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Chapter 8: Shadows

A. INTRODUCTION

The purpose of this chapter is to evaluate the effects of shadows on sensitive resources, including open spaces, historic resources and natural features, as defined in the *CEQR Technical Manual*, as a result of implementation of the Proposed Action.

1. Issues

As the sun travels across the sky during the day, shadows follow a curve on the ground opposite the sun. When the sun rises, shadows fall to the west. As the day progresses, the shadows follow, and as the sun sets in the west, the shadows fall to the east. Midday shadows are always the shortest, because of the sun's position in the sky. The angle at which the sun's rays hit the earth varies throughout the year because of the tilt of the earth's axis. During the summer, when the sun is higher in the sky, the shadows are shorter than during the winter. Winter shadows are the longest, yet move the most quickly, and do not affect the growing season of local flora.

A major consideration regarding open space and historic resources involves shadows that could be cast by potential new development. Sun and shadows affect people and their use of open space. As new residential and commercial development is created in areas now largely characterized by low-rise structures, new impacts on resources sensitive to shadows could result as a consequence. Sunlight-sensitive historic resources include those where sunlight is integral to a resource's significance. Additionally, an impact could result if a shadow obscures any features or details that make that resource significant.

The *CEQR Technical Manual* explains, "An adverse shadow impact is considered to occur when the shadow from a proposed project falls on a publicly accessible open space, historic landscape, or other historic resource, if the features that make the resource significant depend on sunlight, or important natural feature and adversely affects its use and/or important landscaping and vegetation or, in the case of historic resources, obscures the features or details that make that resource significant." CEQR does not consider shadows on City streets, buildings, or sidewalks to be of significance, and thus, they are not analyzed. Also, shadows occurring within an hour and a half of sunrise or sunset generally are not considered significant under CEQR. Within the study area, any open space and any sunlight-sensitive architectural resource, including churches, has been considered for analysis. The significant natural feature in the shadow study area is the Hudson River. This aquatic resource could be affected by shadows of the Proposed Action and was therefore considered.

2. Principal Conclusions

Most existing open space resources are in shadow for the Existing and Future Conditions Without the Proposed Action. Additional shadowing on existing open space resources would not be significant.

The incremental shadowing created by the Proposed Action would result in significant adverse impacts to two historic resources: the historic landmark James A. Farley Building (Farley Building) and St. Raphael's RC Church, which is eligible for listing on the New York City and State Registers for Historic Places.

The Farley Building, which currently serves as the General Post Office, is a New York City Landmark and is also listed on the State and National Registers for Historic Places. It occupies a superblock between Eighth and Ninth Avenues from West 31st to West 33rd Streets. The Eighth Avenue façade is considered the most sensitive element of the resource, and the sunlight that is cast upon it articulates the architectural features that distinguish this public building. Its colonnade and

portico are reached by an almost block-wide flight of stairs, and light effects on the colonnade contribute to the articulation of the rhythm of the columns and the depth of the entrance (see Chapter 9, "Architectural Historic Resources," for a complete description of the architectural features of the Farley Building and discussion of its significance). On the Eighth Avenue façade, the proposed developments would lead to one and one-half hour of additional shadow in March, over three hours of additional shadow in May, and four hours of additional shadow in June.

St. Raphael's RC Church is eligible for designation as a New York City Landmark and eligible for listing on the State and National Registers for Historic Places. The church is considered a sensitive resource for shadow impacts because of its rose windows, though as noted in Chapter 9, "Architectural Historic Resources," its architectural setting is substantially disrupted by the changes in its context which have altered its setting since its construction. St. Raphael's would be affected by incremental shadows during the 2025 Future With the Proposed Action. The rose windows would be affected by a significant adverse impact from additional shadows resulting from the projected 500-foot residential tower between West 40th and 41st Streets (Projected Development Site 14) and the commercial and residential towers projected on Tenth and Eleventh Avenues between West 38th and 39th Streets (Projected Development Sites 12 and 13). The proposed developments would lead to eight hours of additional shadow in March, almost seven and one-half hours of additional shadow in May, three and one-half hours of additional shadow in June, and almost five hours of additional shadow in December.

Mitigation measures for each of these historic resources were considered, including the reduction of the heights of the projected developments around each resource. Such reductions were determined to be unreasonable and infeasible, as they would result in substantially reduced development at three projected development sites and shifts in development that would not be in keeping with the zoning and urban design plan of the proposed rezoning. Following this, the placement of remote lighting to simulate the non-shadowed condition was considered. For the Farley Building Eighth Avenue Façade, this condition would require a bank of lighting at Projected Development Site 45, but the intensity required to create a simulation of sunlight would be extreme, creating a visual impact that would be unacceptable. At St. Raphael's RC Church, lighting could be mounted at the westerly face of Projected Development Site 14 to light the east transept rose window, and because of the proximity of the projected development site and the church, this mitigation may be feasible without adverse visual impacts or spillover effects. Similar lighting was considered to light the west transept rose window at Projected Development Sites 12, 13 or 16, or at the Lincoln Tunnel Portal block, but each was determined to be too remote from St. Raphael to be effective in simulating sunlight without creating other disturbing visual effects. Such measures would not be reasonable or feasible means to avoid or mitigate shadow impacts upon the Farley Building Eighth Avenue façade or to the westerly rose window of St. Raphael's RC Church and the significant adverse impacts of the Proposed Action on these historic resources would remain unmitigated.

3. Methodology

The Proposed Action contemplates the development of new and much larger structures. Therefore, the potential to cast new shadows on sensitive resources must be assessed. In accordance with the *CEQR Technical Manual*, the shadow assessment considers development that results in new shadows long enough to reach a publicly accessible open space or historic resource (except within an hour and a half of sunrise or sunset).

Each open space and historic resource and the Hudson River within the study area was identified on a map. From the inventory of open spaces (see Appendix I, Shadows Analysis Inventory of Open Space and Historic Resources), 43 were chosen for further analysis due to their location within the study area, the likelihood of being affected by new shadows, and proximity to projected development. Four additional open spaces (the full-block open space between West 33rd and West 34th Streets

from Eleventh to Twelfth Avenues; the Convention Center rooftop public open space; the full-block, publicly accessible open space (approximately 3.6 acres) to be developed on Block 675, between Eleventh and Twelfth Avenues, West 29th and West 30th Streets (Block 675 park); and the Hudson River Park segment west of the Project Area) were added for the 2010 Future With the Proposed Action condition. The Hudson River Park segment and the High Line were added for the Future Without the Proposed Action. Additionally, six potential new open spaces to be located in the Midblock Park and Boulevard System were considered in the 2025 Future With the Proposed Action.

Ten historic resources were identified as having the potential to be affected by potential new shadows (see Table 8-6). These resources included properties or districts listed on the State/National Register (or found to be eligible for such listing), National Historic Landmarks (NHLs), and New York City Landmarks (NYCLs) and Historic Districts, and properties determined eligible for landmark status. These historic resources were also chosen based on their location within the study area, the likelihood of being affected by new shadows, and proximity to projected development. Figures 8-1 and 8-2 provide an overview of all the open spaces and historic resources in the Future Without the Proposed Action and Future With the Proposed Action.

Shadows would be cast upon the Hudson River by buildings resulting in both the Future Without the Proposed Action and the Future With the Proposed Action. Shadows cast by buildings would be short-lived and diffuse. Diffuse shadows are not considered a significant change to habitat conditions, as they are temporary and unlikely to change the habitat condition. In addition, the aquatic life of the Hudson River is continuously carried by strong river and tidal currents and would be exposed to these shadows for short periods of time. The building shadows on the Hudson River would not create adverse impacts to fish and wildlife species within the river. Fish and wildlife species and habitats of the Hudson River are fully described in Chapter 13, "Natural Resources."

Similarly, Hudson River Park was studied as an active and passive open space resource, and for the planned ecological piers, edge plantings, and transitional water's edge beaches that are programmed for this segment. Although there would be additional shadows cast upon Hudson River Park for the 2025 Future with the Proposed Action, the shadows are not expected to be significant or adverse, due to their limited duration, diffuse nature, and the types of activities and plantings planned for Hudson River Park itself. The potential additional shadows are reported in this chapter.

4. Maximum Shadow Study Area

For purposes of the shadow analysis, a Maximum Shadow Study Area (study area) was defined through the screening procedures as set forth in the *CEQR Technical Manual*. The screening procedure notes that the longest shadow that any structure could cast during the year is 4.3 times its height. Therefore, the shadow study area was determined by multiplying the maximum potential building heights of the projected development sites by 4.3. For example, a 500-foot tall building would cast a shadow approximately 2,100 feet. The boundaries of the study area extend to Park Avenue to the east, 56th Street to the north, 1,700 feet west of the Hudson River shoreline to the west, and 14th Street to the south. Figure 8-3 shows the study area and the proposed projects to be constructed for the 2010 and 2025 Future Without the Proposed Action. Figure 8-4 shows the study area and each of the development sites projected for the 2010 and 2025 Future With the Proposed Action. Both figures present open spaces outlined in green and historic resources outlined in orange. Following the guidance in the *CEQR Technical Manual*, as the screening showed that open space resources and historic resources are present, a screening analysis was applied as the first step in assessing the shadow and to determine the potential for impact and need for further analysis.

5. Criteria and Regulations

The *CEQR Technical Manual* sets forth the criteria and regulations pertaining to shadow studies.

6. Data Sources

The primary data source included New York City maps overlaid with the Future With the Proposed Action (or Build Condition) data supplied by the DCP. For construction of the 3D model geometry, Sanborn Map Company Underwriters maps (2001) and architectural drawings from related architectural firms/developers were used. The 3D model is geo-referenced based on the current coordinate system of the DCP's NYCMAP and Tax Block/Tax Lot maps (Coordinate system: US NAD83).

Model attributes are derived from the DCP's "Integrated Tax Lot Property File (ITLPF), which is a compilation of the Department of Finance's Real Property Assessment Database (RPAD) (2000). MISLAND is a standardized reporting method used by DCP that aggregates detailed RPAD land use categories into more generalized land use classes for census and land use analyses. The Shadow diagrams have been computed in a 3D modeling and rendering software (Autodesk Viz r.4) based on the same 3D model mentioned above. Shadow diagrams are originally raster images, "vectorized" later in Graphic Information Systems (GIS) in order to use with different scaled maps.

7. Screening and Detailed Analysis Methodologies

As described in the *CEQR Technical Manual*, a shadow assessment is required if the Proposed Action would contain new structures tall enough for the shadows to reach an open space or historic resource. Also, an assessment is required because the Proposed Action would result in new structures which would be 50 feet high or taller. For actions resulting in structures 50 feet high or taller, and for shorter structures adjacent to important features, a shadow assessment is required. The shadow screening analysis was used to identify the study area and those open spaces and historic resources that could be affected. The purpose of the shadow assessment was to define the extent and duration of additional or new shadows that the Proposed Action would cast on shadow-sensitive resources. The uses and vegetation in an open space determine its sensitivity to shadows. Uses that rely on sunlight include passive use, such as sitting or sunbathing, and such activities as gardening or children's wading pools. Vegetation requiring sunlight includes the tree canopy and flowering plants. In open spaces where lawns are actively used, the grass also requires extensive sunlight. Four to six hours a day of sunlight is generally a minimum requirement, particularly in the growing season.

The sensitivity of a historic resource to sunlight often depends on its design and setting; for example, whether the characteristics that make the structure historically significant are dependent on sunlight. An example of sensitive historic resources includes churches with stained glass windows which are lit only in the sunlight.

Computer-generated simulations of the shadows caused by the Proposed Action during CEQR-defined representative times of the day during the year were prepared. As recommended in the *CEQR Technical Manual*, the simulations assessed potential shadow impacts for four representative days of the year: March 21 (vernal equinox), June 21 (summer solstice), May 6 (halfway between vernal equinox and summer solstice), and December 21 (winter solstice). During each of these representative days, the shadow analysis period runs from 1½ hours after sunrise to 1½ hours before sunset, since any shadows cast just after sunrise and just before sunset are not considered impacts.

The simulations followed each step of the screening analysis as stated in the *CEQR Technical Manual*. A study area was determined which included all of the Projected and Potential Development Sites. The angles of each of the sites' shadows on each open space and historic resource were calculated. Project site locations were examined in relation to the location of open spaces or historic resources. The computer simulation calculated the maximum shadow lengths through the course of the analysis period.

Part of the screening analysis considered the sensitivity of open space to shadow. Facilities such as children's playgrounds, swimming pools, sitting or sunning areas, or ballfields that are covered with turf require direct sunlight for some part of the day or at some times of the year. Some open spaces contain facilities that are not sensitive to sunlight, such as paved handball or basketball courts, or areas with vegetation or plants that are not sunlight-sensitive.

The simulations were cast for the Existing Condition, the Future Without the Proposed Action and the Future With the Proposed Action. The 2010 and 2025 Future With the Proposed Action simulations reflect shadows cast by project-generated development and show the incremental difference in shadowing over Future Without the Proposed Action. The conditions in the 2010 and 2025 Future With the Proposed Action are presented with the assumption that Madison Square Garden would be relocated, which presents a "worst-case" condition with respect to potential shadow impacts. According to the *CEQR Technical Manual*, significant shadow impacts were determined for the following situations:

- Substantial reduction in sunlight where the sensitive use is already experiencing substandard sunlight
- Reduction in sunlight available to a sensitive use from more than to less than the minimum time necessary for survival
- Substantial reduction in the usability of the open space.

There may be situations where a very small loss of sunlight is important (for example, in areas where people sit or in a church with stained glass windows) or where a comparatively large loss is not significant (for example, where vegetative species are not critical to the character of the open space and can be replaced with more shade-tolerant species). Although these situations represent a general guideline to determining significant adverse impacts, each case is reviewed on its own merits.

B. EXISTING CONDITIONS

For the Existing Condition, the majority of potentially affected open spaces are in shadow for the entire day. The open spaces which are not in shadow for each time period are sunlit only during the Midday period. This is significant because many of those open spaces (e.g., Farley Building stairs, One Penn Plaza, and Bryant Park in the study area) are popular areas in which people gather, and the Midday period when these open spaces are utilized the most. The Hill Building, St. Raphael's RC Church, and the Farley Building are potentially affected historic resources in the study area.

1. Study Area

The boundaries of the study area extend to Park Avenue to the east, 56th Street to the north, 1,700 feet west of the Hudson River shoreline to the west, and 14th Street to the south.

2. Other Study Areas (Corona Yard)

No. 7 Subway cars are currently stored and maintained at the Corona Rail Yard and Maintenance Facility (Corona Yard), located in the Flushing section of Queens. Corona Yard is located in an area characterized by large-scale recreational resources in a park (Shea Stadium and the National Tennis Center), as well as the transportation infrastructure of Corona Yard itself and adjacent LIRR facilities. The actual portion of the MTA-owned property to be developed as support infrastructure for the Proposed Action is a largely vacant piece of land north of Roosevelt Avenue and west of the Flushing River.

According to the *CEQR Technical Manual*, the potential for shadow impacts occurs when the shadow from the Proposed Action falls on a publicly accessible open space, historic resources, or other

significant features of historic resources that are dependent on sunlight. As the train-storage portion of Corona Yard does not have any publicly accessible open space or historic resources, it is therefore not presented in subsequent analyses within this chapter.

3. Open Spaces – Existing Conditions

Sites are affected by shadow angles, relative location to the Proposed Action, maximum shadow length, distance from the Proposed Action, and the sensitivity of the open space to shadow. Of the open space inventory identified and characterized in Chapter 7, "Open Space and Recreational Facilities," screening analyses determined that the following open space resources are within the area that could potentially be affected by Proposed-Action-related shadows. The numbering of the open spaces was tracked with the numbering in Chapter 7 to keep references consistent. These resources were then advanced for detailed shadow analysis. All of the listed open spaces in Table 8-1 are affected by shadows during some part of the day.

TABLE 8-1
POTENTIALLY AFFECTED OPEN SPACES

Ref.#	Name	Location	Acres			Amenities
			Total Acres	Passive	Active	
1	2 Penn Plaza	W. 31st to 33rd Sts. Seventh to Eighth Aves.	0.42	0.42	0	planters, lighting
2	Bob's Park	456 W. 35th St.	0.05	0.04	0.005	playground, seating, landscaping
3	Jacob Javits Convention Center Plaza	418 Eleventh Ave.	0.76	0.76	0	benches, platforms, sculptural seating and other sculptural elements. Escalator/stairway to access lower level is currently closed.
4	640 West 42nd Street Plaza	W. 42nd St. between Eleventh and Twelfth Aves.	0.74	0.74	0	playground, landscaped hills, seating, paved paths, lighting
5	Gregory J.M. Portley Plaza	576 Tenth Ave.	0.33	0.33	0	paved walkways, benches, trees, planters, lighting
6	McCaffry Playground	W. 43rd St. between Eighth and Ninth Aves.	0.44	0.09	0.35	swings, basketball courts, trees, benches, spray shower, jungle gym, landscaping, flowers
7	May Matthews Playground	W. 46th St. between Ninth and Tenth Aves.	0.48	0.11	0.37	play equipment swings, slides, basketball courts, handball courts, benches, lighting
8	Hell's Kitchen Park	Tenth Ave. between W. 47th and 48th Sts.	0.58	0.40	0.17	play equipment, trees, plants, basketball and handball courts, benches, paved walkways, lighting
9	Clinton Community Garden	150 W. 48th St.	0.35	0.35	0	flowers, plants, trees, grass, paths, benches
10	Ramon Aponte Park	351 W. 47th St.	0.17	0.12	0.05	basketball and handball courts, play equipment, benches, trees, slides, paved walkways
11	Marion S. Heishel Garden	W. 48th St. between Eighth and Ninth Aves.	0.15	0.15	0	trees, plants, flowers, benches
12	Farley Building Stairs	Eighth Ave. between W. 33rd and 31st Sts.	0.38	0.38	0	stairs, planters
13	Golda Meir Square	Broadway between W. 39th and 40th Sts.	0.38	0.38	0	seating, trees, planters
14	Herald Square	W. 34th to 36th Sts. between Broadway and Sixth Ave.	0.04	0.04	0	seating, planters, lighting, trees, food kiosks, comfort station, statues
15	Greeley Square	W. 32nd to 33rd Sts. Between Sixth Ave. and Broadway	0.18	0.18	0	benches, tables and chairs, trees, planters, lighting, fences
16	1250 Broadway Plaza	1250 Broadway	0.22	0.22	0	trees, planters, benches
17	230 West 27th St. Plaza	230 W. 27th St.	0.07	0.07	0	trees, planters, fences, benches
18	FIT Plaza	W. 27th St. and Seventh Ave.	0.05	0.05	0	paved area, sculpture

TABLE 8-1 (CONTINUED)
POTENTIALLY AFFECTED OPEN SPACES

Ref.#	Name	Location	Acres			Amenities
			Total Acres	Passive	Active	
19	Chelsea Park	W. 28th St. between Ninth and Tenth Aves.	3.90	0.98	2.93	swings, slides, basketball courts, baseball / softball fields, paved walkways, benches, jungle gyms, trees, planters, lighting
20	Elliot Houses Open Space	W. 25th to 26th Sts. Between Ninth and Tenth	0.60	0.30	0.30	slides, benches, jungle gyms, trees, planters, lighting, basketball courts
21	Chelsea Houses Open Space	W. 25th St. between Ninth and Tenth Aves.	0.34	0.03	0.31	benches, play equipment
22	Penn Station South Houses Open Space	W. 23rd to W. 28th Sts. Between Eighth and Ninth Aves.	1.42	1.05	0.37	basketball courts, benches, trees, planters, play equipment, lighting
23	Penn Station South Houses Playground	W. 26th St. between Eighth and Ninth Aves.	0.6	0.06	0.54	basketball courts, paved walkways, benches, jungle gym, trees, planters
24	1 Penn Plaza	W. 33rd to 34th Sts. Between Seventh and Eighth Aves.	1.15	1.15	0	benches, trees, planters, lighting
25	Chelsea Waterside Park	W. 23rd to 24th Sts. Between Eleventh and Twelfth Aves.	2.5	1.25	1.25	basketball courts, paved walkways, benches, sprinkler area, picnic tables, soccer fields, fences, rock landscaping, trees, planters, lighting, dog run
26	Clement Clarke Moore Park	W. 22nd St. between Ninth and Tenth Aves.	0.49	0.12	0.37	swings, slides, paved walkways, benches, jungle gyms, trees, planters
31	Bryant Park	W. 40th to 42nd Sts. Between Fifth and Sixth Aves.	9.6	9.6	0	trees, benches, monuments, lawn, food kiosks, restaurant, tables, planters, fountain
32	1095 Sixth Ave. Plaza	1095 Sixth Ave. at 42nd St.	0.39	0.39	0	seating, lighting, trees, planters, gated park
33	Grace Plaza	SE corner of W. 43rd St. and Sixth Ave.	0.52	0.52	0	trees, planters, sitting area
34	1155 Ave. of the Americas Plaza	1155 Ave. of the Americas at W. 44th St.	0.22	0.19	0.021	trees, lighting
35	DeShaw & Co. Plaza	120 W. 45th St.	0.07	0.07	0	paved walkways, tables and chairs, trees, planters, lighting
36	1177 Ave. of the Americas Plaza	1177 Ave. of the Americas at NW corner of W. 45th St.	0.08	0.08	0	landscaped sitting area
37	1166 Ave. of the Americas Plaza	1166 Ave. of the Americas between W. 45th and 46th Sts.	0.63	0.63	0	trees, planters, flagpole, artwork, tables and chairs, fountain, lighting
38	1185 Ave. of the Americas – Westpoint Stevens Tower	1185 Ave. of the Americas at W. 46th St	0.37	0.37	0	trees, plants, seating, paved walkways, fountain, lighting
39	Father Duffy Square	Between Broadway and Seventh Aves., W. 46th and 47th Sts.	0.08	0.08	0	statues, paved walkways, benches, fountains, tables and chairs, trees, planters, lighting
43	235 West 48th Street Plaza	W. 48th St. between Broadway and Eighth Ave.	0.17	0.17	0	trees, planters, benches, tables and chairs, paved walkways
44	High School of Graphic Communication/ Guttenberg Playground	W. 49th St. between Ninth and Tenth Aves.	0.55	0.55	0	bleachers, basketball and handball courts
45	Worldwide Plaza	W. 49th to 50th Sts. between Eighth and Ninth Aves.	0.84	0.84	0	food pavilions, fountain, planters, paved paths, trees, seating walls, tables and chairs, restrooms, lighting
46	945 Seventh Ave. Plaza	945 Seventh Ave. between W. 49th and 50th Sts.	0.29	0.29	0	tables, chairs, trees, bushes, fountain, benches, refreshment stands

TABLE 8-1 (CONTINUED)
POTENTIALLY AFFECTED OPEN SPACES

Ref.#	Name	Location	Acres			Amenities
			Total Acres	Passive	Active	
47	1251 Ave. of the Americas Plaza	1251 Ave. of the Americas between W. 49th and 50th Sts.	0.46	0.46	0	trees, bushes, benches, fountain, seating walls, landscaping
48	1633 Broadway / Paramount Plaza	1633 Broadway, between W. 50th and 51st Sts.	0.88	0.88	0	paved walkways, trees, planters, garbage cans, lighting, benches
57	Hudson River	W. 14th St. to W. 59th St.	N/A	N/A	N/A	N/A
58	Hudson River Park	W. of Route 9A from 14th St. to 59th Street	7.75	3.87	3.87	walking, jogging, biking path, various kiosks, piers, sport fields, seating lawns

Figures 8-5 through 8-20 represent the shadow effects on the open spaces and historic resources for March 21, May 6, June 21, and December 21 for selected times. Tables 8-2 through 8-5 present the shadow entry time, exit time and duration of each shadow on open spaces chosen for analysis from the entire inventory of open spaces listed in Chapter 7, "Open Space and Recreational Facilities."

For the Existing Condition, all of the open spaces are affected by shadows for the majority of the effective daylight hours during all times of the year. Often, an open space is in shadow during the morning hours and late afternoon. It may have sunlight during the Midday for approximately two-three hours depending on the time of year. Most of the open spaces are affected again by shadow throughout the afternoon.

As shown in Tables 8-2 to 8-5, those resources that have some sunlight during the analysis period were advanced for analysis, while those that are already in shadow were screened out from further consideration.

Both Penn Plaza and the Farley Building Stairs are passive open spaces that allow and encourage people to sit, rest, and relax. The spaces are not affected by shadow during the midday, making them a popular and welcome resource. The stairs lead to the main entrance of the building and are used by hundreds of people daily. Shoppers, local office workers, and tourists use the steps for post office access, lunching, and general periods of rest and relaxation. Bob's Park is a community open space with both passive and active open space, located between Tenth and Eleventh Avenues on West 35th Street. Bob's Park is sunlit only during the midday in May and June. The plaza at 640 West 42nd Street is a ¾ acre park located on West 42nd Street between Eleventh and Twelfth Avenues.

Herald Square is located directly across from the flagship Macy's Department store between West 34th and 35th Streets and Broadway and Sixth Avenue. One Penn Plaza, another popular open space, is located on West 33rd to 34th Streets between Seventh and Eighth Avenues, flanking its eponymous office building. The plaza is just over an acre and amenities consist of benches, trees, planters, and lighting. The Gregory J. M. Portley Plaza is located on Tenth Avenue between West 47th and 48th Streets, paved walkways, benches, trees, planters and lighting.

Greeley Square is a small triangular park located between West 32nd and 33rd Streets between Sixth Avenue and Broadway. Amenities include benches, tables and chairs, trees, planters, lighting and fences. Located across from Herald Square, Greeley Square is very popular with office workers, shoppers and tourists. Another popular open space resource is Bryant Park, which is devoted entirely to passive uses.

TABLE 8-2
EXISTING CONDITIONS: MARCH 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1 ½ Hours After Sunrise	Sunset	1 ½ Hours Before Sunset
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**
01	2 Penn Plaza	7:36 AM	4:29 PM	8:53*
02	Bob's Park	7:36 AM	4:29 PM	8:53*
03	Javits Plaza	7:36 AM	4:29 PM	8:53*
04	640 W 42nd St. Plaza	7:36 AM	4:29 PM	8:53*
05	Gregory J.M. Portley Plaza	7:36 AM	4:29 PM	8:53*
06	McCaffry Playground	7:36 AM	4:29 PM	8:53*
07	May Matthews Playground	7:36 AM	4:29 PM	8:53*
08	Hell's Kitchen Park	7:36 AM	4:29 PM	8:53*
09	Clinton Community Garden	7:36 AM	4:29 PM	8:53*
010	Ramon Aponte Park	7:36 AM	4:29 PM	8:53*
011	Marion S. Heishel Garden	7:36 AM	4:29 PM	8:53*
012	Farley Building Stairs	7:36 AM	10:05 AM	2:29
013	Golda Meir Square	7:36 AM	4:29 PM	8:53*
014a[1]	Herald Square	7:36 AM	12:35 PM	4:59
014b[1]	Herald Square	1:45 PM	4:29 PM	2:44
015	Greeley Square	7:36 AM	4:29 PM	8:53*
016	1250 Broadway Plaza	7:36 AM	4:29 PM	8:53*
017	230 West 27th St Park	7:36 AM	4:29 PM	8:53*
018	FIT Plaza	7:36 AM	4:29 PM	8:53*
019	Chelsea Park	7:36 AM	4:29 PM	8:53*
020	Elliot Houses Open Space	7:36 AM	4:29 PM	8:53*
021	Chelsea Houses Open Space	7:36 AM	4:29 PM	8:53*
022	Penn South Houses Open Space	7:36 AM	4:29 PM	8:53*
023	Penn Station Houses Playground	7:36 AM	4:29 PM	8:53*
024	One Penn Plaza	7:36 AM	4:29 PM	8:53*
025	Chelsea Waterside Park	7:36 AM	4:29 PM	8:53*
026	Clement Clarke Moore Park	7:36 AM	4:29 PM	8:53*
031	Bryant Park	7:36 AM	4:29 PM	8:53*
032	1095 Sixth Avenue Plaza	7:36 AM	4:29 PM	8:53*
033	Grace Plaza	7:36 AM	4:29 PM	8:53*
034	1155 Ave. of the Americas Plaza	7:36 AM	4:29 PM	8:53*
035	DeShaw & Co. Plaza	7:36 AM	4:29 PM	8:53*
036	1177 Ave. of the Americas Plaza	7:36 AM	4:29 PM	8:53*
037	1166 Ave. of the Americas Plaza	7:36 AM	4:29 PM	8:53*
038	1185 Ave. of the Americas-Westpoint Stevens Tower	7:36 AM	4:29 PM	8:53*
039	Father Duffy Square	7:36 AM	4:29 PM	8:53*
043	235 West 48th Street Plaza	7:36 AM	4:29 PM	8:53*
044	Guttenberg Playground	7:36 AM	4:29 PM	8:53*
045	Worldwide Plaza	7:36 AM	4:29 PM	8:53*
046	945 Seventh Avenue Plaza	7:36 AM	4:29 PM	8:53*
047	1251 Ave. of the Americas Plaza	7:36 AM	4:29 PM	8:53*
048	1633 Broadway/Paramount Plaza	7:36 AM	4:29 PM	8:53*
057	Hudson River	7:36 AM	9:35 AM	1:59
058	Hudson River Park	7:36 AM	10:10 AM	2:34

* *Resource in shadow all day*

1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry. Thus, for resource 024 (One Penn Plaza), the shadow exits at 9:45 AM and re-enters the open spaces at 11:50 AM.*

TABLE 8-3
EXISTING CONDITIONS: MAY 6 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset
May 6 (DST)	5:48 AM	7:27 AM	7:57 PM	6:16 PM
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**
01	2 Penn Plaza	7:27 AM	6:18 PM	10:51*
02a[1]	Bob's Park	7:27 AM	11:30 AM	4:03
02b[1]	Bob's Park	2:05 PM	6:18 PM	4:13
03	Javits Plaza	7:27 AM	6:18 PM	10:51*
04	640 W 42nd St. Plaza	7:27 AM	6:18 PM	10:51*
05	Gregory J. M. Portley Plaza	7:27 AM	6:18 PM	10:51*
06	McCaffry Playground	7:27 AM	6:18 PM	10:51*
07	May Matthews Playground	7:27 AM	6:18 PM	10:51*
08	Hell's Kitchen Park	7:27 AM	6:18 PM	10:51*
09	Clinton Community Garden	7:27 AM	6:18 PM	10:51*
010	Ramon Aponte Park	7:27 AM	6:18 PM	10:51*
011	Marion S. Heishel Garden	7:27 AM	6:18 PM	10:51*
012	Farley Building Stairs	7:27 AM	10:45 AM	3:18
013	Golda Meir Square	7:27 AM	6:18 PM	10:51*
014a[1]	Herald Square	7:27 AM	11:45 AM	4:18
014b[1]	Herald Square	2:40 PM	6:18 PM	3:38
015a[1]	Greeley Square	7:27 AM	12:20 PM	4:53
015b[1]	Greeley Square	2:05 PM	6:18 PM	4:13
016	1250 Broadway Plaza	7:27 AM	6:18 PM	10:51*
017	230 West 27th St Park	7:27 AM	6:18 PM	10:51*
018	FIT Plaza	7:27 AM	6:18 PM	10:51*
019	Chelsea Park	7:27 AM	6:18 PM	10:51*
020	Elliot Houses Open Space	7:27 AM	6:18 PM	10:51*
021	Chelsea Houses Open Space	7:27 AM	6:18 PM	10:51*
022	Penn South Houses Open Space	7:27 AM	6:18 PM	10:51*
023	Penn Station Houses Playground	7:27 AM	6:18 PM	10:51*
024	One Penn Plaza	7:27 AM	6:18 PM	10:51*
025	Chelsea Waterside Park	7:27 AM	6:18 PM	10:51*
026	Clement Clarke Moore Park	7:27 AM	6:18 PM	10:51*
031a[1]	Bryant Park	7:27 AM	10:00 AM	2:33
031b[1]	Bryant Park	11:45 AM	6:18 PM	6:33
032	1095 Sixth Avenue Plaza	7:27 AM	6:18 PM	10:51*
033	Grace Plaza	7:27 AM	6:18 PM	10:51*
034	1155 Ave. of the Americas Plaza	7:27 AM	6:18 PM	10:51*
035	DeShaw & Co. Plaza	7:27 AM	6:18 PM	10:51*
036	1177 Ave. of the Americas Plaza	7:27 AM	6:18 PM	10:51*
037	1166 Ave. of the Americas Plaza	7:27 AM	6:18 PM	10:51*
038	1185 Ave. of the Americas-Westpoint Stevens Tower	7:27 AM	6:18 PM	10:51*
039	Father Duffy Square	7:27 AM	6:18 PM	10:51*
043	235 West 48th Street Plaza	7:27 AM	6:18 PM	10:51*
044	Guttenberg Playground	7:27 AM	6:18 PM	10:51*
045	Worldwide Plaza	7:27 AM	6:18 PM	10:51*
046	945 Seventh Avenue Plaza	7:27 AM	6:18 PM	10:51*
047	1251 Avenue of the Americas Plaza	7:27 AM	6:18 PM	10:51*
048	1633 Broadway/Paramount Plaza	7:27 AM	6:18 PM	10:51*
057	Hudson River	7:27 AM	9:00 AM	1:33
058	Hudson River Park	7:27 AM	9:40 AM	2:13

* *Resource in shadow all day*

1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

TABLE 8-4
EXISTING CONDITIONS: JUNE 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset
June 21 (DST)	5:25 AM	6:57 AM	8:30 PM	7:01 PM
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**
01	2 Penn Plaza	6:57 AM	7:01 PM	12:04*
02a[1]	Bob's Park	6:57 AM	11:00 AM	4:03
02b[1]	Bob's Park	2:00 PM	7:01 PM	5:01
03	Javits Plaza	6:57 AM	7:01 PM	12:04*
04a[1]	640 W 42nd St. Plaza	6:57 AM	10:00 AM	3:03
04b[1]	640 W 42nd St. Plaza	12:50 PM	7:01 PM	6:11
05	Gregory J. M. Portley Plaza	6:57 AM	7:01 PM	12:04*
06	McCaffry Playground	6:57 AM	7:01 PM	12:04*
07	May Matthews Playground	6:57 AM	7:01 PM	12:04*
08	Hell's Kitchen Park	6:57 AM	7:01 PM	12:04*
09	Clinton Community Garden	6:57 AM	7:01 PM	12:04*
010	Ramon Aponte Park	6:57 AM	7:01 PM	12:04*
011	Marion S. Heishel Garden	6:57 AM	7:01 PM	12:04*
012	Farley Building Stairs	6:57 AM	10:10 AM	3:13
013	Golda Meir Square	6:57 AM	7:01 PM	12:04*
014a[1]	Herald Square	6:57 AM	11:35 AM	4:38
014b[1]	Herald Square	2:50 PM	7:01 PM	4:11
015a[1]	Greeley Square	6:57 AM	11:45 AM	4:48
015b[1]	Greeley Square	3:25 PM	7:01 PM	3:36
016	1250 Broadway Plaza	6:57 AM	7:01 PM	12:04*
017	230 W. 27th Street Park	6:57 AM	7:01 PM	12:04*
018	FIT Plaza	6:57 AM	7:01 PM	12:04*
019	Chelsea Park	6:57 AM	7:01 PM	12:04*
020	Elliot Houses Open Space	6:57 AM	7:01 PM	12:04*
021	Chelsea Houses Open Space	6:57 AM	7:01 PM	12:04*
022	Penn South Houses Open Space	6:57 AM	7:01 PM	12:04*
023	Penn Station Houses Playground	6:57 AM	7:01 PM	12:04*
024	One Penn Plaza	6:57 AM	7:01 PM	12:04*
025	Chelsea Waterside Park	6:57 AM	7:01 PM	12:04*
026	Clement Clarke Moore Park	6:57 AM	7:01 PM	12:04*
031a[1]	Bryant Park	6:57 AM	10:20 AM	3:23
031b[1]	Bryant Park	12:50 PM	7:01 PM	6:11
032	1095 Sixth Avenue Plaza	6:57 AM	7:01 PM	12:04*
033	Grace Plaza	6:57 AM	7:01 PM	12:04*
034	1155 Ave. of the Americas Plaza	6:57 AM	7:01 PM	12:04*
035	DeShaw & Co. Plaza	6:57 AM	7:01 PM	12:04*
036	1177 Ave. of the Americas Plaza	6:57 AM	7:01 PM	12:04*
037	1166 Ave. of the Americas Plaza	6:57 AM	7:01 PM	12:04*
038	1185 Avenue of the Americas – Westpoint Stevens Tower	6:57 AM	7:01 PM	12:04*
039	Father Duffy Square	6:57 AM	7:01 PM	12:04*
043	235 West 48th Street Plaza	6:57 AM	7:01 PM	12:04*
044	Guttenberg Playground	6:57 AM	7:01 PM	12:04*
045	Worldwide Plaza	6:57 AM	7:01 PM	12:04*
046	945 Seventh Avenue Plaza	6:57 AM	7:01 PM	12:04*
047	1251 Ave. of the Americas Plaza	6:57 AM	7:01 PM	12:04*
048	1633 Broadway/Paramount Plaza	6:57 AM	7:01 PM	12:04*
057	Hudson River	6:57 AM	8:30 AM	1:33
058	Hudson River Park	6:57 AM	9:20 AM	2:23

* *Resource in shadow all day*

1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

TABLE 8-5
EXISTING CONDITIONS: DECEMBER 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset
December 21 (DST)	7:16 AM	8:51 AM	4:32 PM	2:53 PM
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**
01	2 Penn Plaza	8:51 AM	2:53 PM	6:02*
02	Bob's Park	8:51 AM	2:53 PM	6:02*
03	Javits Plaza	8:51 AM	2:53 PM	6:02*
04	640 W 42nd St. Plaza	8:51 AM	2:53 PM	6:02*
05	Gregory J. M. Portley Plaza	8:51 AM	2:53 PM	6:02*
06	McCaffry Playground	8:51 AM	2:53 PM	6:02*
07	May Matthews Playground	8:51 AM	2:53 PM	6:02*
08	Hell's Kitchen Park	8:51 AM	2:53 PM	6:02*
09	Clinton Community Garden	8:51 AM	2:53 PM	6:02*
010	Ramon Aponte Park	8:51 AM	2:53 PM	6:02*
011	Marion S. Heishel Garden	8:51 AM	2:53 PM	6:02*
012	Farley Building Stairs	8:51 AM	2:53 PM	6:02*
013	Golda Meir Square	8:51 AM	2:53 PM	6:02*
014	Herald Square	8:51 AM	2:53 PM	6:02*
015	Greeley Square	8:51 AM	2:53 PM	6:02*
016	1250 Broadway Plaza	8:51 AM	2:53 PM	6:02*
017	230 West 27th Street Park	8:51 AM	2:53 PM	6:02*
018	FIT Plaza	8:51 AM	2:53 PM	6:02*
019	Chelsea Park	8:51 AM	2:53 PM	6:02*
020	Elliot Houses Open Space	8:51 AM	2:53 PM	6:02*
021	Chelsea Houses Open Space	8:51 AM	2:53 PM	6:02*
022	Penn South Houses Open Space	8:51 AM	2:53 PM	6:02*
023	Penn Station Houses Playground	8:51 AM	2:53 PM	6:02*
024	One Penn Plaza	8:51 AM	2:53 PM	6:02*
025	Chelsea Waterside Park	8:51 AM	2:53 PM	6:02*
026	Clement Clarke Moore Park	8:51 AM	2:53 PM	6:02*
031	Bryant Park	8:51 AM	2:53 PM	6:02*
032	1095 Sixth Avenue Plaza	8:51 AM	2:53 PM	6:02*
033	Grace Plaza	8:51 AM	2:53 PM	6:02*
034	1155 Ave. of the Americas Plaza	8:51 AM	2:53 PM	6:02*
035	DeShaw & Co. Plaza	8:51 AM	2:53 PM	6:02*
036	1177 Ave. of the Americas Plaza	8:51 AM	2:53 PM	6:02*
037	1166 Ave. of the Americas Plaza	8:51 AM	2:53 PM	6:02*
038	1185 Avenue of the Americas Westpoint Stevens Tower	8:51 AM	2:53 PM	6:02*
039	Father Duffy Square	8:51 AM	2:53 PM	6:02*
043	235 West 48th Street Plaza	8:51 AM	2:53 PM	6:02*
044	Guttenberg Playground	8:51 AM	2:53 PM	6:02*
045	Worldwide Plaza	8:51 AM	2:53 PM	6:02*
046	945 Seventh Avenue Plaza	8:51 AM	2:53 PM	6:02*
047	1251 Ave. of the Americas Plaza	8:51 AM	2:53 PM	6:02*
048	1633 Broadway/Paramount Plaza	8:51 AM	2:53 PM	6:02*
057	Hudson River	8:51 AM	12:20 PM	3:29
058	Hudson River Park	8:51 AM	12:50 PM	3:59

* *Resource in shadow all day*

a) March 21

For the March 21 study period, most open spaces with the exception of the Farley Building stairs, One Penn Plaza, and Herald Square are in shadow for the entire period when sun could be available. Sunlight could potentially be available on an open space from 7:36 AM to 4:29 PM, for a total of nearly nine hours. However, most open spaces are within shadow for the entire day. On March 21, a few open spaces are sunlit only in the late morning until early afternoon. While most of the open spaces are affected by shadows for eight hours and 53 minutes out of an approximate nine hours, the four exceptions which are not in shadow for that entire time (Farley Building stairs, Herald Square, Hudson River, and Hudson River Park) are still affected by shadow for most of the day.

The Farley Building stairs (resource no. 12) are in shadow from early morning until 10:05 AM, when they become sunlit until 2:00 PM. Herald Square (resource no. 14) is in shadow from morning until Midday (12:35 PM). It is mostly in sunlight until 1:45 PM, when it is in shadow until late afternoon. On March 21, Herald Square is in sunlight during the lunch hour, when it serves as a valuable open space for office workers and shoppers.

The Hudson River is affected by shadow for two hours in the early morning. Similarly, Hudson River Park is also affected for two and one-half hours in the early morning.

b) May 6

For the condition on May 6, the same open spaces listed above, plus Bob's Park and Bryant Park, have sunlight available. May 6 provides an example of a longer day with potential sunlight available from 7:27 AM until 6:16 PM, a total of almost eleven hours. Still, the majority of open spaces are affected by shadow for almost the entire day. The exceptions include open spaces which are affected by shadow in the morning, are sunlit in the Midday, and then are affected by shadow again throughout the afternoon.

Bob's Park (resource no. 2) is shadowed from 7:27 AM to 11:30 AM. Bob's Park is in sunlight from 11:30 AM to 2:05 PM, and then is in shadow again for the rest of the day. The Farley Building stairs are affected by shadow from 7:27 AM to late morning.

Herald Square is also in shadow until 11:45 AM. It is in sunlight for three hours during the Midday from 11:45 AM to 2:40 PM, when it is in shadow again until dusk. The Hudson River is in shadow in the early morning for over one hour. The Hudson River Park space is in shadow for just over two hours in the early morning.

Greeley Square (resource no. 15) is affected by shadow until 12:20 PM. It is sunlit from just after noon until 2:05 PM, and then is in shadow again for the rest of the day. Bryant Park is also affected by shadow in the morning. Bryant Park is sunlit from 10:00 AM to 11:45 AM, and then is affected by shadow again until 6:18 PM.

All of the open spaces on May 6 are affected by shadows for almost eleven hours. The exceptions are still affected by shadows during most of the day by almost eight hours (Bob's Park), three hours (Farley Building stairs), and almost eight hours (Herald Square). Other exceptions are in shadow for almost ten hours (Greeley Square), and nine hours (Bryant Park).

c) June 21

For June 21, sunlight is available from 6:57 AM to 7:01 PM, for a total of just over 12 hours, but the majority of open spaces are affected by shadow for the entire day. For this period, eight of the 43 open space resources would have sunlight. The remaining resources would be in shadow for the entire day. The open spaces which are not in shadow for the entire day are affected by shadow in the morning and afternoon, only experiencing sunlight for a few hours during the Midday. On the longest day of the year when shadows are the shortest, all of the open space resources in the study area remain in shadow for most of the day.

The open spaces include Bob's Park, which is affected by shadow in the morning and only is sunlit during the Midday (from 11:00 AM to 2:00 PM), and then is in by shadow until the end of the day. The 640 West 42nd Street Plaza (resource no. 4) is affected by shadow in the morning and is sunlit during the Midday (from 10:00 AM to 12:50 PM); then it is again in shadow.

