegie and designed by Herts & Tallant. The three-story limestone-clad building is designed in the Neo-classical style with a pair of large Ionic pilasters, prominent entablature, and carved frieze, and recessed cast-iron fenestration with paired windows separated by columns. The windows, on the front (north) façade, are sunlight-sensitive features due to the light they would let in to the former reading room space. These architecturally significant features are appreciated from the perspective of the library user inside the space (see **Figures 6-117**).

INCREMENTAL SHADOW

May 6

With development resulting from the Proposed Actions, incremental shadow could fall on the library for 1 hour and 48 minutes total from the start of the analysis day at 6:27 AM to 8:15 AM, shading the entire front façade for much of this period. From 8:15 AM to 9:30 AM the entire façade would be in direct sun, a total of 1 hour and 15 minutes in direct sun. After 9:30 AM the sun would move farther into the southern part of the sky and could no longer reach the north façade of the library for the remainder of the analysis day, which ends at 5:18 PM.

June 21

With development resulting from the Proposed Actions, incremental shadow could fall on the library for 2 hours and 48 minutes total from the start of the analysis day (5:57 AM) to 8:45 AM, shading the entire front façade for much of this period. From approximately 8:45 AM to 10:05 AM the entire façade would be in direct sun, a total of 1 hour and 20 minutes in direct sun. After 10:05 AM the sun would move farther into the southern part of the sky and could no longer reach the north façade of the library for the remainder of the analysis day, which ends at 6:01 PM.

SHADOW IMPACT

This library branch, like all others in East Harlem and nearly all throughout the system, currently does not open before 10:00 AM on any day, long after the incremental shadow would leave the façade. Were the branch to open at 8:00 AM, like the Mid-Manhattan Library, the duration of incremental shadow would still be limited to 15 minutes past opening time on the May 6 and August 6 analysis day, and 45 minutes past opening time on the June 21 analysis day. No incremental shadow would occur in the spring, summer, and fall. Consequently, the new shadow would not significantly and adversely impact the space or its users' appreciation of the windows and the light that they let in to the former reading room.

PUBLIC SCHOOL 72

Located at 1674 Lexington Avenue, this building is a NYCL and S/NR-Eligible. Its designation report states[1] that "in accordance with the architect's concern for light and air, windows are a major and defining part of the overall design with the building elevations featuring an ordered

[1] http://www.nyc.gov/html/lpc/downloads/pdf/reports/ps72.pdf

and regular arrangement of fenestration." Therefore the windows, providing light and air to the interior spaces, are sunlight-sensitive architectural features (see **Figure 6-118**).

INCREMENTAL SHADOW

May 6

With development resulting from the Proposed Actions, incremental could move across the large windows on the Lexington Avenue façade from the start of the analysis day (6:27 AM) until 7:50 AM. The incremental shadow could be large and shade many windows during the first ½ hour but after 7:00 AM only a few windows would be affected. From 7:50 AM until approximately 12:30 PM the entire façade would be in sun, for a total of 4 hours and 40 minutes in direct sun. After 12:30 PM the sun would move farther into the western part of the sky and would no longer fall directly on the façade for the remainder of the analysis day.

June 21

With development resulting from the Proposed Actions, incremental shadow could move across the large windows on the Lexington Avenue façade from the start of the analysis day from 5:57 AM to 7:15 AM. The incremental shadow could be large and shade many windows during the first 40 minutes but after approximately 6:40 AM only a few windows would be affected, until 7:15 AM. From 7:15 AM until approximately 12:30 PM the entire façade would be in sun, for a total of 5 hours and 15 minutes of direct sun. After 12:30 PM the sun would move farther into the western part of the sky and would no longer fall directly on the façade for the remainder of the analysis day.

SHADOW IMPACT

With development resulting from the Proposed Actions, the large extent of incremental shadow would be limited to the first 30 to 40 minutes of the late spring and summer analysis days. The incremental shadow would be smaller in extent, limited to a few windows of the large Lexington Avenue façade after 7:00 AM, typically well before classes start and likely before the building is occupied by students or staff. No incremental shadow would occur on the spring, summer, or fall analysis days. Therefore no significant adverse shadow impacts would occur, affecting users' ability to appreciate the windows and the light and air that they let into the building.

SAINT CECILIA'S CHURCH

Located at 118-120 East 106th Street, this building is a NYCL and S/NR-Listed. Its front (north) façade contains sunlight-sensitive architectural features: stained glass windows, a portico, and a high relief sculpture of Saint Cecilia. Its east façade, which also faces the proposed rezoning area, contains sunlight-sensitive stained glass windows.

INCREMENTAL SHADOW

March 21

With development resulting from the Proposed Actions, incremental shadow could fall on portions of the front (north) façade windows and the Saint Cecilia statue above them for the first 14 minutes of the analysis day, 7:36 AM to 7:50 AM, and on the portico for 19 minutes, 7:36 AM to 7:55 AM. No incremental shadow would reach the east façade stained glass windows on this analysis day. The entire façade would be in direct sun from 7:55 AM until 8:45 AM, a total

of 50 minutes in direct sun. After 8:45 AM the sun would move farther into the southern part of the sky and could no longer reach the north façade of the church for the remainder of the analysis day which ends at 4:29 PM.

May 6

With development resulting from the Proposed Actions, incremental shadow could fall on portions of the front (north) façade windows and the Saint Cecilia statue above them for the first 18 minutes of the analysis day, 6:27 AM to 6:45 AM, and on the portico for the first 23 minutes of the analysis day, 6:27 AM to 6:50 AM. No incremental shadow would reach the east façade stained glass windows on this analysis day. The entire façade would be in direct sun from 6:50 AM until 9:30 AM, a total of 2 hours and 40 minutes in direct sun. After 9:30 AM the sun would move farther into the southern part of the sky and could no longer reach the north façade of the church for the remainder of the analysis day which ends at 4:29 PM.

SHADOW IMPACT

With development resulting from the Proposed Actions, the brief duration and small extent of incremental shadow would not cause a significant adverse impact to this historic resource. On both analysis days when incremental shadow would occur, the incremental shadow would not eliminate the last 10 minutes of direct sunlight.

SAINT PAUL'S ROMAN CATHOLIC CHURCH

Located at 113 East 117th Street, this building is a NYCL and S/NR-Eligible. Its front (south) façade and east and west façade windows are sunlight-sensitive architectural features (see **Figures 6-119**).

INCREMENTAL SHADOW

December 21

With development resulting from the Proposed Actions, incremental shadow could pass across the front (south) and east façade windows beginning at 11:00 AM and cover large portions of the windows from 11:30 AM to 12:30 PM, but would eliminate all sunlight from the façade for no more than 10 minutes at around 11:45 AM, exiting the east façade windows completely at 1:15 PM. Portions of the stained glass windows would continue to receive direct sun from 8:51 AM to 11:40 AM and from 11:50 AM to 2:53 PM.

SHADOW IMPACT

No incremental shadow from development resulting from the Proposed Actions would fall on the church throughout the spring, summer, and fall. In winter, when shadows are longest, incremental shadow could move across the front and, obliquely from the south, the east façade of the church between 11:00 AM and 1:15 PM. For all but 10 minutes of this period, some sunlight would continue to shine through the stained-glass windows into the sanctuary; for no more than 10 minutes would all sunlight be eliminated. Portions of the stained glass windows would receive direct sunlight for all but 10 minutes of the 6-hour, 2-minute analysis day. In other words, portions of the stained glass windows would receive direct sunlight for 5 hours and 52 minutes, and incremental shadow would not eliminate the last 10 minutes of sunlight.

Therefore the church windows would not be significantly adversely impacted by project-generated shadows.

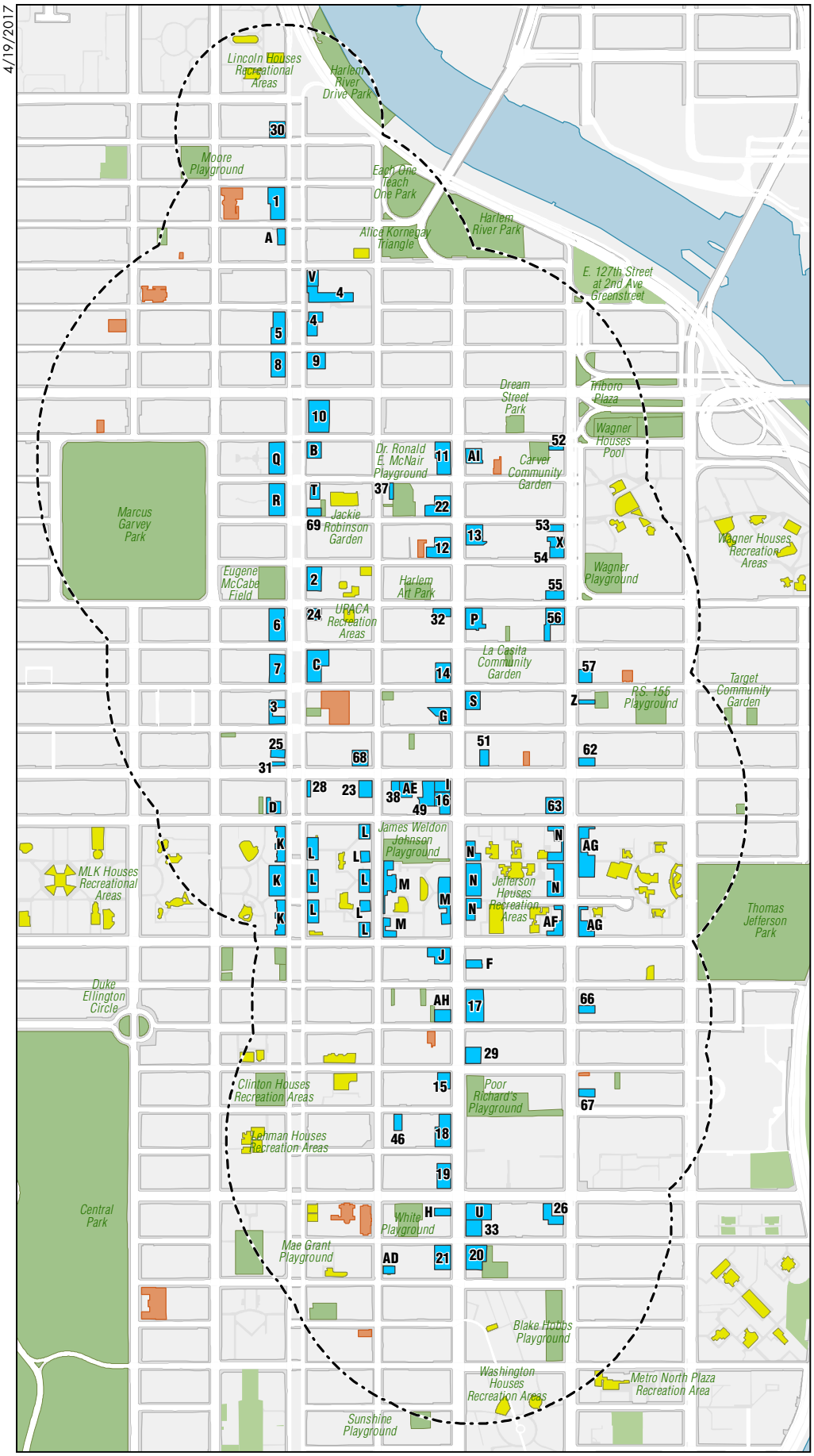
G. CONCLUSIONS

The 102 projected and potential development sites identified in the RWCDS would cast new shadow within the vicinity of the rezoning area. Most of this new shadow would not reach sunlight-sensitive resources due to existing buildings, future buildings being developed irrespective of the Proposed Actions, and the developments identified in the No Action Condition. However, new shadows originating from the RWCDS developments could reach 50 resources that are sensitive to sunlight and could potentially be significantly impacted by incremental shadows resulting from the Proposed Actions. Of these resources, 44 are open space resources and 6 are historical resources with architectural features sensitive to shadow. The affected open space resources include publically accessible open spaces, community gardens, greenstreets, and recreational areas within NYCHA housing complexes. The affected architectural features are found on New York City landmarks and potentially historic buildings.

As explained above, most of the affected sunlight-sensitive resources would experience only short durations of new shadow caused by the development resulting from the Proposed Actions. Some resources experience longer durations of new shadow but the detailed analysis found that the new shadow would not significantly alter the utilization of the open space, the vitality of plant life within the resources, or the public's enjoyment of architectural features on historic resources.

Of the 50 resources affected by new shadow, the detailed analysis found that El Catano Garden, Eugene McCabe Field, and Jackie Robinson Garden would be significantly impacted by new shadow originating from at least one of the RWCDS developments. The duration or extent of incremental shadow cast on these open spaces would be great enough to either significantly impact the use of the open space or its ability to support vegetation. ✷

4/19/2017



0 400 FEET

EAST HARLEM REZONING

Projected/Potential Development Sites Requiring Shadow Assessment

Longest Shadow Study Area Boundary

Public Open Space and Greenstreets

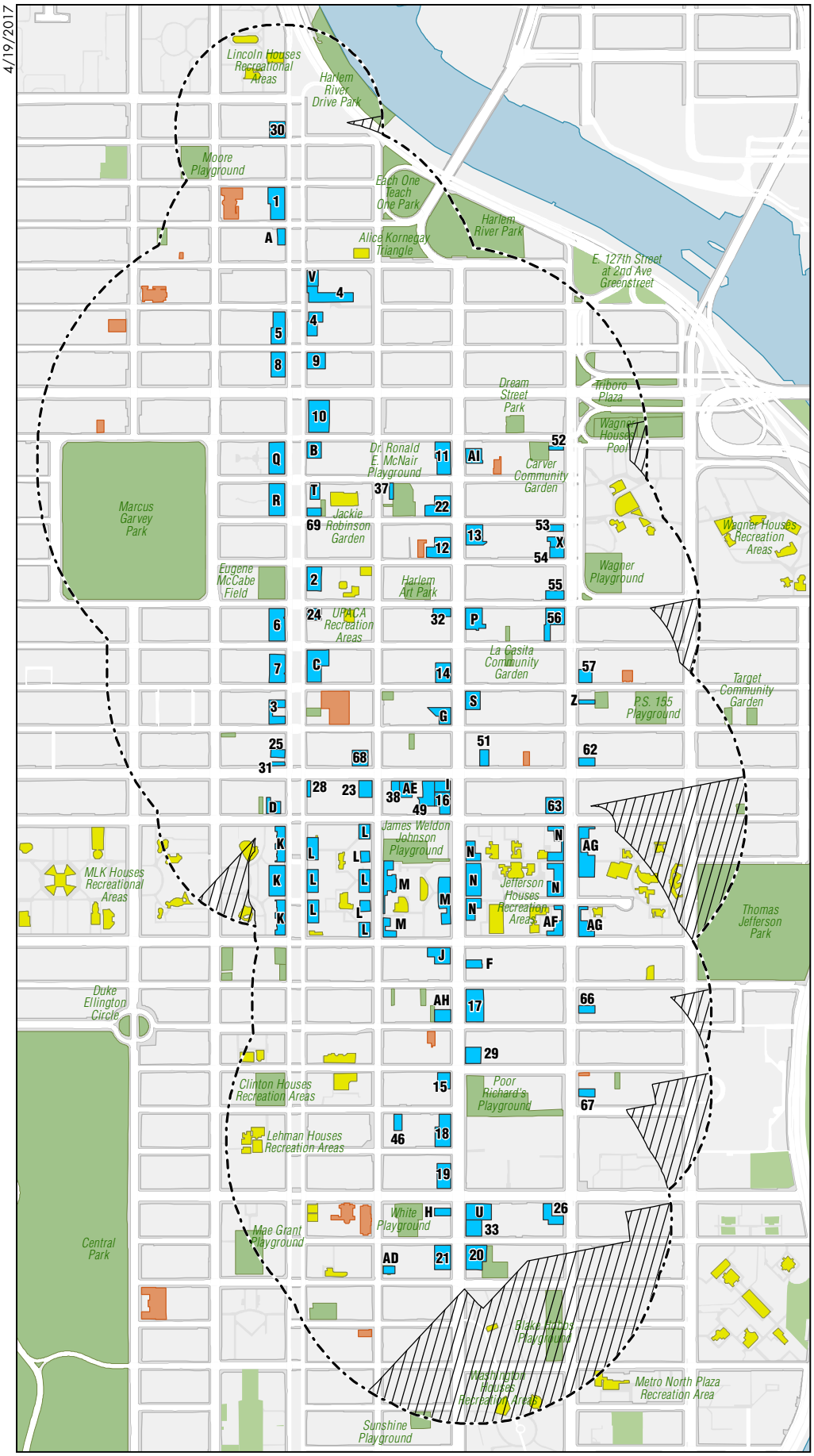
NYCHA Open Space

Historic Resources with Sunlight-Sensitive Features

Tier 1 Assessment

Figure 6-1

4/19/2017



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EAST HARLEM REZONING

Projected/Potential Development Sites Requiring Shadow Assessment

Longest Shadow Study Area Boundary

Tier 2: Area south of site that could never be shaded by proposed building

Public Open Space and Greenstreets

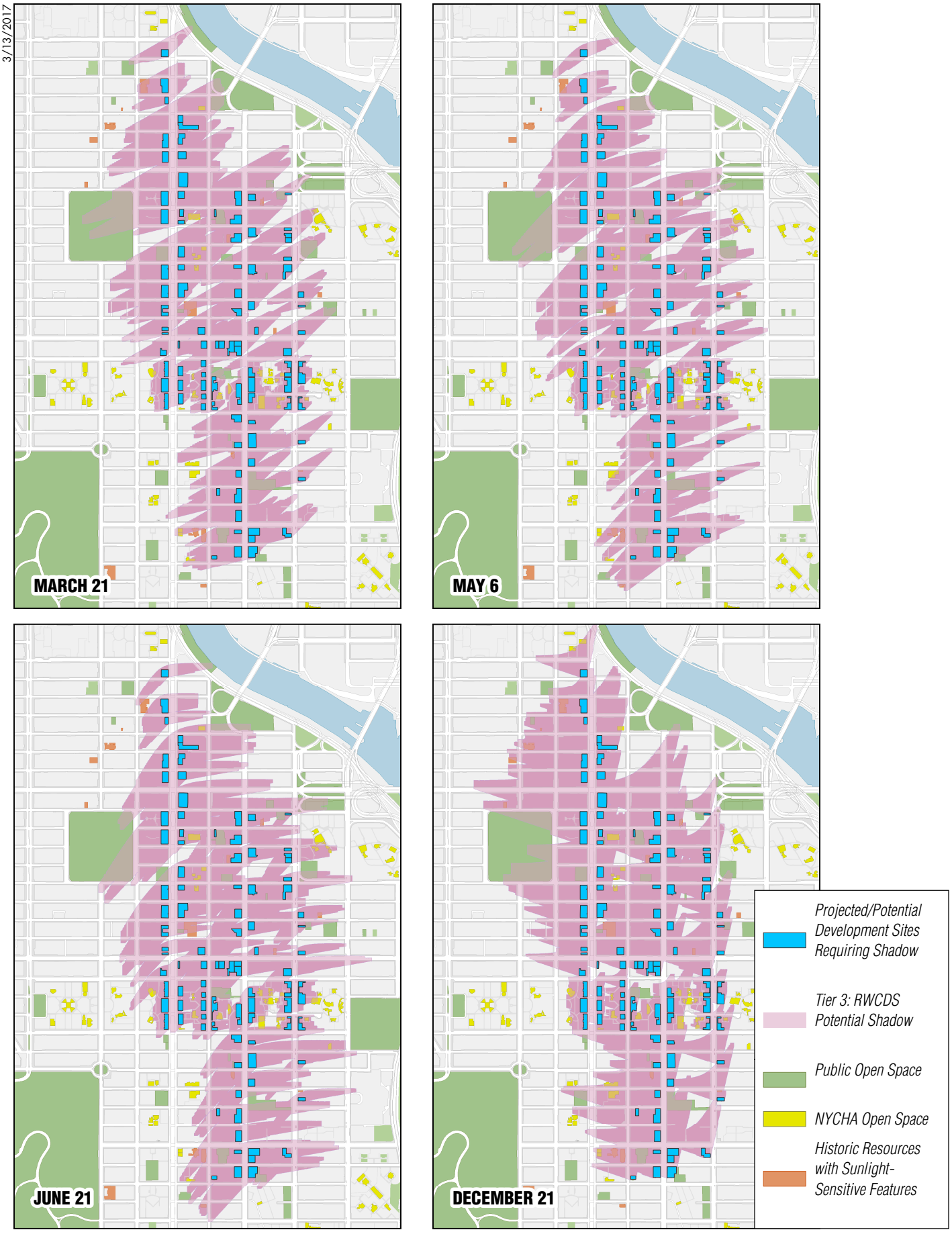
NYCHA Open Space

Historic Resources with Sunlight-Sensitive Features

Tier 2 Assessment

Figure 6-2

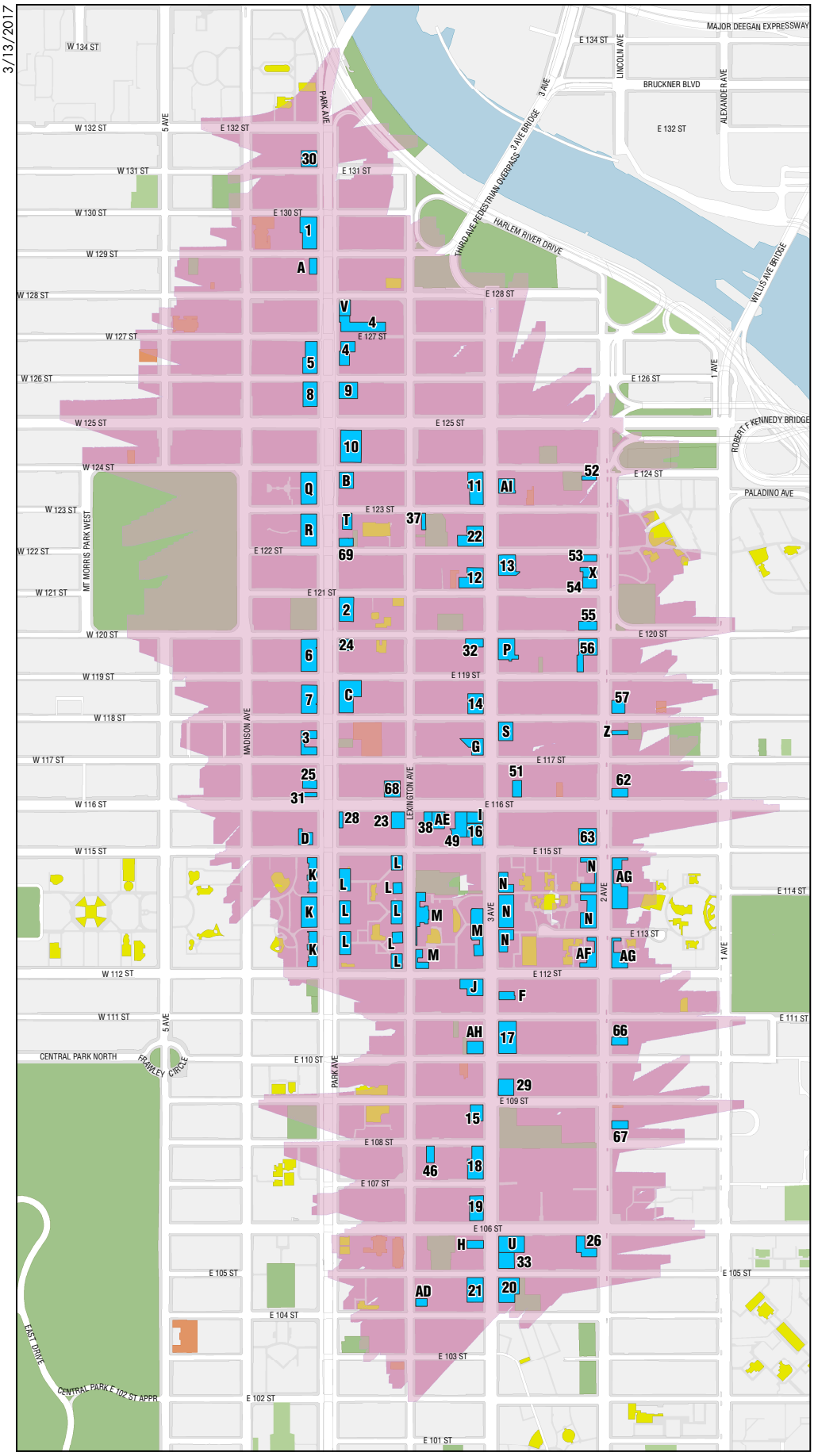
3/13/2017



EAST HARLEM REZONING

Tier 3 Assessment
Figure 6-3

3/13/2017



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EAST HARLEM REZONING

Projected/Potential Development Sites Requiring Shadow Assessment

Tier 3: Combined RWCDS Potential Shadow Extenr

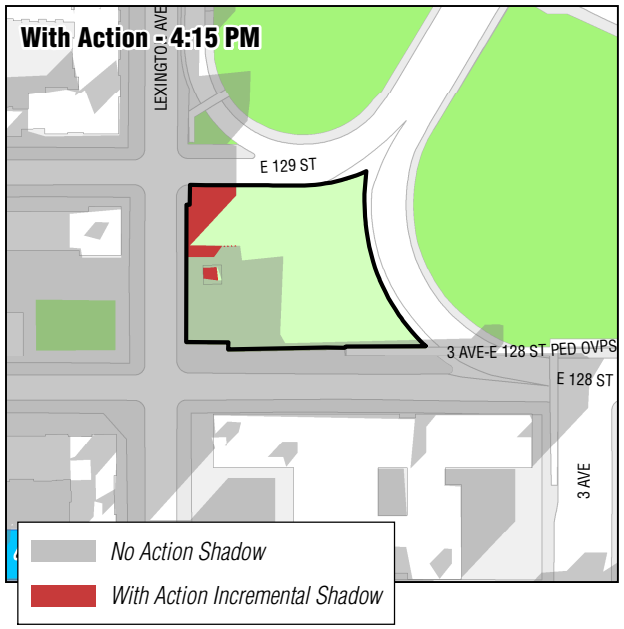
Public Open Space and Greenstreets

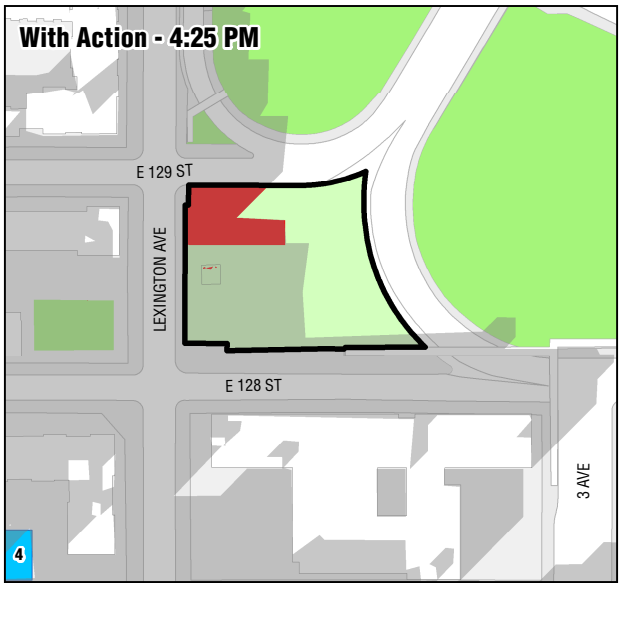
NYCHA Open Space

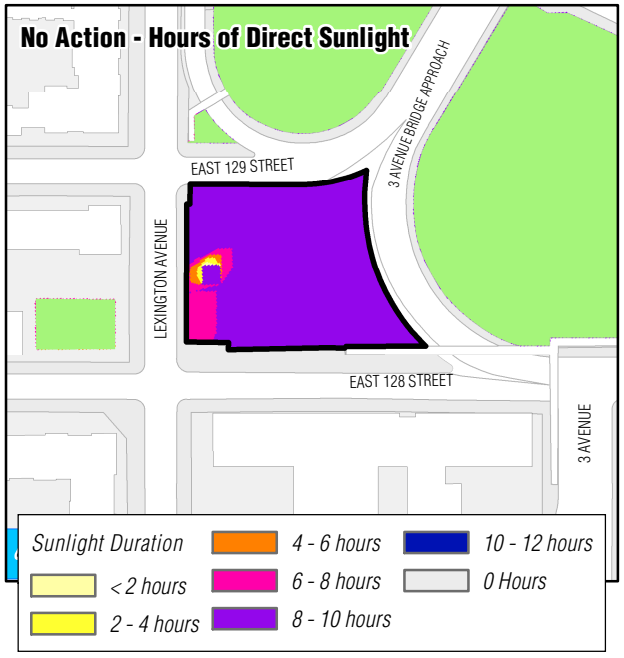
Historic Resources with Sunlight-Sensitive Features

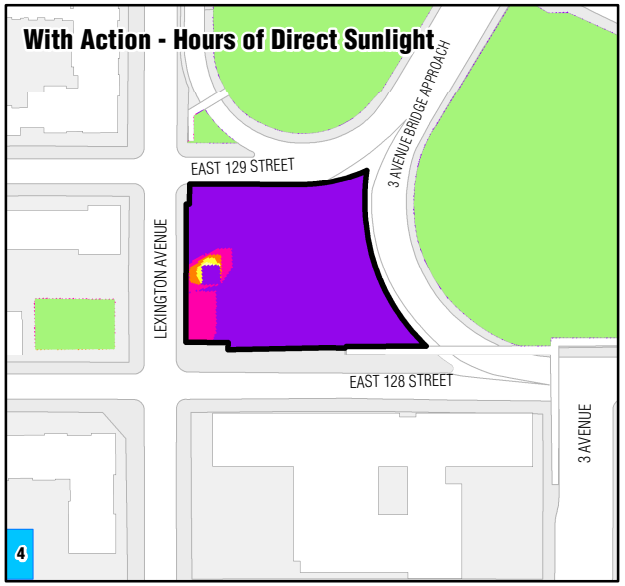
Tier 3 Assessment

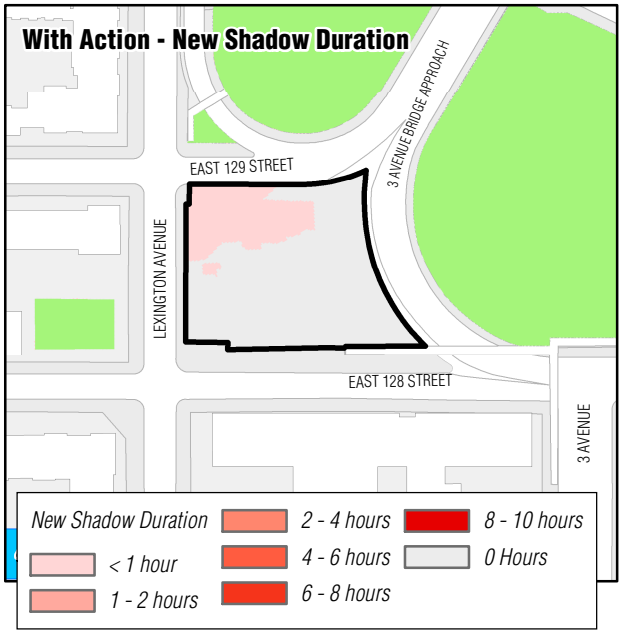
Figure 6-4





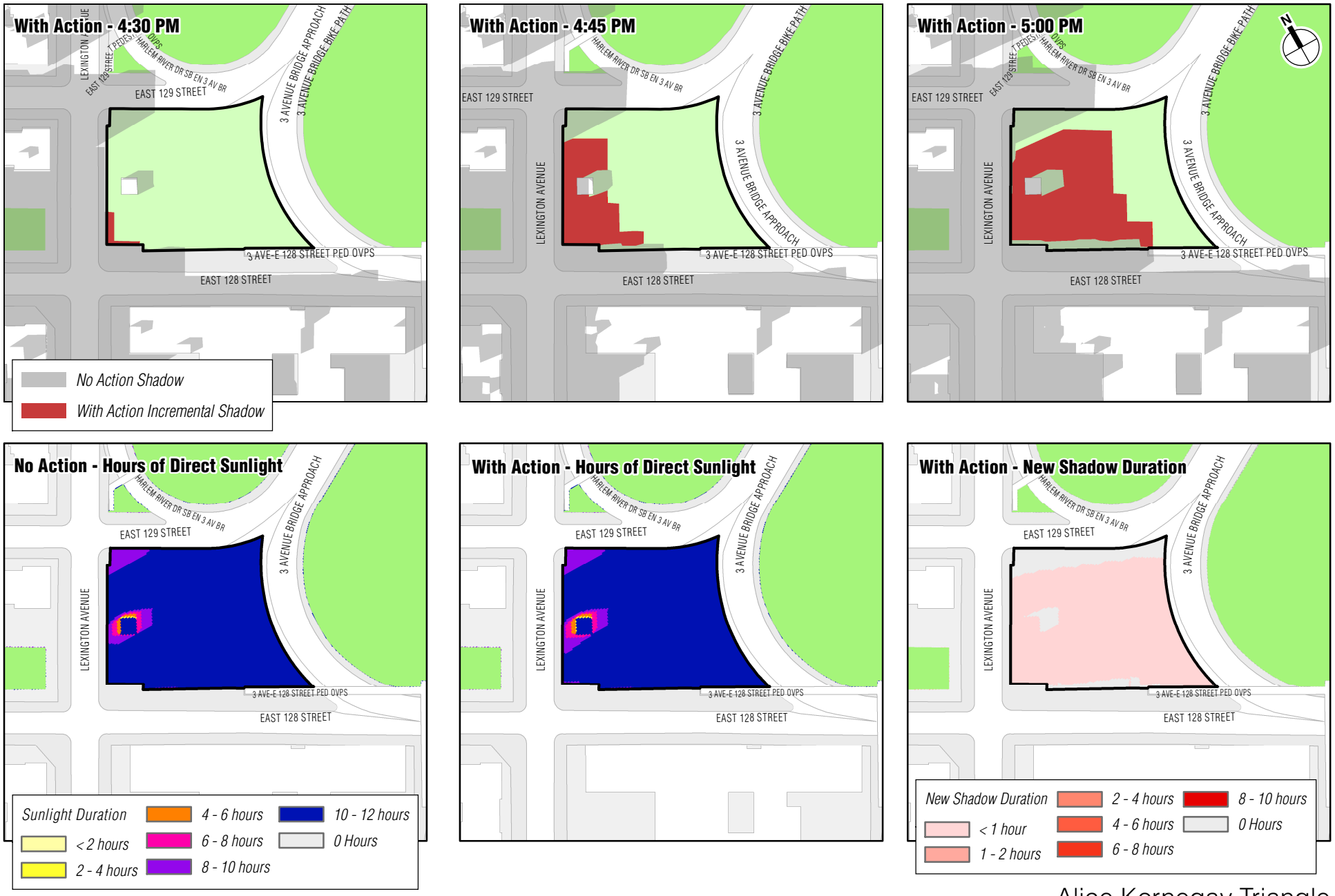






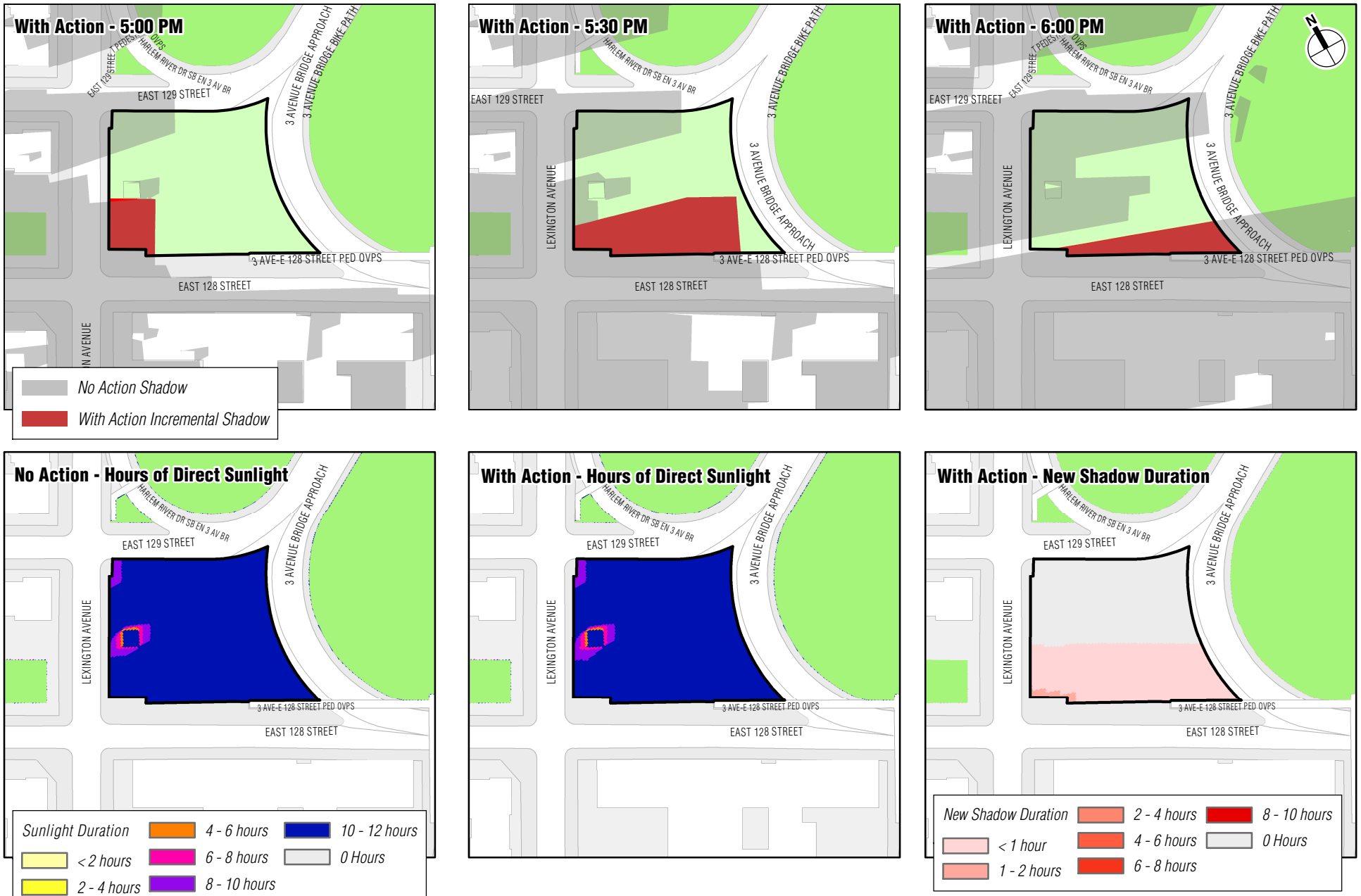
Alice Kornegay Triangle
Detailed Analysis - March 21

Figure 6-5



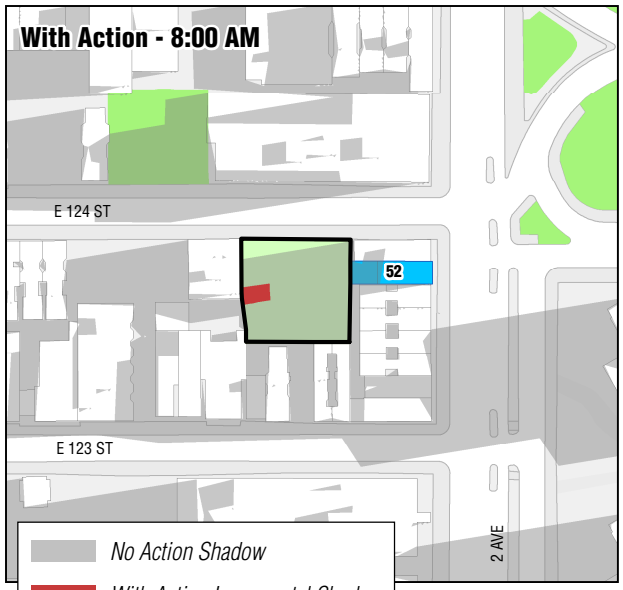
Alice Kornegay Triangle
Detailed Analysis - May 6

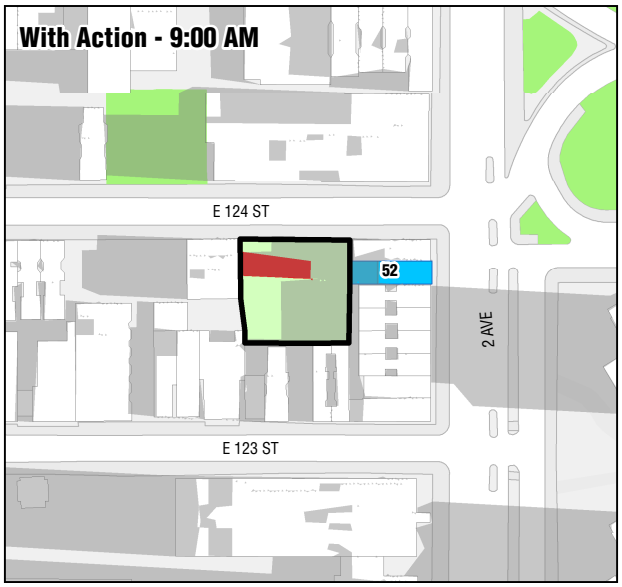
Figure 6-6

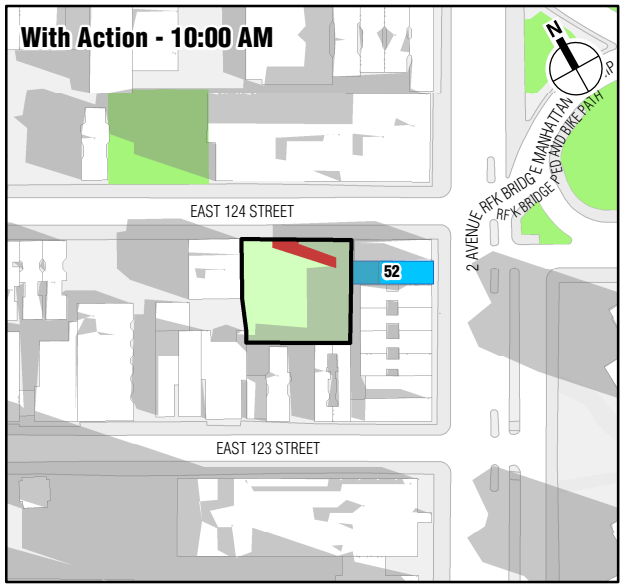


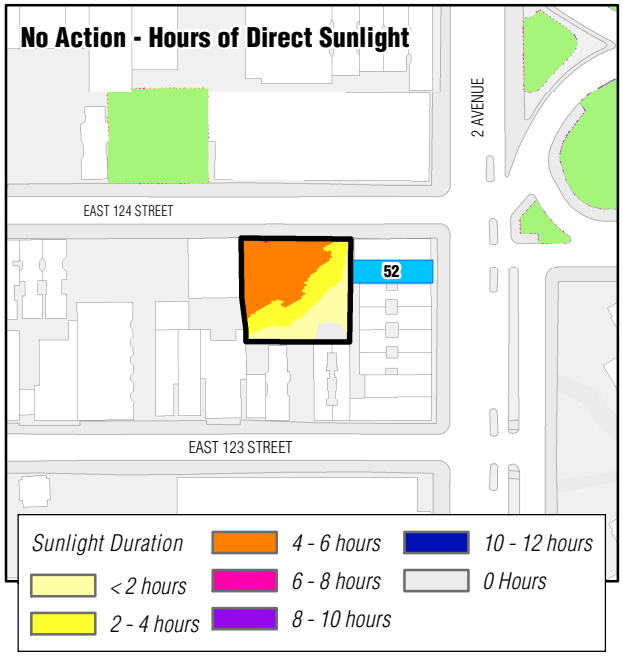
Alice Kornegay Triangle
Detailed Analysis - June 21

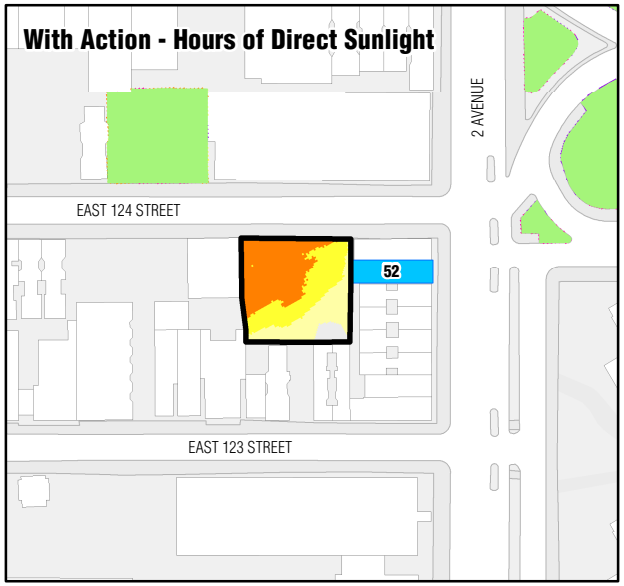
Figure 6-7

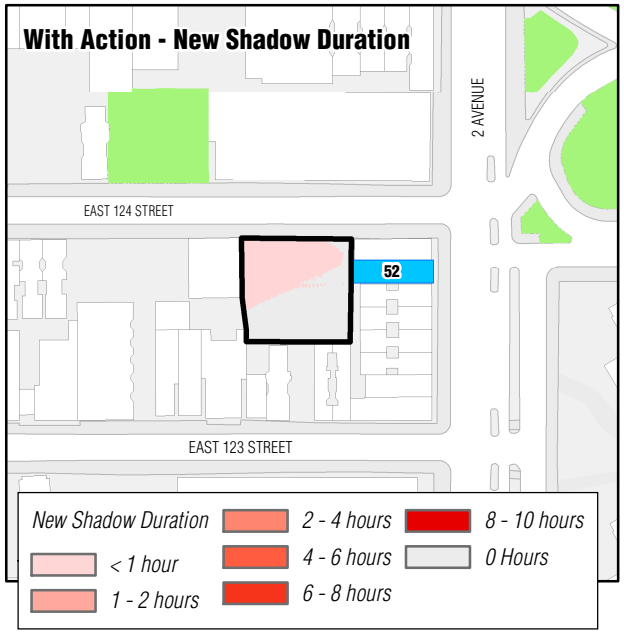






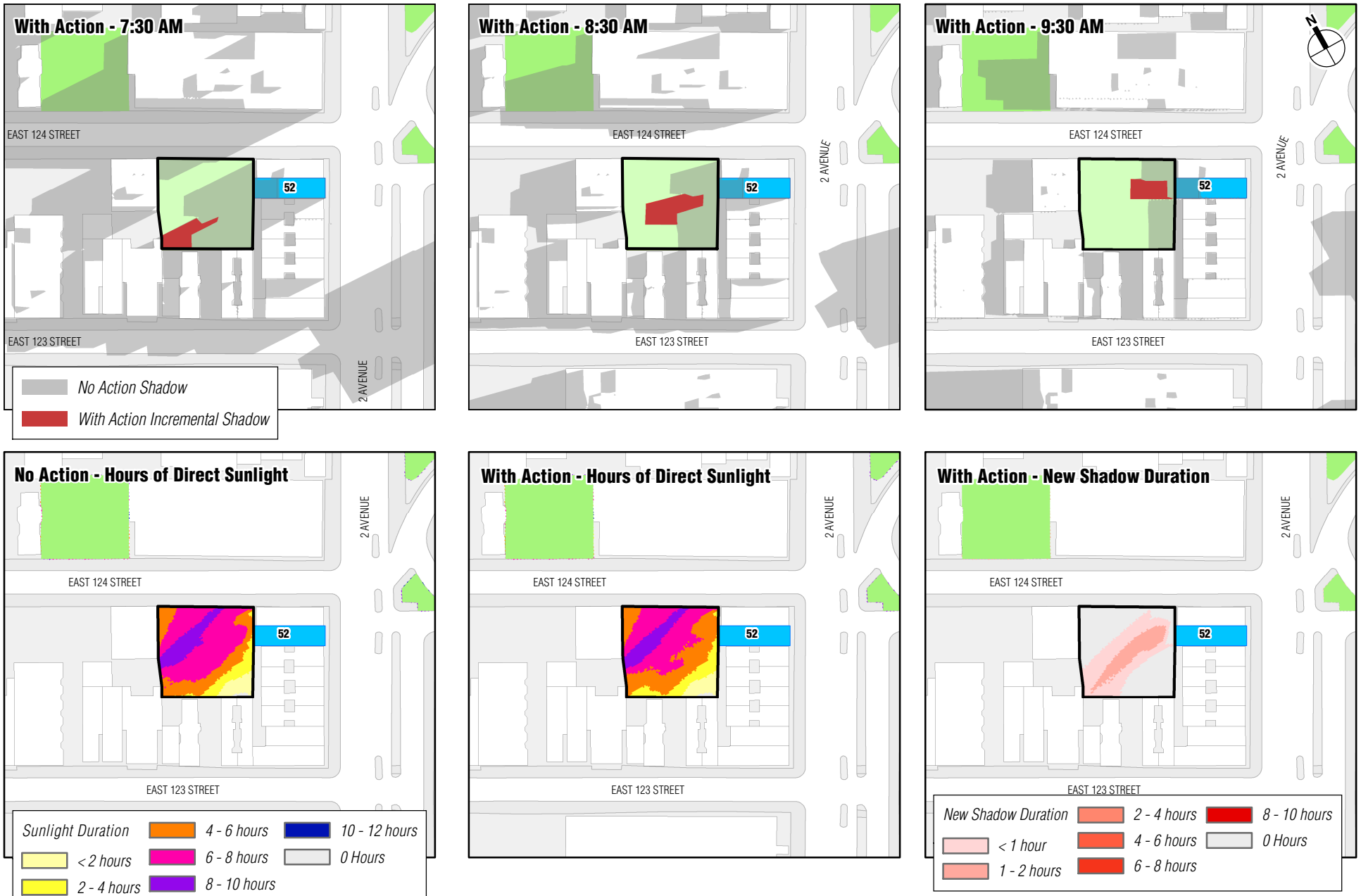






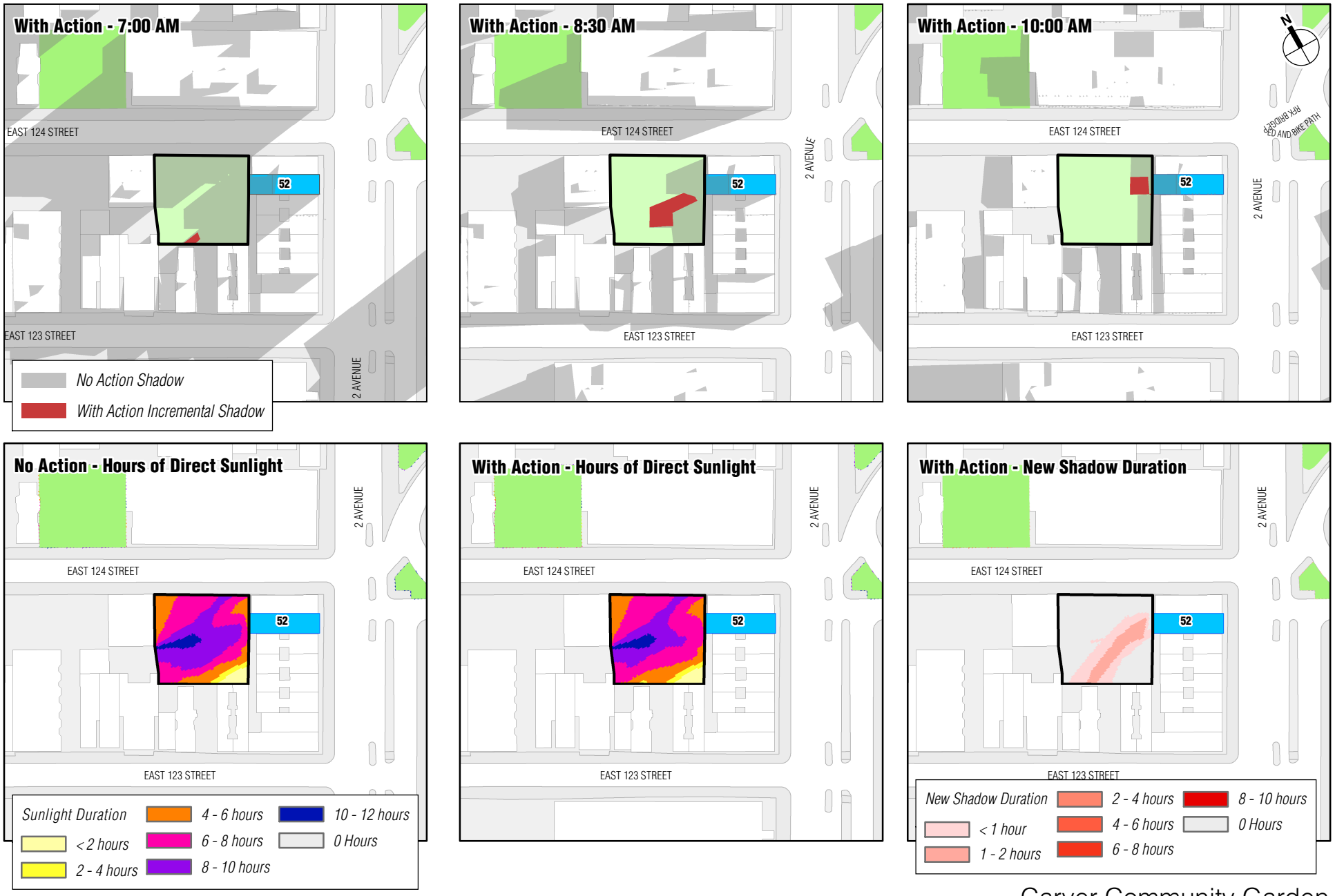
Carver Community Garden
Detailed Analysis - March 21

Figure 6-8



Carver Community Garden
Detailed Analysis - May 6

Figure 6-9



Carver Community Garden
Detailed Analysis - June 21

Figure 6-10



Clinton Houses Recreation Areas
Detailed Analysis - December 21

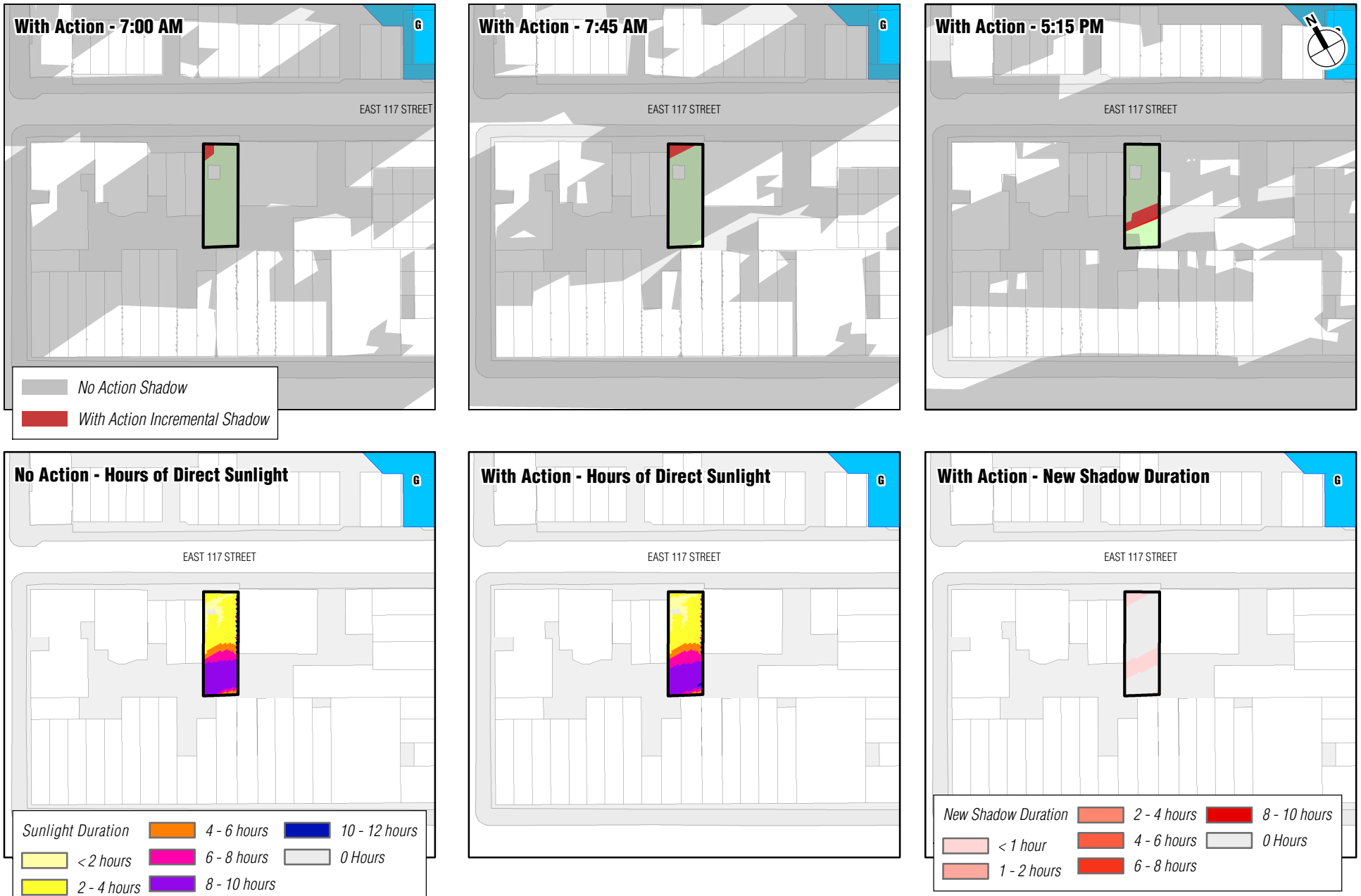
EAST HARLEM REZONING

Figure 6-11



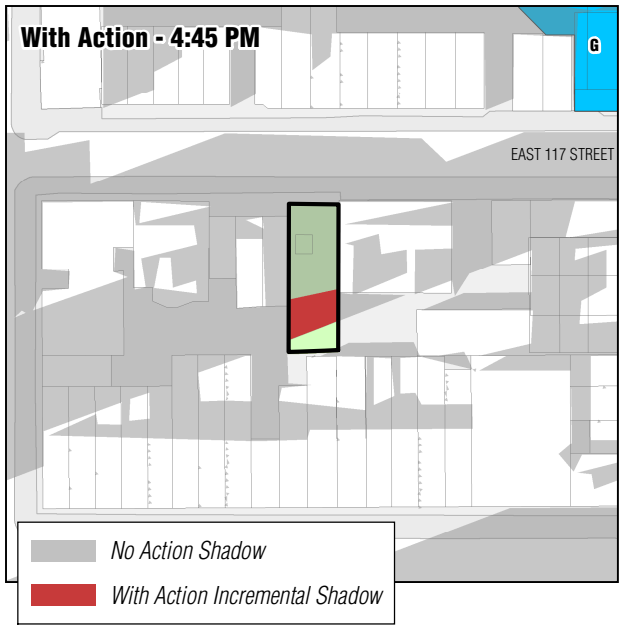
Corozal Family Garden
Detailed Analysis - March 21

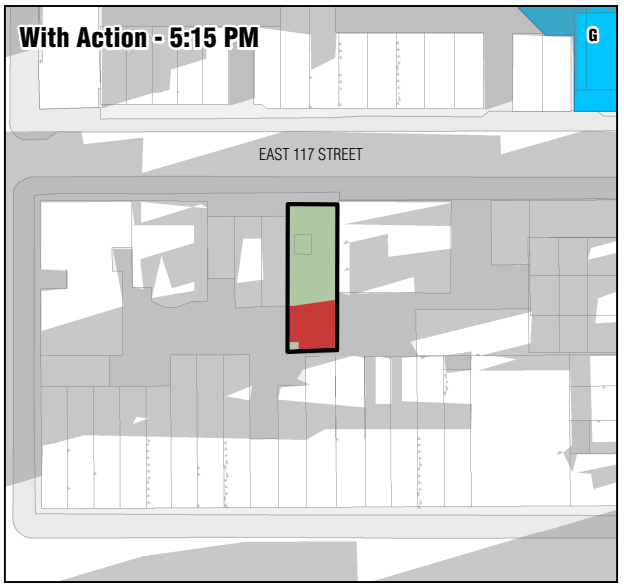
Figure 6-12

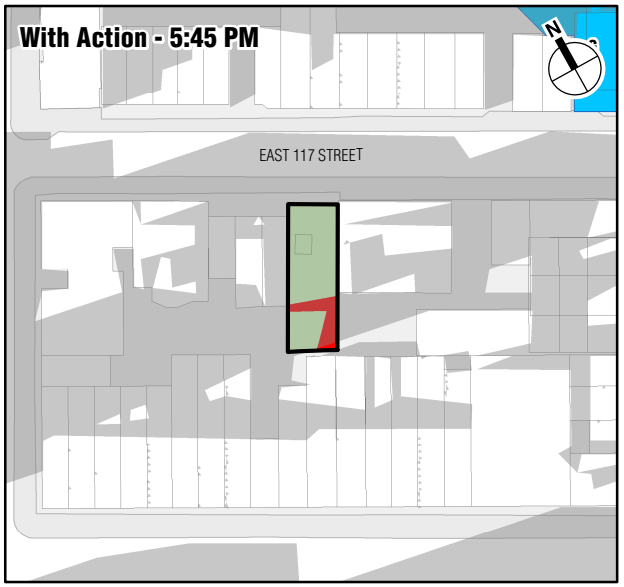


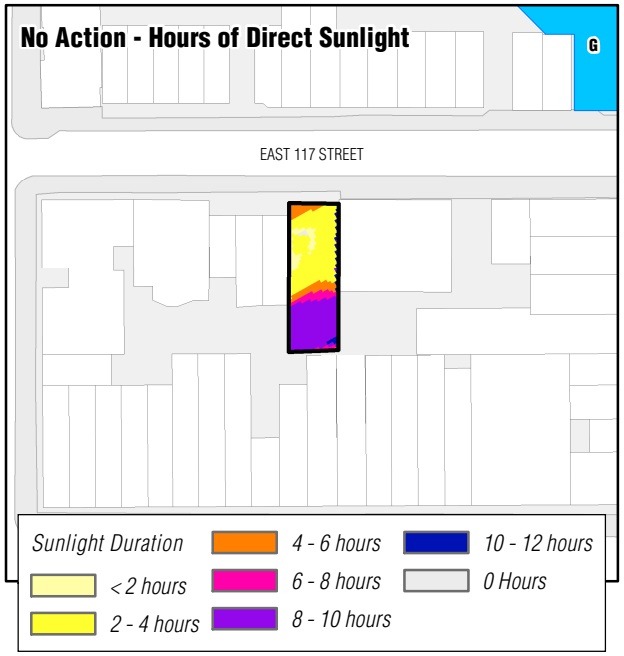
Corozal Family Garden
Detailed Analysis - May 6