The Farley Building stairs are also affected by shadow in the morning (from 6:57 AM to 10:10 AM).

Herald Square is affected by shadow during the morning. It is sunlit during the Midday (from 11:35 AM to 2:50 PM) and is affected by shadow for the remainder of the day. The Hudson River is affected by shadow in the early morning for one and one-half hours. Hudson River Park is in shadow for just over two hours in the early morning.

Greeley Square is affected by shadow in the morning and afternoon and is sunlit only during the Midday (from 11:45 AM to 3:25 PM). Bryant Park is affected by shadow in the morning and is sunlit during the Midday (from 10:20 AM to 12:50 PM); then it is in shadow again until 7:01 PM.

The exceptions are still affected by shadows during most of the day. Of the 12 hours during which sunlight is available, almost nine hours (Bob's Park), nine hours (640 West 42nd Street Plaza), and three hours (Farley Building Stairs) are shadowed. Other exceptions are affected for almost nine hours (Herald Square and Greeley Square), and nine and one-half hours (Bryant Park).

d) December 21

On December 21, the least duration of sunlight is available, and long winter shadows envelop the open spaces. Of the approximately six-hour timeframe considered for analysis purposes, every open space is in shadow for over six hours, affected by shadow for the entire day.

Many of the open spaces within the study area are affected by shadows from 8:51 AM to 2:53 PM, the period during which sunlight might be available, as further defined by CEQR guidance. The Hudson River is in shadow for almost three and one-half hours in the morning, and Hudson River Park is in shadow for four hours. All open spaces are affected by shadow for just over six hours.

Screening of Open Space Resources

Because in the Existing Condition, the great majority of open spaces are fully within shadow for all analysis periods, these resources were not advanced for additional analysis, as there is no potential for additional shadows to be cast upon the open spaces. The open spaces that are considered in subsequent sections include Bob's Park (No. 2) the plaza at 640 West 42nd Street (No. 4), the Farley Building stairs (No. 12), Herald Square (No. 13), Greeley Square (No. 14), Bryant Park (No. 31), the Hudson River (No. 57) and Hudson River Park (No. 58).

4. Historic Resources – Existing Conditions

Historic resources were also examined. According to the *CEQR Technical Manual*, historic resources encompass districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. These resources include designated New York City Landmarks, properties eligible for consideration by the New York City Landmarks Preservation Commission (LPC), and properties on the State and/or National Register of Historic Places, or contained within a district listed on the State and/or National Register of Historic Places. The list of historic resources was drawn from Chapter 9, Historic Resources.

The following designated and/or potential historic resources within the study area, which could be affected by new shadows, were located relative to the earliest entering angle and latest exiting angle of the sun. If resources were outside this area relative to the study area, they were excluded from further analysis. The historic resources were selected based on location and sensitivity to existing and future shadows. Detailed analysis was performed for those resources most likely to be affected by shadows, listed below in Table 8-6.

TABLE 8-6
POTENTIALLY AFFECTED DESIGNATED AND/OR POTENTIAL HISTORIC RESOURCES

Ref. No.	Resource	Location
L1	Hill Building	469 Tenth Avenue
L2	St. John the Baptist RC Church	207 West 30th Street
L3	St. Francis RC Church	129 West 31st Street
L4	St. Michael's RC Church	414 West 34th Street
L5	Christ Church Memorial Building	334 West 36th Street
L6	St. Raphael's RC Church	502 West 41st Street
L7	Farley Building Eighth Ave. Façade	Eighth Avenue and West 31st Street
L8	Holy Cross RC Church	329 West 42nd Street
L9	U.S.S. Intrepid	Hudson River at West 44th and 45th Streets
L10	U.S.S. Edson	Hudson River at West 44th and 45th Streets
L11	Starrett-Lehigh Building	601-625 West 26th Street

The Farley Building is a National Landmark, and the same side of the building that is significant as an open space is also significant as a defining element of the architecture of this building. The Eighth Avenue façade is considered the most sensitive element of the resource, and the sunlight that is cast upon it articulates the architectural features that distinguish this public building. Its colonnade and portico are reached by an almost block-wide flight of stairs, and light effects on the colonnade contribute to the articulation of the rhythm of the columns and the depth of the entrance (see Chapter 9, "Architectural Historic Resources," for a complete description of the architectural features of the Farley Building and discussion of its significance). One area of interest involves potential shadows on the U.S.S. Intrepid and U.S.S. Edson. The aircraft carrier U.S.S. Intrepid and, immediately north of it, the destroyer U.S.S. Edson are permanently docked at Pier 86 and house the Intrepid Sea-Air-Space Museum. It is located on West 46th Street on the west side of Twelfth Avenue. Docked at Pier 86 between West 45th and 46th Streets, the U.S.S. Intrepid is one of a few naval vessels listed on the National Register, State and National Registers of Historic Places, and as a National Historic Landmark. The aircraft carrier was built in 1941-1943 and served in World War II, the Cold War, and Vietnam. The U.S.S. Edson is mentioned as it is part of the Museum, but is not considered in this analysis, as it is shadowed by the U.S.S. Intrepid.

The Hill Building is a historic resource located at 469-475 Tenth Avenue. The 12-story Classical Revival terra cotta loft building was constructed in the early 1900s for the Hill Publishing Company. Its classically modeled façades are relatively flat, and the context of the building is substantially altered. An attractive and potentially eligible historic resource, the Hill Building does not exhibit sunlight-dependent features that would be considered sensitive to shadowing, and was therefore screened out from consideration for significant adverse impacts.

Figures 8-5 through 8-20 portray the effect of shadows for March 21, May 6, June 21, and December 21 for the Existing Condition. Tables 8-7 to 8-10 present the shadow entry time, exit time and shadow duration for each historic resource. For the Existing Condition, all of the historic resources are affected by shadows for the majority of daylight hours during all times of the year.

TABLE 8-7
EXISTING CONDITIONS: MARCH 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**
L2	St. John the Baptist RC Church	7:36 AM	4:29 PM	8:53*
L3	St. Francis RC Church	7:36 AM	4:29 PM	8:53*
L4	St. Michael's RC Church	7:36 AM	4:29 PM	8:53*
L5	Christ Church Memorial Building	7:36 AM	4:29 PM	8:53*
L6	St. Raphael's RC Church	7:36 AM	8:30 AM	0:54
L7	Farley Building Eighth Ave. Façade	7:36 AM	10:05 AM	2:29
L8	Holy Cross RC Church	7:36 AM	4:29 PM	8:53*
L9	U.S.S. Intrepid	N/A	N/A	0:00
L11a[1]	Starrett-Lehigh Building	7:36 AM	10:00 AM	2:24
L11b[1]	Starrett-Lehigh Building	1:00 PM	4:29 PM	3:29

* *Resource in shadow all day* 1. *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

TABLE 8-8
EXISTING CONDITIONS: MAY 6 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset
May 6 (DST)	5:48 AM	7:27 AM	7:57 PM	6:16 PM
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**
L2	St. John the Baptist RC Church	7:27 AM	6:18 PM	10:51*
L3	St. Francis RC Church	7:27 AM	6:18 PM	10:51*
L4	St. Michael's RC Church	7:27 AM	6:18 PM	10:51*
L5	Christ Church Memorial Building	7:27 AM	6:18 PM	10:51*
L6	St. Raphael's RC Church	7:27 AM	9:00 AM	1:33
L7	Farley Building Eighth Ave. Façade	7:27 AM	10:45 AM	3:18
L8	Holy Cross RC Church	7:27 AM	6:18 PM	10:51*
L9	U.S.S. Intrepid	N/A	N/A	0:00
L11a[1]	Starrett-Lehigh Building	7:27 AM	10:00 AM	2:33
L11b[1]	Starrett-Lehigh Building	2:30 PM	6:18 PM	3:48

* *Resource in shadow all day* 1. *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

TABLE 8-9
EXISTING CONDITIONS: JUNE 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset
June 21 (DST)	5:25 AM	6:57 AM	8:30 PM	7:01 PM
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**
L2	St. John the Baptist RC Church	6:57 AM	7:01 PM	12:04*
L3	St. Francis RC Church	6:57 AM	7:01 PM	12:04*
L4	St. Michael's RC Church	6:57 AM	7:01 PM	12:04*
L5	Christ Church Memorial Building	6:57 AM	7:01 PM	12:04*
L6	St. Raphael's RC Church	6:57 AM	9:45 AM	2:48
L7	Farley Building Eighth Ave. Façade	6:57 AM	10:10 AM	3:13
L8	Holy Cross RC Church	6:57 AM	7:01 PM	12:04*
L9	U.S.S. Intrepid	N/A	N/A	0:00
L11a[1]	Starrett-Lehigh Building	6:57 AM	9:00 AM	2:03
L11b[1]	Starrett-Lehigh Building	4:15 PM	7:01 PM	2:46

* *Resource in shadow all day* 1. *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

TABLE 8-10
EXISTING CONDITIONS: DECEMBER 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset
December 21	7:16 AM	8:51 AM	4:32 PM	2:53 PM
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**
L2	St. John the Baptist RC Church	8:51 AM	2:53 PM	6:02*
L3	St. Francis RC Church	8:51 AM	2:53 PM	6:02*
L4	St. Michael's RC Church	8:51 AM	2:53 PM	6:02*
L5	Christ Church Memorial Building	8:51 AM	2:53 PM	6:02*
L6a[1]	St. Raphael's RC Church	8:51 AM	10:30 AM	1:39
L6b[1]	St. Raphael's RC Church	2:38 PM	2:53 PM	0:15
L7	Farley Building Eighth Ave. Façade	8:51 AM	2:53 PM	6:02*
L8	Holy Cross RC Church	8:51 AM	2:53 PM	6:02*
L9	U.S.S. Intrepid	8:51 AM	10:00 AM	1:09
L11	Starrett-Lehigh Building	8:51 AM	2:53 PM	6:02*

* *Resource in shadow all day* *1. Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

a) March 21

On March 21, sunlight could potentially be available to a historic resource from 7:36 AM to 4:29 PM, for a total of nine hours. However, the majority of the historic resources, St. John the Baptist RC Church, St. Francis RC Church, St. Michael's RC Church, the Christ Church Memorial Building, and Holy Cross RC Church, are affected by shadow for over eight hours of the nine hour analysis period.

St. Raphael's RC Church is sunlit throughout the afternoon, from 12:25 to 4:29 PM. This church, another potentially eligible architectural resource located at 502 West 41st Street, was built in a French Gothic style in 1903. For purposes of this analysis, this eligible resource is considered sensitive for its rose windows, which light the sanctuary from the east and west ends of the transept. There is also a rose window on the north side of the building, but it would be unaffected by potential new shadowing. A parking lot and a Lincoln Tunnel entrance abut the church complex on the east and west, creating full, 360-degree views of the church and allowing the maximum amount of sunlight throughout the day.

The Farley Building is sunlit for most of the day with the exception of shadows between 7:36 AM to 10:05 AM. The Starrett Lehigh Building at Twelfth Avenue and West 26th Street is sunlit for three hours from the late morning to early afternoon. Originally designed as a freight terminal and warehouse, the structural system of the building creates largely unobstructed floor spaces, and continuous strip windows provide a maximum amount of light to the interior. The dramatically massed, brick-and-glass building rises through a series of setbacks to a height of 22 stories.

The four historic resources discussed above are affected by shadow on March 21 for almost one hour, two hours (Farley Building Eighth Avenue façade), and almost six hours (Starrett Lehigh Building), respectively.

b) May 6

On May 6, as the days get longer, sunlight is available from 7:27 AM to 6:16 PM for a total of 11 hours. The majority of the historic resources, St. John the Baptist RC Church, St. Francis RC Church, St. Michael's RC Church, the Christ Church Memorial Building, and Holy Cross RC Church, are affected by shadow for these 11 hours.

Certain landmarks and potentially eligible resources have sunlit times. These exceptions include St. Raphael's RC Church, which is sunlit for over nine hours a day. The Farley Building is sunlit for almost five hours a day. In May, these historic resources are only affected by shadow just over one

and one-half hours (St. Raphael Catholic Church), and three hours (Farley Building), respectively. The Starrett Lehigh Building is sunlit for four and one-half hours on May 6.

c) June 21

On June 21, sunlight is available from 6:57 AM to 8:30 PM for a total of almost 12 hours. The majority of historic resources, St. John the Baptist RC Church, St. Francis RC Church, St. Michael's RC Church, the Christ Church Memorial Building, and Holy Cross RC Church, are affected by shadow for the entire day.

Historic resources which are not in shadow the entire day include St. Raphael Catholic Church, which is sunlit from the late morning through the rest of the day. The Farley Building is sunlit for nine hours during the day. These resources are affected by shadow almost three hours (St. Raphael's RC Church) and almost three hours (Farley Building Eighth Avenue façade) during the day, respectively. The Starrett Lehigh Building is sunlit for over seven hours on June 21.

d) December 21

On December 21, sunlight is available from 8:51 AM to 2:53 PM for a total of over six hours. The majority of historic resources, including St. John the Baptist RC Church, St. Francis RC Church, St. Michael's RC Church, the Christ Church Memorial Building, Farley Building, the Starrett Lehigh Building and Holy Cross RC Church, are affected by shadow for the entire period.

One exception within the study area includes St. Raphael's RC Church, which is sunlit for four hours during the Midday. St. Raphael is affected by shadow for only one hour and 54 minutes on the shortest day of the year.

The U.S.S. Intrepid experiences approximately one hour of shadow during this time period.

Screening of Historic Resources

Because the historic resources L2, L3, L4, L5, L8 and L10 are fully within shadow for all analysis periods for the existing condition, there is no potential for future shadows from no-action or project-related conditions to affect these resources. They are therefore dropped from further consideration. The Hill Building, a potentially eligible resource, could also experience additional shadowing, but as its historic features are not sunlight-dependent, it, too, was dropped from additional consideration.

C. 2010 FUTURE WITHOUT THE PROPOSED ACTION

The Future Without the Proposed Action refers to the study area and the announced changes, independent of the Proposed Action, that are expected to be completed by 2010. Shadow modeling of the eligible or potential open space and historic resource sites within ½ mile of the study area was conducted to identify the potential shadowing changes from new development that would occur without the Proposed Action.

Both the Future With and Future Without the Proposed Action of the FGEIS include minor corrections and revised no-build assumptions (i.e. West Chelsea "Base FAR Scenario); however, the conclusions reached in the DGEIS remain the same.

An approximately one-million-square-foot 70-story office tower with ground-floor retail, is proposed to be developed on a platform over the rail yard adjacent to the Farley Building west of Ninth Avenue, between West 31st and West 33rd Streets. Another major development project in the vicinity is the Pennsylvania Station Redevelopment project. The project would move most of Amtrak's operations from Pennsylvania Station west to the Farley Building. A planned full conversion of the Farley Building into a new facility would include an expanded Amtrak and commuter rail station, and other civic and commercial uses.

The High Line open space, re-utilizing an out-of-use, elevated rail line, would also be created in the study area. Approximately 4.02 acres of the High Line falls within the study area. Preliminary plans envision the High Line as open space use in place by 2010. Therefore, this analysis examines potential shadows and their effect on the High Line open space. Within the Maximum Shadow Area as defined for the Proposed Action, all of the High Line south of West 30th Street is within shadow for all time periods. The portion of the High Line north of West 30th Street is considered for analysis.

The segment of Hudson River Park within the area immediately adjacent to the Project Area would be completed by 2010. Within this area, the new park would contain features that support active and passive recreation, including bikeways, walkways, and linear parks. At the river's edge between West 30th and 34th Streets, the park's edge would contain ecological walkways and plantings, and would be designed for nature walks, research, and sanctuary management. A shoreline beach would be constructed between Piers 72 and 76. In addition to this edge, the Hudson River habitat was analyzed for sensitivity to any shadows cast as a result of new development. In the Future Without the Proposed Action, the Hudson River and Hudson River Park would be in shadow primarily during the morning hours.

Figures 8-21 to 8-36 display the shadow effects in the 2010 Future Without the Proposed Action.

1. Open Spaces – 2010

For the Future Without the Proposed Action, open spaces that are sunlit in the Existing Condition were analyzed for potential incremental shadow effects resulting from new development. The purpose of the analysis was to determine the incremental effects of shadows of the 2010 Future Without the Proposed Action over those of the Existing Condition. Tables 8-12 to 8-15 show the entry, exit, duration time, and incremental effect of shadows on each open space resource for the 2010 Future Without the Proposed Action.

TABLE 8-12
2010 FUTURE WITHOUT THE PROPOSED ACTION: MARCH 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM	8:53 hours
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
02	Bob's Park	7:36 AM	4:29 PM	8:53*	0:00
04	640 W 42nd St. Plaza	7:36 AM	4:29 PM	8:53*	0:00
012	Farley Building Stairs	7:36 AM	10:05 AM	2:29	0:00
014a[1]	Herald Square	7:36 AM	12:35 PM	4:59	0:00
014b[1]	Herald Square	1:45 PM	4:29 PM	2:44	0:00
015	Greeley Square	7:36 AM	4:29 PM	8:53*	0:00
024a[1]	One Penn Plaza	7:36 AM	10:05 AM	2:29	:20
024b[1]	One Penn Plaza	11:50 AM	4:29 PM	4:39	0:00
057	Hudson River	7:36 AM	10:05 AM	2:29	:30
031	Bryant Park	7:36 AM	4:29 PM	8:53*	0:00
058	Hudson River Park	7:36 AM	10:50 AM	3:14	:40

* *Resource in shadow all day*
1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

TABLE 8-13
2010 FUTURE WITHOUT THE PROPOSED ACTION: MAY 6 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
May 6	5:48 AM	7:27 AM	7:57 PM	6:16 PM (DST)	10:51 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
02a[1]	Bob's Park	7:27 AM	11:30 AM	4:03	0:00
02b[1]	Bob's Park	2:05 PM	6:18 PM	4:13	0:00
04	640 W 42nd St. Plaza	7:27 AM	6:18 PM	10:51*	0:00
012	Farley Building Stairs	7:27 AM	10:45 AM	3:18	0:00
014a[1]	Herald Square	7:27 AM	11:45 AM	4:18	0:00
014b[1]	Herald Square	2:40 PM	6:18 PM	3:38	0:00
015a[1]	Greeley Square	7:27 AM	12:20 PM	4:53	0:00
015b[1]	Greeley Square	2:05 PM	6:18 PM	4:13	0:00
024a[1]	One Penn Plaza	7:27 AM	11:00 AM	3:33	3:03
024b[1]	One Penn Plaza	12:50 PM	6:18 PM	5:28	0:00
031a[1]	Bryant Park	7:27 AM	10:00 AM	2:33	0:00
031b[1]	Bryant Park	11:45 AM	6:18 PM	6:33	0:00
057	Hudson River	7:27 AM	9:10	1:43	:10
058	Hudson River Park	7:27 AM	9:50	2:23	:10

1 Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.

TABLE 8-14
2010 FUTURE WITHOUT THE PROPOSED ACTION: JUNE 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
June 21	5:25 AM	6:57 AM	8:30 PM	7:01 PM (DST)	12:04 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
02a[1]	Bob's Park	6:57 AM	11:00 AM	4:03	0:00
02b[1]	Bob's Park	2:00 PM	7:01 PM	5:01	0:00
04	640 W 42nd St. Plaza	6:57 AM	7:01 PM	12:04	2:50
012	Farley Building Stairs	6:57 AM	10:10 AM	3:13	0:00
014a[1]	Herald Square	6:57 AM	11:35 AM	4:38	0:00
014b[1]	Herald Square	2:50 PM	7:01 PM	4:11	0:00
015a[1]	Greeley Square	6:57 AM	11:45 AM	4:48	0:00
015b[1]	Greeley Square	3:25 PM	7:01 PM	3:36	0:00
024	One Penn Plaza	6:57 AM	7:01 PM	12:04	0:00
031a[1]	Bryant Park	6:57 AM	10:20 AM	3:23	0:00
031b[1]	Bryant Park	12:50 PM	7:01 PM	6:11	0:00
057	Hudson River	6:57 AM	8:30 AM	1:33	0:00
058	Hudson River Park	6:57 AM	9:20 AM	2:23	0:00

1 Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.

TABLE 8-15
2010 FUTURE WITHOUT THE PROPOSED ACTION: DECEMBER 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
December 21	7:16 AM	8:51 AM	4:32 PM	2:53 PM	6:02 hrs
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
02	Bob's Park	8:51 AM	2:53 PM	6:02*	0:00
012	Farley Building Stairs	8:51 AM	2:53 PM	6:02*	0:00
014	Herald Square	8:51 AM	2:53 PM	6:02*	0:00
015	Greeley Square	8:51 AM	2:53 PM	6:02*	0:00
031	Bryant Park	8:51 AM	2:53 PM	6:02*	0:00
057	Hudson River	8:51 AM	12:30 PM	3:39	:10
058	Hudson River Park	8:51 AM	1:00 PM	4:09	:10

** Resource in shadow all day*

a) March 21

On March 21, One Penn Plaza was identified as an open space that would be affected by an incremental shadow due to new development. It would be affected by an extra 20 minutes of shadow in the morning from the 50-story Friars Tower building located between Seventh Avenue and Broadway between West 31st and 32nd Streets. Figure 8-37 shows a detailed site plan of One Penn Plaza and the effect of existing morning shadows. Bob's Park, the plaza at 640 West 42nd Street, the Farley Building, Herald Square, and Greeley Square would be unaffected for this time period.

A portion of the Hudson River would be affected by an extra 30 minutes of shadow, and Hudson River Park would be affected by an extra 40 minutes of shadow in the morning over that of the Existing Condition.

b) May 6

One Penn Plaza would be affected by over three hours of additional shadowing during the morning and early afternoon from the 50-story Friars Tower, a building to be located between Seventh Avenue and Broadway between West 31st and 32nd Streets. Figure 8-38 shows the incremental shadow as it enters the northeast portion of the site. The Hudson River and Hudson River Park would both be affected by an extra 10 minutes of shadow in the morning over that of the Existing Condition. The High Line would be affected by shadows similar to those of Hudson River Park.

c) June 21

The plaza at 640 West 42nd Street and One Penn Plaza were identified as open spaces that would have additional incremental effects due to new development.

The plaza at 640 West 42nd Street would have incremental shadowing due to the 56-story River Place II development to be located at the southwesterly corner of West 42nd Street and Eleventh Avenue. The River Place development would remove all sunlight from the plaza, resulting in an additional two hours and fifty minutes of shadow during the Midday. As shown on Figure 8-39, the incremental shadow would be cast on almost the entire plaza, particularly on the playground at the southwest corner of the site. Figure 8-40 depicts the shadow effects on the north portion of the site, which includes public gardens.

One Penn Plaza would be affected by shadow for the majority of the day from the Friars Tower.

d) December 21

On December 21, open spaces would be in shadow for the entire day. Both the Hudson River and Hudson River Park would be affected by an additional 10 minutes of shadow in the morning.

2. Historic Resources - 2010

Many of the historic resources are affected by shadow in the Existing Condition. The basis of the next analysis was to determine the incremental effect from the shadows on historic resources in the Existing Condition compared to those of the 2010 Future Without the Proposed Action. In the Future Without the Proposed Action, there would be incremental shadow effects on historic resources. Tables 8-16 to 8-19 show the entry, exit, duration time, and incremental effect of shadows on each historic resource for the 2010 Future Without the Proposed Action.

a) March 21

On March 21, no historic resources would have potential incremental effects over those of the Existing Condition.

Figure 8-42 illustrates how St. Raphael's RC Church would be affected by shadows.

b) May 6

On May 6, St. Raphael's RC Church would have incremental effects from the 43-story Theater Row II development, resulting in an additional forty minutes of shadow in the morning over that of the Existing Condition. Figure 8-43 illustrates how St. Raphael's RC Church would be affected by shadows.

TABLE 8-16
2010 FUTURE WITHOUT THE PROPOSED ACTION: MARCH 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM	8:53 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing and No-Build Condition**
L6	St. Raphael's RC Church	7:36 AM	8:30 AM	0:54	0:00
L7	Farley Building Eighth Ave. Façade	7:36 AM	10:05 AM	2:29	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11a[1]	Starrett-Lehigh Building	7:36 AM	10:00 AM	2:24	0:00
L11b[1]	Starrett-Lehigh Building	1:00 PM	4:29 PM	3:29	0:00

1 Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.

TABLE 8-17
2010 FUTURE WITHOUT THE PROPOSED ACTION: MAY 6 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
May 6 (DST)	5:48 AM	7:27 AM	7:57 PM	6:16 PM	10:51 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
L6	St. Raphael's RC Church	7:27 AM	9:40 AM	2:13	:40
L7	Farley Building Eighth Ave. Façade	7:27 AM	10:45 AM	3:18	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11a[1]	Starrett-Lehigh Building	7:27 AM	10:00 AM	2:33	0:00
L11b[1]	Starrett-Lehigh Building	2:30 PM	6:18 PM	3:48	0:00

1 Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.

TABLE 8-18
2010 FUTURE WITHOUT THE PROPOSED ACTION: JUNE 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
June 21 (DST)	5:25 AM	6:57 PM	8:30 PM	7:01 PM	12:04 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
L6	St. Raphael's RC Church	6:57 AM	10:00 AM	3:03	:15
L7	Farley Building Eighth Ave. Façade	6:57 AM	10:10 AM	3:13	0:00
L9	U.S.S. Intrepid	0:00	0:00	0:00	0:00
L11a[1]	Starrett-Lehigh Building	6:57 AM	9:00 AM	2:03	0:00
L11b[1]	Starrett-Lehigh Building	4:15 PM	7:01 PM	2:46	0:00

1 Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.

TABLE 8-19
2010 FUTURE WITHOUT THE PROPOSED ACTION: DECEMBER 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
December 21	7:16 AM	8:51 AM	4:32 PM	2:53 PM	6:02 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
L6a[1]	St. Raphael's RC Church	8:51 AM	10:30 AM	1:39	0:00
L6b[1]	St. Raphael's RC Church	2:38 PM	2:53 PM	0:15	0:00
L7	Farley Building Eighth Ave. Façade	8:51 AM	2:53 PM	6:02*	0:00
L9a	U.S.S. Intrepid	8:51 AM	10:00 AM	1:09	0:00
L11	Starrett-Lehigh Building	8:51 AM	2:53 PM	6:02*	0:00

* *Resource in shadow all day*
1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

c) June 21

On June 21, the majority of historic resources would be in shadow for the entire twelve hours of potential sunlight.

St. Raphael's RC Church would have incremental effects from the Theater Row II development, resulting in an additional 15 minutes of shadow in the morning over that of the Existing Condition. Figure 8-44 illustrates how St. Raphael's RC Church would be affected by shadows.

d) December 21

On December 21, the majority of historic resources would be in shadow for the entire day. No historic resource would experience any incremental shadowing due to new development. The U.S.S. Intrepid would be affected by 41 minutes of incremental shadows in the morning.

D. 2010 FUTURE WITH THE PROPOSED ACTION

In the 2010 Future with the Proposed Action, new morning shadows would be cast by the Multi-Use Facility and the expanded Convention Center onto the Hudson River and Hudson River Park, and by new development related to the proposed rezoning. Except for Hudson River Park, existing open space resources would not be shadowed by new development proposed to be completed as part of the 2010 Future With the Proposed Action. For most existing open space resources, there would be no additional increment of shadowing induced by the 2010 Future With Proposed Action.

1. Study Area

The No. 7 Subway Extension, Convention Center Expansion and Multi-Use Facility would all be complete and in operation by 2010. The Convention Center and Multi-Use Facility buildings would be tall structures, and in particular, the Multi-Use Facility and Convention Center Hotel would contribute to morning shadows along and onto Hudson River Park and the Hudson River. With the No. 7 Subway Extension, above-ground station entrances and elements would not contribute to shadowing, because they would be low-rise or enclosed within new buildings. New public open spaces created as part of the Proposed Action may be shadowed, but such shadows are not significant adverse impacts, because the open spaces would be created by the Proposed Action. Projected Development Site 4 at Eleventh Avenue would produce new shadows. The Convention Center expansion north between Eleventh and Twelfth Avenues would occupy the full blocks between West 39th Street and West 41st Street, and part of the block at the southwest corner of West 42nd Street and Eleventh Avenue. At the northerly end of the Convention Center site, a 50-story hotel is planned and would cast morning shadows onto the Hudson River and toward historic resources, replacing the

shadows that would have been cast by River Place II, a residential project considered for this location in the Future Without the Proposed Action. New shadows would be cast upon the publicly accessible open spaces to be located on the roof of the expanded Convention Center. Morning shadows would be cast upon the roof from adjacent new development.

To the south, the Multi-Use Facility would be a tall structure, casting shadows on the immediately adjacent Hudson River Park and Hudson River during the morning. The building would rise to a height of approximately 350 feet. Shadows would be cast at the earliest entrance time of sunlight and would exit within a few hours.

Figures 8-45 to 8-60 display the shadow effects in the 2010 Future With the Proposed Action.

2. Open Spaces - 2010

In the 2010 Future With the Proposed Action, open spaces that would be sunlit in the 2010 Future Without the Proposed Action and that would be located in proximity to proposed new development were analyzed for incremental shadow effects. The basis of analysis was to compare the incremental effects of shadows from the Future With the Proposed Action to conditions that are projected to exist for this first analysis year.

In the 2010 Future With the Proposed Action, three additional open spaces would be added. The Convention Center rooftop open space, the full-block open space between West 33rd and West 34th Streets from Eleventh to Twelfth Avenues, and the Block 675 park, located either on top of the multi-agency facility which would house the DSNY and NYPD Tow Pound operations or at grade, would be newly created open spaces in 2010.

Tables 8-20 to 8-23 show the entry, exit, duration time and incremental effect of shadow from the Future Without the Proposed Action to that of the Future With the Proposed Action.

TABLE 8-20
2010 FUTURE WITH THE PROPOSED ACTION: MARCH 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM	8:53 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-Build & Build Shadows**
02	Bob's Park	7:36 AM	4:29 PM	8:53*	0:00
04	640 W 42nd St. Plaza	7:36 AM	4:29 PM	8:53*	0:00
012	Farley Building Stairs	7:36 AM	10:05 AM	2:29	0:00
014a[1]	Herald Square	7:36 AM	12:35 PM	4:59	0:00
014b[1]	Herald Square	1:45 PM	4:29 PM	2:44	0:00
015	Greeley Square	7:36 AM	4:29 PM	8:53*	0:00
031	Bryant Park	7:36 AM	4:29 PM	8:53*	0:00
057	Hudson River	7:36 AM	10:05 AM	2:29	0:00
058	Hudson River Park	7:36 AM	10:50 AM	3:14	0:00
Proposed Open Spaces					
059a[1]	Convention Center Roof Open Space[2]	7:36 AM	12:00 PM	4:24	N/A
059b[1]	Convention Center Roof Open Space[2]	2:00 PM	4:29 PM	2:29	N/A
060	Full-Block Open Space[2]	7:36 AM	4:29 PM	8:53*	N/A
061	Block 675 Park[2]	7:36 AM	8:25 AM	:49	N/A

* *Resource in shadow all day*
1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*
2 *New resources created by the Proposed Action*

TABLE 8-21
2010 FUTURE WITH THE PROPOSED ACTION: MAY 6 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
May 6 (DST)	5:48 AM	7:27 AM	7:57 PM	6:16 PM	10:51 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-build & Build Shadows**
02a[1]	Bob's Park	7:27 AM	11:30 AM	4:03	0:00
02b[1]	Bob's Park	2:05 PM	6:18 PM	4:13	0:00
04	640 W 42nd St. Plaza	7:27 AM	6:18 PM	10:51*	0:00
012	Farley Building Stairs	7:27 AM	10:45 AM	3:18	0:00
014a[1]	Herald Square	7:27 AM	11:45 AM	4:18	0:00
014b[1]	Herald Square	2:40 PM	6:18 PM	3:38	0:00
015a[1]	Greeley Square	7:27 AM	12:20 PM	4:53	0:00
015b[1]	Greeley Square	2:05 PM	6:18 PM	4:13	0:00
031a[1]	Bryant Park	7:27 AM	10:00 AM	2:33	0:00
031b[1]	Bryant Park	11:45 AM	6:18 PM	6:33	0:00
057	Hudson River	7:27 AM	9:10 AM	1:43	0:00
058	Hudson River Park	7:27 AM	9:50 AM	2:33	0:00
Proposed Open Spaces					
059	Convention Center Roof Open Space[2]	7:27 AM	12:30 PM	5:03	N/A
060	Full-Block Open Space[2]	7:27 AM	9:10 AM	1:43	N/A
061	Block 675 Park[2]	7:27 AM	9:30 AM	2:03	N/A

* *Resource in shadow all day*
1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*
2 *New resources created by the Proposed Action*

TABLE 8-22
2010 FUTURE WITH THE PROPOSED ACTION: JUNE 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
June 21 (DST)	5:25 AM	6:57 AM	8:30 PM	7:01 PM	12:04 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-build & Build Shadows**
02a[1]	Bob's Park	6:57 AM	11:00 AM	4:03	0:00
02b[1]	Bob's Park	2:00 PM	7:01 PM	5:01	0:00
012	Farley Building Stairs	6:57 AM	10:10 AM	3:13	0:00
014a[1]	Herald Square	6:57 AM	11:35 AM	4:38	0:00
014b[1]	Herald Square	2:50 PM	7:01 PM	4:11	0:00
015a[1]	Greeley Square	6:57 AM	11:45 AM	4:48	0:00
015b[1]	Greeley Square	3:25 PM	7:01 PM	3:36	0:00
024a[1]	One Penn Plaza	6:57 AM	10:30 AM	3:33	0:00
024b[1]	One Penn Plaza	2:30 PM	7:01 PM	4:31	0:00
031a[1]	Bryant Park	6:57 AM	10:20 AM	3:23	0:00
031b[1]	Bryant Park	12:50 PM	7:01 PM	6:11	0:00
057	Hudson River	6:57 AM	9:10 AM	2:13	:40
058	Hudson River Park	6:57 AM	10:10 AM	3:13	:50
Proposed Open Spaces					
059	Convention Center Roof Open Space[2]	6:57 AM	7:01 PM	12:04*	N/A
060	Full-Block Open Space[2]	6:57 AM	7:01 PM	12:04*	N/A
061	Block 675 Park[2]	6:57 AM	9:30 AM	2:33	N/A

* *Resource in shadow all day*
1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*
2 *New resources created by the Proposed Action*

TABLE 8-23
2010 FUTURE WITH THE PROPOSED ACTION: DECEMBER 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
December 21	7:16 AM	8:51 AM	4:32 PM	2:53 PM	6:02 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-build & Build Shadows**
02	Bob's Park	8:51 AM	2:53 PM	6:02*	0:00
04	640 W 42nd St. Plaza	8:51 AM	2:53 PM	6:02*	0:00
012	Farley Building Stairs	8:51 AM	2:53 PM	6:02*	0:00
013	Golda Meir Square	8:51 AM	2:53 PM	6:02*	0:00
014	Herald Square	8:51 AM	2:53 PM	6:02*	0:00
015	Greeley Square	8:51 AM	2:53 PM	6:02*	0:00
024	One Penn Plaza	8:51 AM	2:53 PM	6:02*	0:00
031	Bryant Park	8:51 AM	2:53 PM	6:02*	0:00
057	Hudson River	8:51 AM	1:30 PM	4:39	1:00
058	Hudson River Park	8:51 AM	2:00 PM	5:09	1:00
Proposed Open Spaces					
059	Convention Center Roof Open Space[1]	8:51 AM	2:53 PM	6:02*	N/A
060	Full-Block Open Space[1]	8:51 AM	2:53 PM	6:02*	N/A
061	Block 675 Park1				N/A

* *Resource in shadow all day*
1 *New resources created by the Proposed Action*

a) March 21

On March 21, like the condition in the Future Without the Proposed Action, the majority of the open spaces would be in shadow for over eight hours out of a potential nine hours of sunlight. Bob's Park, Herald Square, Greeley Square, the Farley Building and Bryant Park would be unaffected by the Future with the Proposed Action in 2010. The plaza at 640 West 42nd Street would be affected by the Convention Center hotel to the same extent as it would have been by the River Place II development in the Future Without the Proposed Action. The Convention Center rooftop public open space would be affected by shadowing of almost four and one-half hours in the morning from the projected 940-foot office development between West 34th and West 35th Streets on Eleventh Avenue (Projected Development Site 4). The Convention Center rooftop public open space would further be affected by two and one-half hours of shadow in the afternoon from the development of the Multi-Use Facility. The Multi-Use Facility would also cast shadows on the full-block open space for over eight hours and on the Block 675 park for almost one hour in the morning.

b) May 6

On May 6, like the condition in the Future Without the Proposed Action, the majority of open spaces would be in shadow for almost 11 hours out of a potential 12 hours of sunlight. Bob's Park, Herald Square, Greeley Square, the Farley Building and Bryant Park would be unaffected in the Future with the Proposed Action in 2010. The plaza at 640 West 42nd Street would be affected by the Convention Center hotel to the same extent as it would have been by the River Place II development in the Future Without the Proposed Action.

The Convention Center rooftop public open space would be affected by five hours of shadow in the morning from the projected development located between West 34th and West 35th Streets on Eleventh Avenue (Projected Development Site 4). The Multi-Use Facility would cast shadows on both the full-block open space and the Block 675 park for almost two hours in the morning.

c) June 21

On June 21, the majority of open spaces would be in shadow for the entire 12 hours of potential sunlight. Most open spaces would not be affected by new or incremental shadowing in the 2010

Future with the Proposed Action over that of the 2010 Future Without the Proposed Action. The Hudson River would be affected by an additional forty minutes of shadow due to the combination of commercial and residential developments between Eleventh and Twelfth Avenues, Convention Center hotel, and the Multi-Use Facility. Hudson River Park would be affected by an additional fifty minutes of shadow due to commercial and residential developments between Eleventh and Twelfth Avenues, expanded Convention Center, Convention Center hotel, and the Multi-Use Facility. The additional shadowing is not considered significant, because the diffuse nature of the shadowing on the Hudson River is not considered significant to riverine species or flora, as it is temporary and not a result of a structure placed over the river, such as a pier. For Hudson River Park, the planned active and passive activities may be undertaken in both sunlit and shaded conditions, and the duration of the shadowing would not reduce the usability of the Park.

d) December 21

On December 21, all of the open spaces would be in shadow for the entire day, as in the Future without the Proposed Action. The Hudson River would be affected by an additional hour of shadow due to the combination of commercial and residential developments between Eleventh and Twelfth Avenues, Convention Center hotel, and the Multi-Use Facility. Hudson River Park would be affected by an additional hour of shadow due to commercial and residential developments between Eleventh and Twelfth Avenues, expanded Convention Center, Convention Center hotel, and the Multi-Use Facility. Shadows cast on the Hudson River and Hudson River Park would not be a significant or adverse impact, as the duration of shadow would not be during a growing season for the plantings planned for Hudson River Park, and activities may still be undertaken as planned for this space.

3. Historic Resources - 2010

Many of the historic resources were affected by shadow in the Existing Condition and some additional shadowing in the 2010 Future Without the Proposed Action. The basis of analysis was to determine the incremental effect from the shadows on historic resources in the Future Without the Proposed Action to those of the Future With the Proposed Action. Tables 8-24 to 8-27 show the entry, exit, duration time, and incremental effect of shadow in the 2010 Future Without the Proposed Action on each Historic Resource. In the 2010 Future With the Proposed Action, there were additional shadows cast upon St. Raphael's RC Church in March, May, June and December but on no other historic resources over those in the 2010 Future Without the Proposed Action.

TABLE 8-24
2010 FUTURE WITH THE PROPOSED ACTION: MARCH 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM	8:53 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-build & Build Shadows**
L6	St. Raphael's RC Church	7:36 AM	4:29 PM	8:53*	7:59
L7	Farley Building Eighth Ave. Façade	7:36 AM	10:05 AM	2:29	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11	Starrett-Lehigh Building	N/A	N/A	0:00	0:00

* *Resource in shadow all day*

TABLE 8-25
2010 FUTURE WITH THE PROPOSED ACTION: MAY 6 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
May 6 (DST)	5:48 AM	7:27 AM	7:57 PM	6:16 PM	10:51 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-build & Build Shadows**
L6a[1]	St. Raphael's RC Church	7:27 AM	1:40 PM	6:13	4:00
L6b[1]	St. Raphael's RC Church	3:00 PM	6:18 PM	3:18	0:00
L7	Farley Building Eighth Ave. Façade	7:27 AM	10:45 AM	3:18	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11a	Starrett-Lehigh Building	7:27 AM	10:00 AM	2:33	0:00
L11b	Starrett-Lehigh Building	2:30 PM	6:18 PM	3:48	0:00

1 Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.

TABLE 8-26
2010 FUTURE WITH THE PROPOSED ACTION: JUNE 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
June 21 (DST)	5:25 AM	6:57 AM	8:30 PM	7:01 PM	12:04 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-build & Build Shadows**
L6	St. Raphael's RC Church	6:57 AM	1:30 PM	6:33	3:30
L7	Farley Building Eighth Ave. Façade	6:57 AM	10:10 AM	3:13	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11a	Starrett-Lehigh Building	6:57 AM	9:00 AM	2:03	0:00
L11b	Starrett-Lehigh Building	4:15 PM	7:01 PM	2:46	0:00

TABLE 8-27
2010 FUTURE WITH THE PROPOSED ACTION: DECEMBER 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
December 21	7:16 AM	8:51 AM	4:32 PM	2:53 PM	6:02 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-build & Build Shadows**
L6	St. Raphael's RC Church	8:51 AM	2:53 PM	6:02*	4:23
L7	Farley Building Eighth Ave. Façade	8:51 AM	2:53 PM	6:02*	0:00
L9a[1]	U.S.S. Intrepid	8:51 AM	10:00 AM	1:09	0:00
L9b[1]	U.S.S. Intrepid	10:50 AM	12:40	1:50	0:00
L11	Starrett-Lehigh Building	8:51 AM	2:53 PM	6:02*	0:00

** Resource in shadow all day*
1 Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.

E. 2025 FUTURE WITHOUT THE PROPOSED ACTION

For the 2025 Future Without the Proposed Action, analysis was conducted for resources that would not be in shadow for the Existing Condition, and comparison was made between the 2025 Future Without the Proposed Action and the Existing Condition. There would be incremental increases in shadowing for only certain resources, and there would be no additional shadowing during the December 21 period, when all resources are in shadow for the entire day.

1. Study Area

The Future Without the Proposed Action projects identified previously represent the majority of known projects in the study area and are likely to be completed by 2010. However, it is expected that growth would continue in Manhattan and that new projects would be developed over time. Figures 8-61 to 8-76 present the shadows for the 2025 Future Without the Proposed Action.

As described in Chapter 3, the City is pursuing the Special West Chelsea District Rezoning and Highline Open Space initiative. The DEIS for this project is currently being prepared and will be issued shortly. One of the scenarios considered in the DEIS is a "Base FAR Scenario," which assumes the proposed High Line publicly accessible open space would not be created and the transfer of development rights and bonus mechanisms would not be available. This Base FAR Scenario would generate less residential floor area and somewhat shorter buildings, and is conservatively assumed in the Future Without the Proposed Action. The proposed Special West Chelsea District is generally bounded by West 30th Street, West 17th Street, Tenth Avenue, and Eleventh Avenue. As presented in Tables 8-28 to 8-31, there would be new shadows cast upon the Hudson River and Hudson River Park for three analysis periods in the Future Without the Proposed Action. The potential shadow effects of the proposed West Chelsea rezoning will be disclosed in its environmental review.

Commercial and residential development is expected to continue in the study area between 2010 and 2025, but no projects have been approved that could affect shadow conditions.

2. Open Spaces - 2025

Tables 8-28 to 8-31 show the entry, exit, duration time, and incremental effect for shadows in the 2025 Future Without the Proposed Action over those of the Existing Condition.

TABLE 8-28
2025 FUTURE WITHOUT THE PROPOSED ACTION: MARCH 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM	8:53 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
02	Bob's Park	7:36 AM	4:29 PM	8:53*	0:00
04	640 W 42nd St. Plaza	7:36 AM	4:29 PM	8:53*	0:00
012	Farley Building Stairs	7:36 AM	10:05 AM	2:29	0:00
014a[1]	Herald Square	7:36 AM	12:35 PM	4:59	0:00
014b[1]	Herald Square	1:45 PM	4:29 PM	2:44	0:00
015	Greeley Square	7:36 AM	4:29 PM	8:53*	0:00
024a[1]	One Penn Plaza	7:36 AM	10:05 AM	2:29	:20
024b[1]	One Penn Plaza	11:50 AM	4:29 PM	4:39	0:00
057	Hudson River	7:36 AM	10:05 AM	2:29	:30
058	Hudson River Park	7:36 AM	10:50 AM	3:14	:40

* *Resource in shadow all day*
1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

TABLE 8-29
2025 FUTURE WITHOUT THE PROPOSED ACTION: MAY 6 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
May 6 (DST)	5:48 AM	7:27 AM	7:57 PM	6:16 PM	10:51 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
02a[1]	Bob's Park	7:27 AM	11:30 AM	4:03	0:00
02b[1]	Bob's Park	2:05 PM	6:18 PM	4:13	0:00
04	640 W 42nd St. Plaza	7:27 AM	6:18 PM	10:51*	0:00
012	Farley Building Stairs	7:27 AM	10:45 AM	3:18	0:00
014a[1]	Herald Square	7:27 AM	11:45 AM	4:18	0:00
014b[1]	Herald Square	2:40 PM	6:18 PM	3:38	0:00
015a[1]	Greeley Square	7:27 AM	12:20 PM	4:53	0:00
015b[1]	Greeley Square	2:05 PM	6:18 PM	4:13	0:00
024a[1]	One Penn Plaza	7:27 AM	11:00 AM	3:33	1:15
024b[1]	One Penn Plaza	12:50 PM	6:18 PM	5:28	0:00
031a[1]	Bryant Park	7:27 AM	10:00 AM	2:33	0:00
031b[1]	Bryant Park	11:45 AM	6:18 PM	6:33	0:00
057	Hudson River	7:27 AM	9:10 AM	1:43	0:00
058	Hudson River Park	7:27 AM	9:50 AM	2:23	0:00

* *Resource in shadow all day* 1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

TABLE 8-30
2025 FUTURE WITHOUT THE PROPOSED ACTION: JUNE 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
June 21 (DST)	5:25 AM	6:57 AM	8:30 PM	7:01 PM	12:04 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
02a[1]	Bob's Park	6:57 AM	11:00 AM	4:03	0:00
02b[1]	Bob's Park	2:00 PM	7:01 PM	5:01	0:00
04	640 W 42nd St. Plaza	6:57 AM	7:01 PM	12:04*	3:10
012	Farley Building Stairs	6:57 AM	10:10 AM	3:13	0:00
014a[1]	Herald Square	6:57 AM	11:35 AM	4:38	0:00
014b[1]	Herald Square	2:50 PM	7:01 PM	4:11	0:00
015a[1]	Greeley Square	6:57 AM	11:45 AM	4:48	0:00
015b[1]	Greeley Square	3:25 PM	7:01 PM	3:36	0:00
024a[1]	One Penn Plaza	6:57 AM	10:30 AM	3:33	0:00
024b[1]	One Penn Plaza	2:30 PM	7:01 PM	4:31	0:00
031a[1]	Bryant Park	6:57 AM	10:20 AM	3:23	0:00
031b[1]	Bryant Park	12:50 PM	7:01 PM	6:11	0:00
057	Hudson River	6:57 AM	8:30 AM	1:33	0:00
058	Hudson River Park	6:57 AM	9:20 AM	2:23	0:00

* *Resource in shadow all day* 1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

TABLE 8-31
2025 FUTURE WITHOUT THE PROPOSED ACTION: DECEMBER 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
December 21	7:16 AM	8:51 AM	4:32 PM	2:53 PM	6:02 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
02	Bob's Park	8:51 AM	2:53 PM	6:02*	0:00
04	640 W 42nd St. Plaza	8:51 AM	2:53 PM	6:02*	0:00
012	Farley Building Stairs	8:51 AM	2:53 PM	6:02*	0:00
014	Herald Square	8:51 AM	2:53 PM	6:02*	0:00
015	Greeley Square	8:51 AM	2:53 PM	6:02*	0:00
024	One Penn Plaza	8:51 AM	2:53 PM	6:02*	0:00
057	Hudson River	8:51 AM	12:30 PM	3:39	0:10
058	Hudson River Park	8:51 AM	1:00 PM	4:09	0:10

* *Resource in shadow all day*

a) March 21

On March 21, most open spaces would be in shadow for most of the potential nine hours of sunlight, as they are in the Existing Condition. One Penn Plaza would be affected by an extra 20 minutes of shadow in the morning by the 50-story Friars Tower building located between Seventh Avenue and Broadway between West 31st and 32nd Streets. Figure 8-77 shows the incremental shadowing that would be cast upon the southeastern side of One Penn Plaza. Bob's Park, Herald Square, Greeley Square, the Farley Building and Bryant Park would not experience additional shadowing in the Future without the Proposed Action in 2025. The plaza at 640 West 42nd Street would be shadowed by the River Place II development in the 2025 Future Without the Proposed Action.

The Hudson River would be affected by 30 minutes of additional shadow due to the combination of commercial and residential developments between Eleventh and Twelfth Avenues, the Convention Center hotel, and the Multi-Use Facility. Hudson River Park would be affected by an additional one and 40 minutes of shadow due to commercial and residential developments between Eleventh and Twelfth Avenues, expanded Convention Center, Convention Center hotel, and the Multi-Use Facility.

b) May 6

One Penn Plaza would be affected by additional shadowing from development projected to be in place by 2025. The plaza at One Penn Plaza would be affected by over one hour of additional shadowing during the morning by the 50-story Friars Tower building located between Seventh Avenue and Broadway between West 31st and West 32nd Streets. Figure 8-78 shows the incremental shadow as it would enter the northeast portion of the site. Bob's Park, Herald Square, Greeley Square, the Farley Building, and Bryant Park would be unaffected in the 2025 Future Without the Proposed Action. The plaza at 640 West 42nd Street would be shadowed by the River Place II development in the 2025 Future Without the Proposed Action.

The Hudson River and Hudson River Park would both be affected by an additional 10 minutes of shadow, related to Future Without the Proposed Action development.

c) June 21

On June 21, the majority of open spaces that could potentially be affected by additional shadowing would be in shadow for the entire twelve hours of potential sunlight.

The plaza at 640 West 42nd Street and One Penn Plaza were identified as the open spaces that would have additional shadowing due to new development in the 2025 Future Without the Proposed Action. The plaza at 640 West 42nd Street would have additional shadowing due to the River Place II development to be located at the southwesterly corner of West 42nd Street and Eleventh Avenue. The River Place II development would cast the plaza completely in shadow, with three hours of shadow added during the Midday. Figure 8-79 shows how the shadow would directly impact the site. At 10:00 AM, the playground and most of the site would be in shadow, and this would continue for the balance of the sunlit period as the shadow would move north and is cast over the northern portion of the plaza.

Bob's Park, Herald Square, Greeley Square, the Farley Building, and Bryant Park would be unaffected in the Future without the Proposed Action in 2025.

d) December 21

On December 21, most open spaces would be in shadow for the entire day, except for the Hudson River and Hudson River Park. The Hudson River and Hudson River Park would both be affected by an additional 10 minutes of shadow. It would not be possible to affect other open space resources, because they are already fully in shadow in December.

3. Historic Resources - 2025

Tables 8-32 to 8-35 show the entry, exit, duration time, and incremental effect on historic resources from shadows in the 2025 Future Without the Proposed Action over that of the Existing Condition. The basis of analysis was to determine the incremental effect of shadows on Historic Resources in the 2025 Future Without the Proposed Action compared to the Existing Condition. In the Future Without the Proposed Action, there would be incremental shadow effects on historic resources.

TABLE 8-32
2025 FUTURE WITHOUT THE PROPOSED ACTION: MARCH 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM	8:83 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
L6	St. Raphael's RC Church	7:36 AM	8:30 AM	0:54	0:00
L7	Farley Building Eighth Ave. Façade	7:36 AM	10:05 AM	2:29	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11a[1]	Starrett-Lehigh Building	7:36 AM	10:00 AM	2:24	0:00
L11b[1]	Starrett-Lehigh Building	1:00 PM	4:29 PM	3:29	0:00

1 Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.

TABLE 8-33
2025 FUTURE WITHOUT THE PROPOSED ACTION: MAY 6 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
May 6 (DST)	5:48 AM	7:27 AM	7:57 PM	6:16 PM	10:51 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
L6	St. Raphael's RC Church	7:27 AM	9:40 AM	2:13	0:40
L7	Farley Building Eighth Ave. Façade	7:27 AM	10:45 AM	3:18	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11a	Starrett-Lehigh Building	7:27 AM	10:00	2:33	0:00
L11b	Starrett-Lehigh Building	2:30 PM	6:18 PM	3:48	0:00

TABLE 8-34
2025 FUTURE WITHOUT THE PROPOSED ACTION: JUNE 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
June 21 (DST)	5:25 AM	6:57 AM	8:30 PM	7:01 PM	12:04 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
L6	St. Raphael's RC Church	6:57 AM	10:00 AM	3:03	:15
L7	Farley Building Eighth Ave. Façade	6:57 AM	10:10 AM	3:13	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11	Starrett-Lehigh Building	6:57 AM	9:00 AM	2:03	0:00

TABLE 8-35
2025 FUTURE WITHOUT THE PROPOSED ACTION: DECEMBER 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
December 21	7:16 AM	8:51 AM	4:32 PM	2:53 PM	6:02hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between Existing & No-Build Shadows**
L6a[1]	St. Raphael's RC Church	8:51 AM	10:30 AM	1:39	0:00
L6b[1]	St. Raphael's RC Church	2:38 PM	2:53 PM	0:15	0:00
L7	Farley Building Eighth Ave. Façade	8:51 AM	2:53 PM	6:02*	0:00
L9a	U.S.S. Intrepid	8:51 AM	10:00 AM	1:09	0:00
L9b	U.S.S. Intrepid	10:50 am	12:40 pm	1:50	0:00
L11	Starrett-Lehigh Building	8:51 AM	2:53 PM	6:02*	0:00

* *Resource in shadow all day*
1 *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*

a) March 21

On March 21, the majority of historic resources would be in shadow for over eight hours out of a potential nine hours of sunlight. No historic resources would have potential additional shadowing over the Existing Condition for this time period.

b) May 6

On May 6, the majority of historic resources would be in shadow for almost 11 hours out of a potential 12 hours of sunlight. St. Raphael's RC Church would be shadowed from the 43-story Theater Row II development, resulting in an additional 40 minutes of shadow in the morning over that of the Existing Condition.

c) June 21

On June 21, the majority of historic resources would be in shadow for over 12 hours out of a potential 13½ hours of sunlight, as in the 2010 Future Without the Proposed Action. St. Raphael's RC Church would be affected by additional shadowing from the 43-story Theater Row II development, resulting in an additional 15 minutes of shadow in the morning over the shadows that are cast in the Existing Condition.

d) December 21

On December 21, the majority of historic resources would be in shadow for the entire day.

F. 2025 FUTURE WITH THE PROPOSED ACTION

The Future with the Proposed Action refers to the study area and the announced changes expected to be complete with the Proposed Action. The DCP has projected a number of sites that could be redeveloped in the Future With the Proposed Action. New open space resources created as part of the Proposed Action would be affected by shadow, but this shadowing is not considered to be significant or adverse, as the open spaces are created as part of the Proposed Action. With respect to historic resources, most would already be in shadow in the Future Without the Proposed Action, but the relocation of Madison Square Garden and the redevelopment of its vacated site could result in significant adverse shadow impacts upon the Farley Building Eighth Avenue façade. St. Raphael RC Church would still have some sunlight on June 21, but like the other potential eligible historic resources, would otherwise be almost completely shadowed in the 2025 Future With the Proposed Action. For the winter solstice, both open spaces and historic resources would be completely in

shadow, unchanged from Future Conditions Without the Proposed Action, with the exception of St. Raphael's RC Church, as described below.

Figures 8-80 to 8-95 compare the shadows from the 2025 Future With the Proposed Action to the 2025 Future Without the Proposed Action shadows.

1. Study Area

The new development that would define the new Hudson Yards community is expected to be largely complete by 2025, adding many new commercial, residential, and mixed-use projects. Forty parcels have been identified and were modeled as part of this analysis.

2. Open Spaces - 2025

Tables 8-36 to 8-39 show the entry, exit, and duration of shadows on open spaces for the 2025 Future With Proposed Action compared to that of the 2025 Future Without the Proposed Action. For most existing open space resources for all time periods, including Bob's Park, Herald Square, Greeley Square, and Bryant Park, there would be no incremental effects of new shadows created by the Proposed Action. For all of these resources, there would be no significant additional shadowing and no significant adverse impacts related to the Proposed Action.

a) March 21

On March 21, the majority of the open spaces would be in shadow for over eight hours out of a potential nine hours of sunlight. Figure 8-96 shows the shadow effects on One Penn Plaza in the Future With the Proposed Action. The shadow from the Future With the Proposed Action overlaps with the shadows from the Existing Condition and Future Without the Proposed Action, and therefore does not represent an additional shadow.

TABLE 8-36
2025 FUTURE WITH THE PROPOSED ACTION: MARCH 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM	8:53 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-Build & Build Shadows**
02	Bob's Park	7:36 AM	4:29 PM	8:53*	0:00
04	640 W 42nd St. Plaza	7:36 AM	4:29 PM	8:53*	0:00
012	Farley Building Stairs	7:36 AM	10:05 AM	2:29	0:00
014a[1]	Herald Square	7:36 AM	12:35 PM	4:59	0:00
014b[1]	Herald Square	1:45 PM	4:29 PM	2:44	0:00
015	Greeley Square	7:36 AM	4:29 PM	8:53*	0:00
024a[1]	One Penn Plaza	7:36 AM	10:05 AM	2:29	0:00
024b[1]	One Penn Plaza	11:50 AM	4:29 PM	4:39	0:00
058	Hudson River Park	7:36 AM	10:50 AM	3:14	0:00
Proposed Open Space					
059a	Convention Center Roof Open Space[2]	7:36 AM	12:00 PM	4:24	N/A
059b	Convention Center Roof Open Space[2]	2:00 PM	4:29 PM	2:29	N/A
060	Full-Block Open Space – North[2]	7:36 AM	4:29 PM	8:53*	N/A
061	Block 675 Park[2]	7:36 AM	8:25 AM	:49	N/A

* *Resource in shadow all day*
1. *Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.*
2. *New resources created by the Proposed Action*

TABLE 8-37
2025 FUTURE WITH THE PROPOSED ACTION: MAY 6 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
May 6 (DST)	5:48 AM	7:27 AM	7:57 PM	6:16 PM	10:51 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-Build & Build Shadows**
02a[1]	Bob's Park	7:27 AM	11:30 AM	4:03	0:00
02b[1]	Bob's Park	2:05 PM	6:18 PM	4:13	0:00
04	640 W 42nd St. Plaza	7:27 AM	6:18 PM	10:51*	0:00
012	Farley Building Stairs	7:27 AM	10:45 AM	3:18	0:00
014a[1]	Herald Square	7:27 AM	11:45 AM	4:18	0:00
014b[1]	Herald Square	2:40 PM	6:18 PM	3:38	0:00
015a[1]	Greeley Square	7:27 AM	12:20 PM	4:53	0:00
015b[1]	Greeley Square	2:05 PM	6:18 PM	4:13	0:00
024a[1]	One Penn Plaza	7:27 AM	11:00 AM	3:33	0:00
024b[1]	One Penn Plaza	12:50 PM	6:18 PM	5:28	0:00
031a[1]	Bryant Park	7:27 AM	10:00 AM	2:33	0:00
031b[1]	Bryant Park	11:45 AM	6:18 PM	6:33	0:00
057	Hudson River	7:27 AM	9:10 AM	1:43	0:00
058	Hudson River Park	7:27 AM	9:50 AM	2:23	0:00
Proposed Open Space					
059	Convention Center Roof Open Space[2]	7:27 AM	12:30 PM	5:03	N/A
060	Full-Block Open Space[2]	7:27 AM	10:00 AM	2:33	N/A
061	Block 675 Park[2]	7:27 AM	9:30 AM	2:03	N/A

* *Resource in shadow all day*
1. Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry. 2. New resources created by the Proposed Action

TABLE 8-38
2025 FUTURE WITH THE PROPOSED ACTION: JUNE 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
June 21 (DST)	5:25 AM	6:57 AM	8:30 PM	7:01 PM	12:04 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-Build & Build Shadows**
02a[1]	Bob's Park	6:57 AM	11:00 AM	4:03	0:00
02b[1]	Bob's Park	2:00 PM	7:01 PM	5:01	0:00
04	640 W 42nd St. Plaza	6:57 AM	7:01 PM	12:04*	0:00
012	Farley Building Stairs	6:57 AM	10:10 AM	3:13	0:00
014a[1]	Herald Square	6:57 AM	11:35 AM	4:38	0:00
014b[1]	Herald Square	2:50 PM	7:01 PM	4:11	0:00
015a[1]	Greeley Square	6:57 AM	11:45 AM	4:48	0:00
015b[1]	Greeley Square	3:25 PM	7:01 PM	3:36	0:00
024a[1]	One Penn Plaza	6:57 AM	10:30 AM	3:33	0:00
024b[1]	One Penn Plaza	2:30 PM	7:01 PM	4:31	0:00
031a[1]	Bryant Park	6:57 AM	10:20 AM	3:23	0:00
031b[1]	Bryant Park	12:50 PM	7:01 PM	6:11	0:00
057	Hudson River	6:57 AM	9:10 AM	2:13	:40
058	Hudson River Park	6:57 AM	10:10 AM	3:13	:50
Proposed Open Space					
059	Convention Center Roof Open Space[2]	6:57 AM	7:01 PM	12:04*	N/A
060	Full-Block Open Space[2]	6:57 AM	7:01 PM	12:04*	N/A
061	Block 675 Park[2]	6:57 AM	9:30 AM	2:33	N/A

* *Resource in shadow all day*
1 Shadow entry/exit occurs multiple times: (a) for the first and (b) for the second entry.
2 New resources created by the Proposed Action

TABLE 8-39
2025 FUTURE WITH THE PROPOSED ACTION: DECEMBER 21 SHADOW ENTRY ON OPEN SPACES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
December 21	7:16 AM	8:51 AM	4:32 PM	2:53 PM	6:02 hrs.
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-Build & Build Shadows**
02	Bob's Park	8:51 AM	2:53 PM	6:02*	0:00
04	640 W 42nd St. Plaza	8:51 AM	2:53 PM	6:02*	0:00
012	Farley Building Stairs	8:51 AM	2:53 PM	6:02*	0:00
014	Herald Square	8:51 AM	2:53 PM	6:02*	0:00
015	Greeley Square	8:51 AM	2:53 PM	6:02*	0:00
024	One Penn Plaza	8:51 AM	2:53 PM	6:02*	0:00
031	Bryant Park	8:51 AM	2:53 PM	6:02*	0:00
057	Hudson River	8:51 AM	1:30 PM	4:39	1:00
058	Hudson River Park	8:51 AM	2:00 PM	5:09	1:00
Proposed Open Space					
059	Convention Center Roof Open Space[1]	8:51 AM	2:53 PM	6:02*	N/A
060	Full-Block Open Space[1]	8:51 AM	2:53 PM	6:02*	N/A
061	Block 675 Park[1]	8:51 AM	2:53 PM	6:02*	N/A

* *Resource in shadow all day*
1 *New resources created by the Proposed Action*

The Convention Center rooftop public open space would be affected by a shadowing of almost four and one-half hours in the morning from the projected office development located between West 34th and West 35th Streets , as it would with the Proposed Action in 2010. The Convention Center rooftop public open space would further be affected by two and one-half hours of shadow from the development of the Multi-Use Facility in the afternoon. The full-block open space would be affected by shadow for over eight hours, and the Block 675 park would be affected by shadow for almost one hour in the morning. Existing open space resources would not have incremental shadows for this time period.

b) May 6

On May 6, the majority of open spaces would be in shadow for almost 11 hours out of a potential 12 hours of sunlight. There would be no incremental effects over those of the existing open space resources during May.

The Convention Center rooftop public open space would be affected by a five-hour shadow in the morning from the 940-foot office development located between West 34th and West 35th Streets on Eleventh Avenue (Projected Development Site 4). The full-block open space would be affected by a two and one-half hour shadow, and the Block 675 park would be affected by two hours of shadow in the morning from the same development on Eleventh Avenue.

Figure 8-97 shows the incremental shadowing on One Penn Plaza, and details the newly cast shadows on the western portion of the open space, and particularly its effects on the public seating and tables, café seating, and benches of the plaza.

c) June 21

On June 21, the majority of open spaces would be in shadow for the entire twelve hours of potential sunlight. The Convention Center rooftop public open space and the full-block open space would be affected by a twelve-hour shadow from Projected Development Site 4. The Block 675 Park would be affected by two and one-half hours of shadow in the morning from the same development on Eleventh Avenue.

Figure 8-98 illustrates the shadow effects on the 640 West 42nd Street Plaza, as it is cast in shadow in the Existing Condition and the Future Without the Proposed Action. Shadows from the 2025 Future

With the Proposed Action would not create a shadowed condition over and above that of the 2025 Future Without the Proposed Action.

The Hudson River would be affected by an additional 40 minutes of shadow, as it would be for the 2010 Build Condition, and the Hudson River Park would be affected by an additional 50 minutes of shadow, as it would be for the 2010 Build Condition. The additional shadowing, which resulting from the elements of the Proposed Action expected to be in place by the 2010 Build Year is not considered significant, because the diffuse nature of the shadowing on the Hudson River is not considered significant to riverine species or flora, as it is temporary and not a result of a structure placed over the River, such as a pier. For Hudson River Park, the planned active and passive activities may be undertaken in both sunlit and shaded conditions, and the duration of the shadowing is not so significant as to reduce the usability of the Park.

d) December 21

On December 21, all of the existing open spaces would be in shadow for the entire day, except for the Hudson River and Hudson River Park, which would each be in shadow for an additional hour. Shadows cast on the Hudson River would originate from commercial and residential developments between Eleventh and Twelfth Avenues, the Convention Center hotel, and the Multi-Use Facility. Hudson River Park shadows would be due to commercial and residential developments between Eleventh and Twelfth Avenues, the expanded Convention Center, the Convention Center hotel, and the Multi-Use Facility. Given the time of year, which is not a growing season, effects on planting are not considered likely, and Hudson River Park would still be a useful open space, to the extent that it is used during winter months.

The Convention Center rooftop public open space and the full-block open space would be in shadow for over six hours, as they would with the Proposed Action in 2010.

No open spaces within the study area would have incremental effects due to new development.

3. Historic Resources - 2025

Tables 8-40 to 8-43 show the entry, exit, duration time, and incremental length of shadow for the 2025 Future With Proposed Action over that of the 2025 Future Without the Proposed Action on each historic resource. Certain historic resources would be affected by significant new shadowing related to the Future With the Proposed Action, including St. Raphael's RC Church, and the Farley Building Eighth Avenue façade. The Starrett-Lehigh Building would not be affected by significant new shadowing related to the Proposed Action, and significant adverse impacts would not result.

TABLE 8-40
2025 FUTURE WITH THE PROPOSED ACTION: MARCH 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
March 21	5:57 AM	7:36 AM	6:09 PM	4:29 PM	**8:53 hrs.**
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-Build & Build Shadows**
L6	St. Raphael's RC Church	7:36 AM	4:29 PM	8:53*	7:59
L7	Farley Building Eighth Ave. Façade	7:36 AM	10:05 AM	2:29*	0.00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11a	Starrett-Lehigh Building	7:36 AM	10:00 AM	2:24	0:00
L11b	Starrett-Lehigh Building	1:00 PM	4:29 PM	3:29	0:00

* *Resource in shadow all day; for L7; morning hours are only hours available to the resource*

TABLE 8-41
2025 FUTURE WITH THE PROPOSED ACTION: MAY 6 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
May 6 (DST)	5:48 AM	7:27 AM	7:57 PM	6:16 PM	**10:51 hrs.**
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-Build & Build Shadows**
L6a	St. Raphael's RC Church	7:27 AM	1:40 PM	6:13	4:00
L6b	St. Raphael's RC Church	3:00 PM	6:18 PM	3:18	3:18
L7	Farley Building Eighth Ave. Façade	7:27 AM	10:45 AM	3:18	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11	Starrett-Lehigh Building	7:27 AM	10:00 AM	2:33	0:00

TABLE 8-42
2025 FUTURE WITH THE PROPOSED ACTION: JUNE 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
June 21 (DST)	5:25 AM	6:57 AM	8:30 PM	7:01 PM	**12:04 hrs.**
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-Build & Build Shadows**
L6	St. Raphael's RC Church	6:57 AM	1:30 PM	6:33	3:30
L7[1]	Farley Building Eighth Ave. Façade	6:57 AM	12:30 PM	3:13	0:00
L9	U.S.S. Intrepid	N/A	N/A	0:00	0:00
L11	Starrett-Lehigh Building	6:57 AM	9:00 AM	2:03	0:00

1 *Shadow entry/exit occurs multiple times. The Eighth Avenue façade of the Farley Building is affected only during the morning period and is effectively in shadow for the entire period when it could be sunlit. .*

TABLE 8-43
2025 FUTURE WITH THE PROPOSED ACTION: DECEMBER 21 SHADOW ENTRY ON HISTORIC RESOURCES

Date	Sunrise	1½ Hours After Sunrise	Sunset	1½ Hours Before Sunset	CEQR Shadow Period
December 21	7:16 AM	8:51 AM	4:32 PM	2:53 PM	**6:02 hrs.**
Resource No.	**Name**	**Shadow Enter Time**	**Shadow Exit Time**	**Shadow Duration**	**Difference between No-Build & Build Shadows**
L6	St. Raphael's RC Church	8:51 AM	2:53 PM	6:02*	4:48
L7	Farley Building Eighth Ave. Façade	8:51 AM	2:53 PM	6:02*	0:00
L9	U.S.S. Intrepid	8:51 AM	12:40PM	3:49	0:50
L11a	Starrett-Lehigh Building	8:51 AM	2:53 PM	6:02	0:00

* *Resource in shadow all day*

a) March 21

As shown in Figure 8-99, St. Raphael's RC Church would have an incremental shadow impact cast by the projected commercial tower and residential tower between West 38th and West 39th Streets on Eleventh and Tenth Avenues (Projected Development Sites 12 and 13, respectively) and a high-rise residential tower immediately adjacent to the Church located on Tenth Avenue between West 40th and 41st Streets (Projected Development Site 14). The effects of these developments would result in an additional eight hours of shadow on St. Raphael through the morning and afternoon, resulting in a total loss of sunlight to the rose windows that are mounted in the east and west ends of the Church's transept. The Eighth Avenue façade of the Farley Building would be affected by incremental shadows, due to the commercial towers that could be located on Seventh Avenue between West 31st and West 33rd Streets, should Madison Square Garden be relocated (Projected Development Site 45).

The Eighth Avenue façade is considered the most sensitive element of the resource. Its colonnade and portico are reached by an almost block-wide flight of stairs, and light effects on the colonnade contribute to the articulation of the rhythm of the columns and the depth of the entrance (see Chapter 9, "Architectural Historic Resources," for a complete description of the architectural features of the Farley Building and discussion of its significance). Significant adverse impacts on the historic resource would result from Projected Development Site 45. Figure 8-100 illustrates how the shadow would extend over the building and stairs in the afternoon in the 2025 Future Without the Proposed Action and Figure 8-101 illustrates how the shadows from the 2025 Future With the Proposed Action would directly affect the site.

b) May 6

St. Raphael's RC Church would have incremental shadows from the proposed residential and commercial towers between West 40th and West 41st Streets on Tenth Avenue, resulting in a total of over seven hours of additional shadowing, separated by a noonday period of sunlit conditions. As shown in Figure 8-102, the shadows would fall directly upon the church.

The Eighth Avenue façade of the Farley Building would be affected by additional shadows from the commercial towers to be located on Seventh Avenue between West 31st and West 33rd Streets (present site of Madison Square Garden). Figures 8-103 and 8-104 compare the 2025 Future Without the Proposed Action to the 2025 Future With the Proposed Action and illustrate how the development from the new commercial towers would cast shadows directly onto the Farley Building. They demonstrate the length and breadth of the shadows across the Eighth Avenue façade, largely covering the resource when sunlighting would have been available in the existing condition and the Future Without the Proposed Action.

c) June 21

On June 21, the majority of historic resources would be in shadow for over twelve hours out of a potential 13½ hours of sunlight. St. Raphael's RC Church would be affected by incremental shadowing from the proposed residential and commercial towers, resulting in three and one half-hours of additional shadow in the morning. Figure 8-105 illustrates how the shadows would be cast across the church site.

The Eighth Avenue façade of the Farley Building would be substantially shadowed during the morning period. Figures 8-106 and 8-107 compare the 2025 Future Without the Proposed Action to the 2025 Future With the Proposed Action. Figure 8-107 illustrates the shadowing of the incremental shadows in the morning, particularly to the sensitive Eighth Avenue façade.

d) December 21

On December 21, the majority of historic resources would be in shadow for the entire day, as they are in the existing condition, with the exception of St. Raphael's RC Church. St. Raphael's RC Church would be affected by incremental shadowing from the proposed residential and commercial towers between West 40th and West 41st Streets on Tenth Avenue, resulting in almost five hours of additional shadow throughout the Midday. Figure 8-108 illustrates the shadow effects on the Church during the day.

G. MITIGATION

Significant adverse impacts to the Farley Building and to St. Raphael church are related to their respective light-dependent features. For the Farley Building, this dependence comprises the colonnade on the Eighth Avenue façade, where light effects articulate the architectural features and highlight the depth between the colonnade and the recessed entrance under the portico. For St. Raphael's RC Church, the sunlight-dependent features are two rose windows on the transepts, on the east and west elevations of the Church.

Mitigation measures for each of these significant adverse impacts were explored. The potential mitigation for shadow impacts would be related to reduction of the building heights or bulks of the projected development causing the significant adverse shadow impact, or, secondarily, to exploring the opportunity to simulate the sunlit condition with lighting.

The shadowing on the Farley Building Eighth Avenue façade would be related to the development that would occur should Madison Square Garden relocate and new office towers be developed on its existing site. Because the Eighth Avenue façade is already significantly shadowed in the existing condition and sunlight is available for Midday portions of the non-winter months, shadow screening indicates that there could be no significant reduction of building height that would avoid a shadow impact on the Eighth Avenue façade of the Farley Building. Framed differently, any additional building height on sites opposite the Farley Building on its east side would add shadowing to the façade. Reduction of the projected building height on Projected Development Site 45 (existing Madison Square Garden site) would neither avoid nor mitigate shadow impacts on the Farley Building Eighth Avenue façade.

The provision of indirectly mounted lighting could simulate lost sunlight conditions at the Farley Building Eighth Avenue façade. For the Farley Building, this would require lighting mounted at the westerly façade of the building or buildings ultimately developed at Projected Development Site 45. The lighting could be directed at the Eighth Avenue façade but diffuse in nature and color-corrected so that it would be more similar to sunlight. However, at any elevation, such lighting of the stairs and colonnade would by necessity have to be very intense to create a lighted condition of the Eighth Avenue façade, and would create a very disturbing visual condition across the façade of the building that would have a negative effect on the streetscape and street character. The constant presence of a light band or series of lights along the two-block frontage opposite the Farley Building would create a significant adverse visual distraction. In seeking to mitigate significant adverse shadow impacts upon the Farley Building, other adverse visual conditions would be created. This mitigation is not regarded as reasonable or prudent.

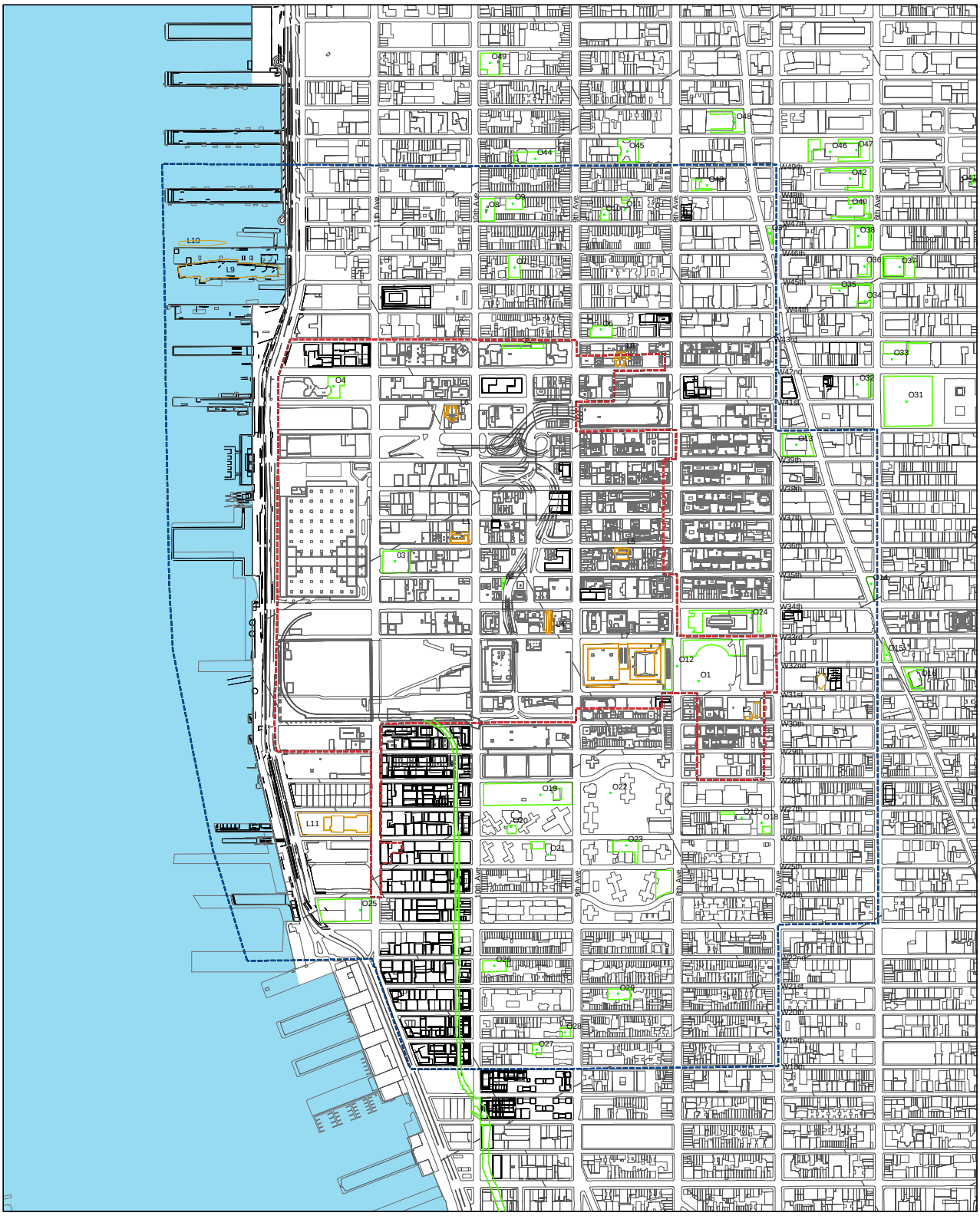
These mitigation options were also explored for St. Raphael's RC Church, which is directly adjacent to Projected Development Site 14, which would cast morning shadows on the east transept rose window of the church. Projected Development Site 14 is now a parking lot. Any building on that site equal to or greater than the height of the eastern transept rose window would result in a shadowing of that window, which is located approximately 50 feet above the sidewalk, so any new building greater than 50 feet would cause a significant adverse impact on the easterly rose window of St. Raphael's. Limiting the building height to 50 feet would not be a reasonable or feasible solution for this site, as it would result in a shift of development to other sites that would not conform to the zoning and urban design intents of the proposed rezoning action. Therefore, for the eastern transept rose window, lighting of the resource was considered.

This window might be successfully lit by a new light source mounted on the westerly façade of any new development on Projected Development Site 14. A relatively low-intensity, color-corrected light could be utilized at this particular location, because Projected Development Site 14 would have a common lot line with St. Raphael and close proximity to the eastern rose window. This could be used to approximate sunlight conditions for the east transept window, without indirect light spillover to adjacent areas, and could be reasonable and feasible mitigation for this element of the affected resource.

The same two mitigation techniques were considered for the west transept rose window at St. Raphael's RC Church. The westerly transept window would be most directly affected by Projected Development Sites 12 and 13 in the afternoon. Based upon the projected building condition shadows for 2025, it would be projected that the buildings on these sites would have to be reduced by half to avoid or mitigate shadow impacts on St. Raphael's RC Church. Reduction of the building heights to

the degree required to avoid shadow impacts on St. Raphael's RC Church is not considered a reasonable or prudent means to mitigate the significant adverse impacts, because it would require other shifts of building volumes to other sites and a significant disruption of the overall zoning and urban design plan desired to accomplish the redevelopment of the Project Area. Therefore, indirect lighting of the affected resource was also considered. For the west rose window of St. Raphael's RC Church, off-site lighting sources to light the façade would be equally infeasible. To mount a lighting source on the westerly side of the steeply pitched gables would be an unsightly addition to the potentially eligible historic resource. Such remotely placed lighting could be mounted on a high mast on the block of the Lincoln Tunnel Portal, or on one of the two projected development sites that would cast the afternoon shadows on the west transept window at St. Raphael's. Like the conditions at the Farley Building, but located several hundred feet from the resource, the remote lighting would need to be extremely intense to mitigate the afternoon shadows. Such lighting would be significant and adverse to the surrounding community because of its extreme intensity, and would therefore not be reasonable or feasible.

Based upon the above, there are no reasonable or feasible means to avoid or mitigate shadow impacts upon the Farley Building and its Eighth Avenue façade. This would be a significant adverse impact of the Proposed Action. Similarly, impacts upon St. Raphael's RC Church, which would be related only to the Proposed Action. Reasonable and feasible mitigation for the significant adverse impacts on the west transept rose window cannot be developed, and this would be a significant adverse impact of the Proposed Action. ❖



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

Project Area

Primary Study Area

Open Space Resources

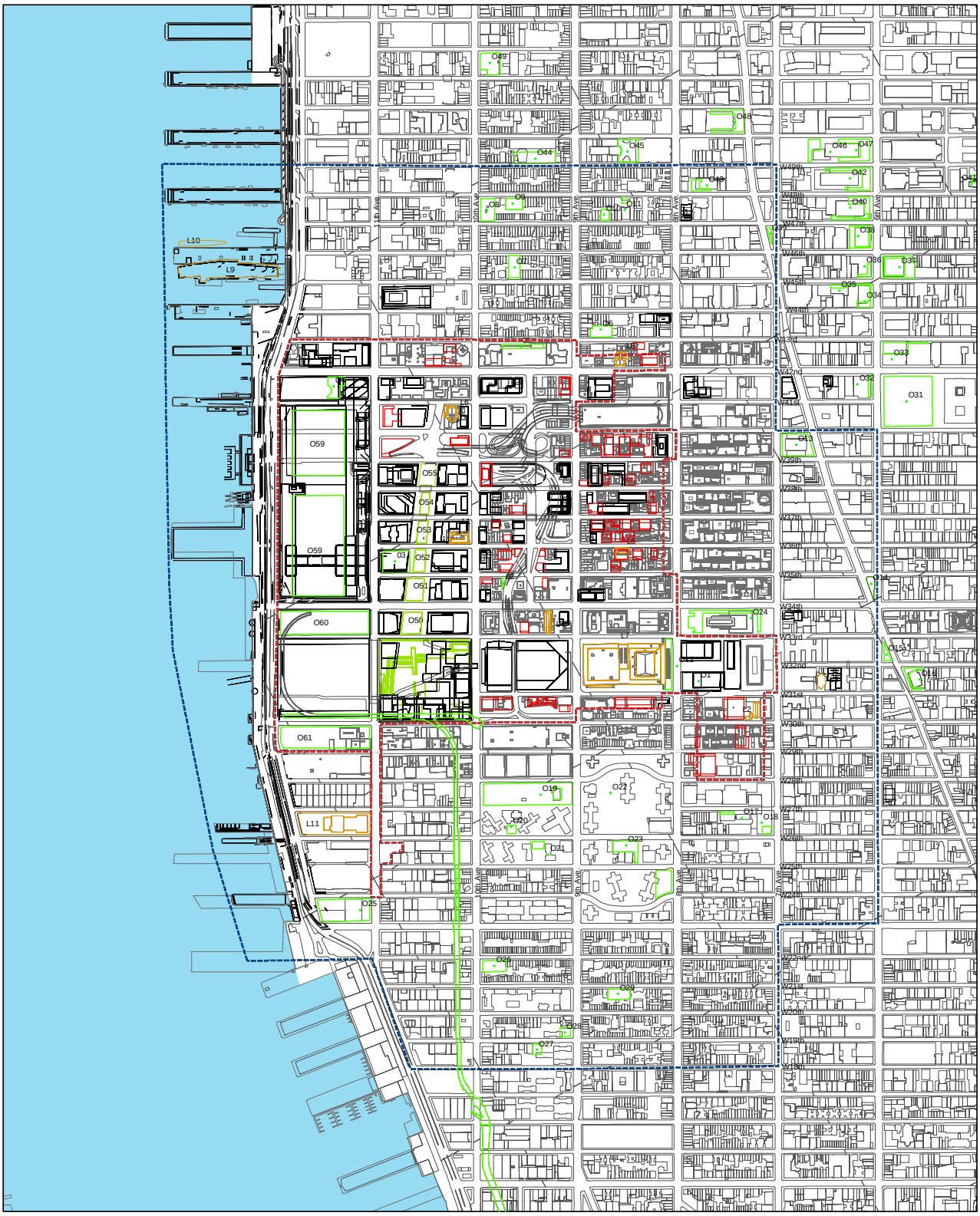
Historic Resources

Open Spaces and Historic Resources

Shadow Analysis
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-1



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O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
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L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

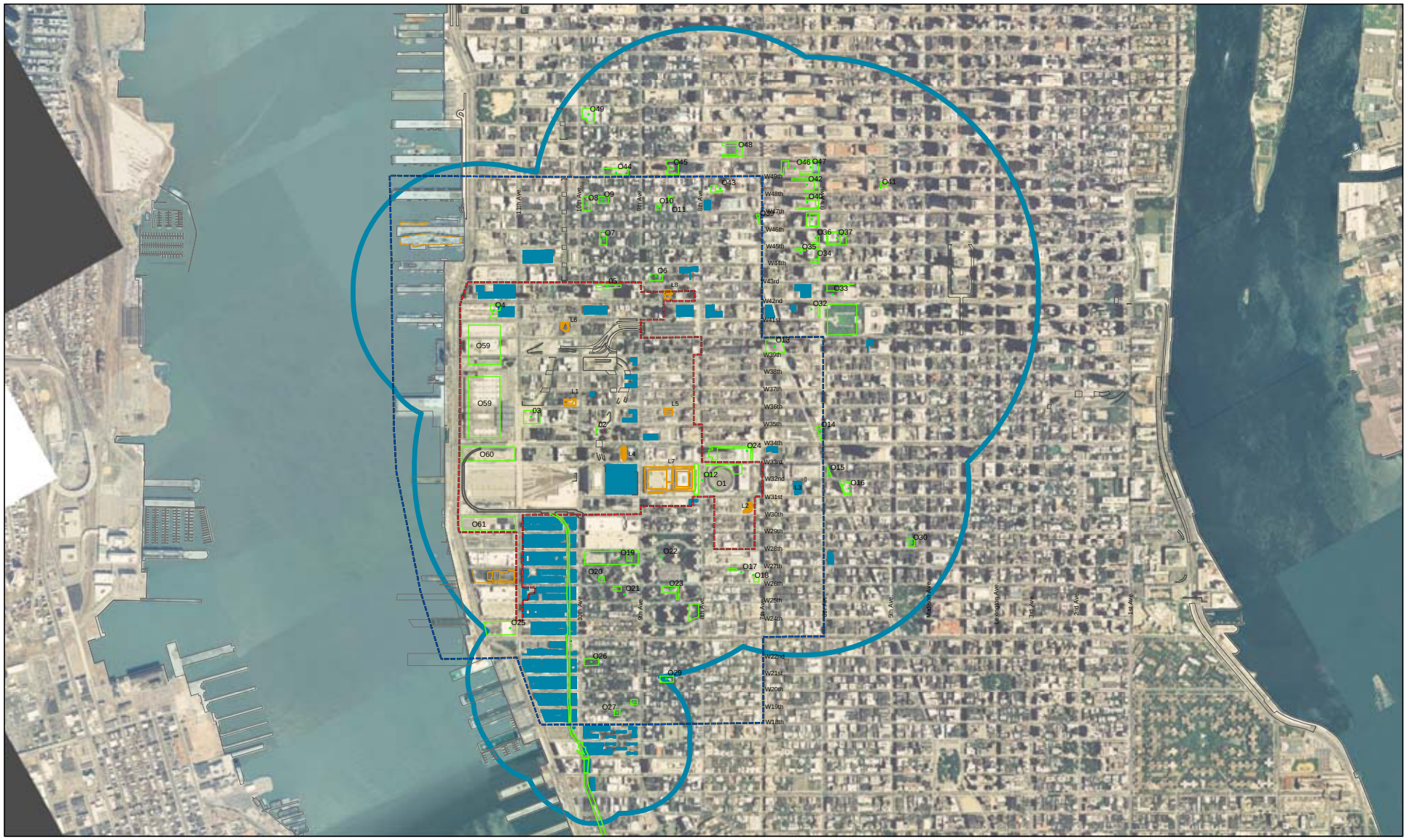
Open Spaces and Historic Resources

Shadow Analysis Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

0 125 250 500 750 1,000 Ft

Figure 8-2



Project Area
Primary Study Area
Open space resources
Historic resources
Max. Shadow Impact Area* No Build Conditions

Maximum Shadow Impact Area

Shadow Screening Analysis
2010-2025 No Build Conditions

Figure 8-3

*: Max. Shadow Impact Area= 4.3 times the height of proposed development(s).