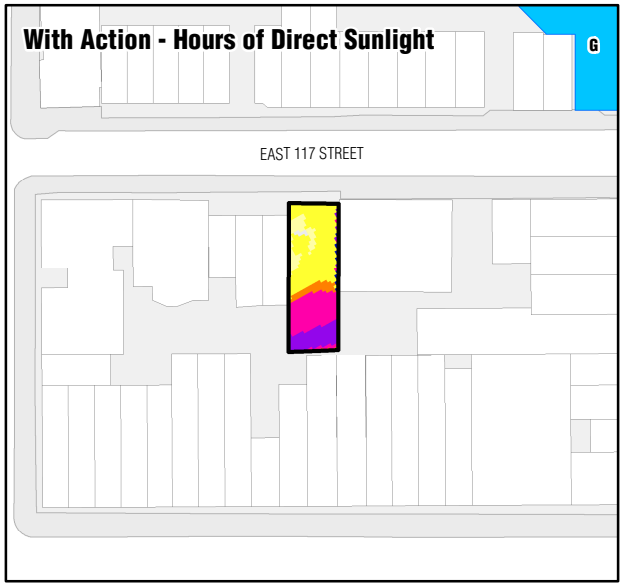
Figure 6-13

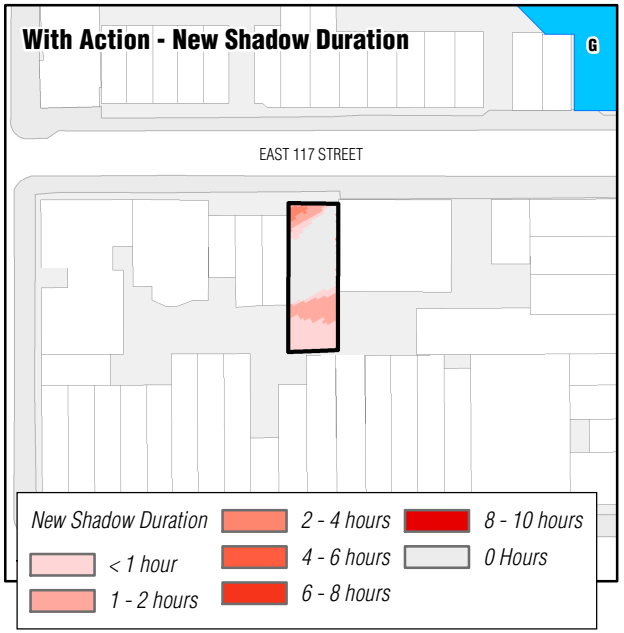








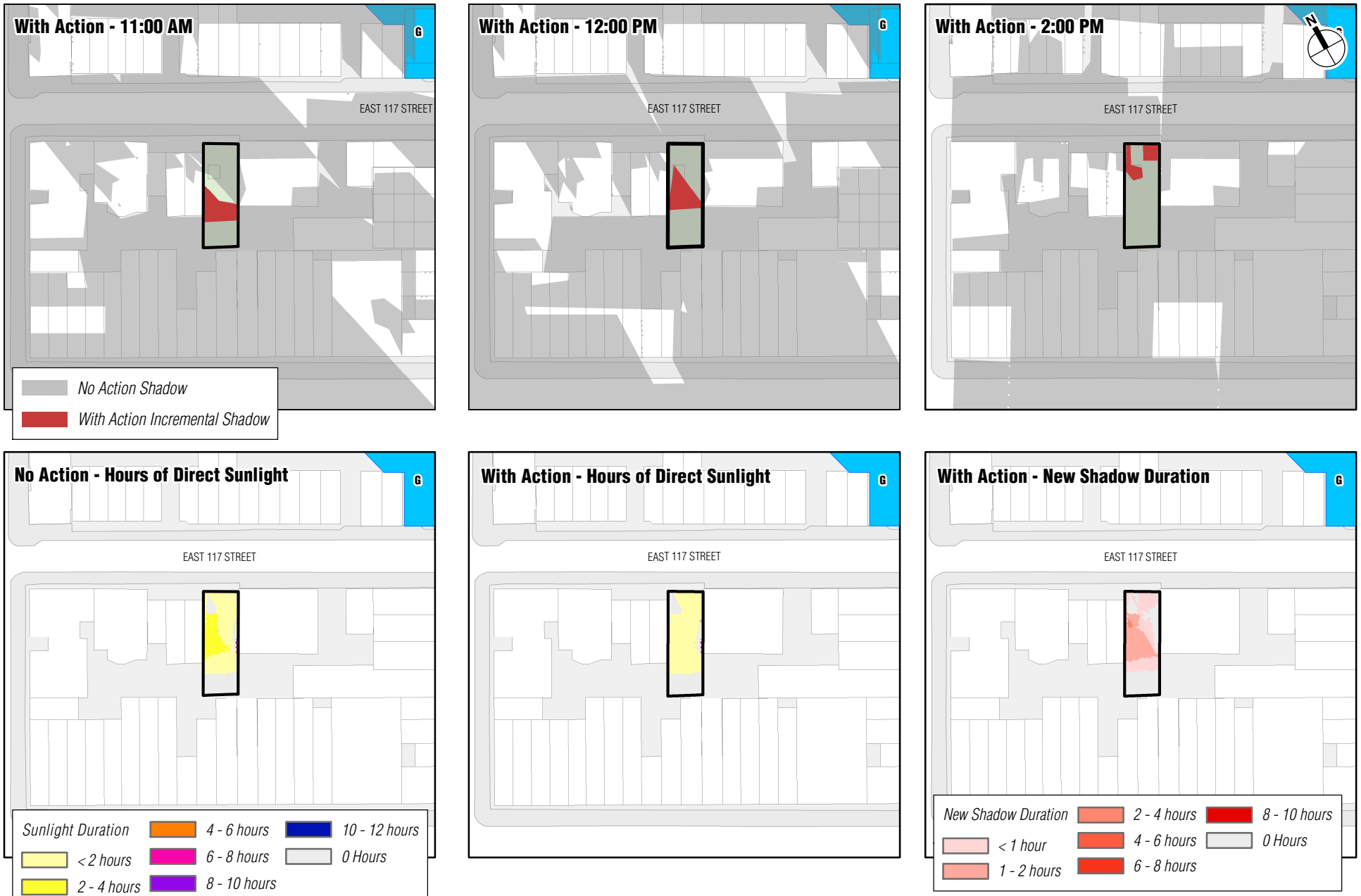




Corozal Family Garden
Detailed Analysis - June 21

EAST HARLEM REZONING

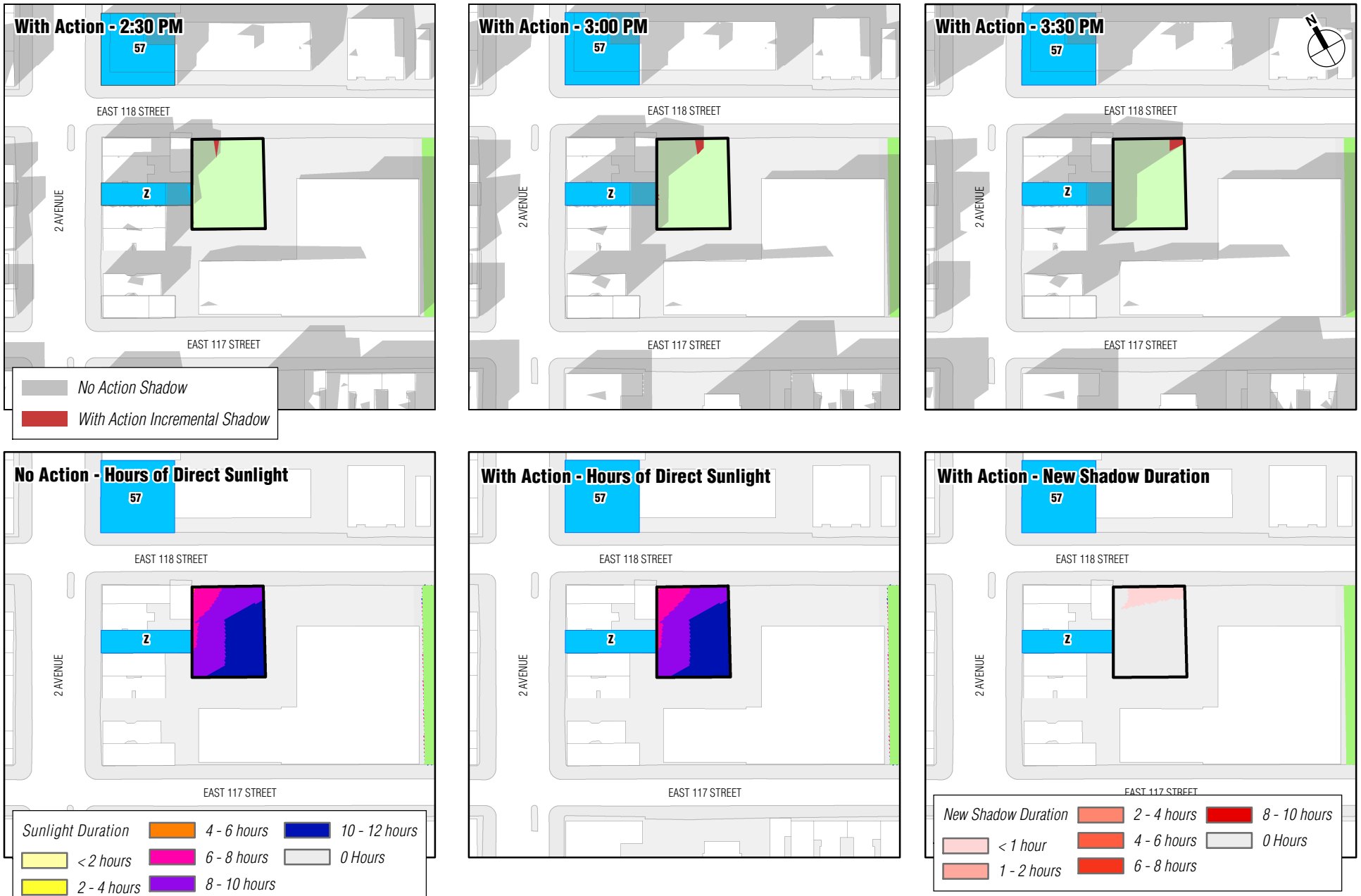
Figure 6-14



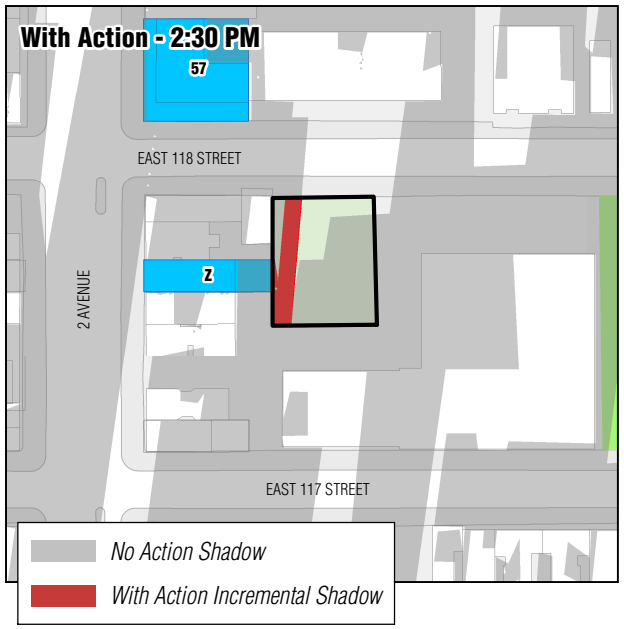
Corozal Family Garden
Detailed Analysis - December 21

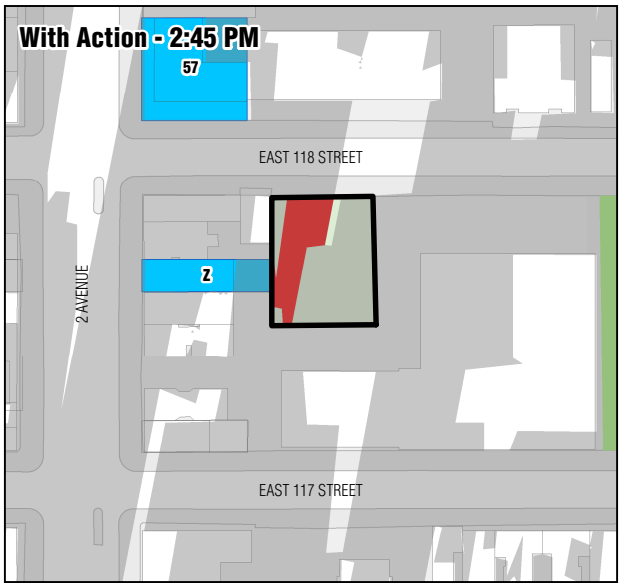
EAST HARLEM REZONING

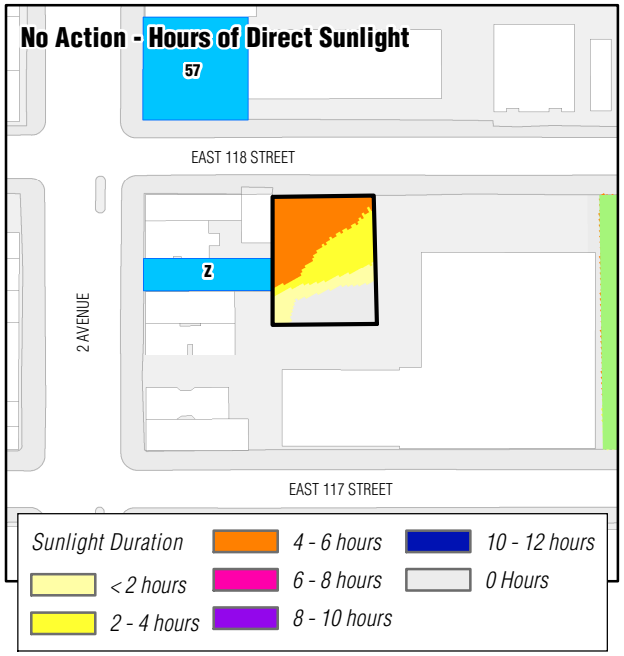
Figure 6-15

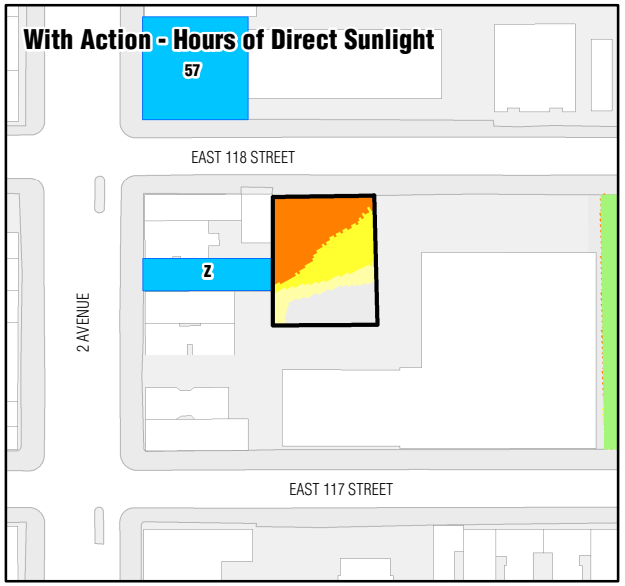


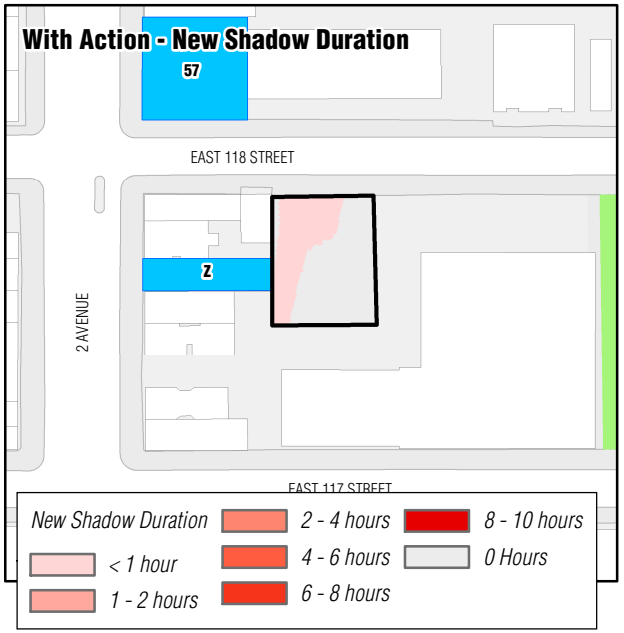
Diamante Garden
Detailed Analysis - June 21
Figure 6-16





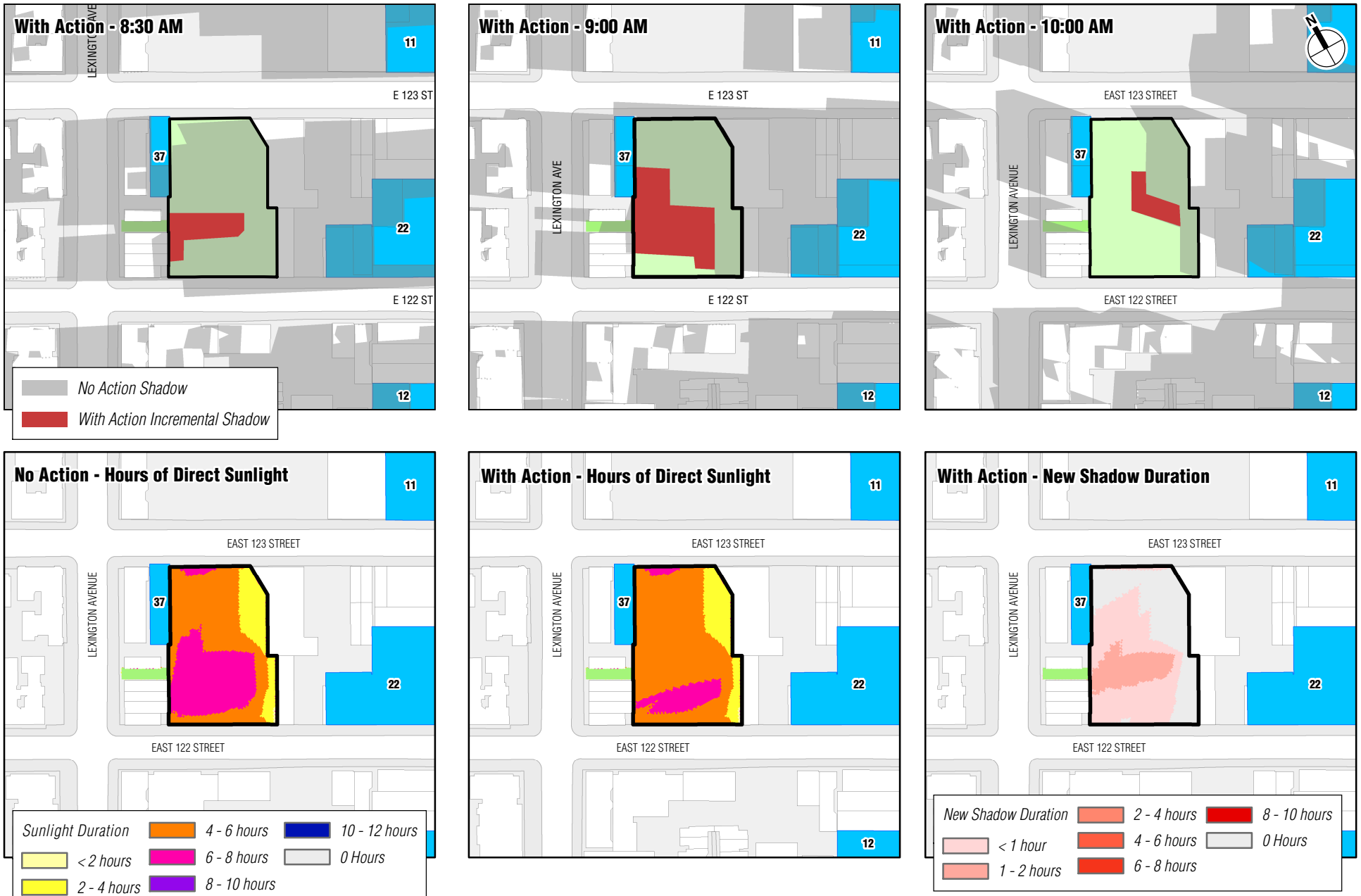






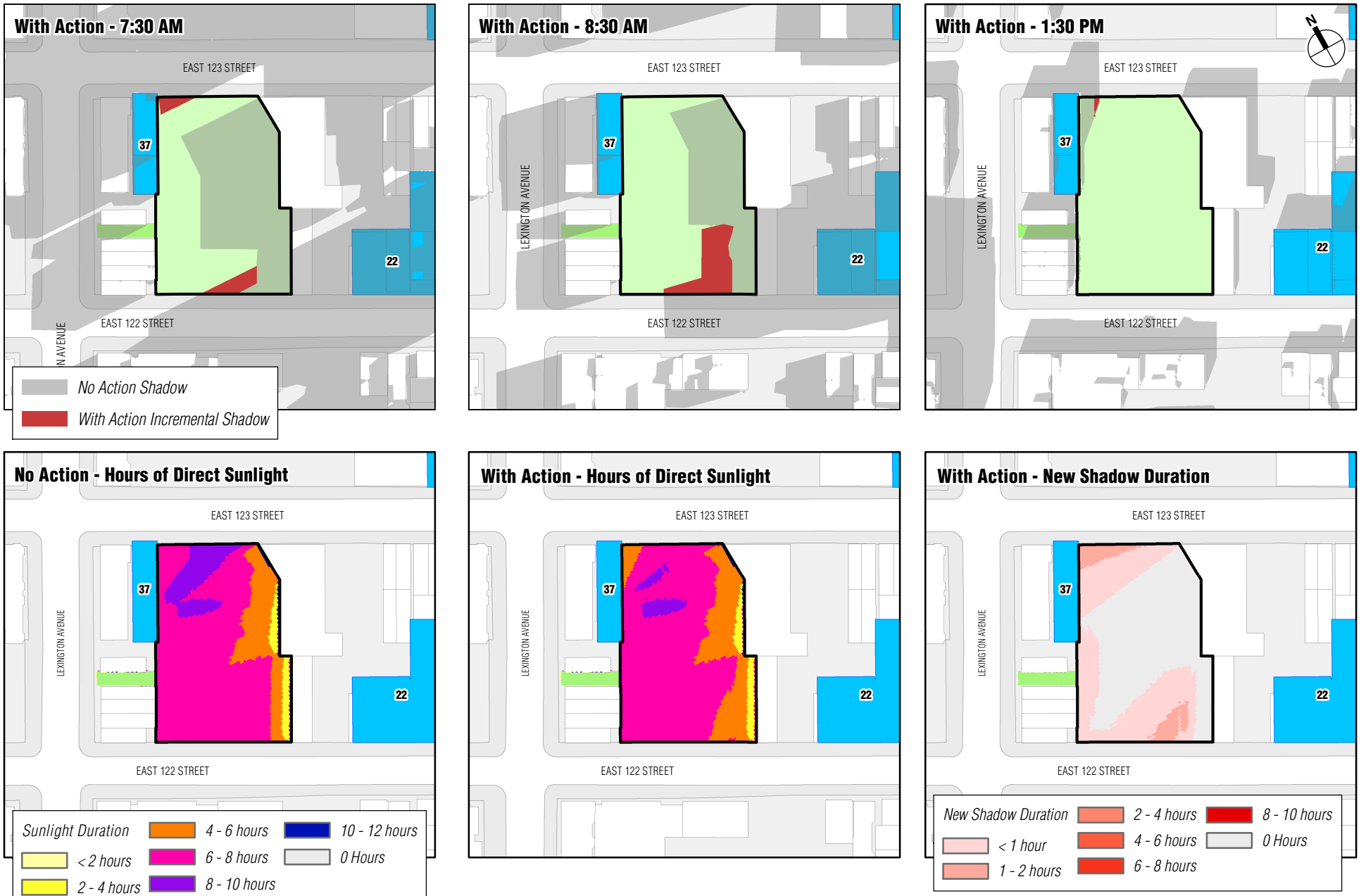
Diamante Garden
Detailed Analysis - December 21

Figure 6-17



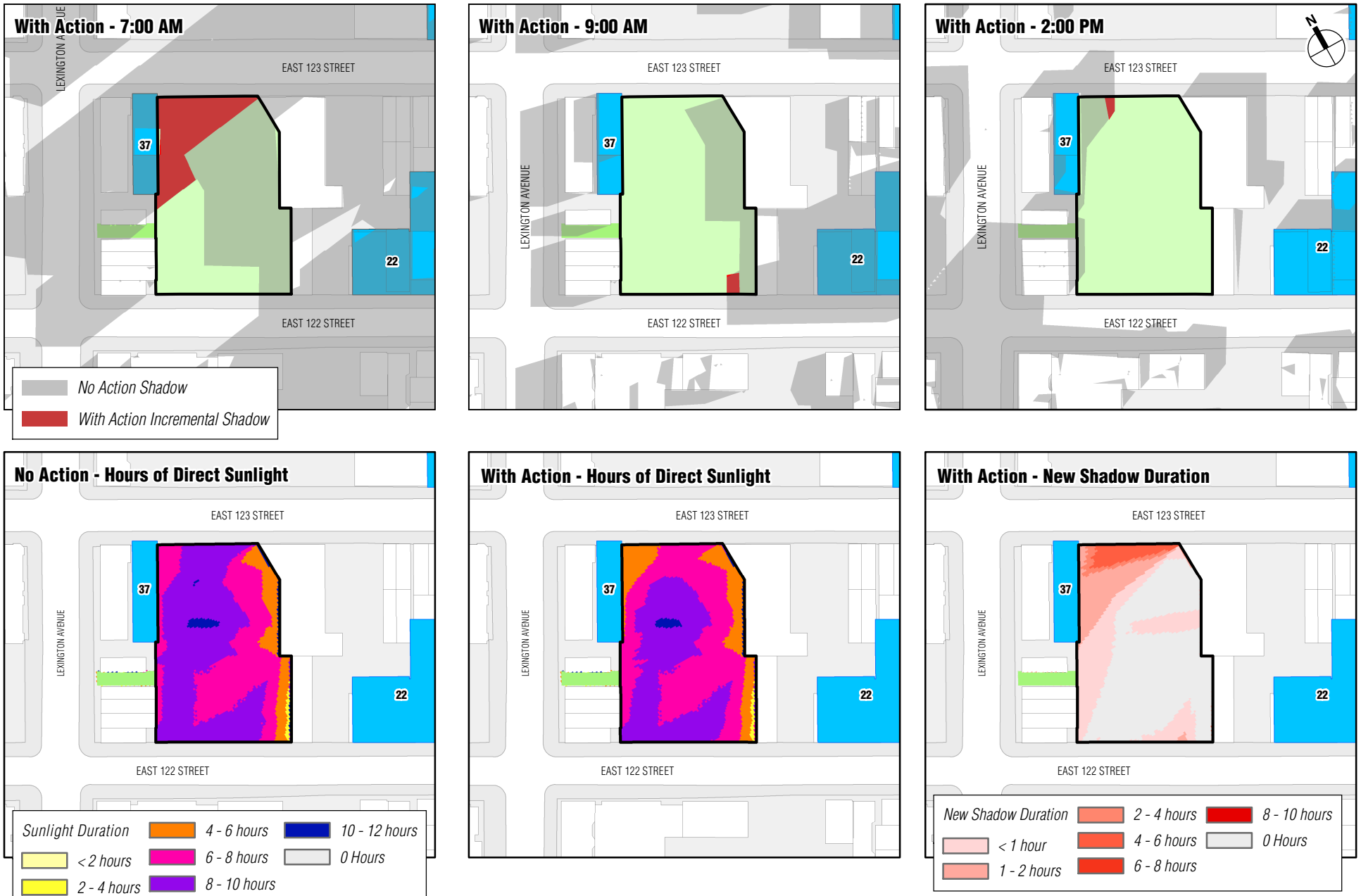
Dr. Ronald E. McNair Playground
Detailed Analysis - March 21

Figure 6-18



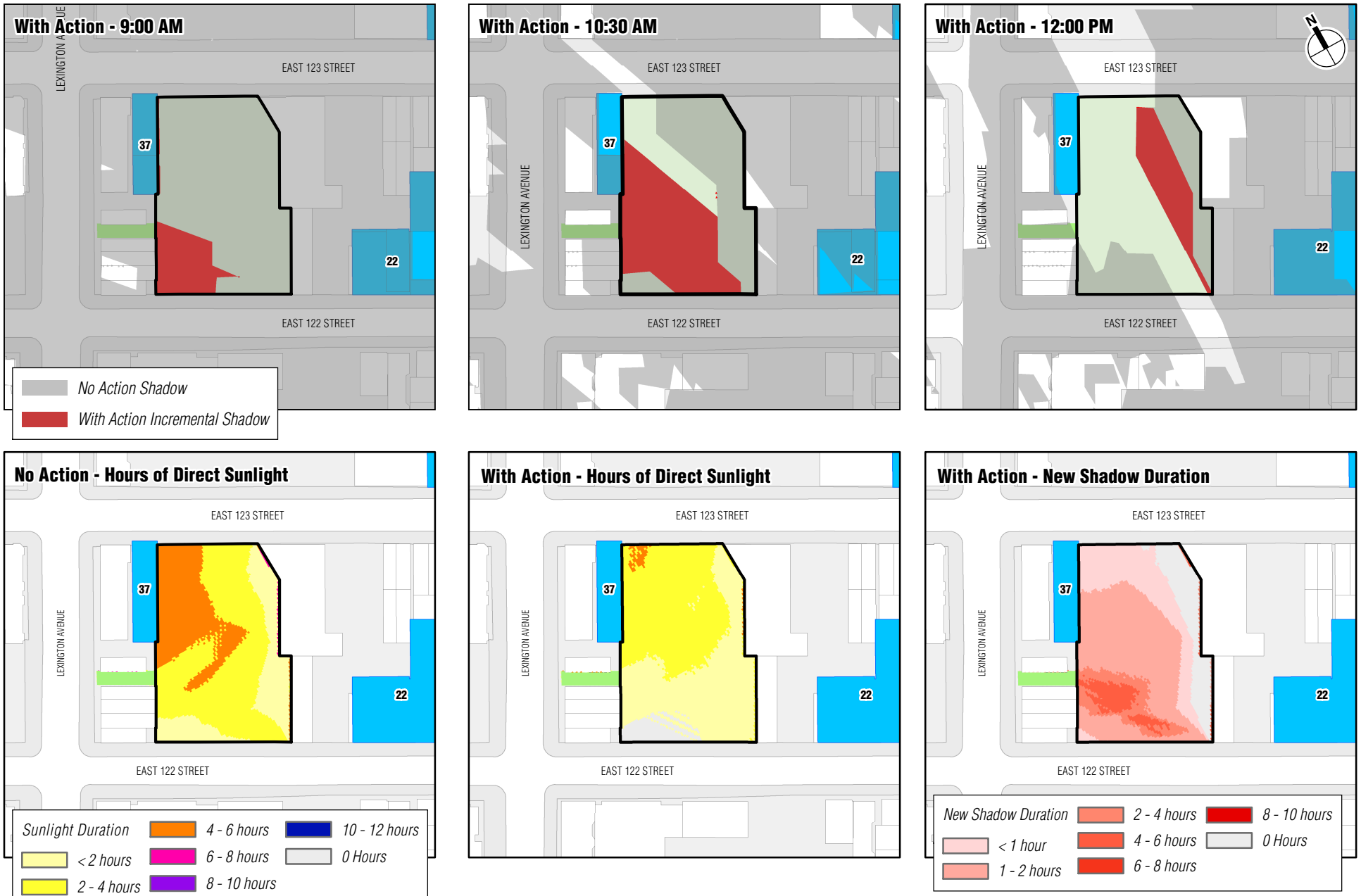
Dr. Ronald E. McNair Playground
Detailed Analysis - May 6

Figure 6-19



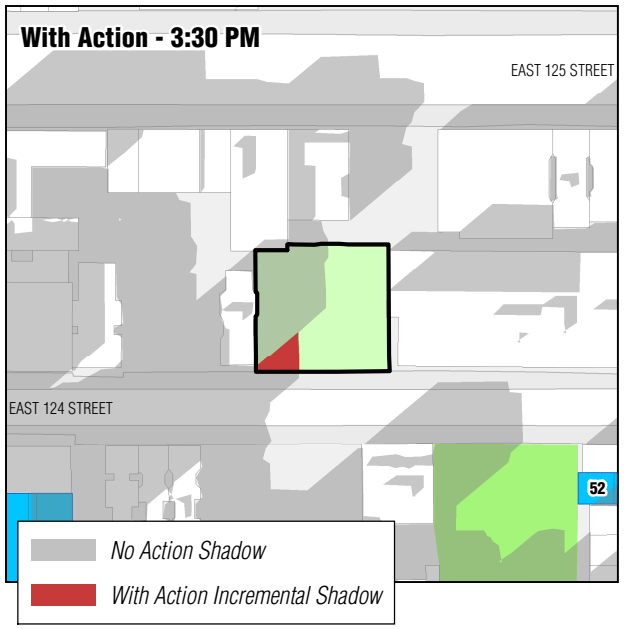
Dr. Ronald E. McNair Playground
Detailed Analysis - June 21

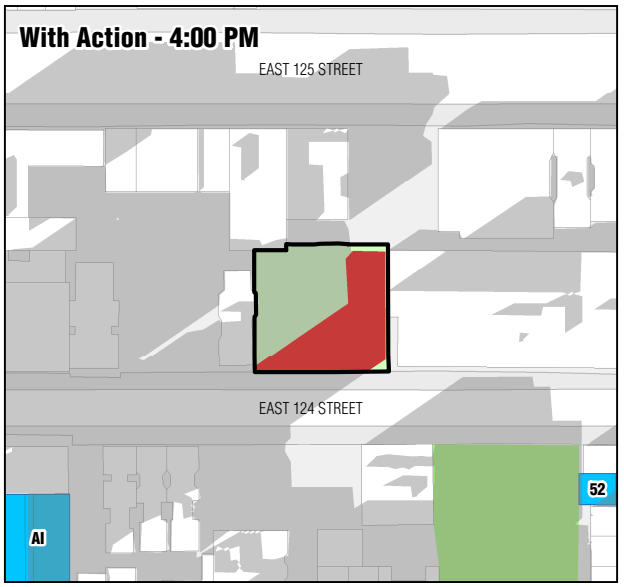
Figure 6-20

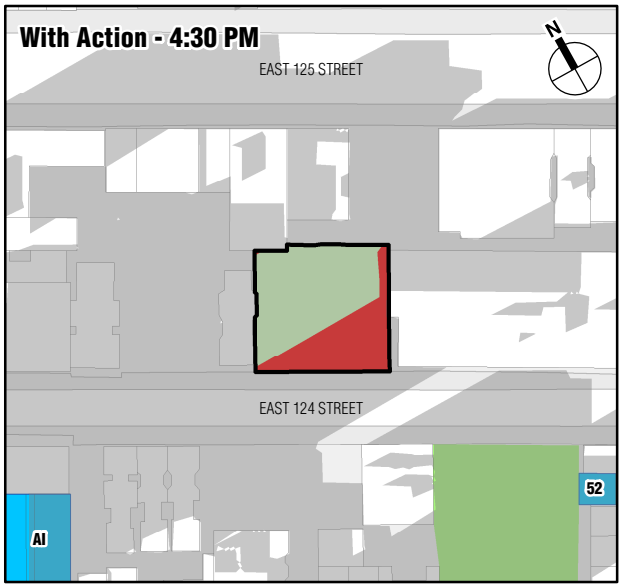


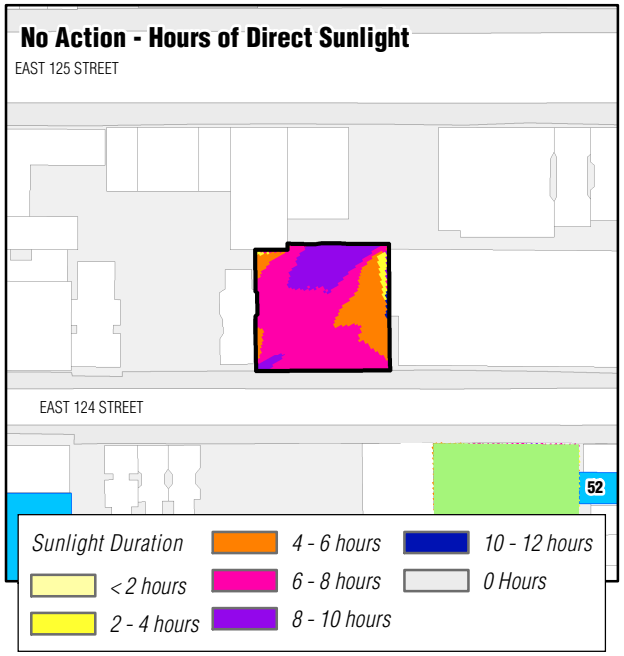
Dr. Ronald E. McNair Playground
Detailed Analysis - December 21

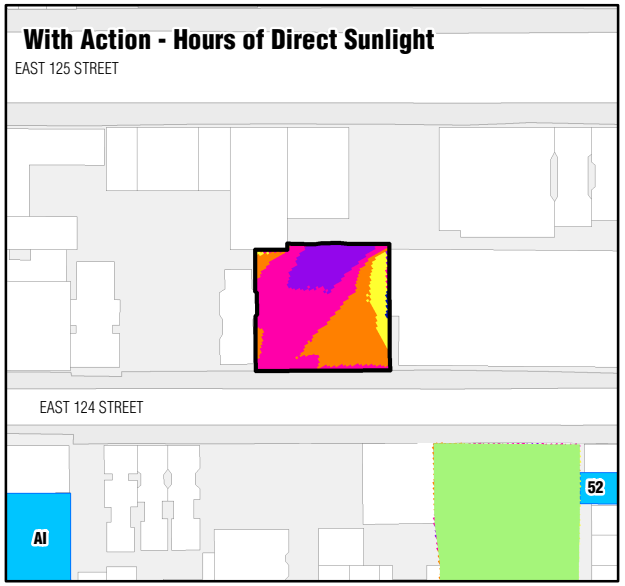
Figure 6-21

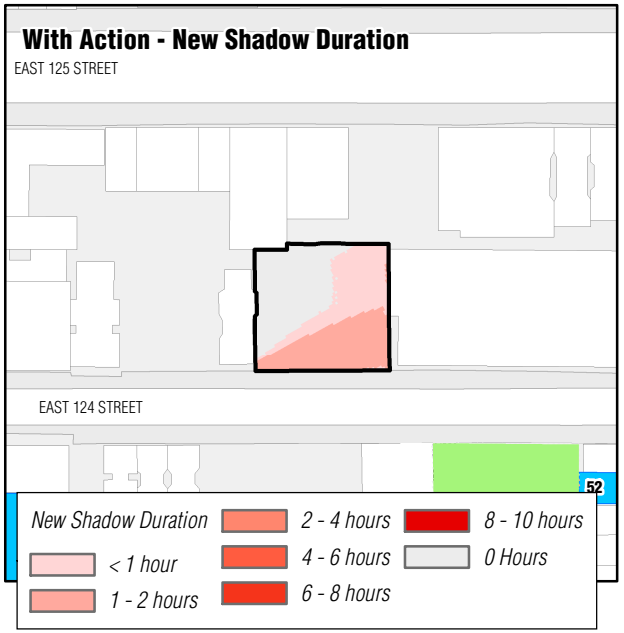




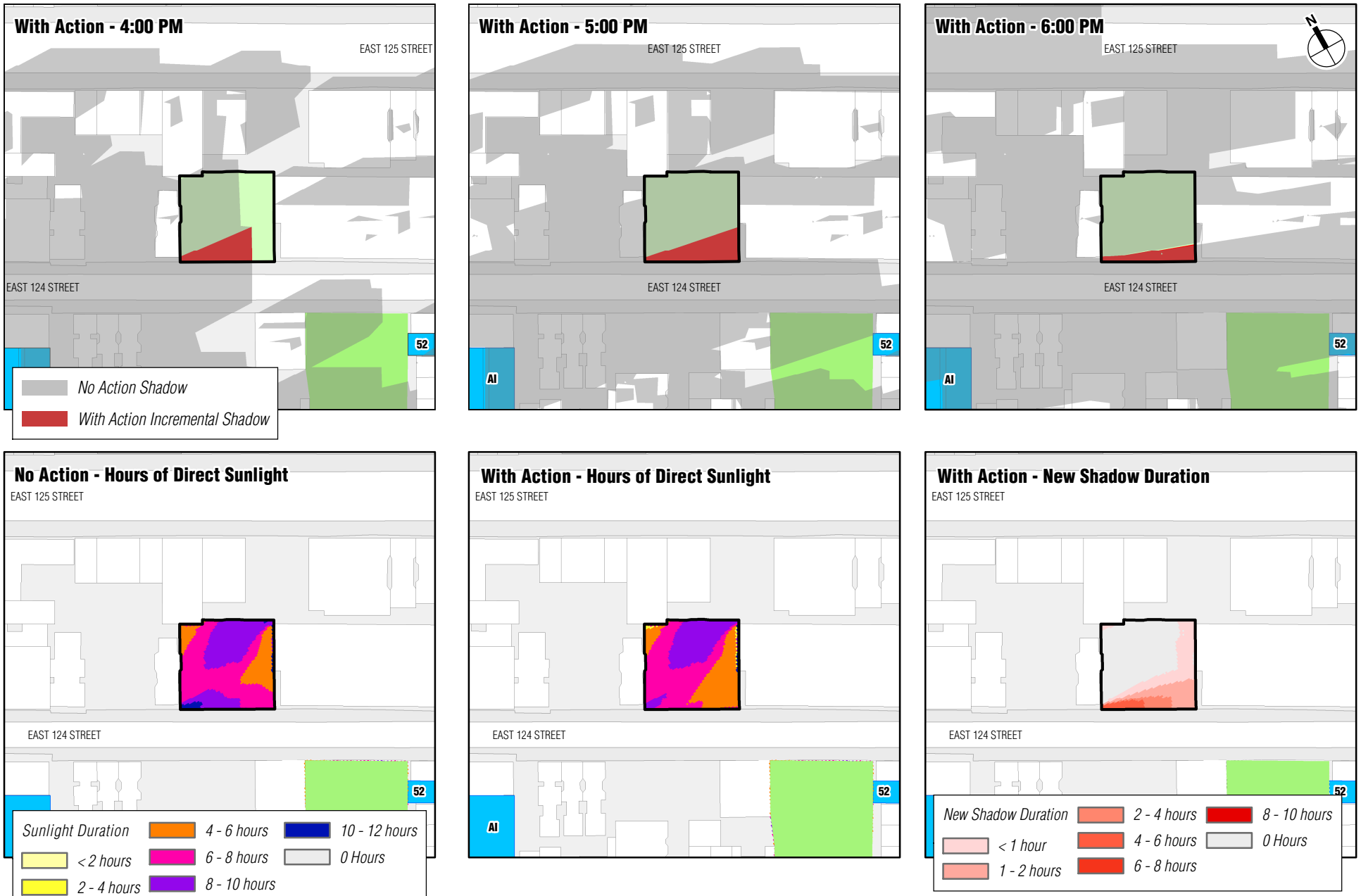




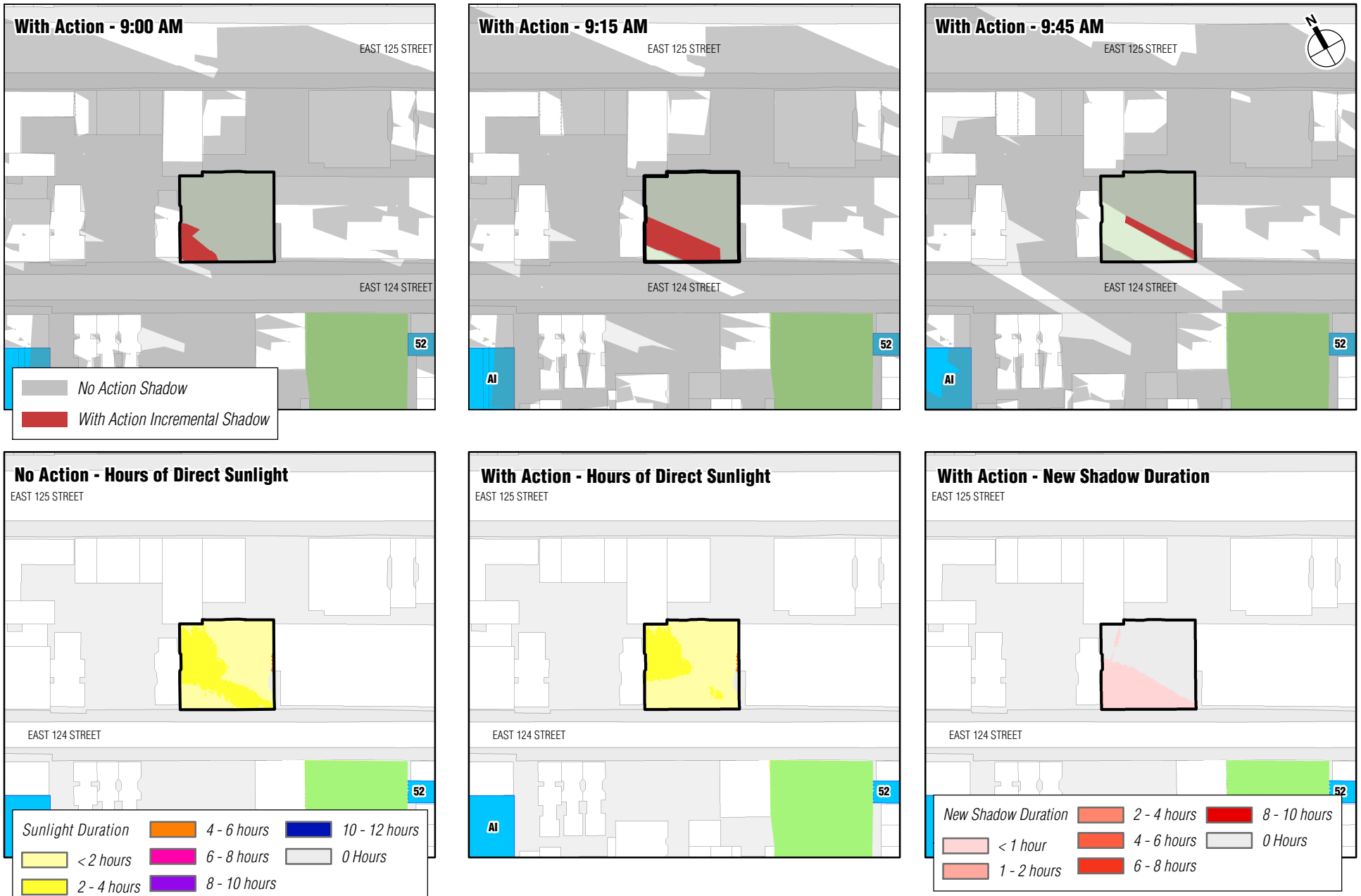




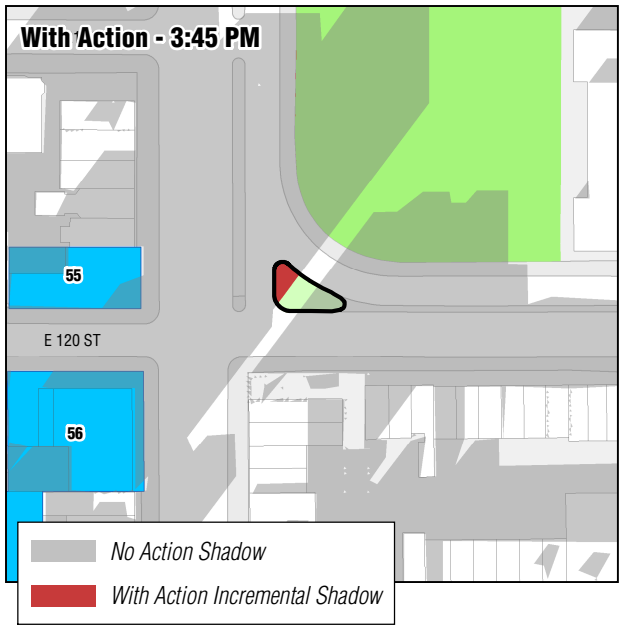
Dream Street Park
Detailed Analysis - May 6
Figure 6-22

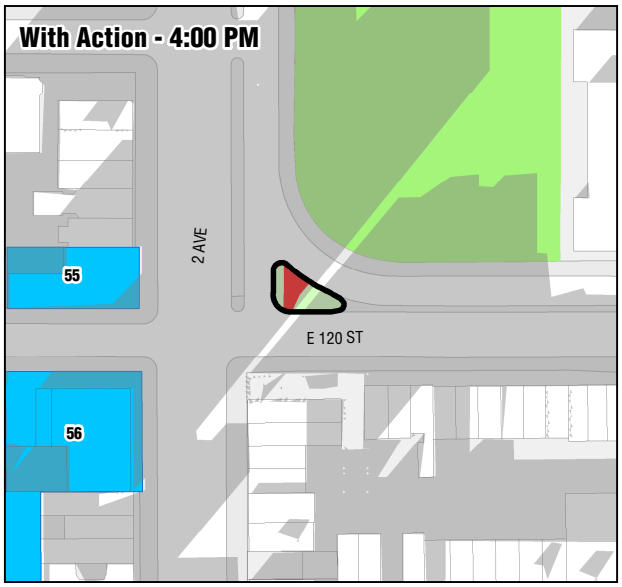


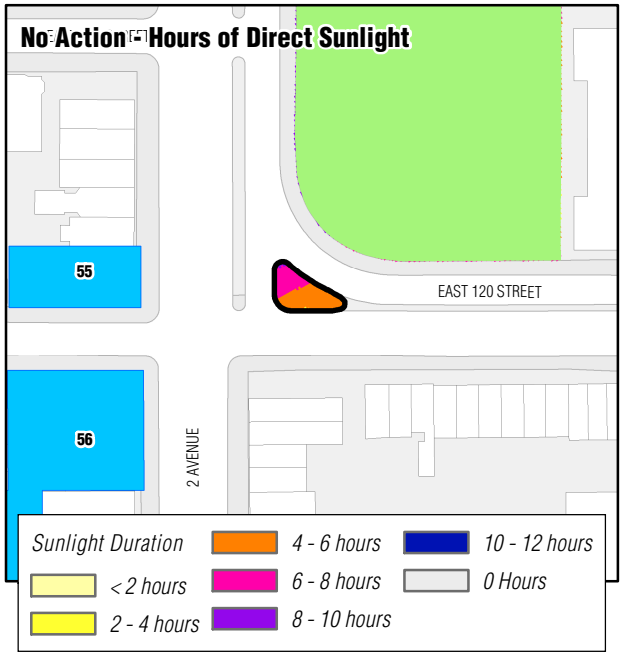
Dream Street Park
Detailed Analysis - June 21
Figure 6-23

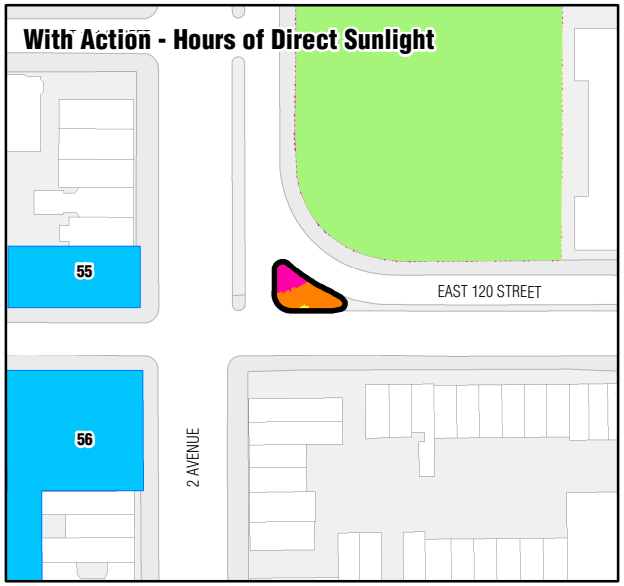


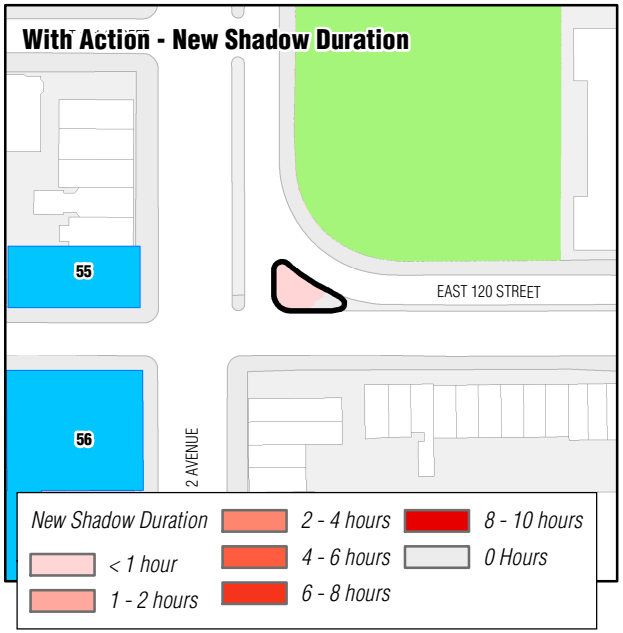
Dream Street Park
Detailed Analysis - December 21
Figure 6-24





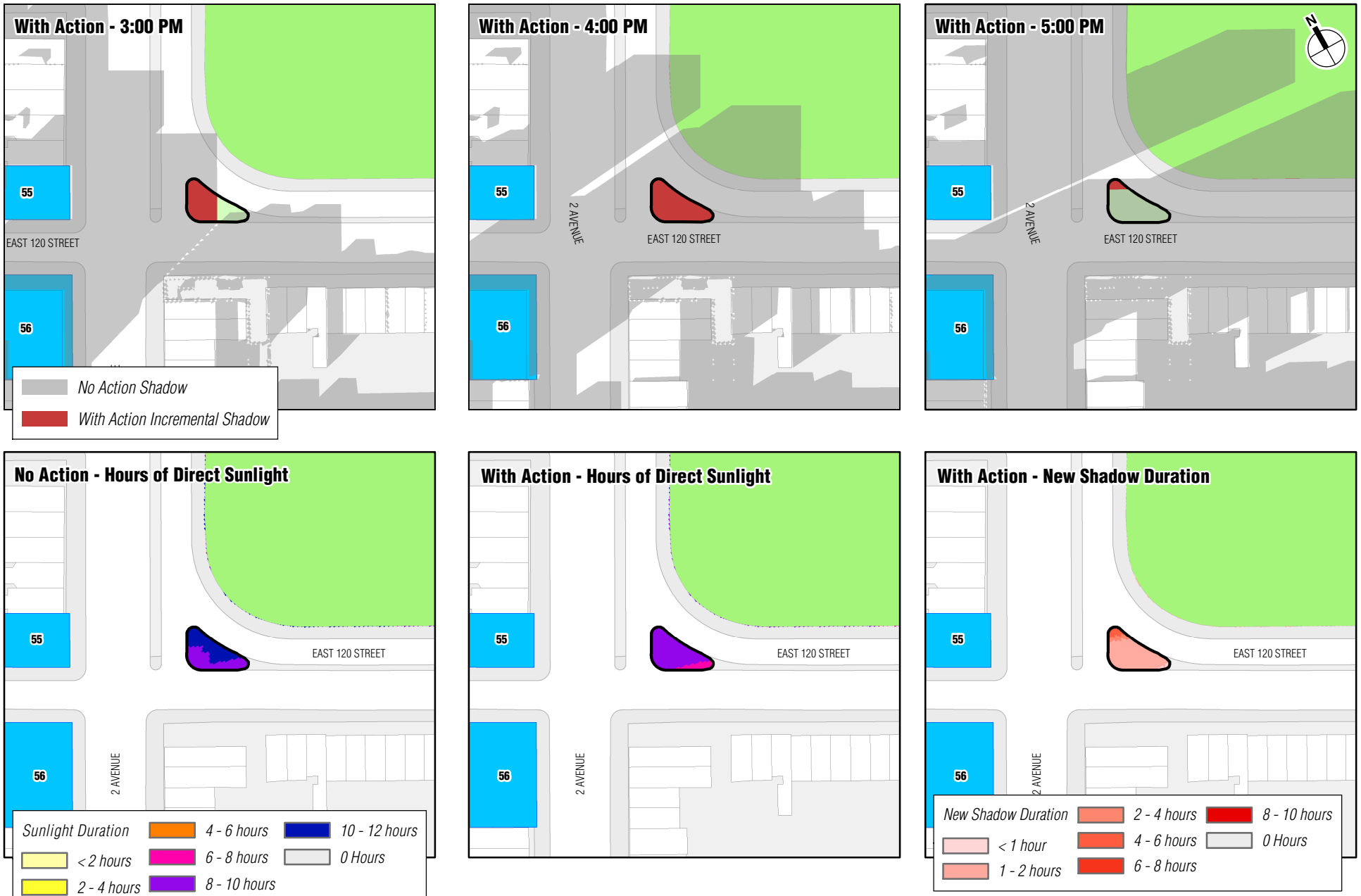






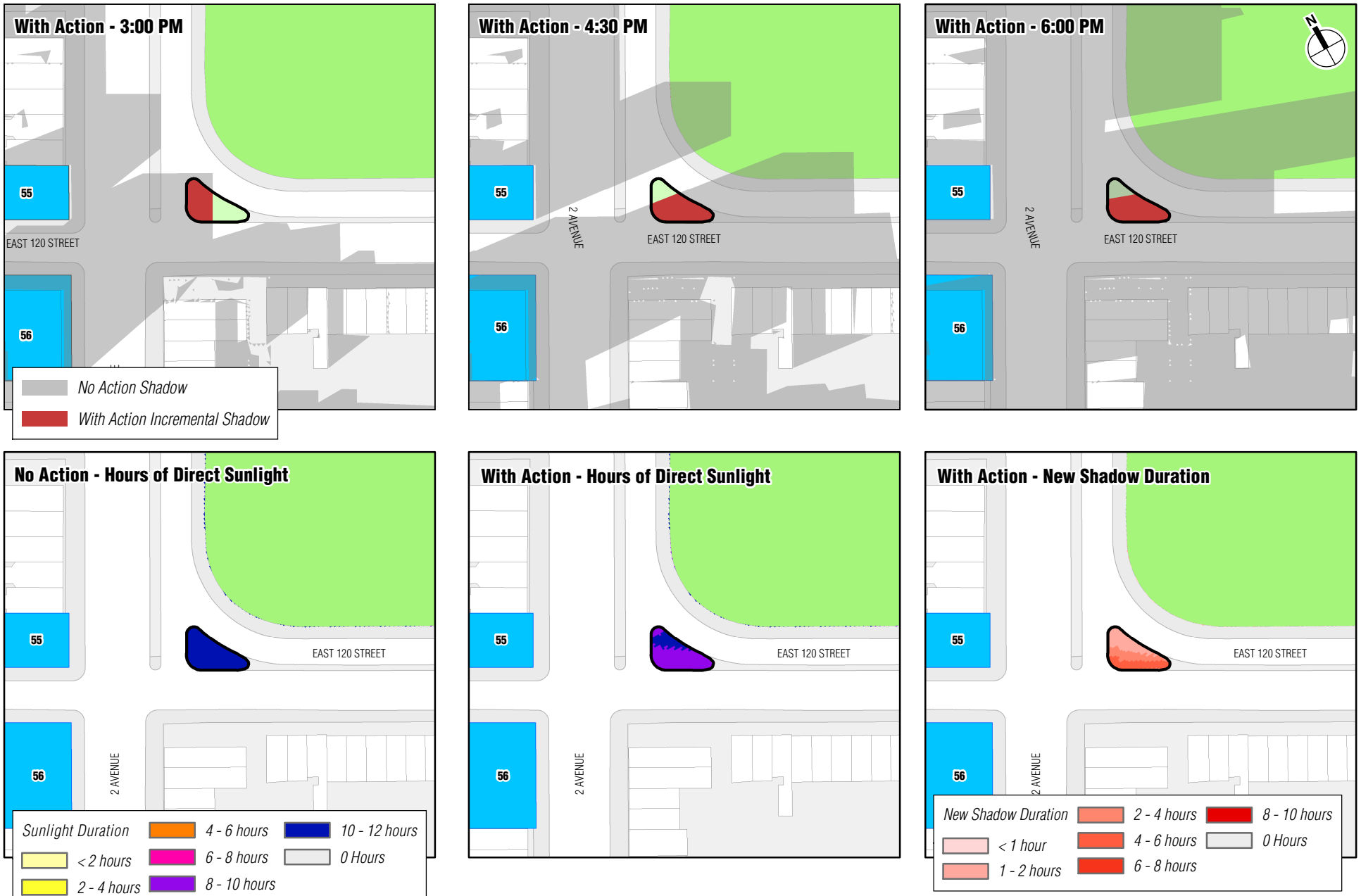
East 120th Street & Second Avenue Greenstreet
Detailed Analysis - March 21