0 250 500 1,000 1,500 2,000 Ft

Project Area
Primary Study Area
Open space resources
Historic resources
Projected sites
Max. Shadow Impact Area*- Build Conditions

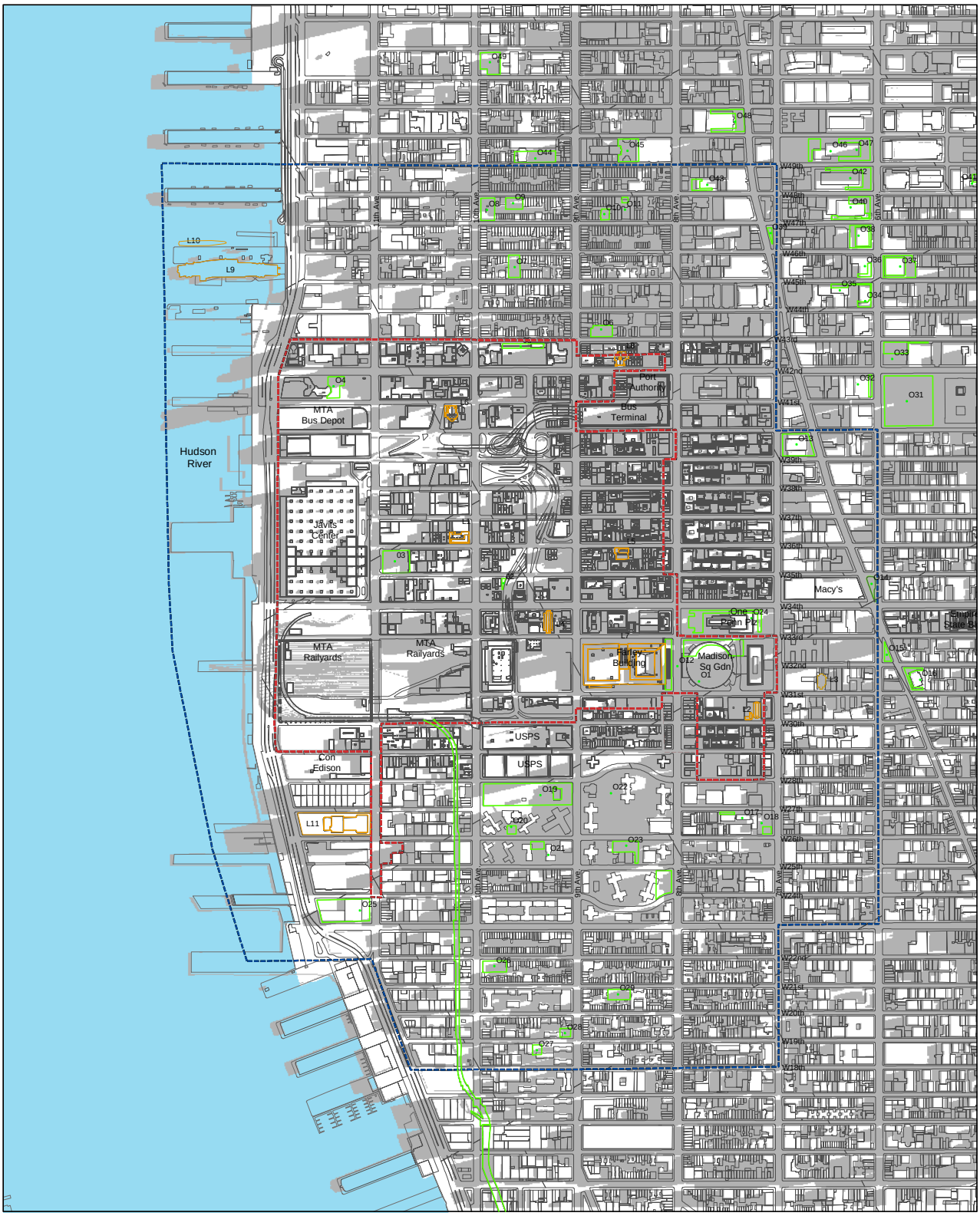
*: Max. Shadow Impact Area= 4.3 times the height of proposed development(s).

0 250 500 1,000 1,500 2,000 Ft

Maximum Shadow Impact Area

Shadow Screening Analysis
2010-2025 Build Conditions

Figure 8-4



Open Space Resources

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O52	W. 35th-36th Streets
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O54	W. 37th-38th Streets
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L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 7:36AM

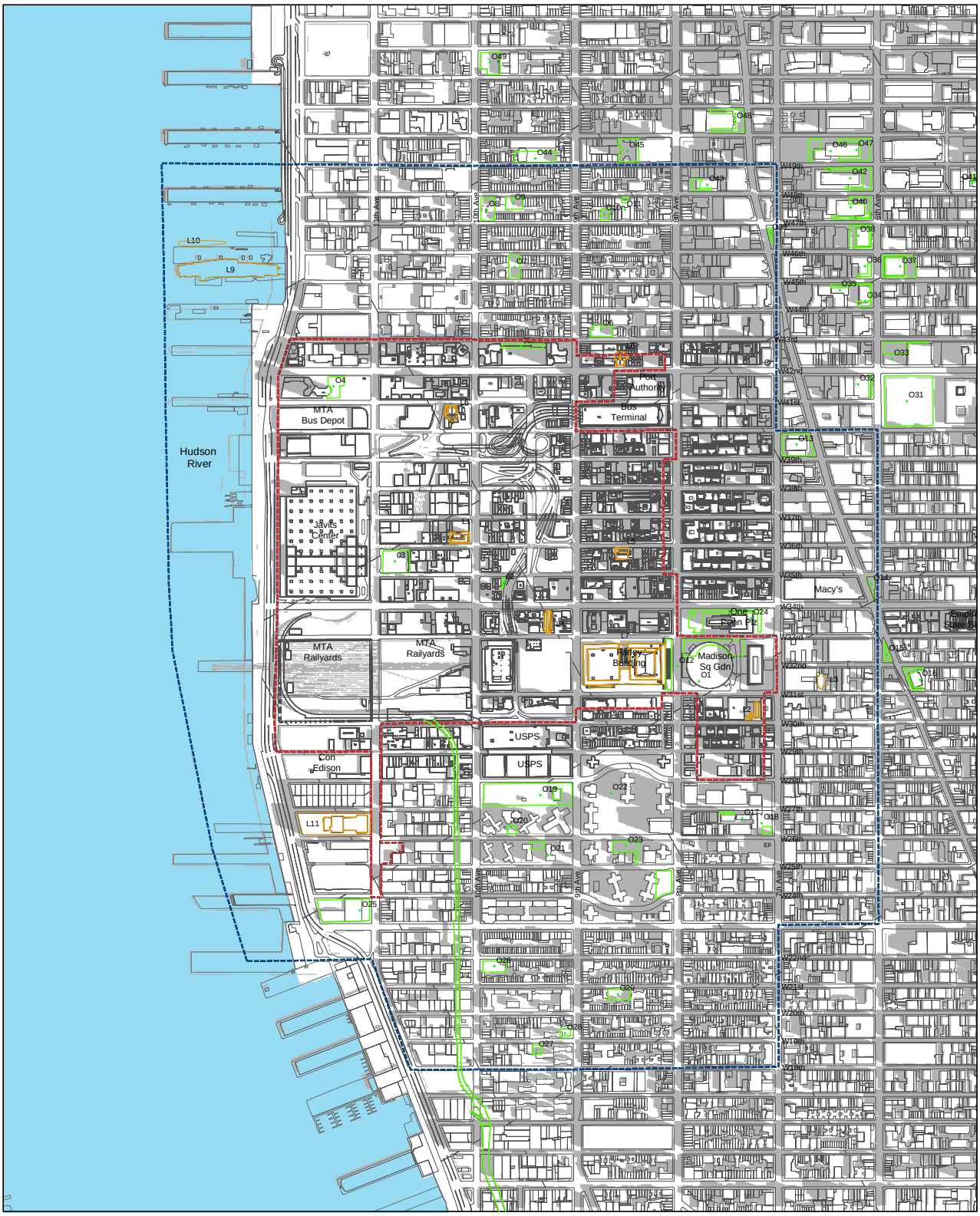
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-5



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O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 10:05AM

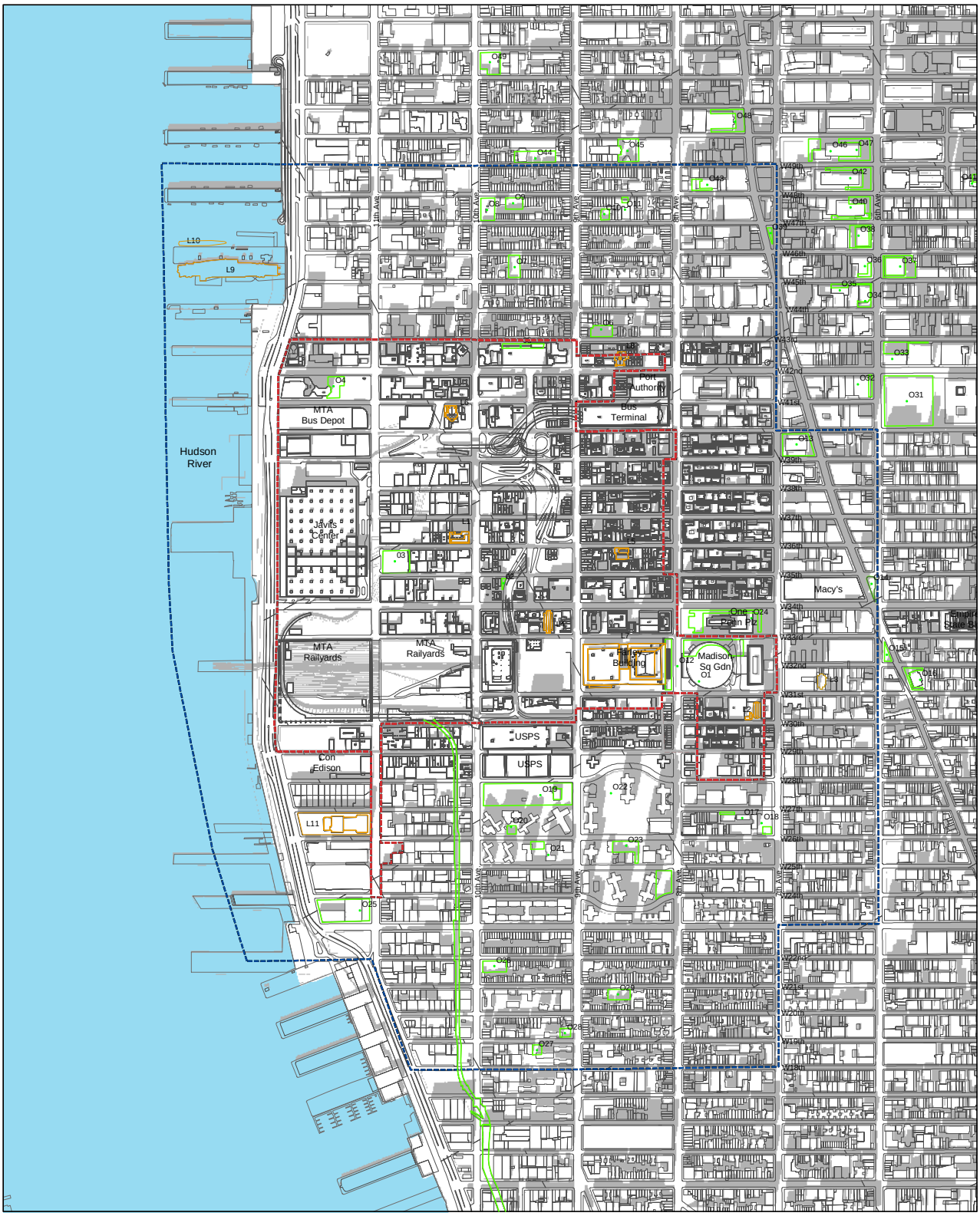
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-6



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 1:59PM

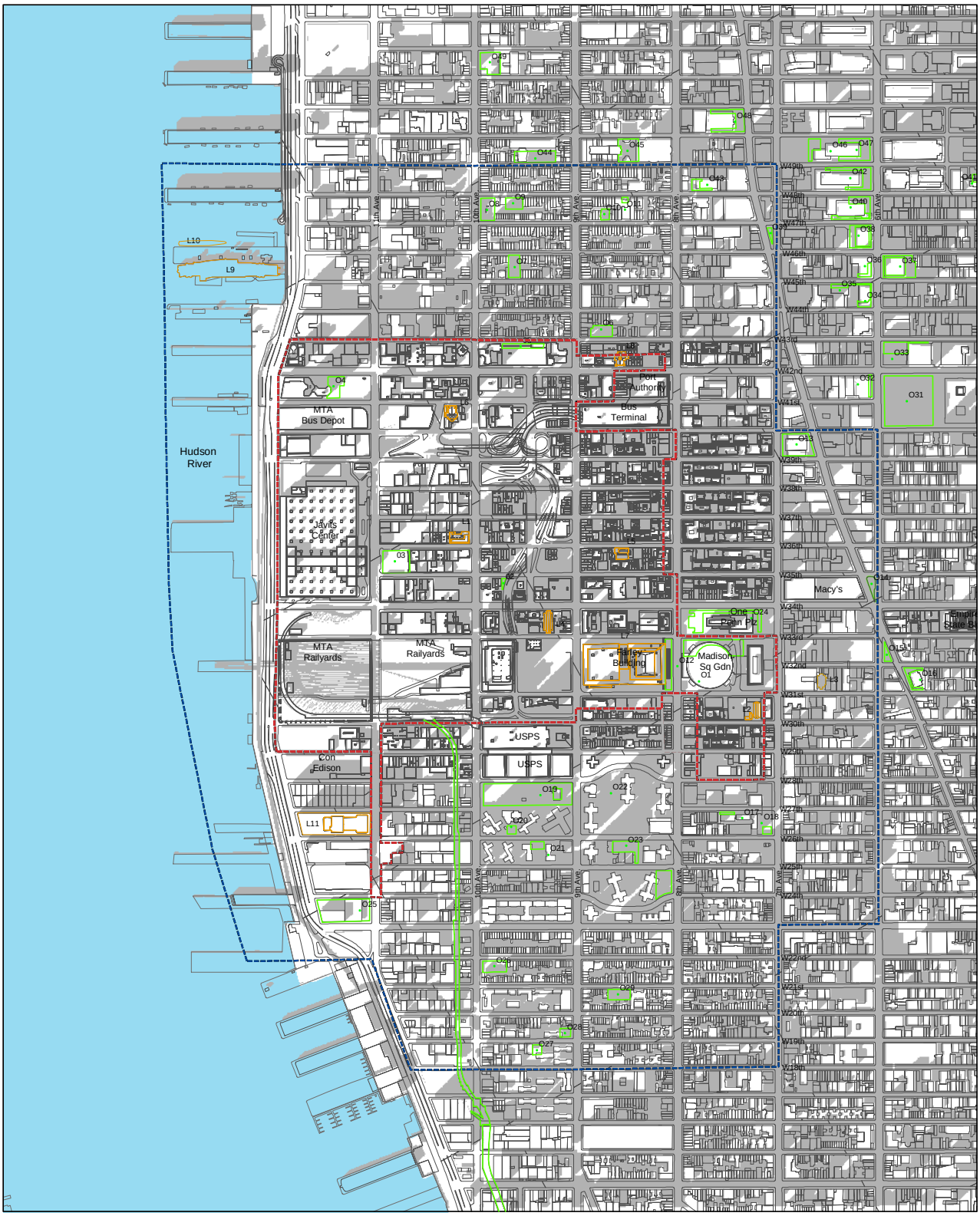
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-7



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 4:29PM

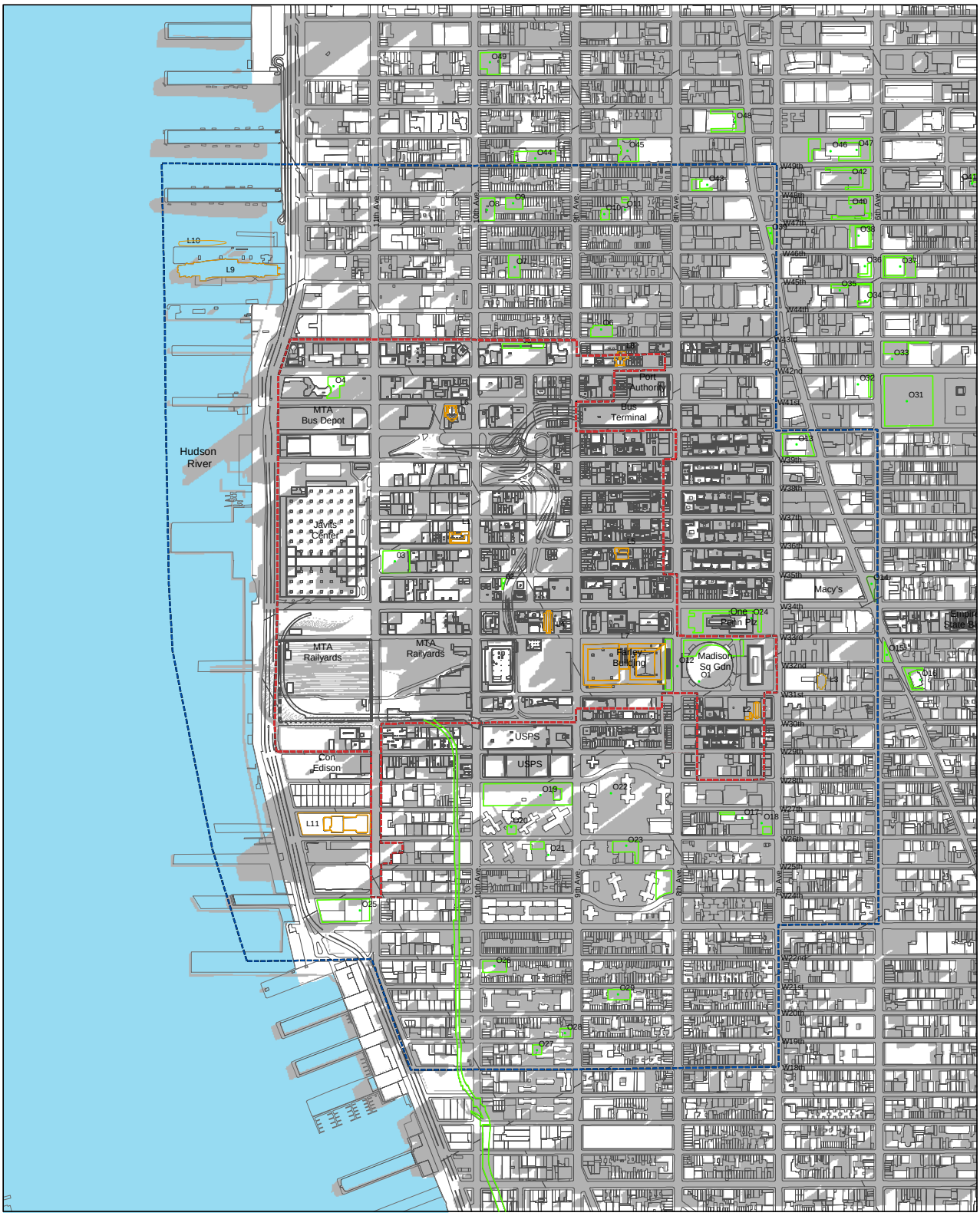
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-8



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 7:27AM

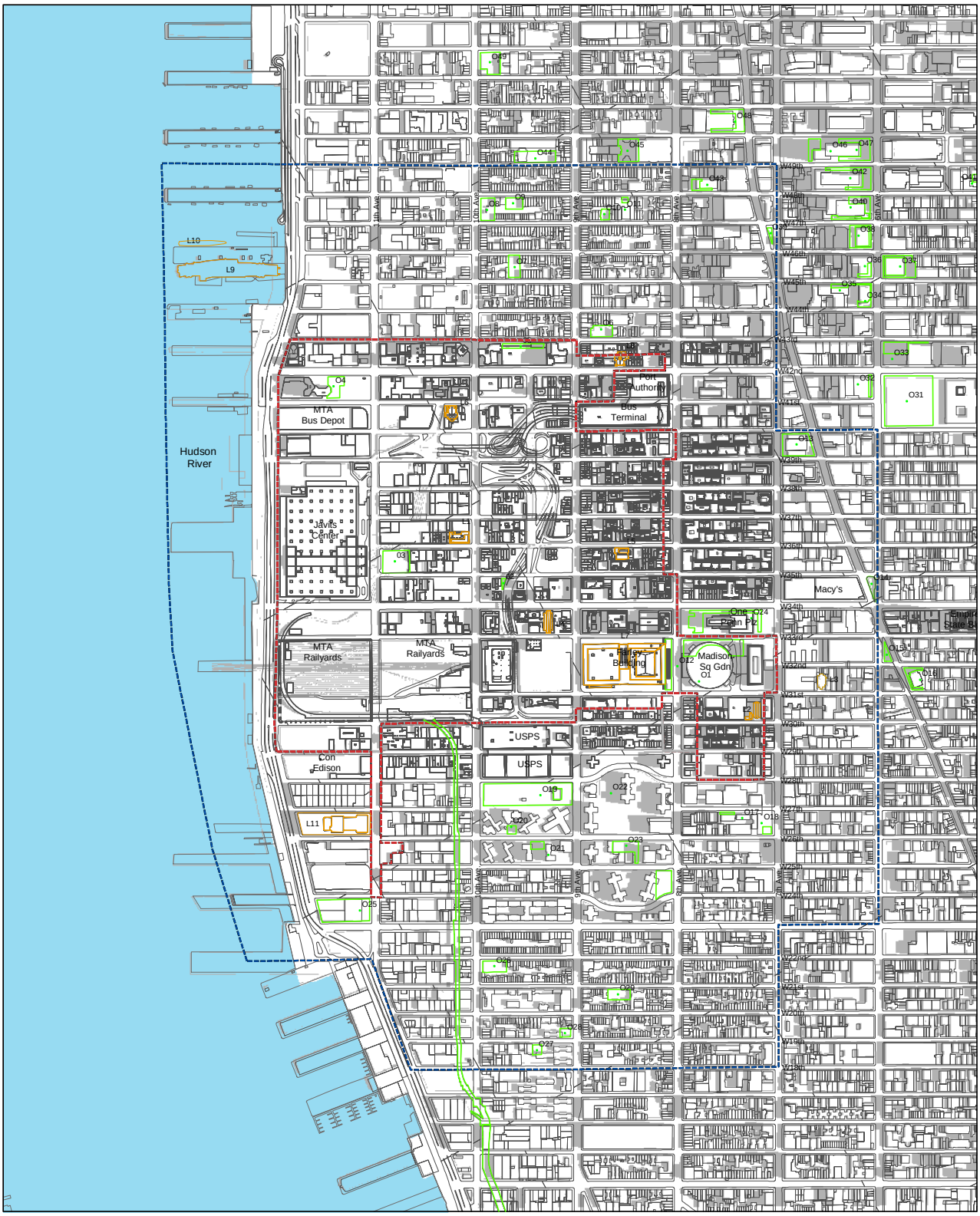
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-9



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 11:00AM

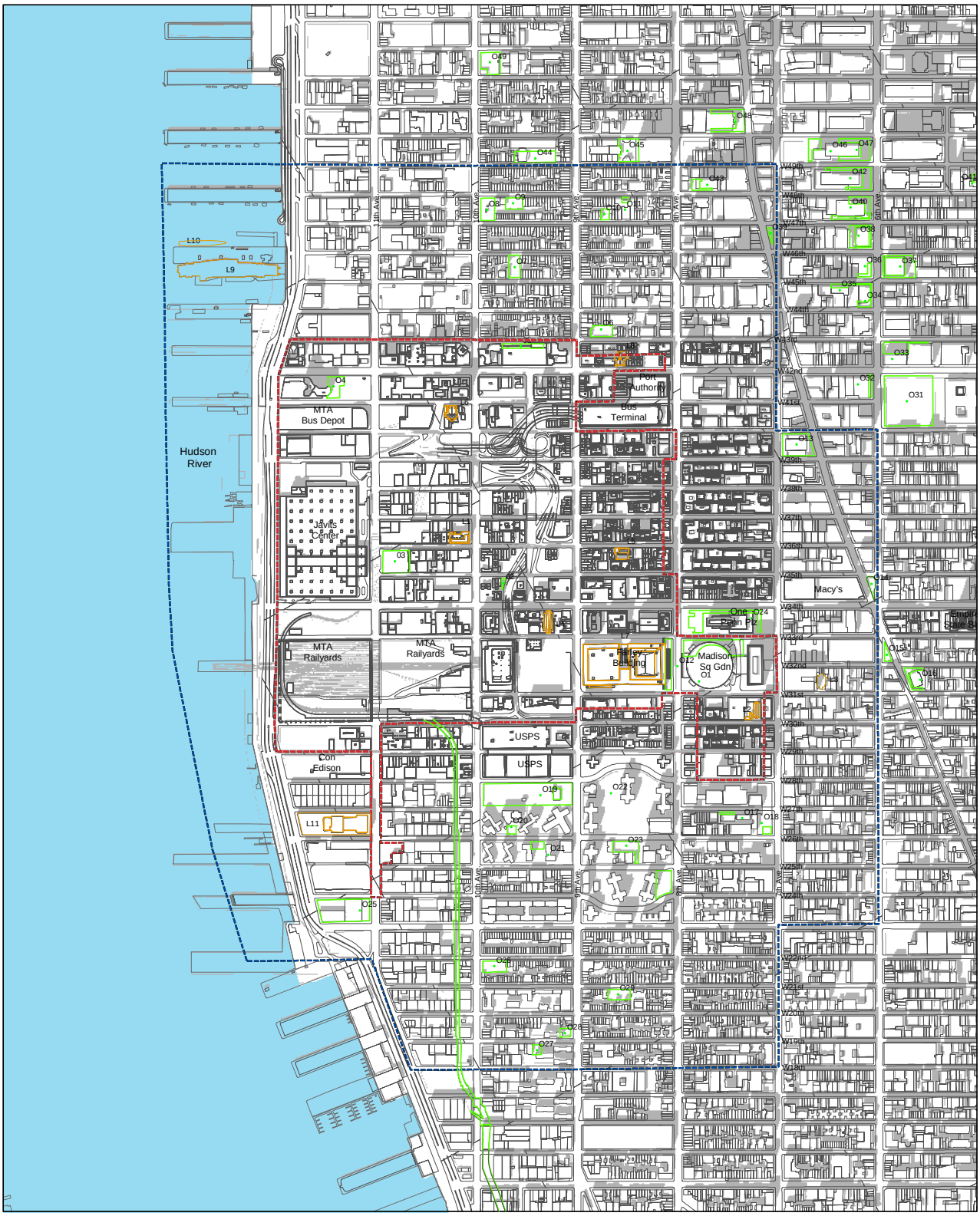
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-10



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 2:30PM

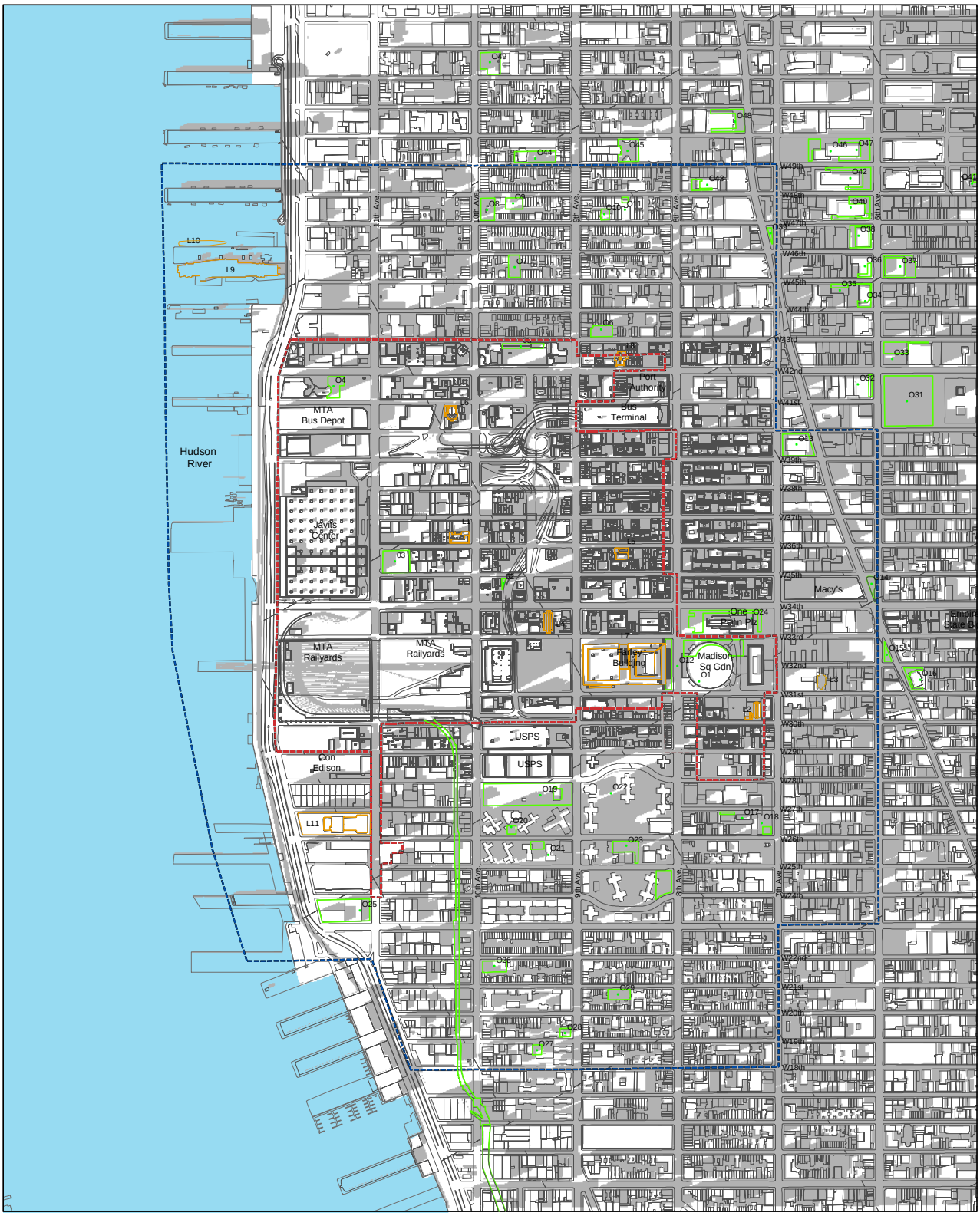
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-11



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 6:18PM

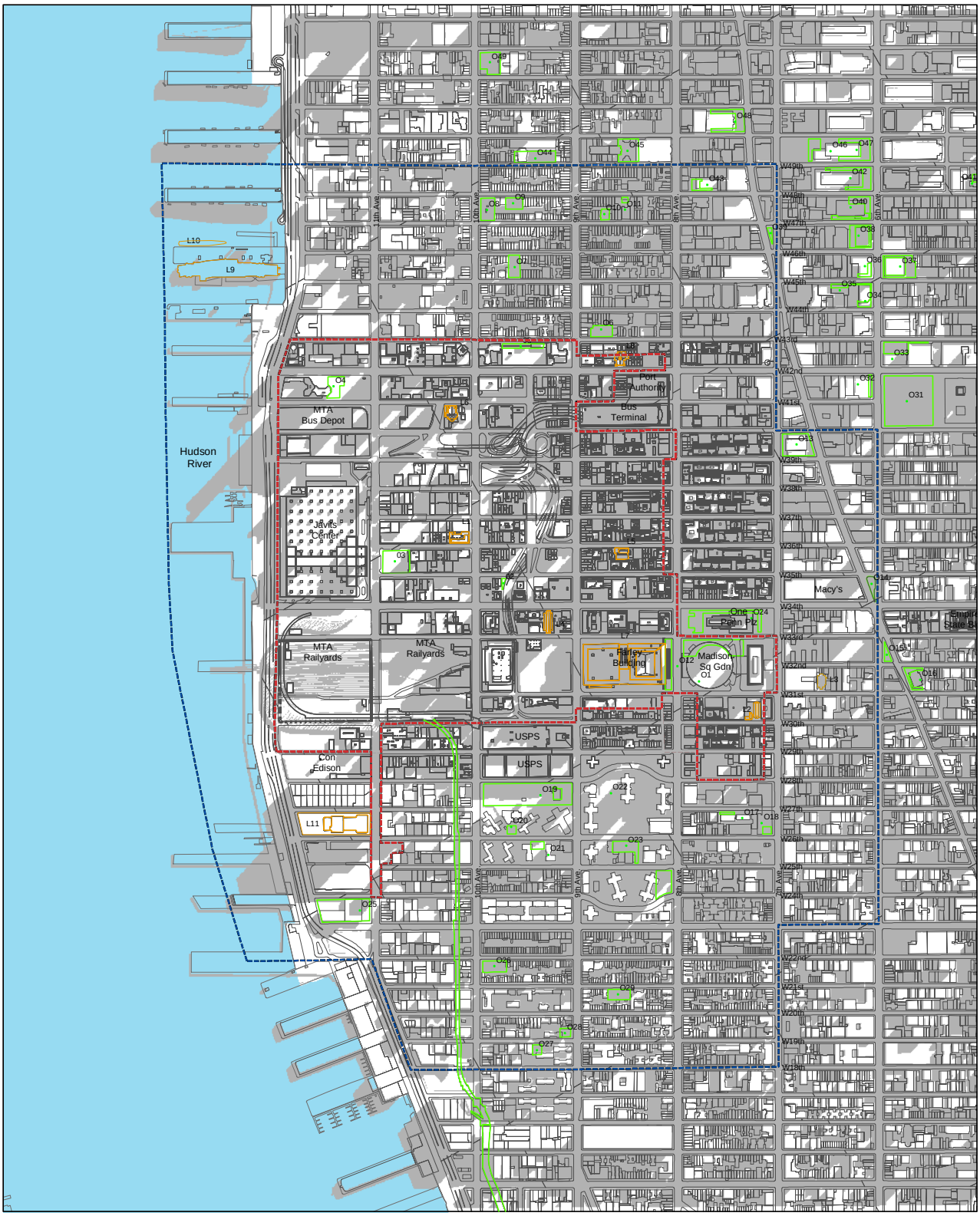
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-12



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 6:57AM

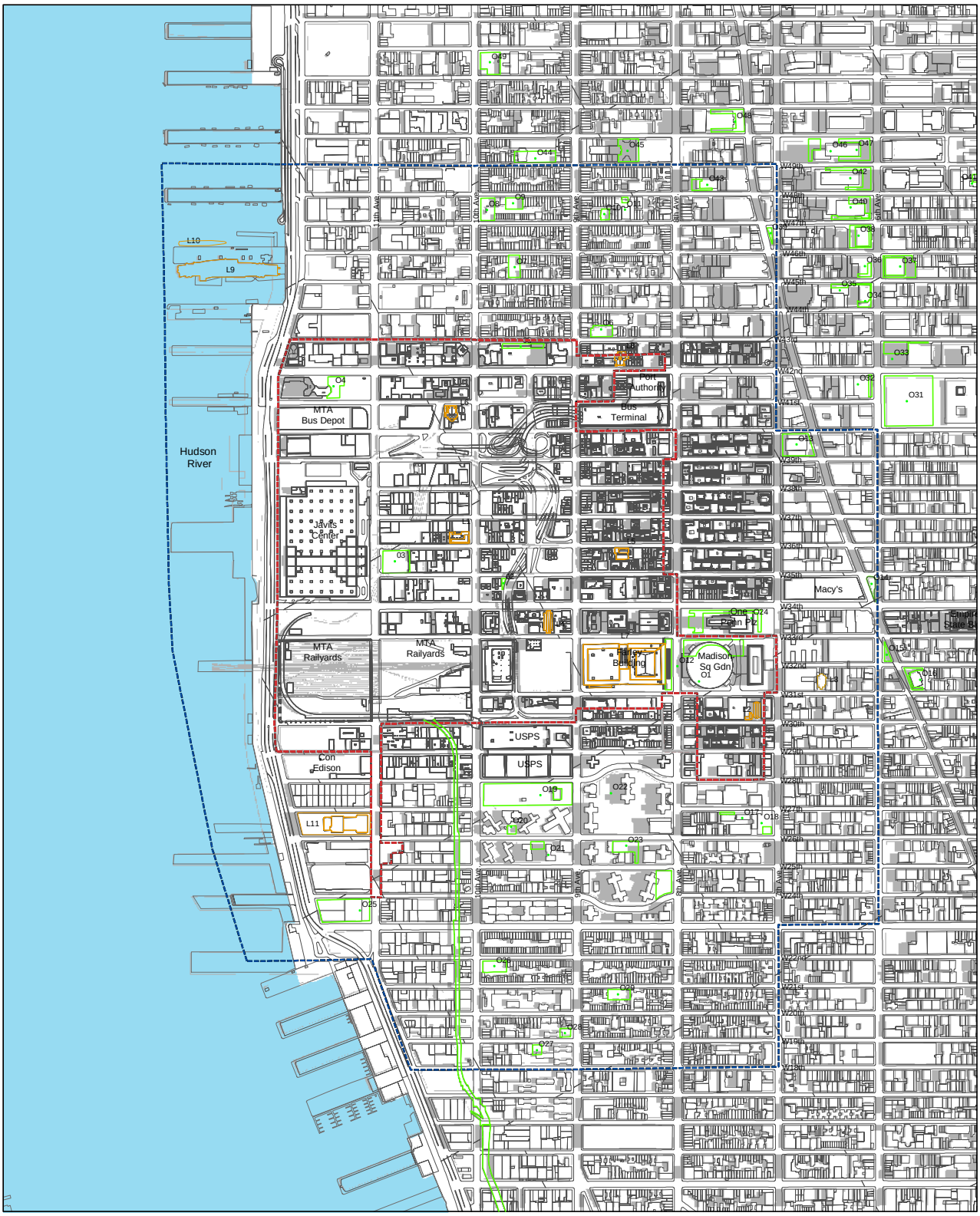
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-13



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

Project Area

Primary Study Area

Open Space Resources

Historic Resources

Key for Shadows:

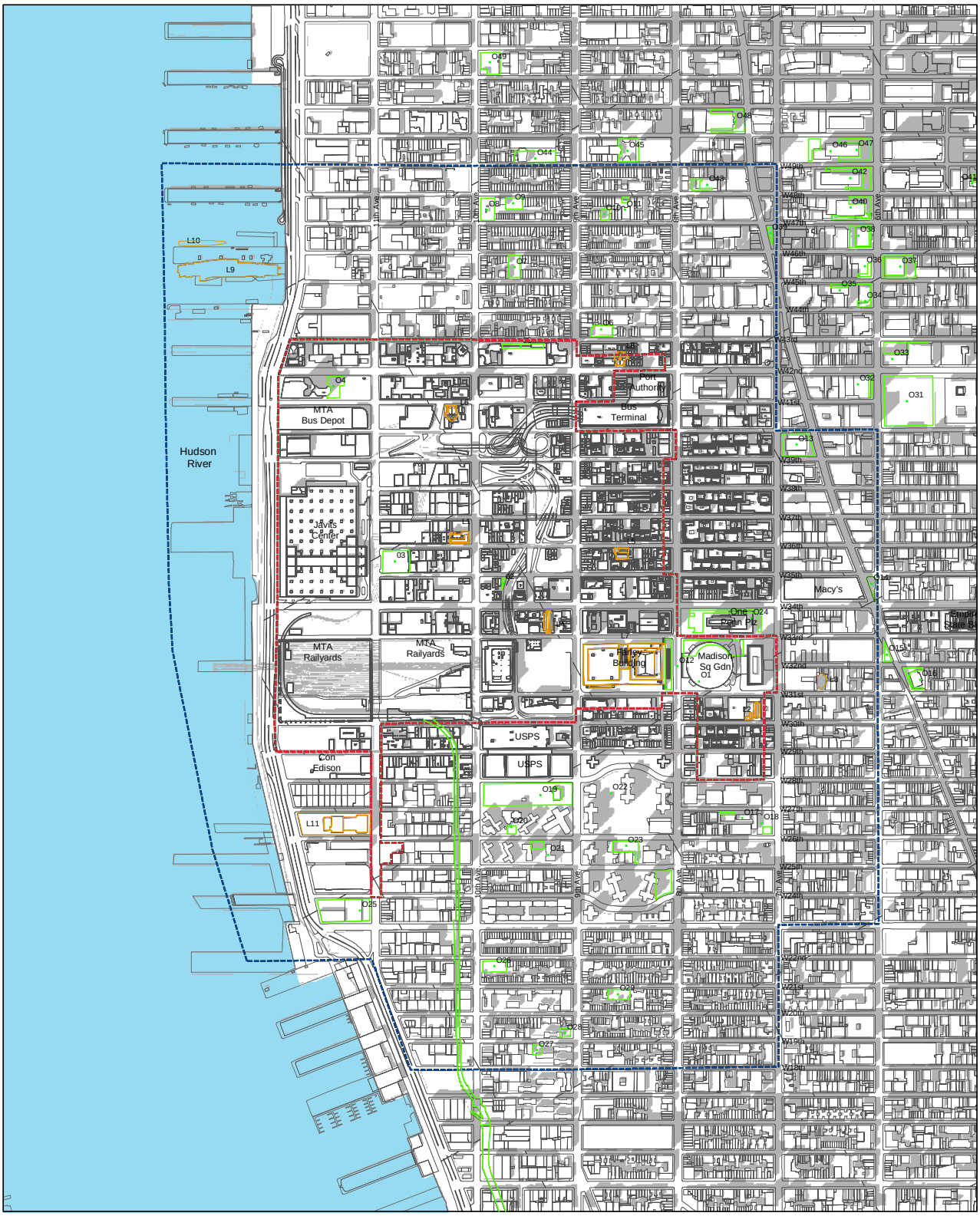
Existing Conditions

June 21. 11:10AM

Shadow Analysis
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-14



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 3:30PM

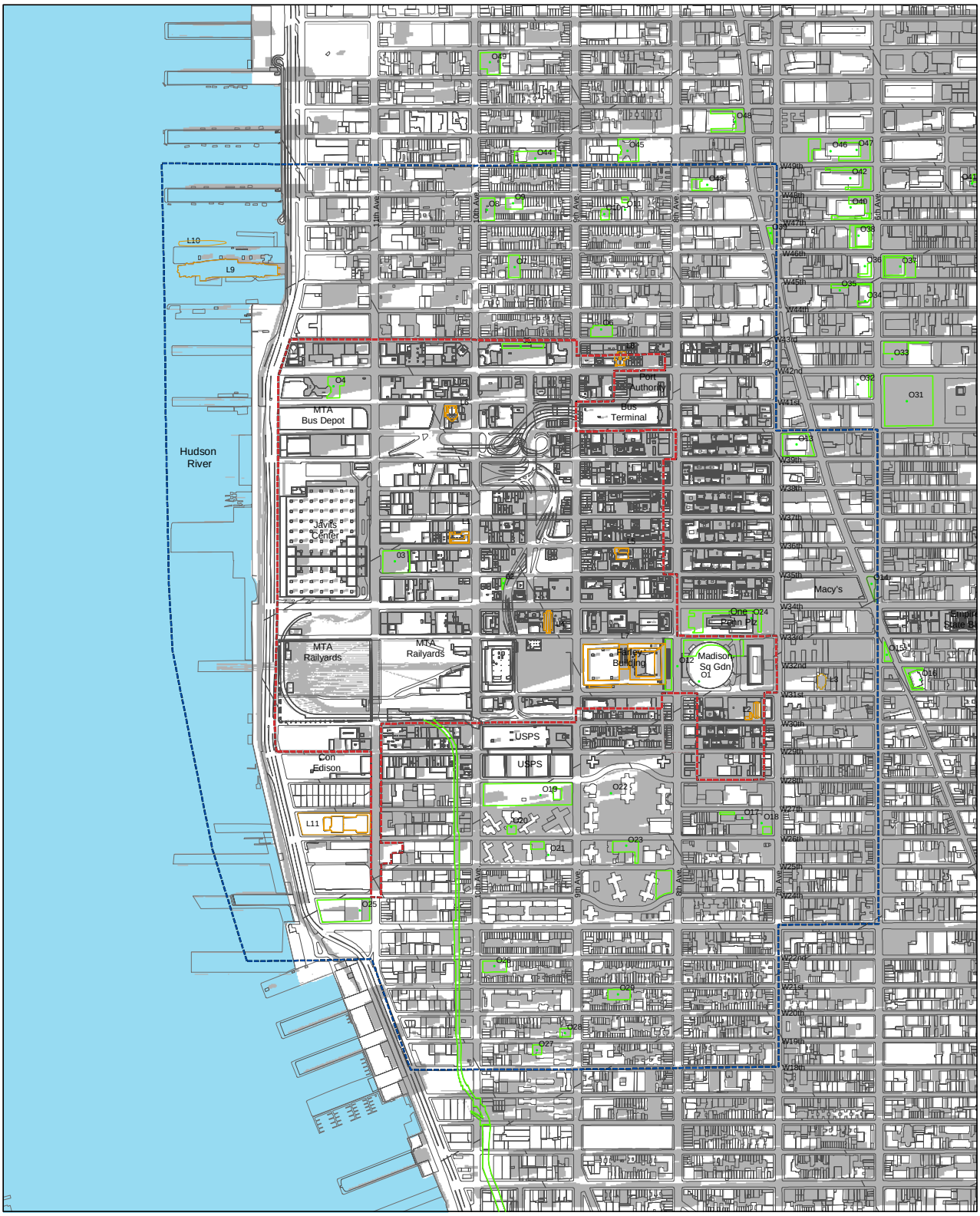
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-15



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 7:01PM

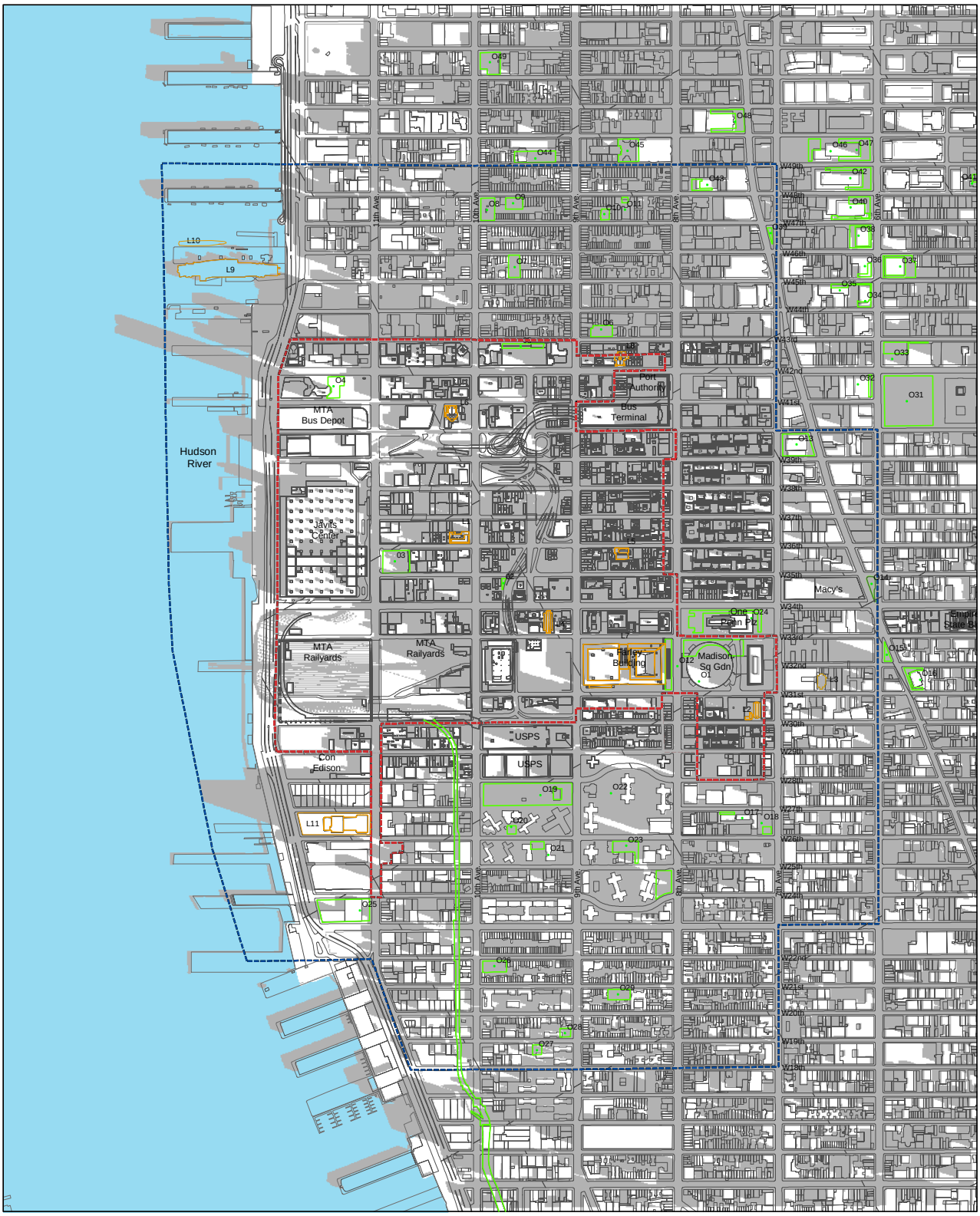
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-16



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 8:51AM

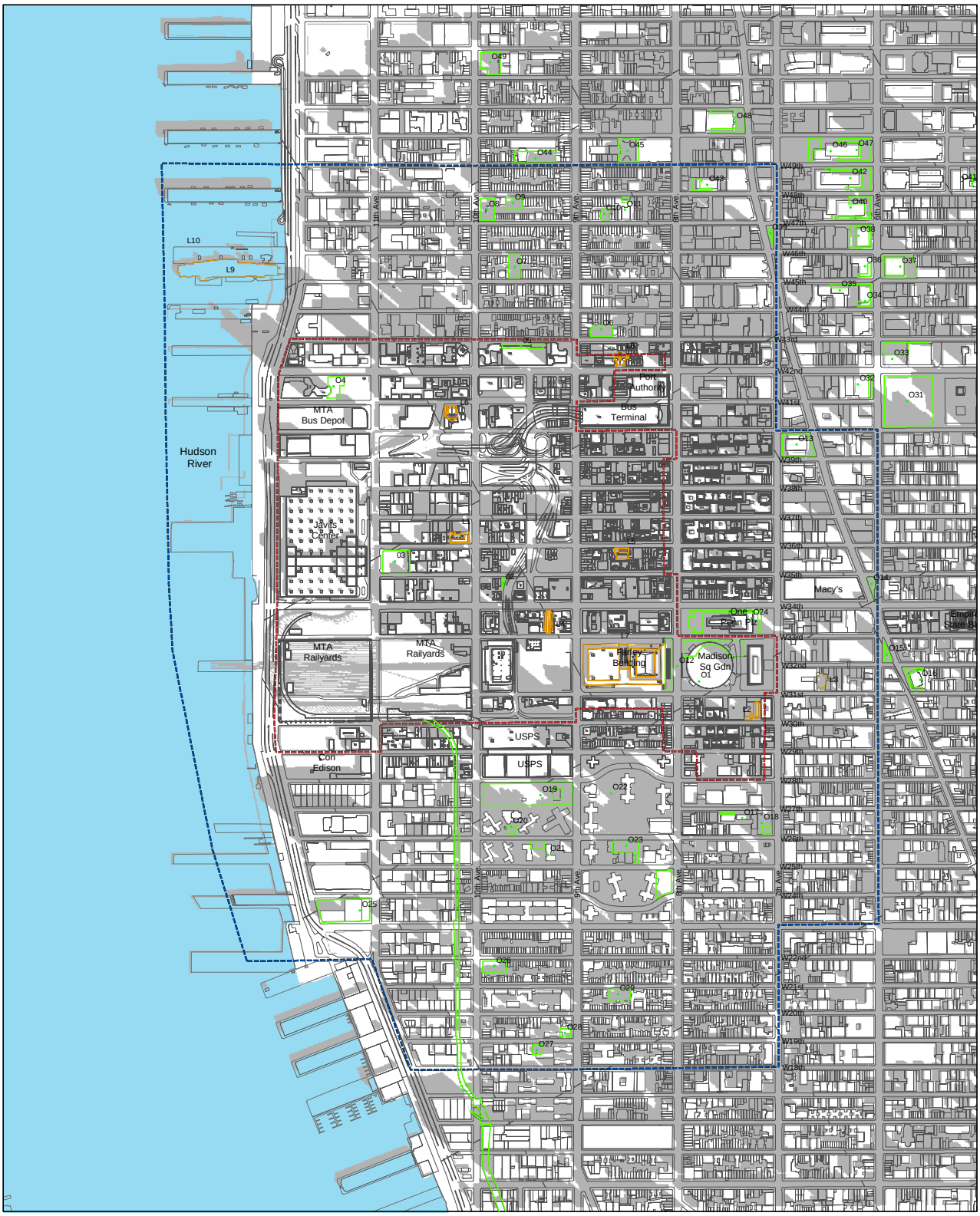
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-17



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 10:30AM

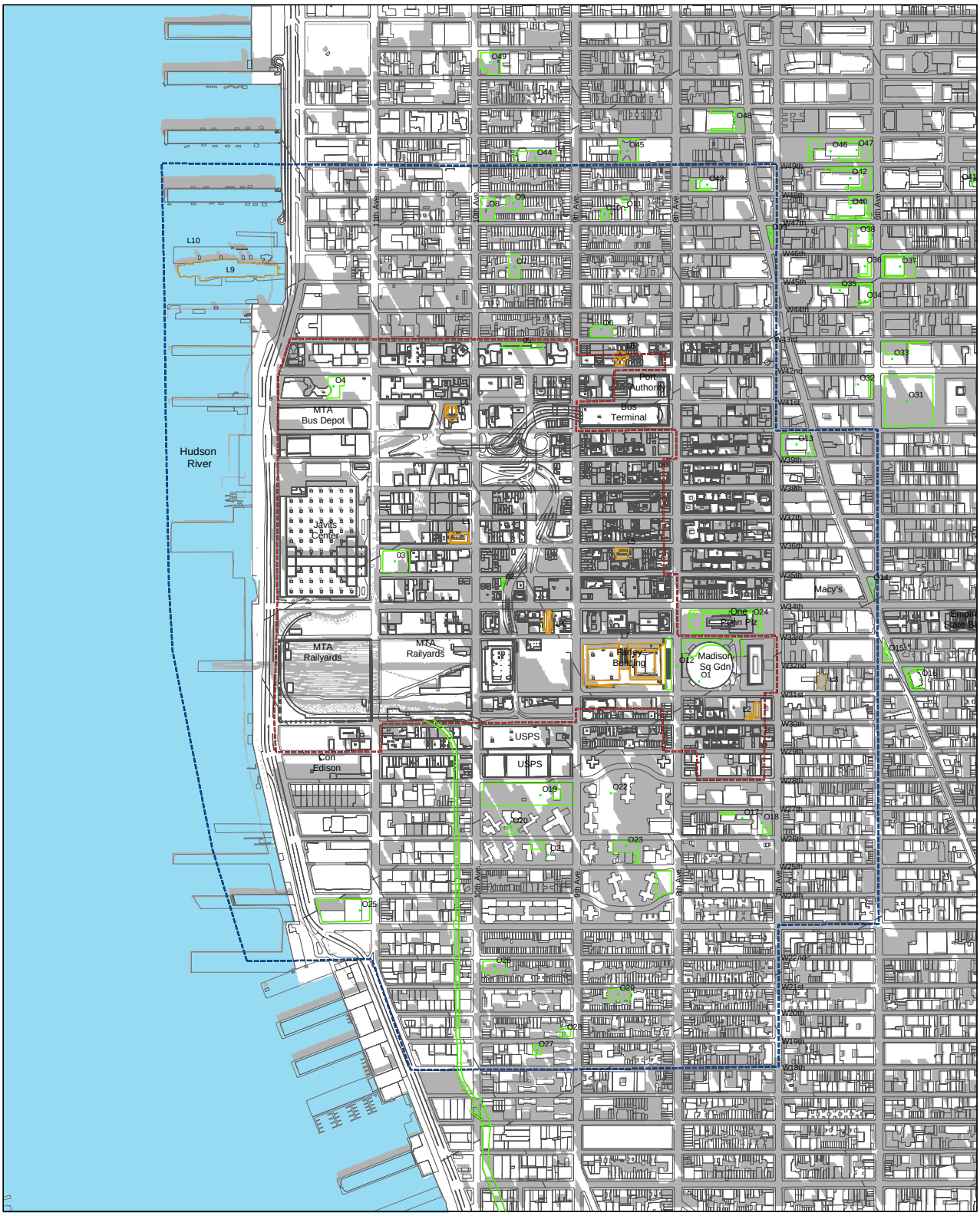
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-18



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 11:52AM

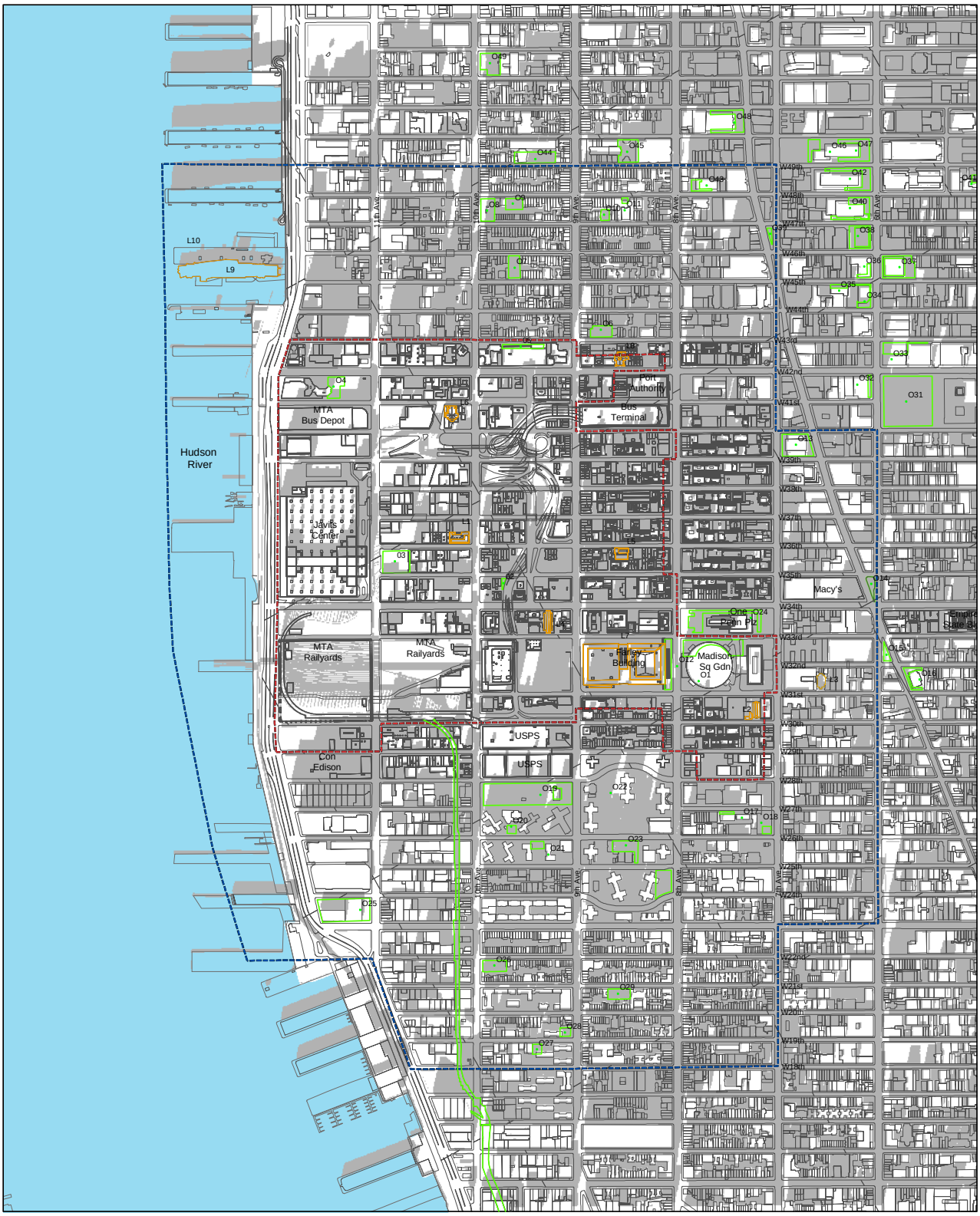
Shadow Analysis
Existing Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-19



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

Project Area

Primary Study Area

Open Space Resources

Historic Resources

Key for Shadows:

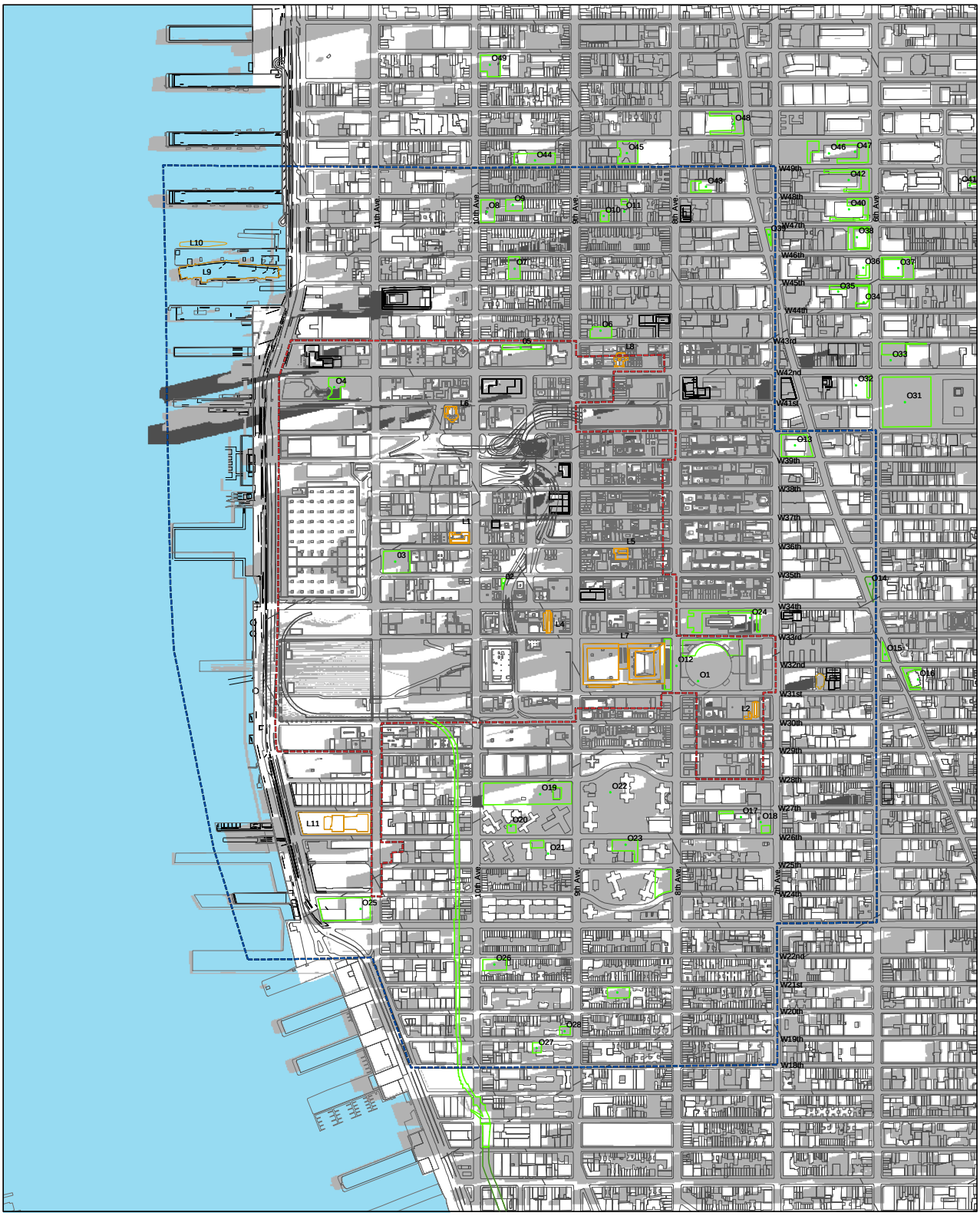
Existing Conditions

December 21. 2:53PM

Shadow Analysis
Existing Conditions

0 125 250 500 750 1,000 Ft

Figure 8-20



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 7:36AM

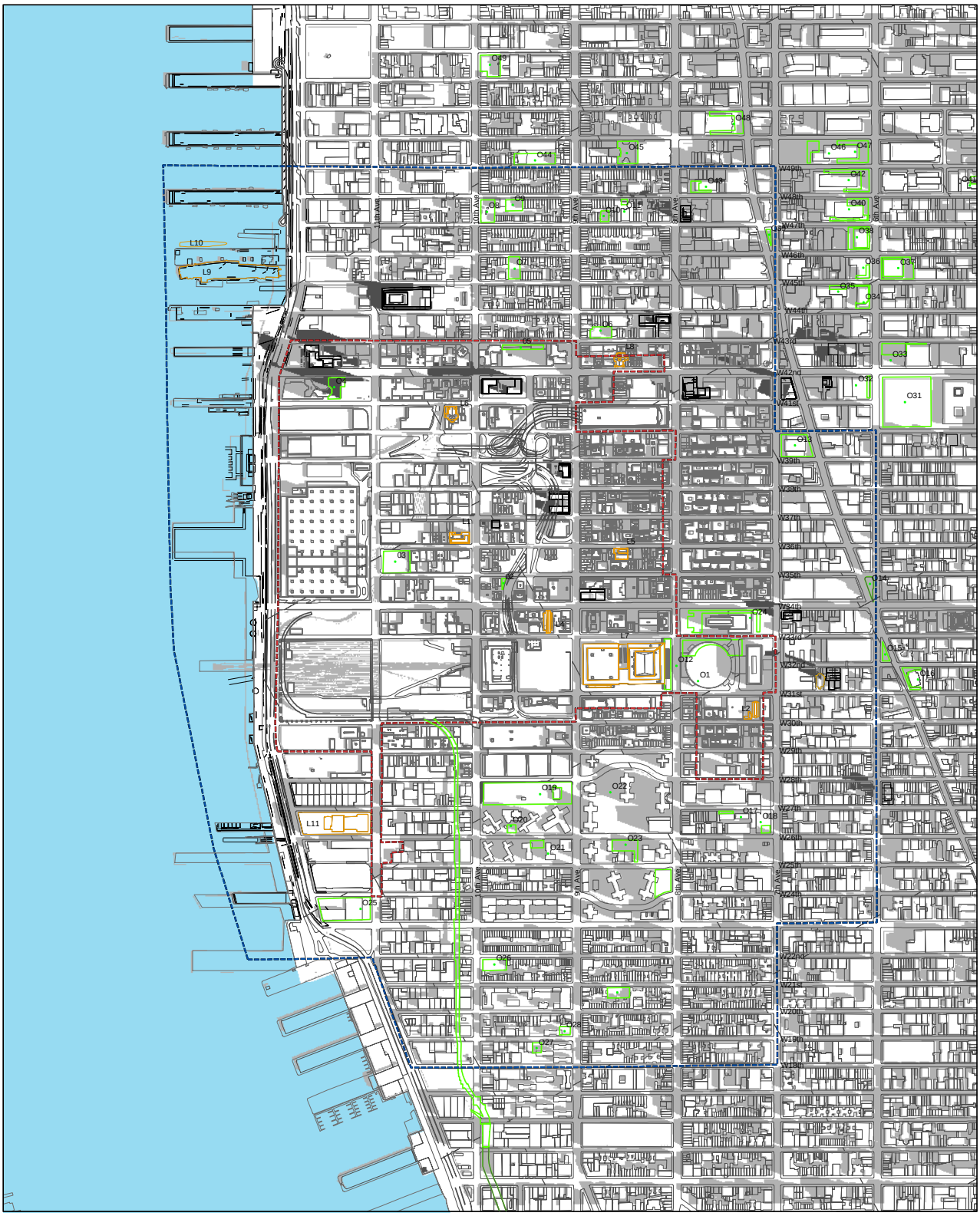
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-21



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 10:05AM

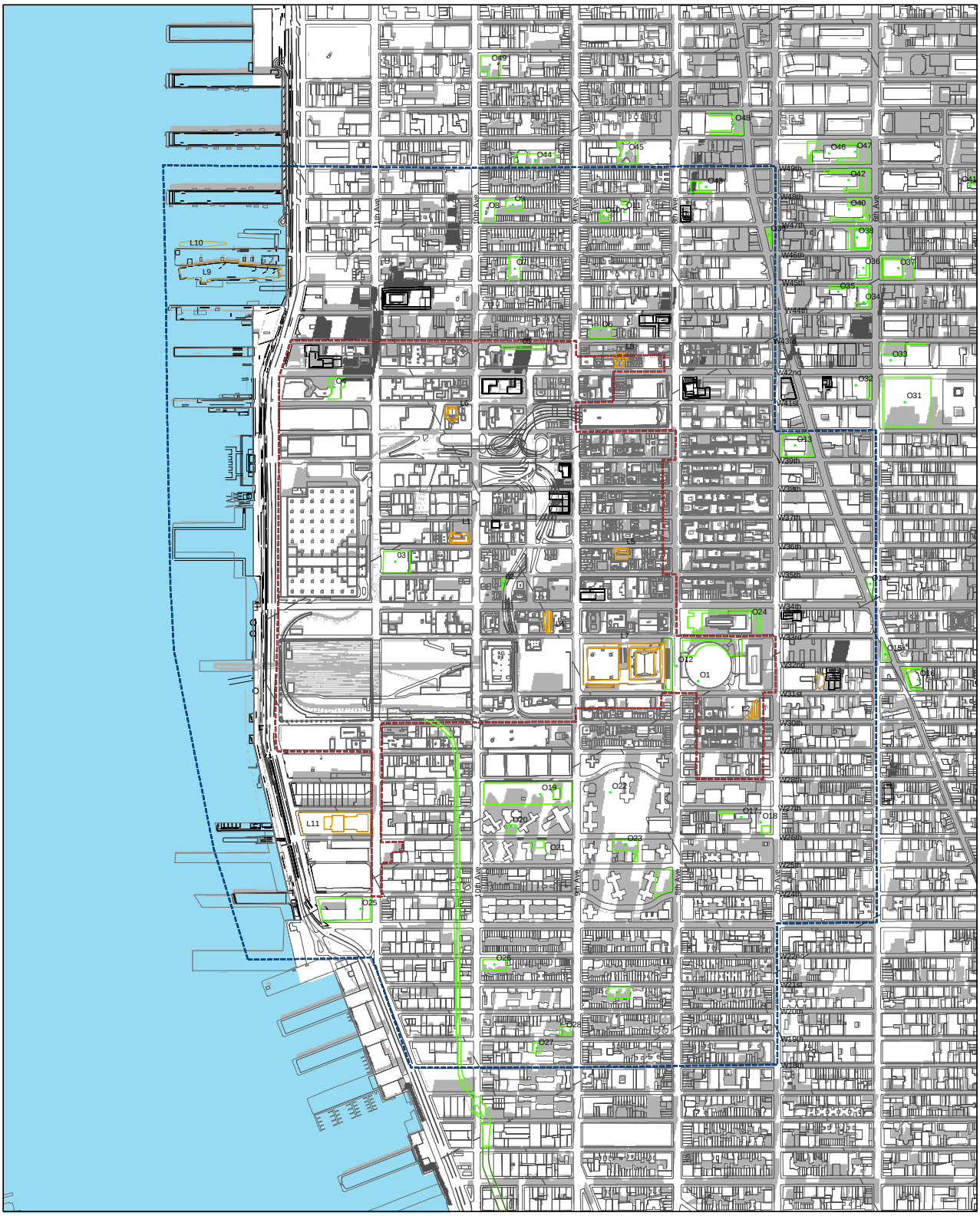
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 ft

Figure 8-22



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 1:59PM

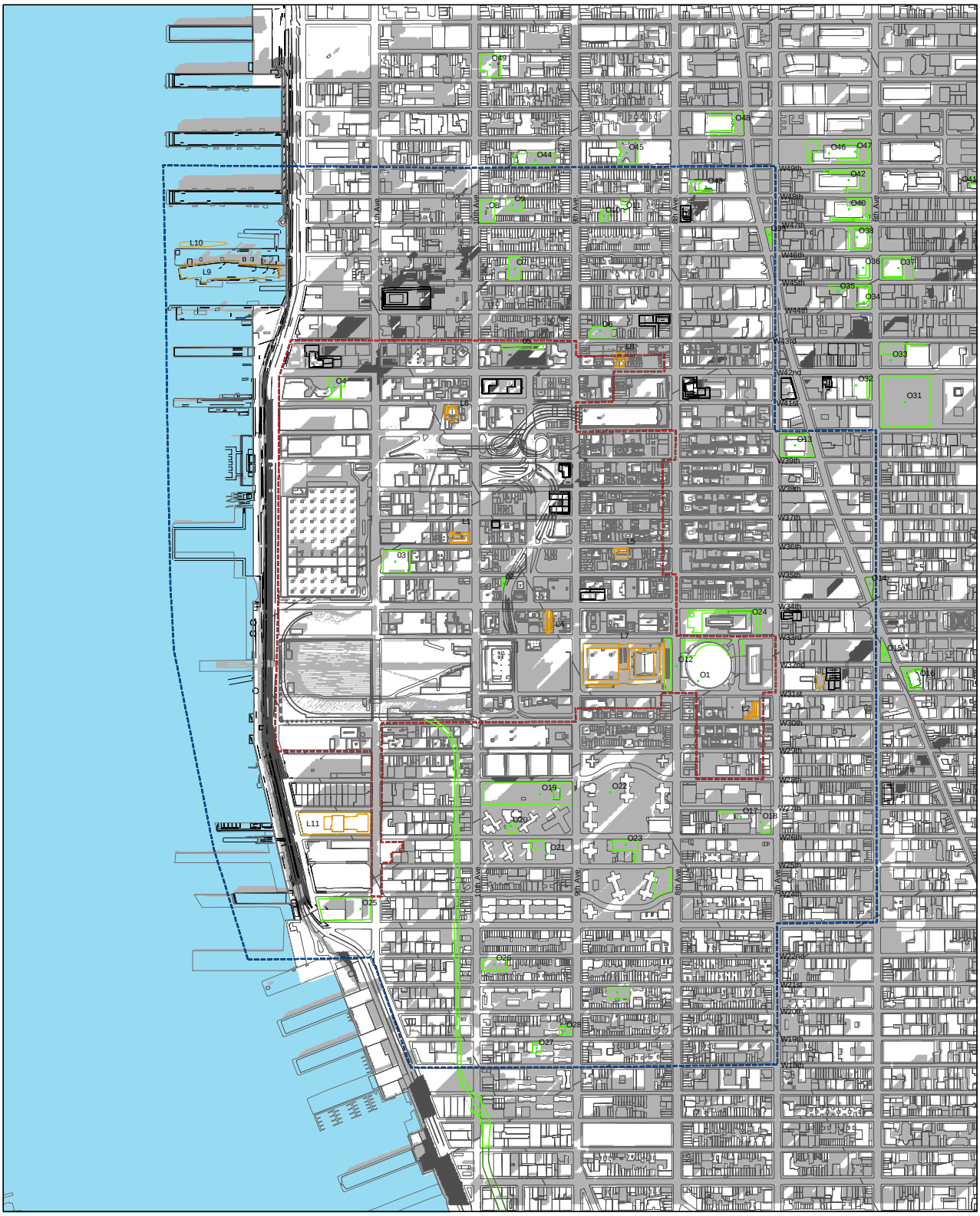
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 ft

Figure 8-23



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 4:29PM

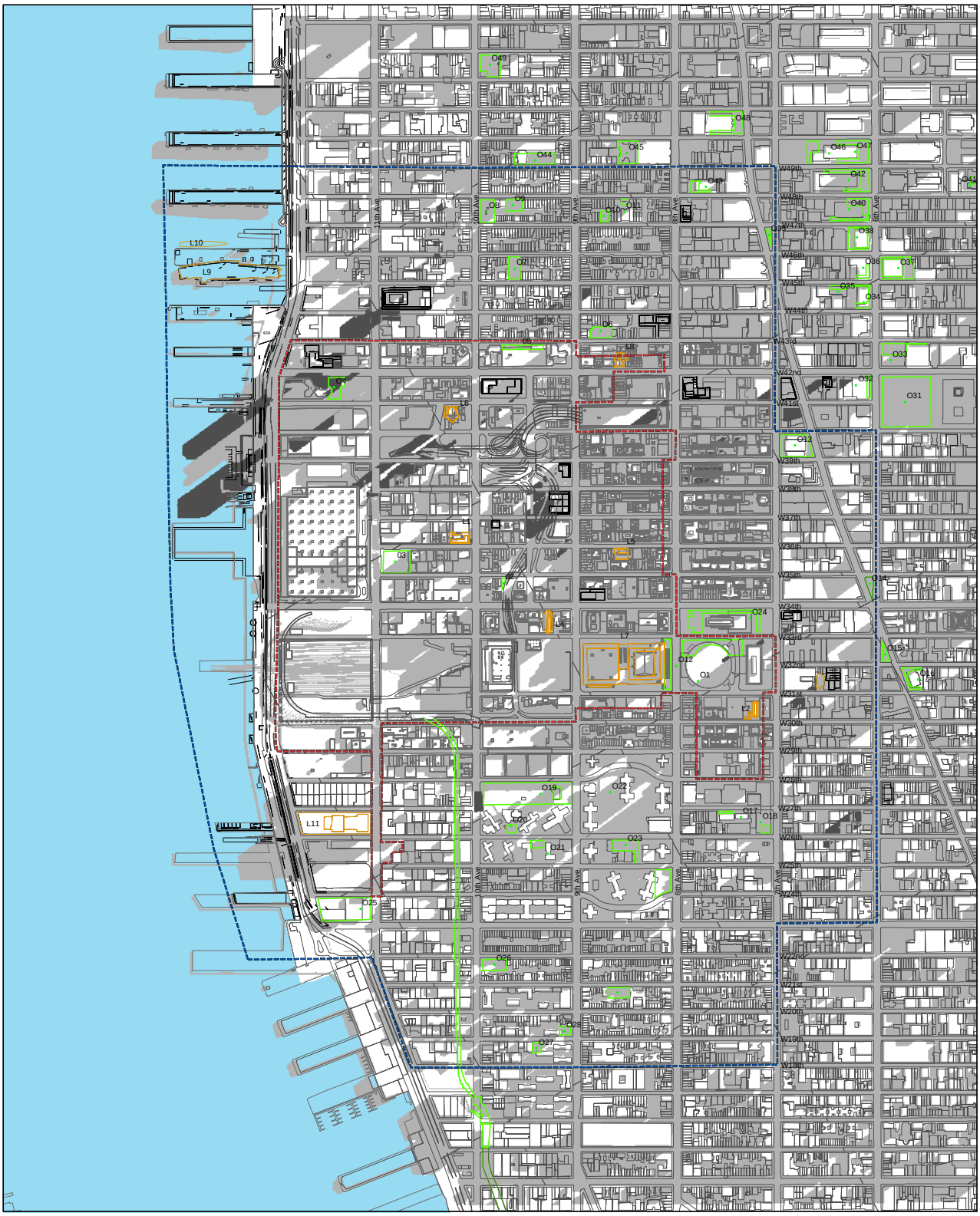
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 ft

Figure 8-24



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 7:27AM

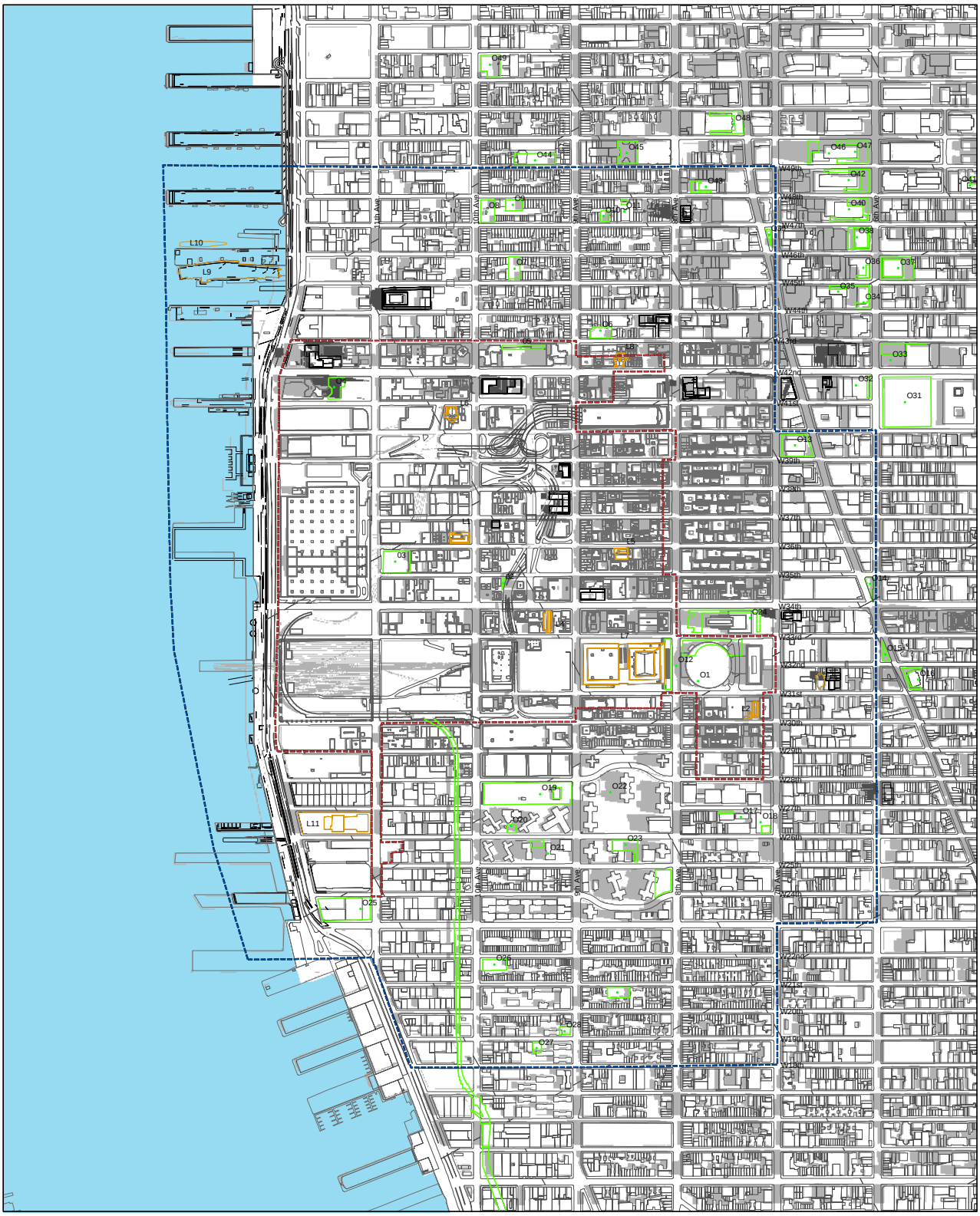
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 ft

Figure 8-25



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 11:00AM

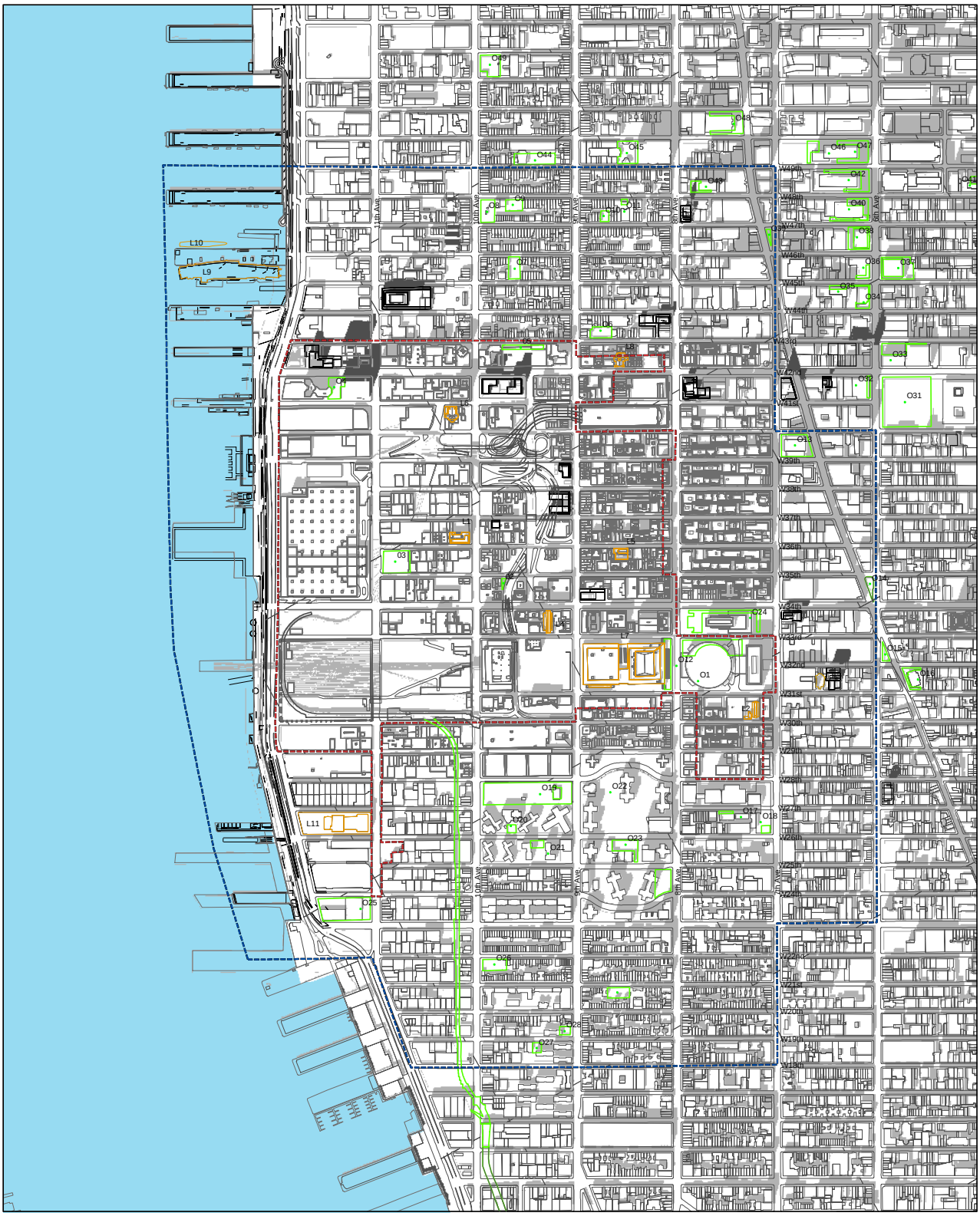
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 ft