Figure 6-25



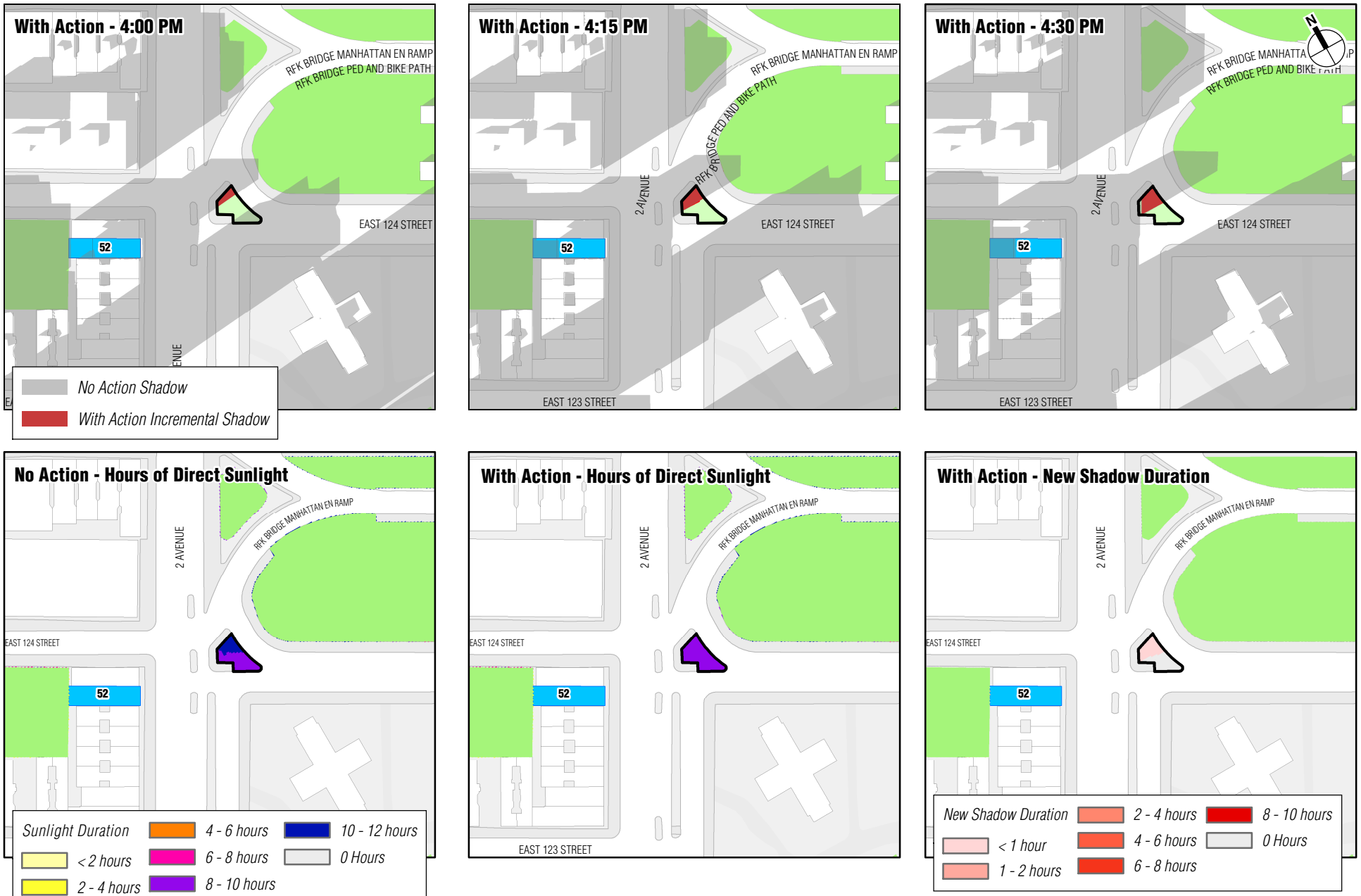
East 120th Street & Second Avenue Greenstreet
Detailed Analysis - May 6

Figure 6-26



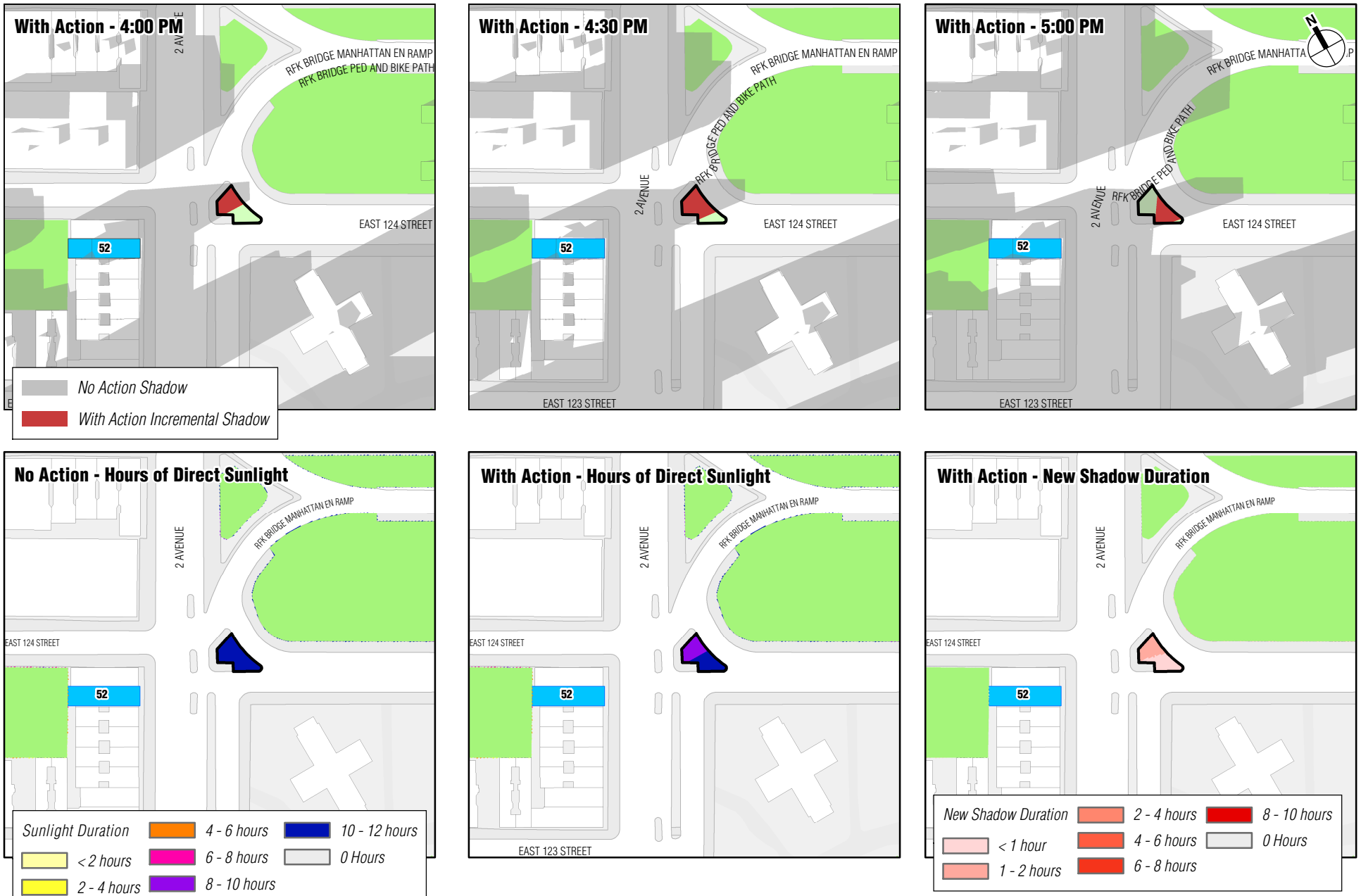
East 120th Street & Second Avenue Greenstreet
Detailed Analysis - June 21

Figure 6-27



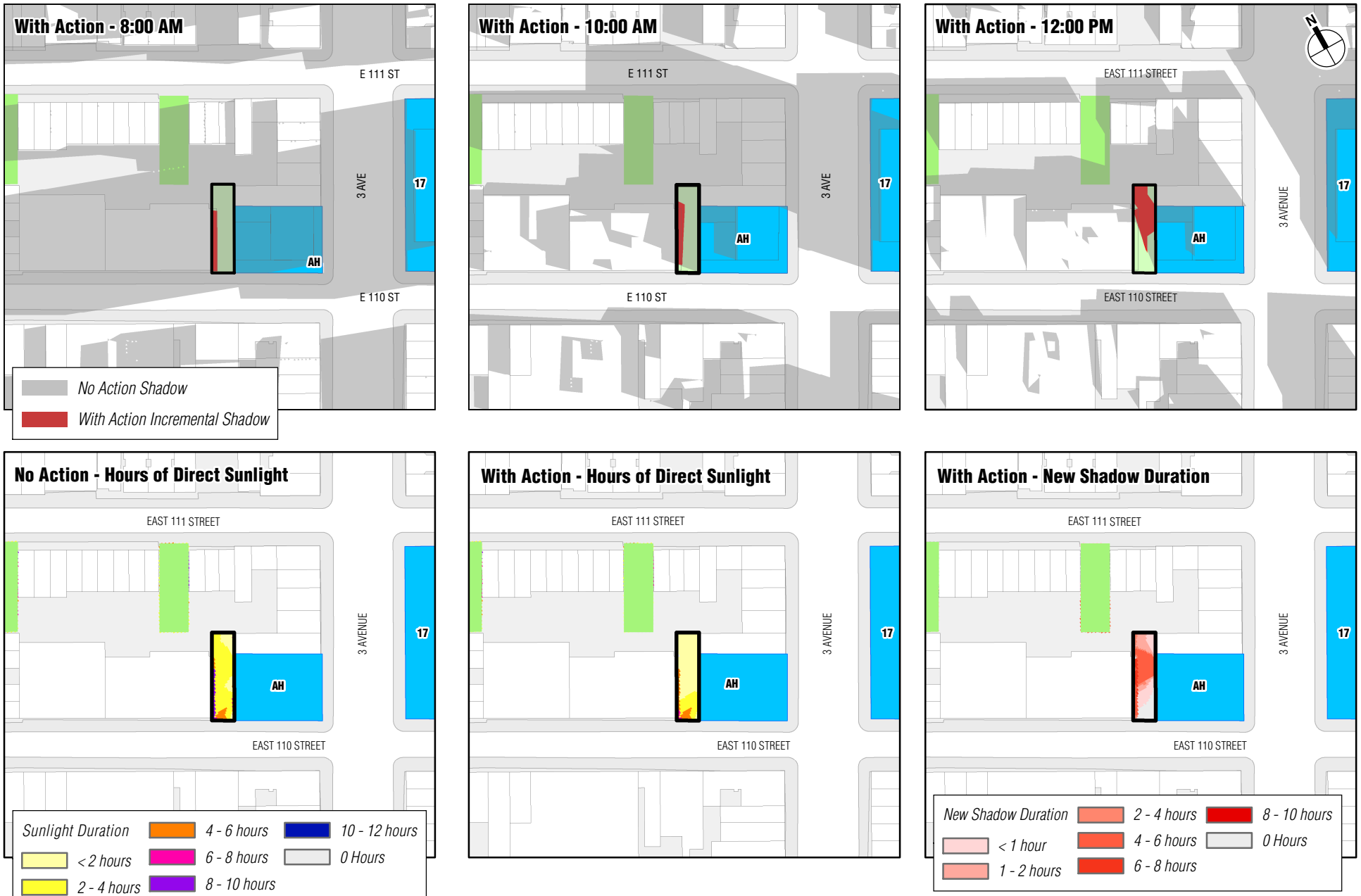
East 124th Street & Second Avenue Greenstreet
Detailed Analysis - May 6

Figure 6-28



East 124th Street & Second Avenue Greenstreet
Detailed Analysis - June 21

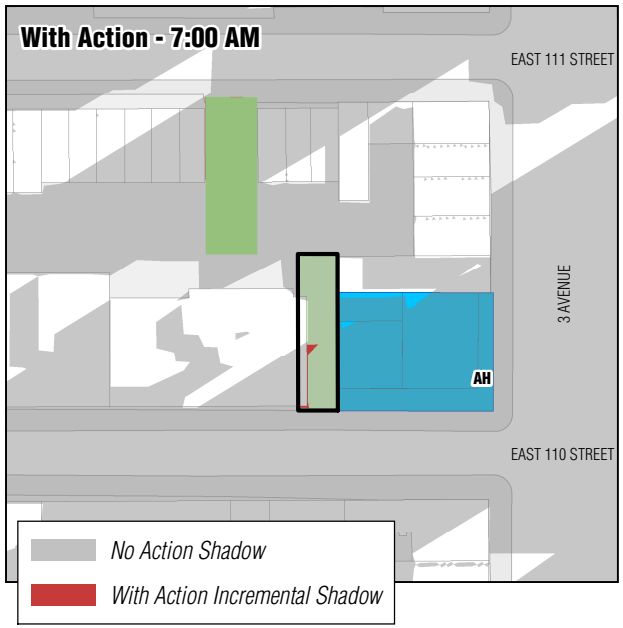
Figure 6-29

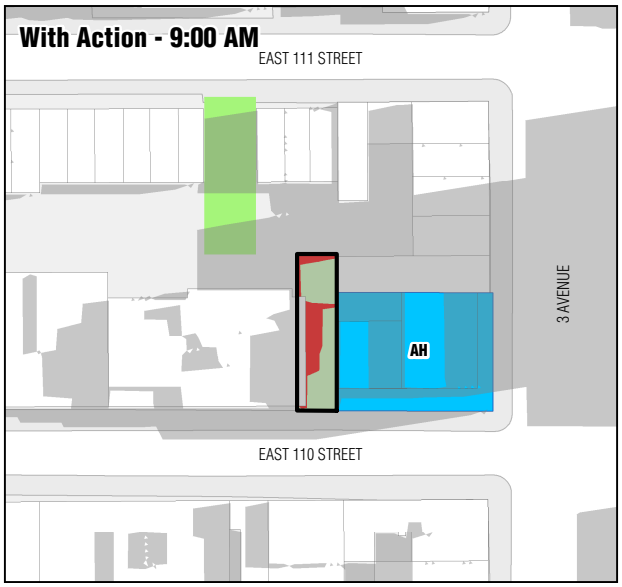


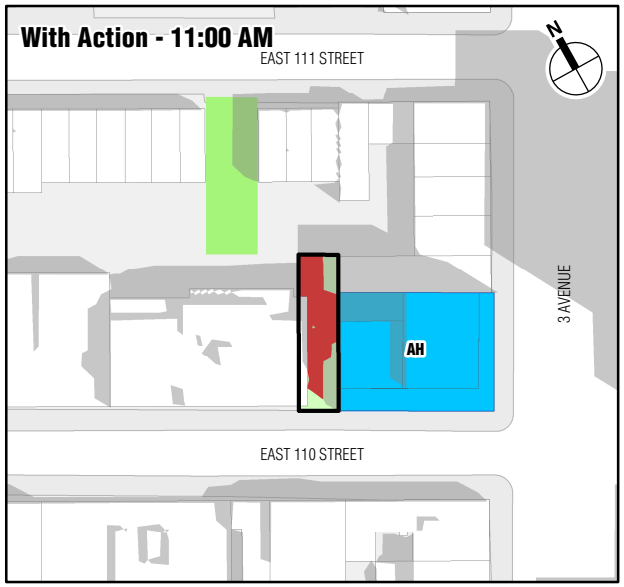
El Catano Garden
Detailed Analysis - March 21

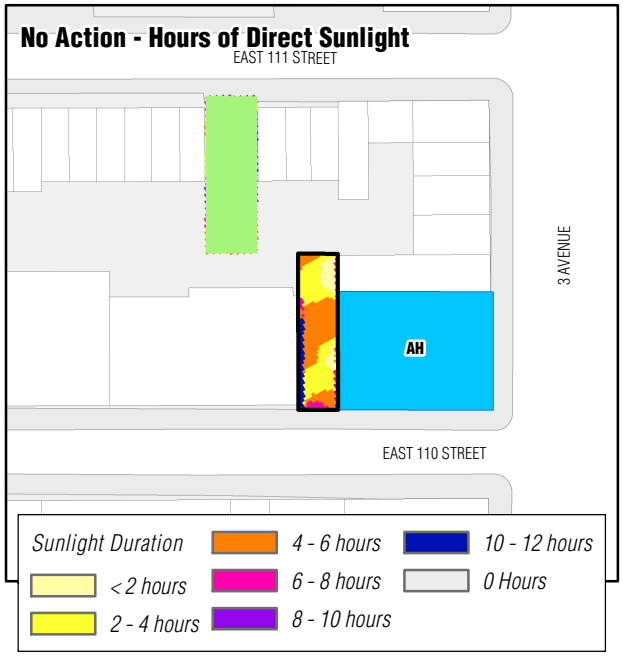
EAST HARLEM REZONING

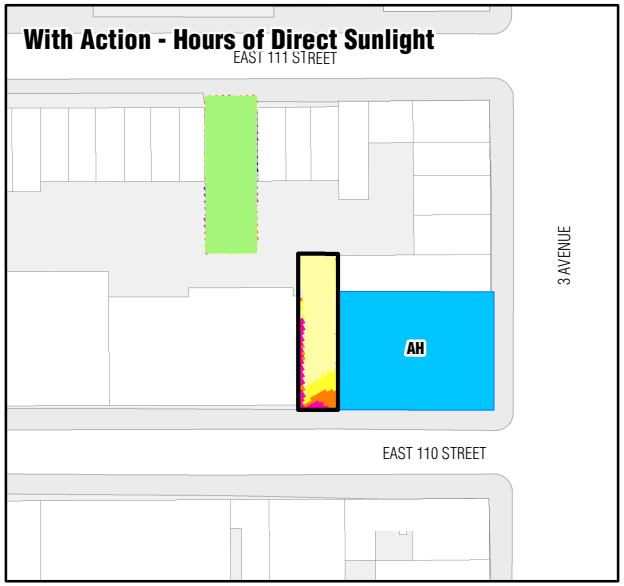
Figure 6-30

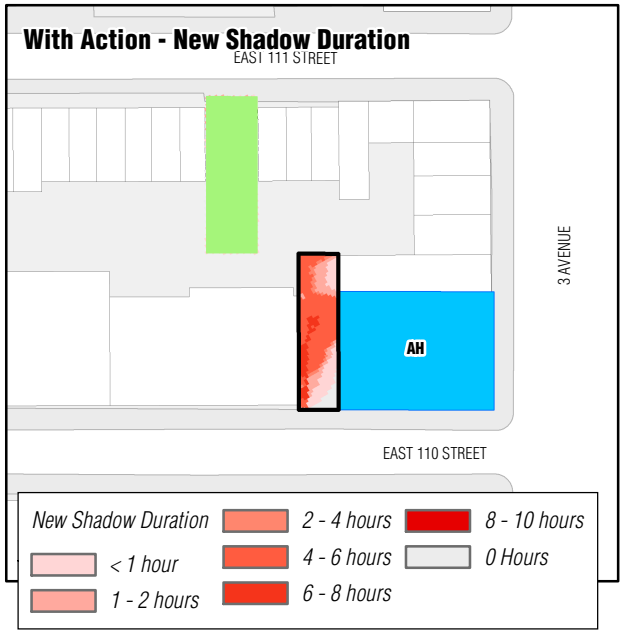






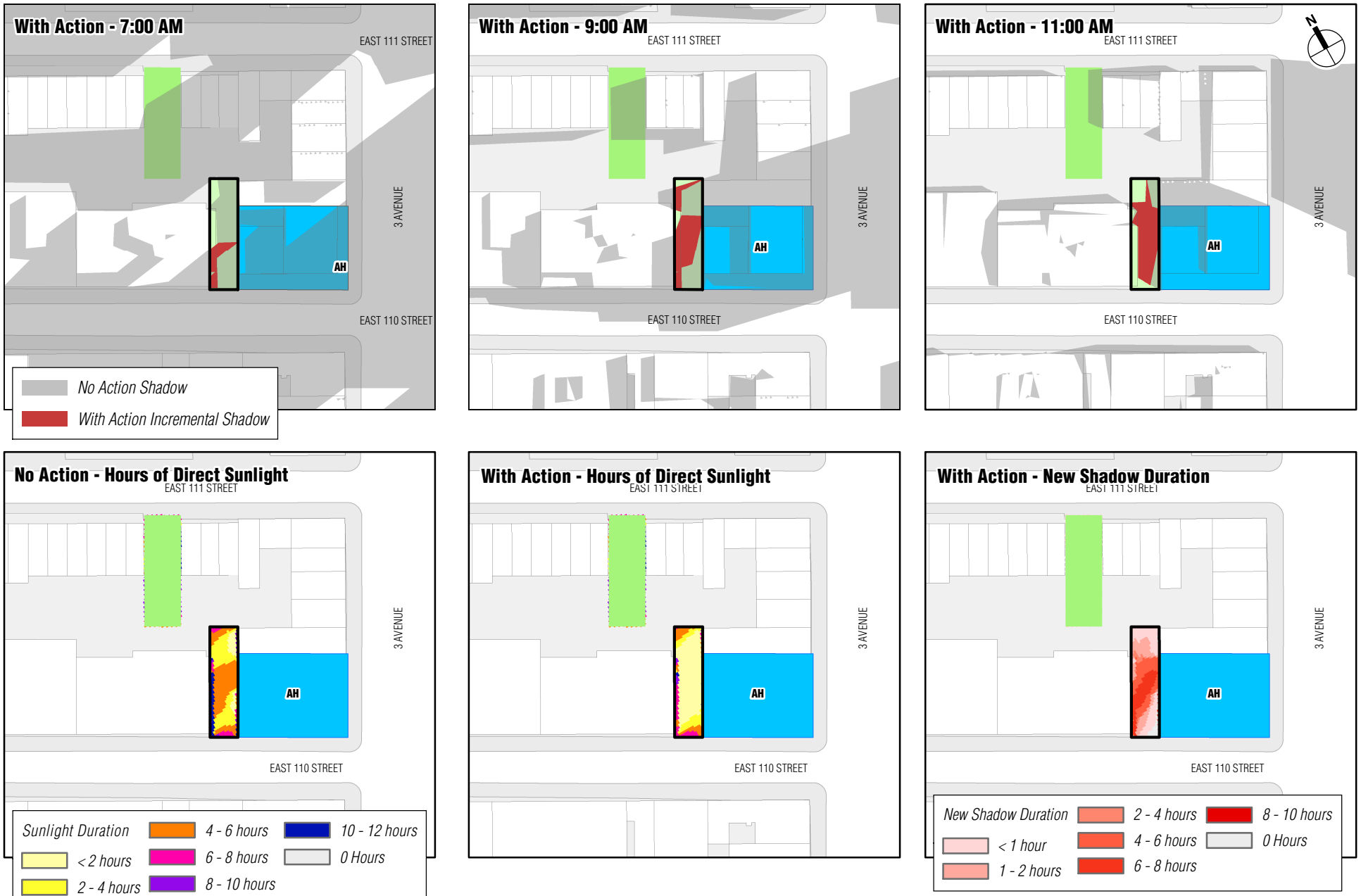






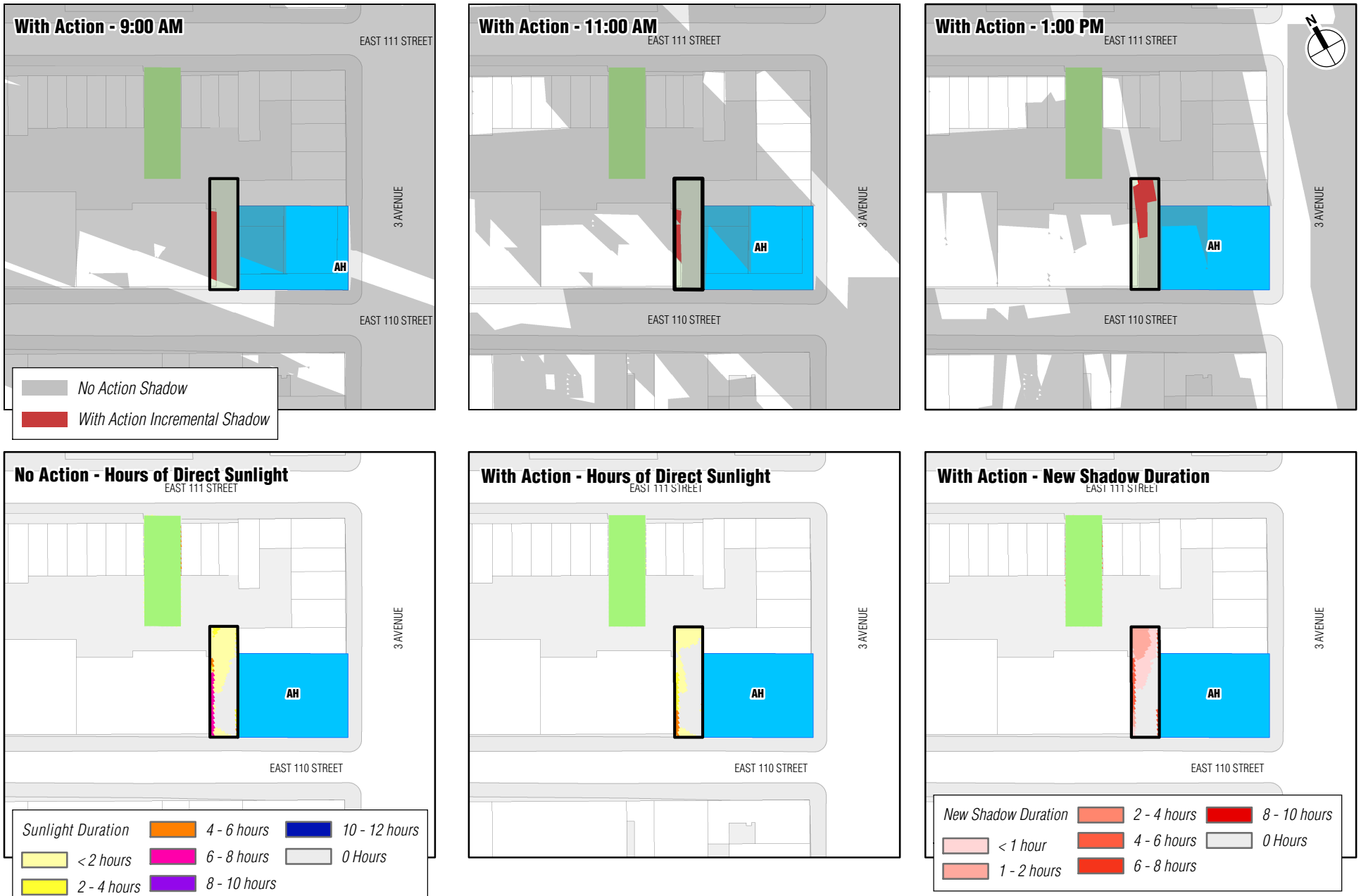
El Catano Garden
Detailed Analysis - May 6

Figure 6-31



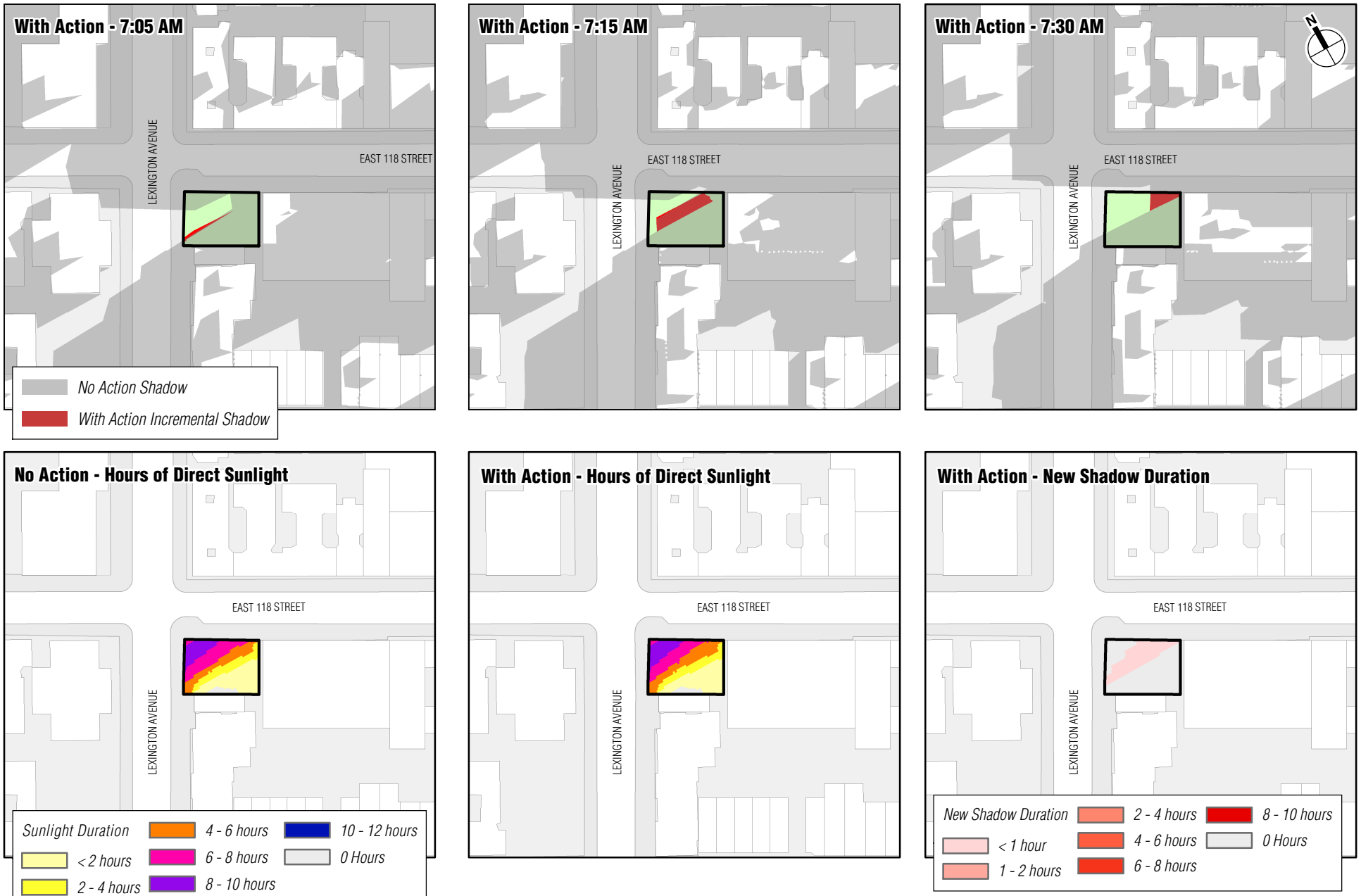
El Catano Garden
Detailed Analysis - June 21

Figure 6-32



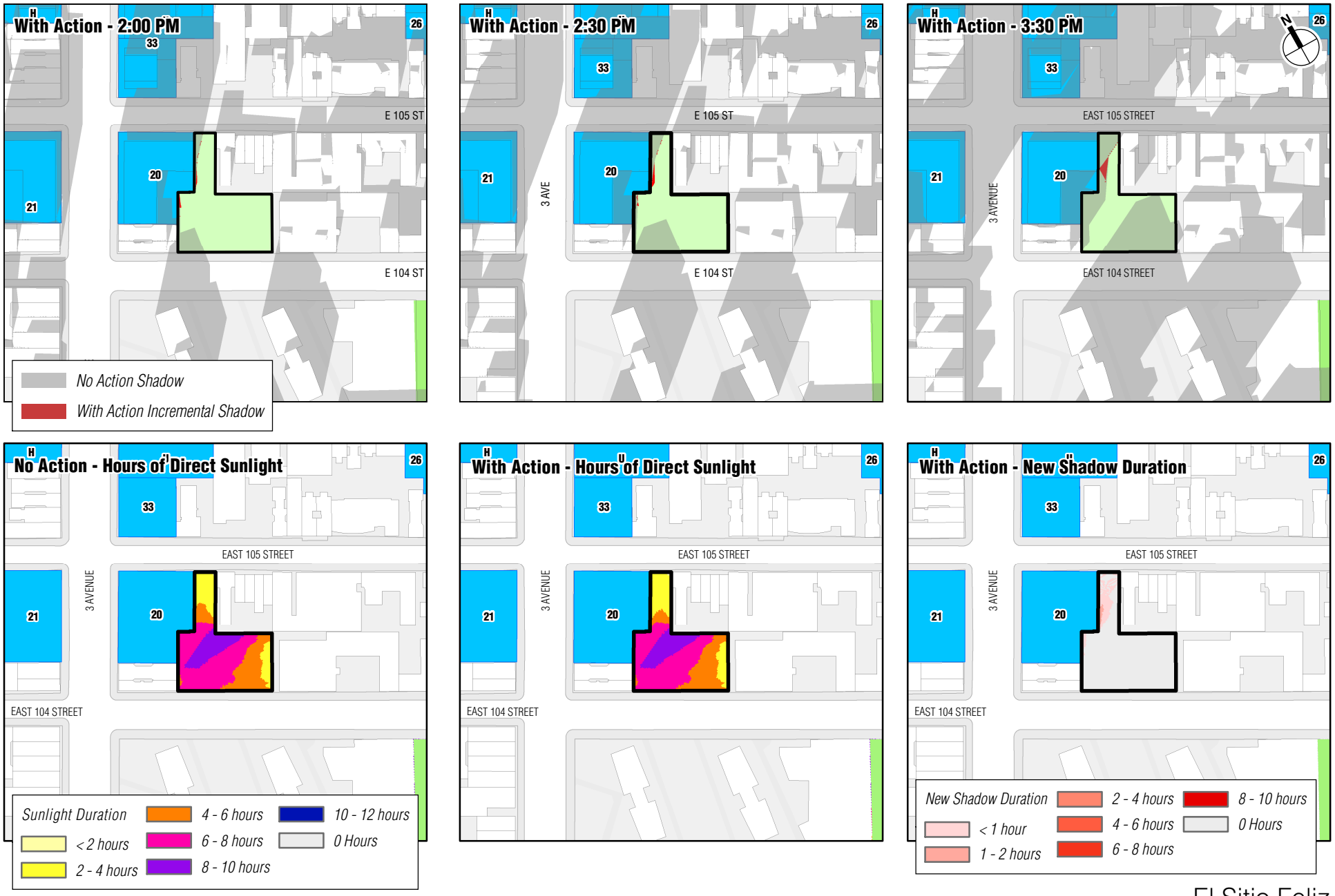
El Catano Garden
Detailed Analysis - December 21

Figure 6-33

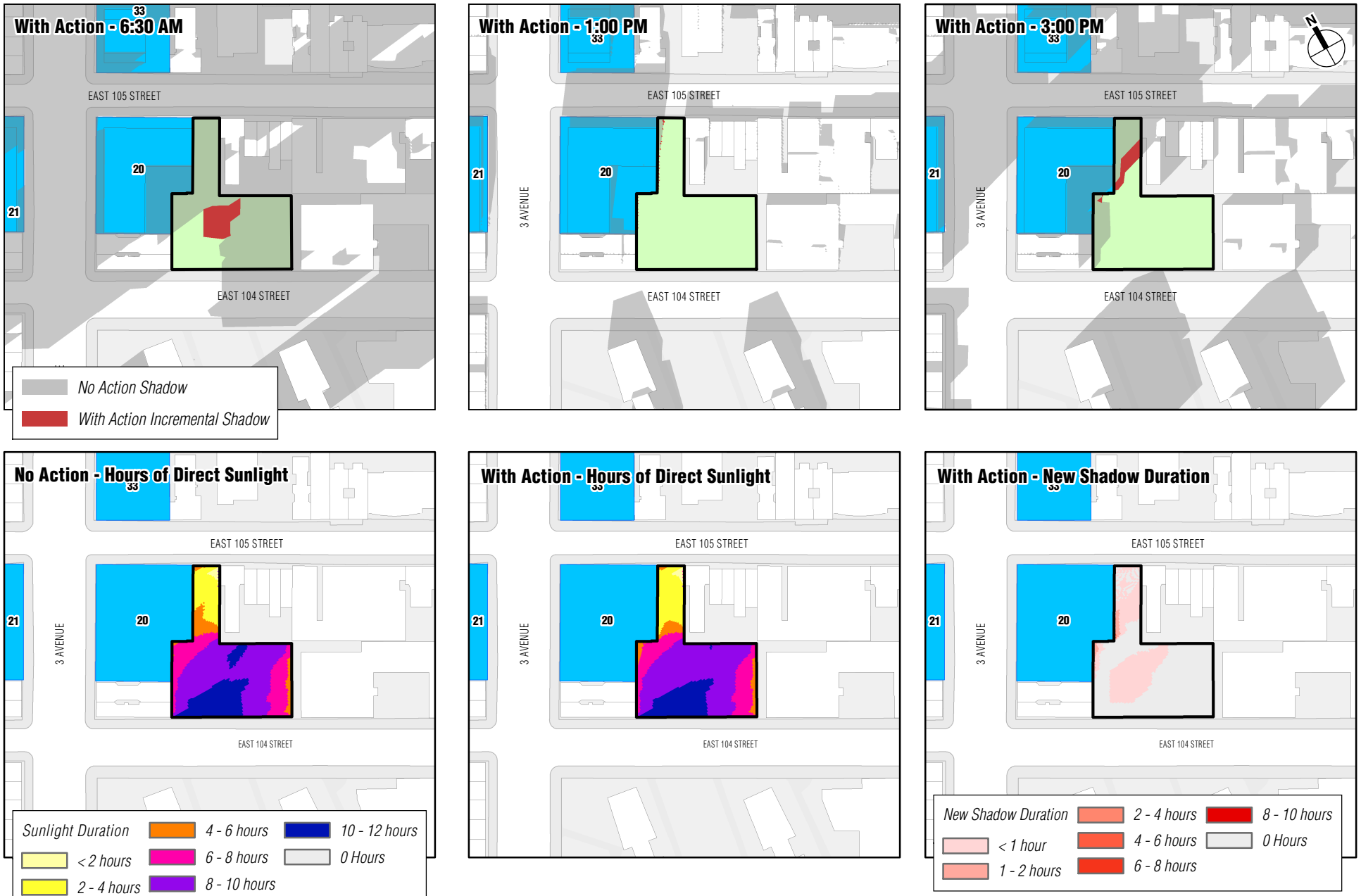


El Gallo Community Garden
Detailed Analysis - May 6

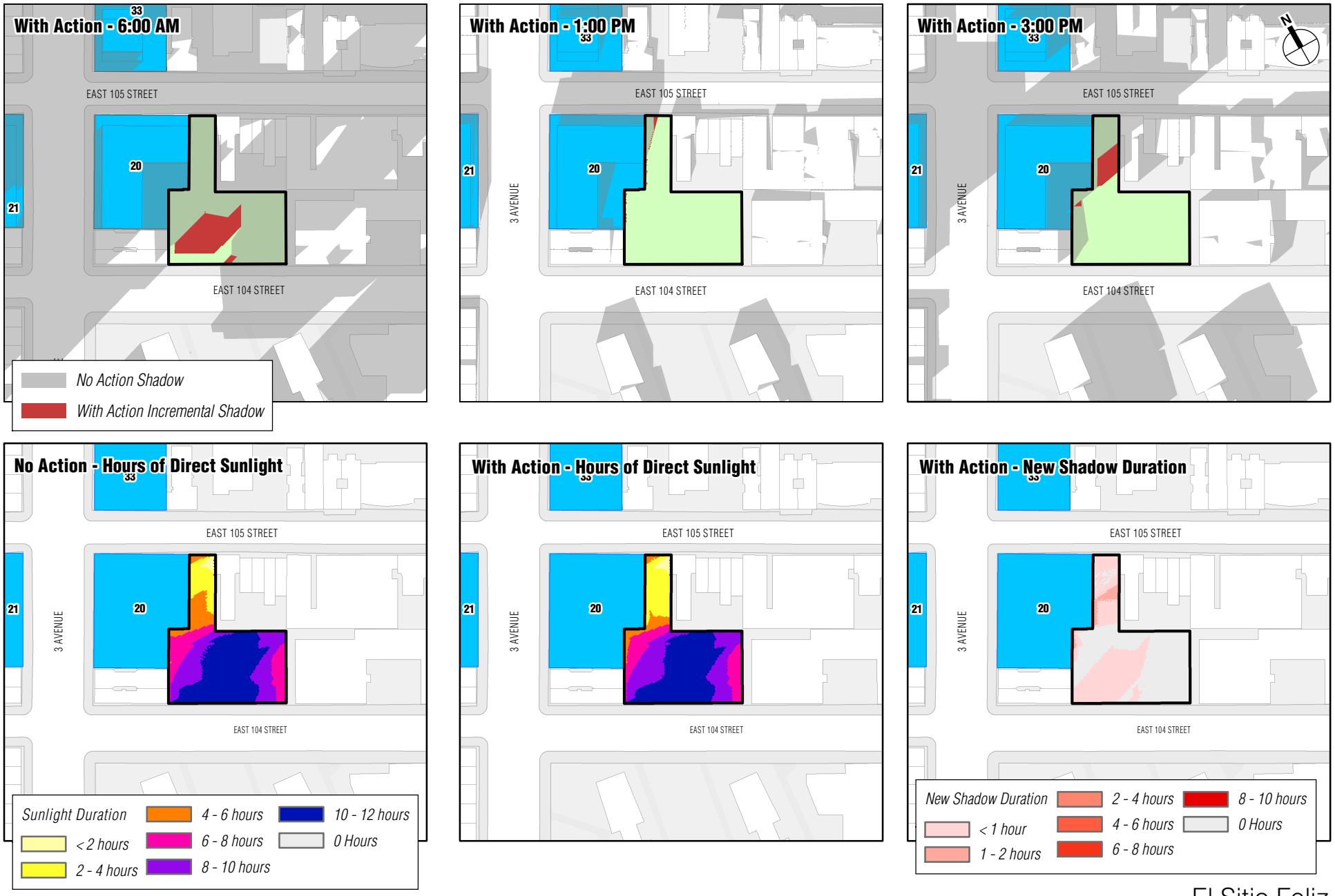
Figure 6-34



El Sitio Feliz
Detailed Analysis - March 21
Figure 6-35



El Sitio Feliz
Detailed Analysis - May 6
Figure 6-36

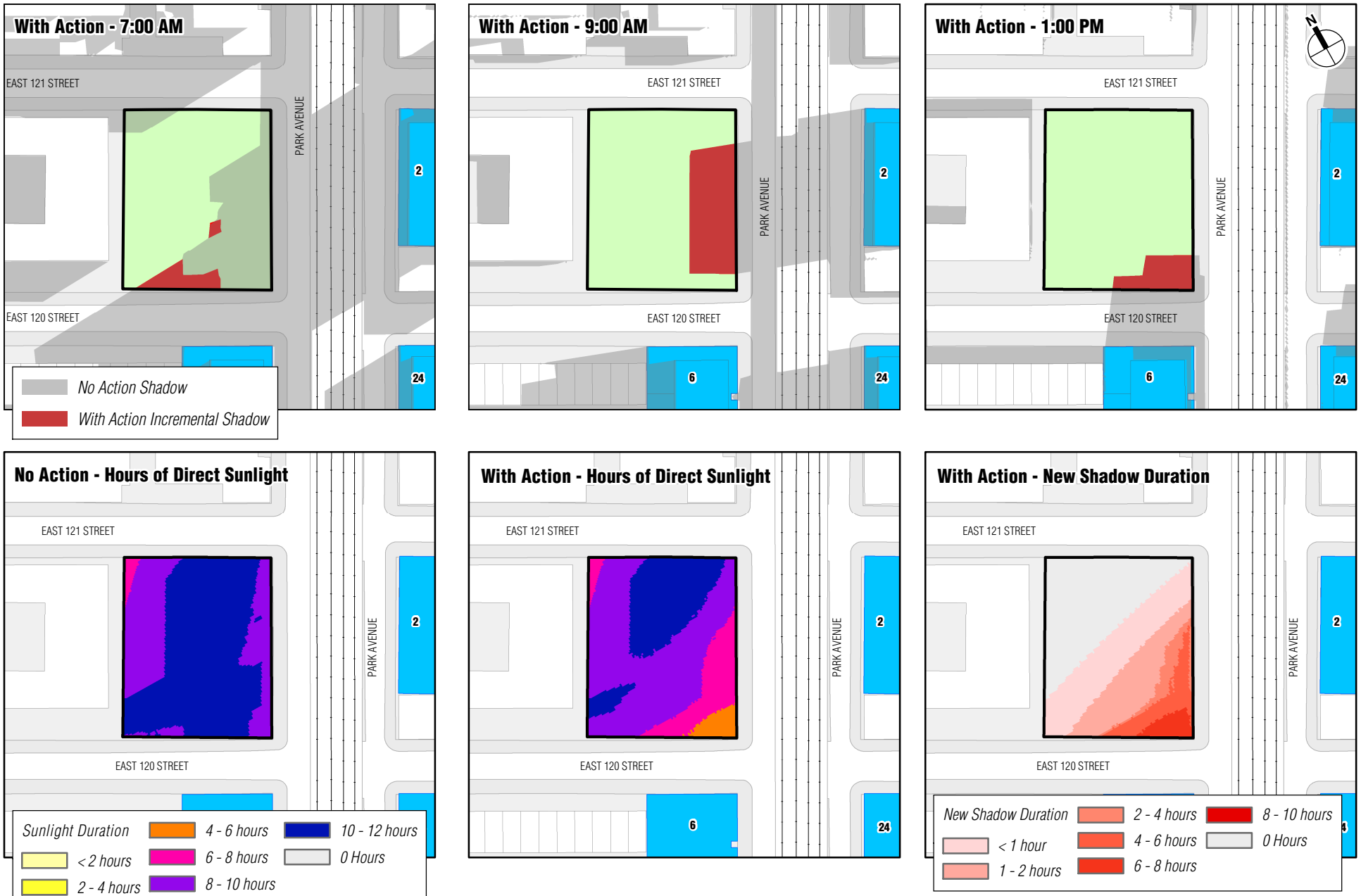


El Sitio Feliz
Detailed Analysis - June 21
Figure 6-37



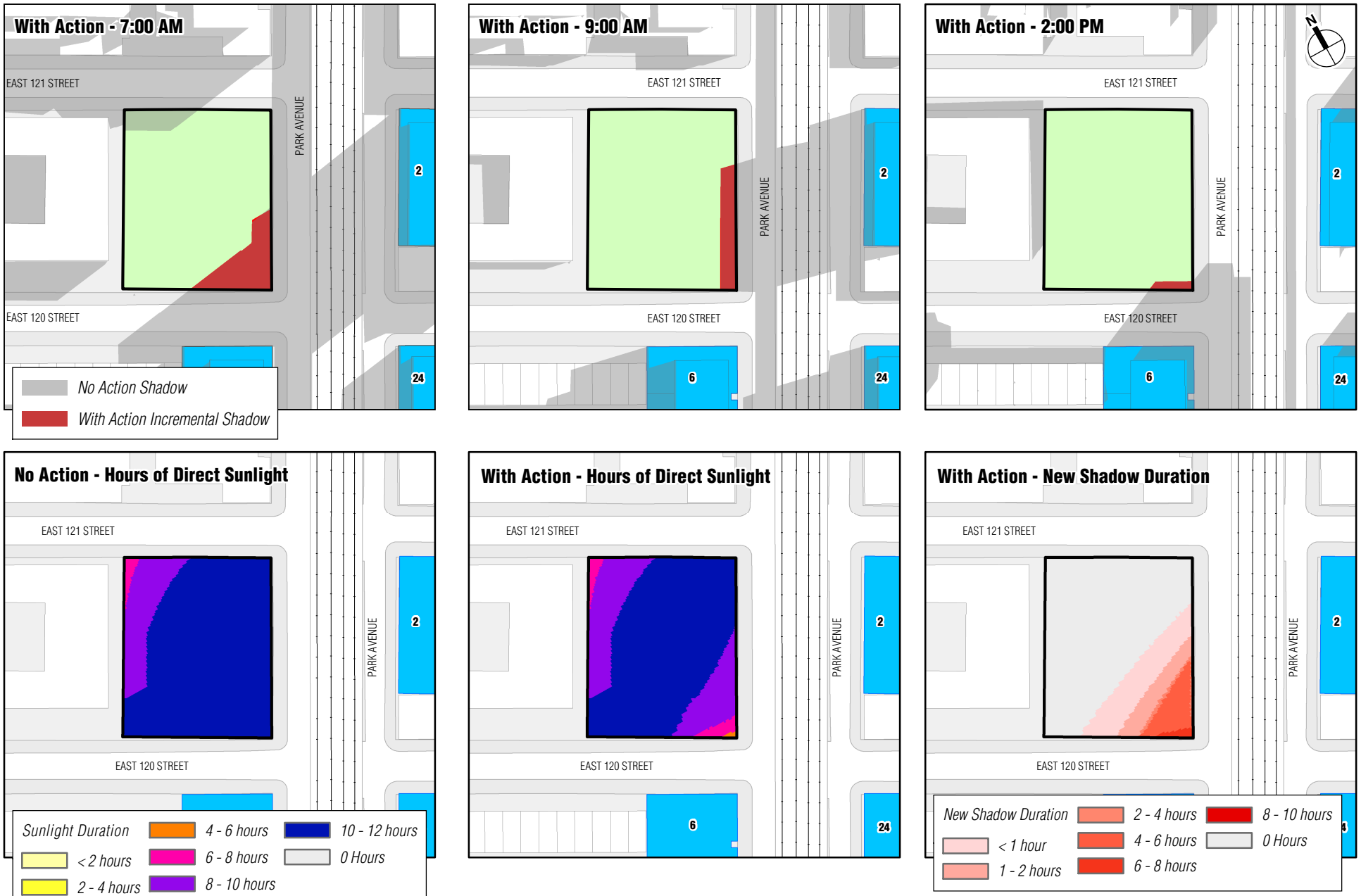
Eugene McCabe Field
Detailed Analysis - March 21

Figure 6-38



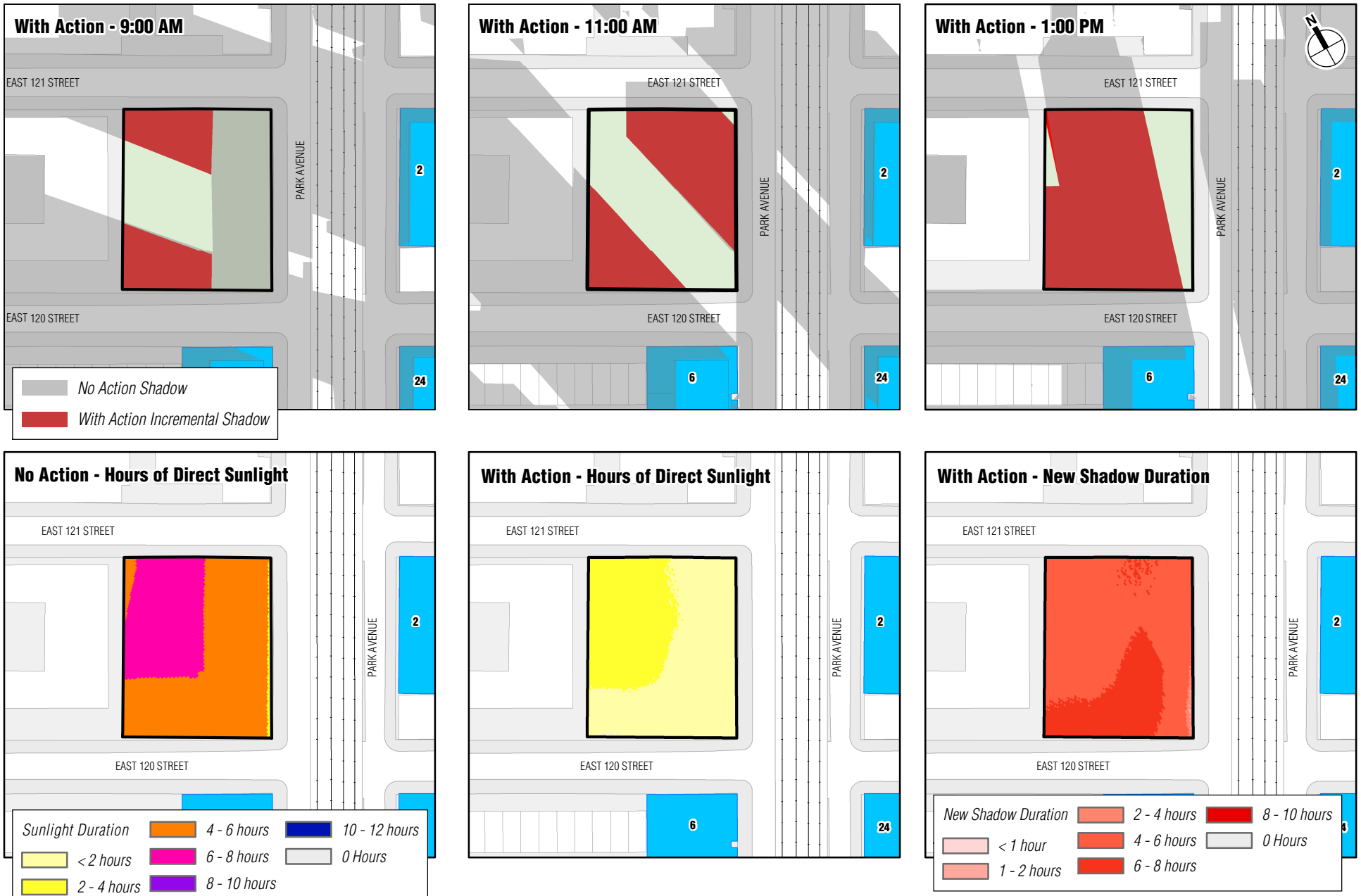
Eugene McCabe Field
Detailed Analysis - May 6

Figure 6-39

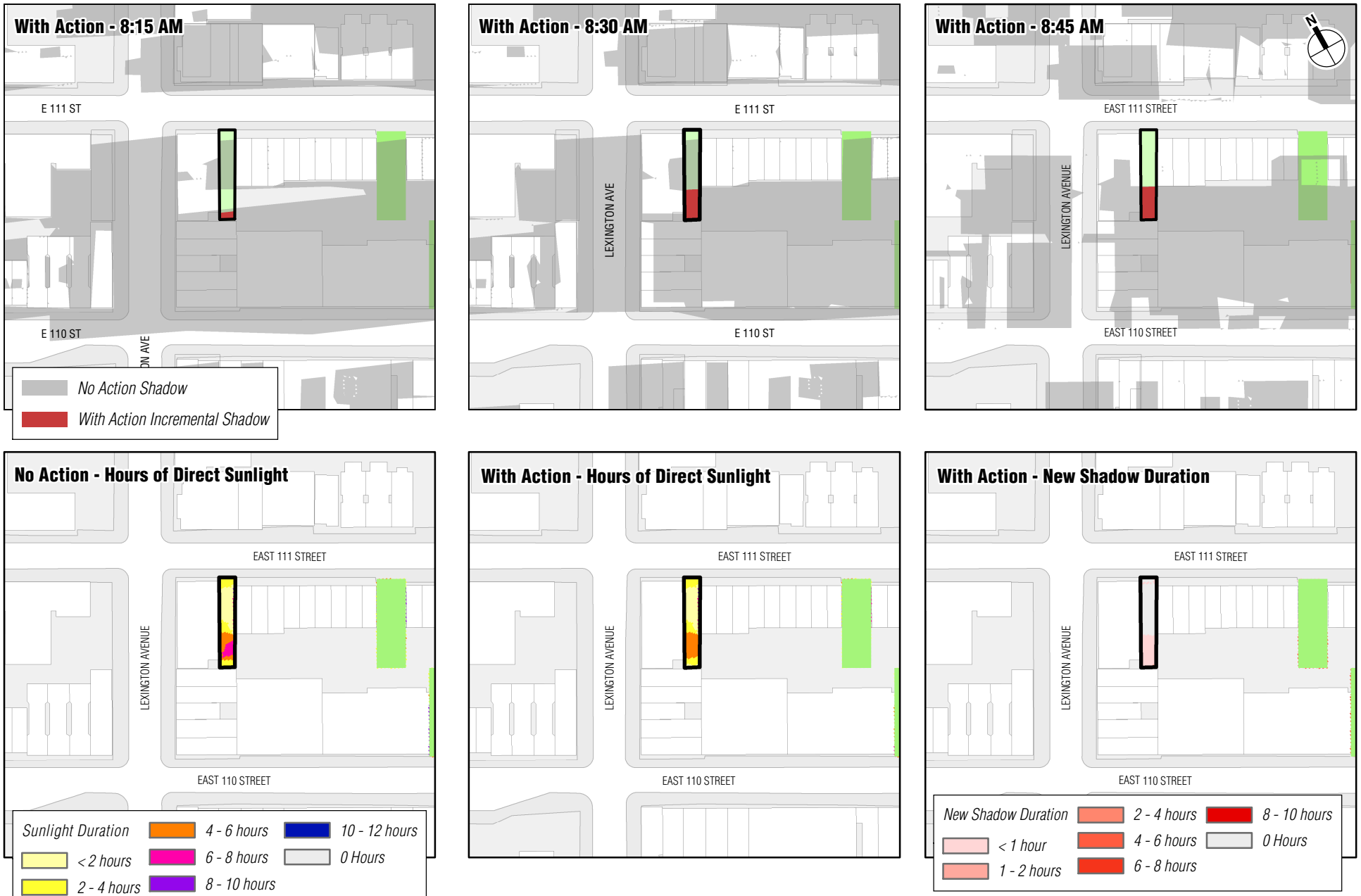


Eugene McCabe Field
Detailed Analysis - June 21

Figure 6-40

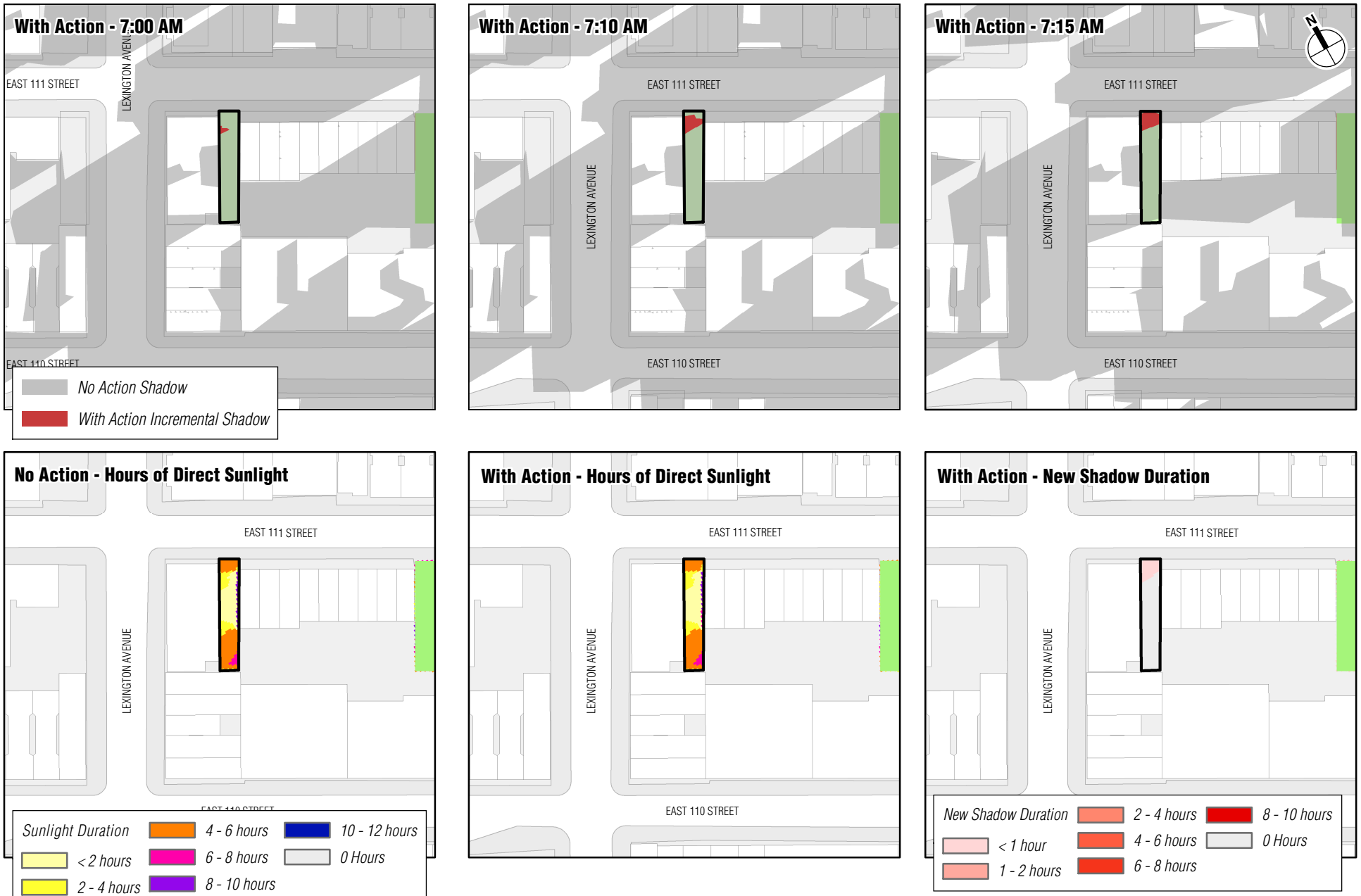


Eugene McCabe Field
Detailed Analysis - December 21
Figure 6-41



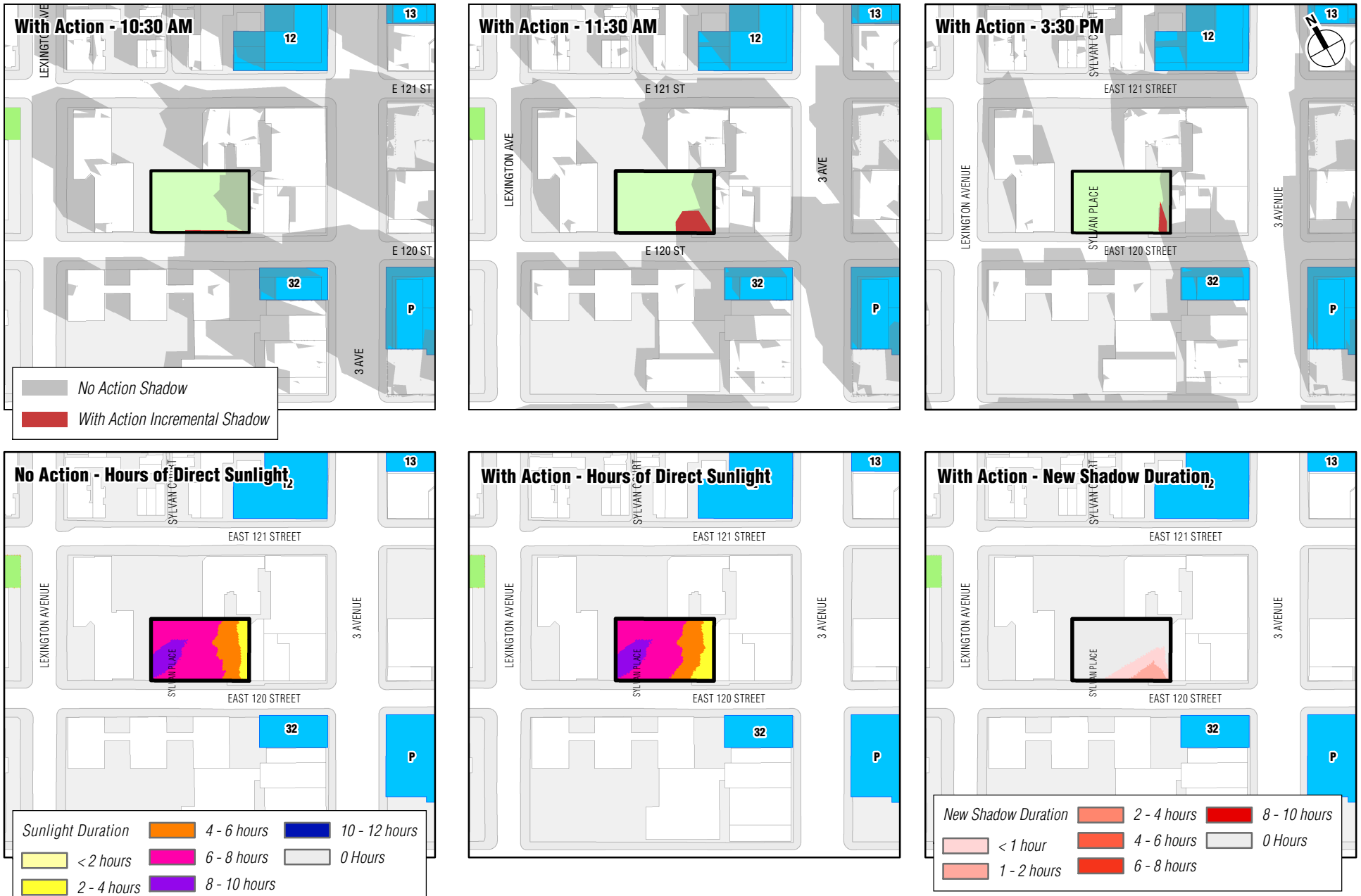
Family Community Garden
Detailed Analysis - March 21

Figure 6-42



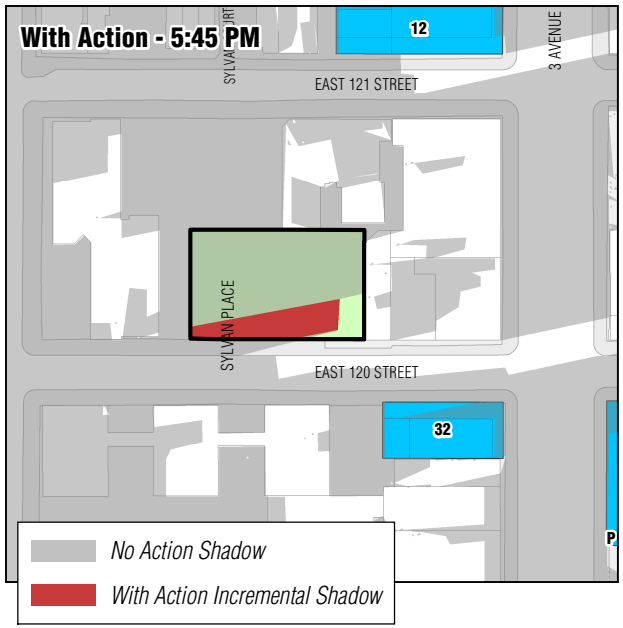
Family Community Garden
Detailed Analysis - May 6

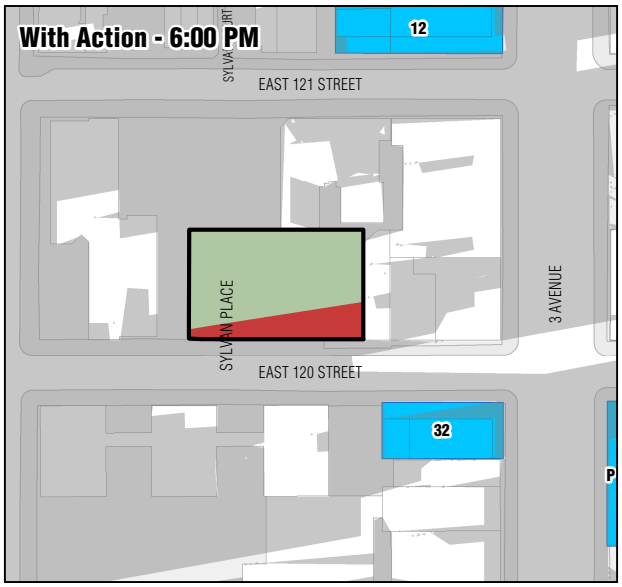
Figure 6-43

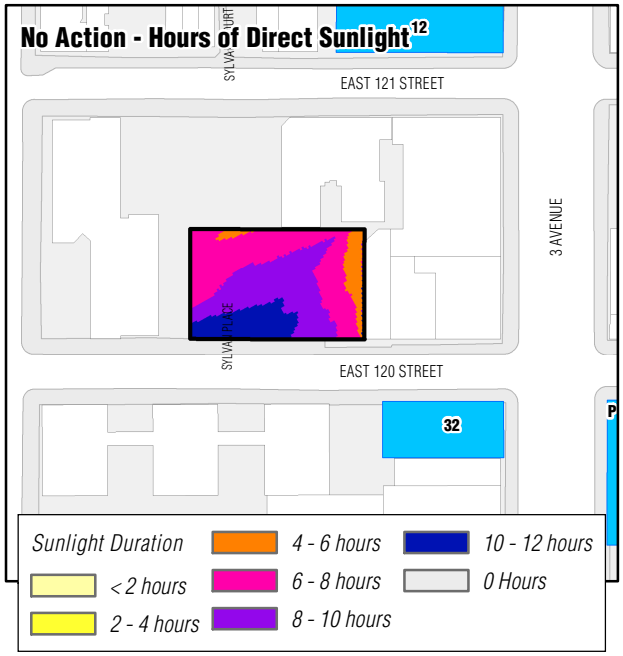


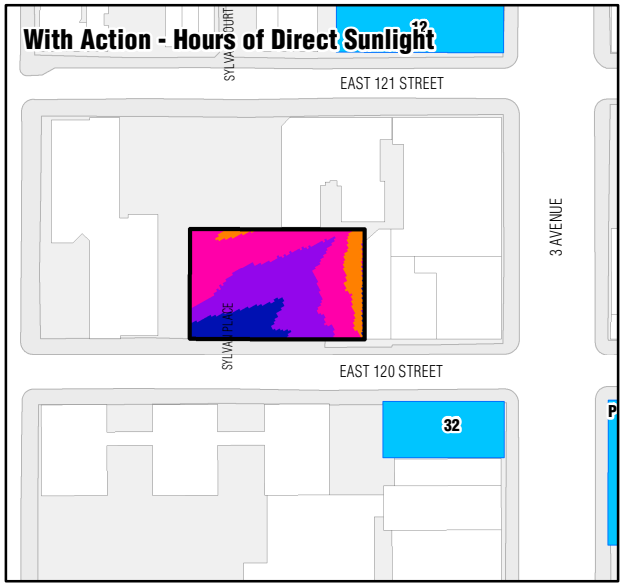
EAST HARLEM REZONING

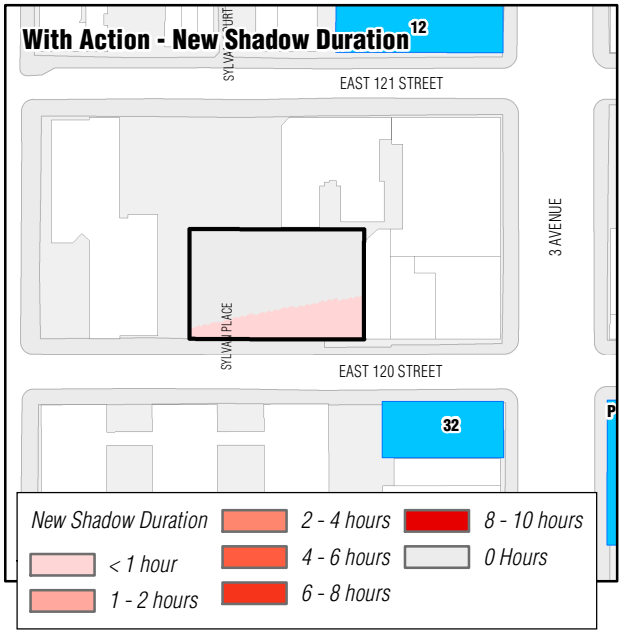
Harlem Art Park
Detailed Analysis - March 21
Figure 6-44







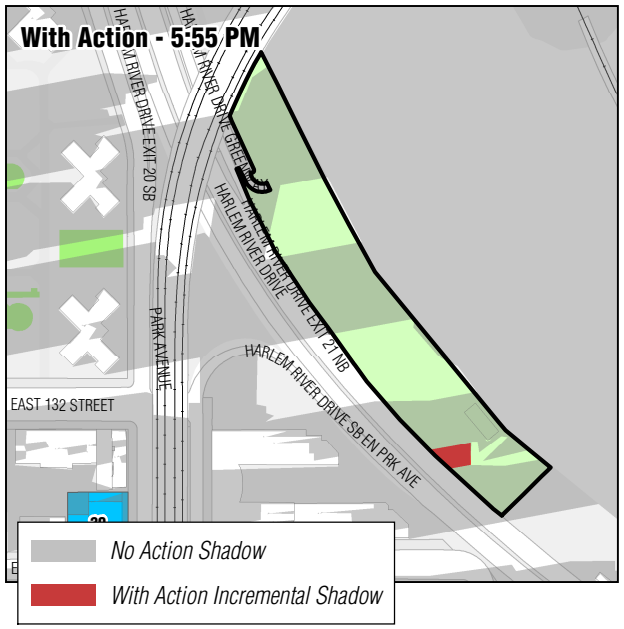


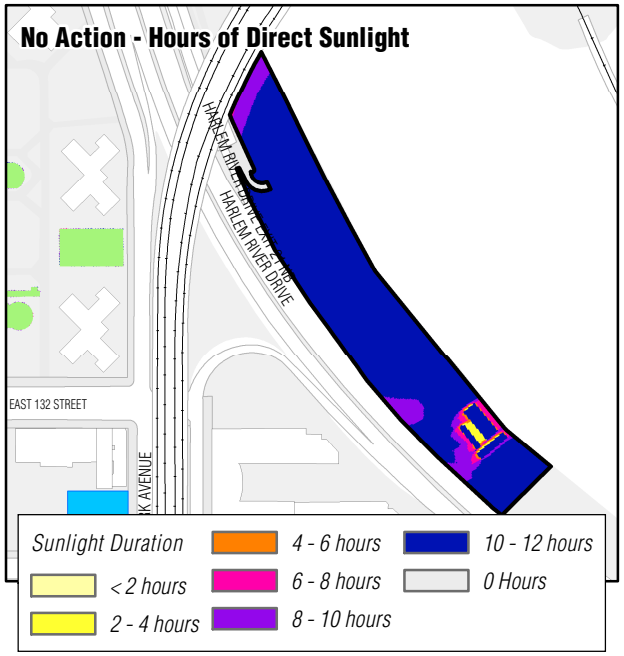


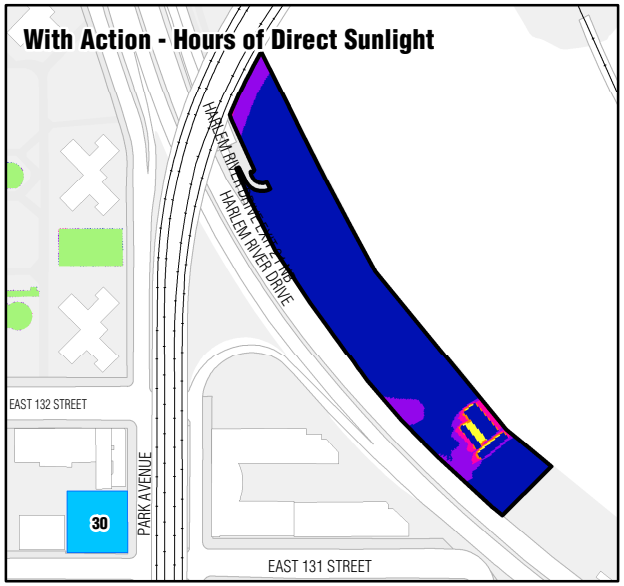
Harlem Art Park
Detailed Analysis - June 21
Figure 6-45

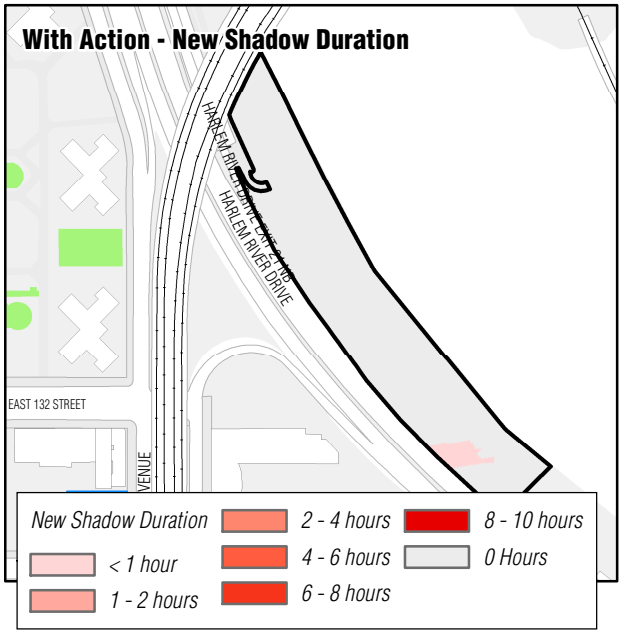


Harlem Art Park
Detailed Analysis - December 21
Figure 6-46



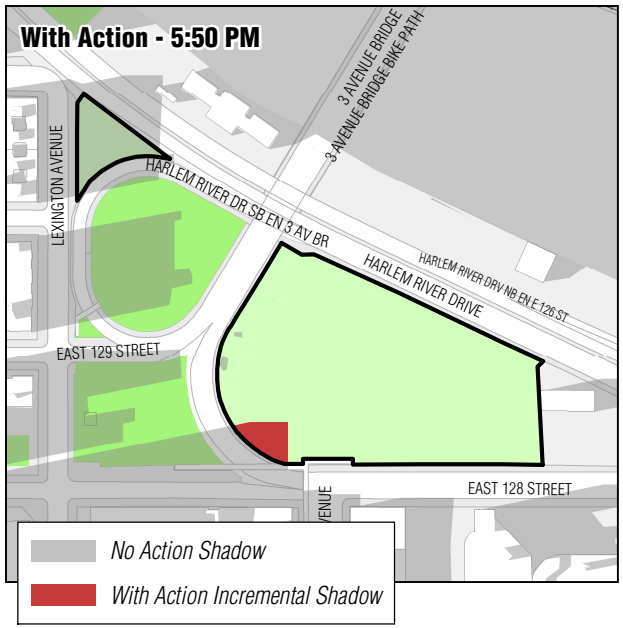


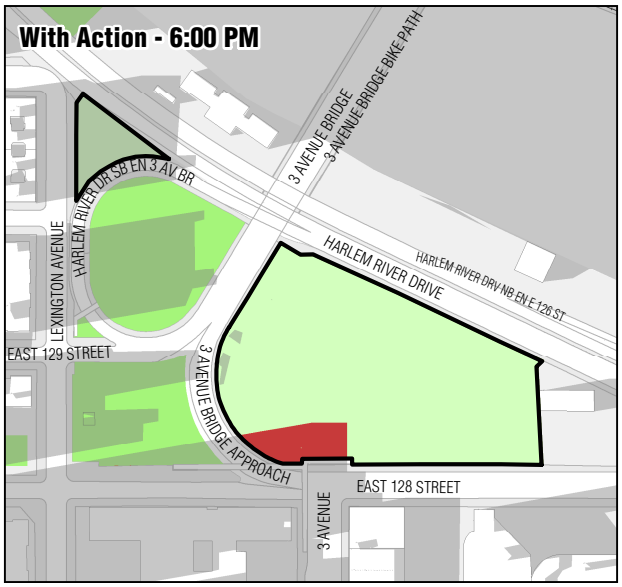


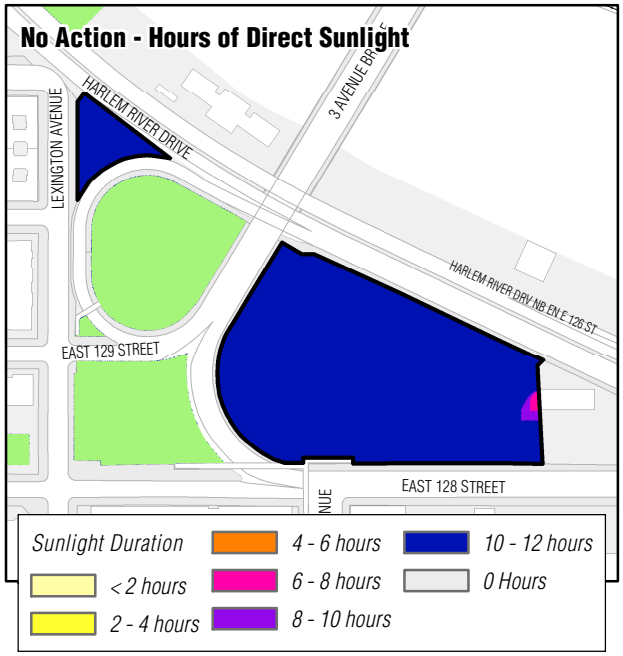


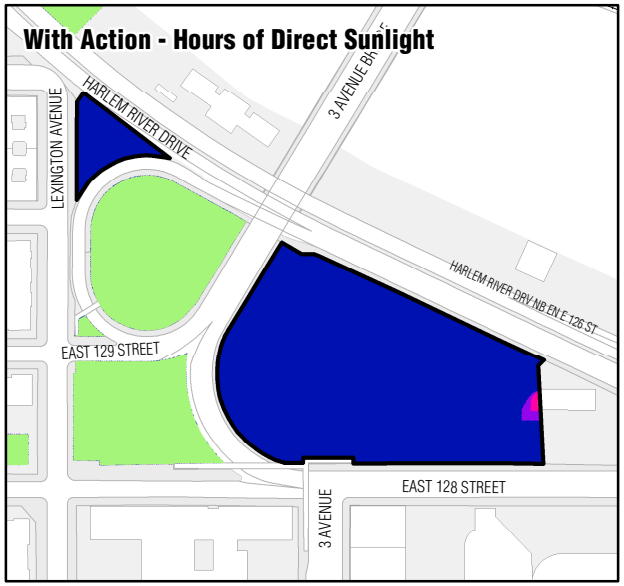
Harlem River Drive Park
Detailed Analysis - June 21

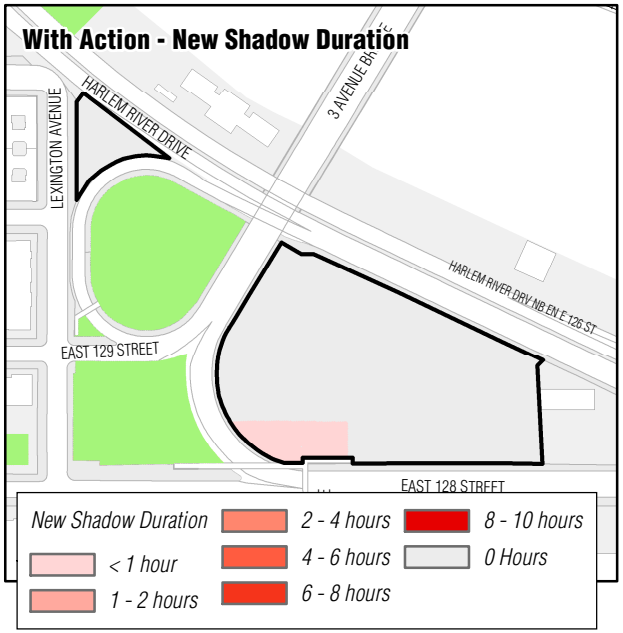
Figure 6-47



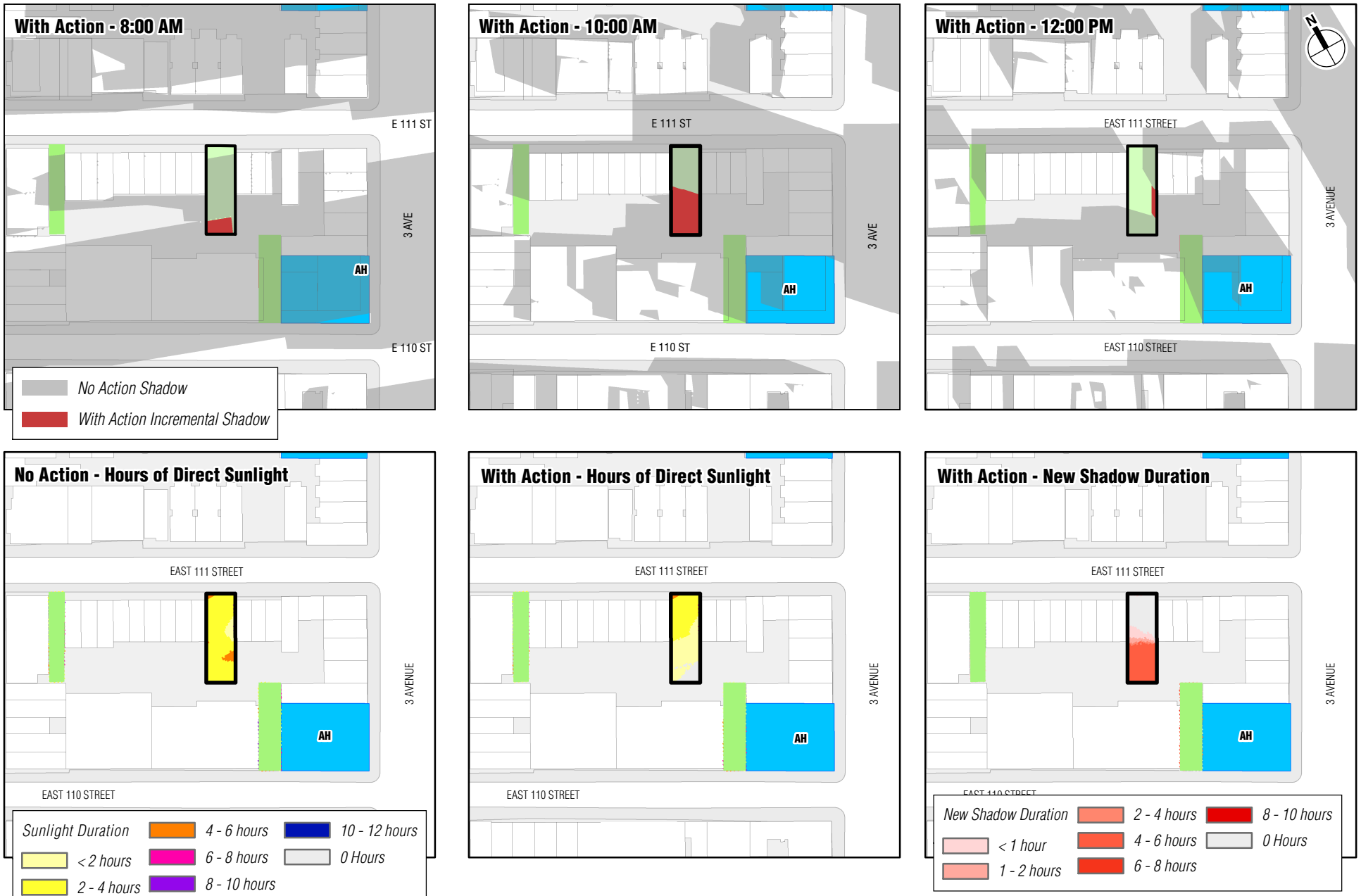




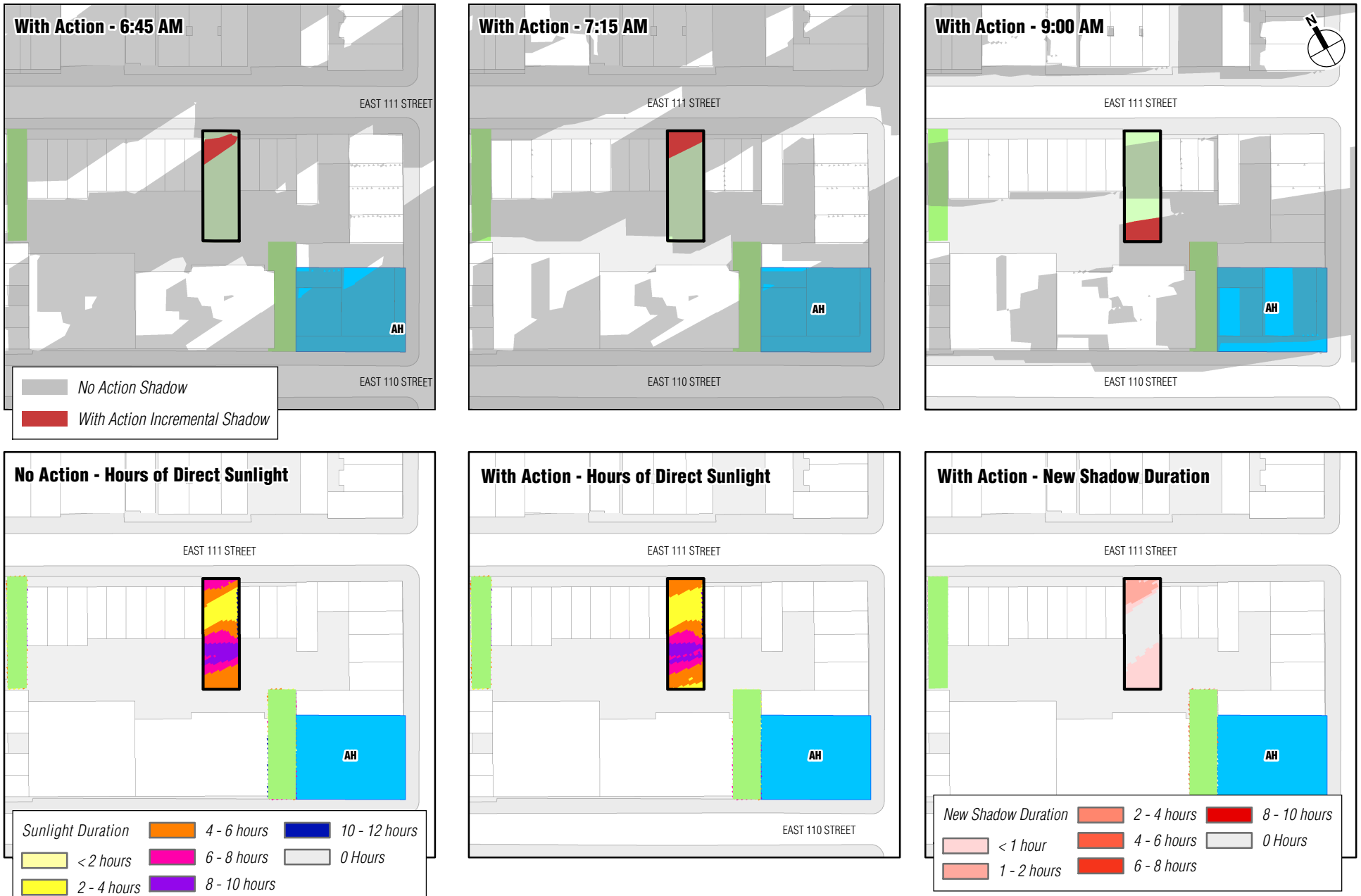




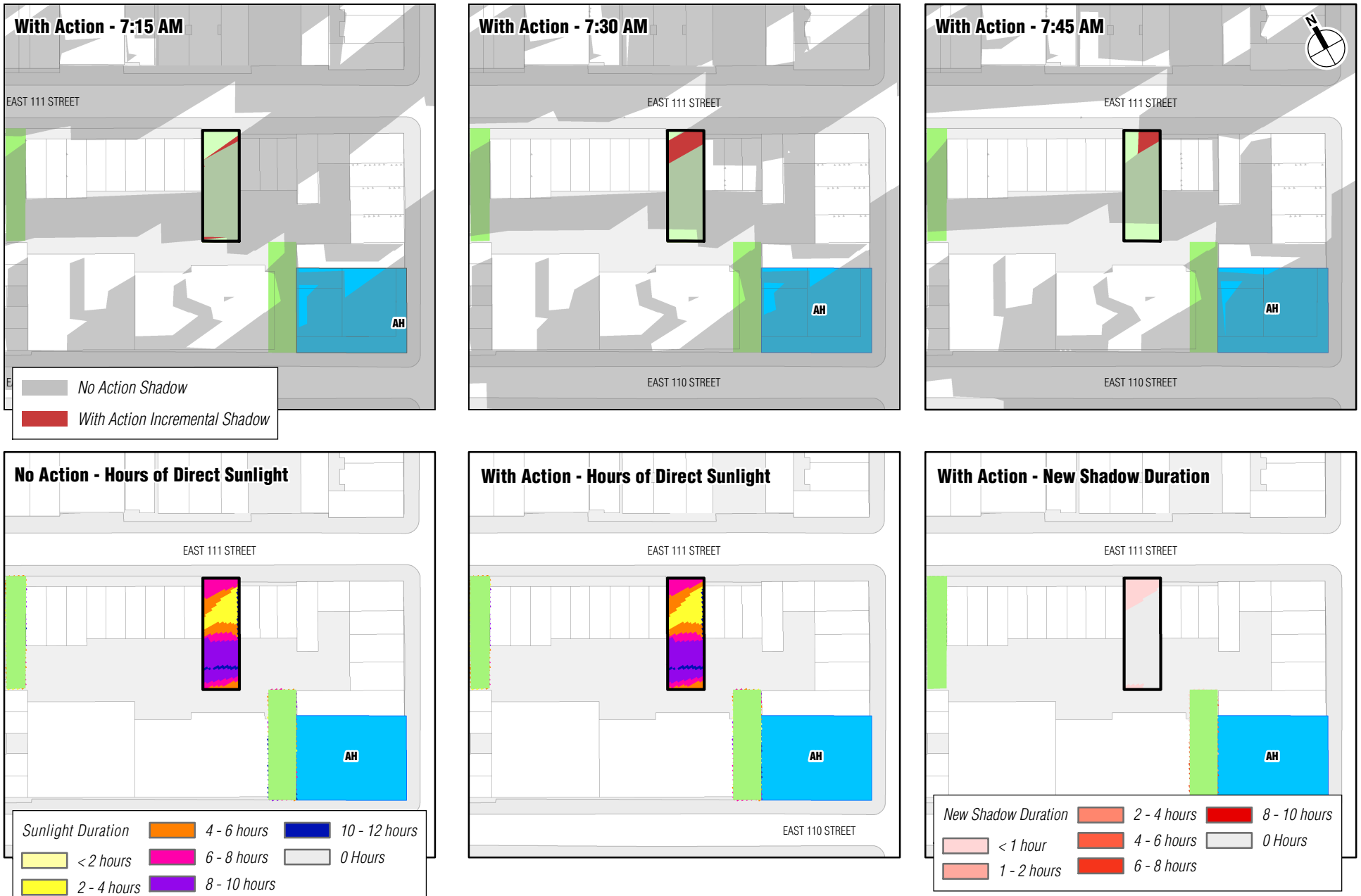
Harlem River Park
Detailed Analysis - June 21
Figure 6-48



Herb Garden
Detailed Analysis - March 21
Figure 6-49



Herb Garden
Detailed Analysis - May 6
Figure 6-50



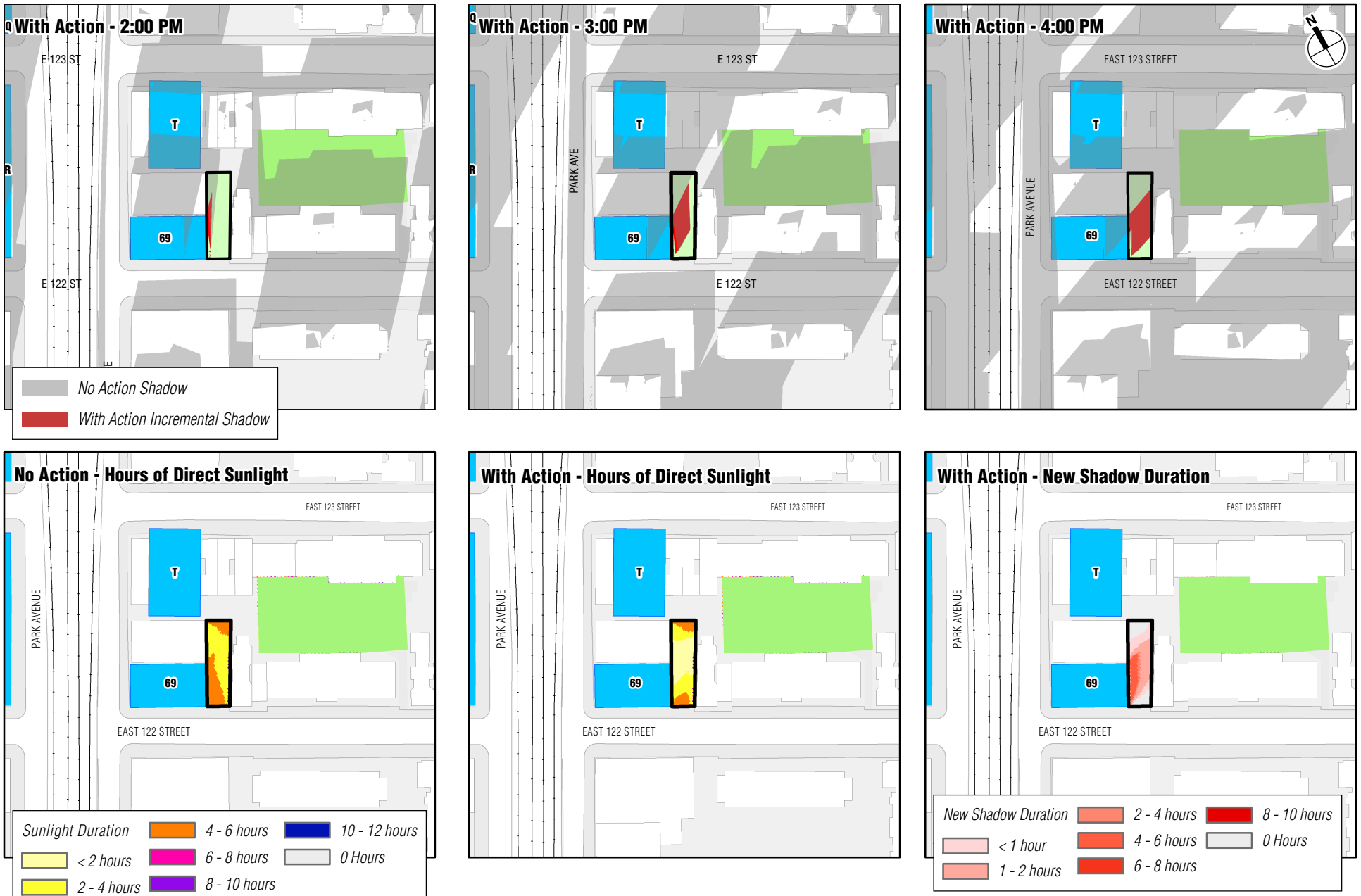
Herb Garden
Detailed Analysis - June 21
Figure 6-51



Herb Garden
Detailed Analysis - December 21

EAST HARLEM REZONING

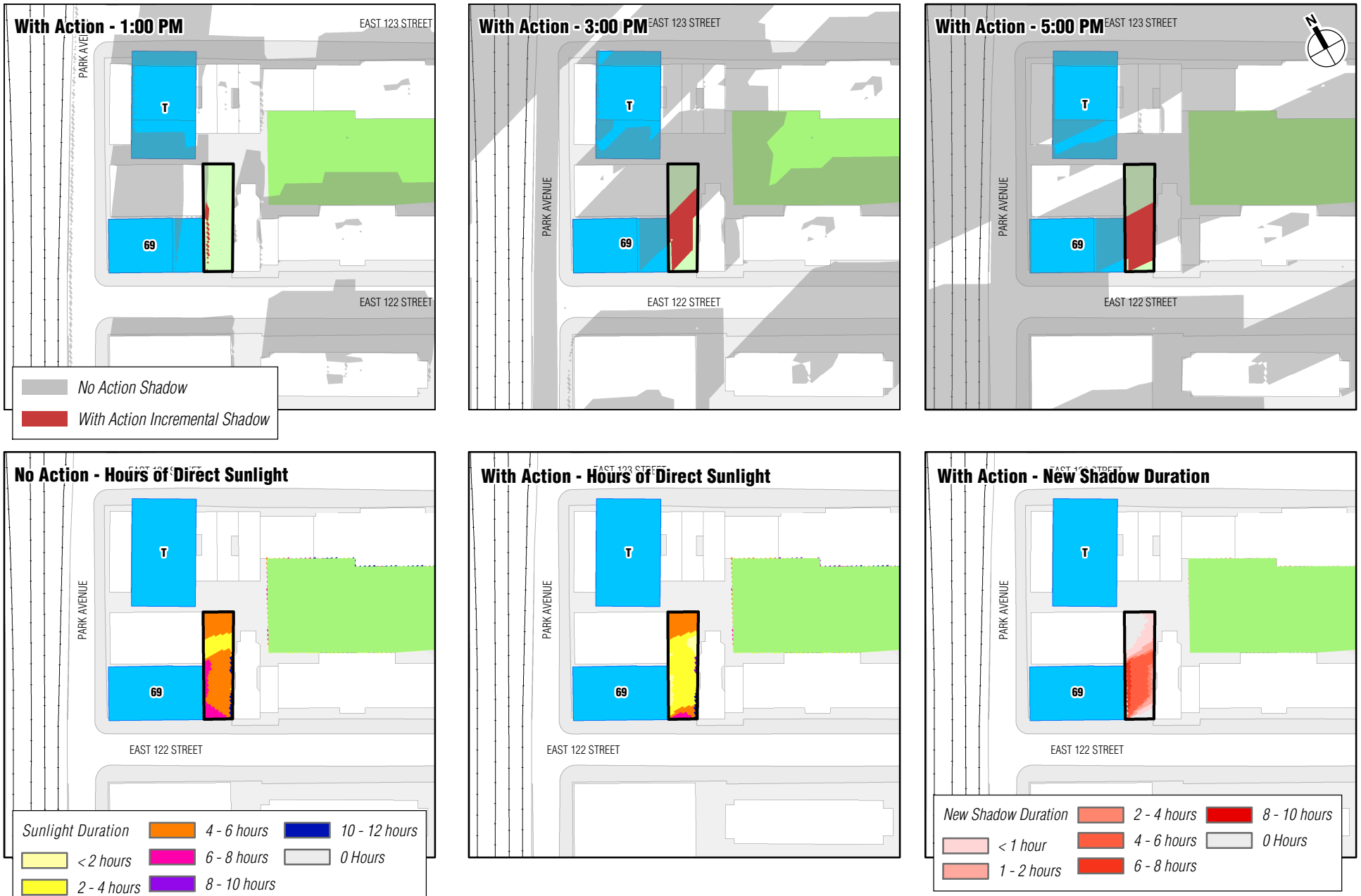
Figure 6-52



Jackie Robinson Garden
Detailed Analysis - March 21

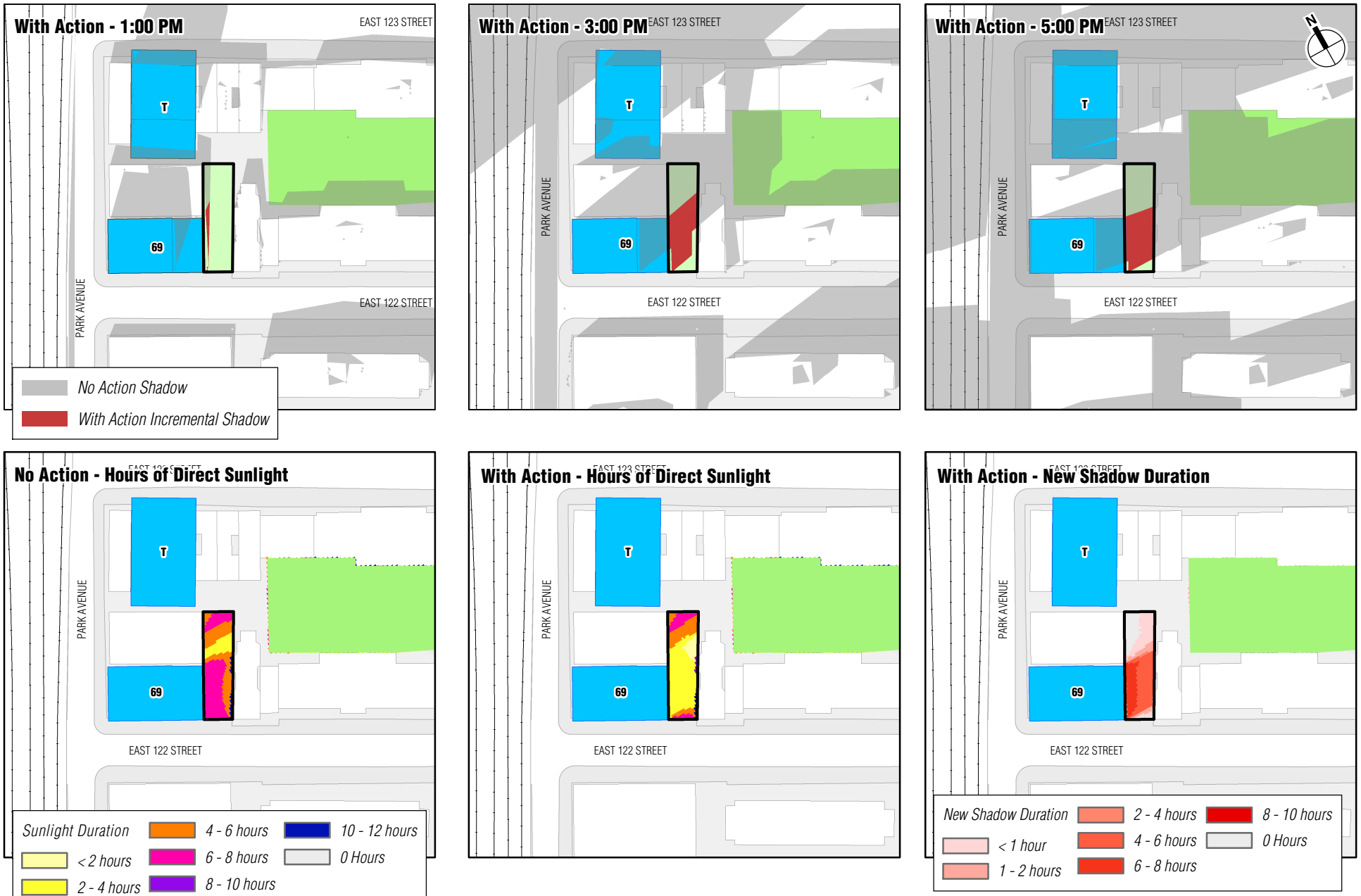
EAST HARLEM REZONING

Figure 6-53



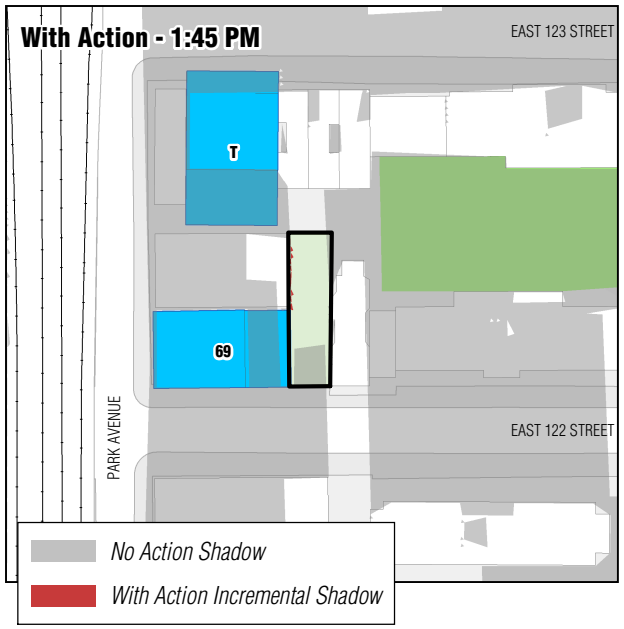
Jackie Robinson Garden
Detailed Analysis - May 6

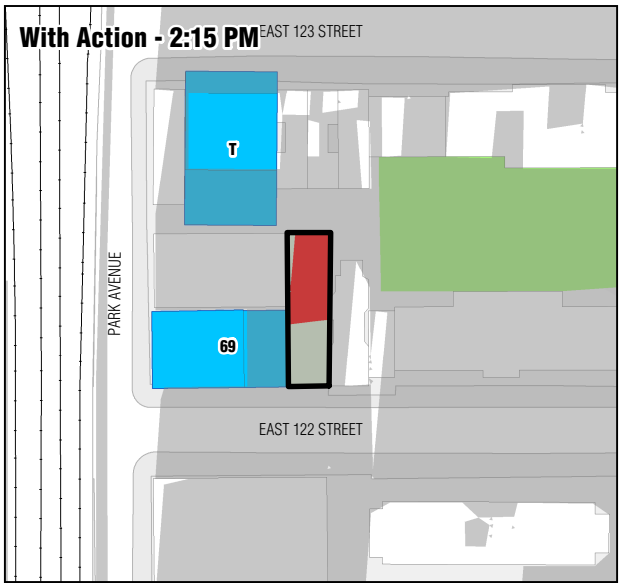
Figure 6-54

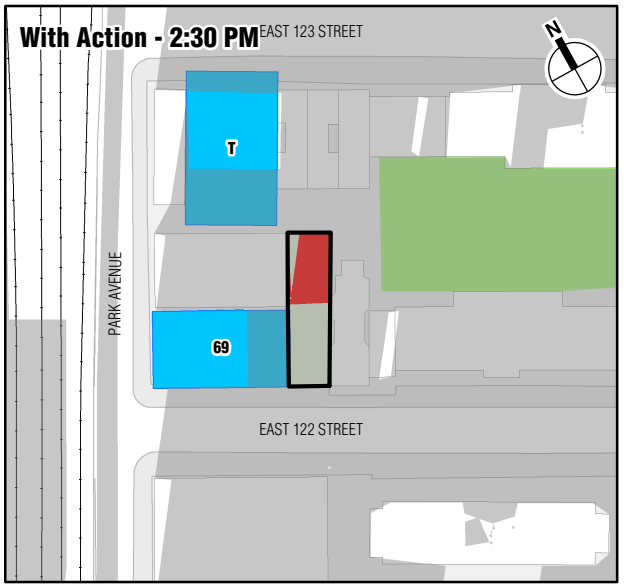


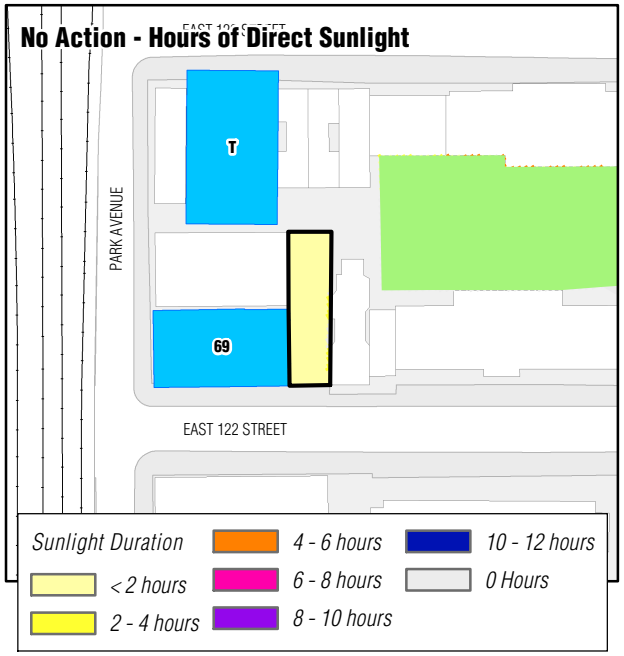
Jackie Robinson Garden
Detailed Analysis - June 21

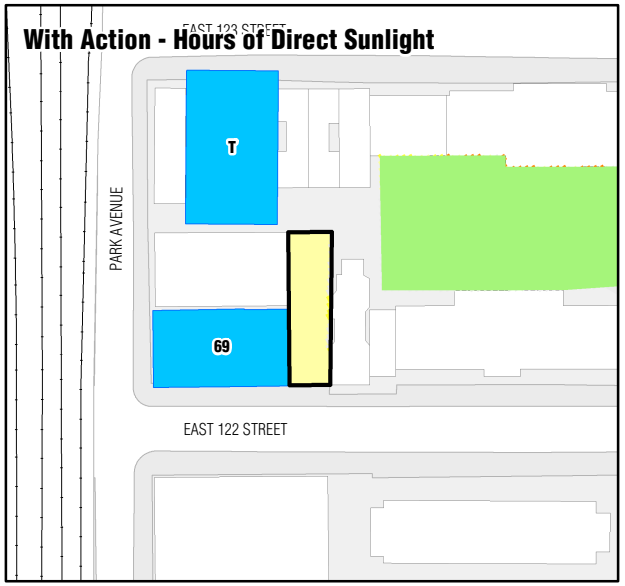
Figure 6-55

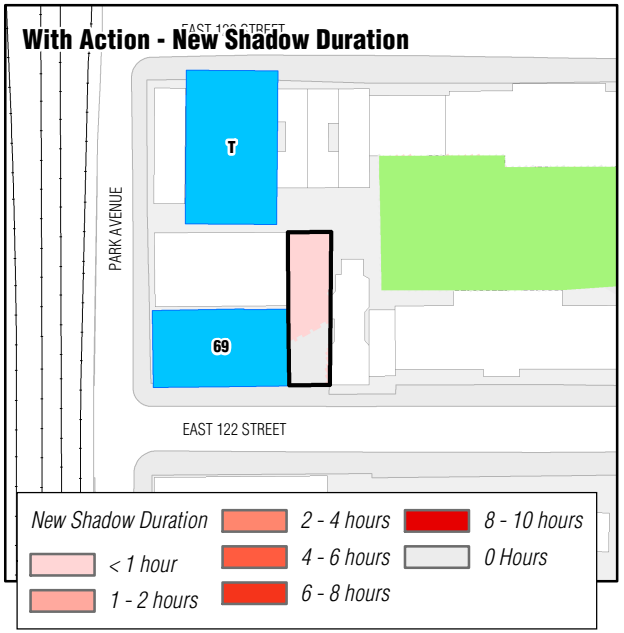






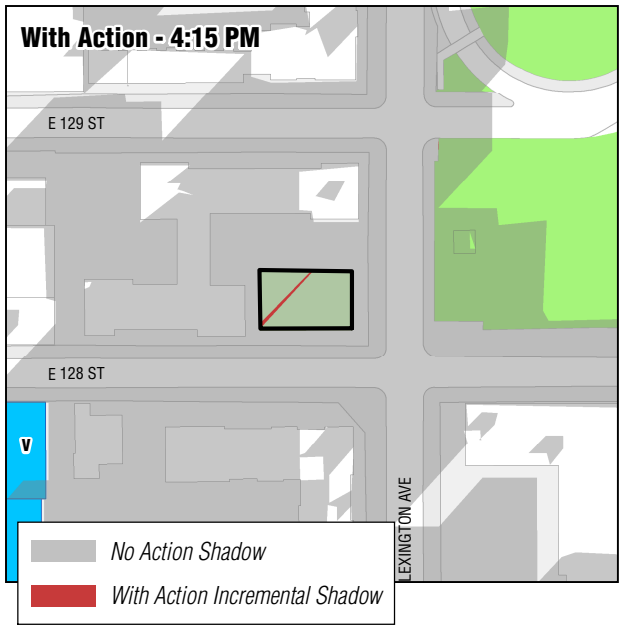


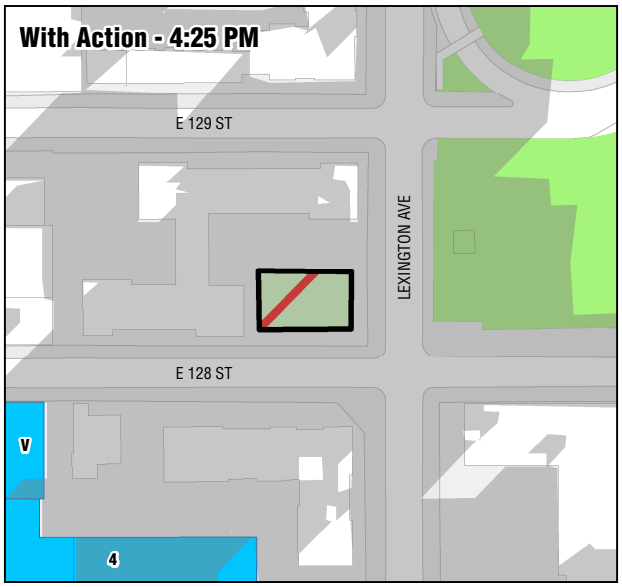


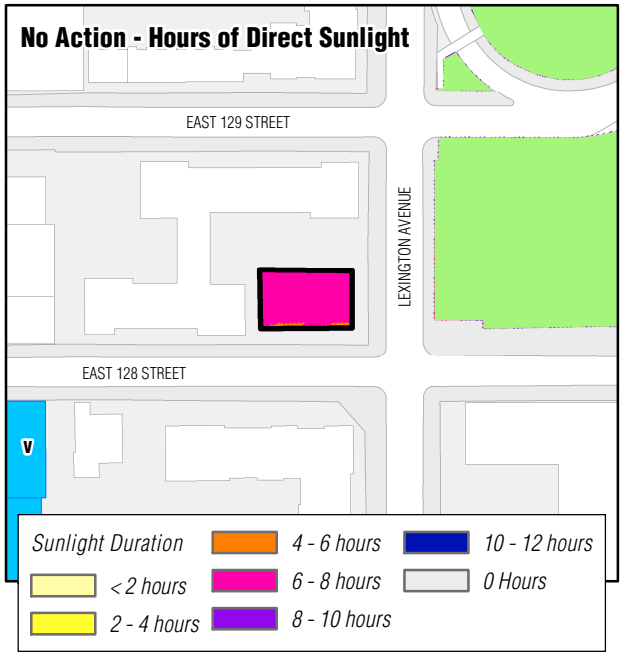


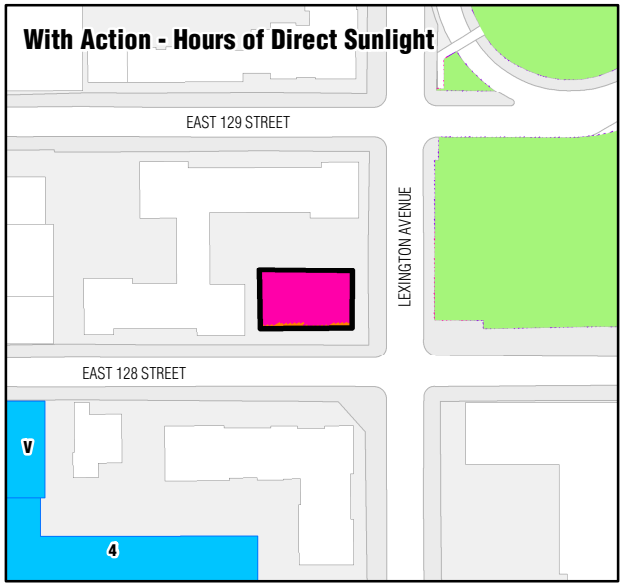
Jackie Robinson Garden
Detailed Analysis - December 21