Figure 8-26



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 2:30PM

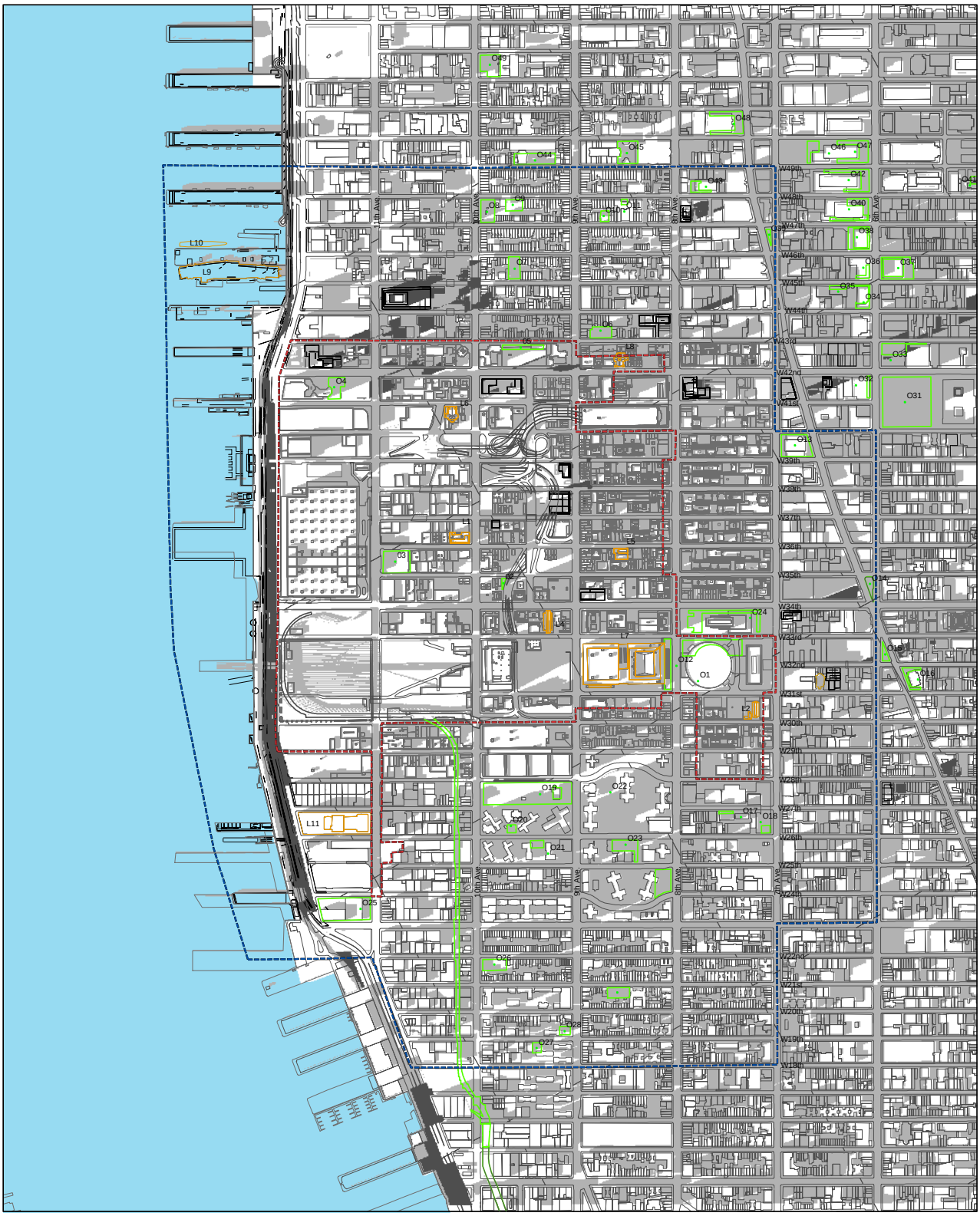
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 ft

Figure 8-27



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 6:18PM

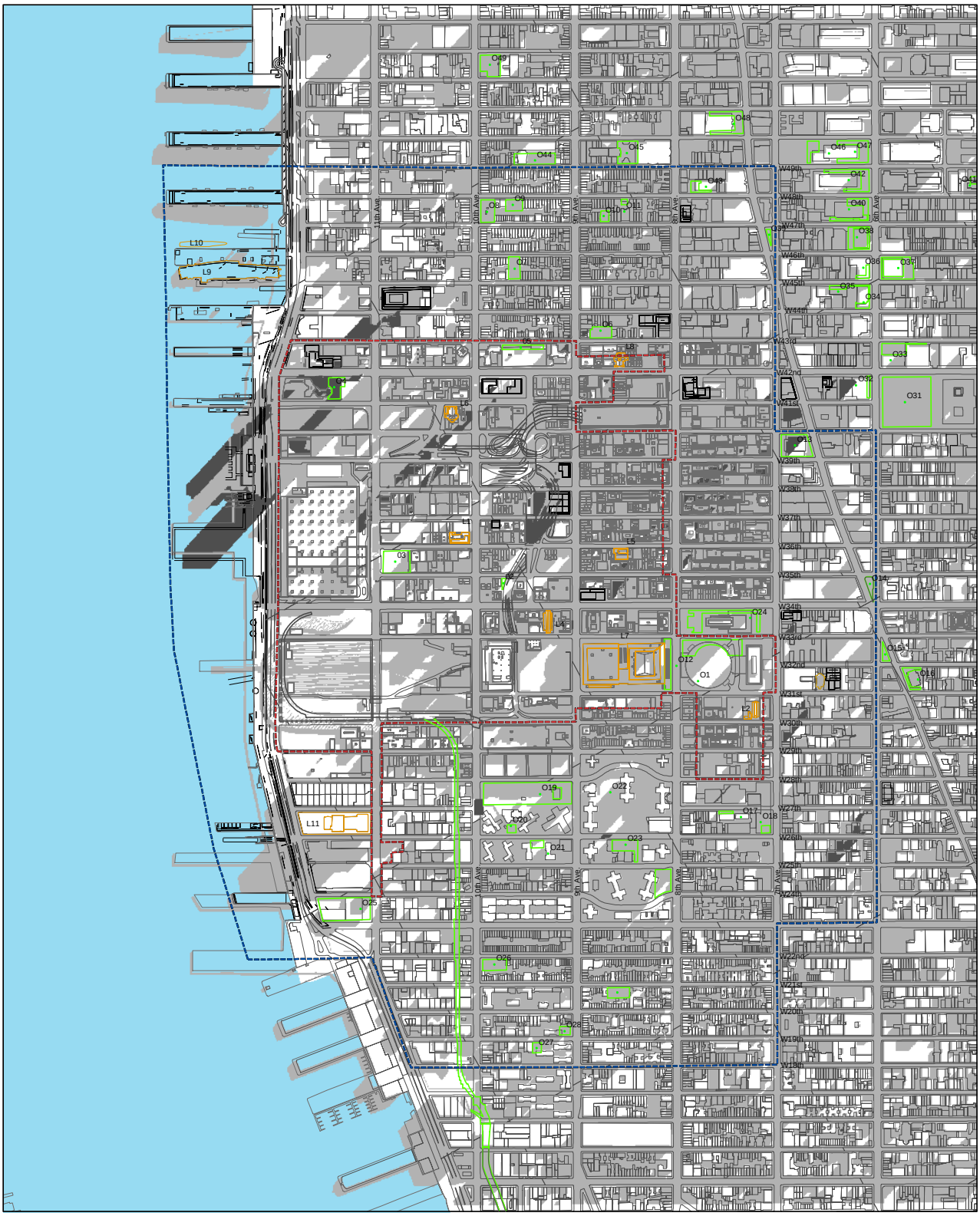
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 ft

Figure 8-28



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 6:57AM

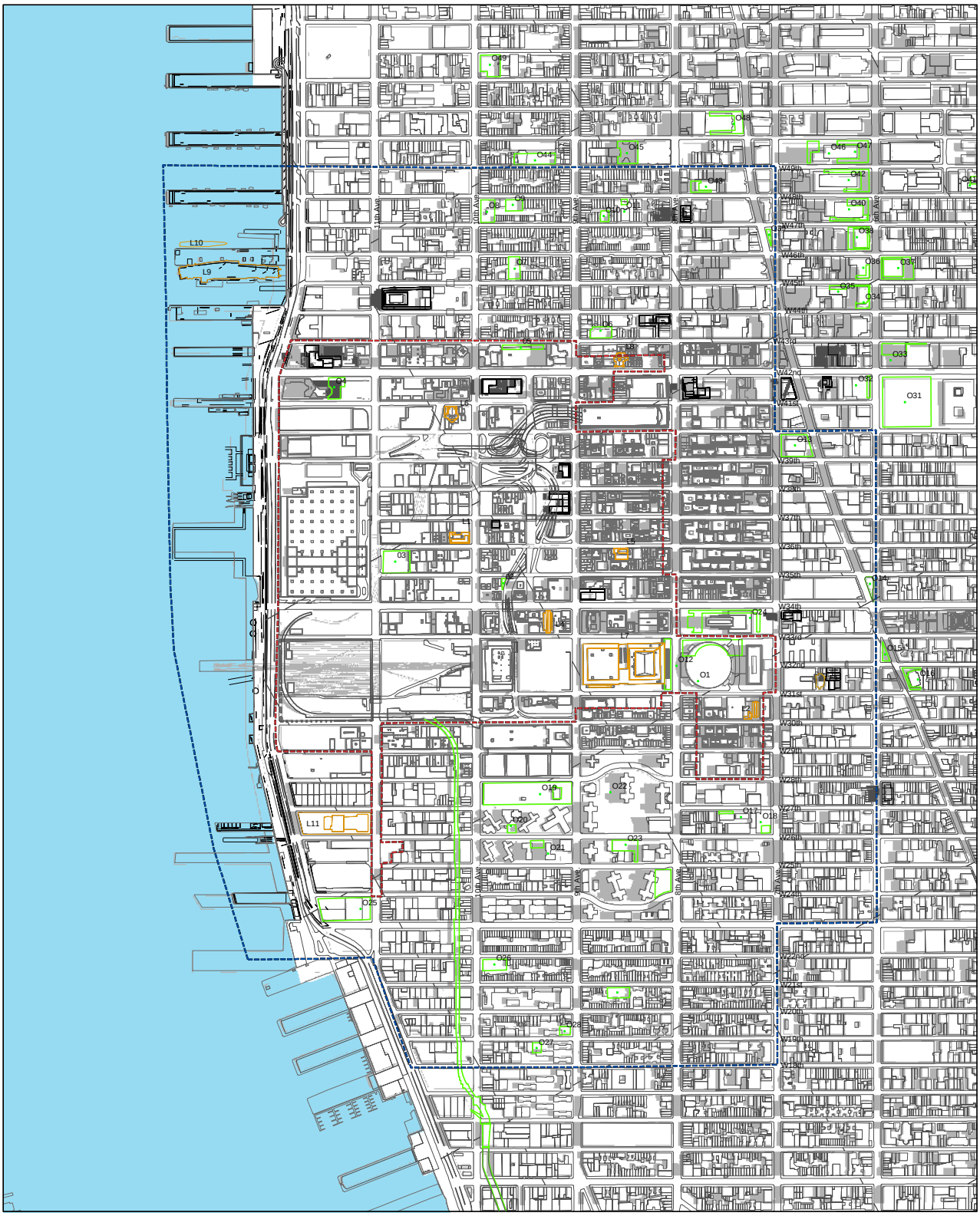
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-29



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

Project Area

Primary Study Area

Open Space Resources

Historic Resources

Key for Shadows:

Existing Conditions

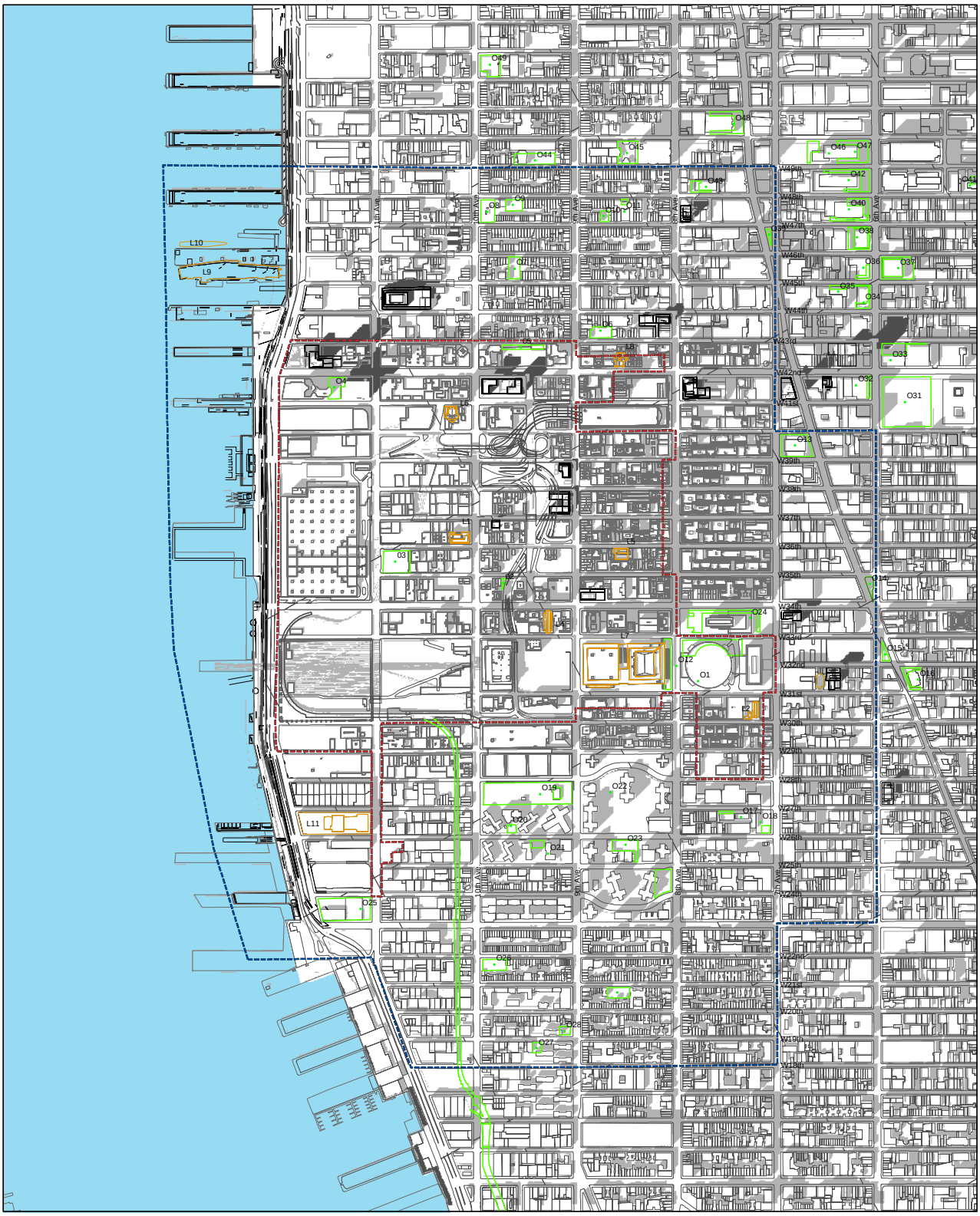
No Build Conditions

June 21. 11:10AM

Shadow Analysis
2010 - No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-30



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

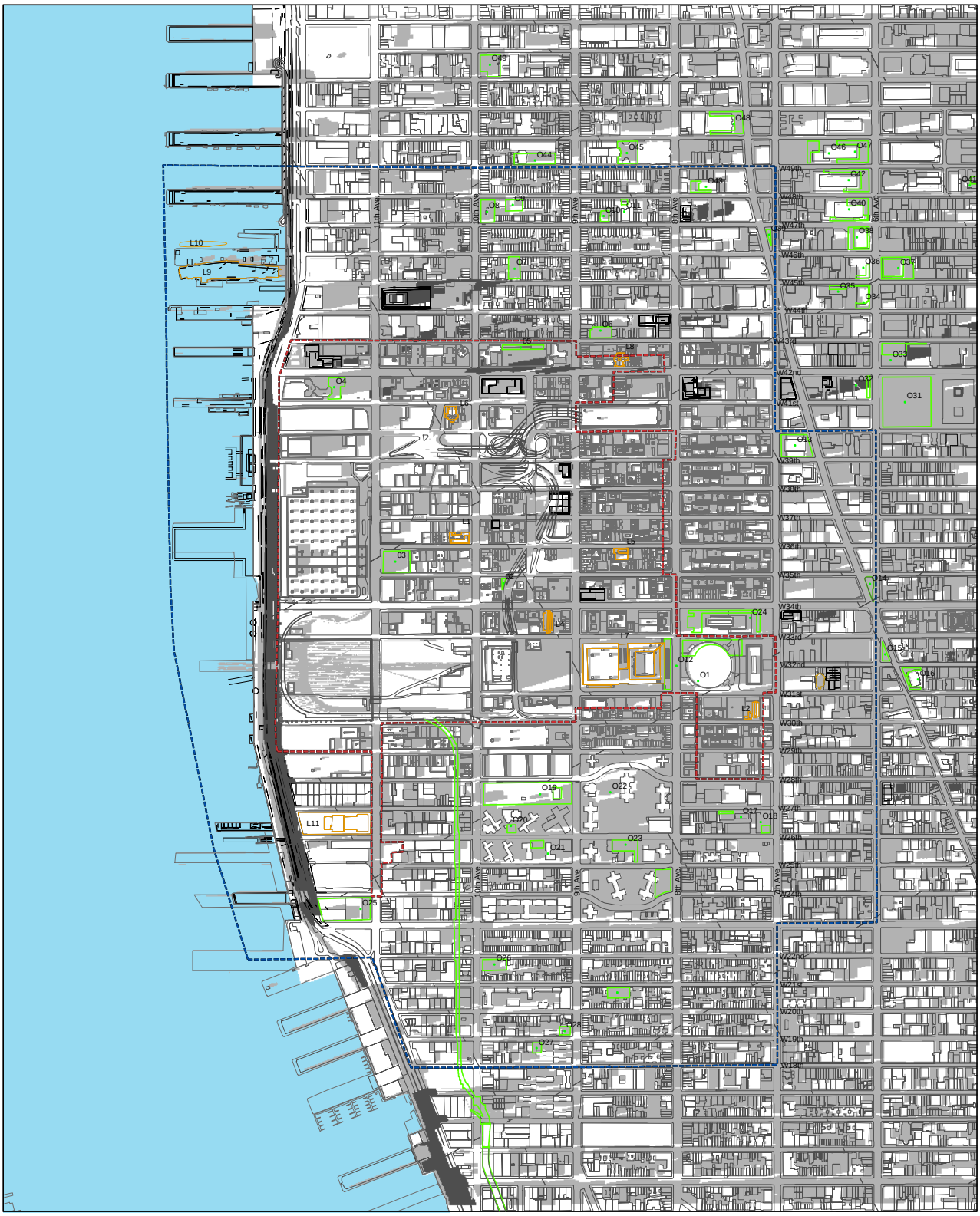
June 21. 3:30PM

Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Key for Shadows:
Existing Conditions
No Build Conditions
Open Space Resources
Historic Resources

0 125 250 500 750 1,000 Ft

Figure 8-31



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 7:01PM

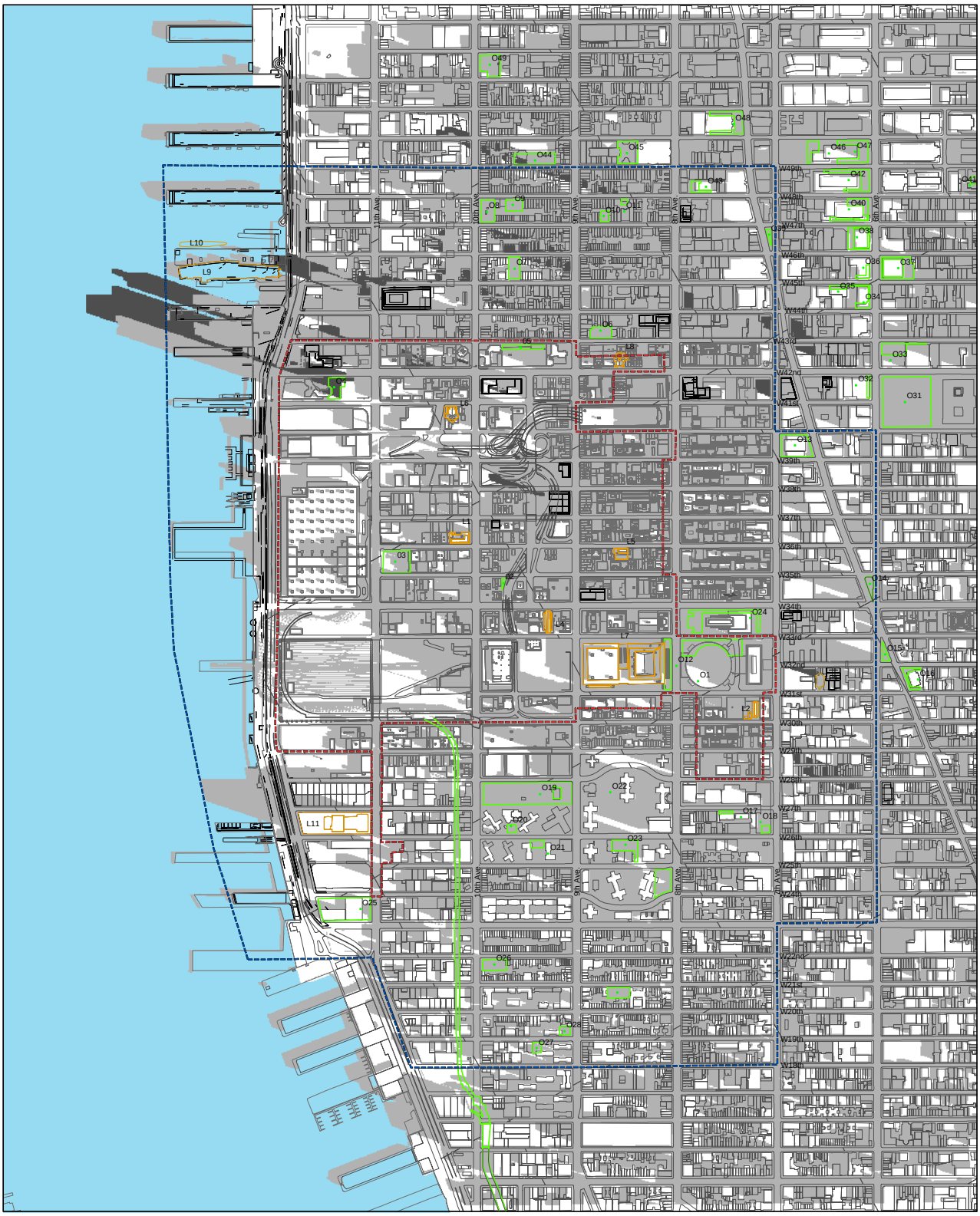
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-32



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 8:51AM

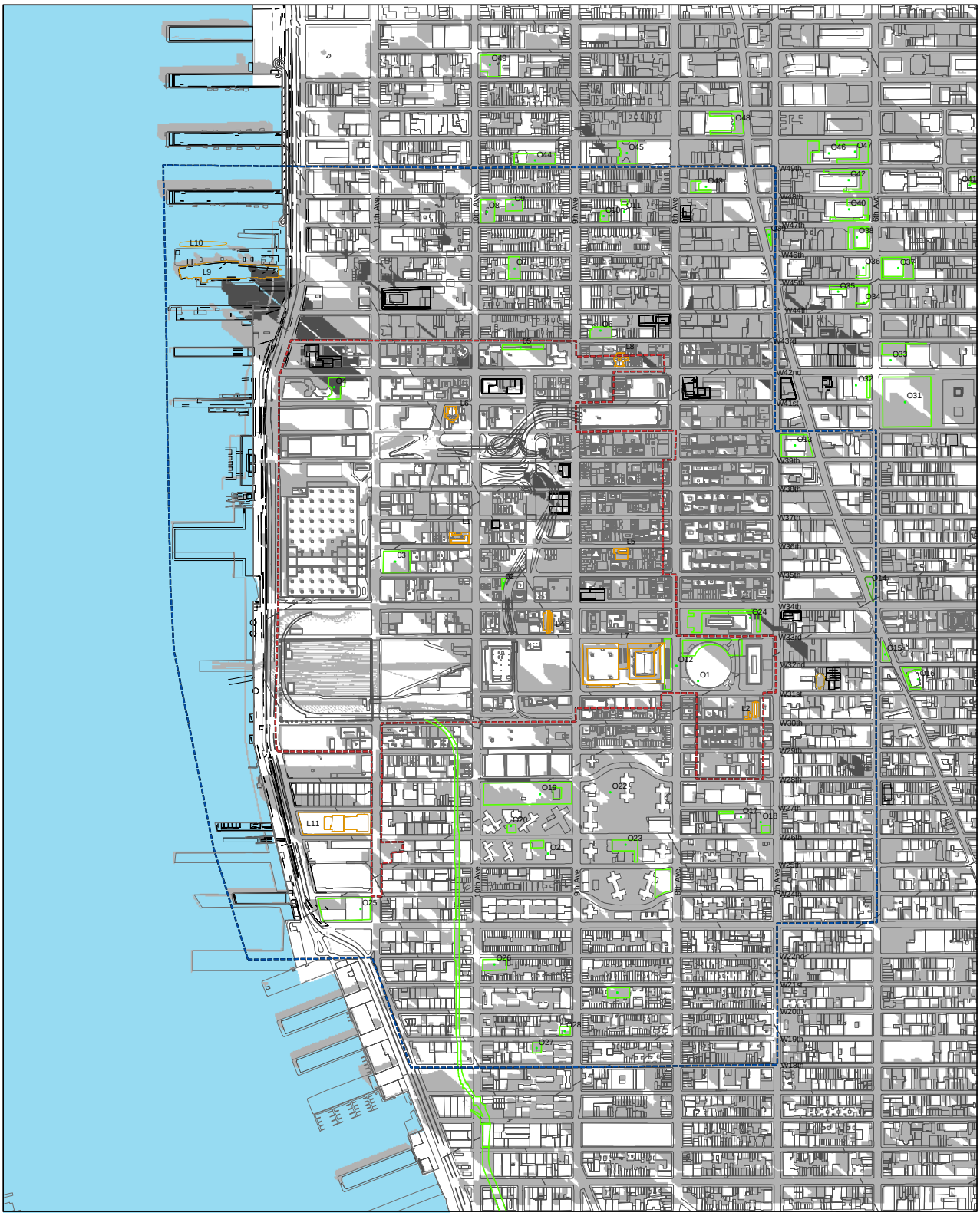
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-33



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 10:30AM

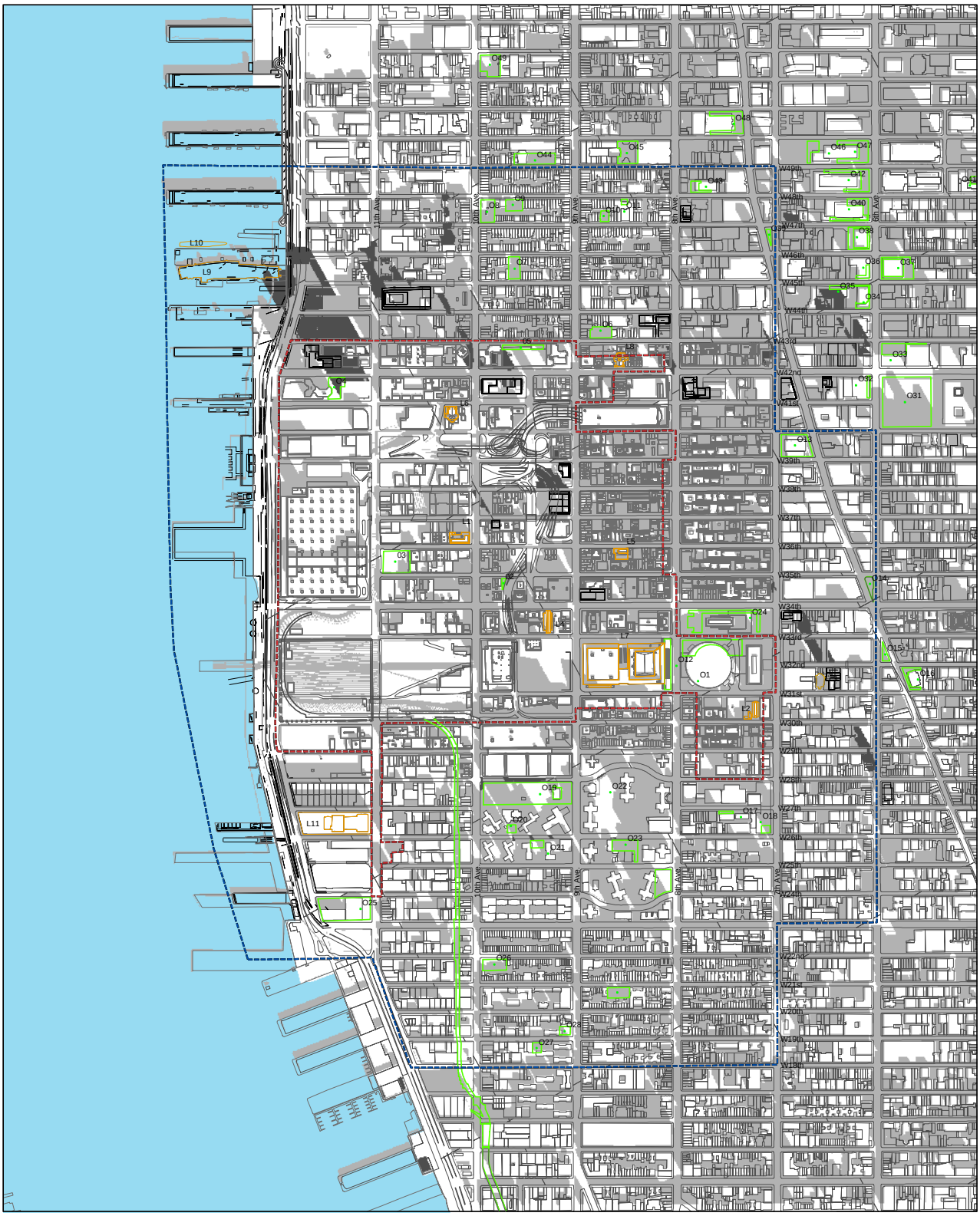
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-34



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 11:52AM

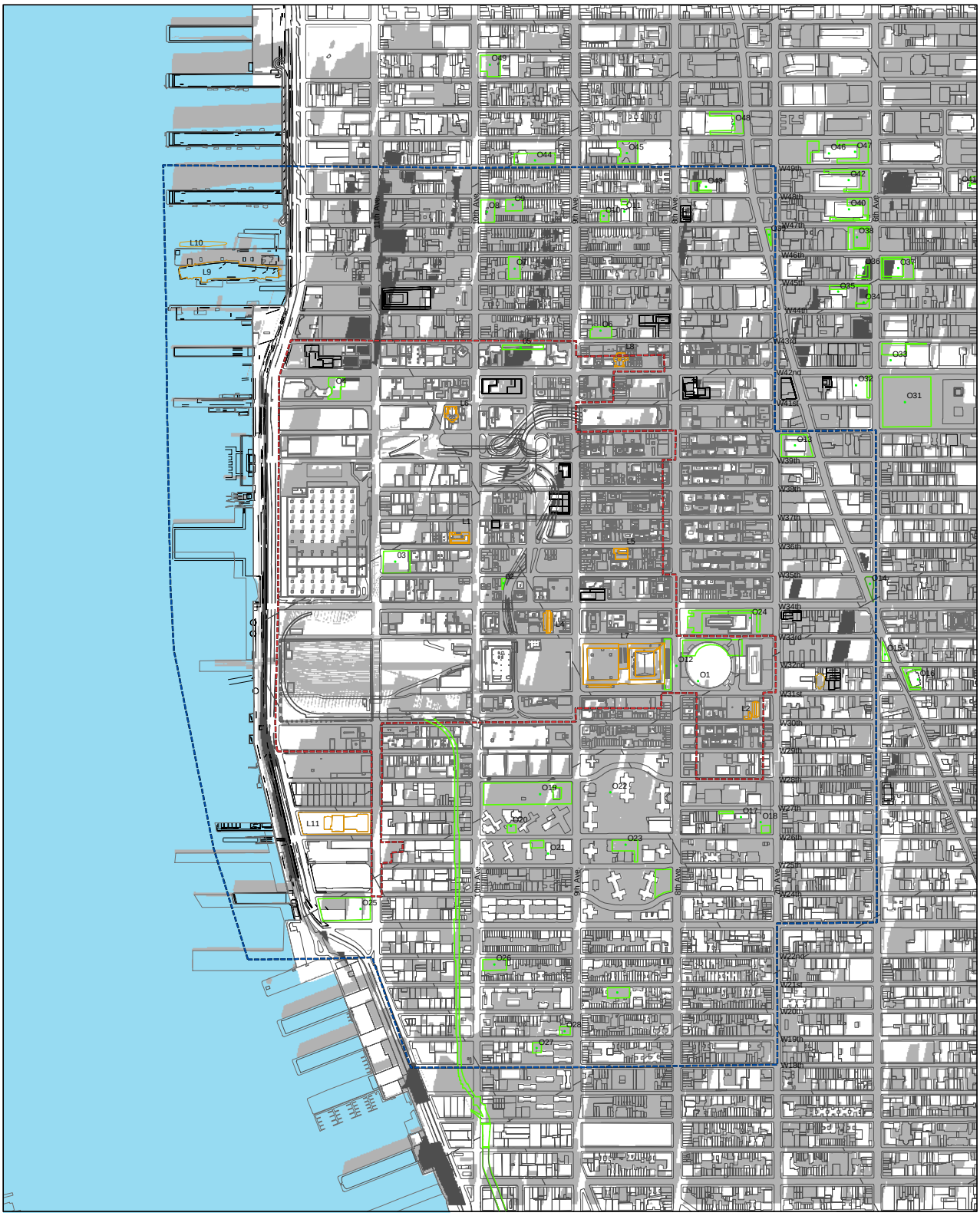
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-35



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 2:53PM

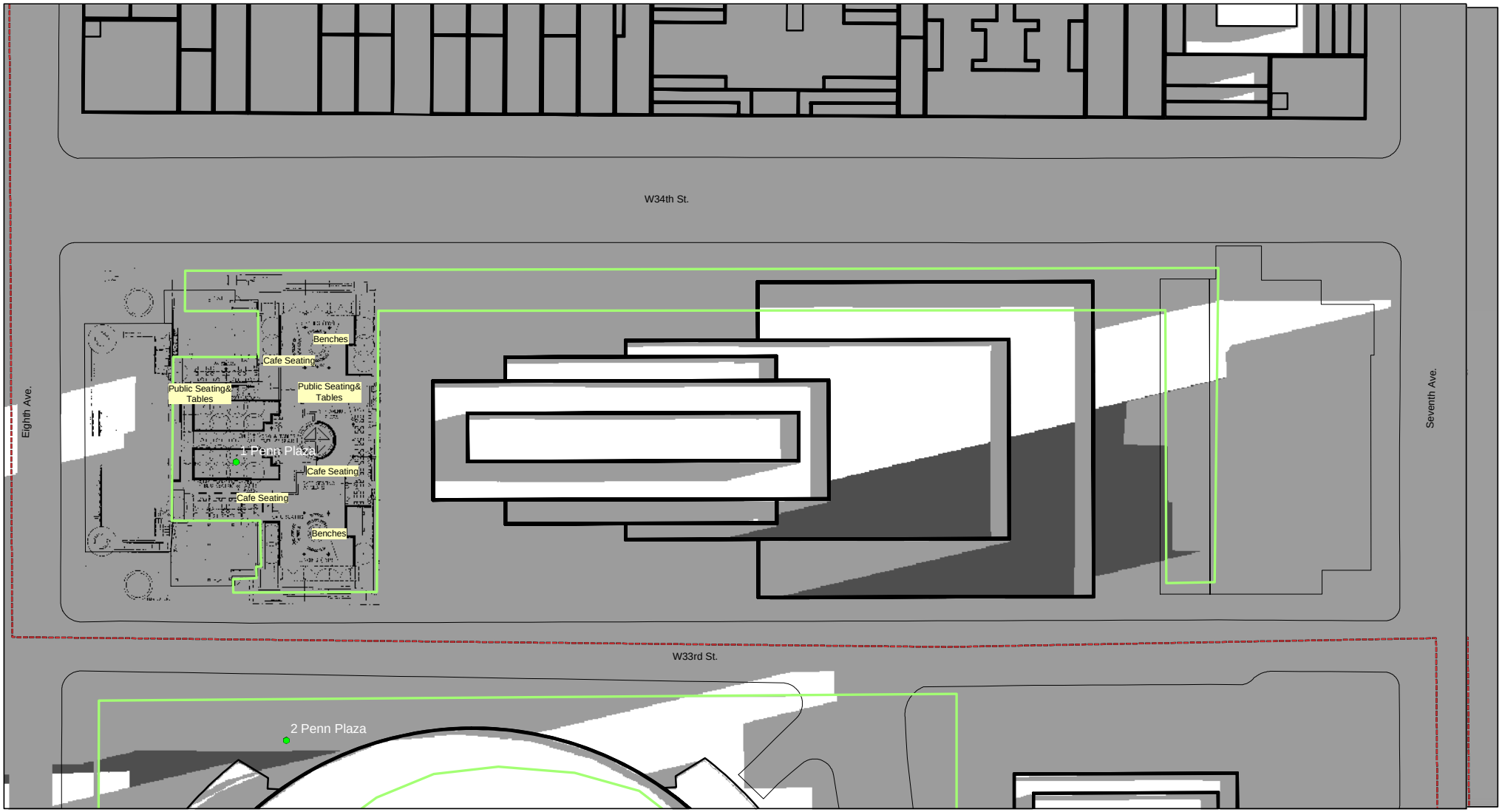
Shadow Analysis
2010 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-36



Primary Study Area
Project Area
Open Space Resources

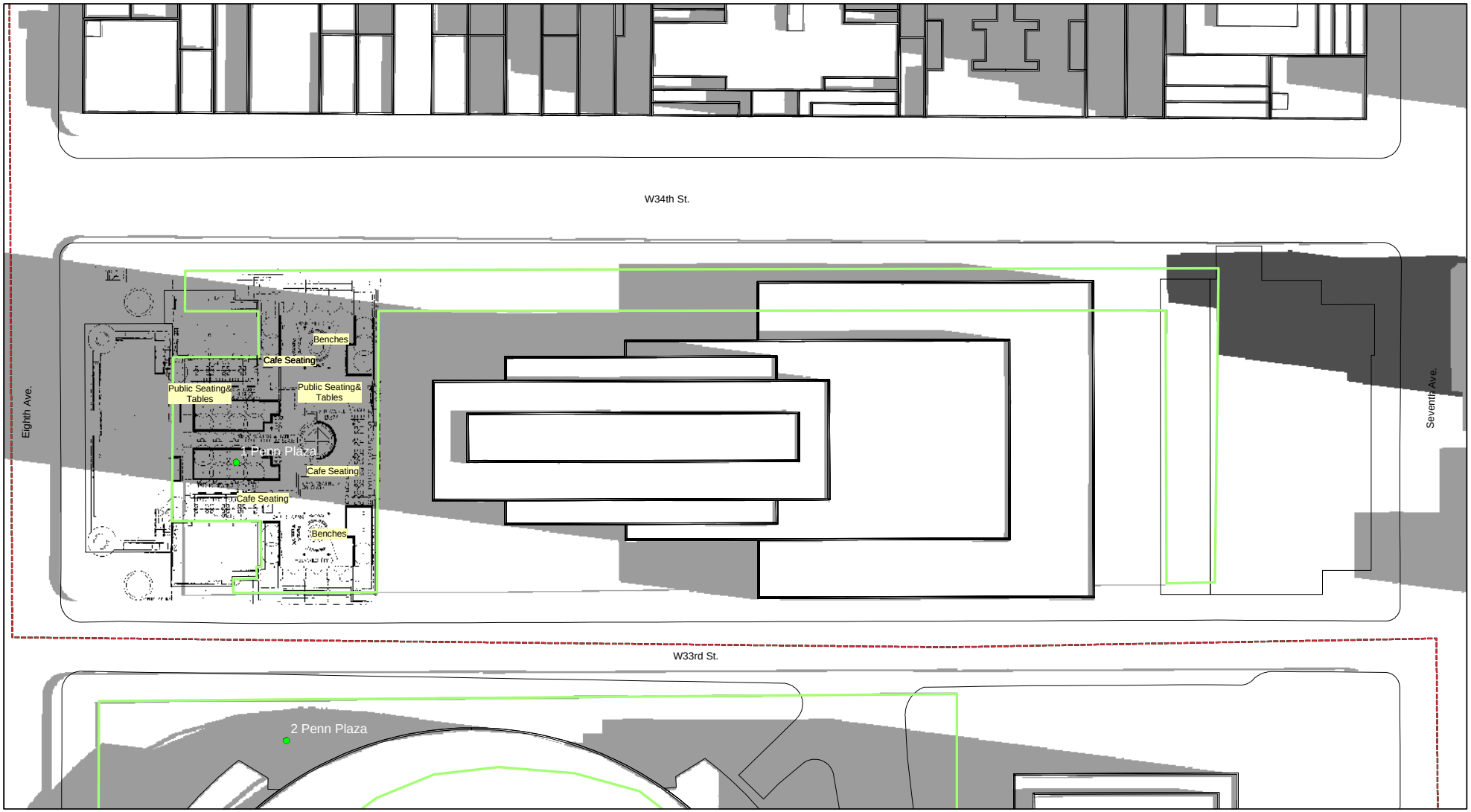
Key for Shadows:
Existing Conditions
No Build Conditions

March 21.
7:36AM

N
0 12.5 25 50 75 100 Ft

2010 - No Build Conditions
One Penn Plaza

Figure 8-37



Primary Study Area
Project Area
Open Space Resources

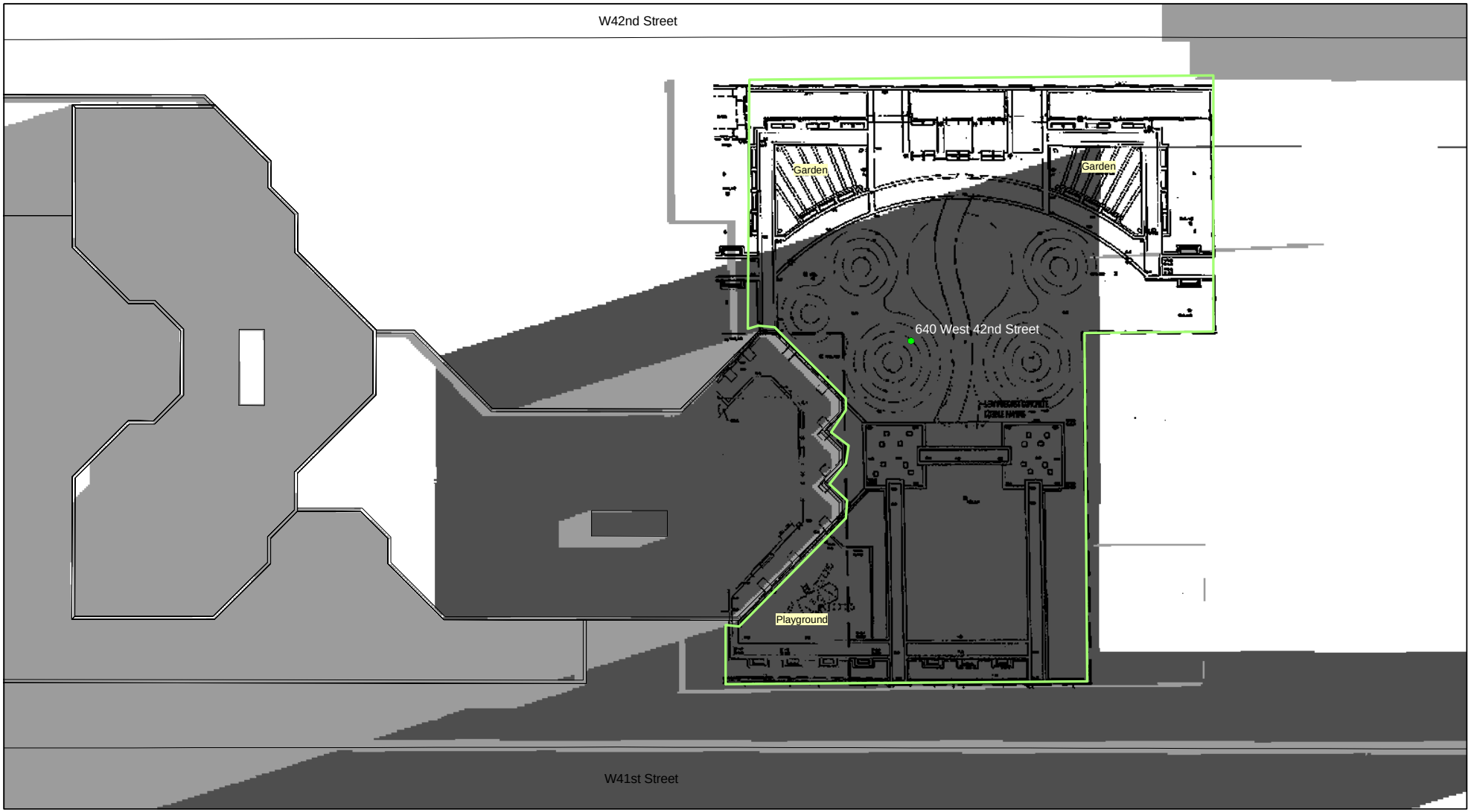
Key for Shadows:
Existing Conditions
No Build Conditions

May 6.
11:00AM

N
0 12.5 25 50 75 100 Ft

2010 - No Build Conditions
One Penn Plaza

Figure 8-38



Primary Study Area
Project Area

Open Space Resources

Key for Shadows:

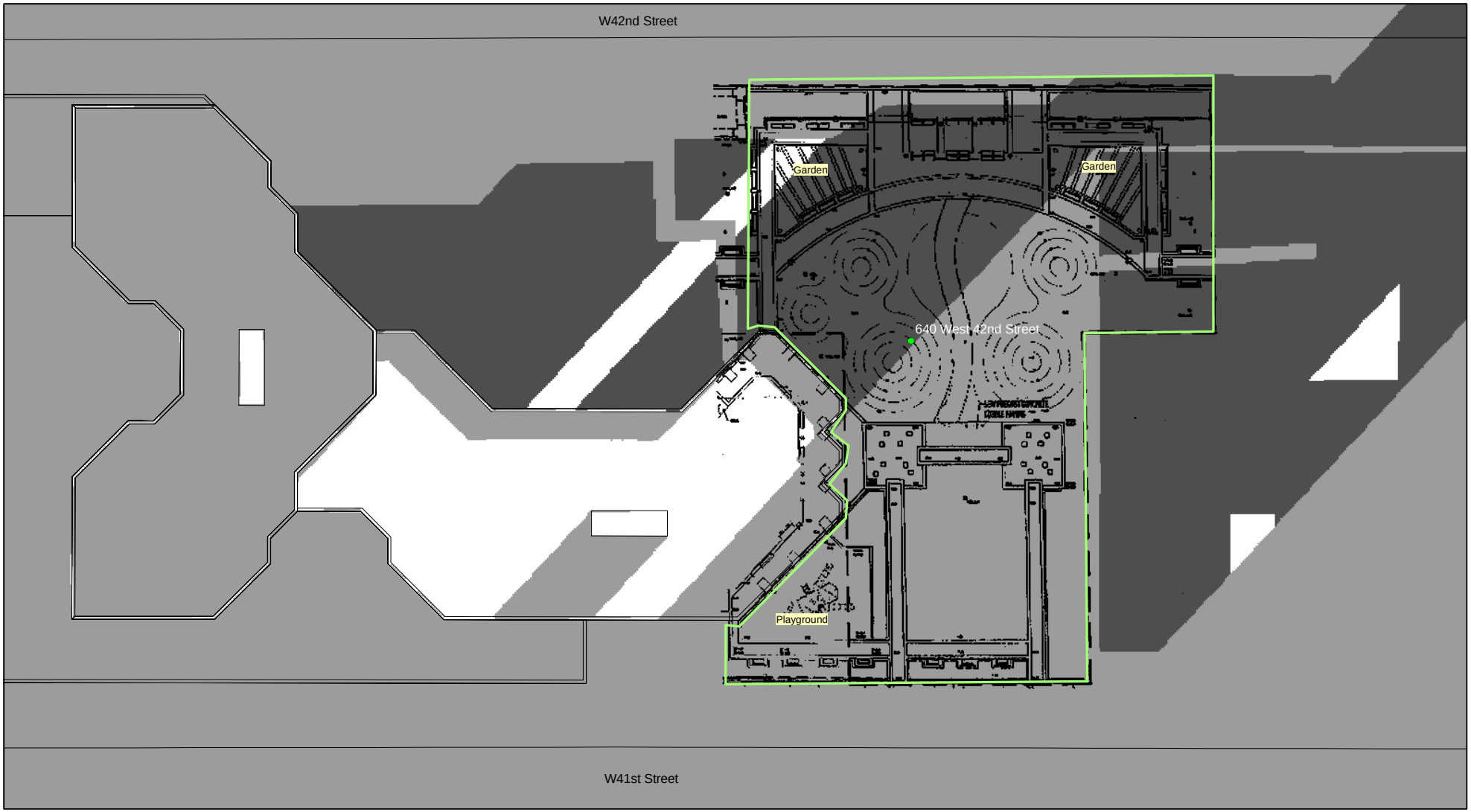
Existing Conditions
No Build Conditions

June 21.
10:00AM

0 5 10 20 30 40 Ft

2010 - No Build Conditions
640 W42nd St. Plaza

Figure 8-39



Primary Study Area
Project Area
Open Space Resources

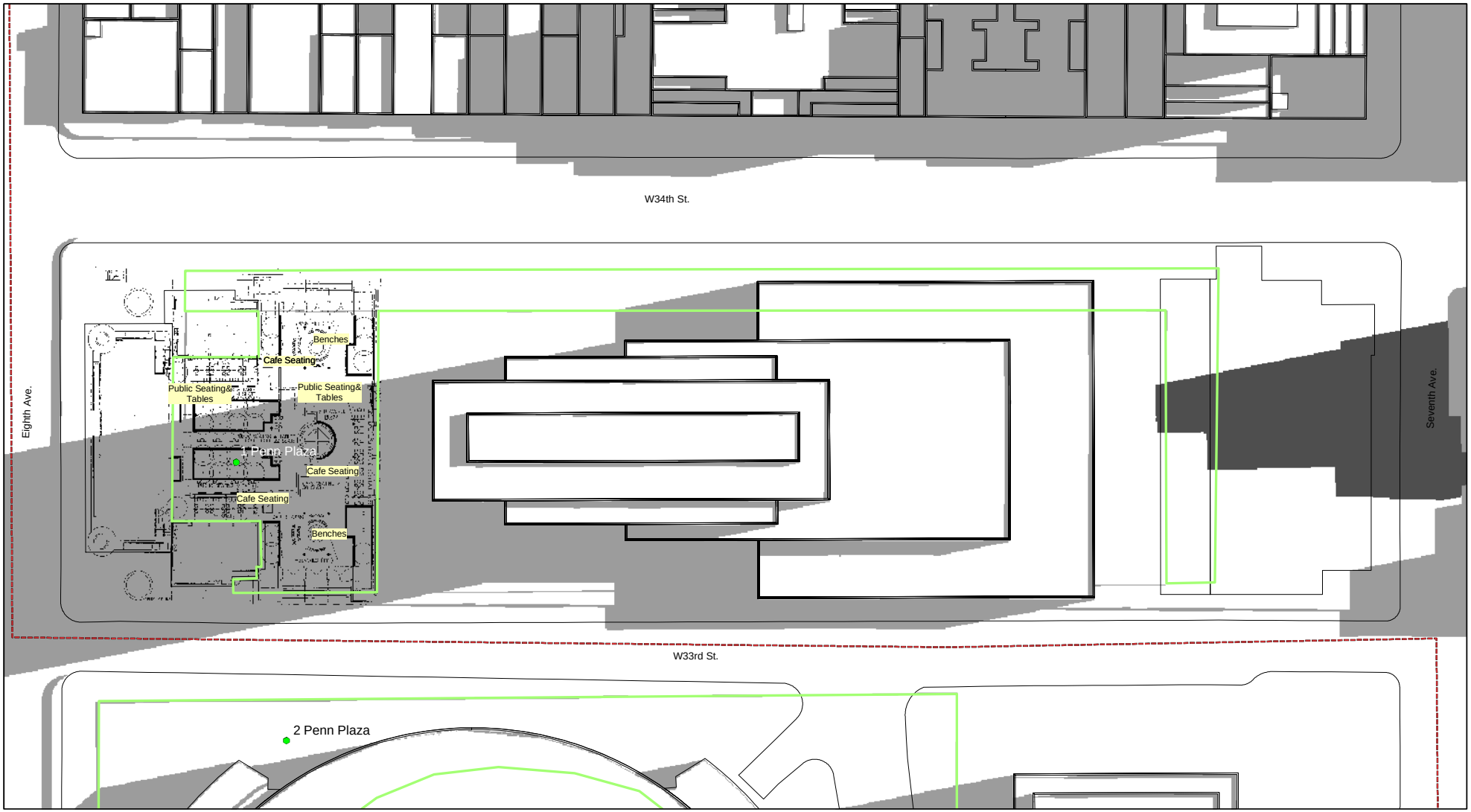
Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

June 21.
6:57AM

2010 - Build Conditions
640 W42nd St. Plaza

N 0 5 10 20 30 40 Ft

Figure 8-40



Primary Study Area
Project Area

Open Space Resources

Key for Shadows:

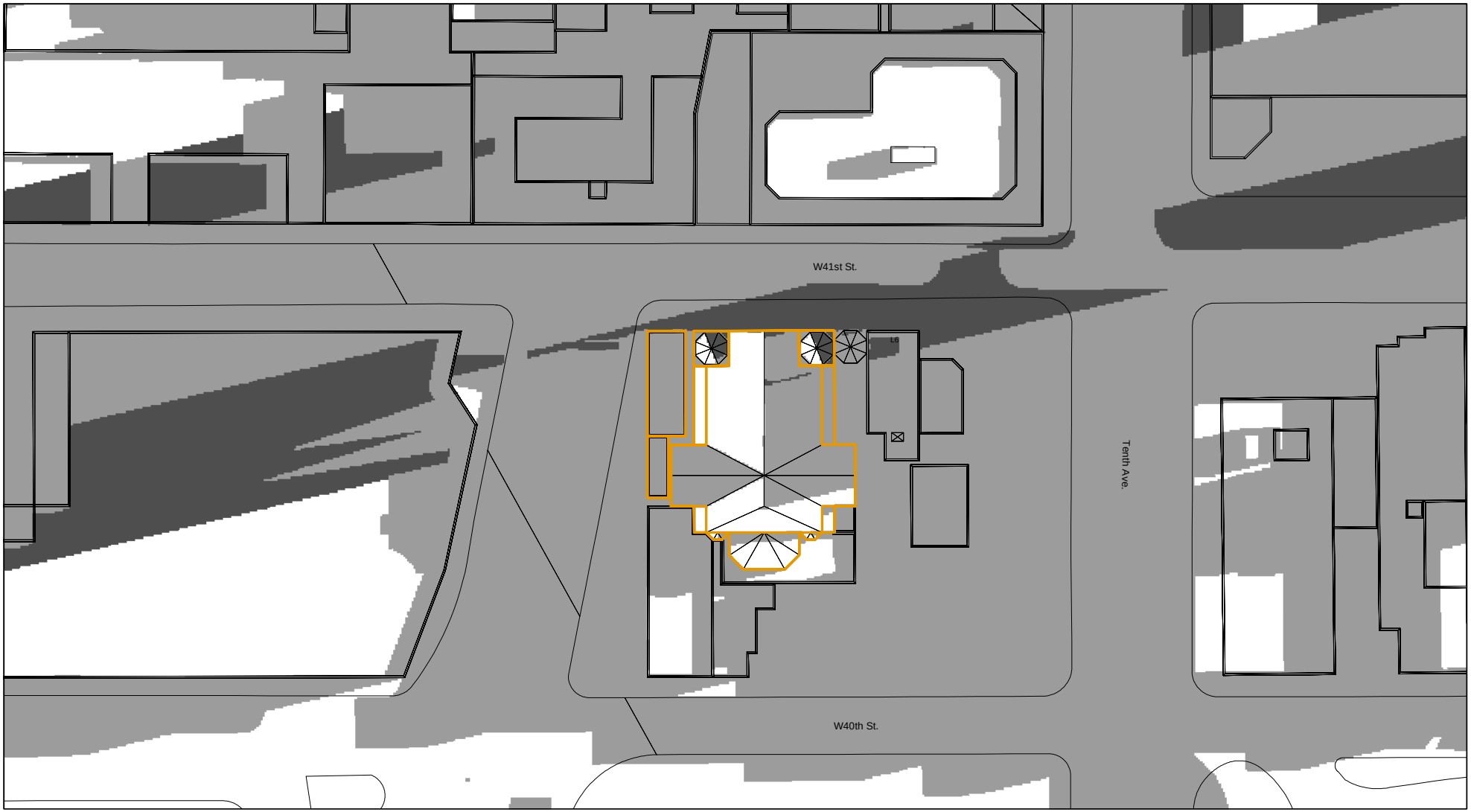
Existing Conditions
No Build Conditions

June 21.
10:30AM

N
0 12.5 25 50 75 100 Ft

2010 - No Build Conditions
One Penn Plaza

Figure 8-41



Primary Study Area
Project Area
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

March 21.
7:36AM

2010 - No Build Conditions
St. Raphael's Roman Catholic Church

0 10 20 40 60 80 Ft

Figure 8-42

Primary Study Area
Project Area
Historic Resources

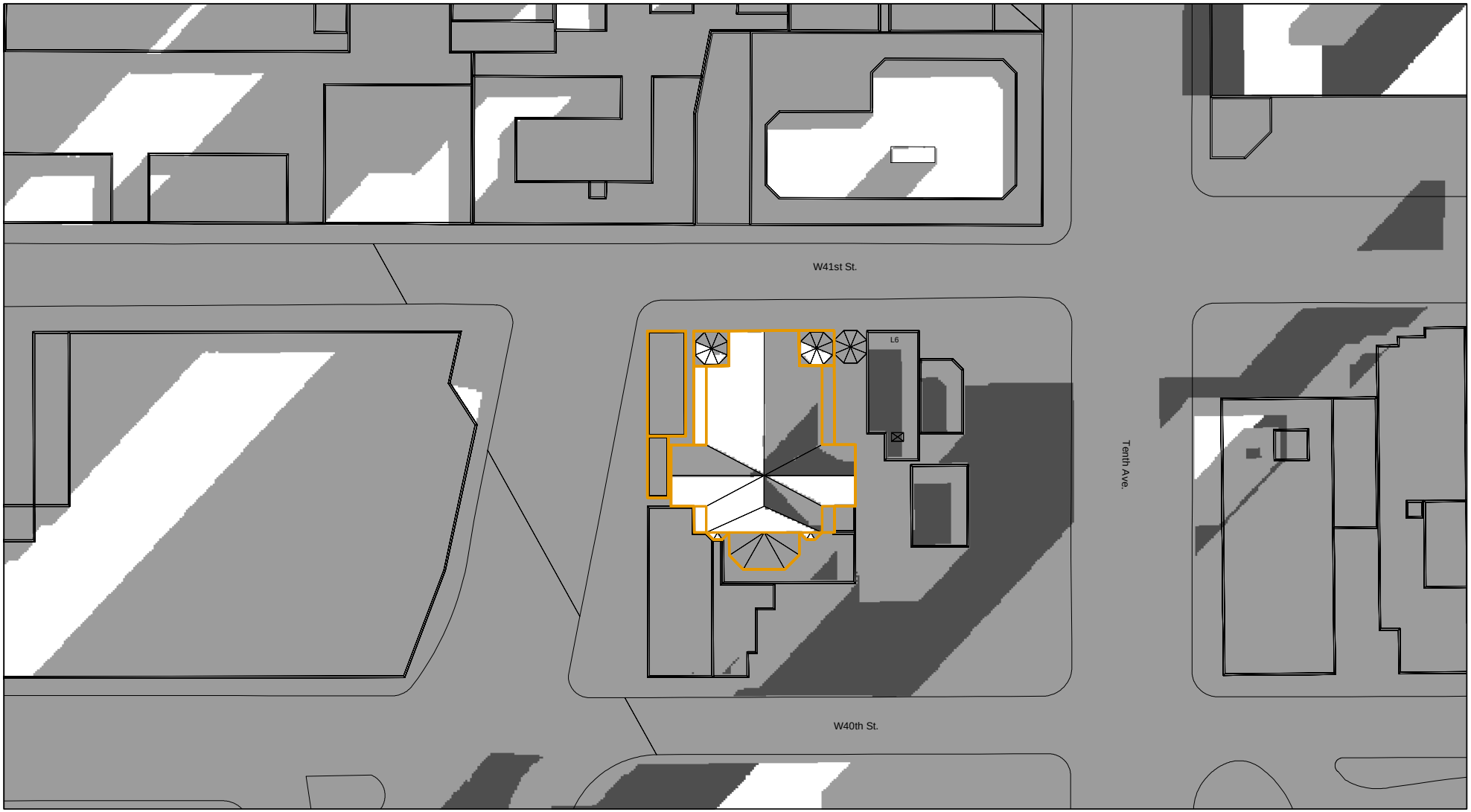
Key for Shadows:
Existing Conditions
No Build Conditions

May 6.
7:27AM

2010 - No Build Conditions
St. Raphael's Roman Catholic Church

N
0 10 20 40 60 80 Ft

Figure 8-43



Primary Study Area
Project Area
Historic Resources

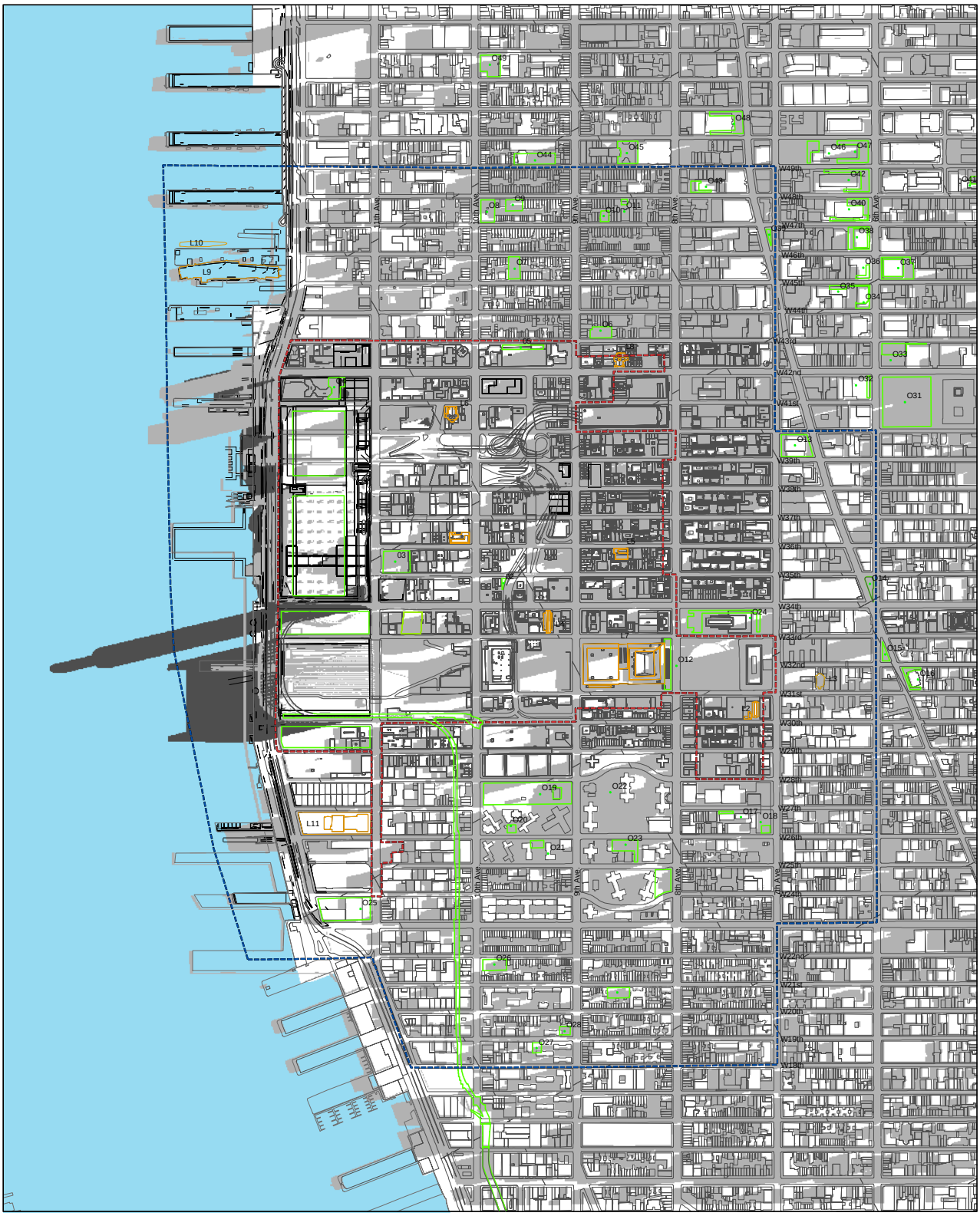
Key for Shadows:
Existing Conditions
No Build Conditions

June 21.
6:57AM

2010 - No Build Conditions
St. Raphael's Roman Catholic Church

N
0 10 20 40 60 80 Ft

Figure 8-44



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 7:36AM

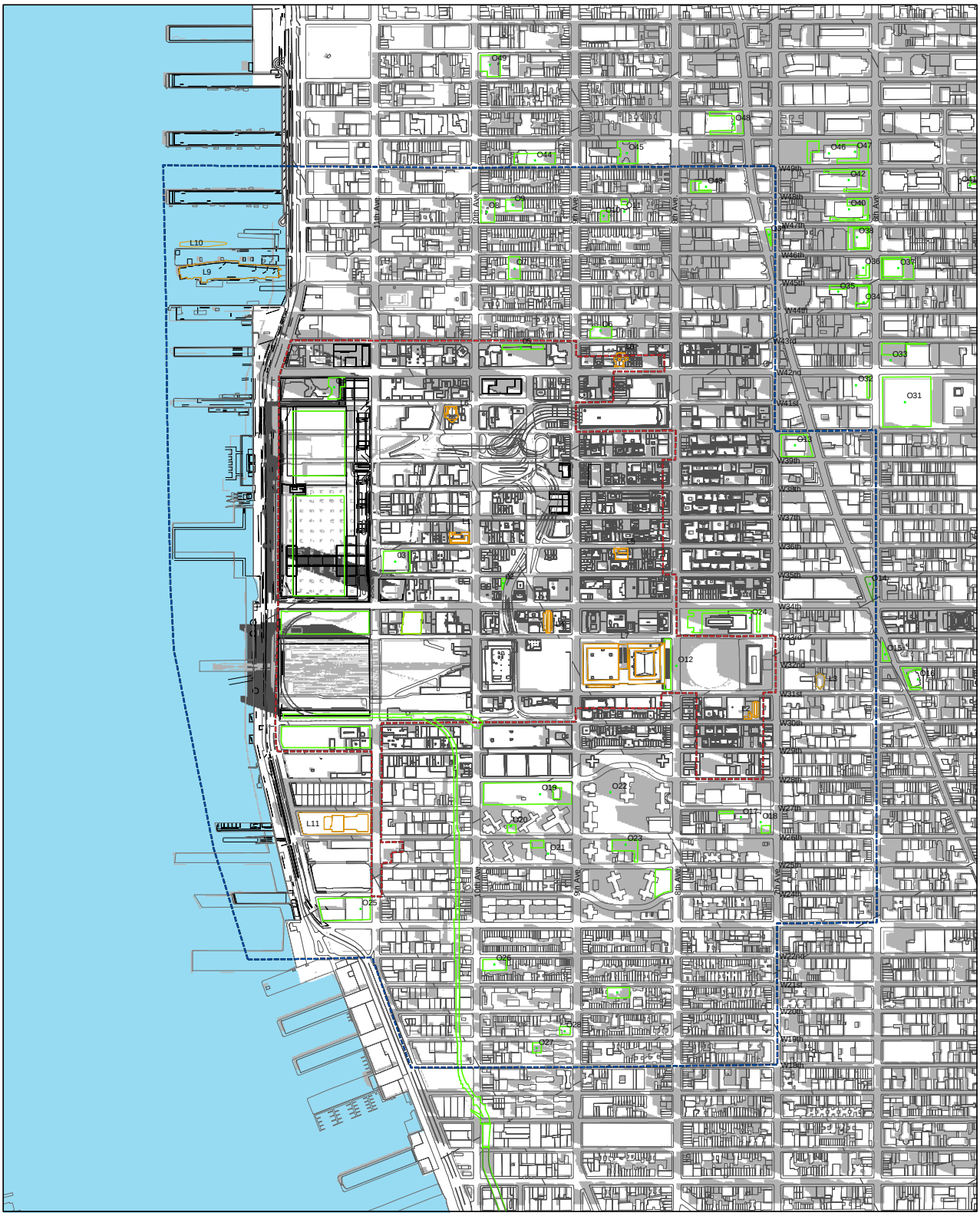
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-45



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 10:05AM

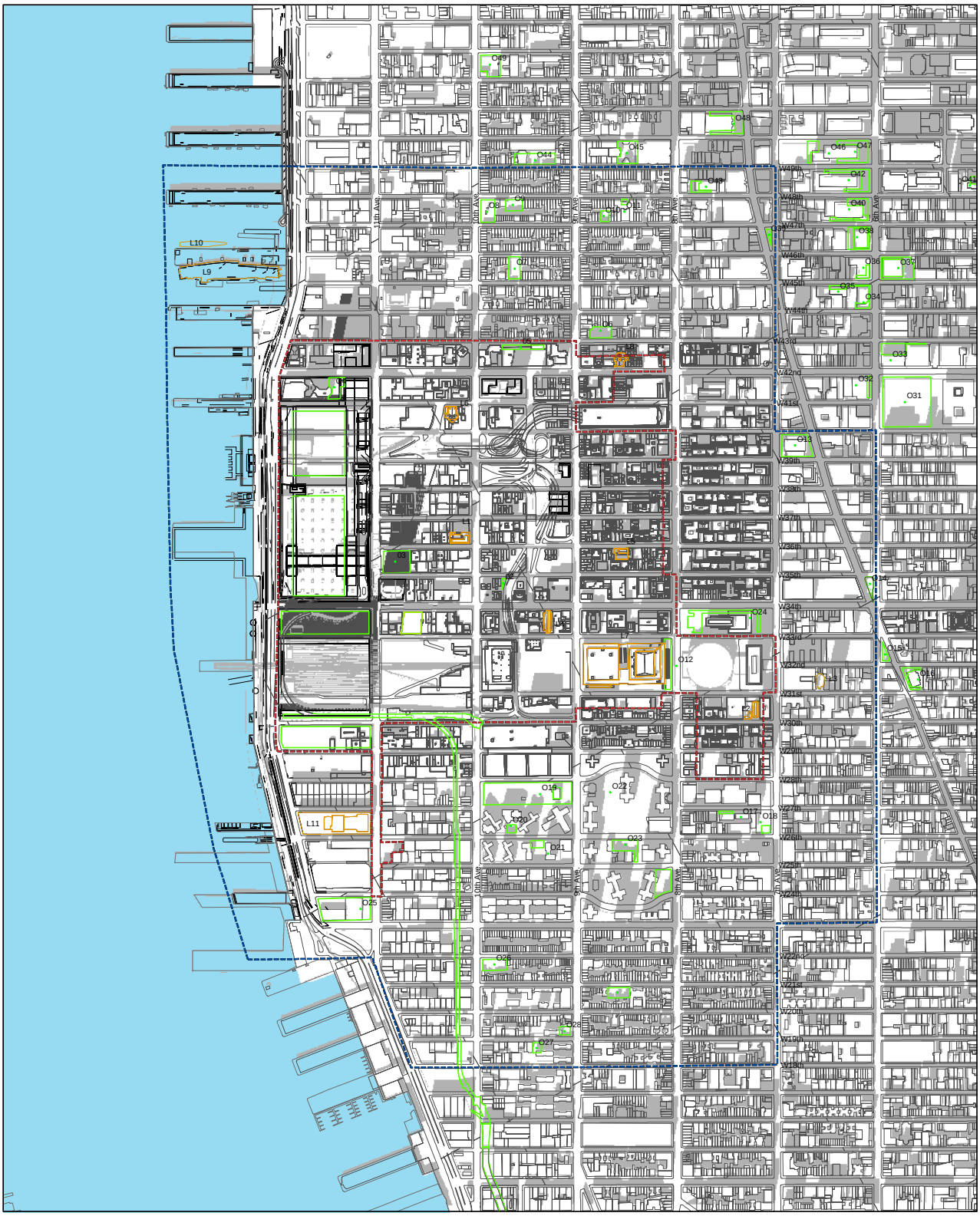
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-46



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 1:59PM

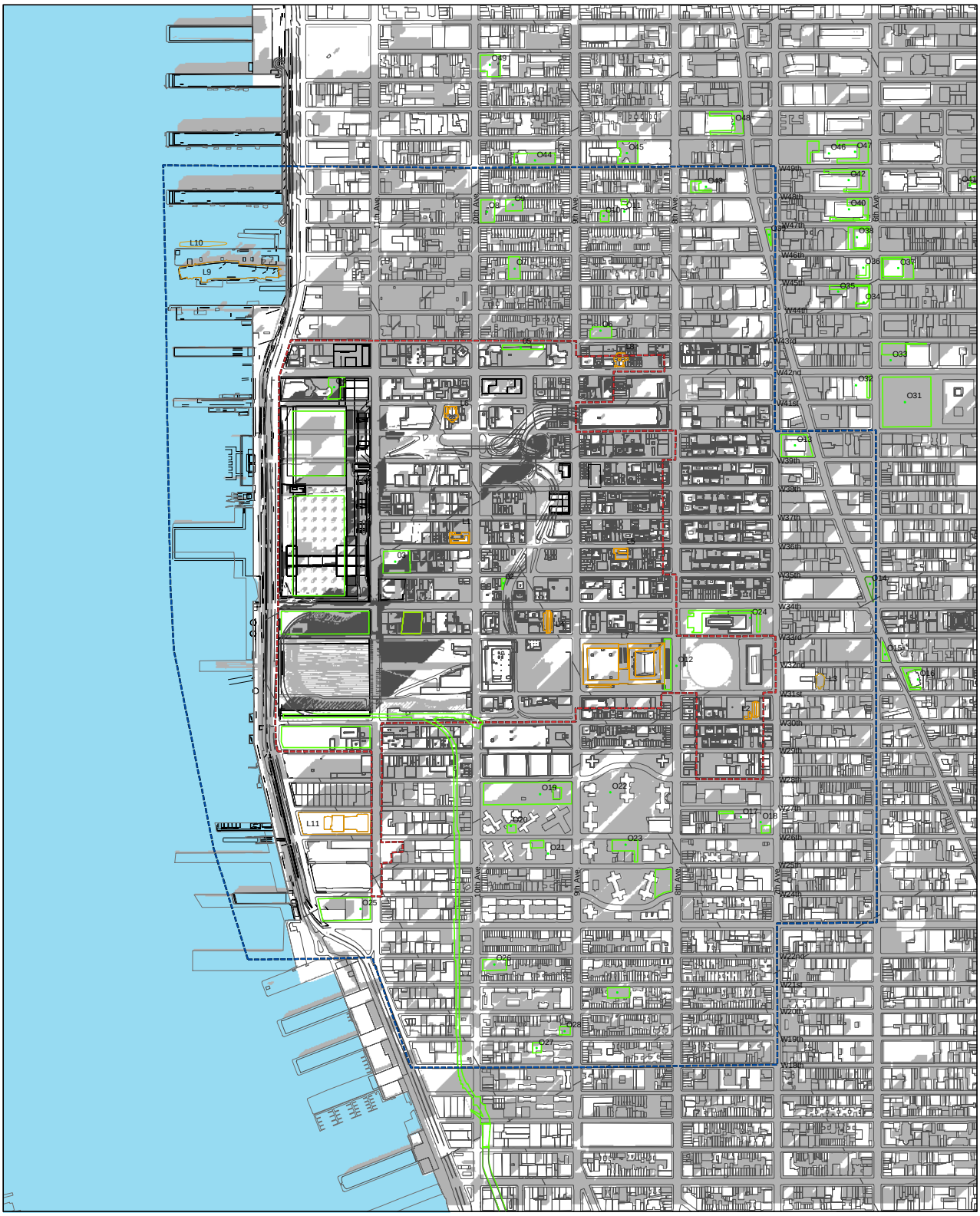
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-47



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 4:29PM

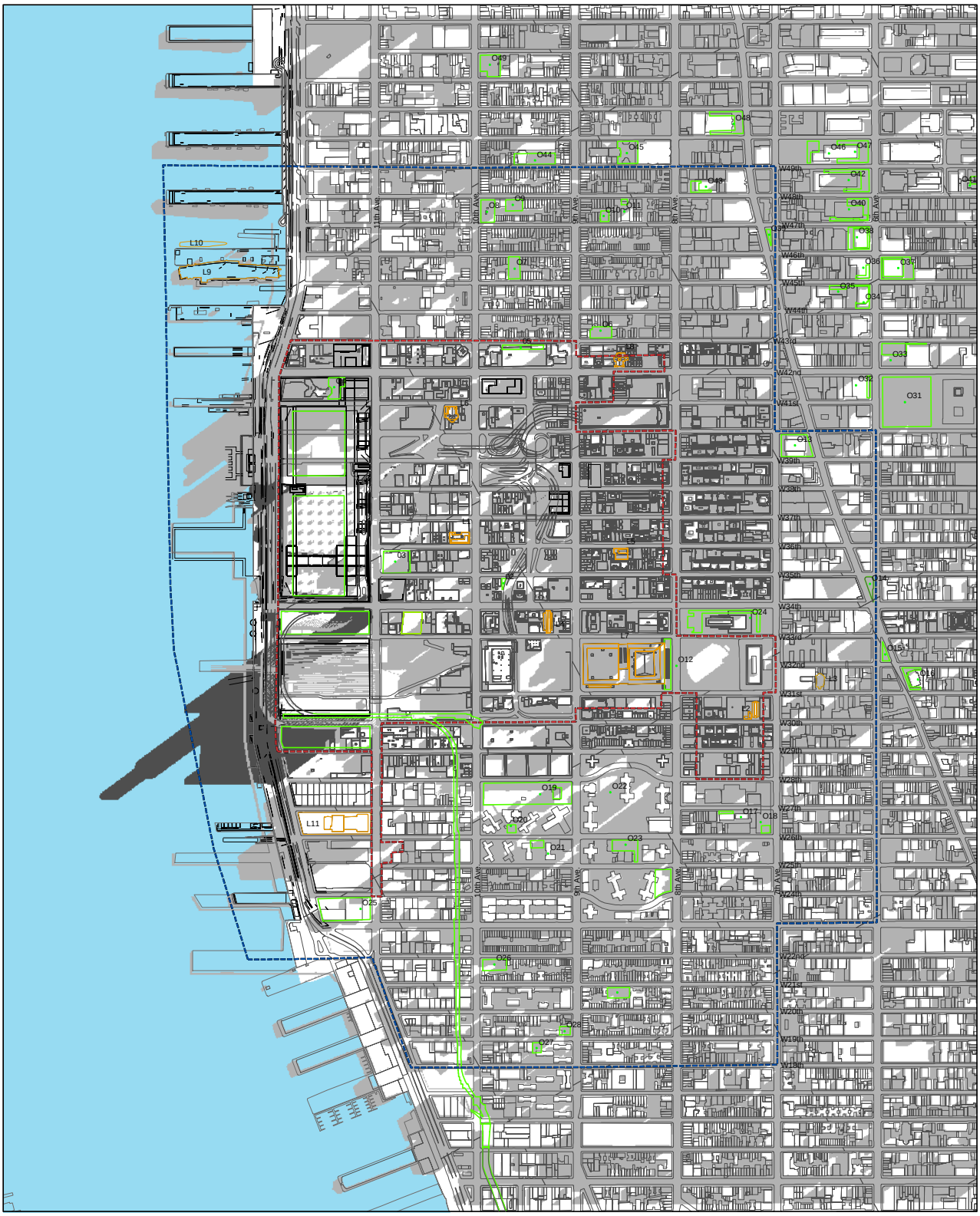
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental shadow

0 125 250 500 750 1,000 Ft

Figure 8-48



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 7:27AM

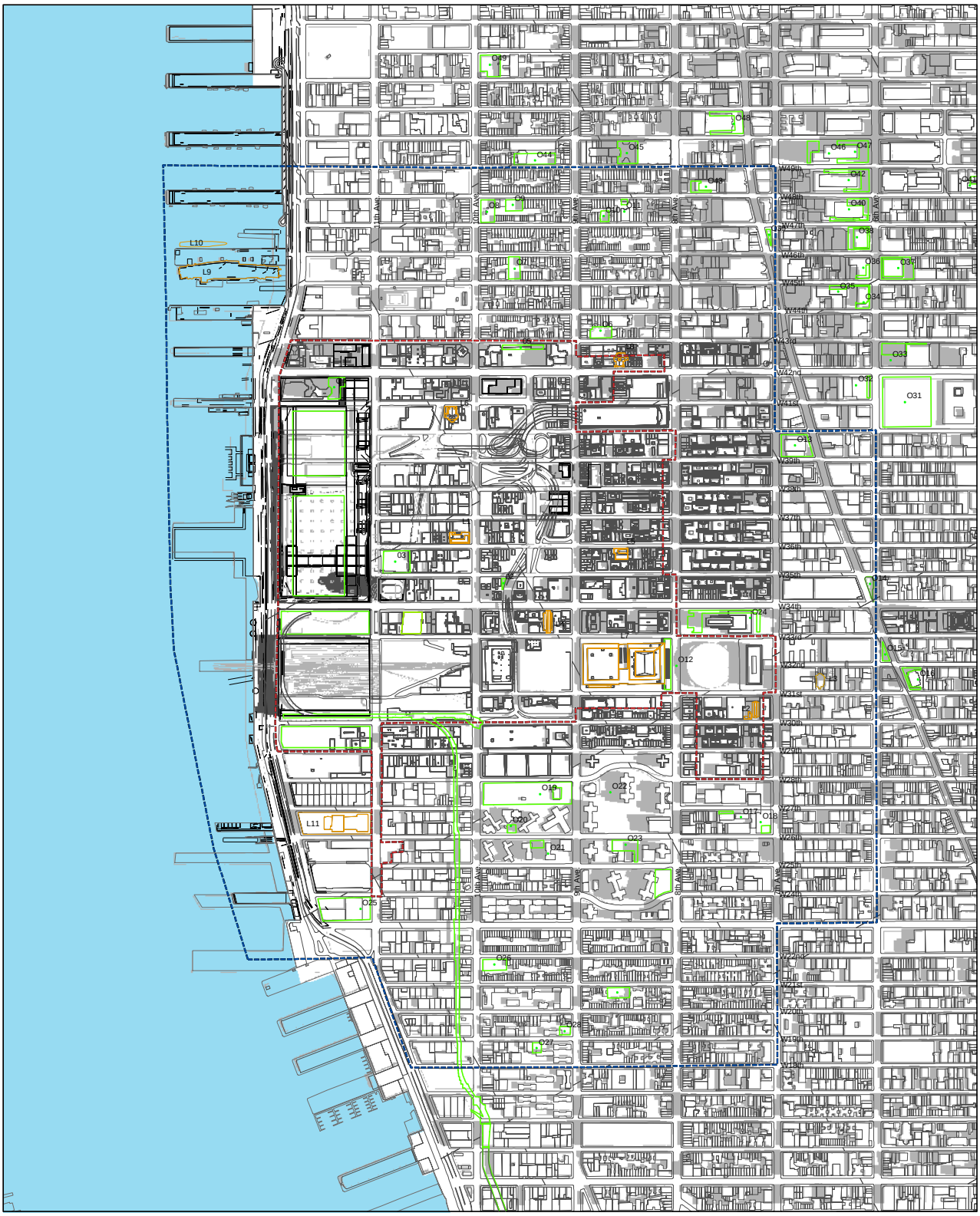
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-49



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 11:00AM

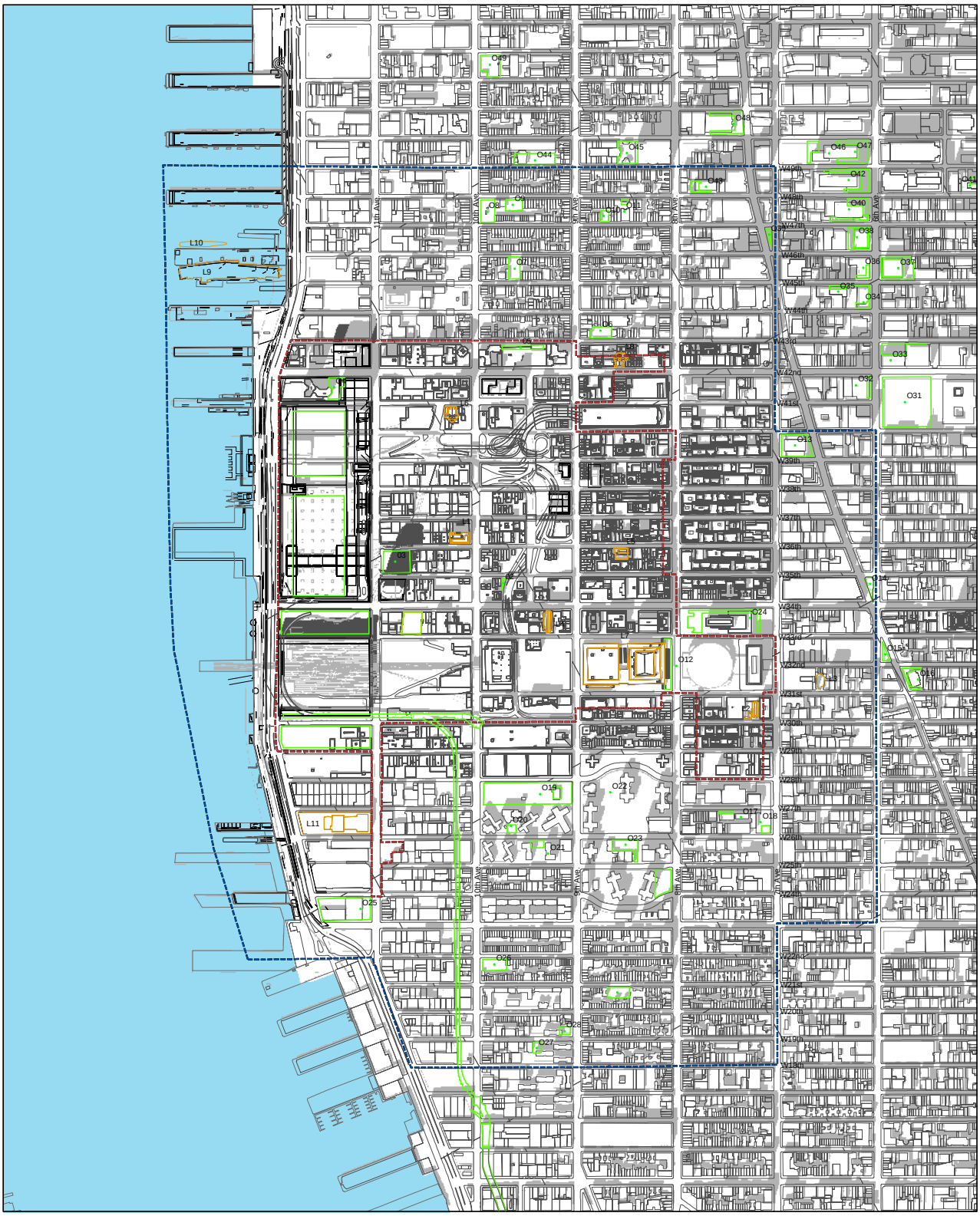
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-50