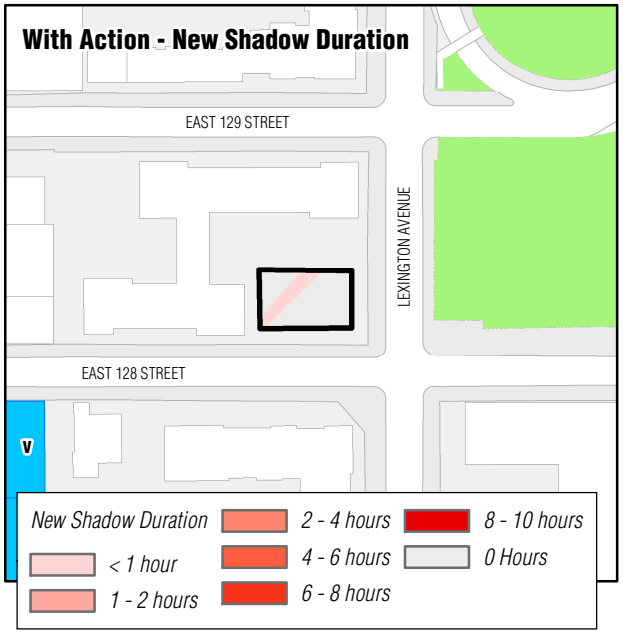
Figure 6-56





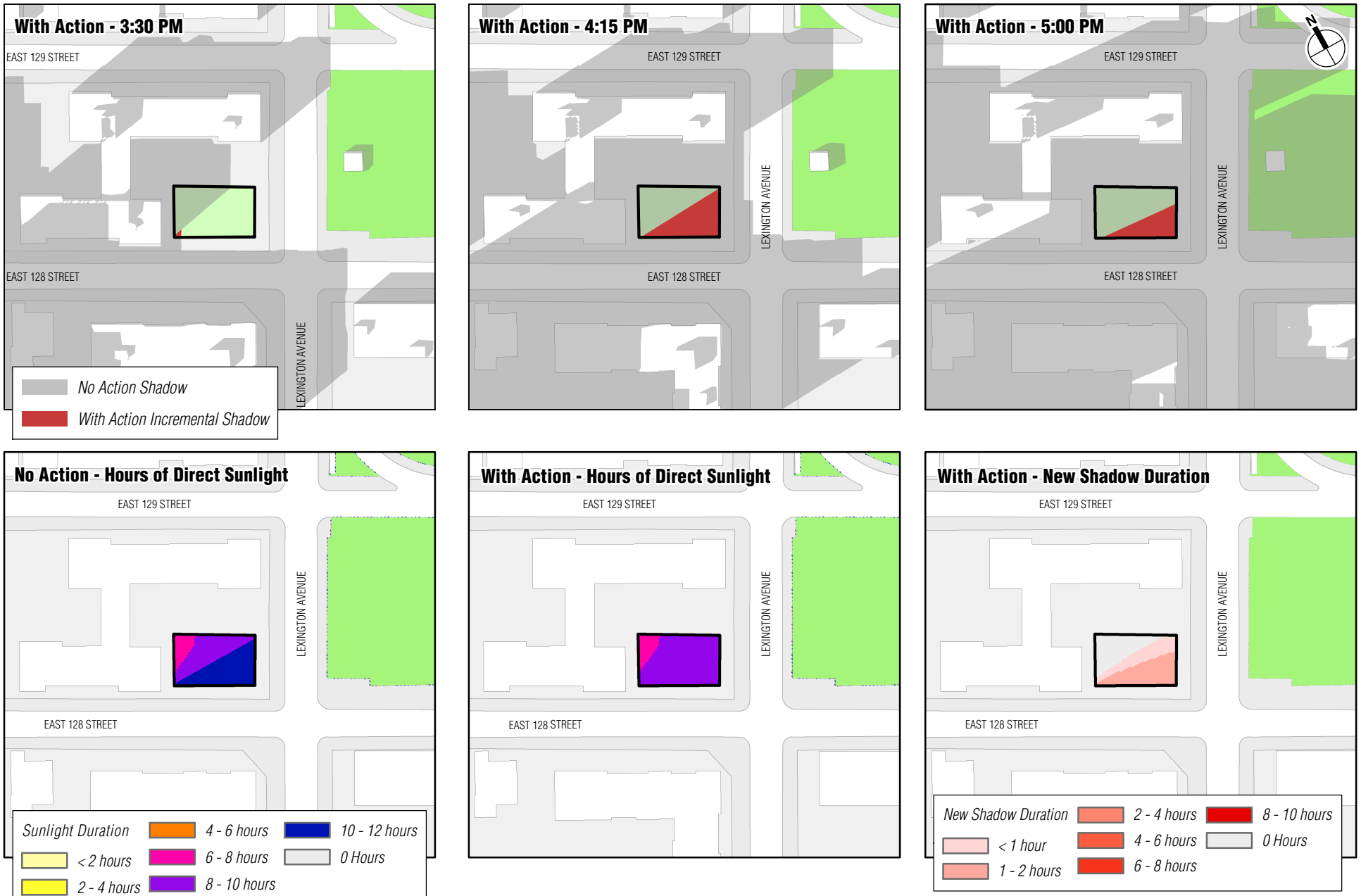




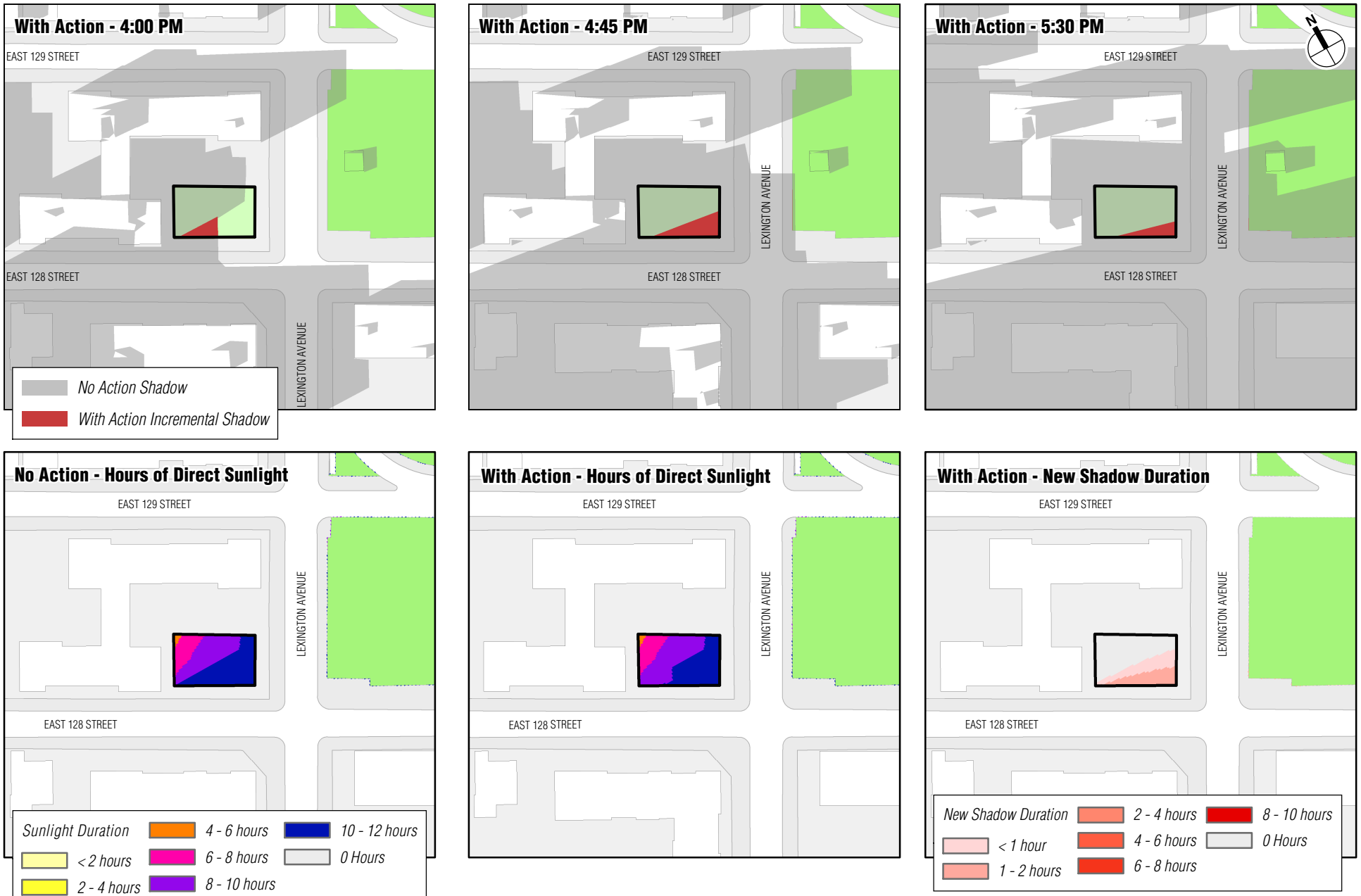


Jackie Robinson Houses Recreation Area
Detailed Analysis - March 21

Figure 6-57

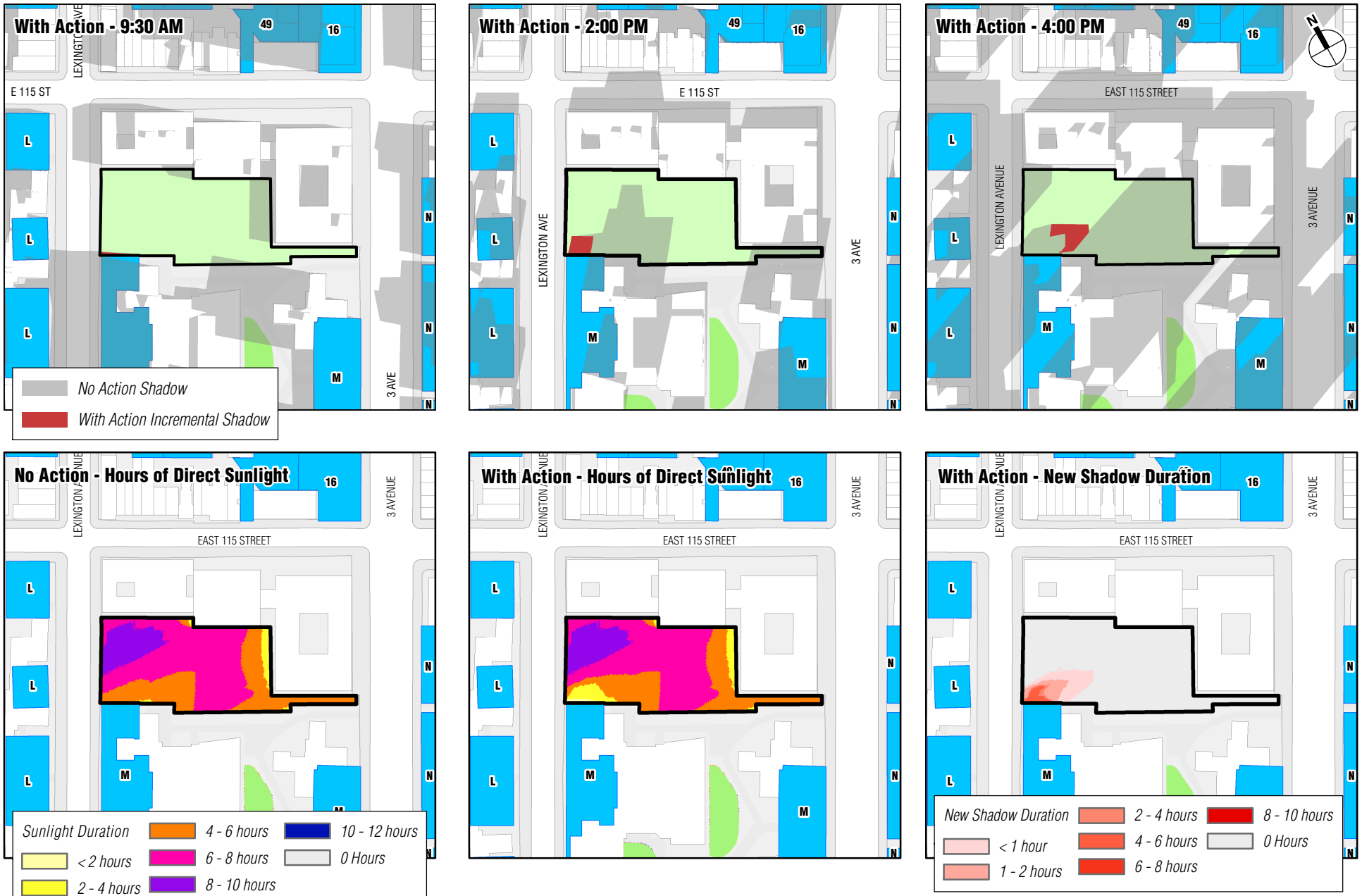


Jackie Robinson Houses Recreation Area
Detailed Analysis - May 6
Figure 6-58



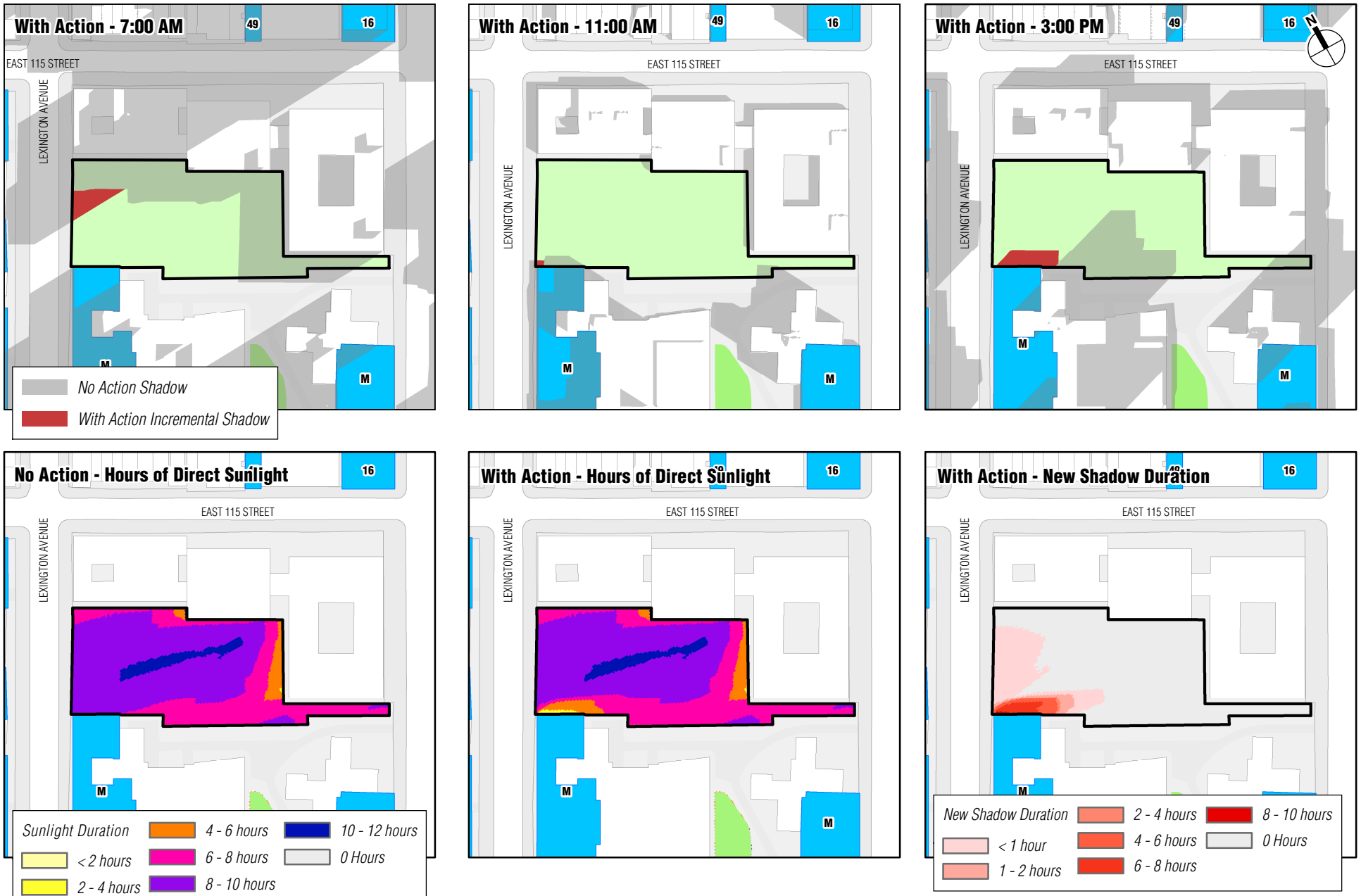
Jackie Robinson Houses Recreation Area
Detailed Analysis - June 21

Figure 6-59



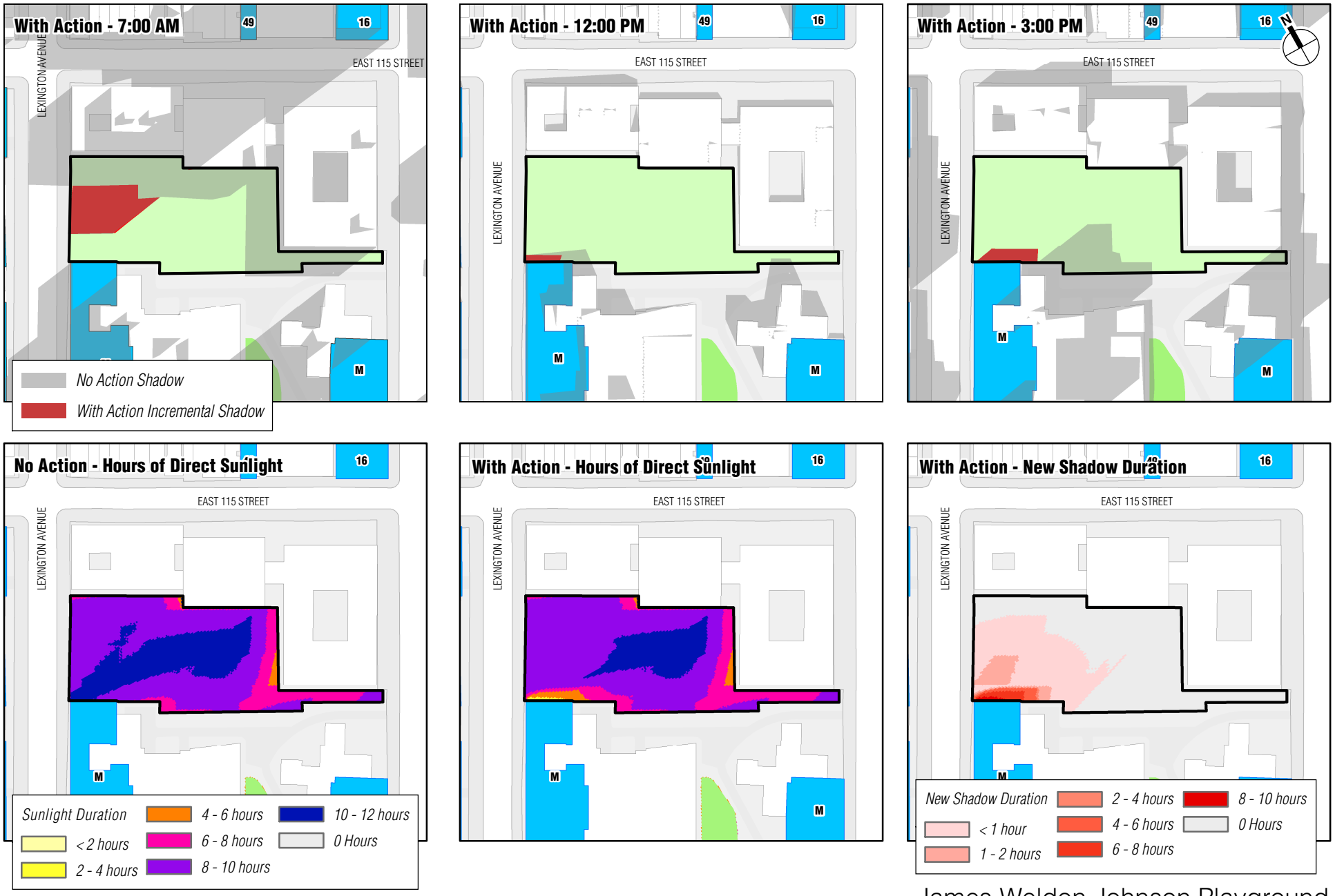
James Weldon Johnson Playground
Detailed Analysis - March 21

Figure 6-60



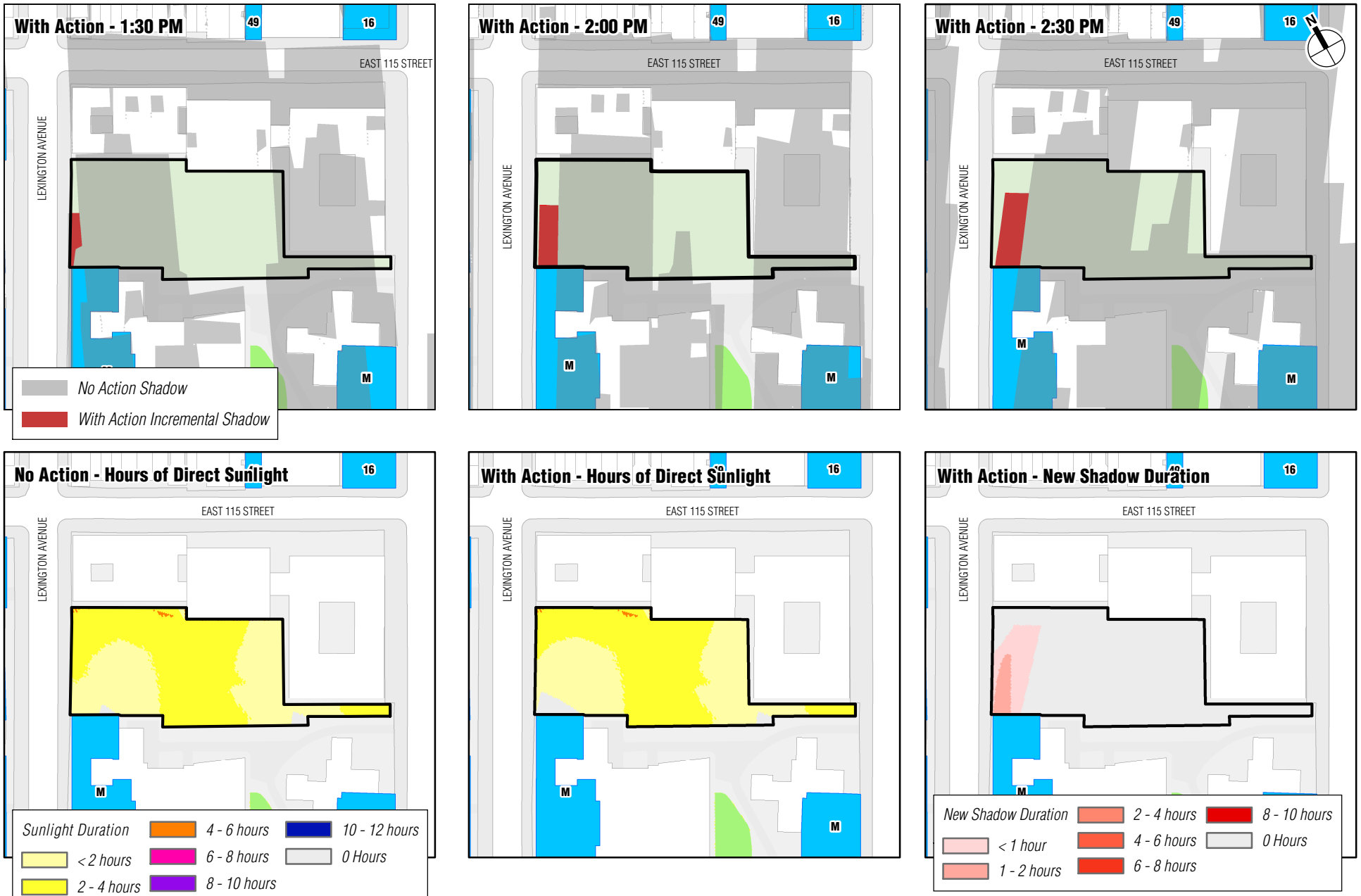
James Weldon Johnson Playground
Detailed Analysis - May 6

Figure 6-61



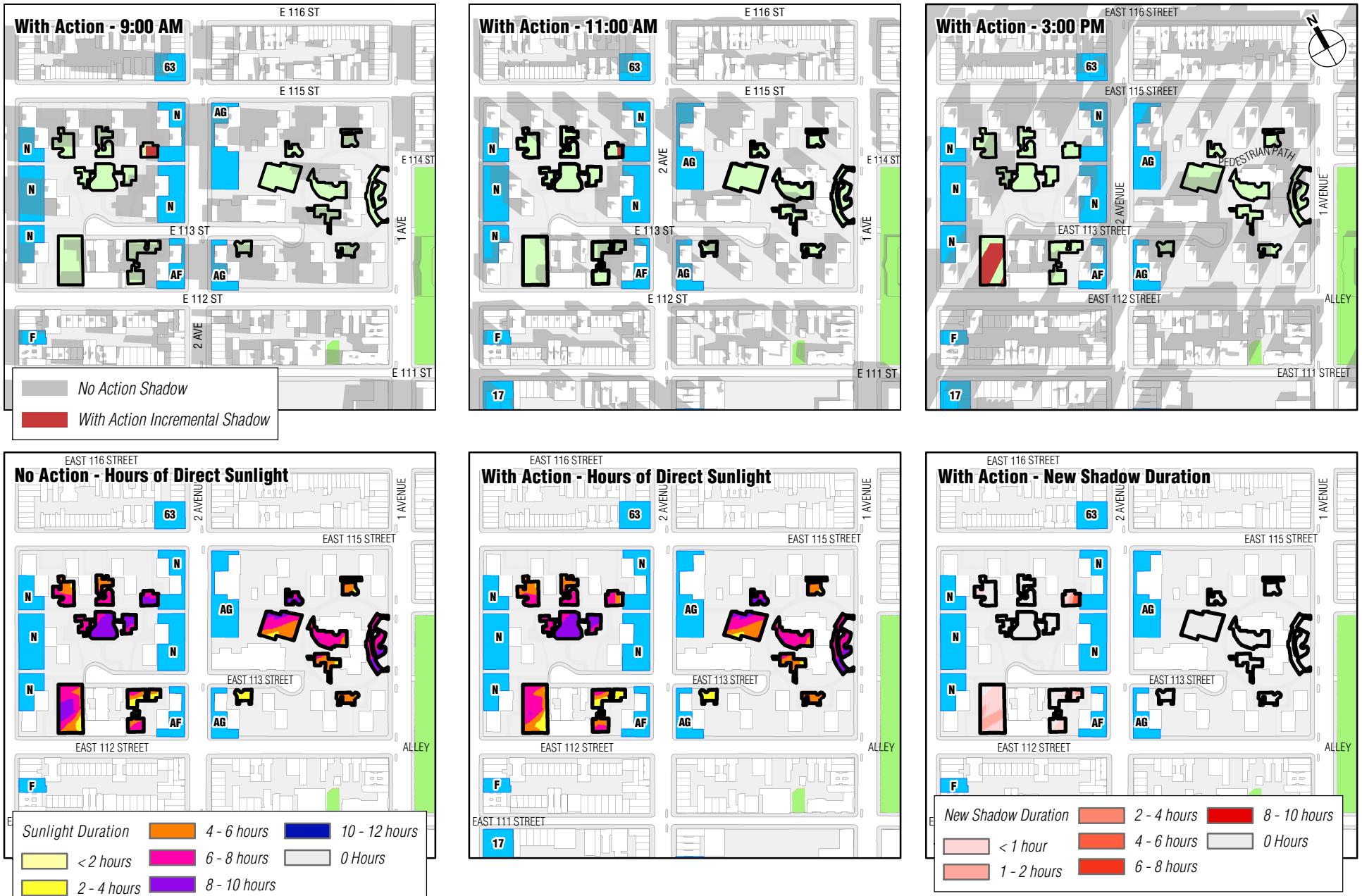
James Weldon Johnson Playground
Detailed Analysis - June 21

Figure 6-62



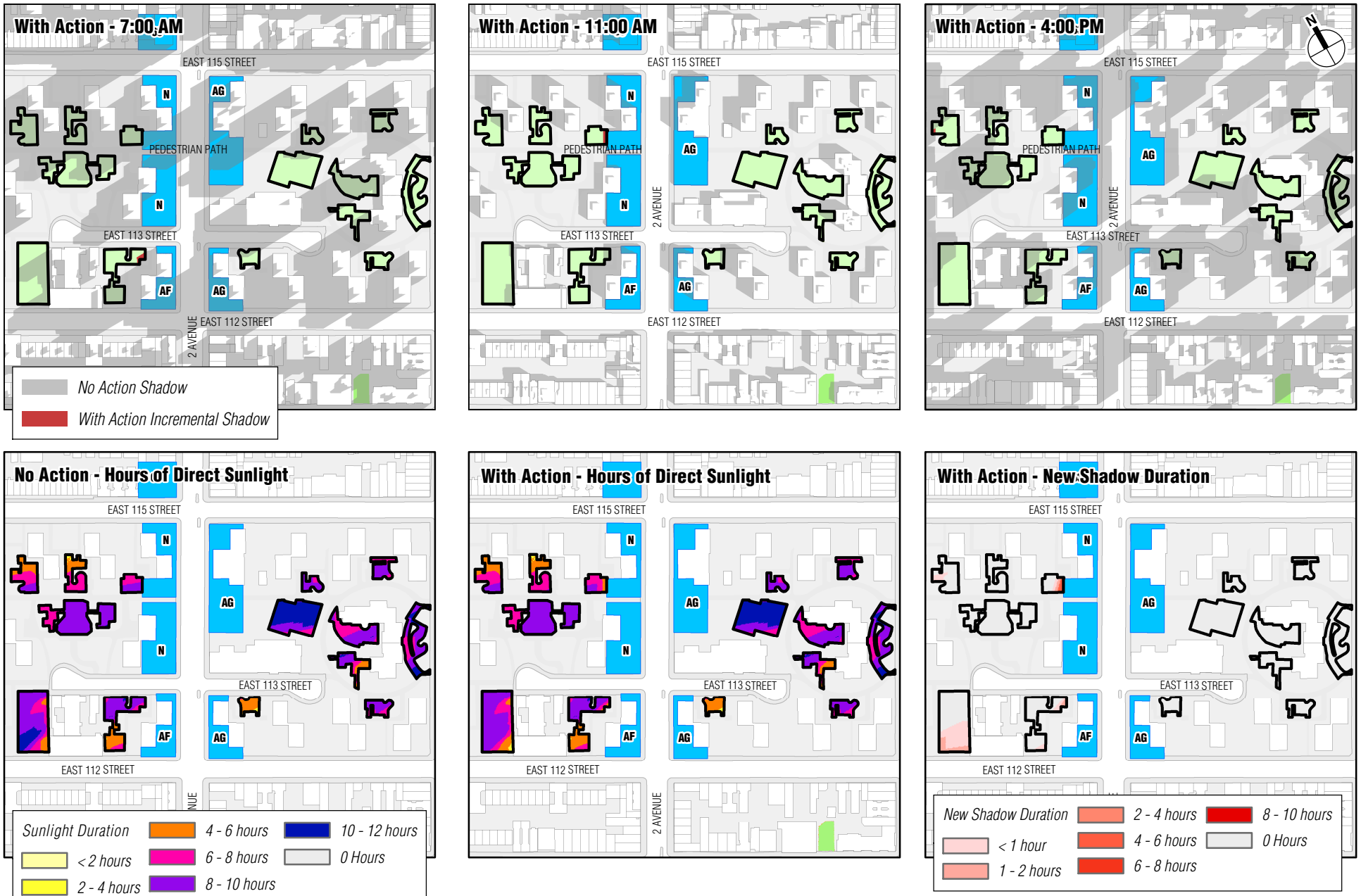
James Weldon Johnson Playground
Detailed Analysis - December 21

Figure 6-63



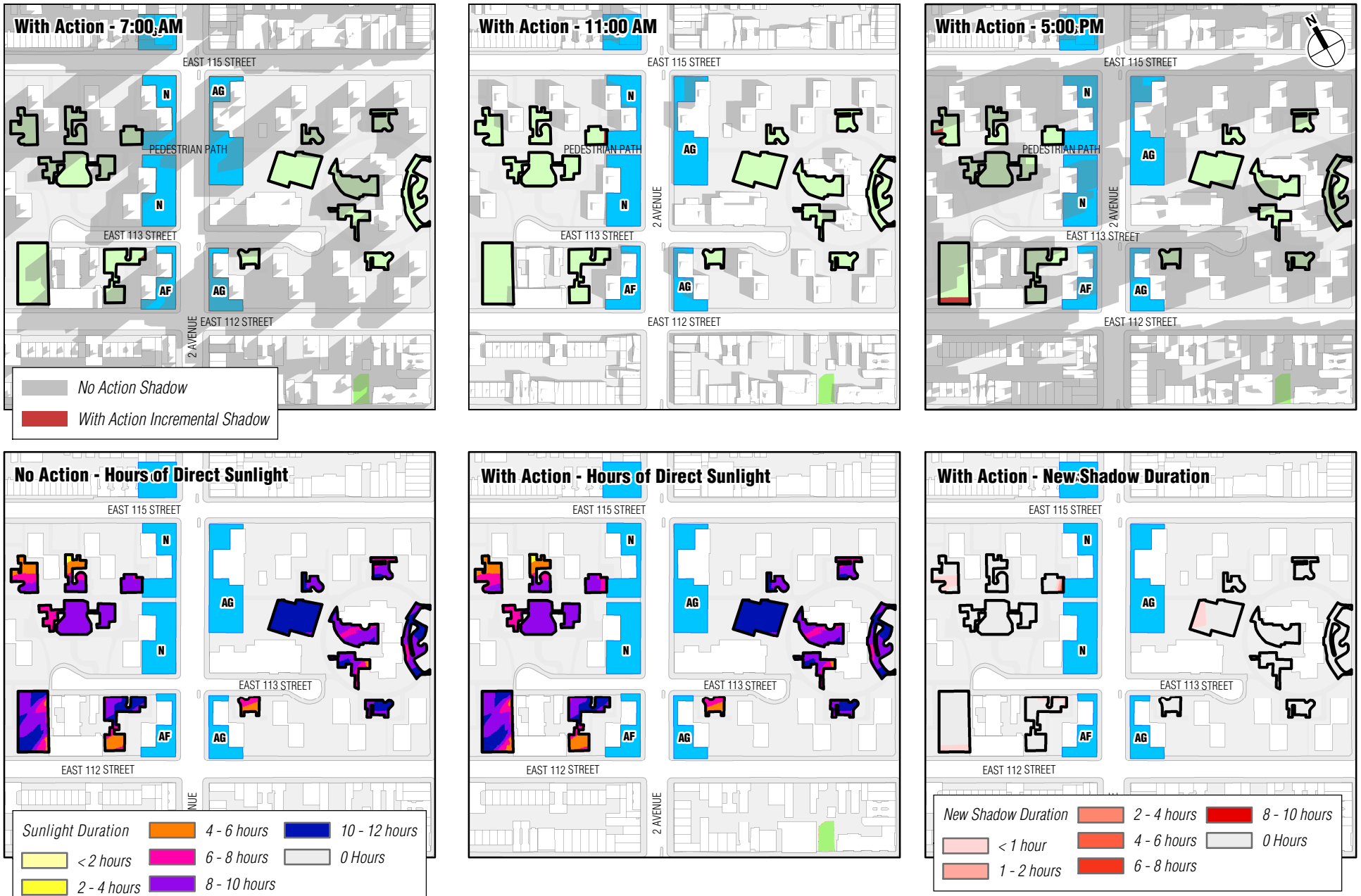
Jefferson Houses Recreation Areas
Detailed Analysis - March 21

Figure 6-64



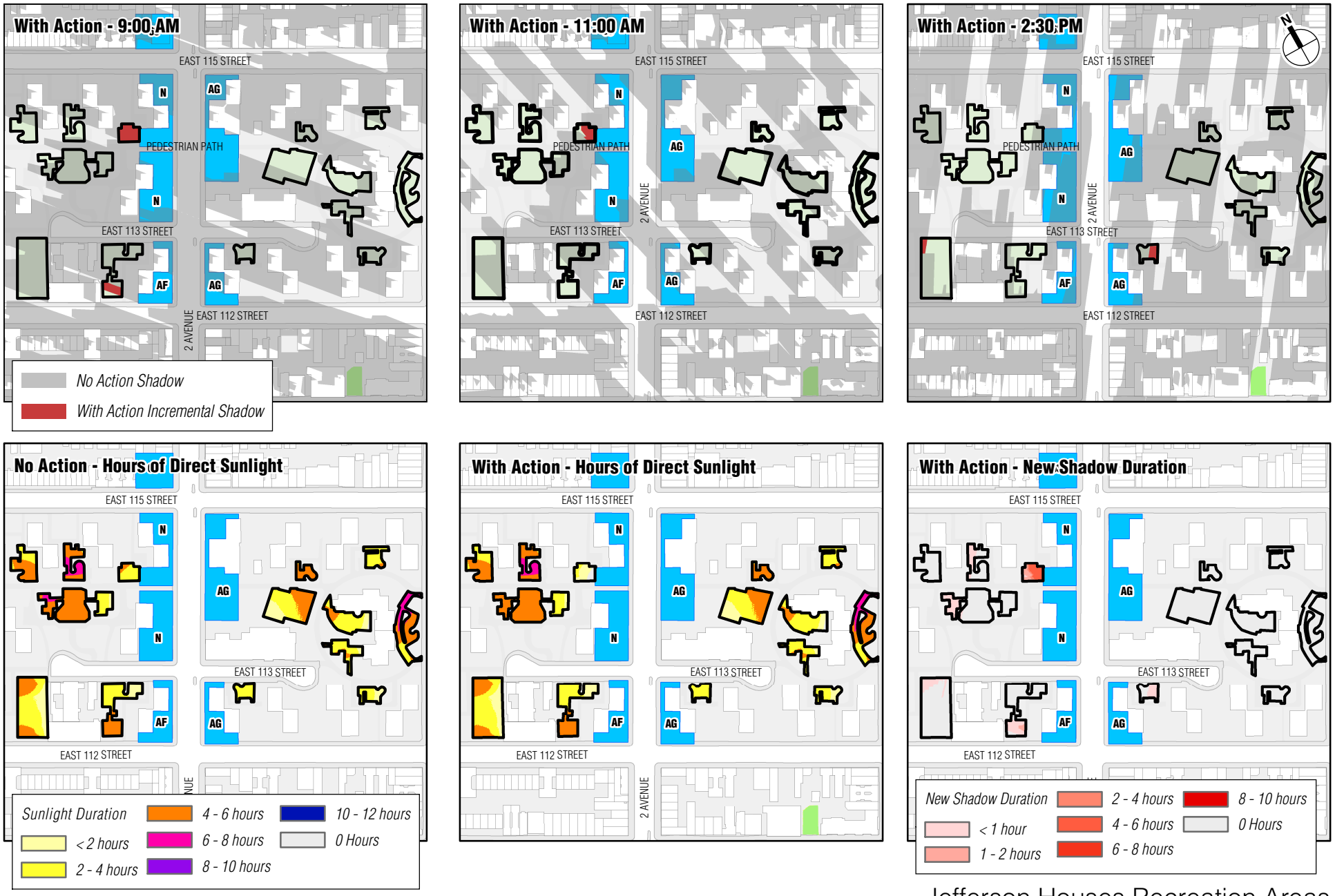
Jefferson Houses Recreation Areas
Detailed Analysis - May 6

Figure 6-65



Jefferson Houses Recreation Areas
Detailed Analysis - June 21

Figure 6-66



Jefferson Houses Recreation Areas
Detailed Analysis - December 21

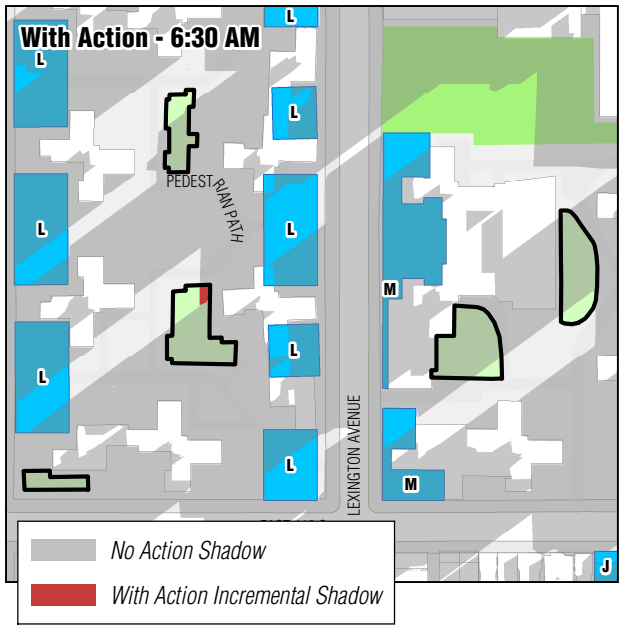
Figure 6-67

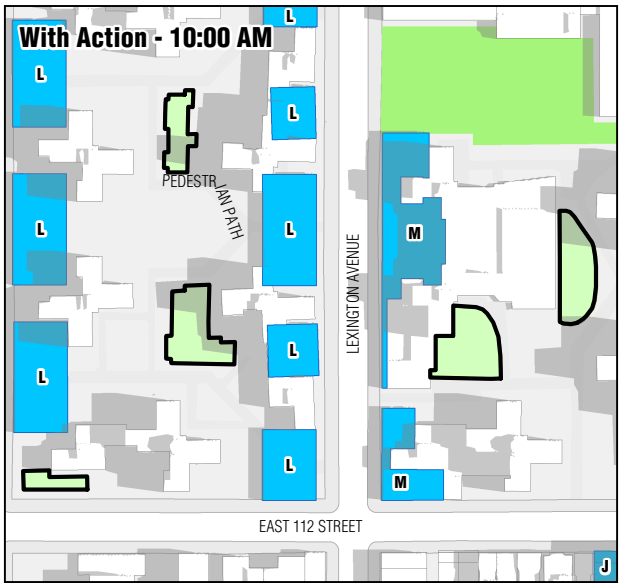


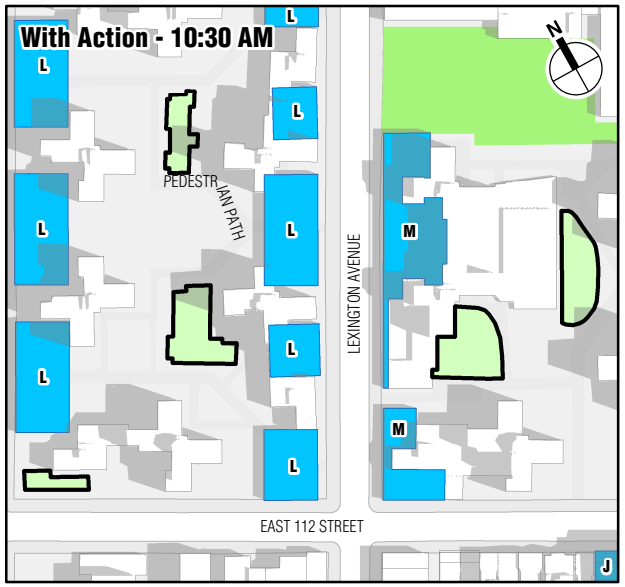
Johnson Houses Recreation Areas
Detailed Analysis - March 21

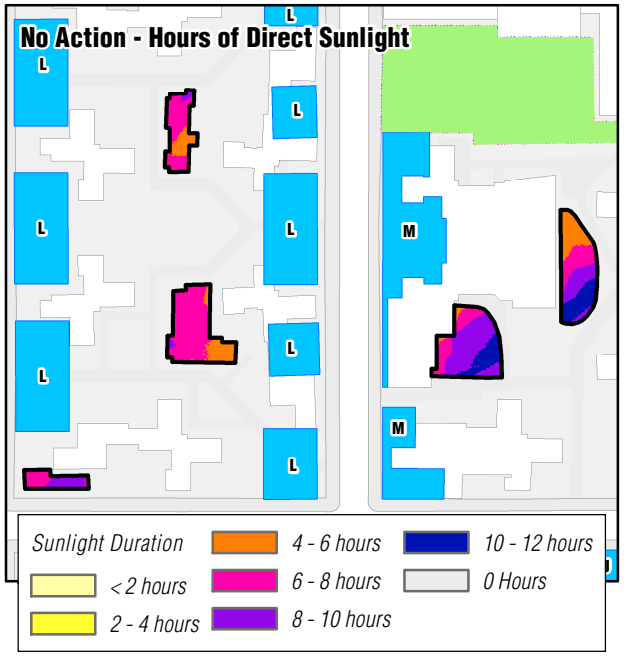
EAST HARLEM REZONING

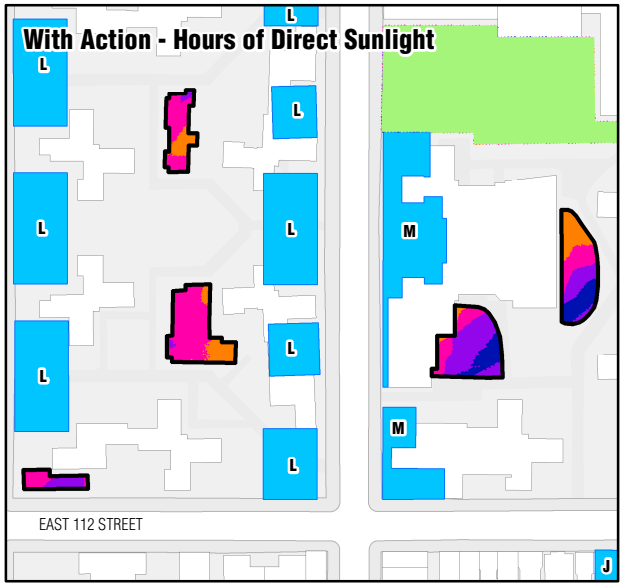
Figure 6-68

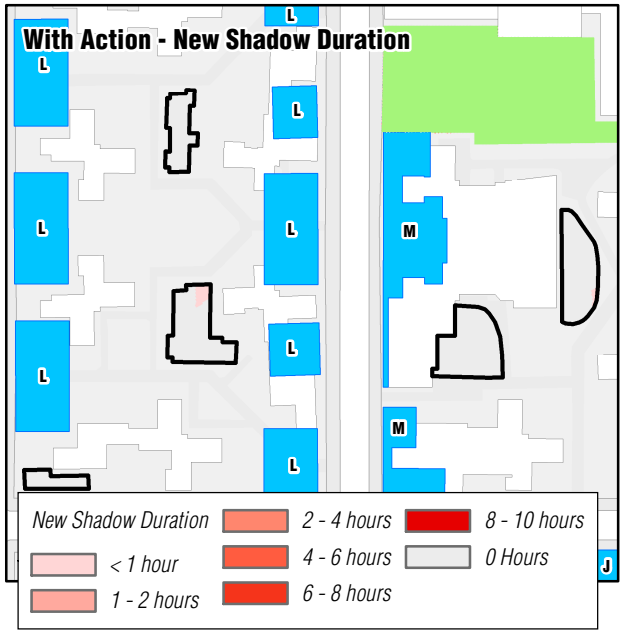












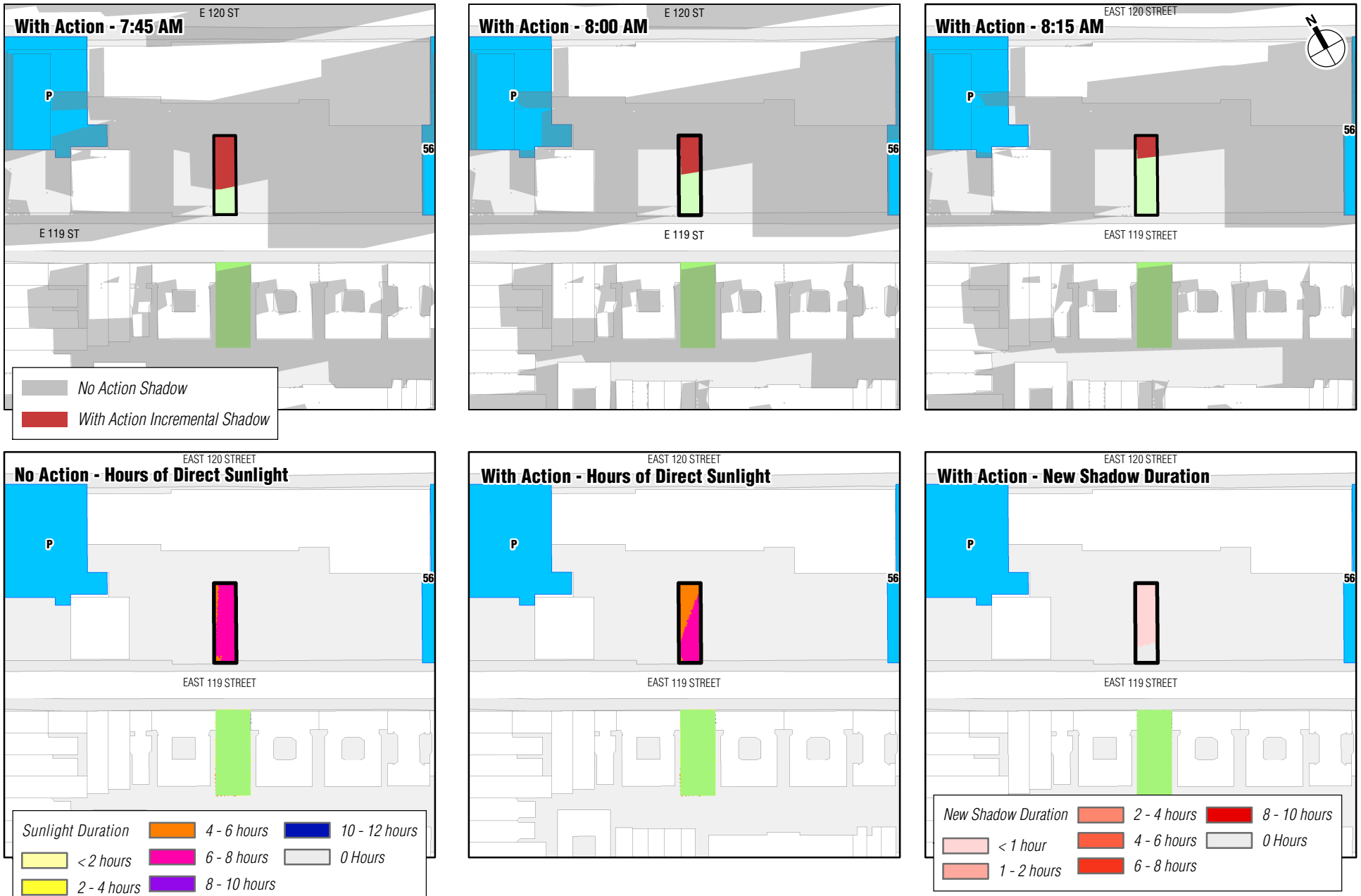
Johnson Houses Recreation Areas
Detailed Analysis - May 6

Figure 6-69



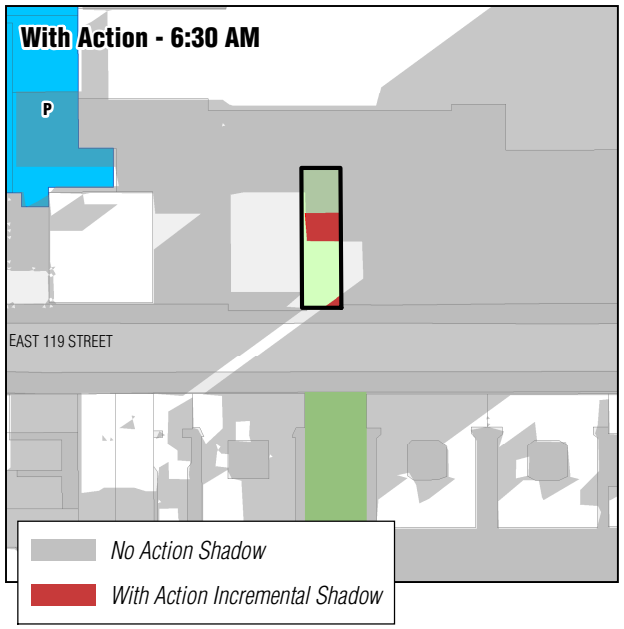
Johnson Houses Recreation Areas
Detailed Analysis - December 21

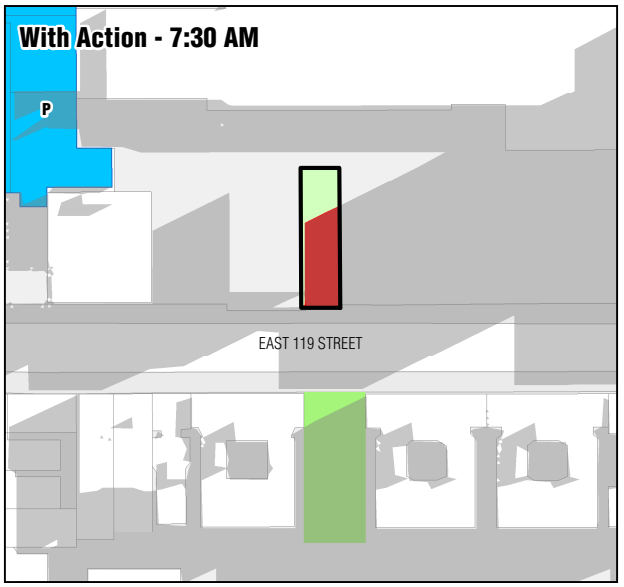
Figure 6-70

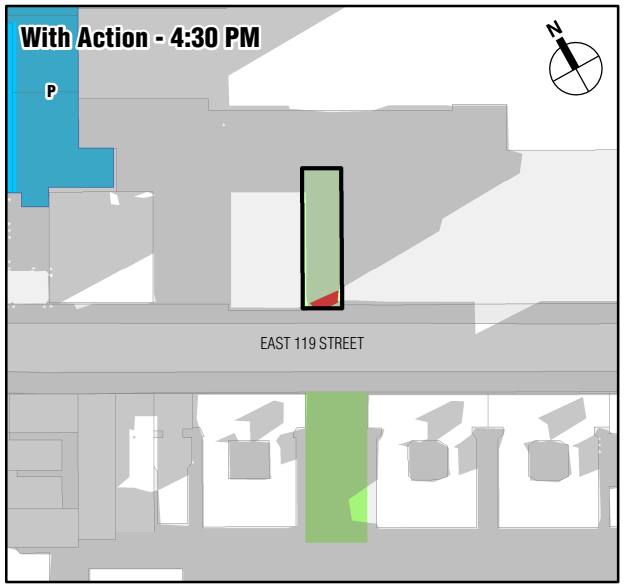


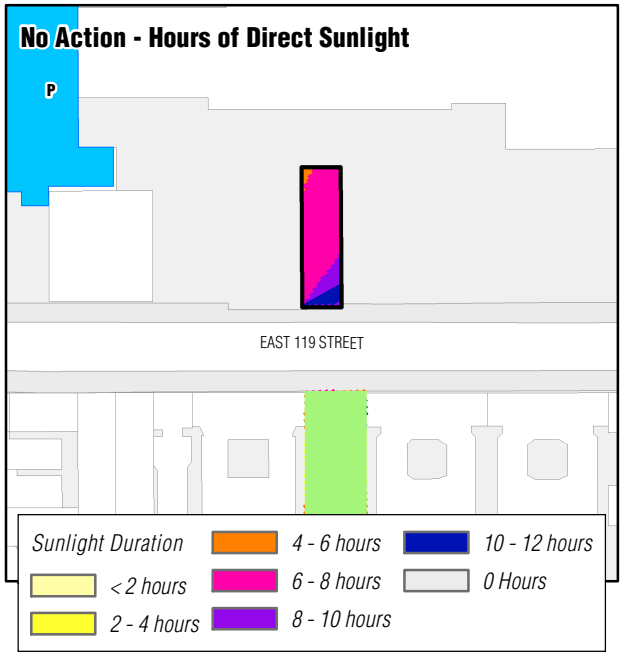
La Casita Community Garden
Detailed Analysis - March 21

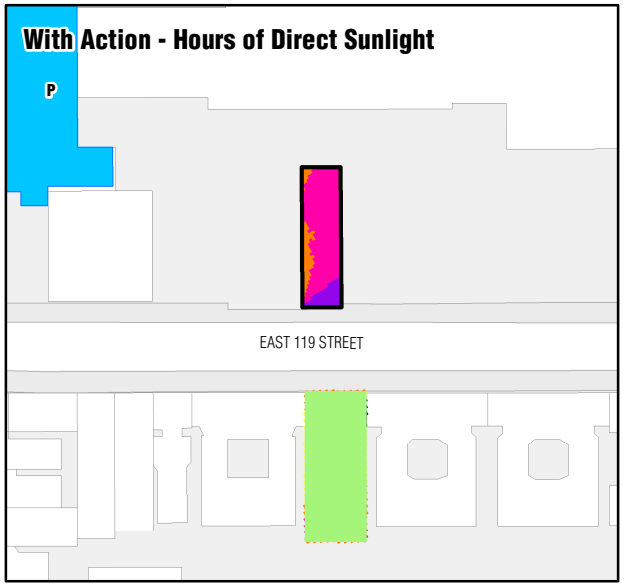
Figure 6-71

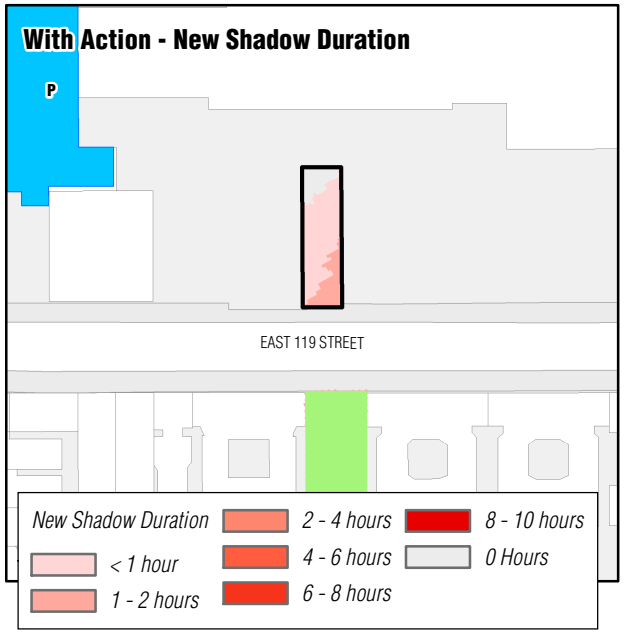






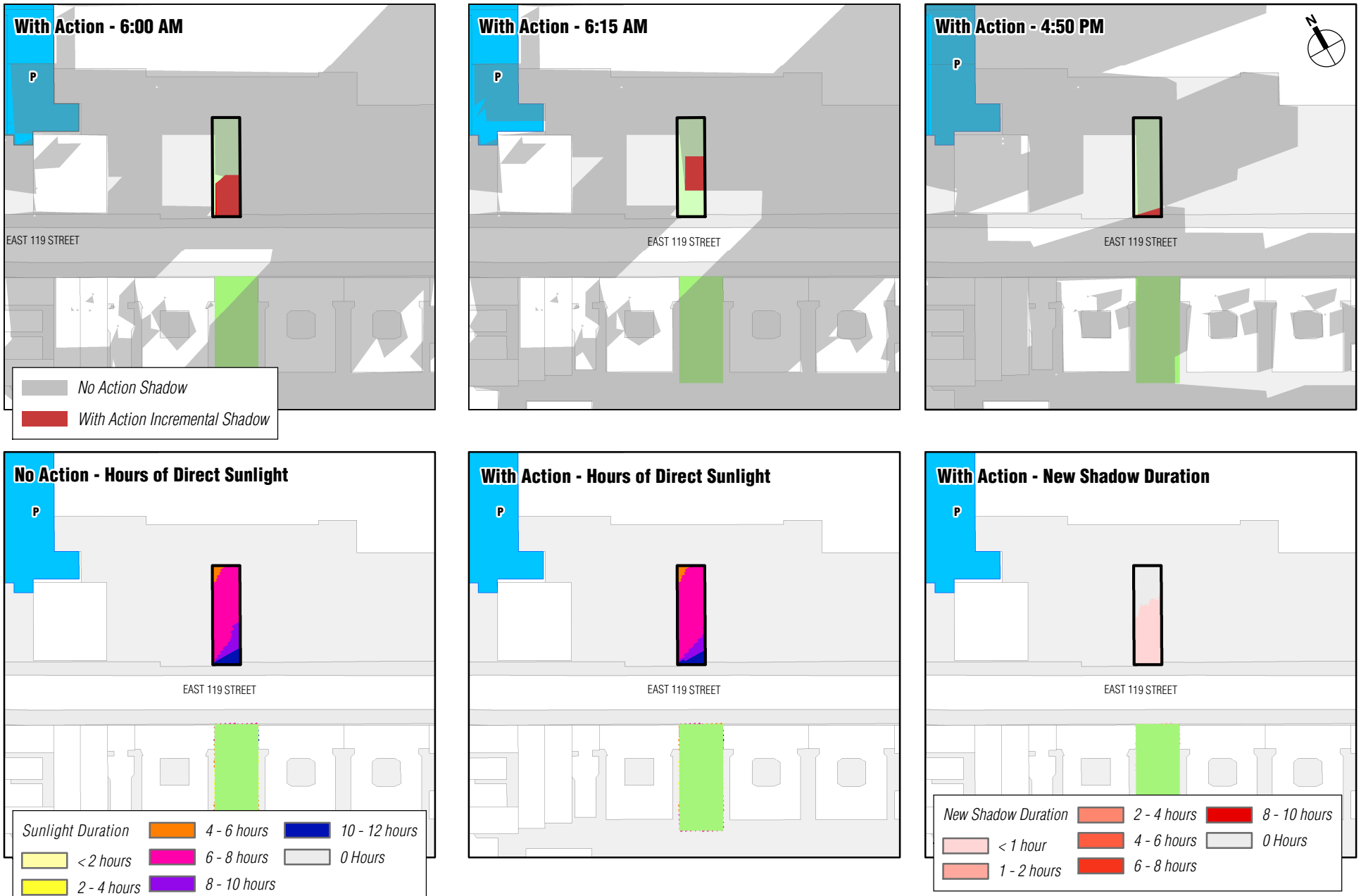






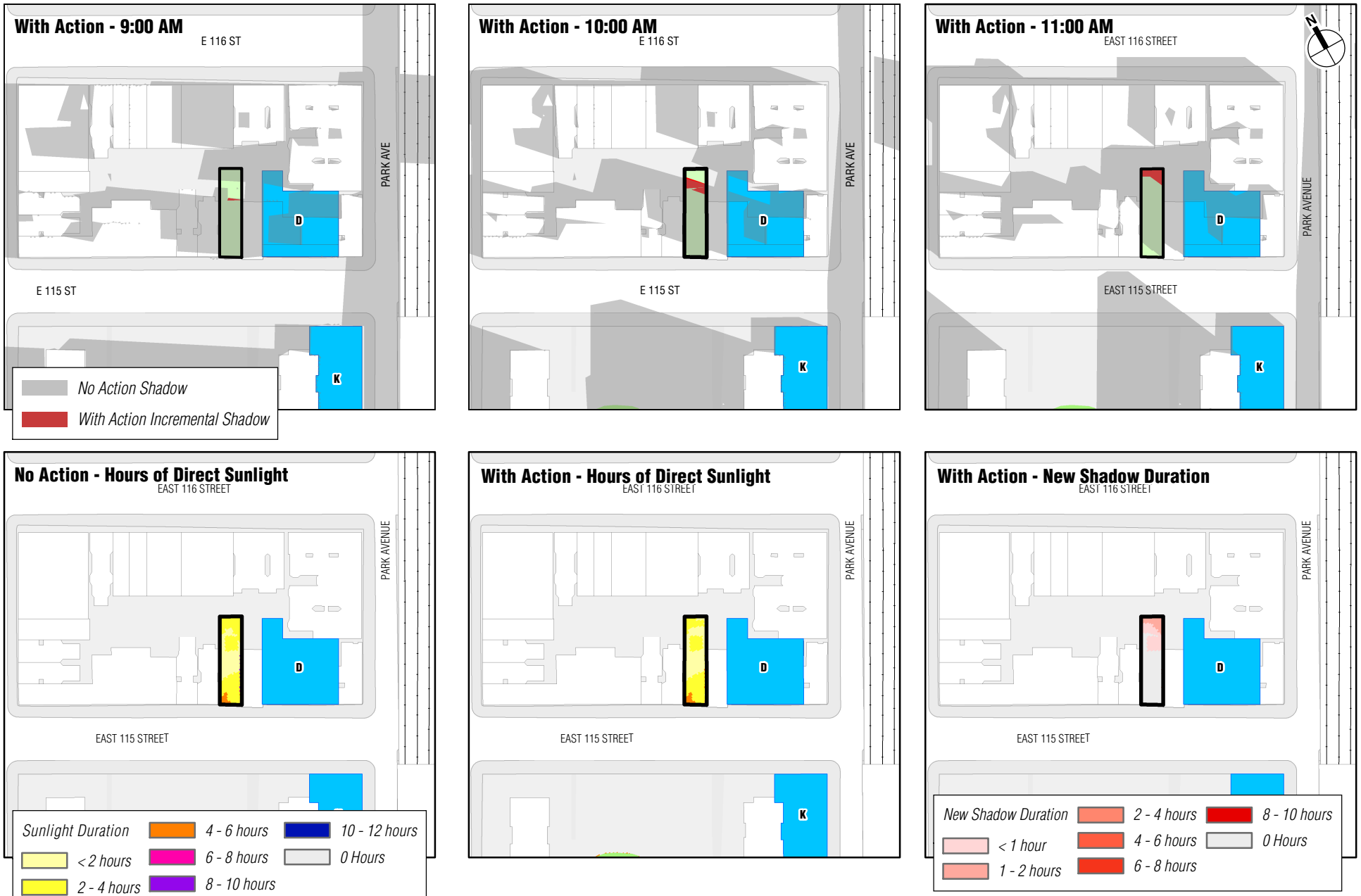
La Casita Community Garden
Detailed Analysis - May 6

Figure 6-72



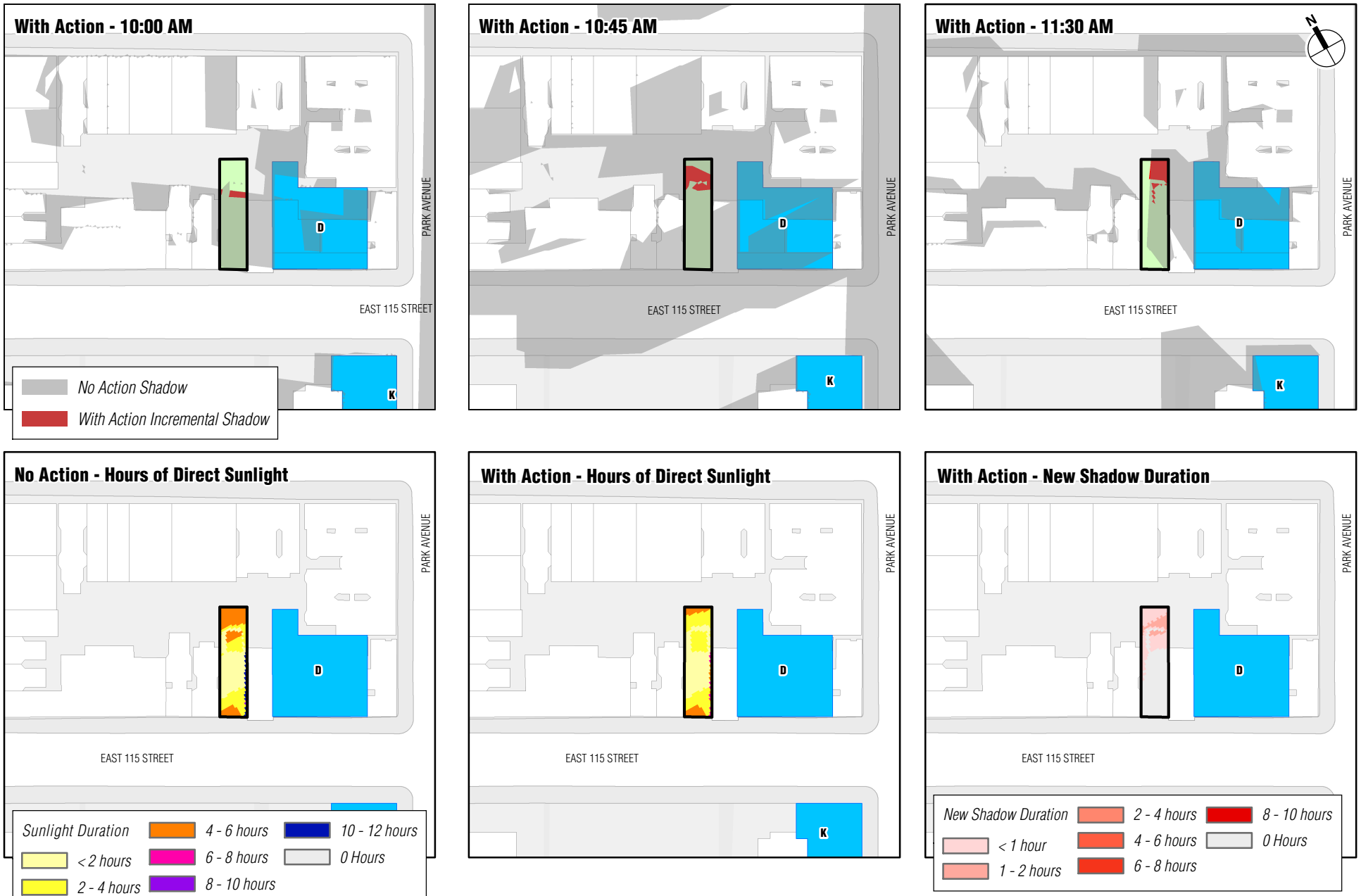
La Casita Community Garden
Detailed Analysis - June 21

Figure 6-73



La Cuevita Community Garden
Detailed Analysis - March 21

Figure 6-74



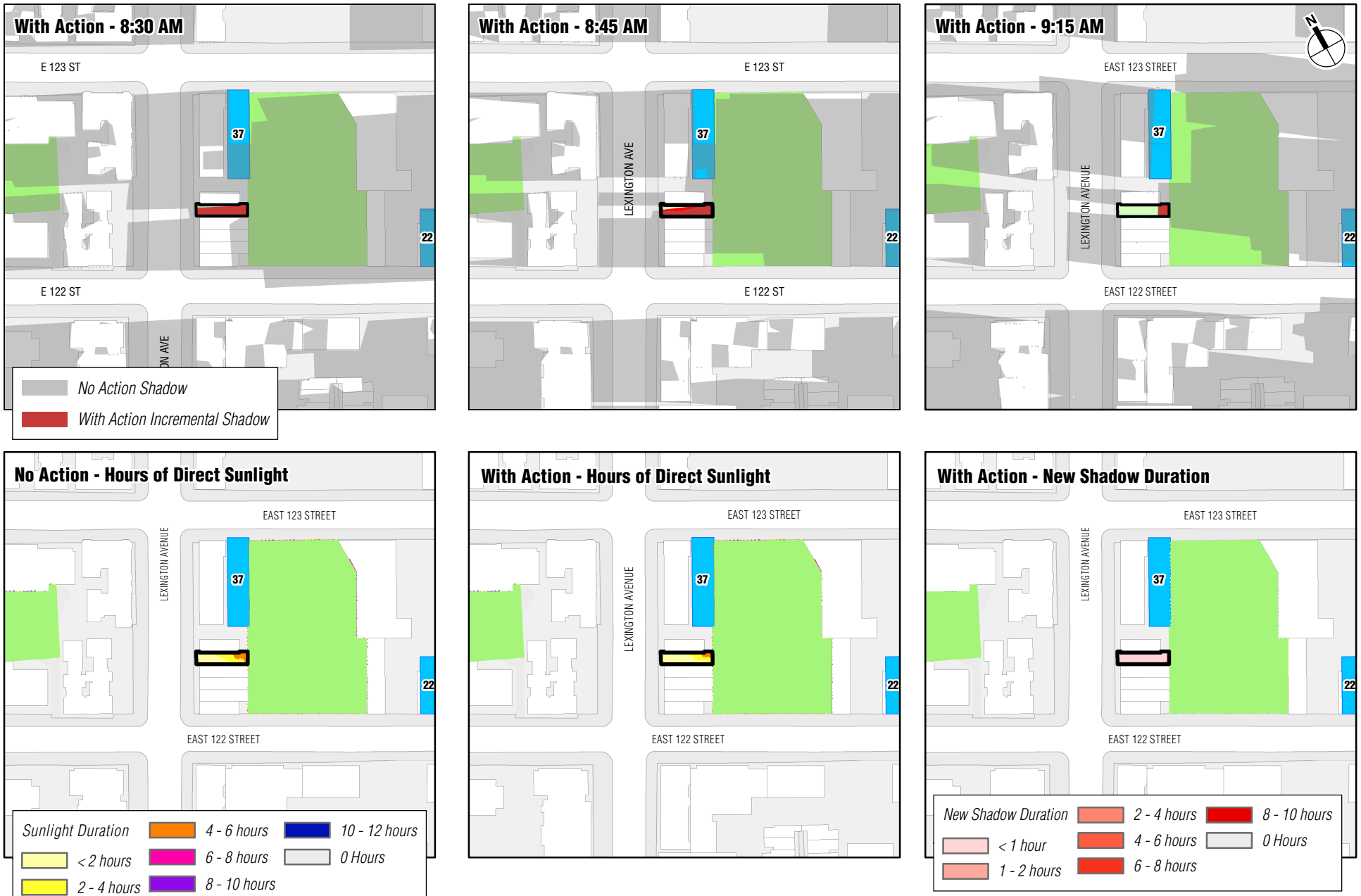
La Cuevita Community Garden
Detailed Analysis - May 6

Figure 6-75



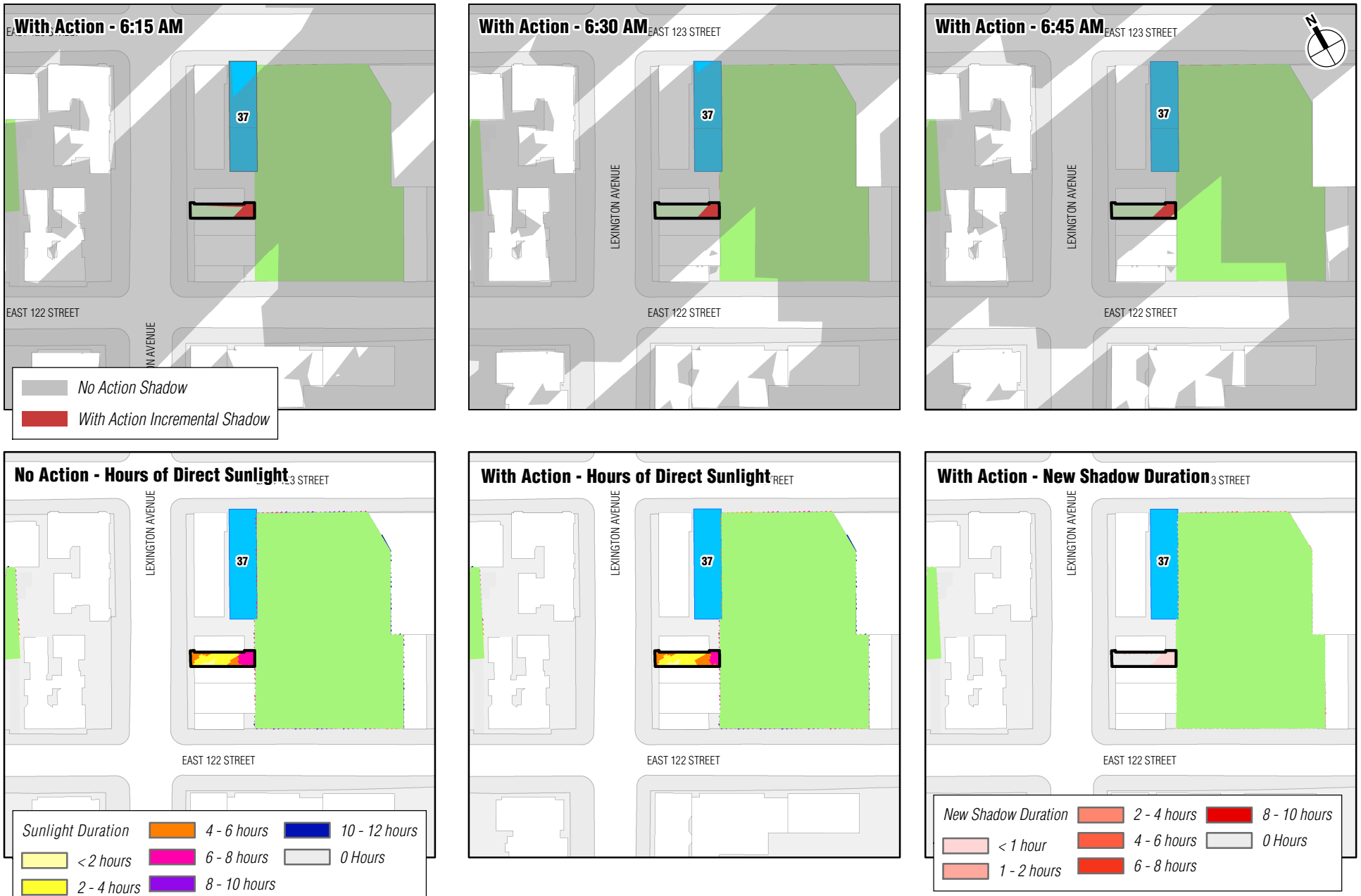
La Cuevita Community Garden
Detailed Analysis - June 21

Figure 6-76



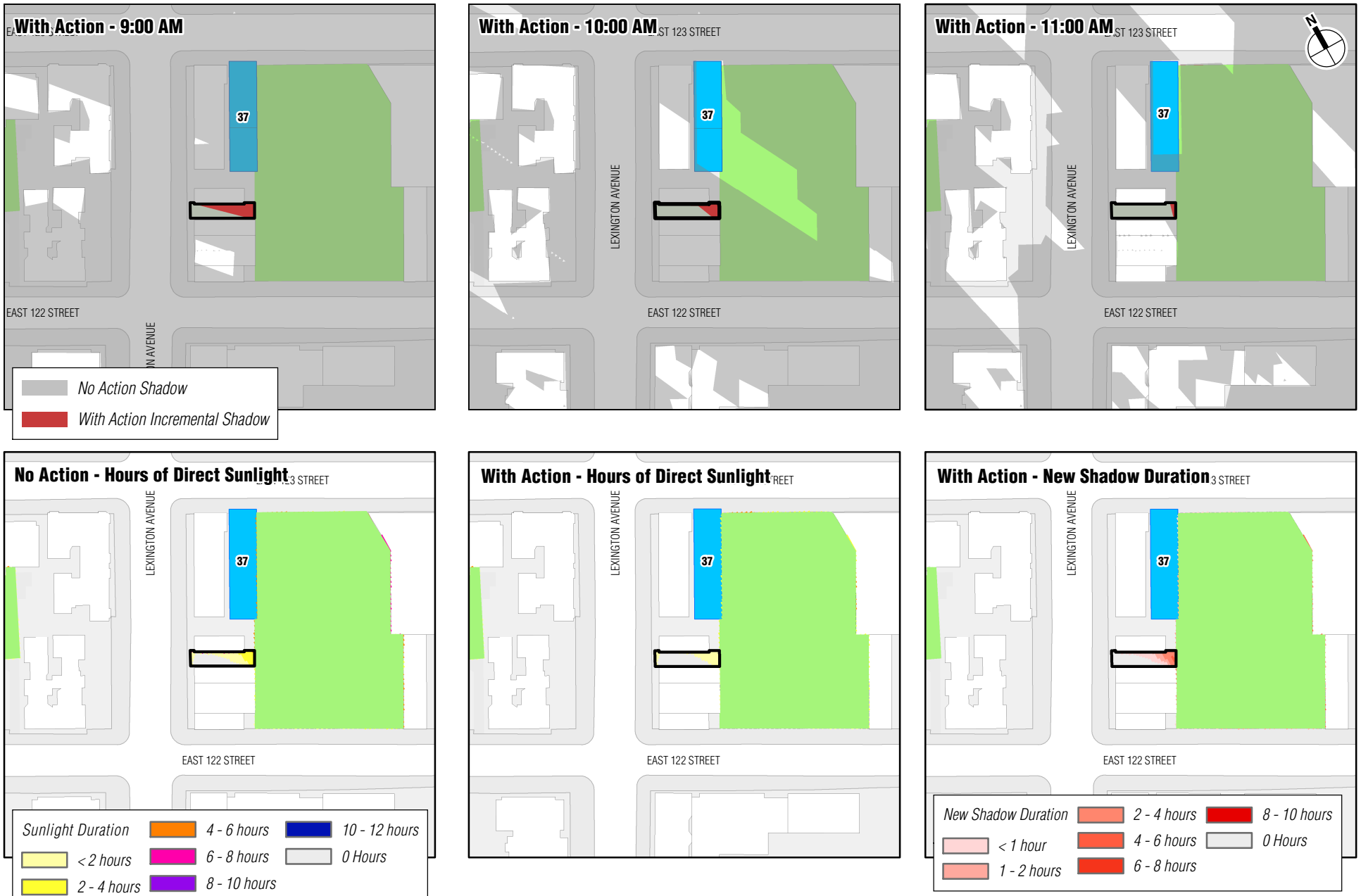
Life Spire Garden
Detailed Analysis - March 21

Figure 6-77



Life Spire Garden
Detailed Analysis - June 21

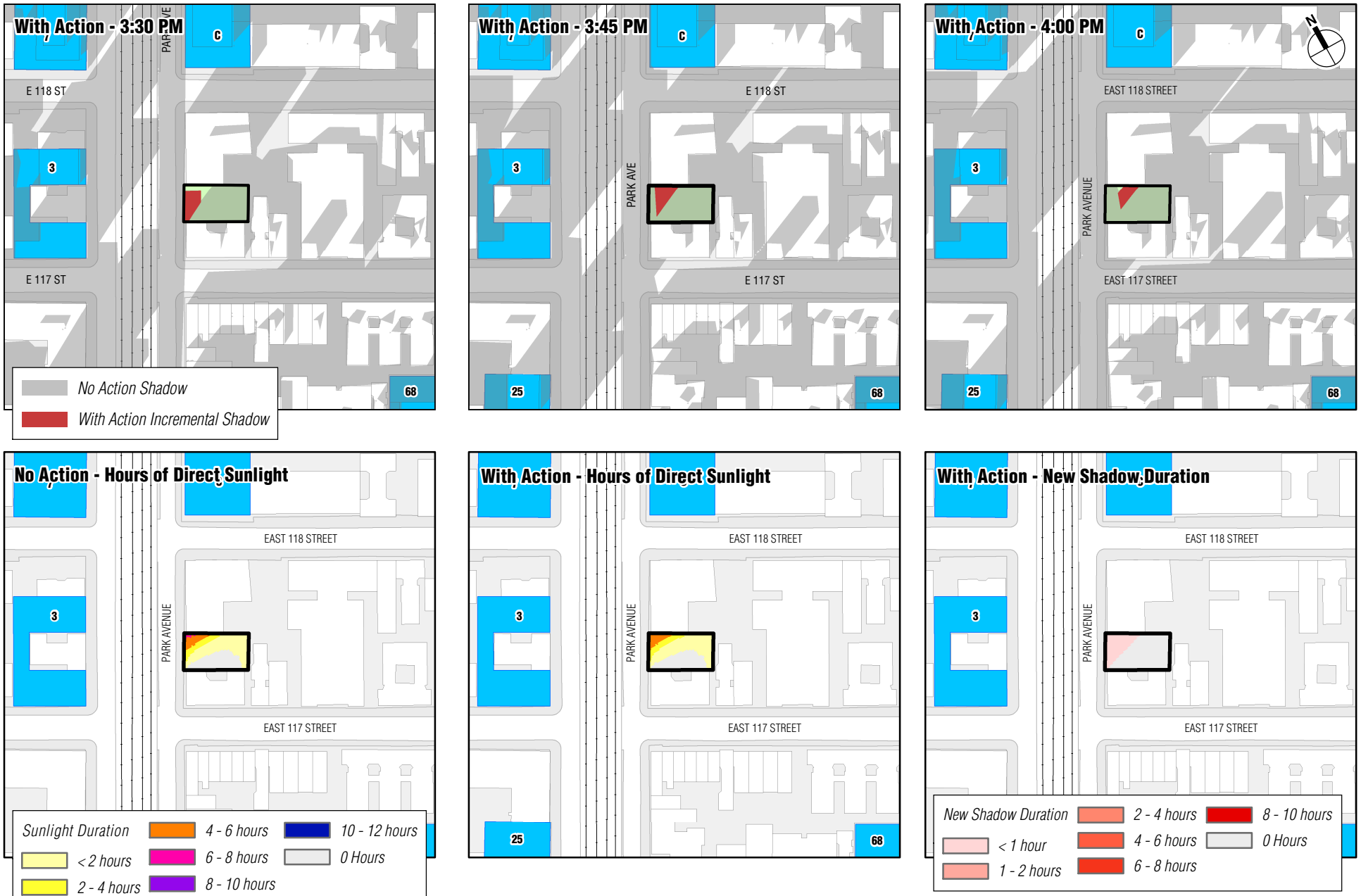
Figure 6-78



Life Spire Garden
Detailed Analysis - December 21

EAST HARLEM REZONING

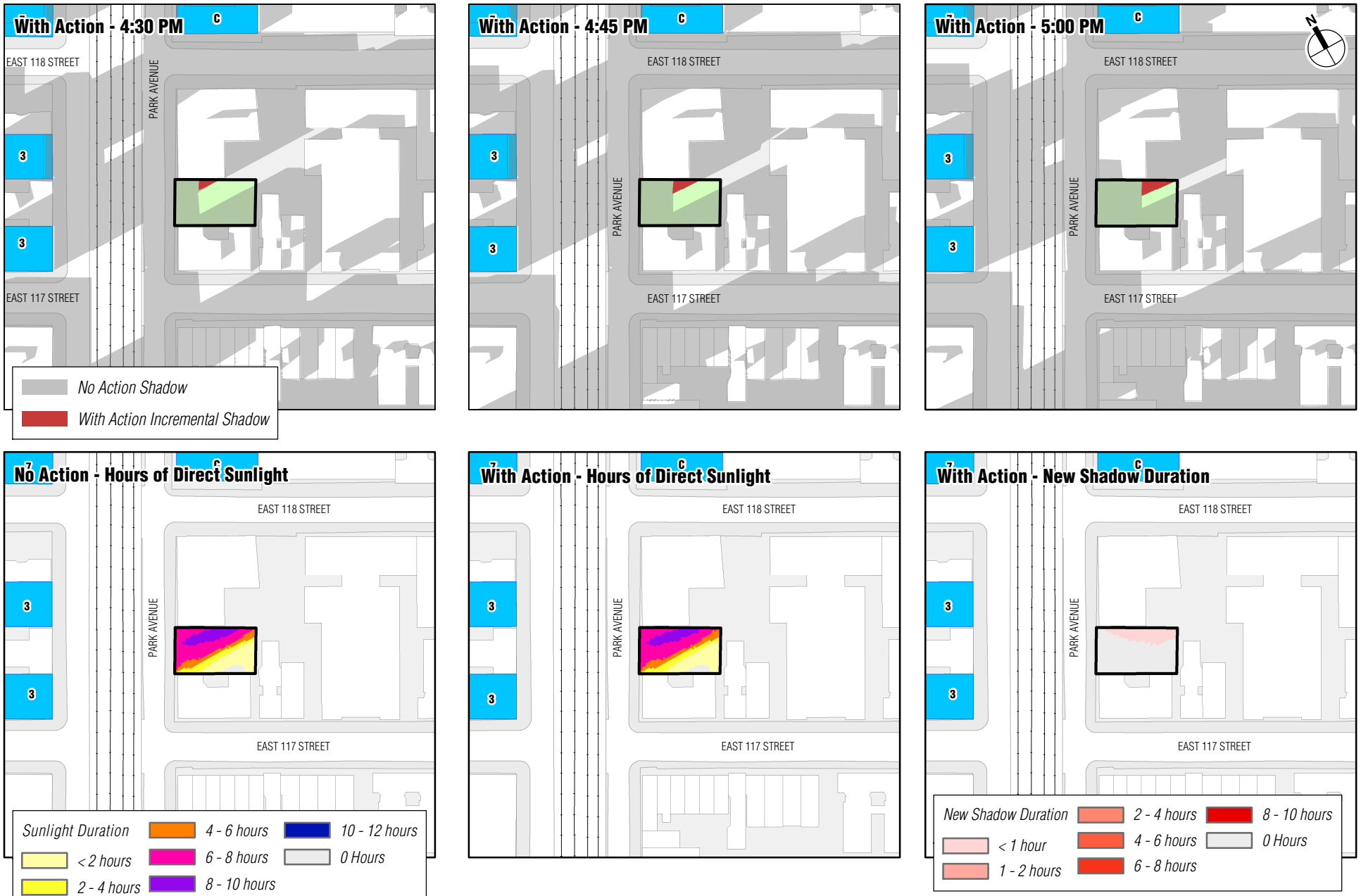
Figure 6-79



Lydia's Magic Garden
Detailed Analysis - March 21

EAST HARLEM REZONING

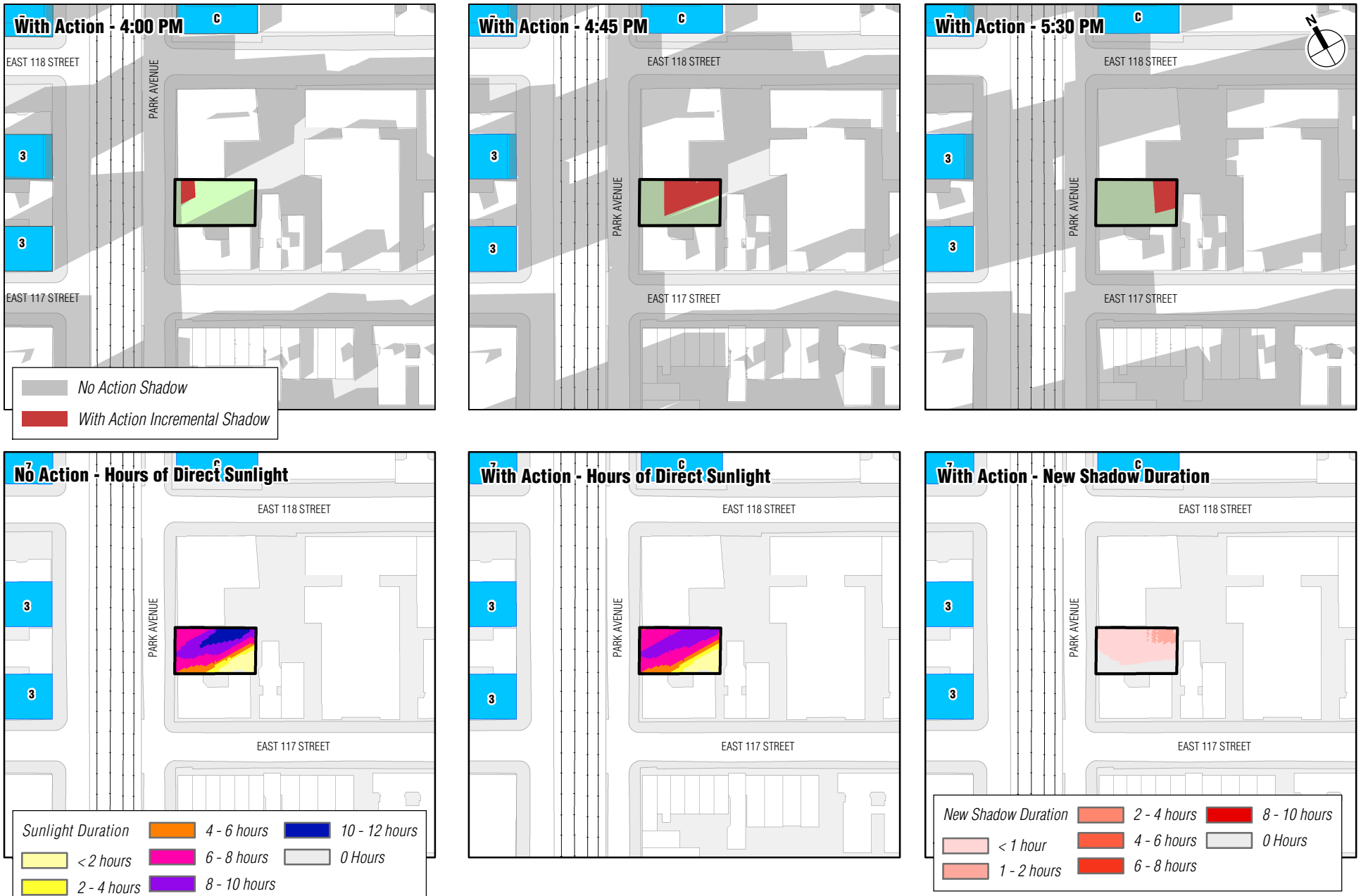
Figure 6-80



Lydia's Magic Garden
Detailed Analysis - May 6

EAST HARLEM REZONING

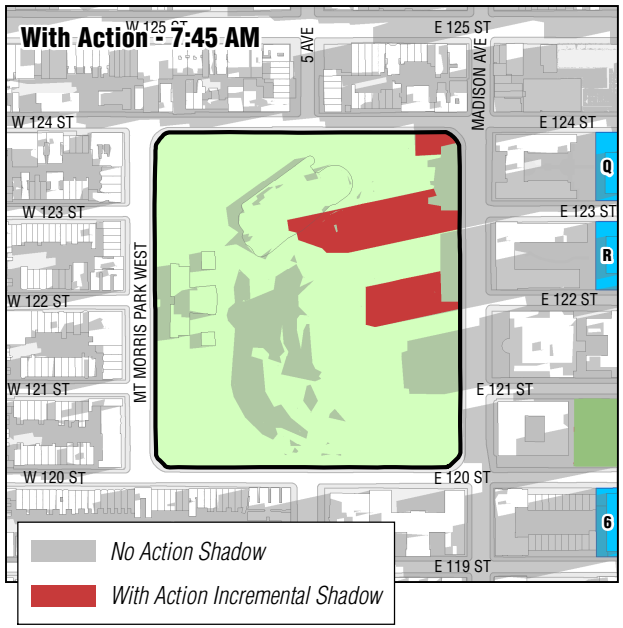
Figure 6-81

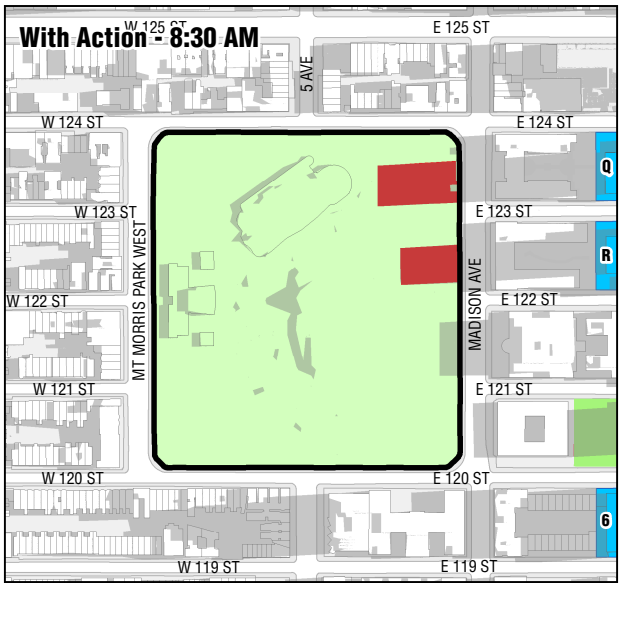


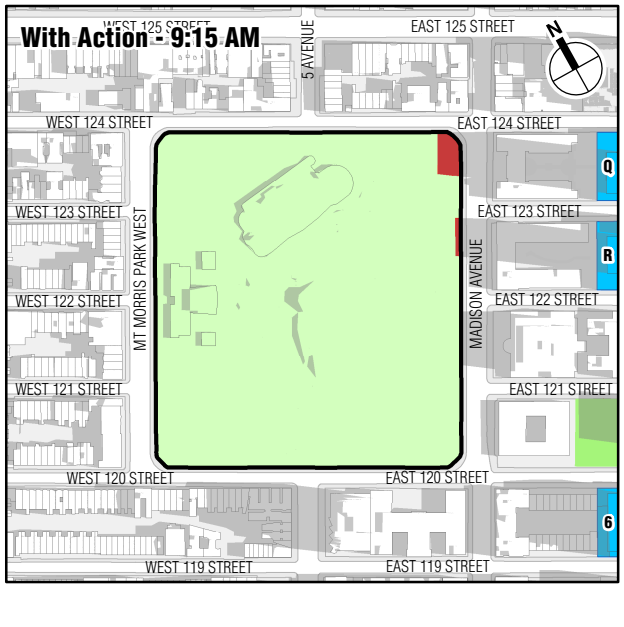
Lydia's Magic Garden
Detailed Analysis - June 21

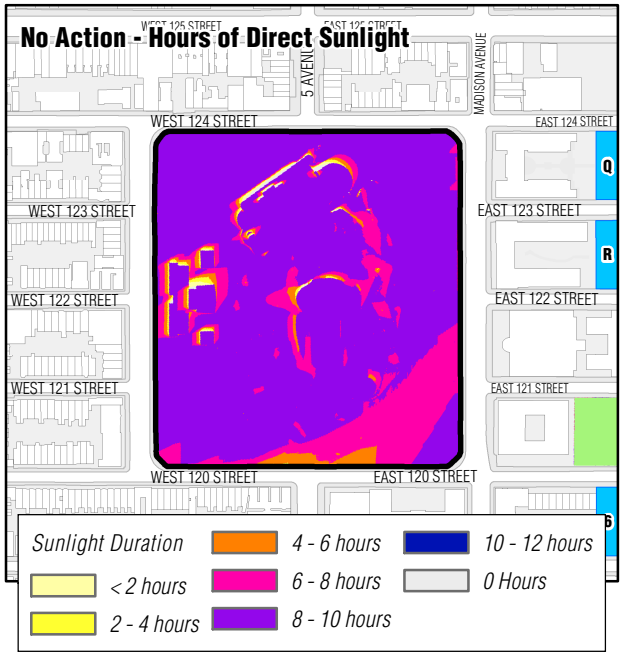
EAST HARLEM REZONING

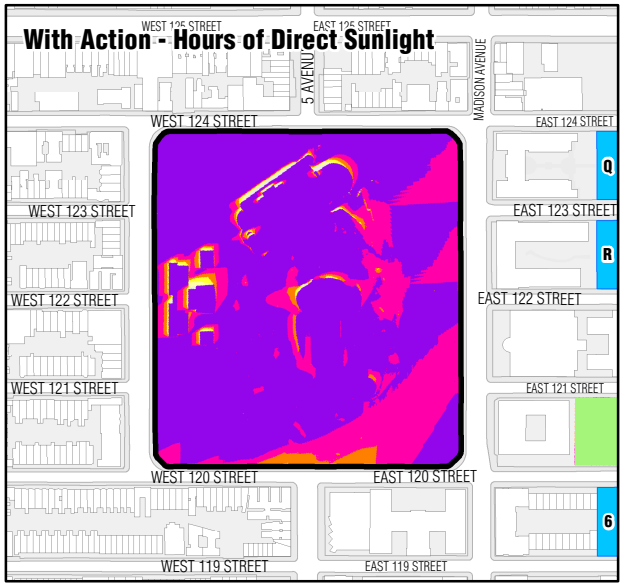
Figure 6-82

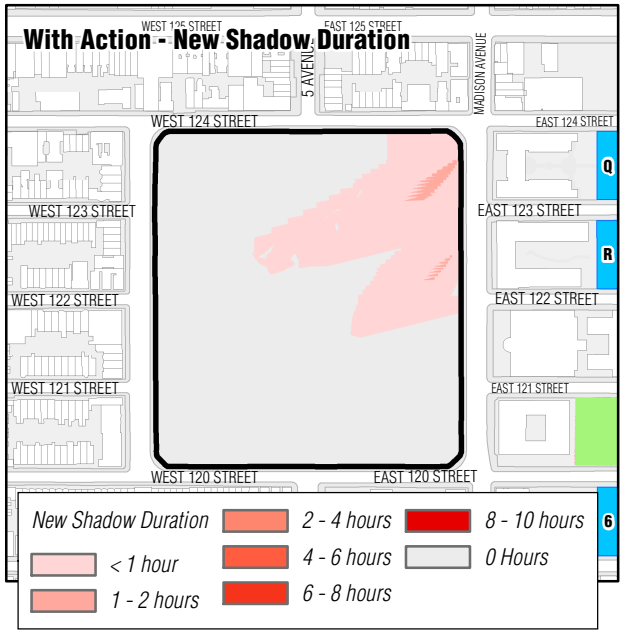






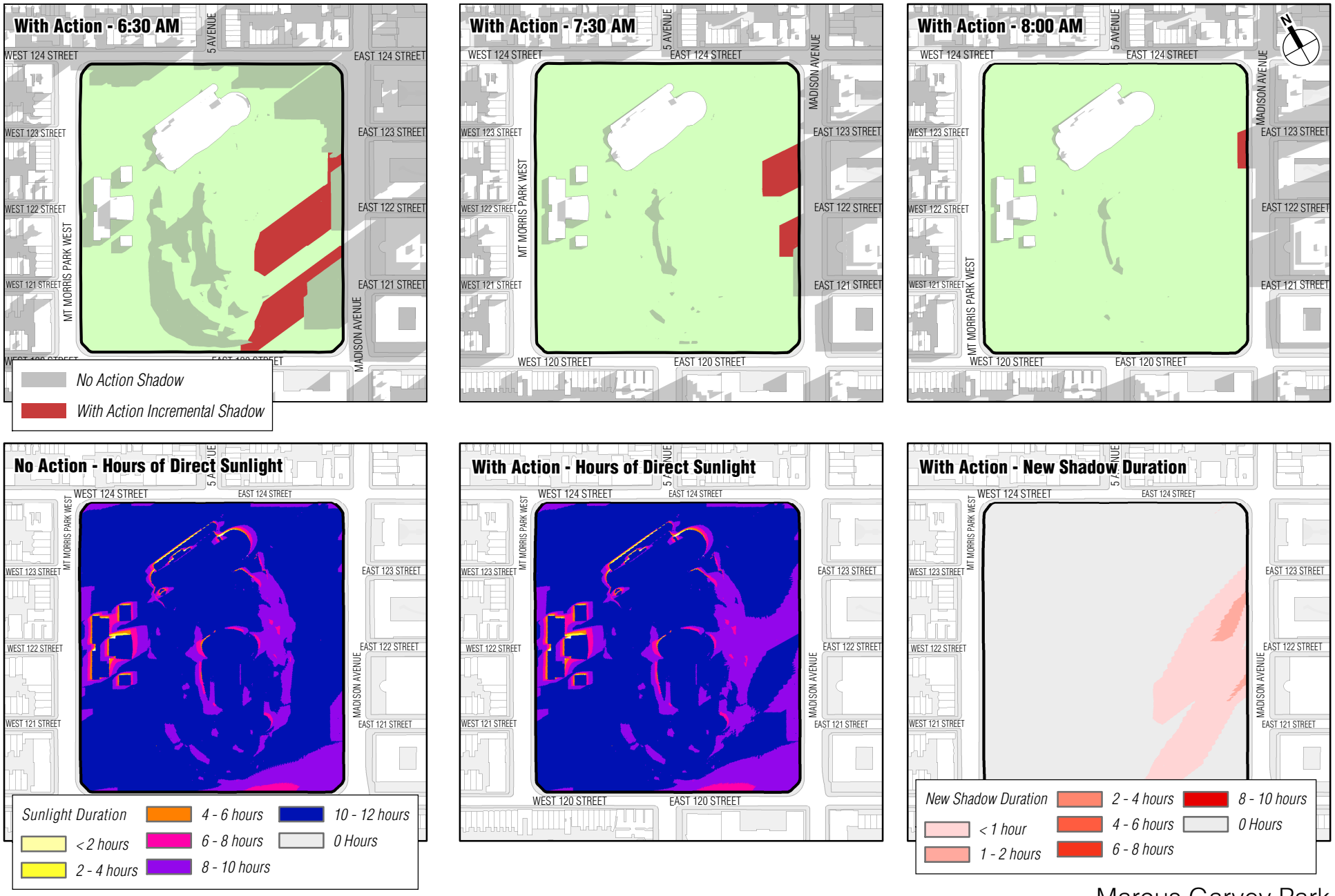






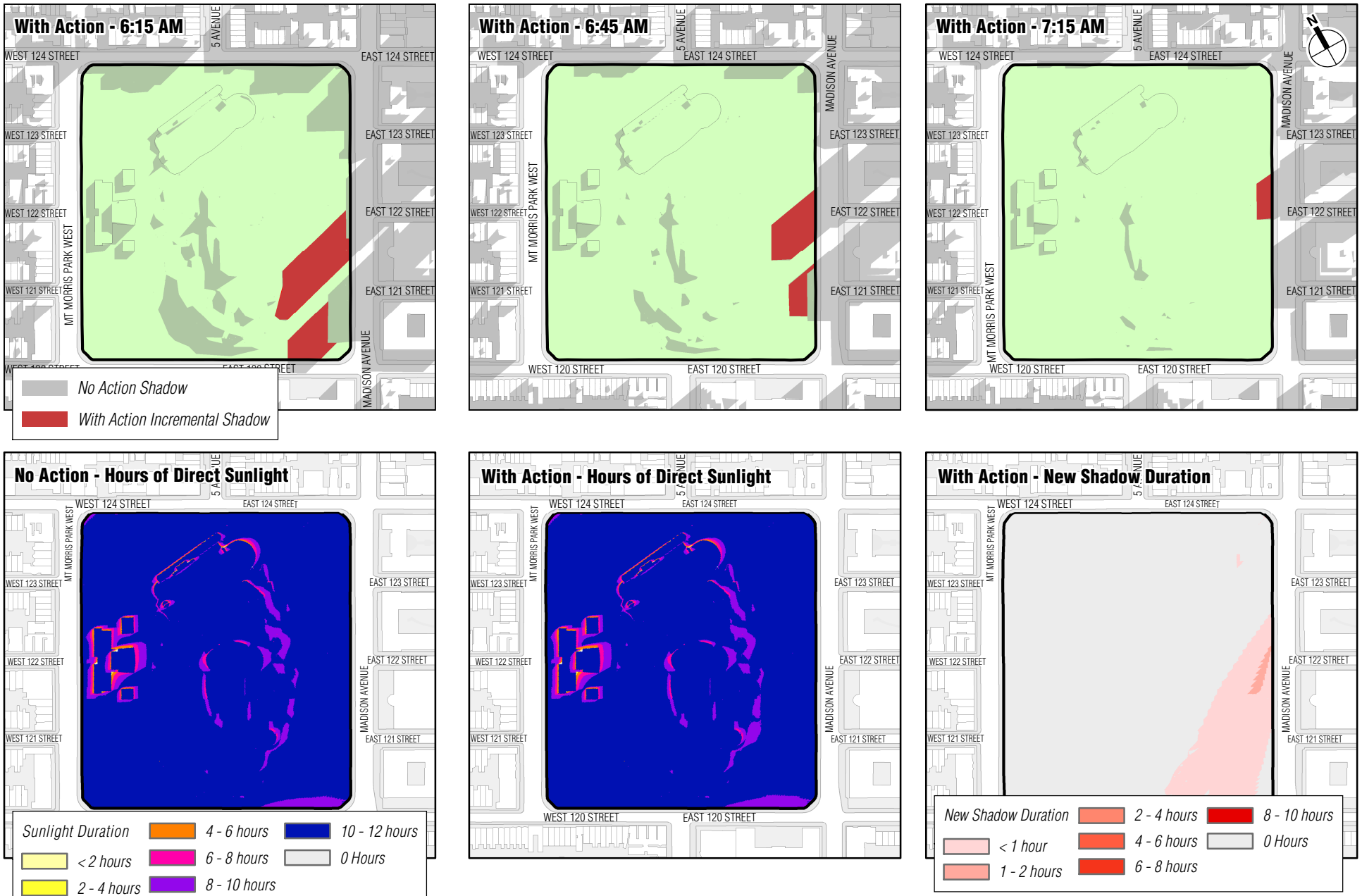
Marcus Garvey Park
Detailed Analysis - March 21

Figure 6-83

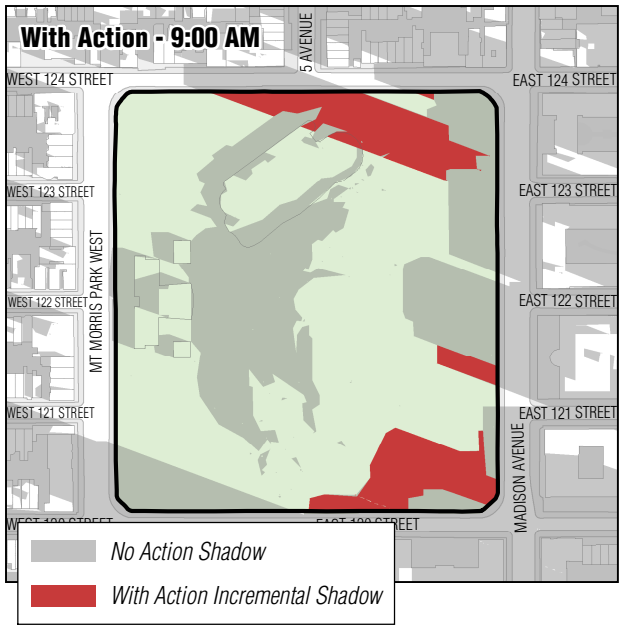


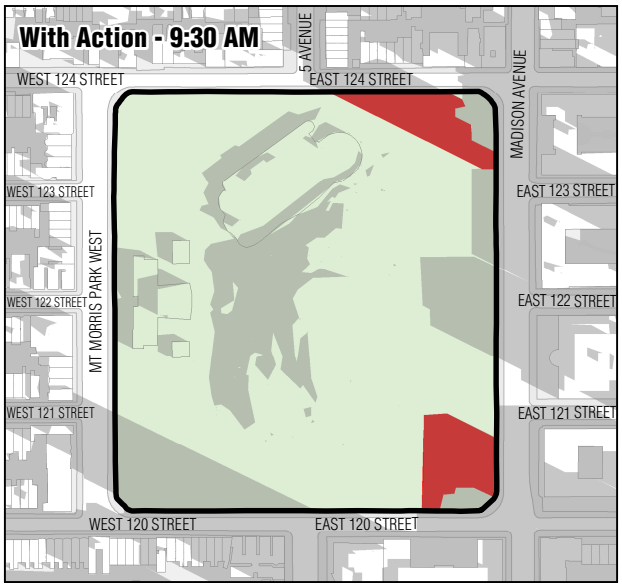
Marcus Garvey Park
Detailed Analysis - May 6

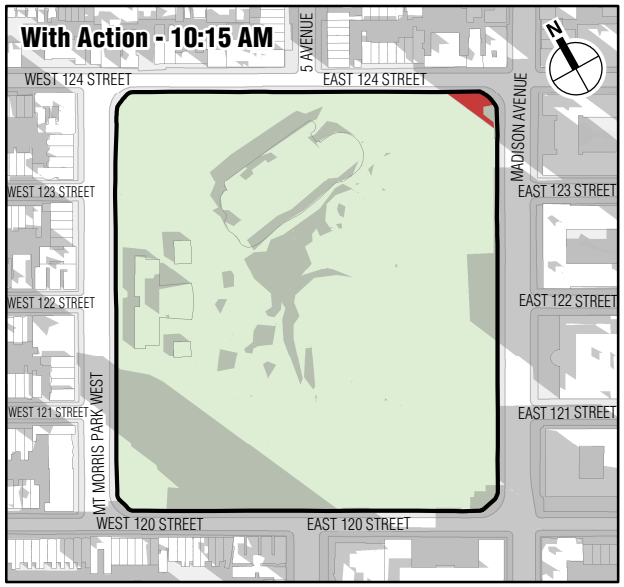
Figure 6-84

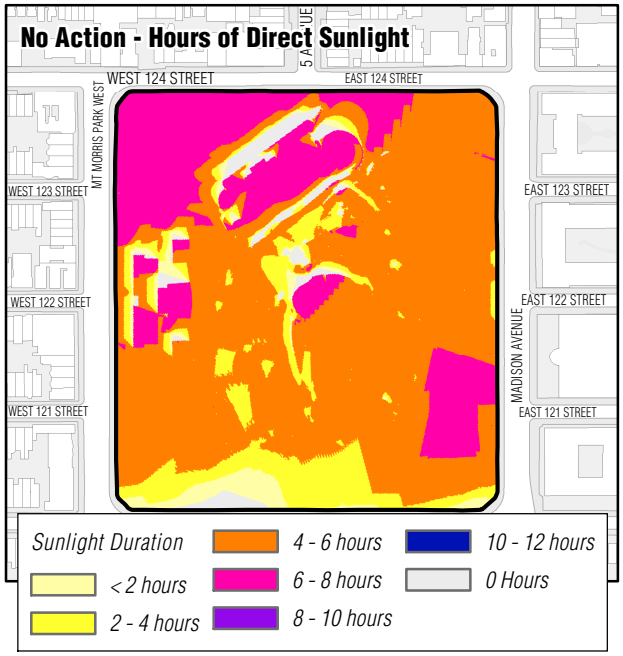


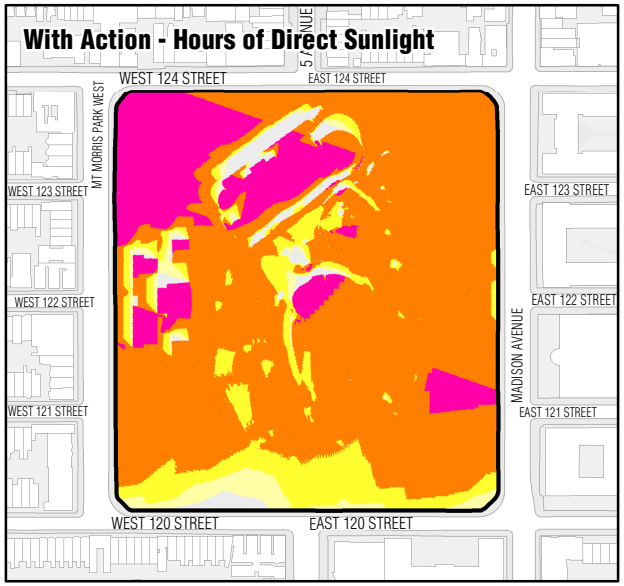
Marcus Garvey Park
Detailed Analysis - June 21
Figure 6-85

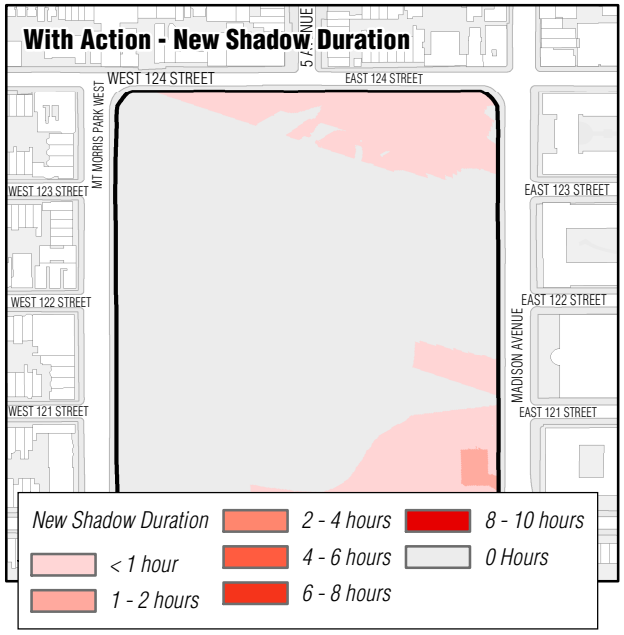






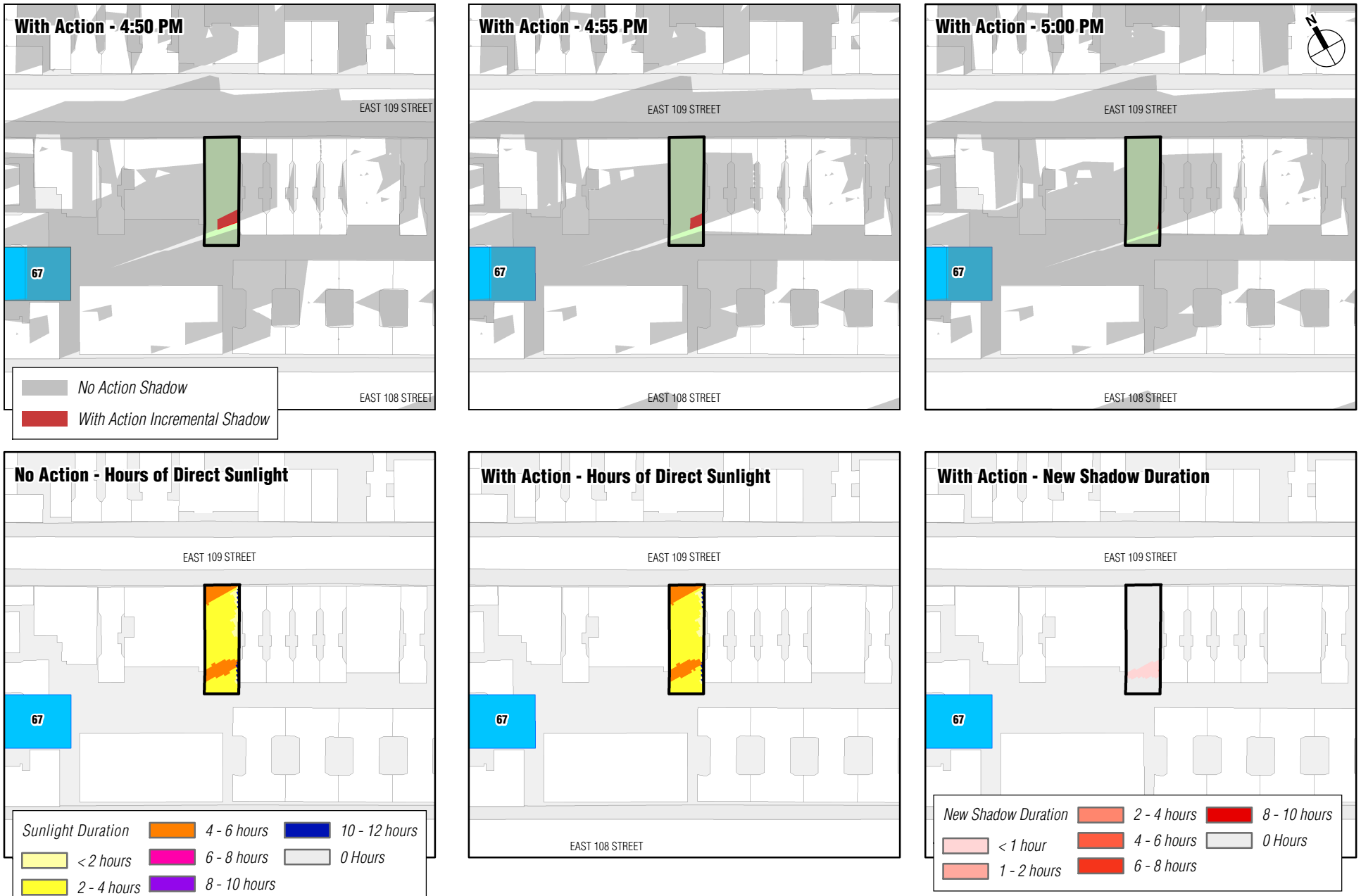






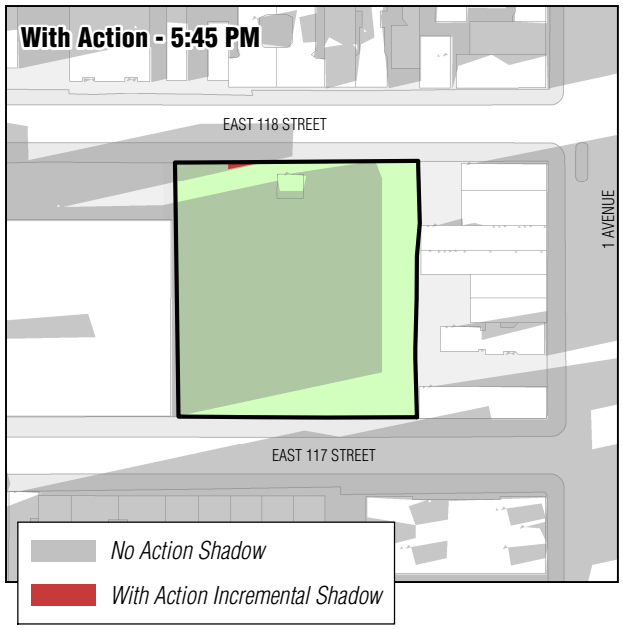
Marcus Garvey Park
Detailed Analysis - December 21

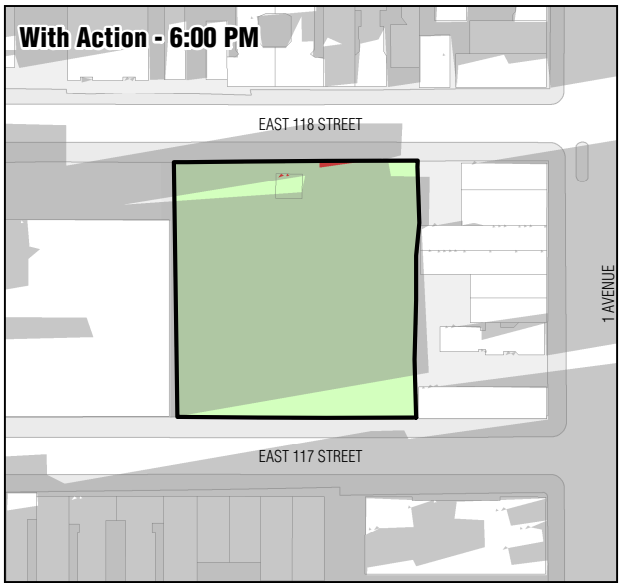
Figure 6-86

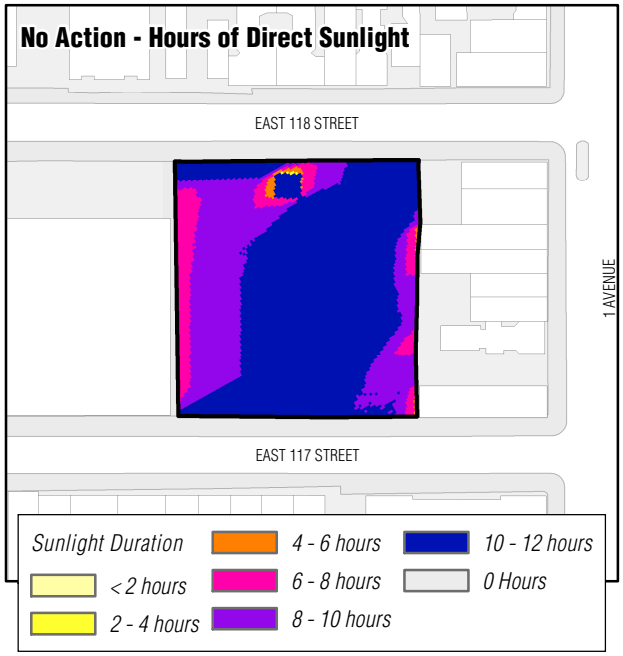


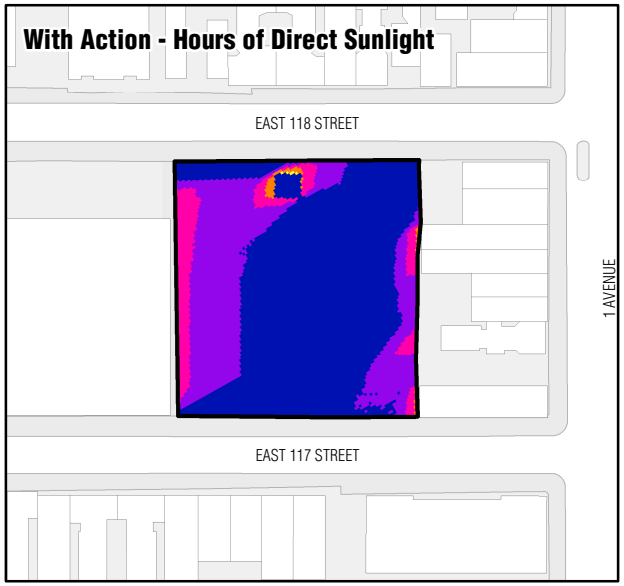
Neighbors of Vega Baja
Detailed Analysis - June 21

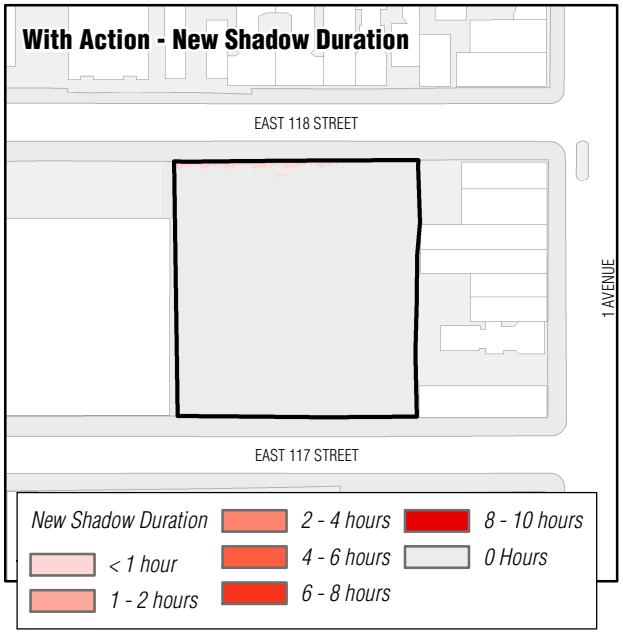
Figure 6-87





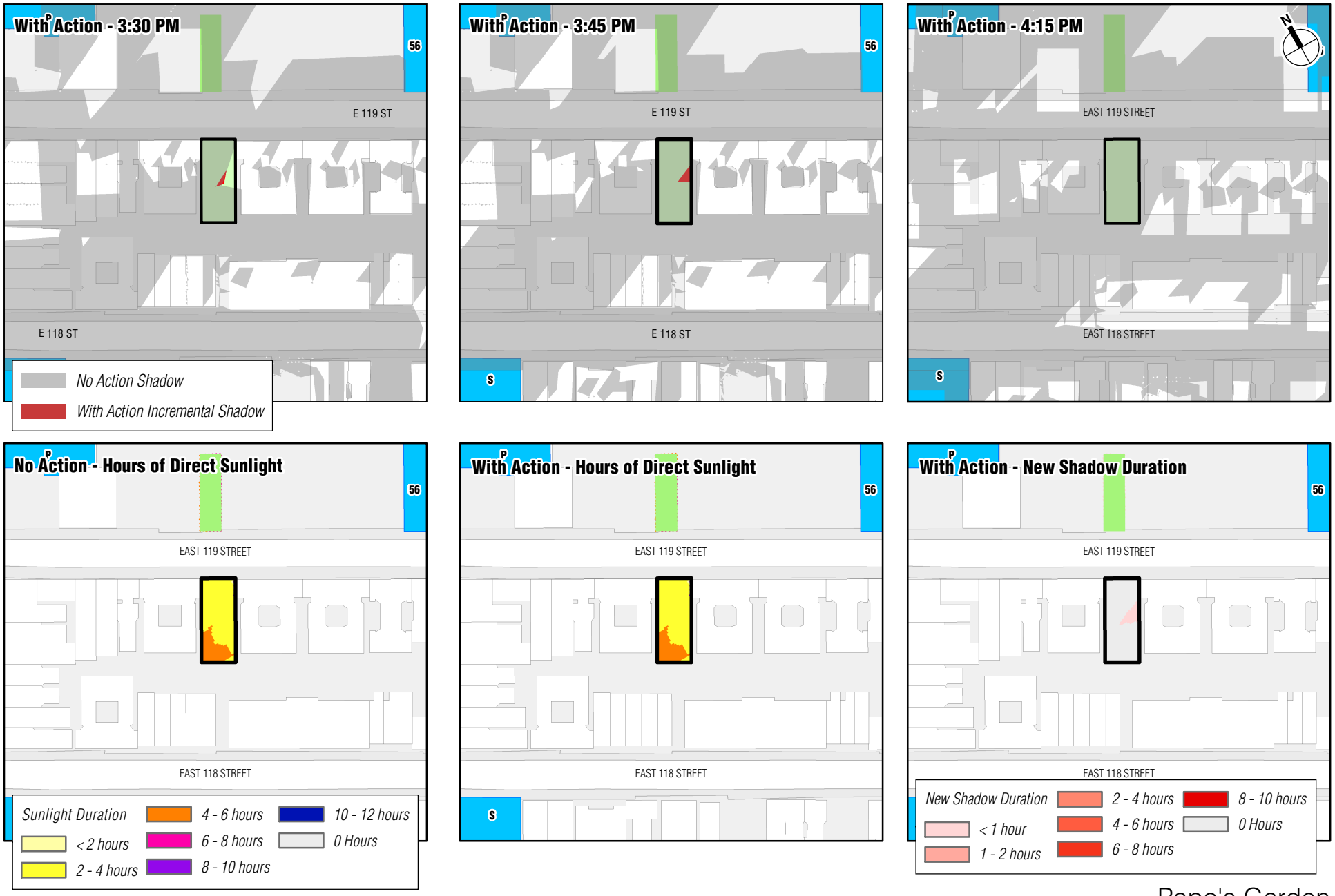






P.S. 155 Playground
Detailed Analysis - June 21

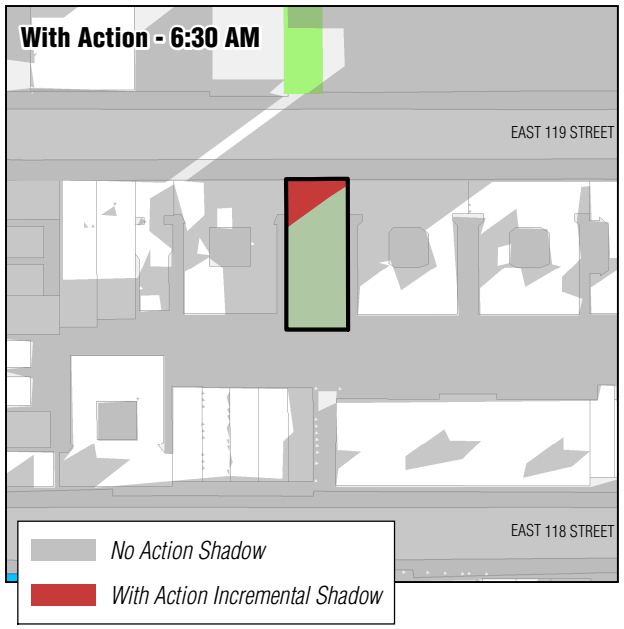
Figure 6-88

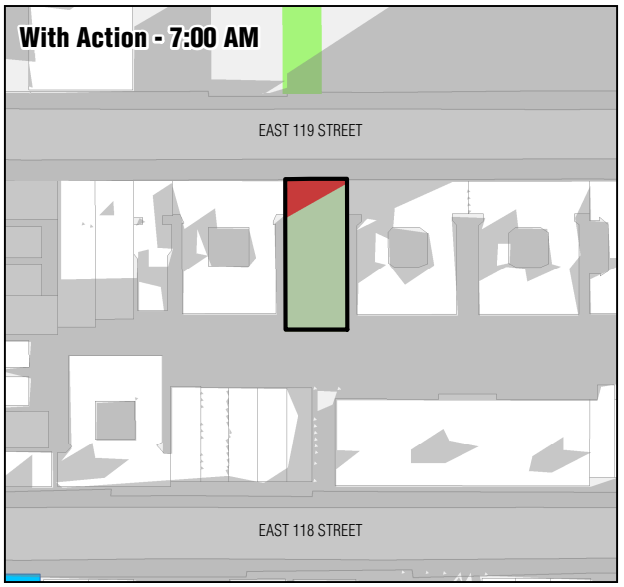


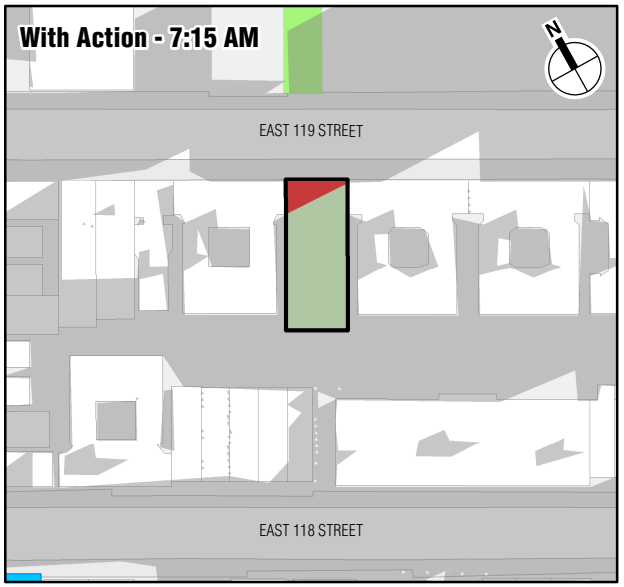
Papo's Garden
Detailed Analysis - March 21

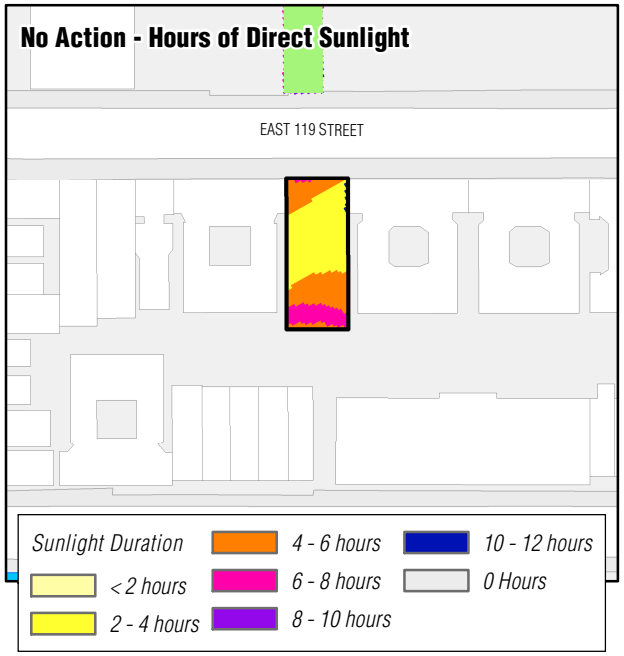
EAST HARLEM REZONING

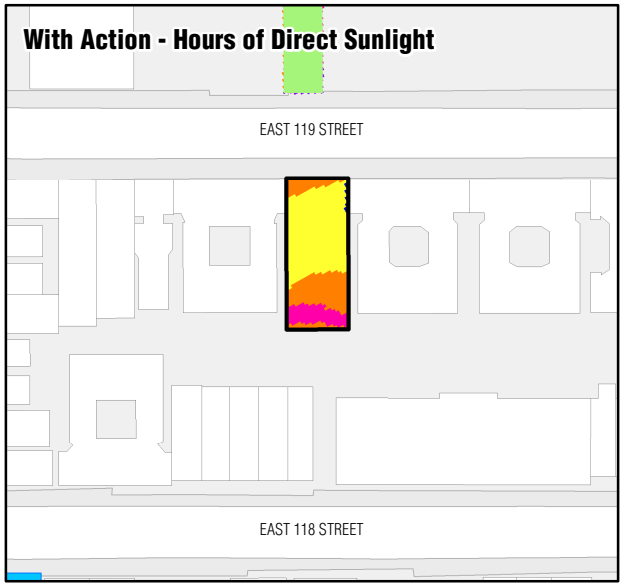
Figure 6-89

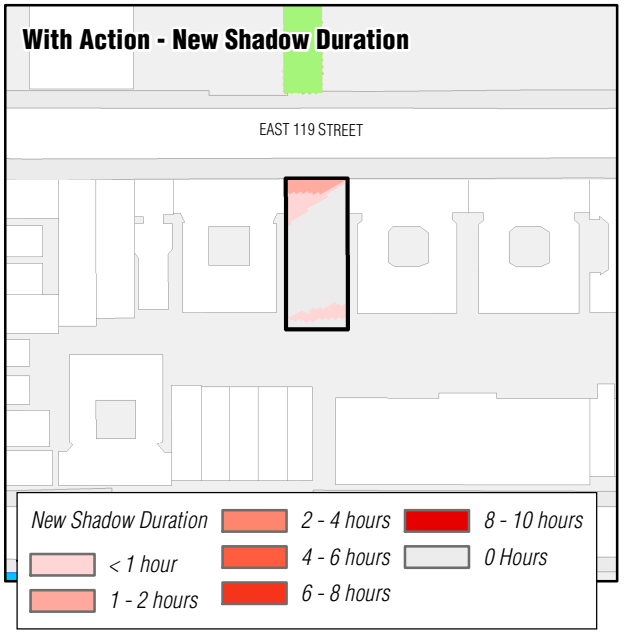








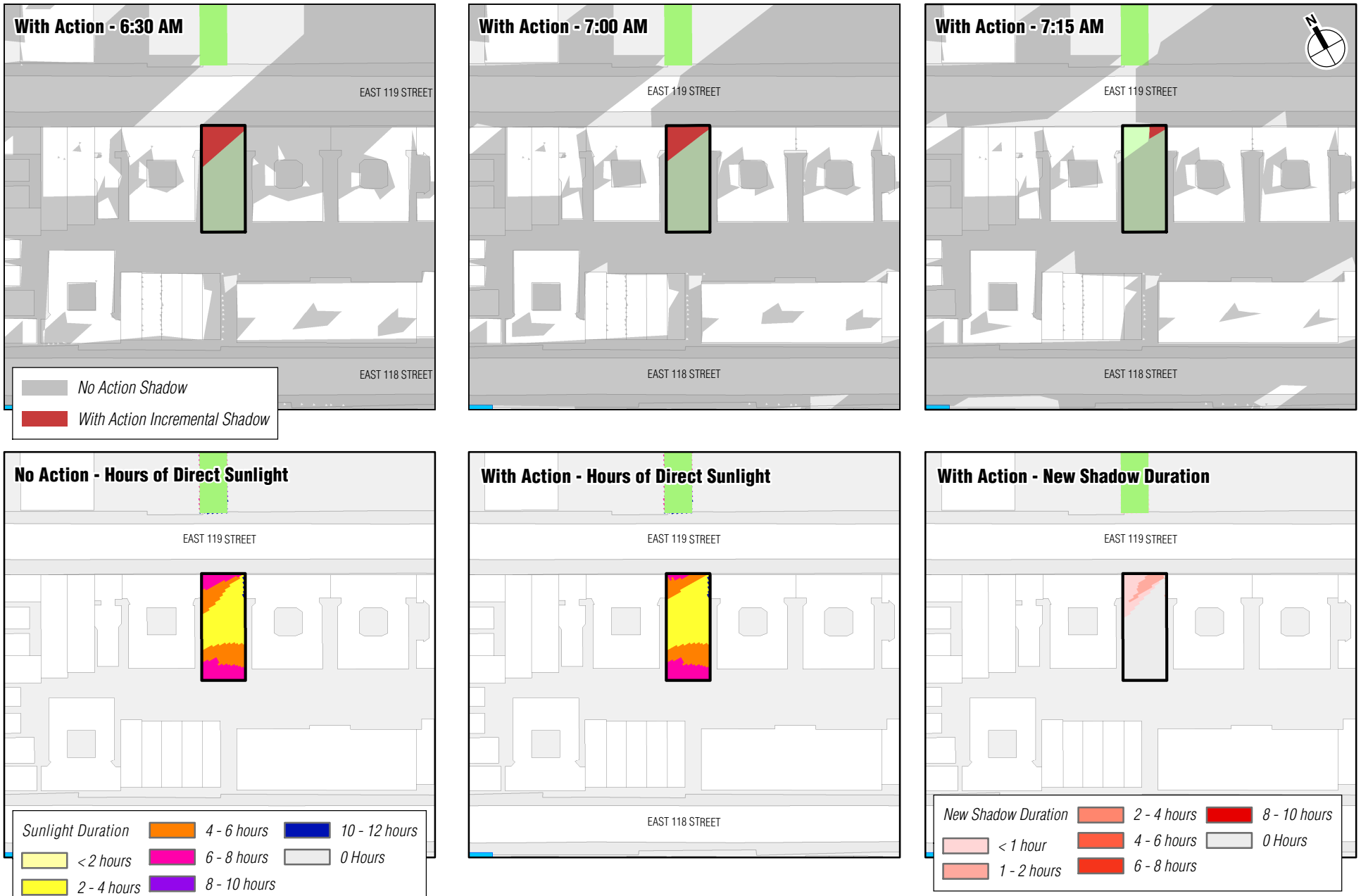




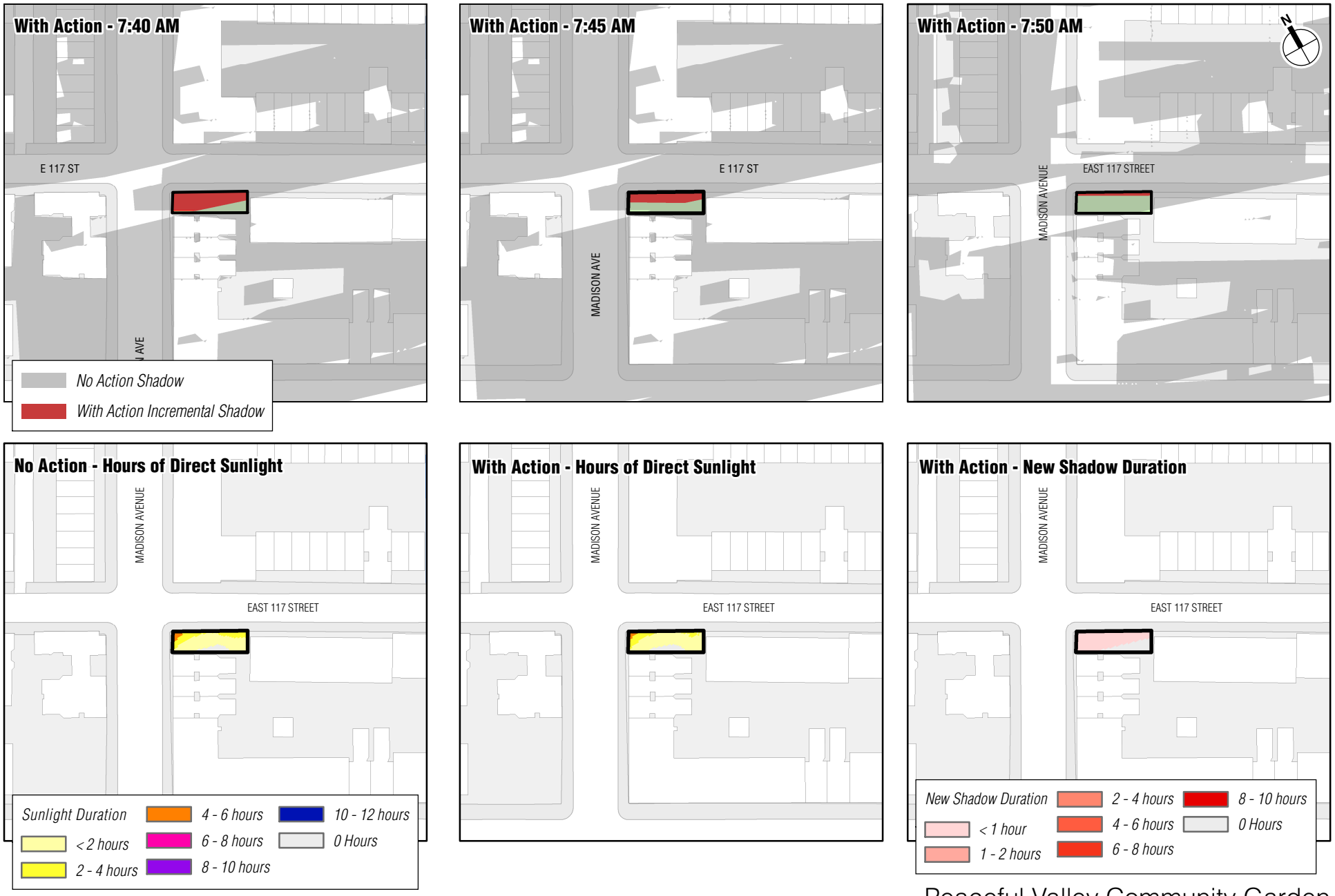
Papo's Garden
Detailed Analysis - May 6

EAST HARLEM REZONING

Figure 6-90



Papo's Garden
Detailed Analysis - June 21
Figure 6-91



Peaceful Valley Community Garden
Detailed Analysis - March 21

Figure 6-92



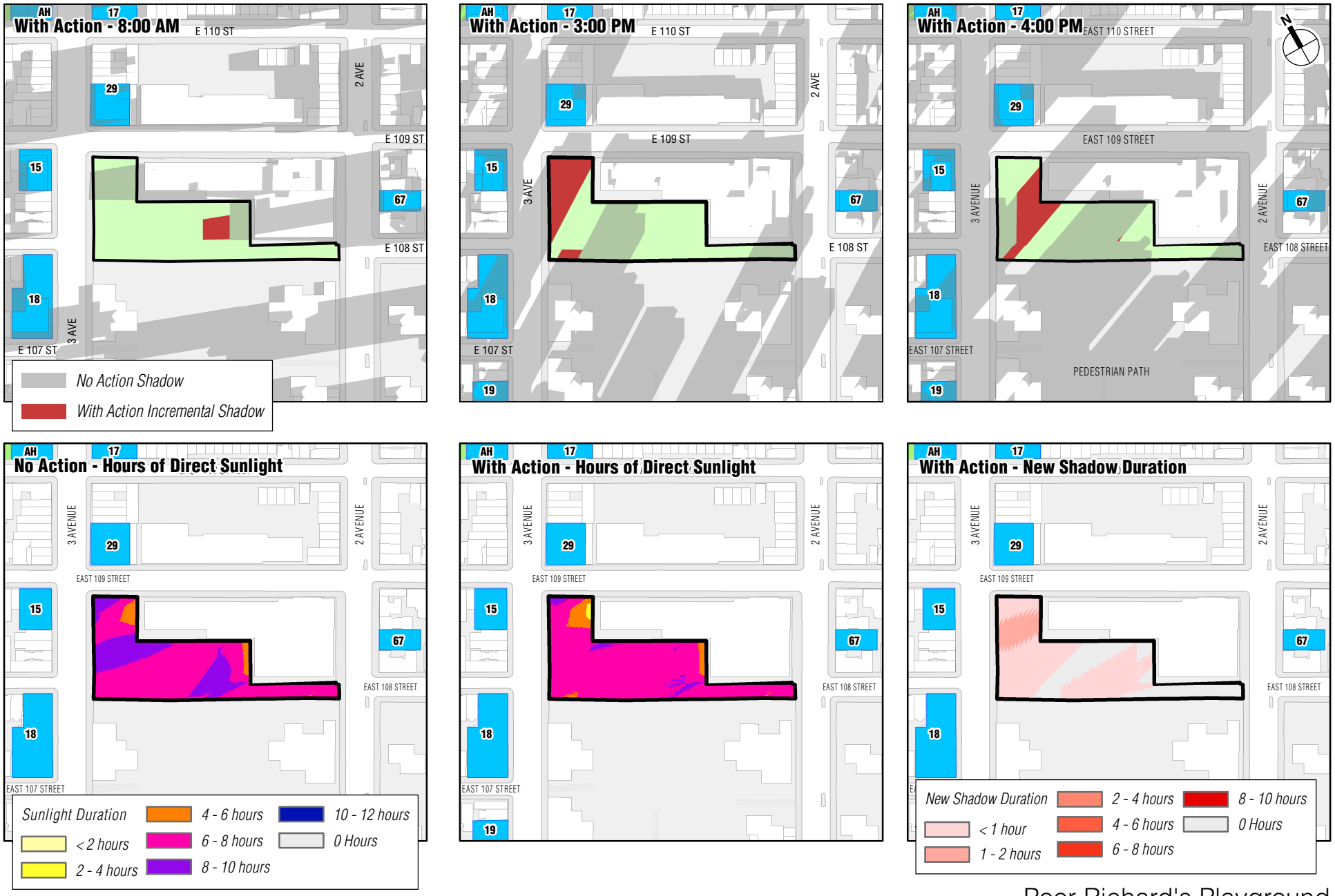
Peaceful Valley Community Garden
Detailed Analysis - May 6

Figure 6-93



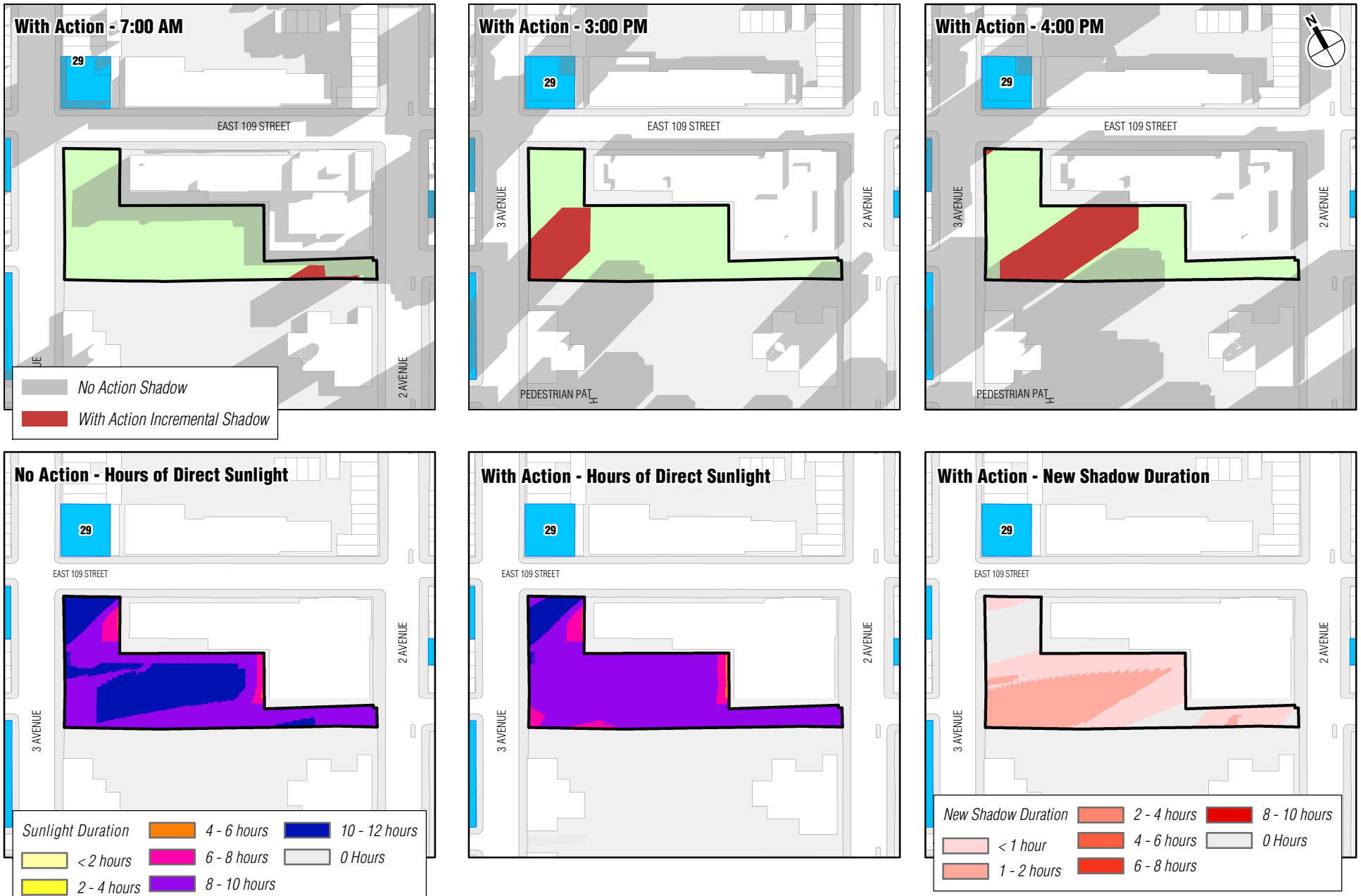
Peaceful Valley Community Garden
Detailed Analysis - June 21

Figure 6-94



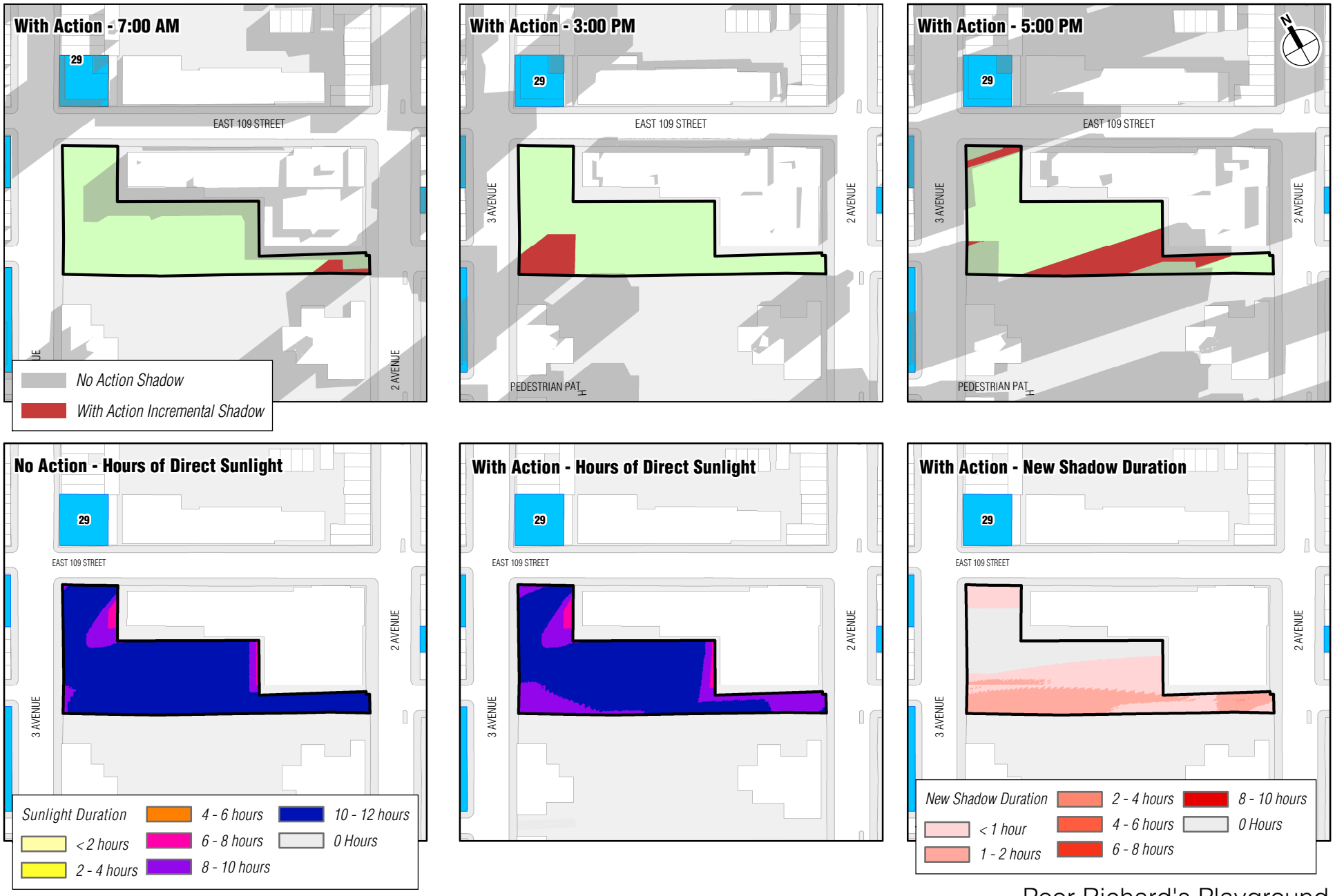
Poor Richard's Playground
Detailed Analysis - March 21

Figure 6-95



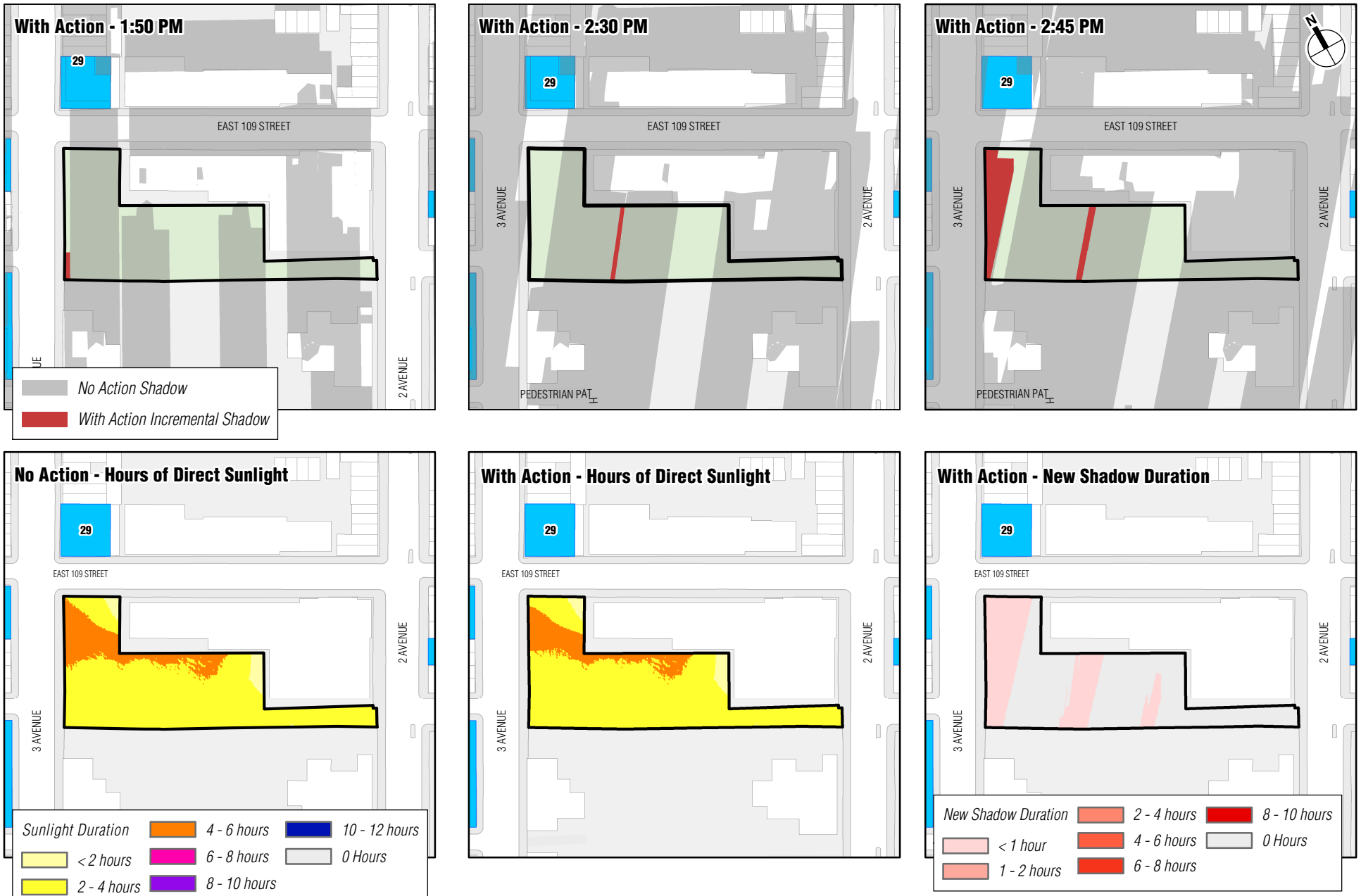
Poor Richard's Playground
Detailed Analysis - May 6

Figure 6-96



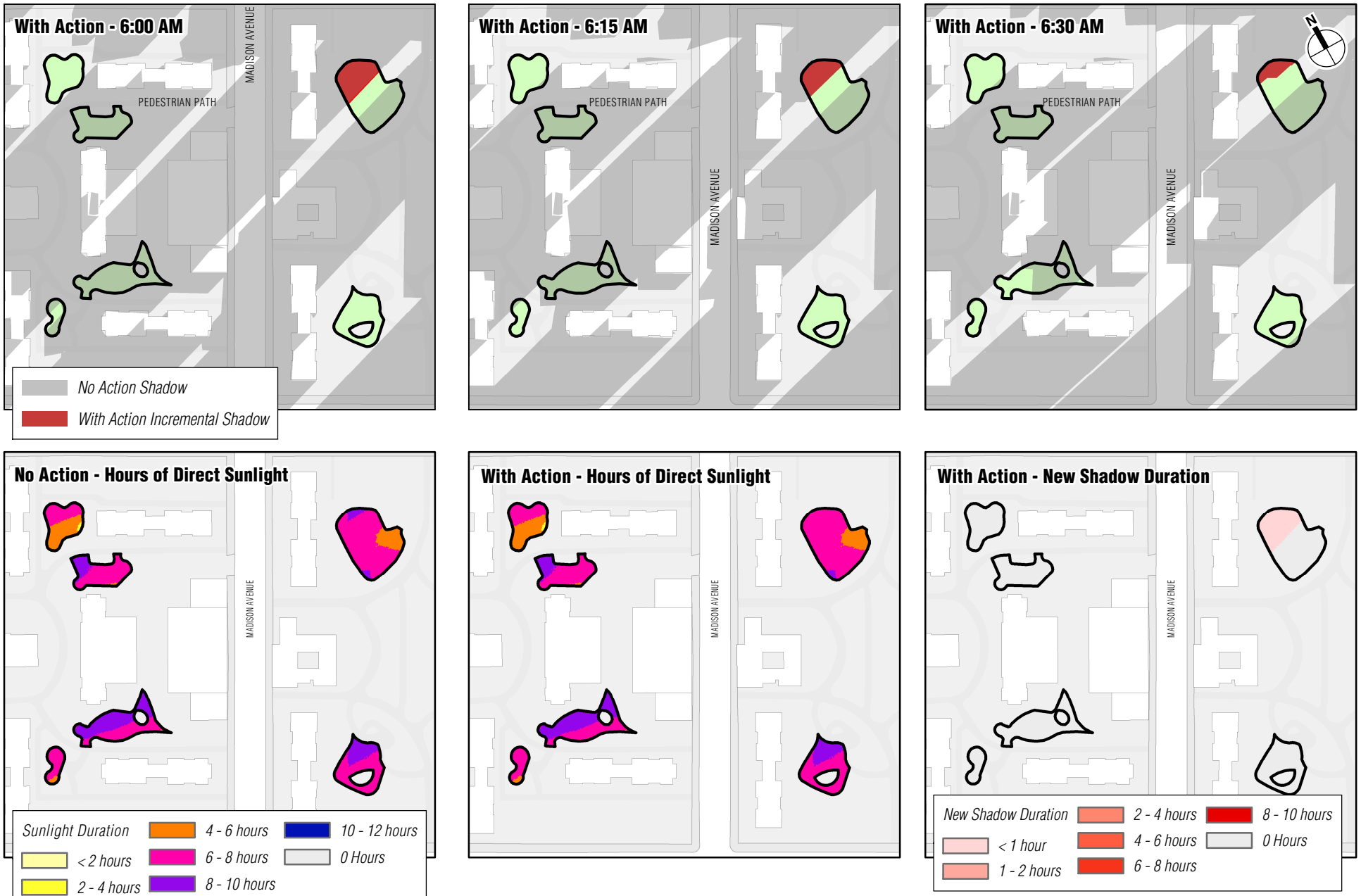
Poor Richard's Playground
Detailed Analysis - June 21

Figure 6-97



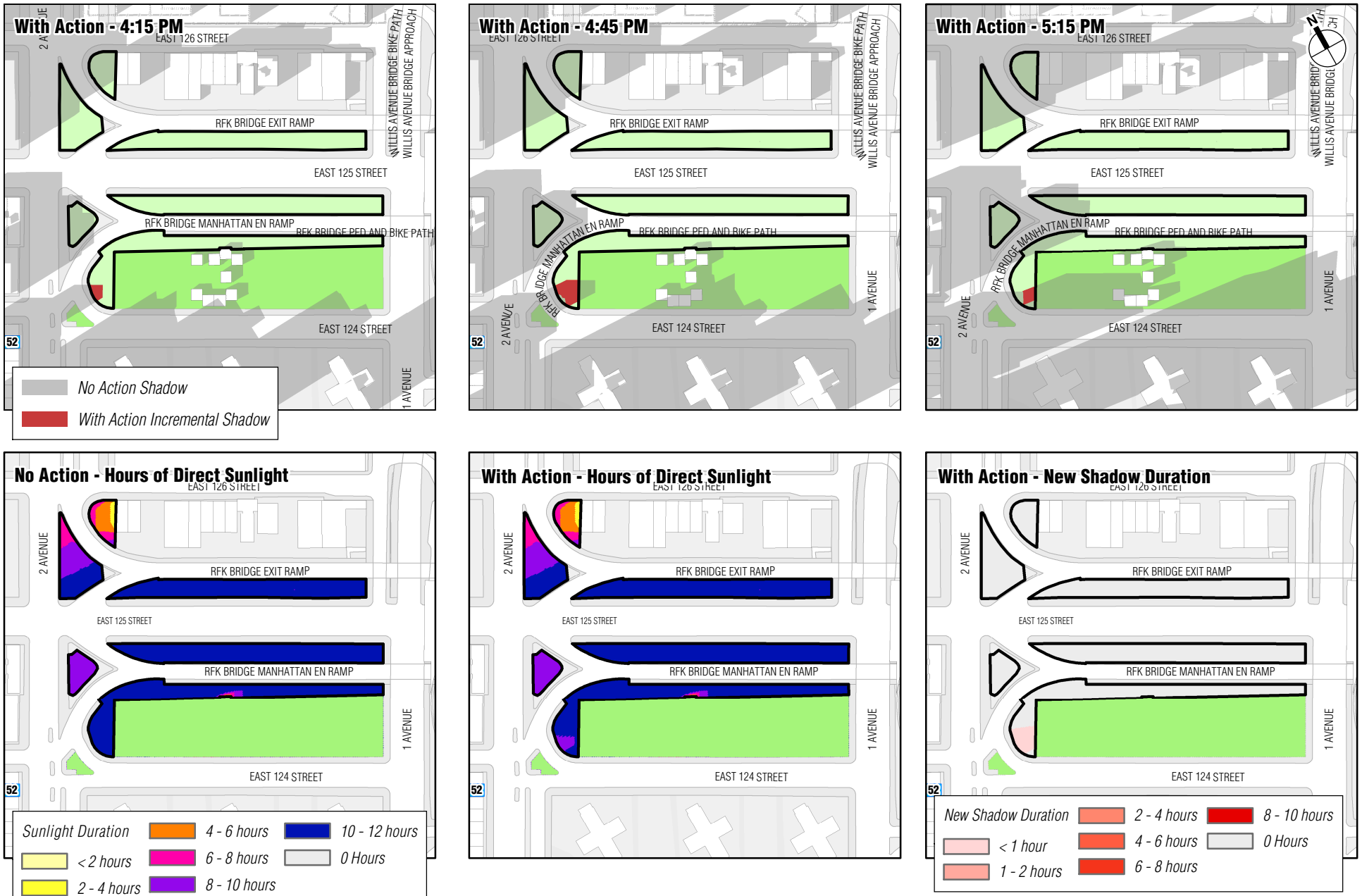
Poor Richard's Playground
Detailed Analysis - December 21

Figure 6-98

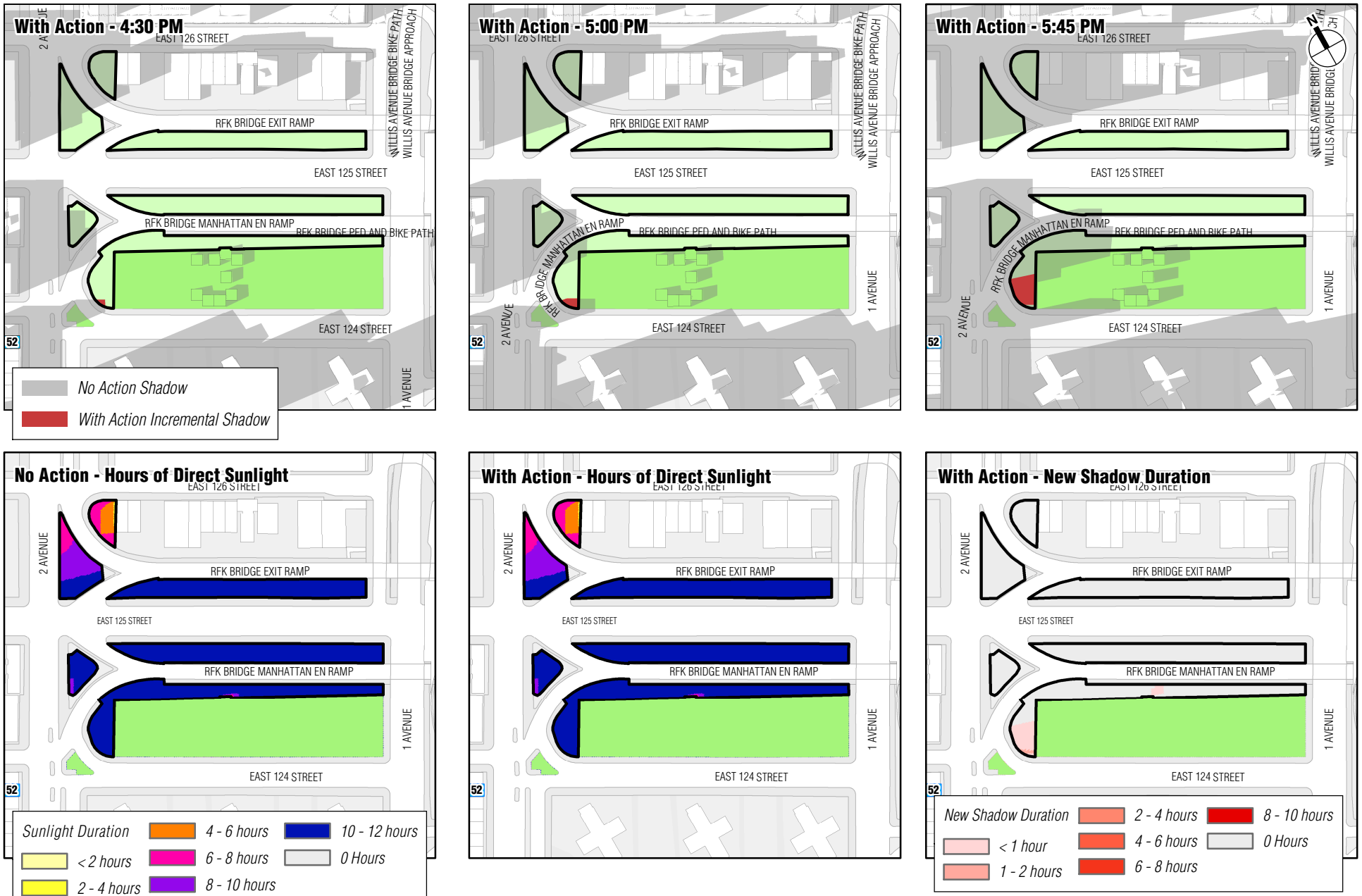


Taft Houses Recreation Areas
Detailed Analysis - June 21

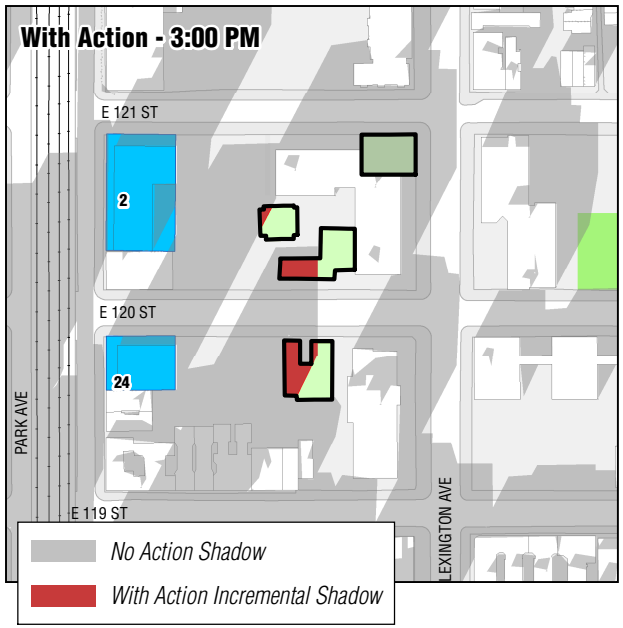
Figure 6-99

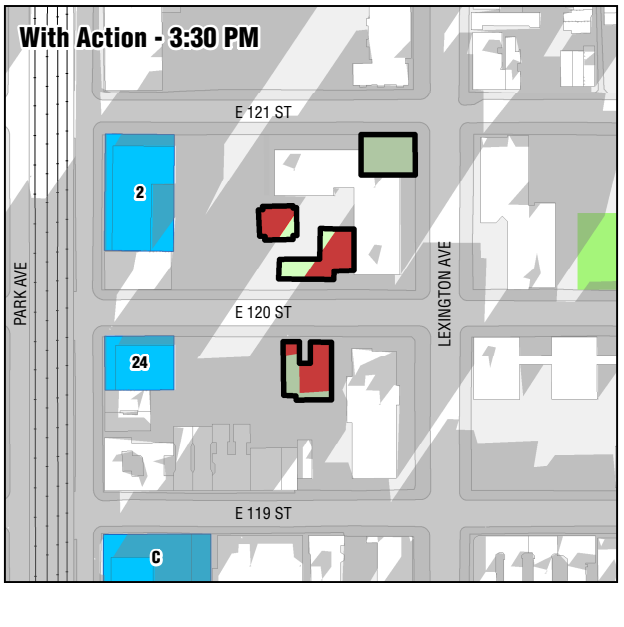


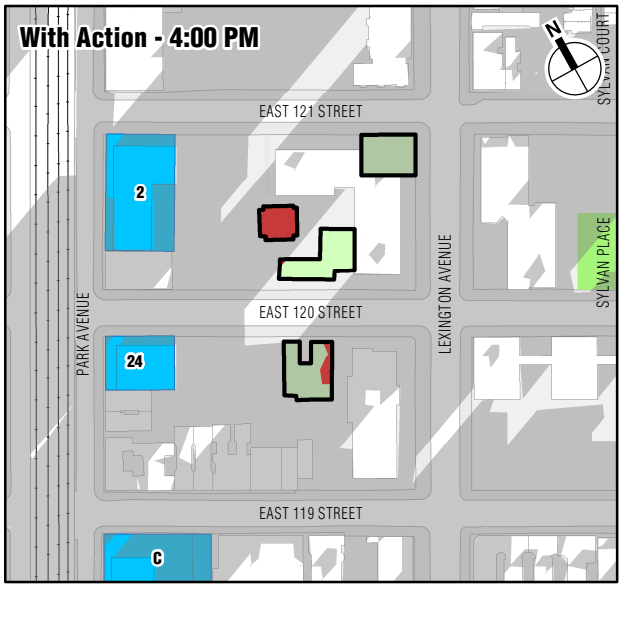
Triboro Plaza
Detailed Analysis - May 6
Figure 6-100

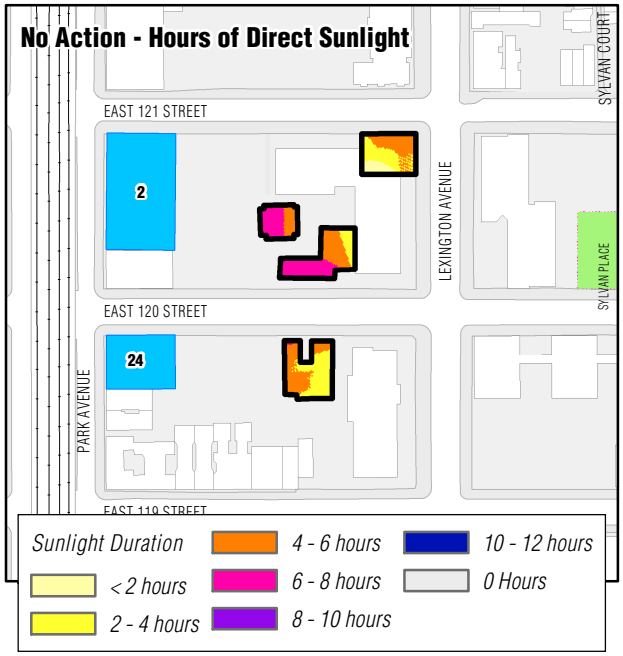


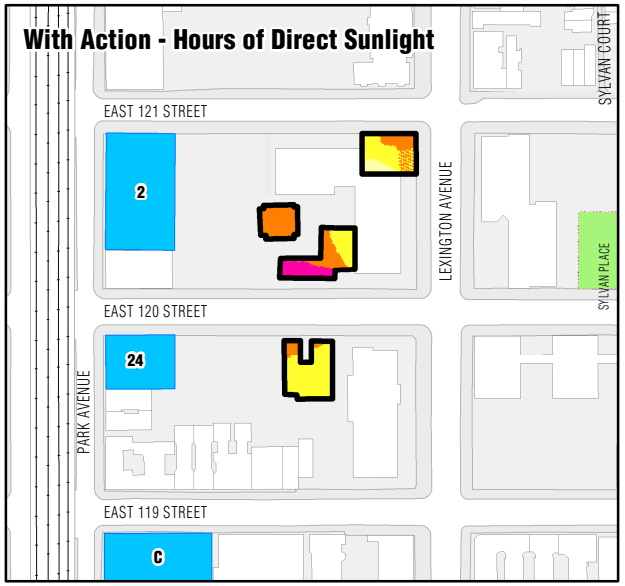
Triboro Plaza
Detailed Analysis - June 21
Figure 6-101

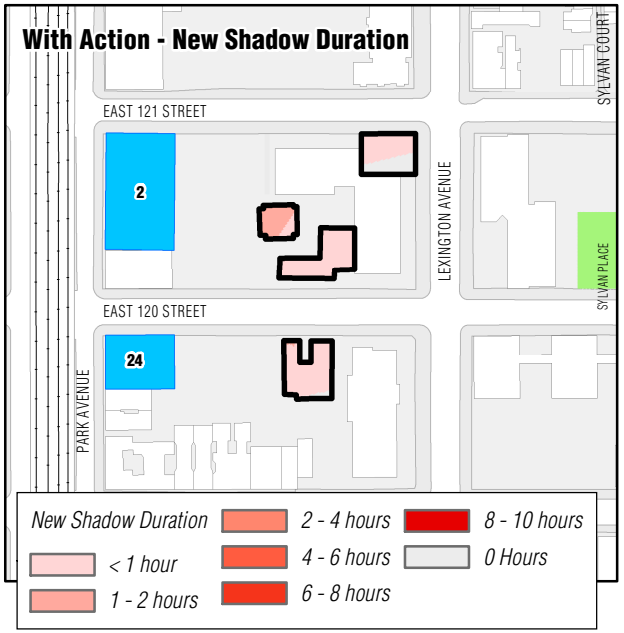






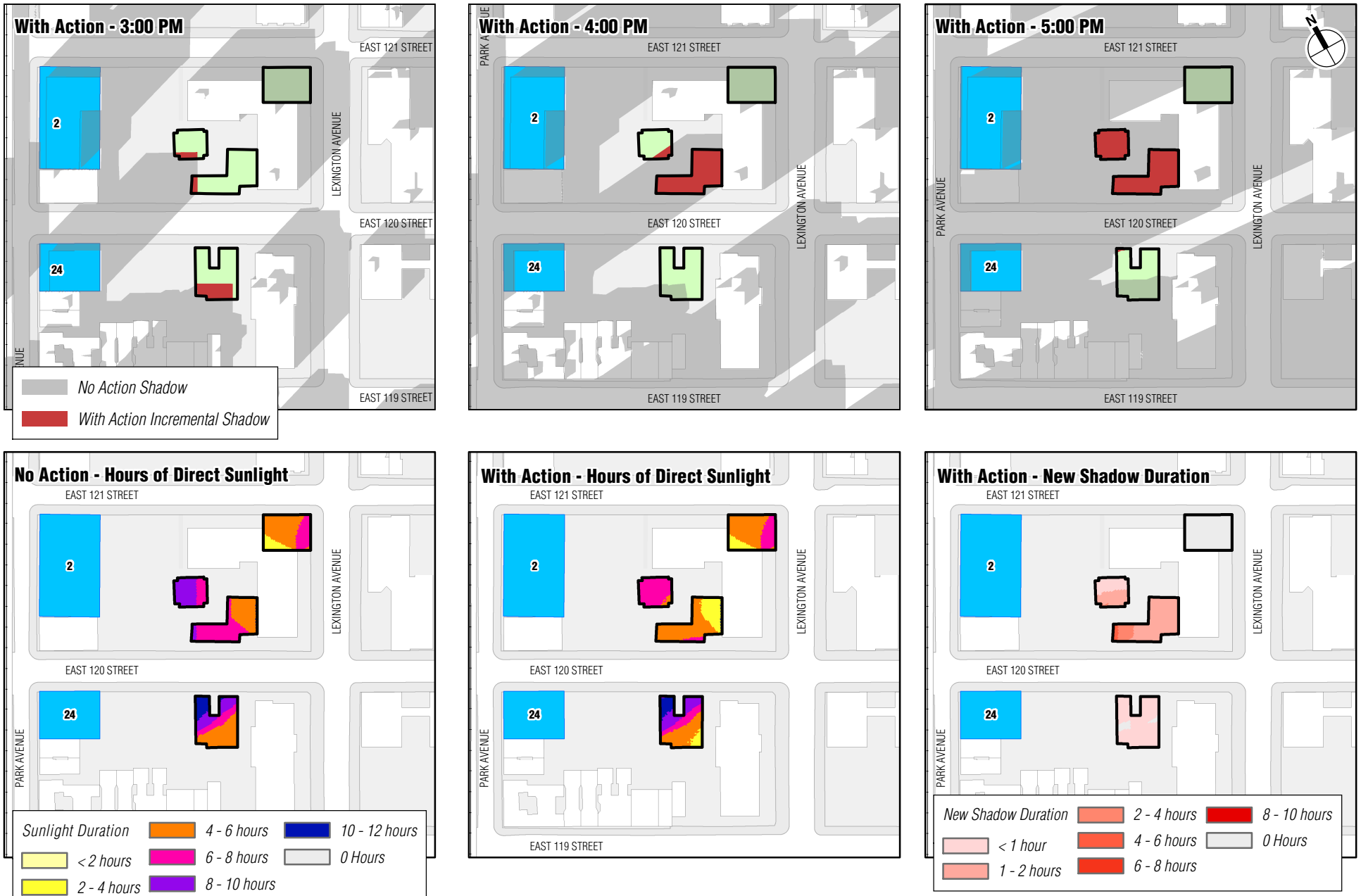






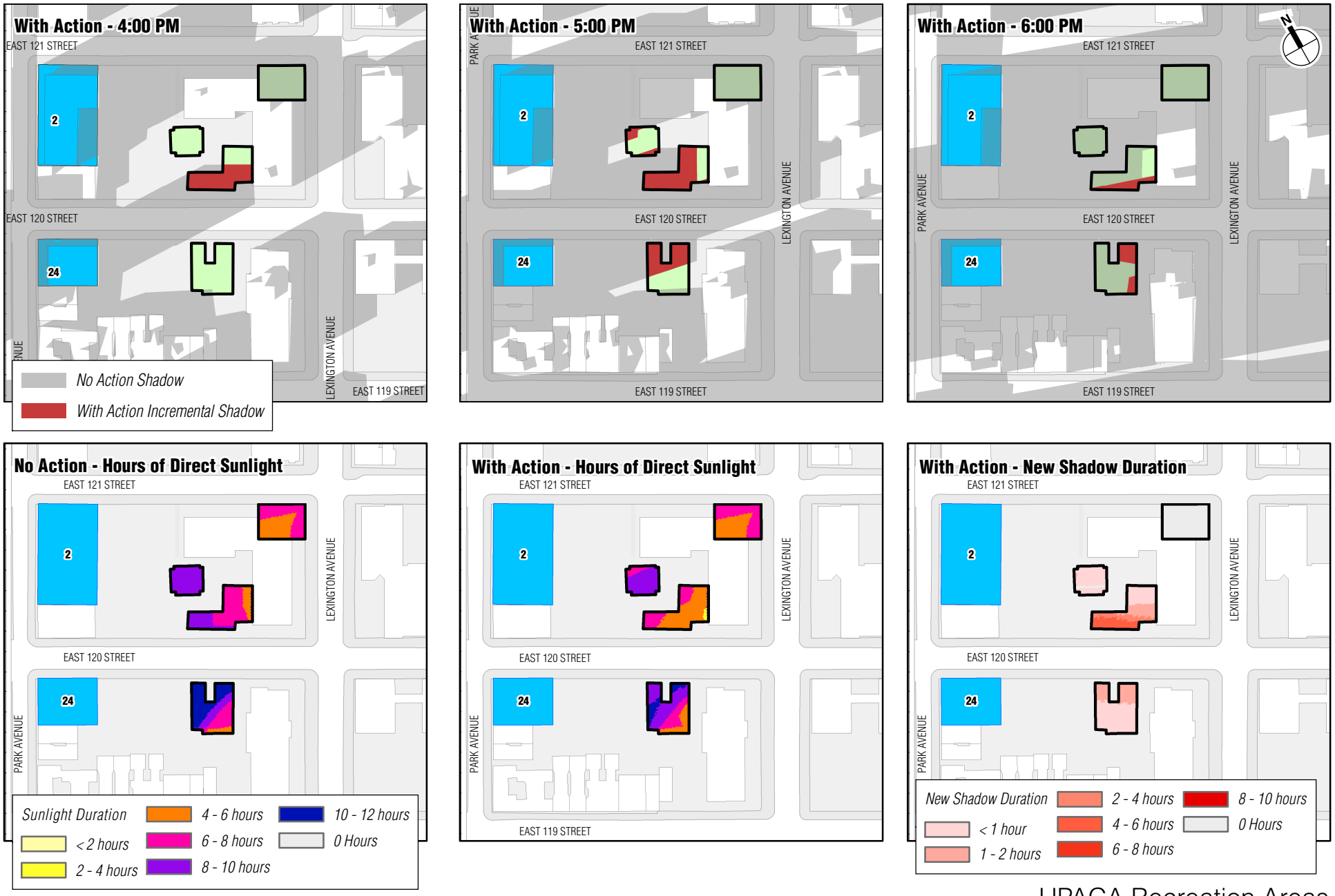
UPACA Recreation Areas
Detailed Analysis - March 21

Figure 6-102



UPACA Recreation Areas
Detailed Analysis - May 6

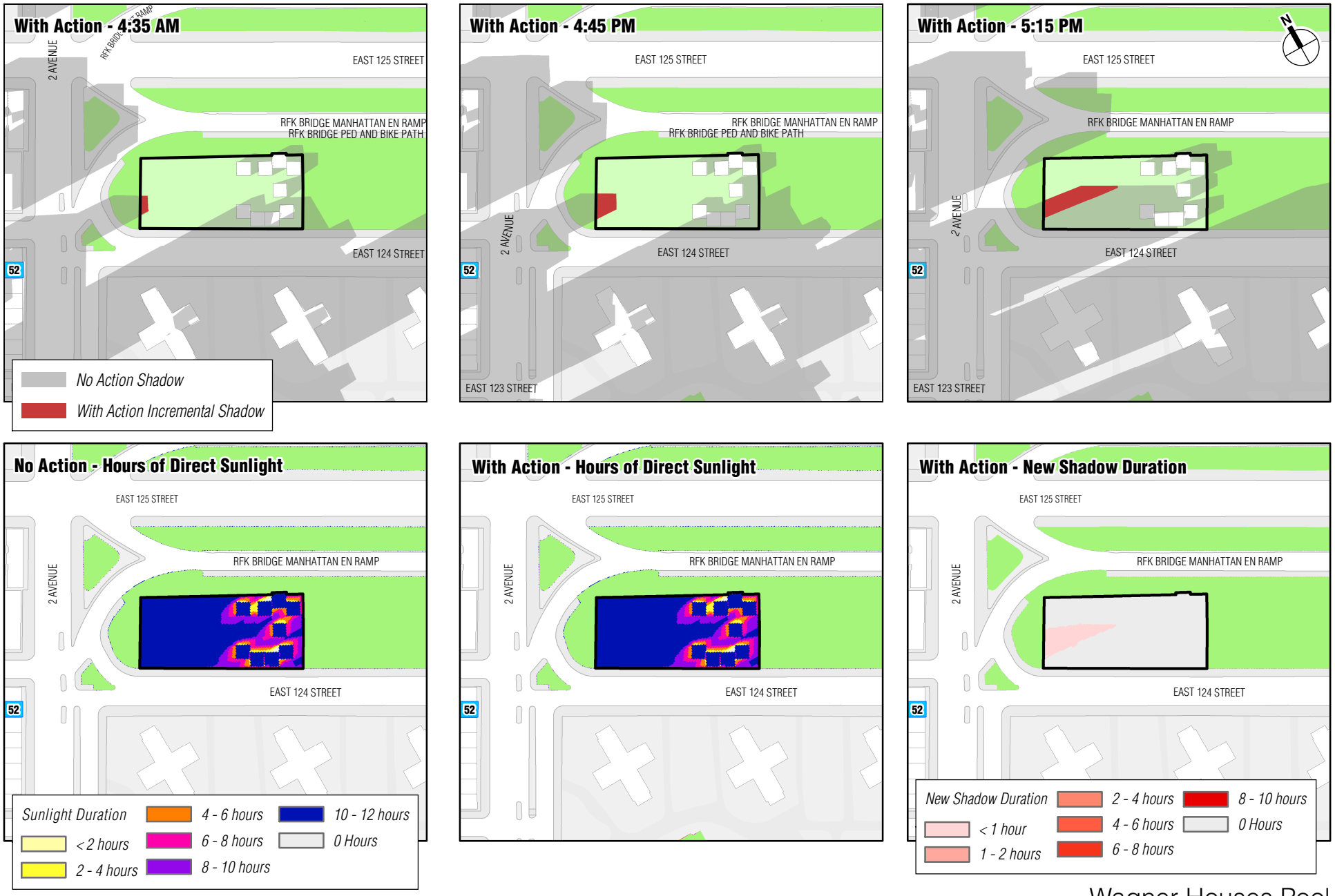
Figure 6-103



UPACA Recreation Areas
Detailed Analysis - June 21

EAST HARLEM REZONING

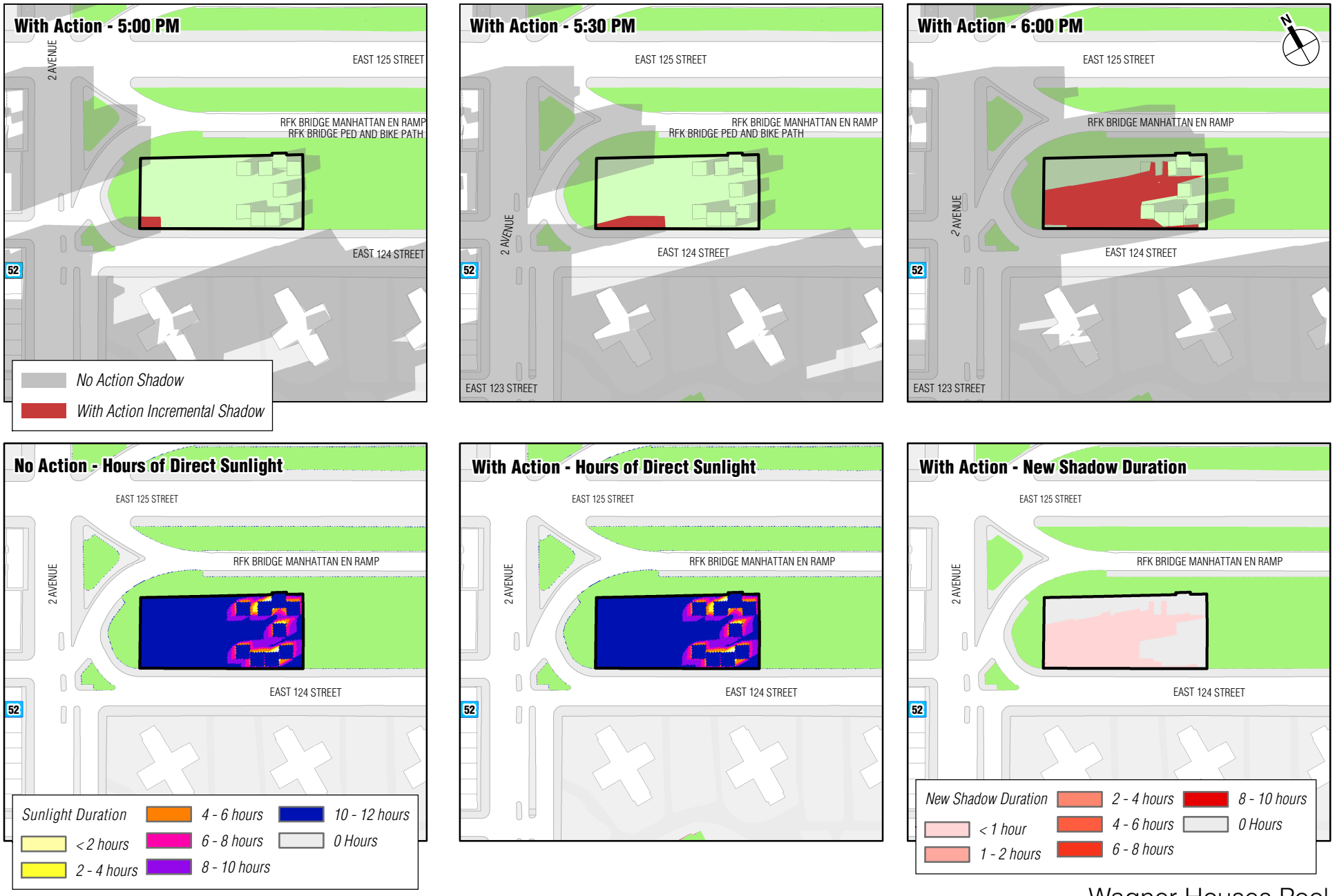
Figure 6-104



Wagner Houses Pool
Detailed Analysis - May 6

EAST HARLEM REZONING

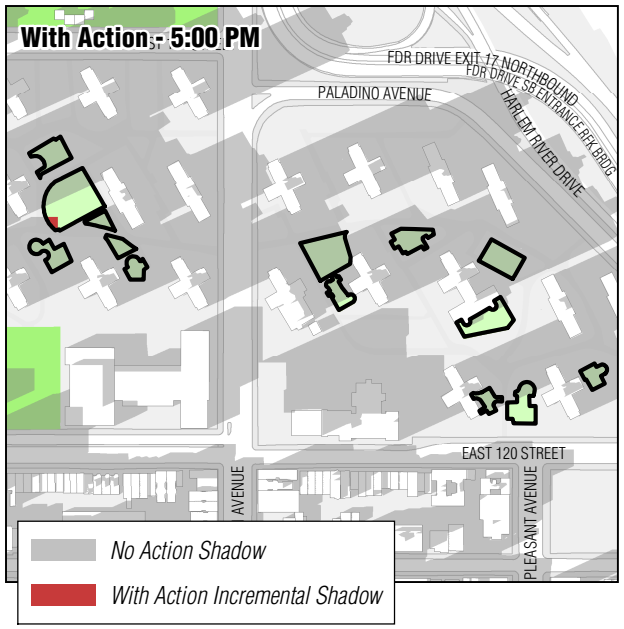
Figure 6-105

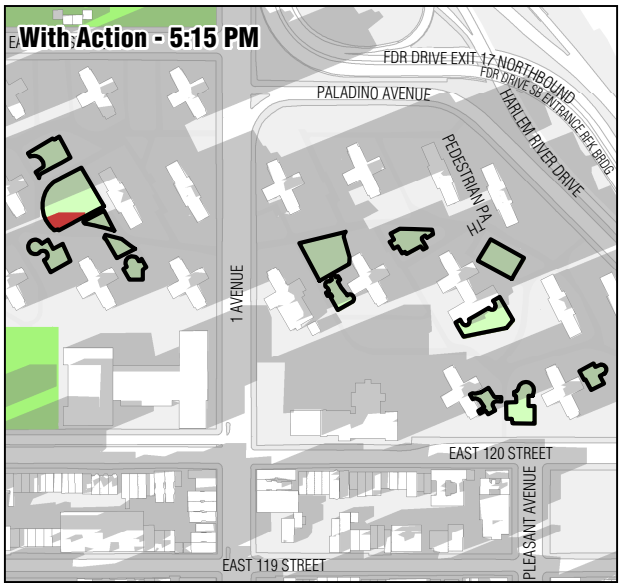


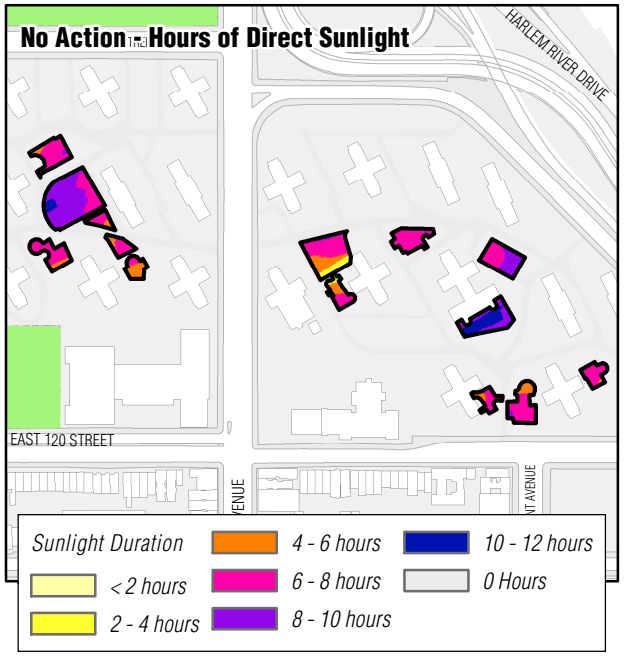
Wagner Houses Pool
Detailed Analysis - June 21

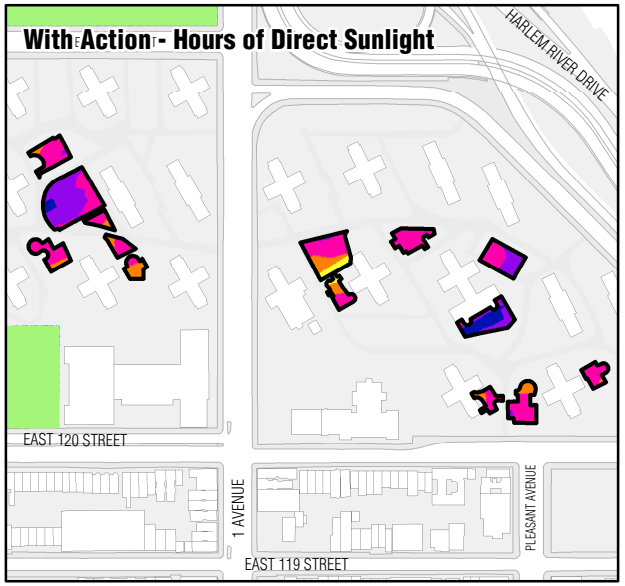
EAST HARLEM REZONING

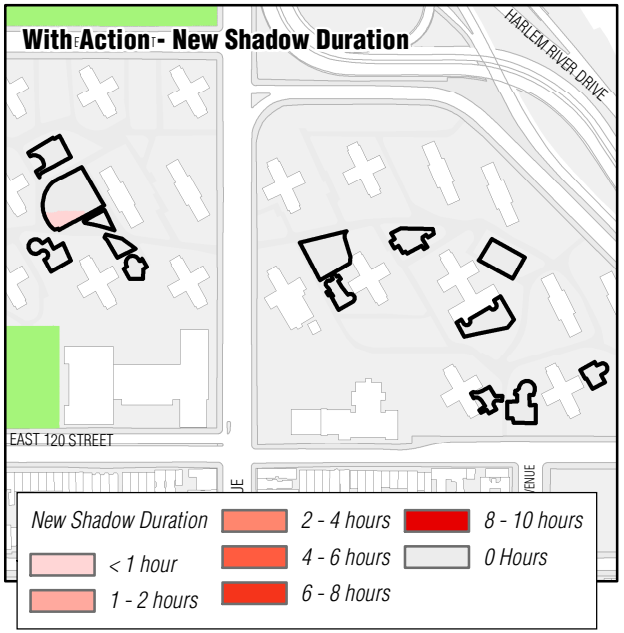
Figure 6-106





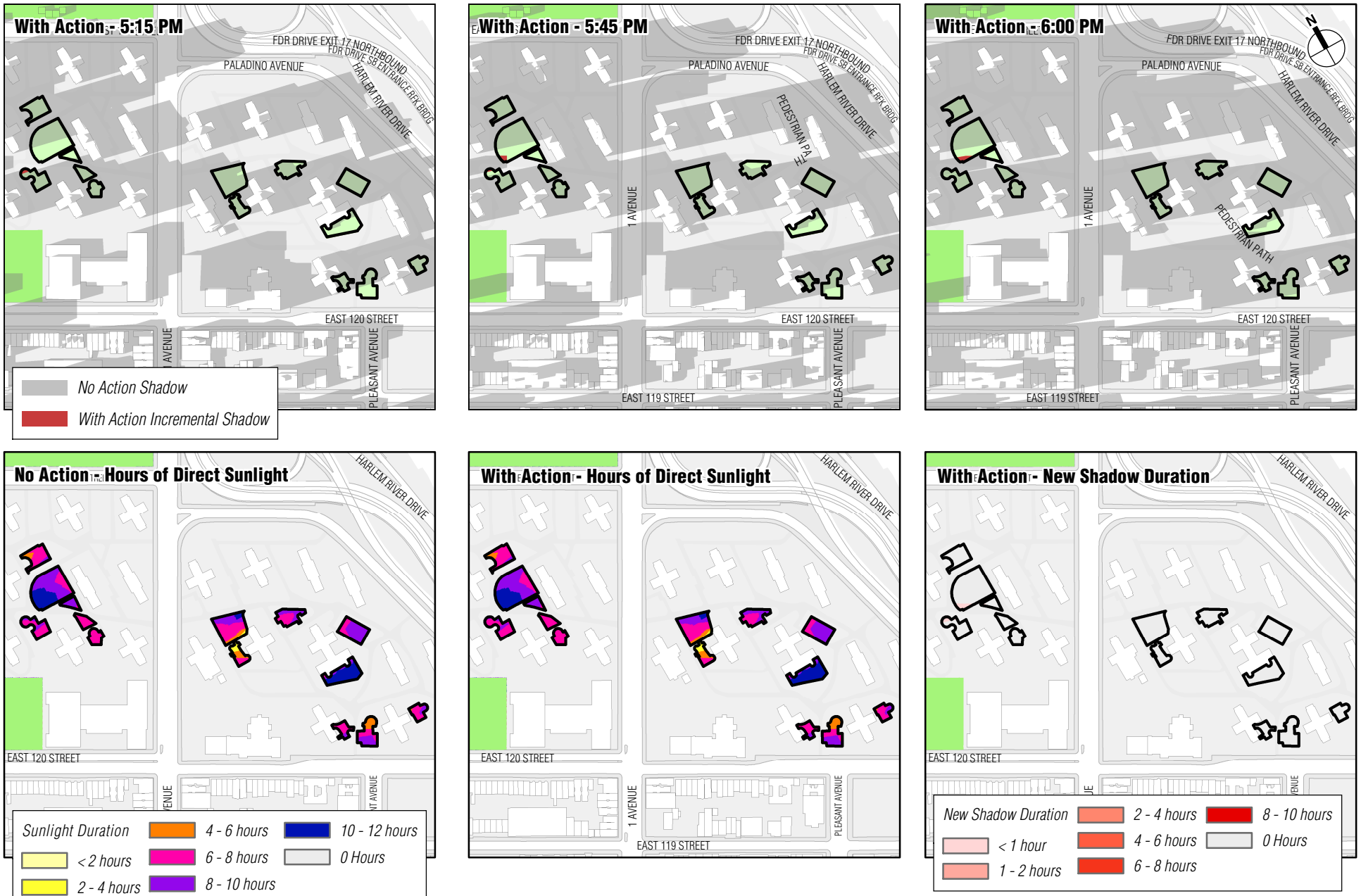






Wagner Houses Recreation Areas
Detailed Analysis - May 6

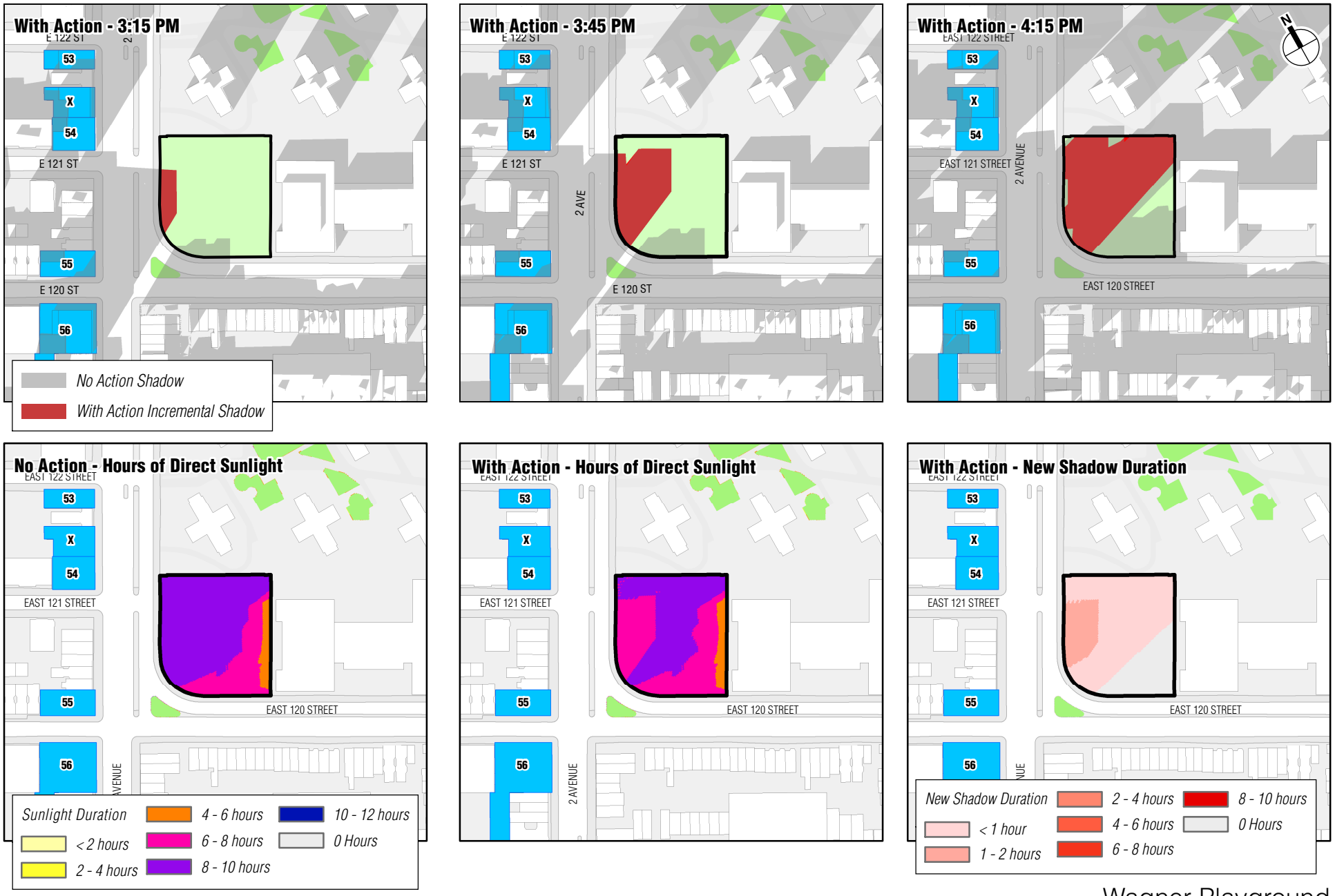
Figure 6-107



Wagner Houses Recreation Areas
Detailed Analysis - June 21

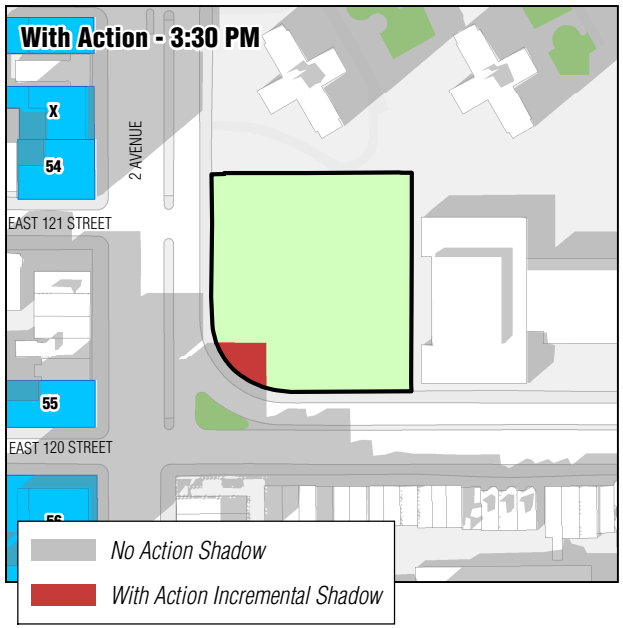
EAST HARLEM REZONING

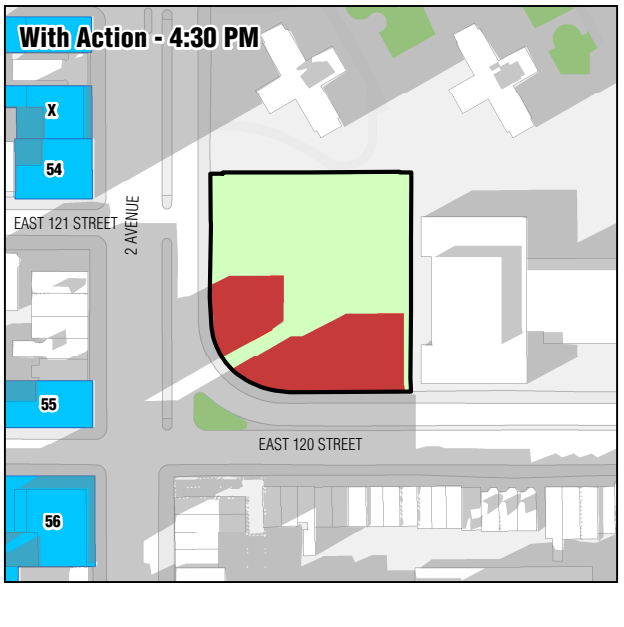
Figure 6-108

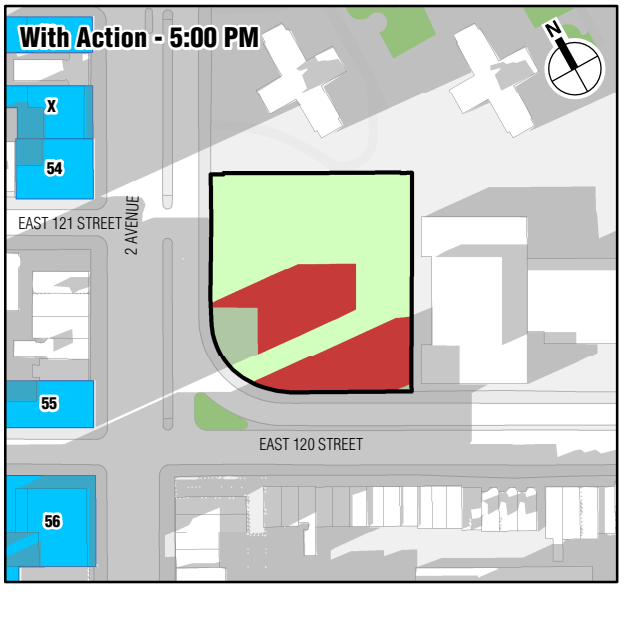


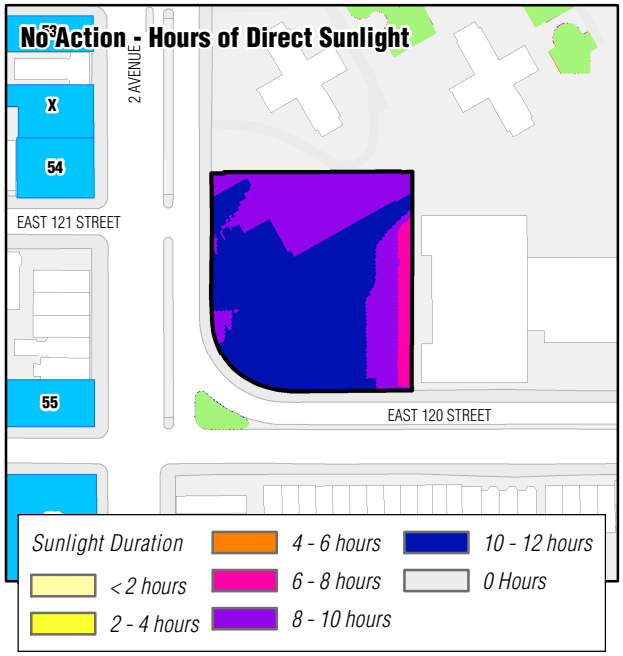
Wagner Playground
Detailed Analysis - March 21

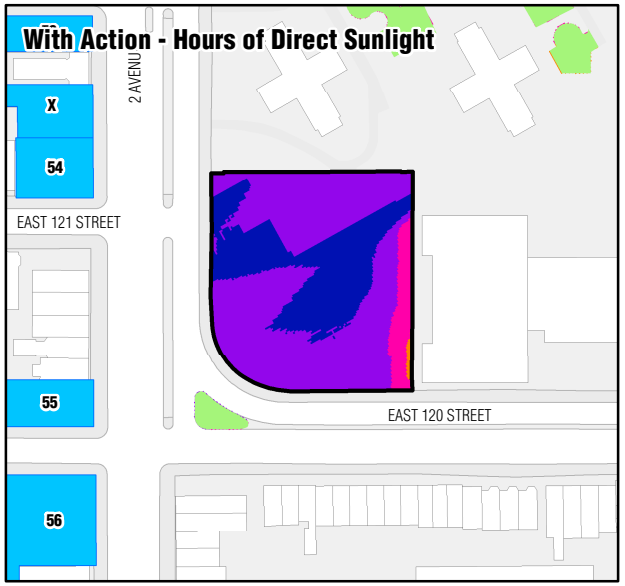
Figure 6-109

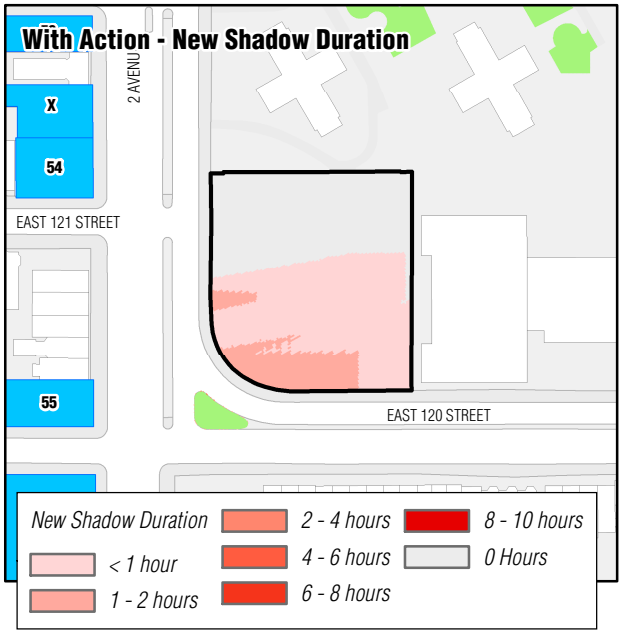






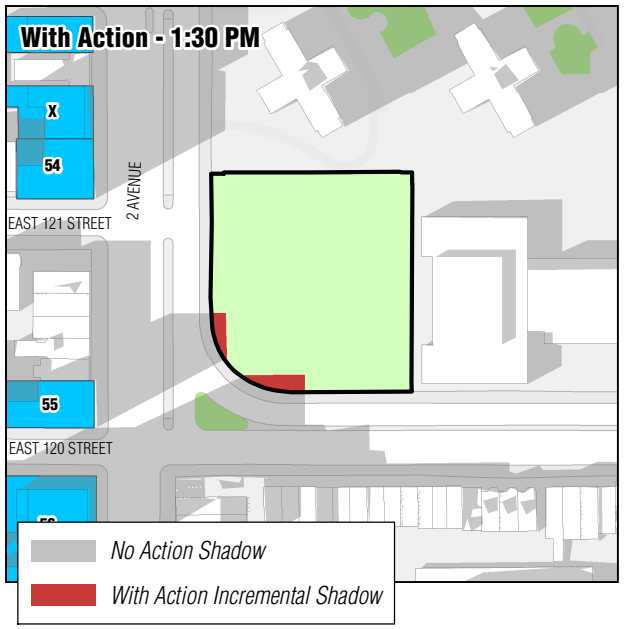


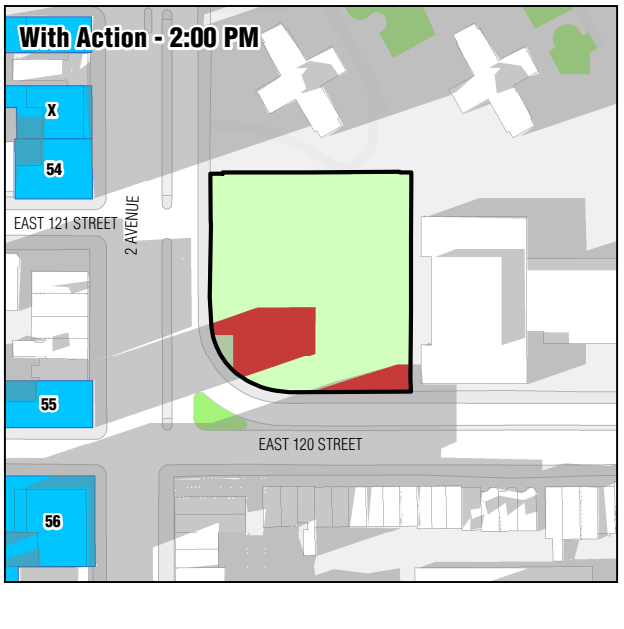


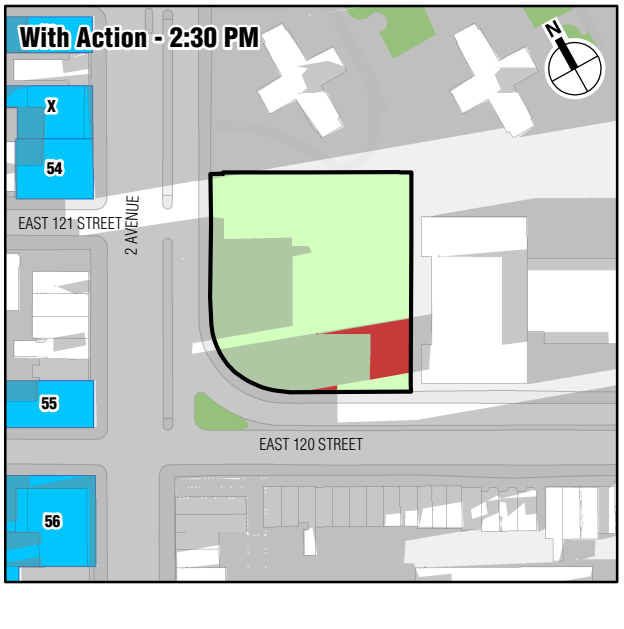


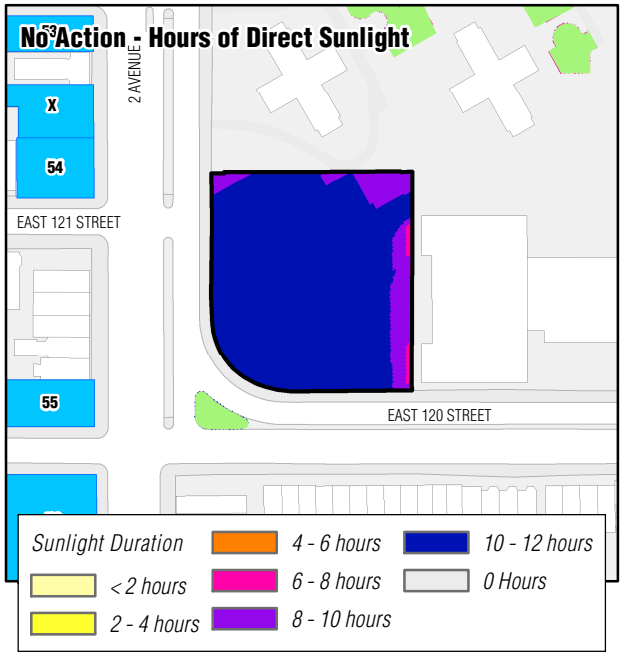
Wagner Playground
Detailed Analysis - May 6

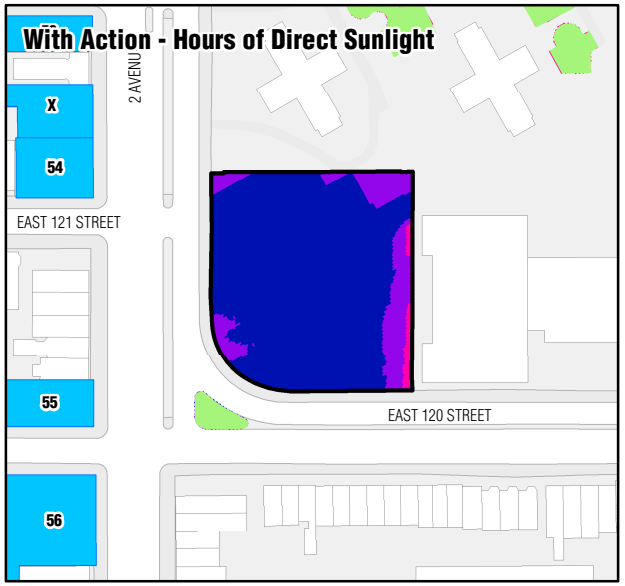
Figure 6-110

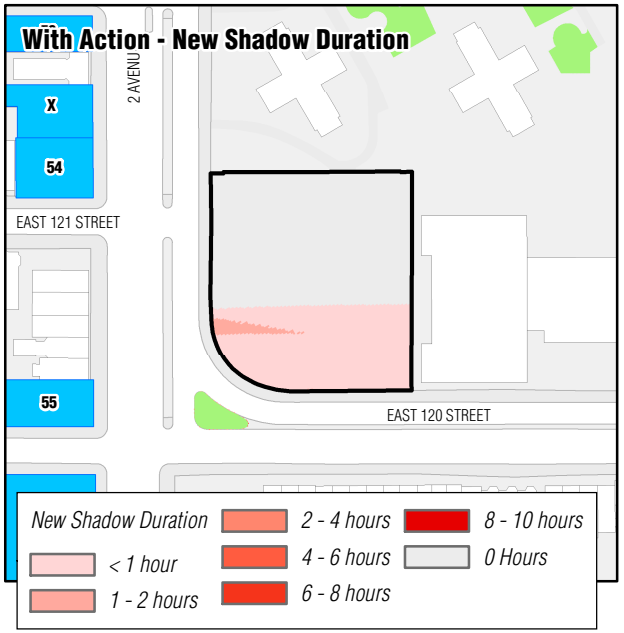












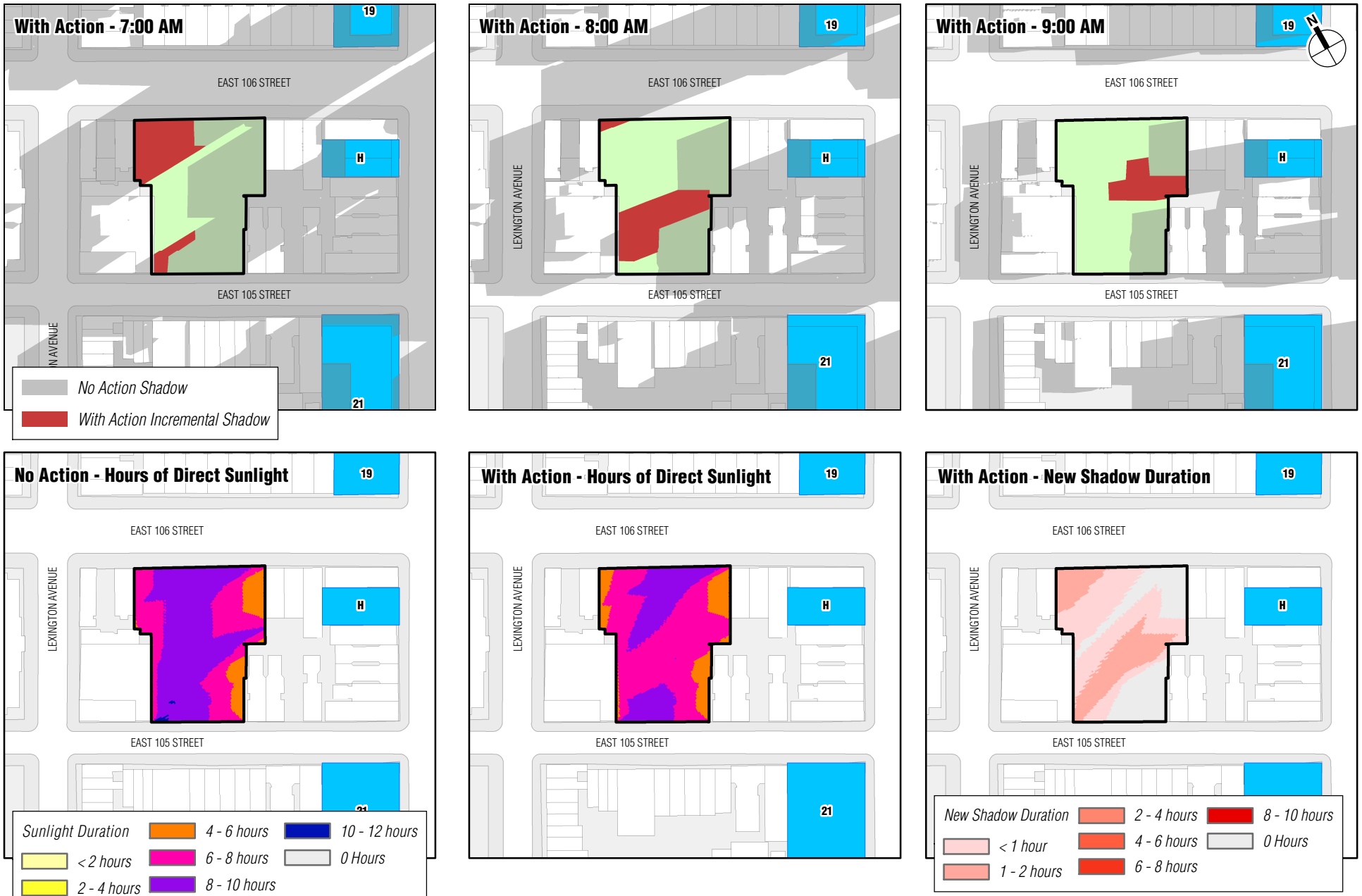
Wagner Playground
Detailed Analysis - June 21

Figure 6-111



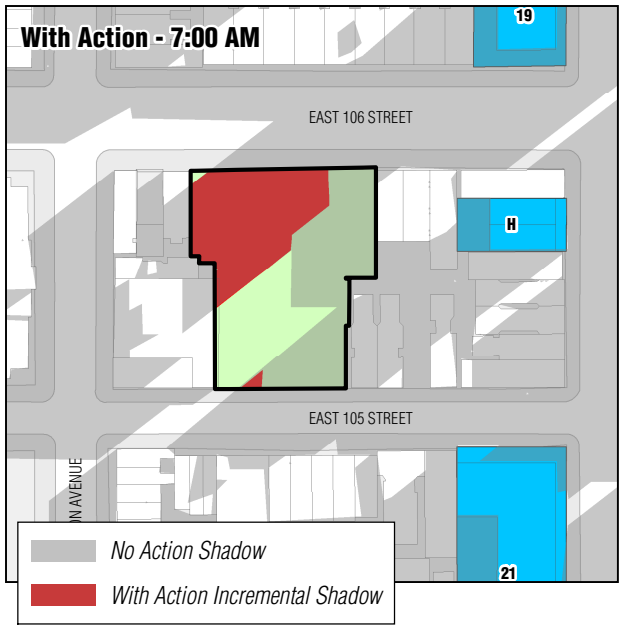
White Playground
Detailed Analysis - March 21

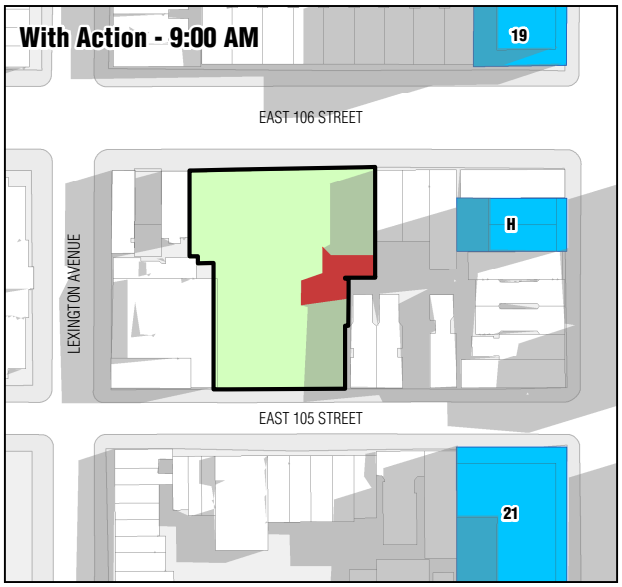
Figure 6-112

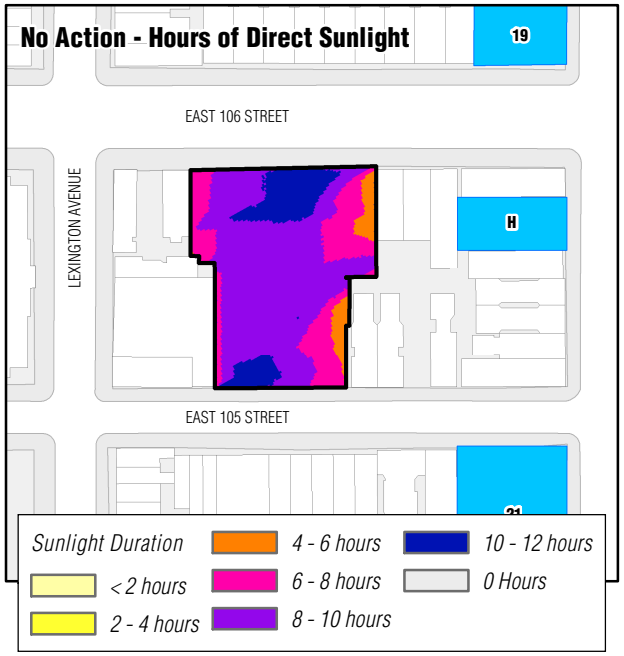


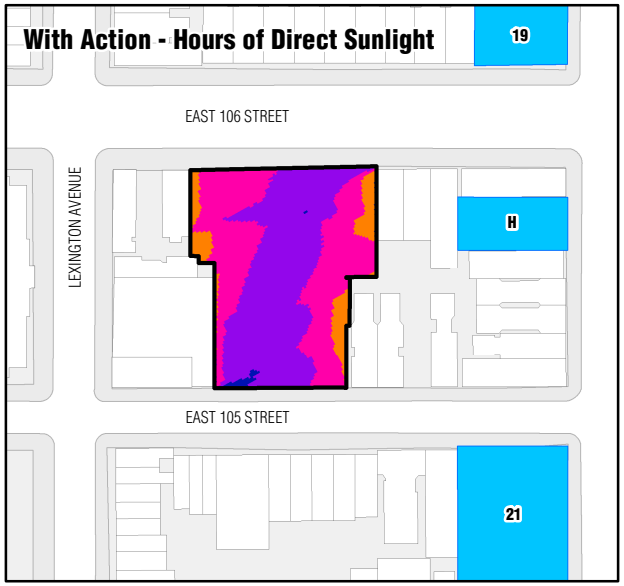
White Playground
Detailed Analysis - May 6

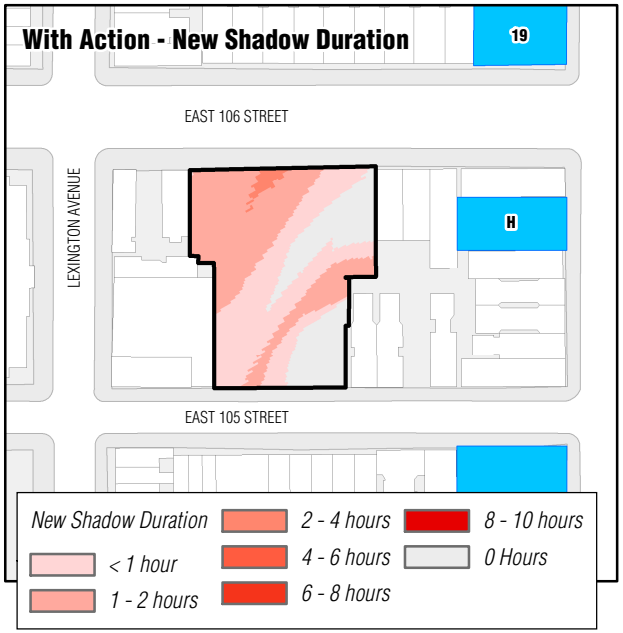
Figure 6-113





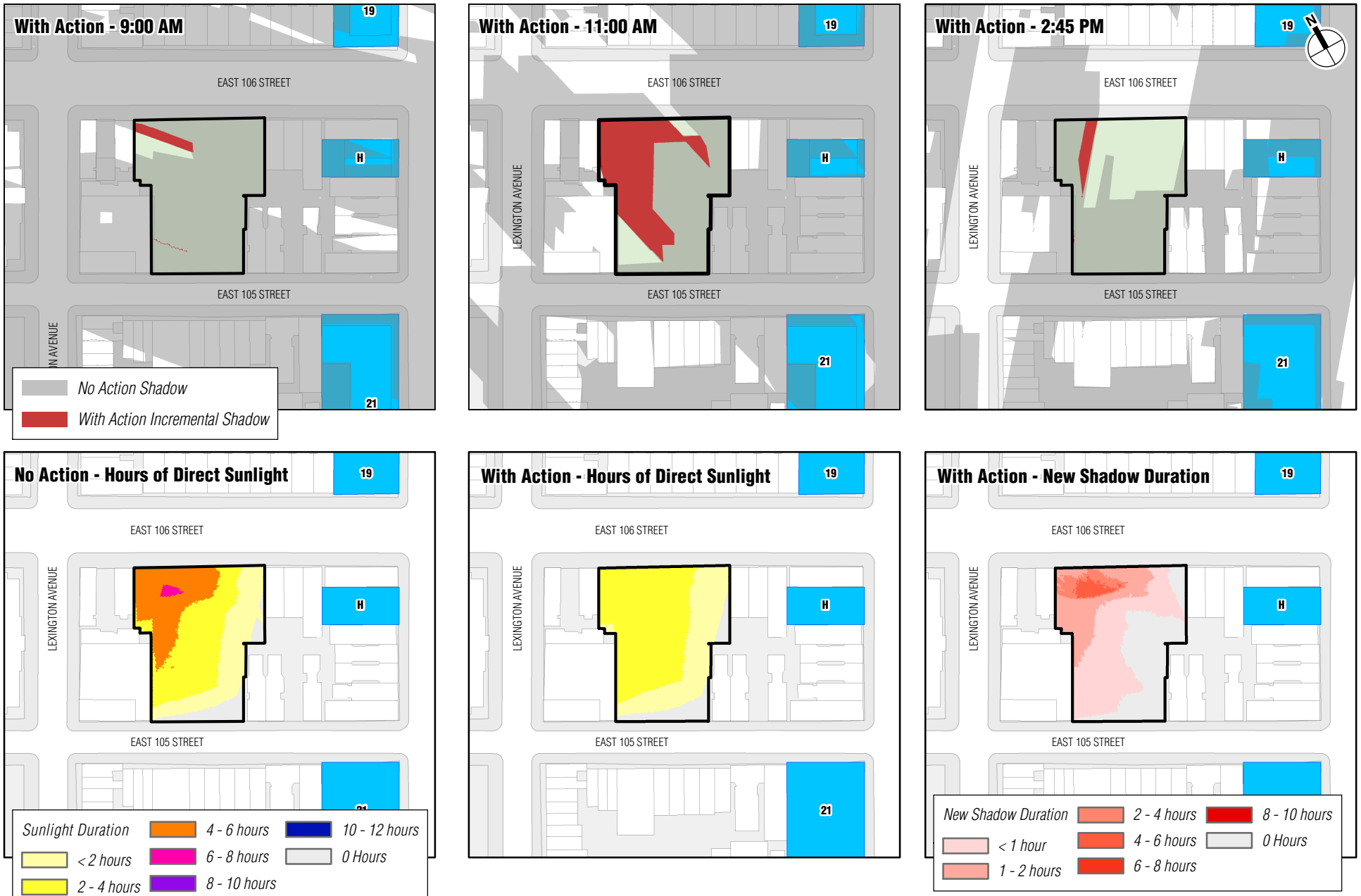






White Playground
Detailed Analysis - June 21

Figure 6-114



White Playground
Detailed Analysis - December 21

EAST HARLEM REZONING

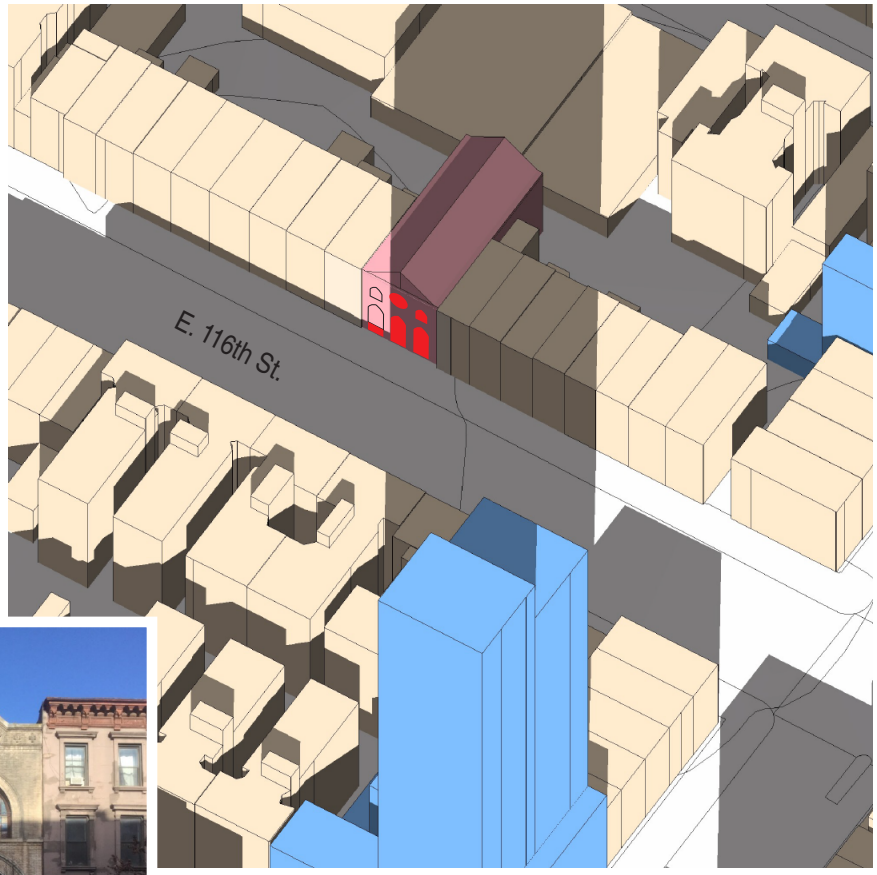
Figure 6-115

4.18.17



11:00 AM





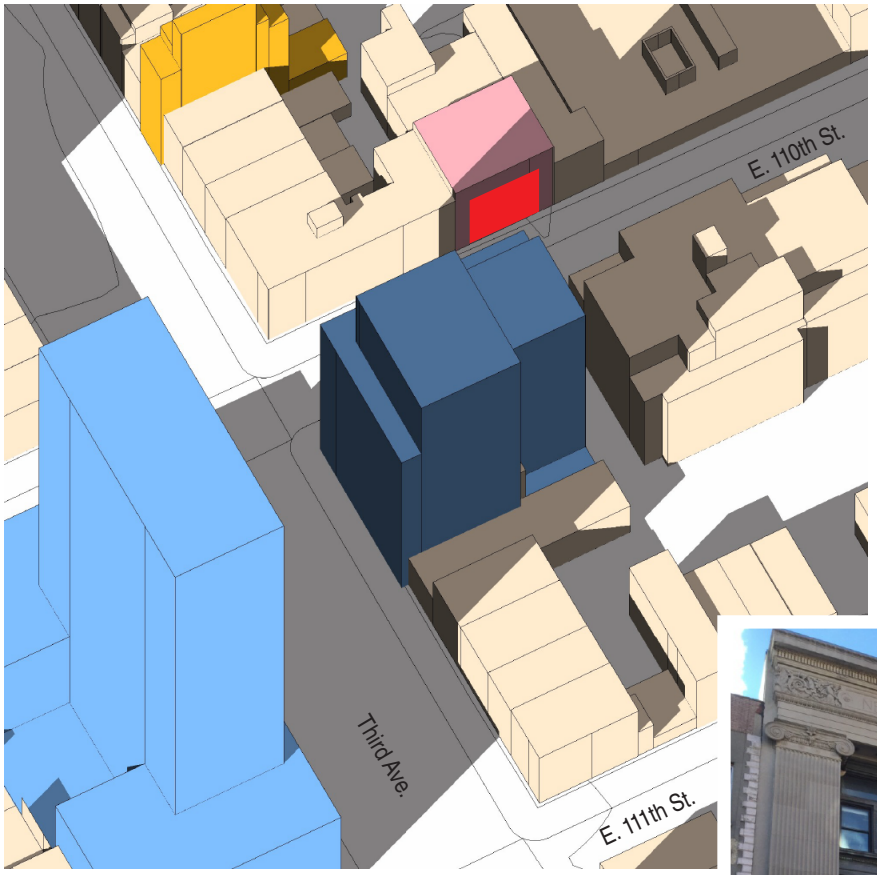
11:45 AM

With Action Projected and Potential Massings

Historic Resource with Sunlight-Sensitive Features

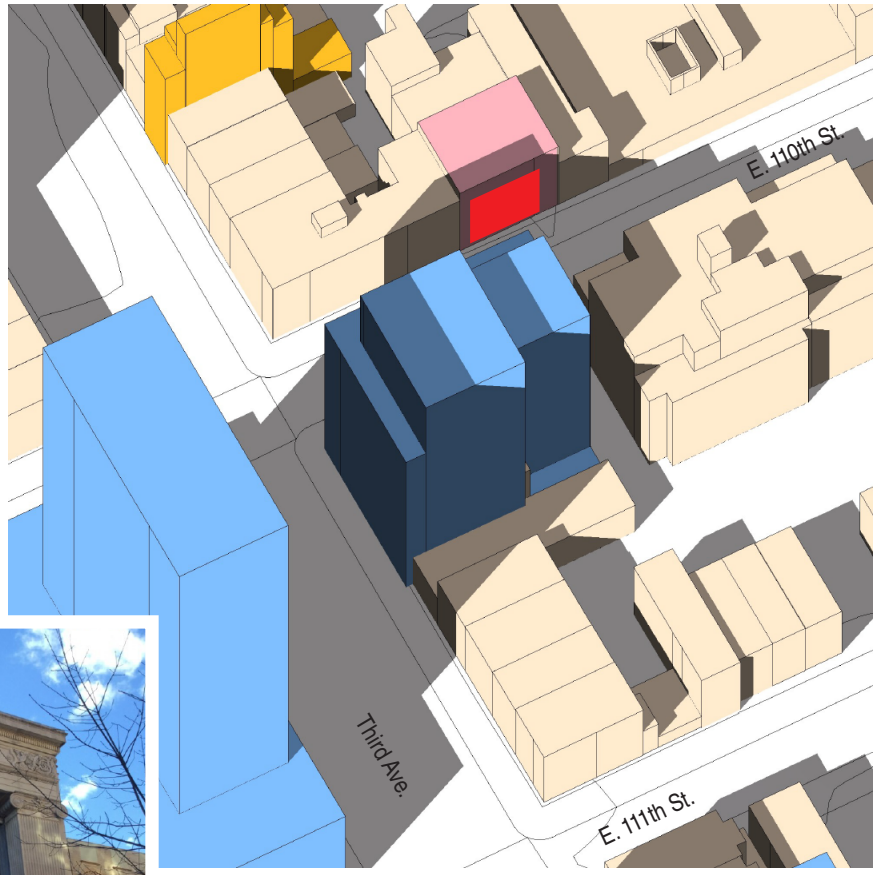
Incremental Shadow on Sunlight-Sensitive Features

First Sharon Baptist Church
View North
December 21



May 6 / August 6 - 8:00 AM





June 21 - 8:30 AM

With Action Projected and Potential Massings

Historic Resource with Sunlight-Sensitive Features

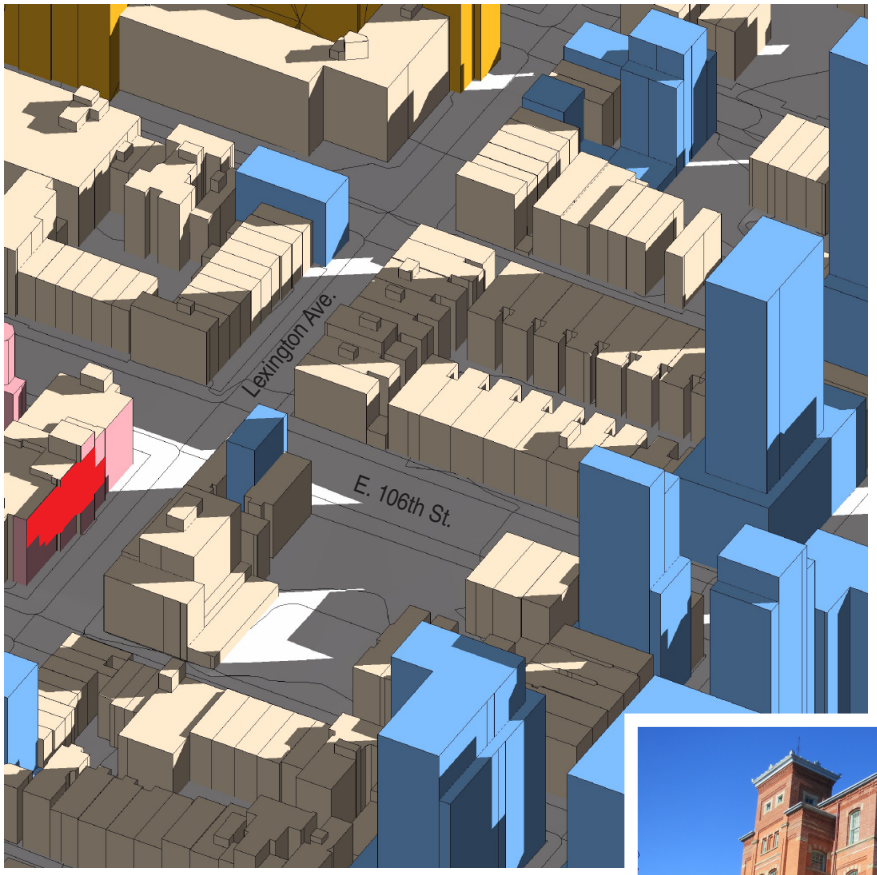
Incremental Shadow on Sunlight-Sensitive Features

Other Future Developments Competed by Build Year

New York Public Library - Aguilar Branch
View Southwest
Late Spring and Summer

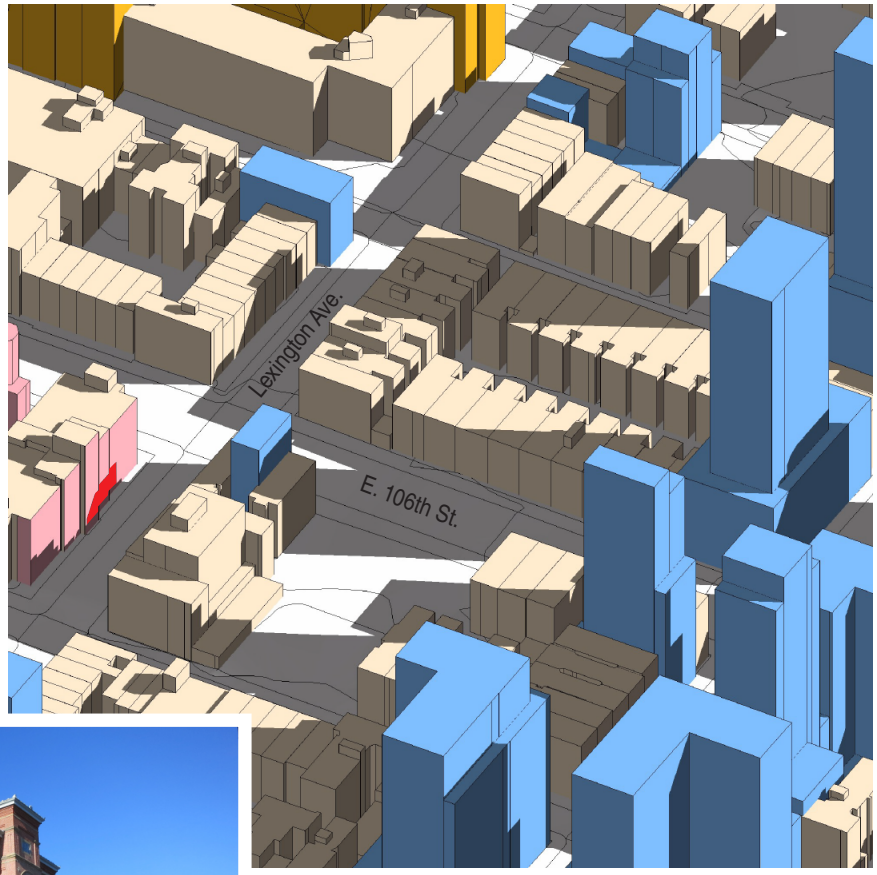
Figure 6-117

4.18.17



6:45 AM





7:30 AM

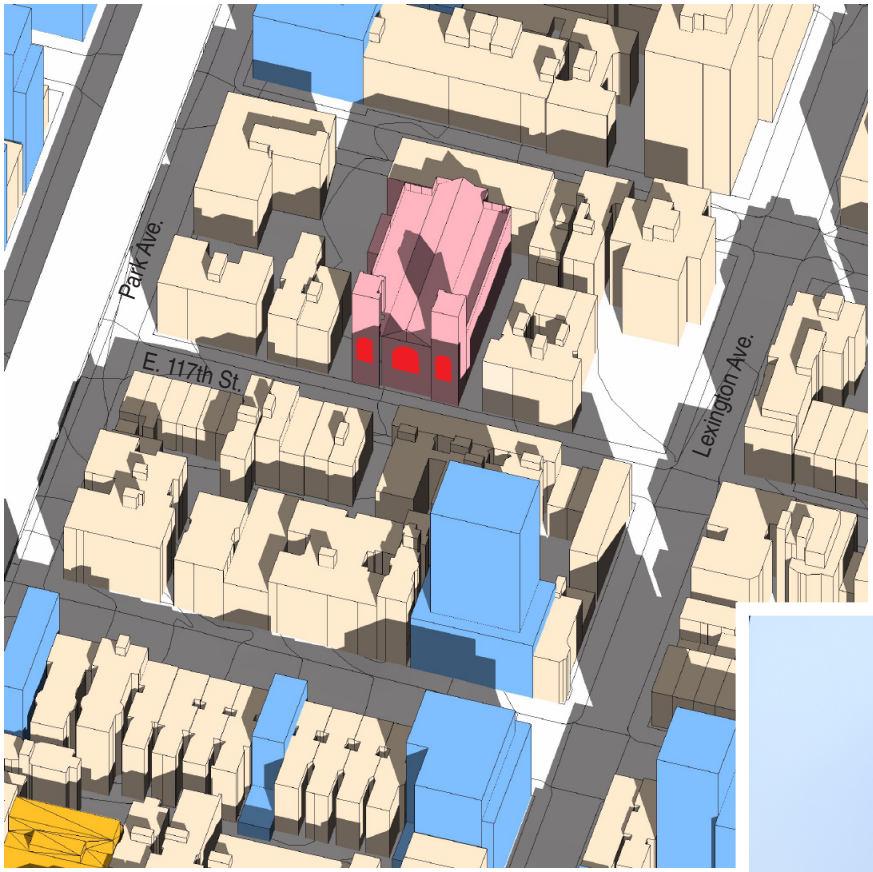
With Action Projected and Potential Massings

Historic Resource with Sunlight-Sensitive Features

Incremental Shadow on Sunlight-Sensitive Features

Other Future Developments Competed by Build Year

Public School 72
View North
May 6 / August 6
Figure 6-118



11:45 AM





12:30 PM

With Action Projected and Potential Massings

Historic Resource with Sunlight-Sensitive Features

Incremental Shadow on Sunlight-Sensitive Features

Other Future Developments Competed by Build Year

St. Paul's Roman Catholic Church
View North
December 21