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 2:30PM

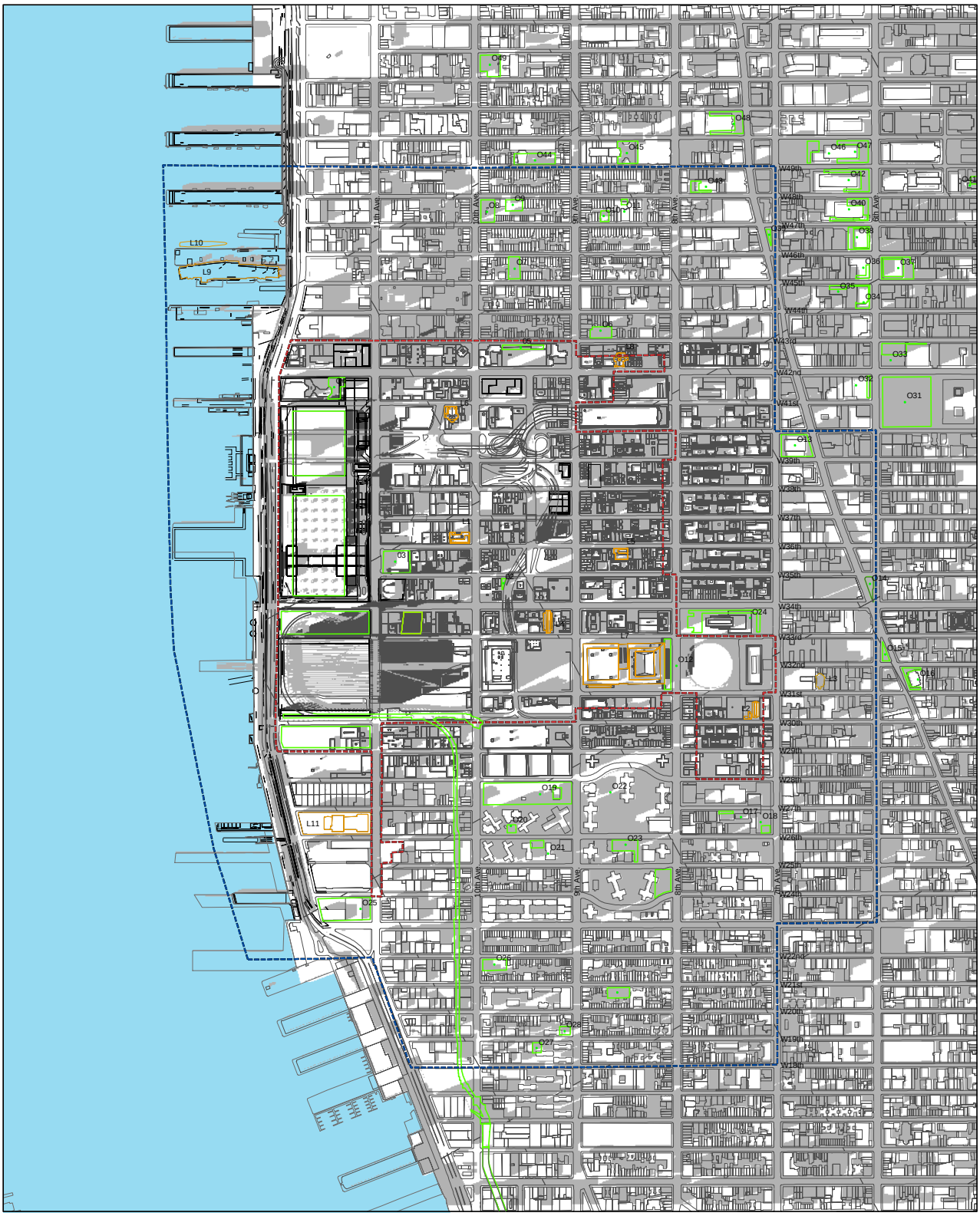
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-51



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 6:18PM

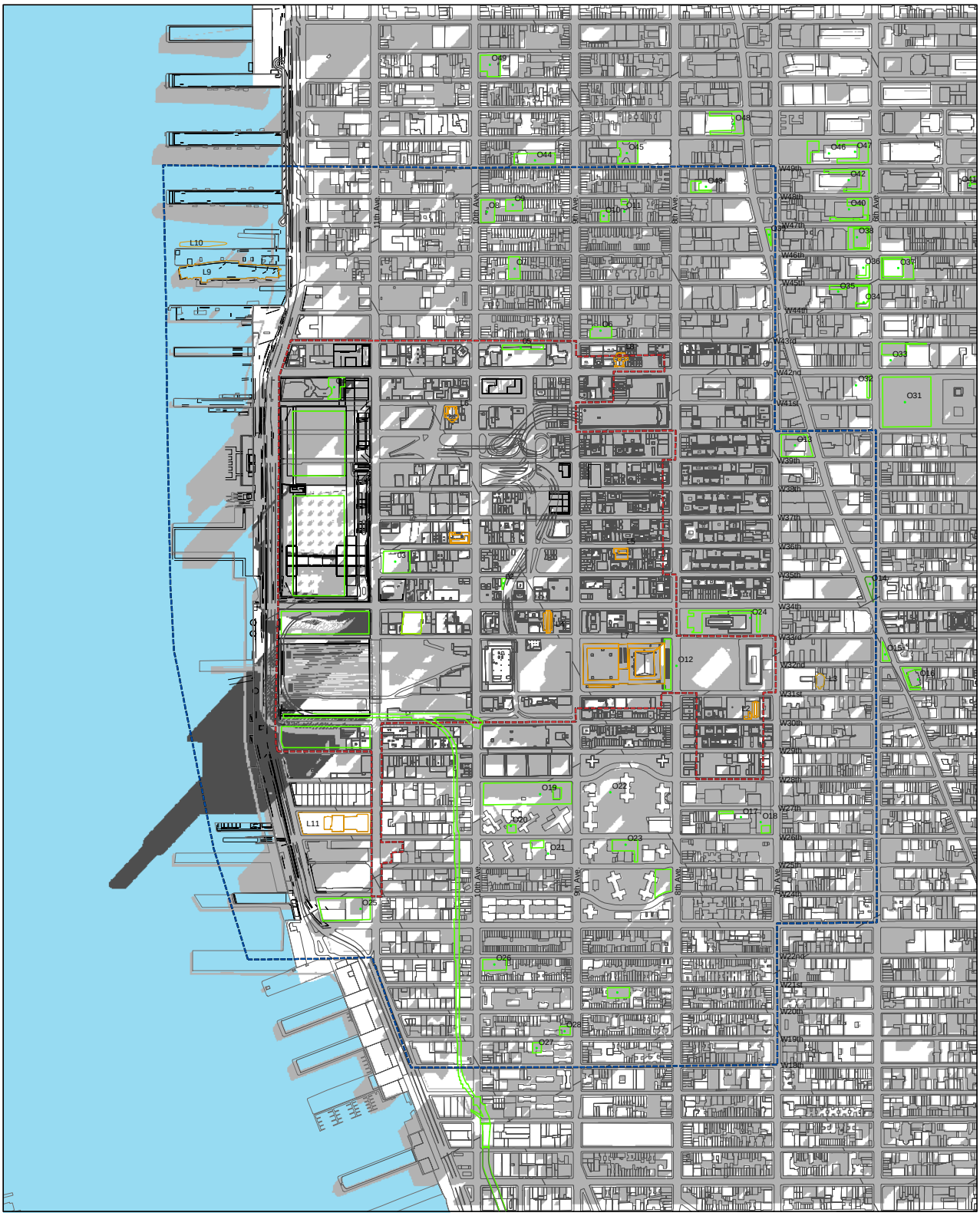
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-52



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 6:57AM

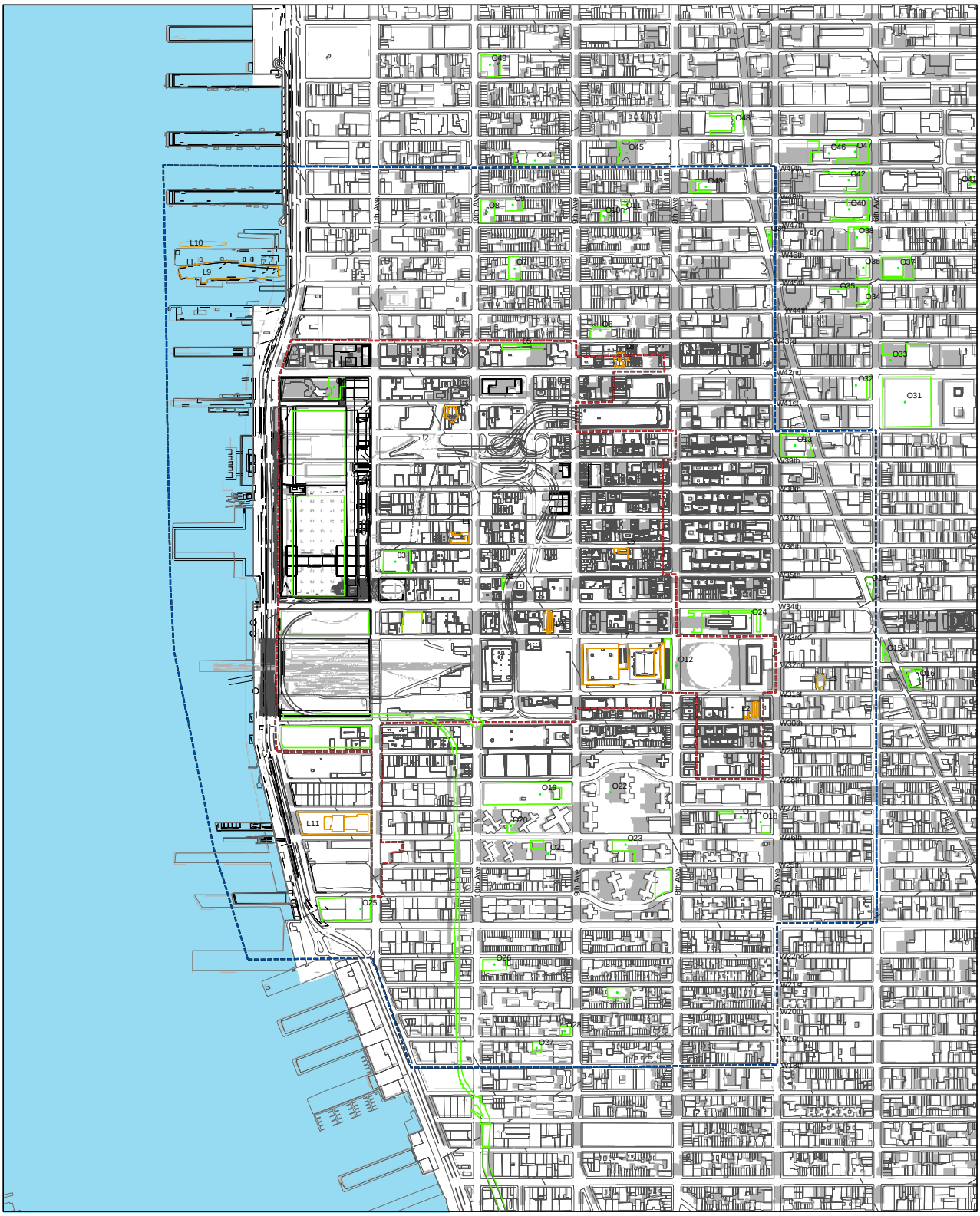
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-53



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 11:10AM

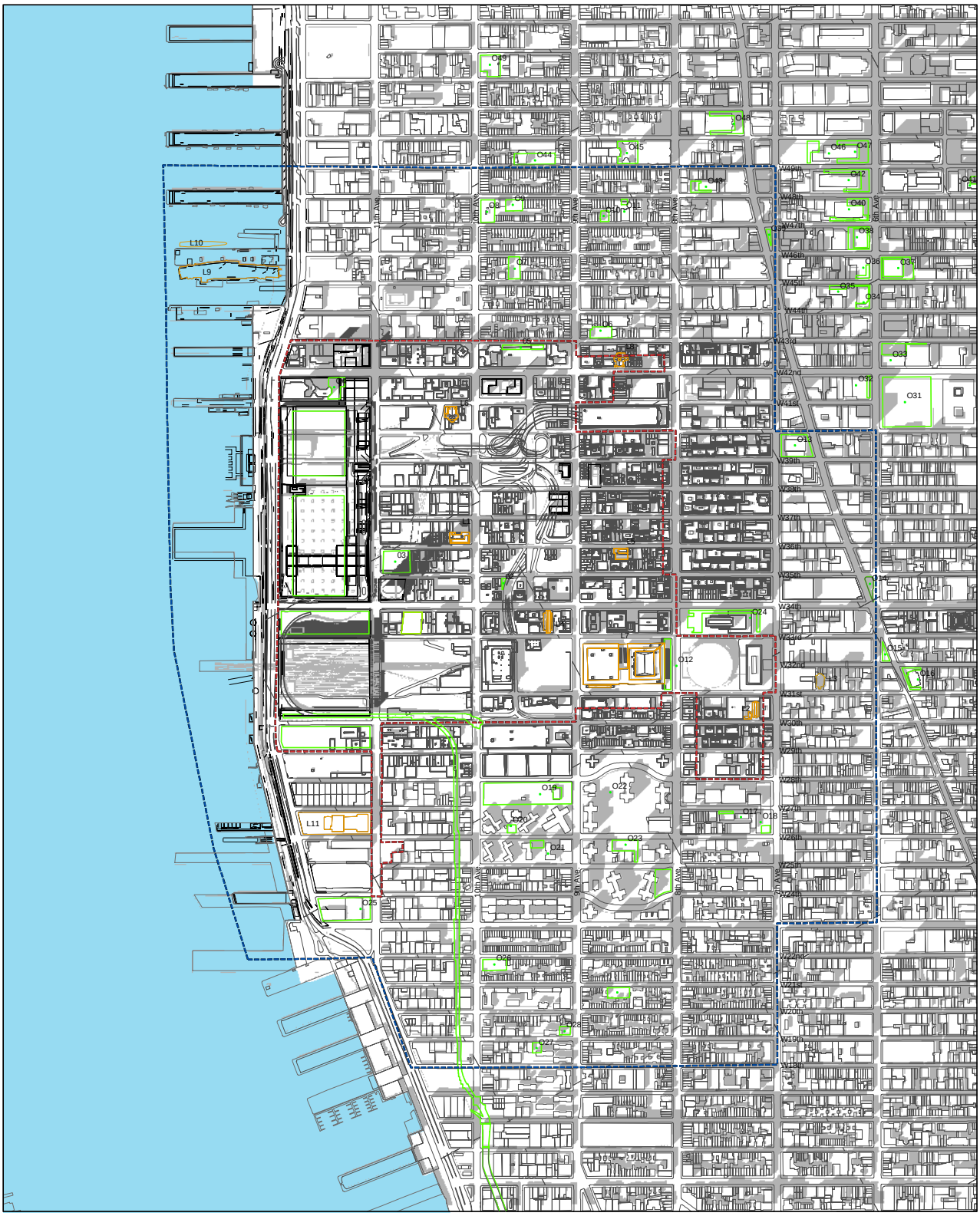
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-54



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 3:30PM

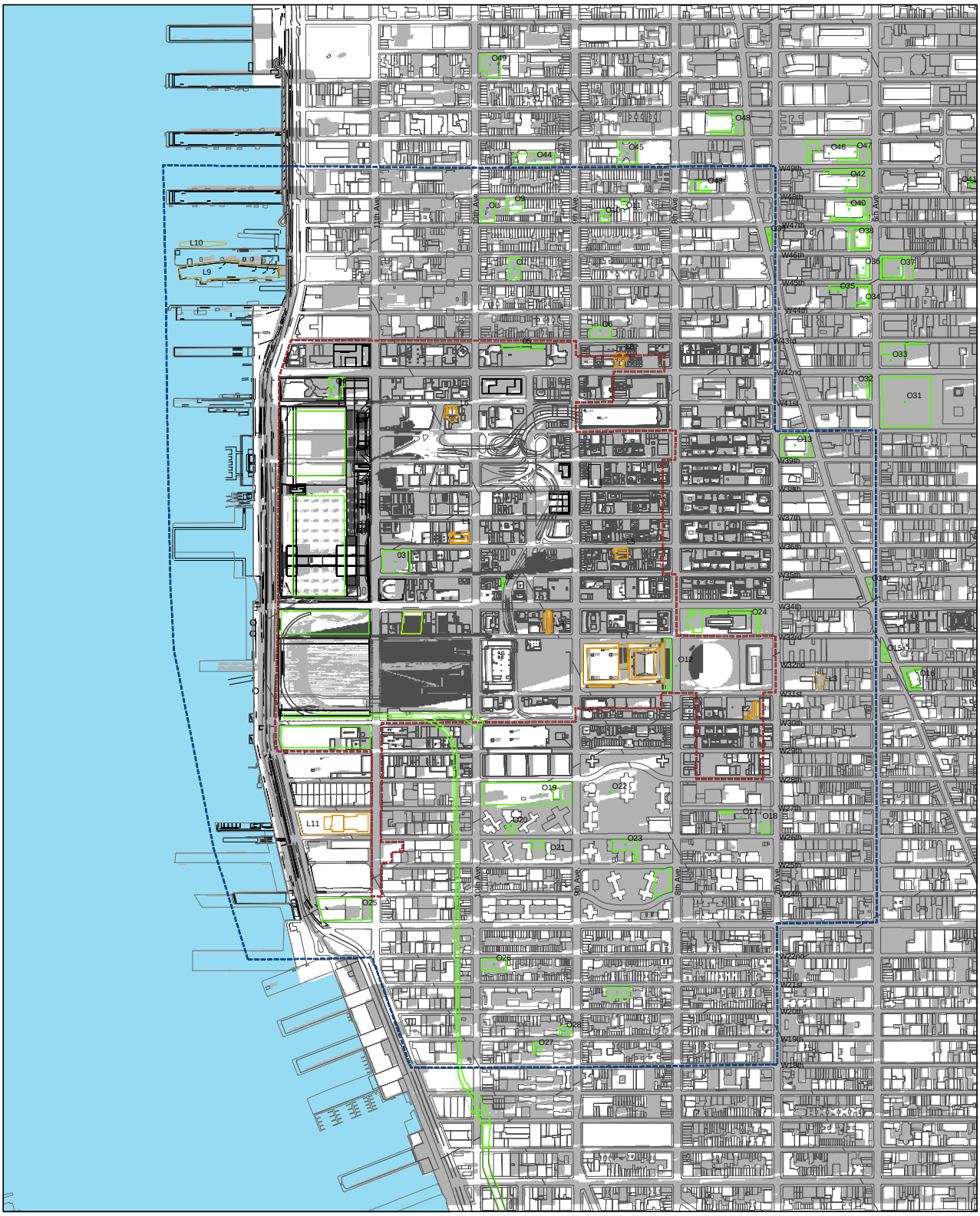
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-55



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 7:01PM

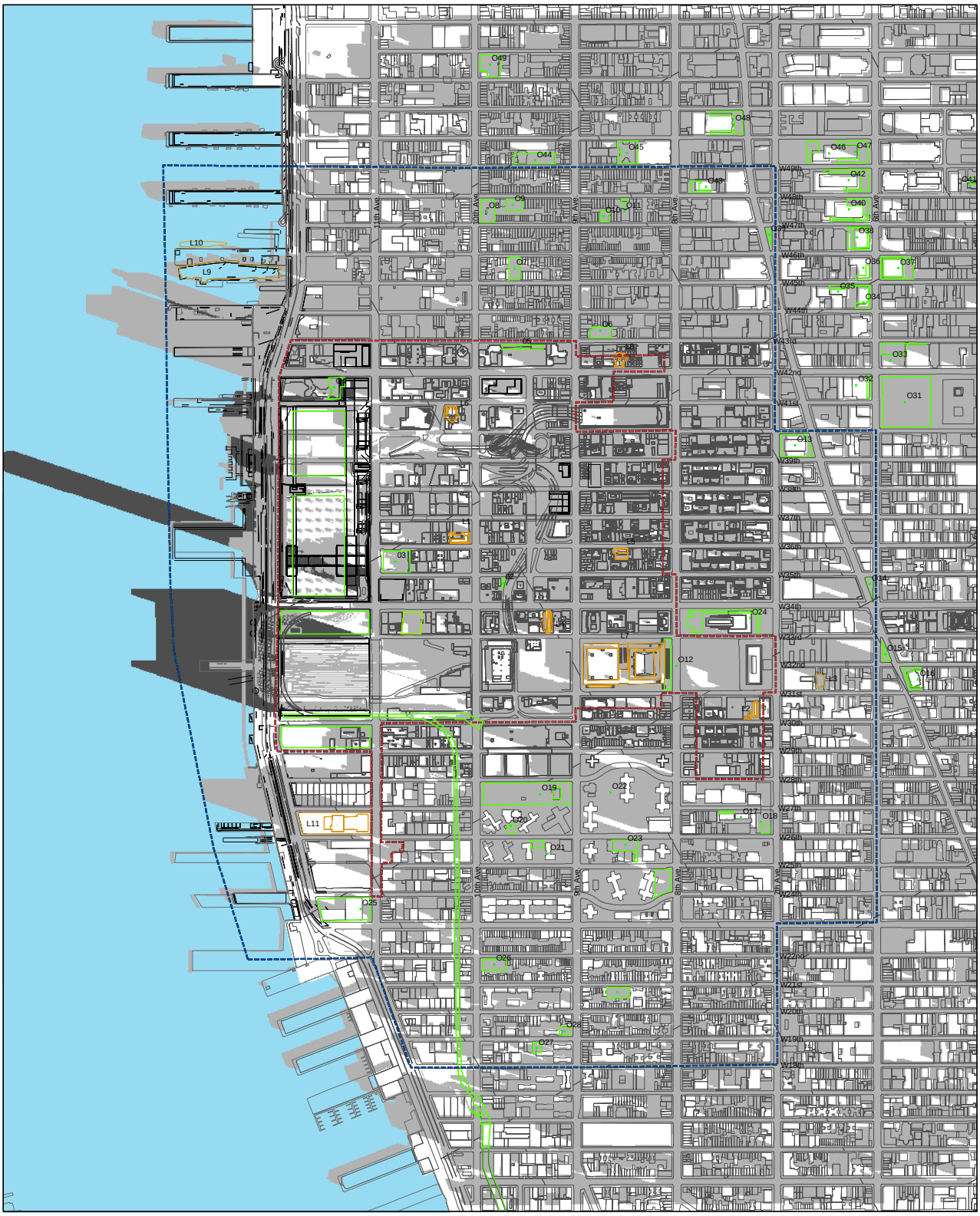
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-56



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 8:51AM

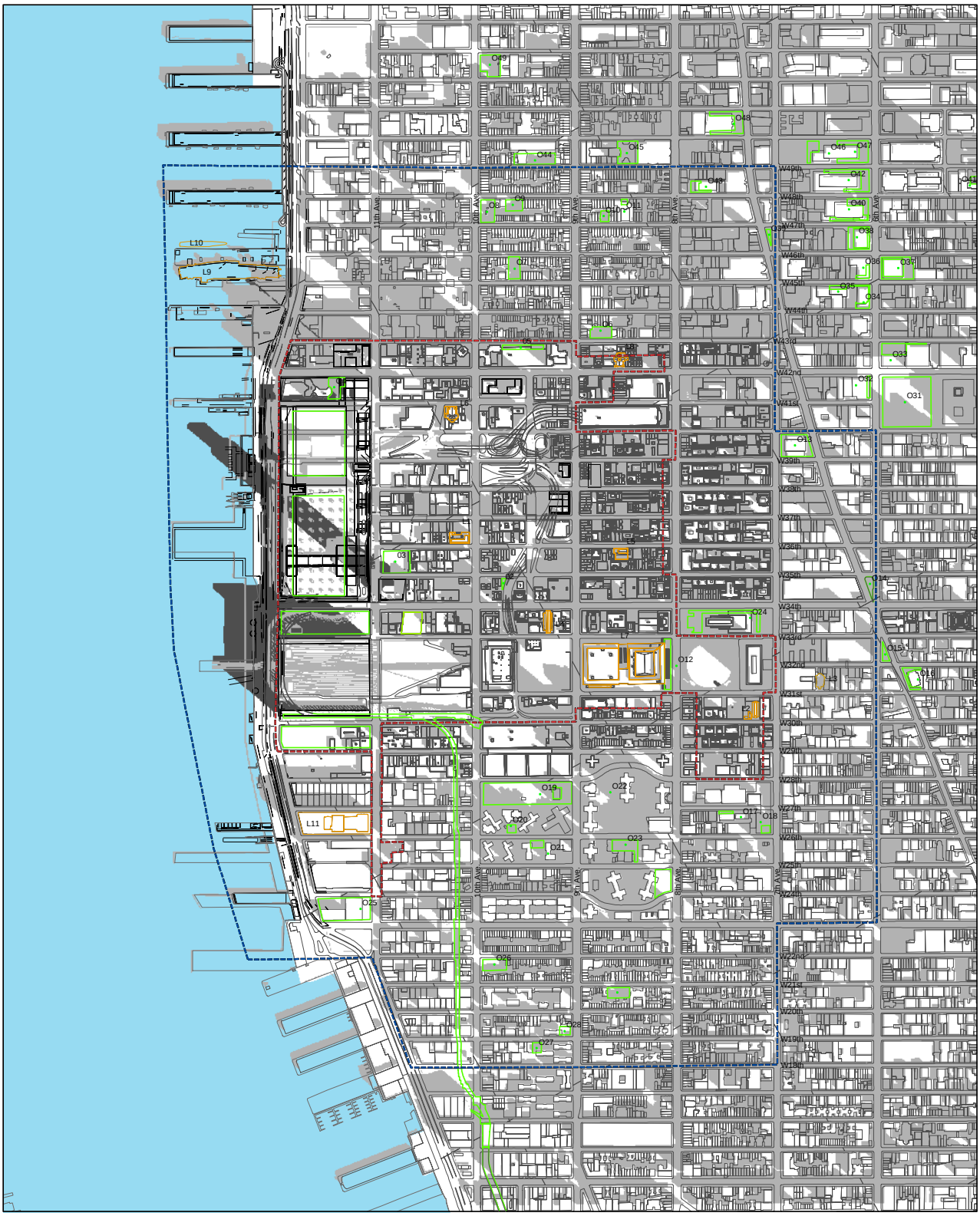
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-57



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 10:30AM

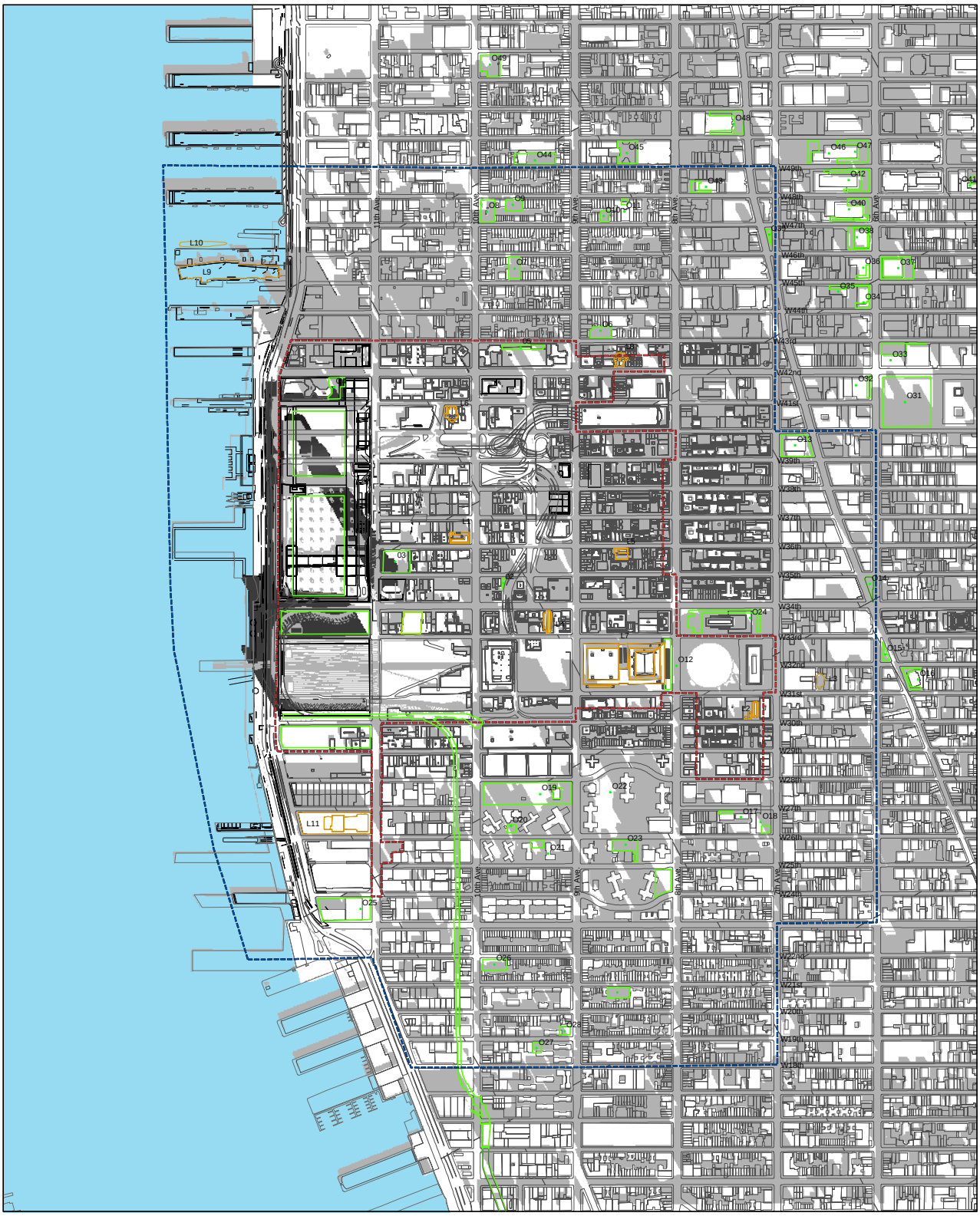
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-58



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 11:52AM

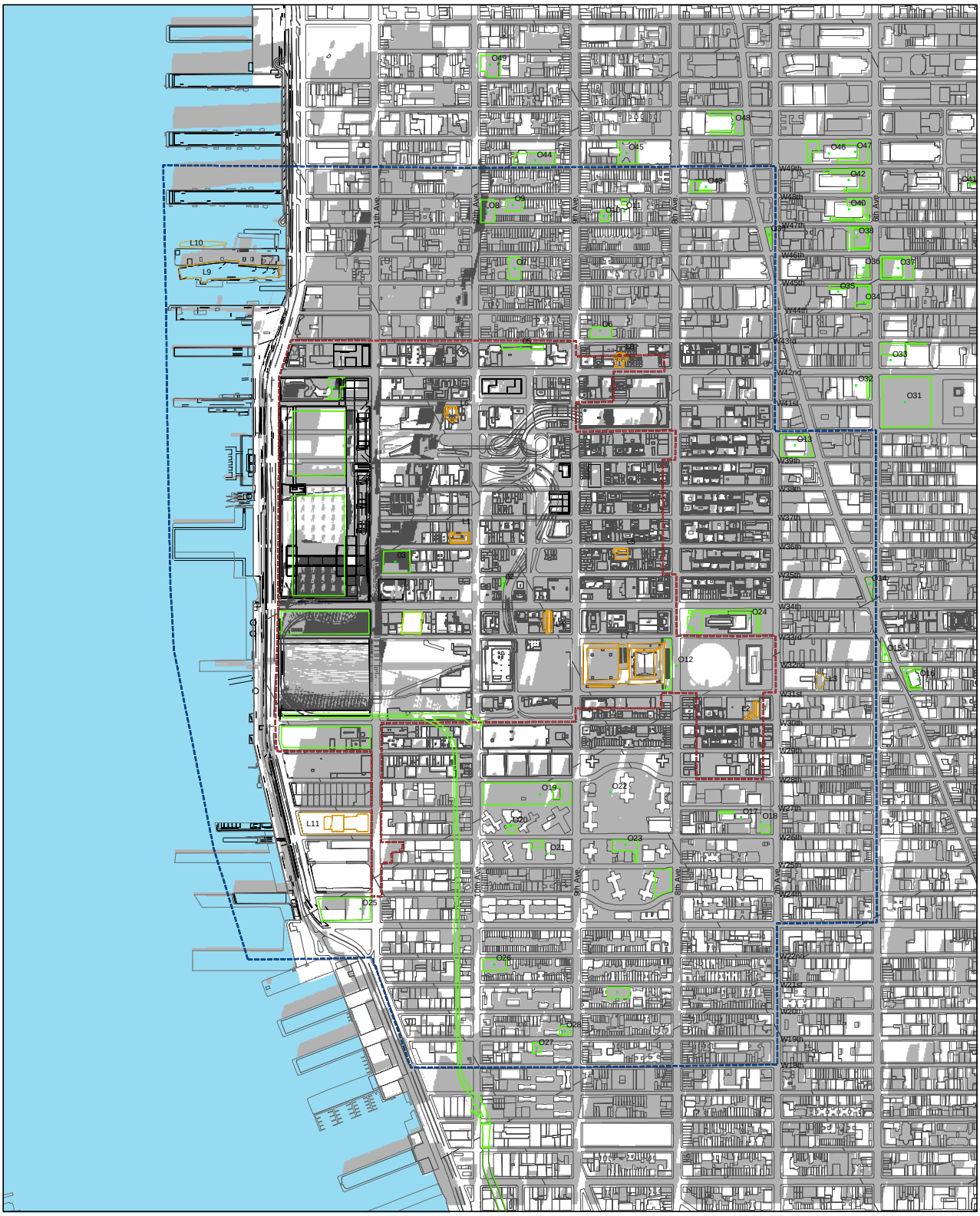
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-59



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 2:53PM

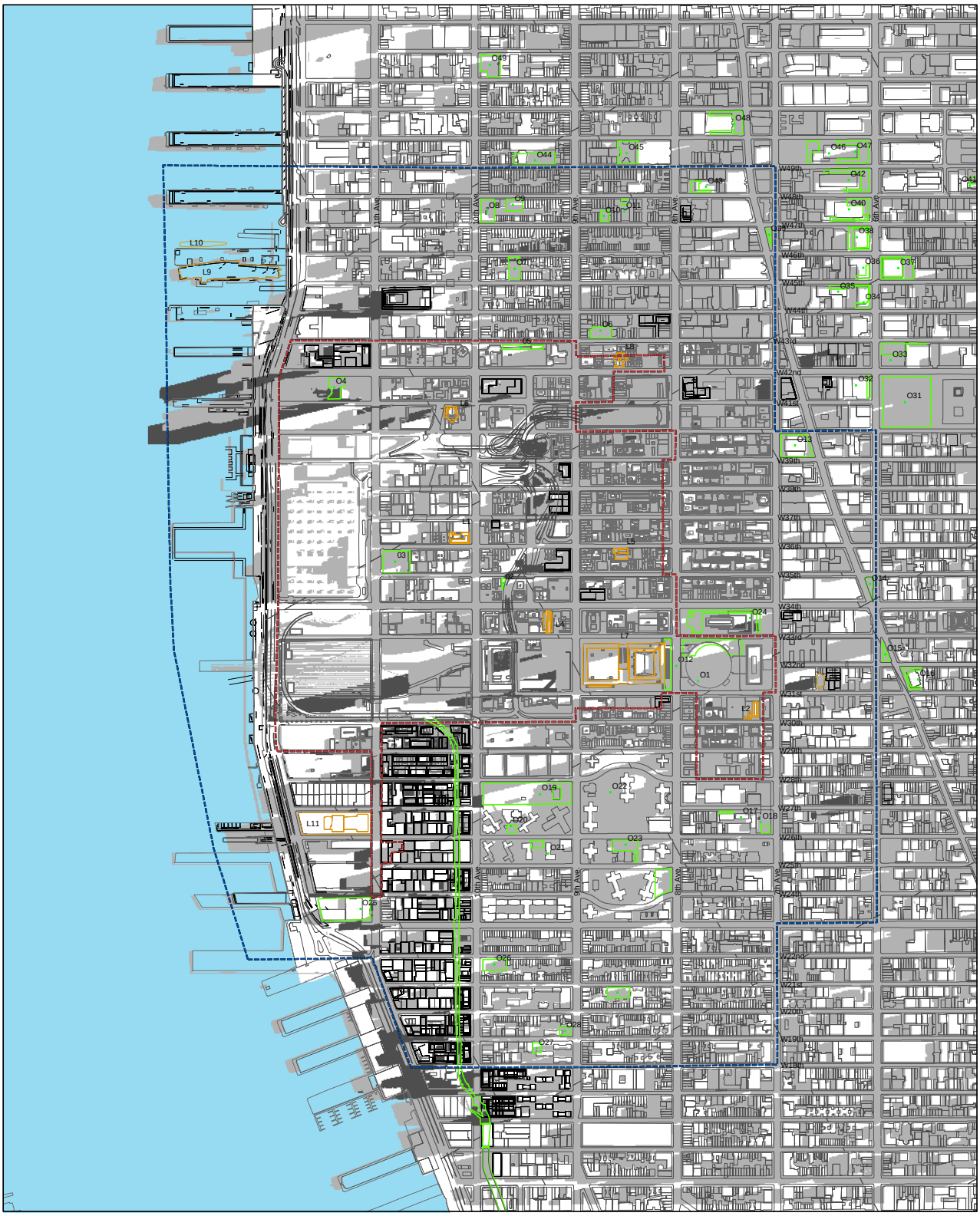
Shadow Analysis
2010 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-60



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 7:36AM

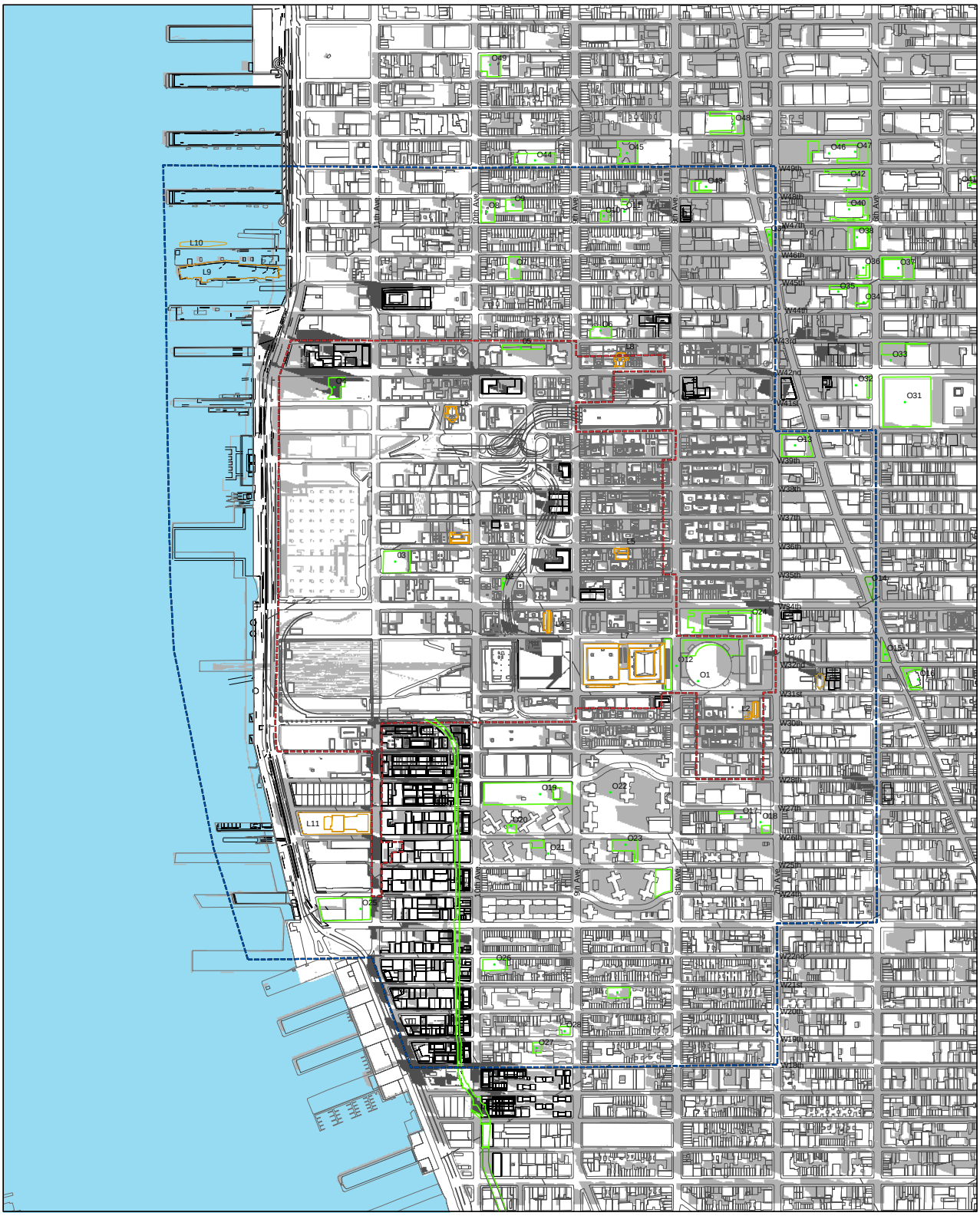
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-61



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 10:05AM

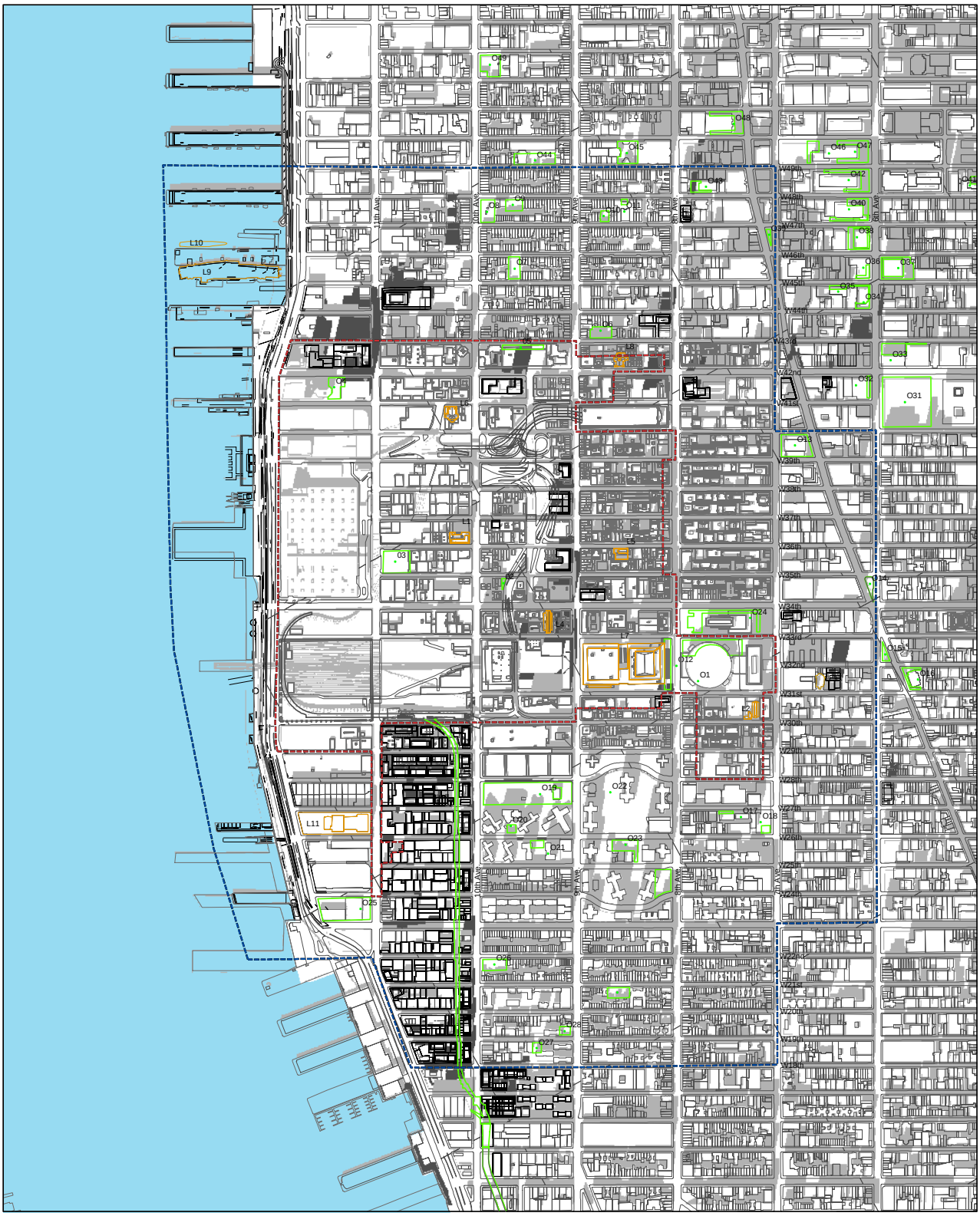
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-62



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 1:59PM

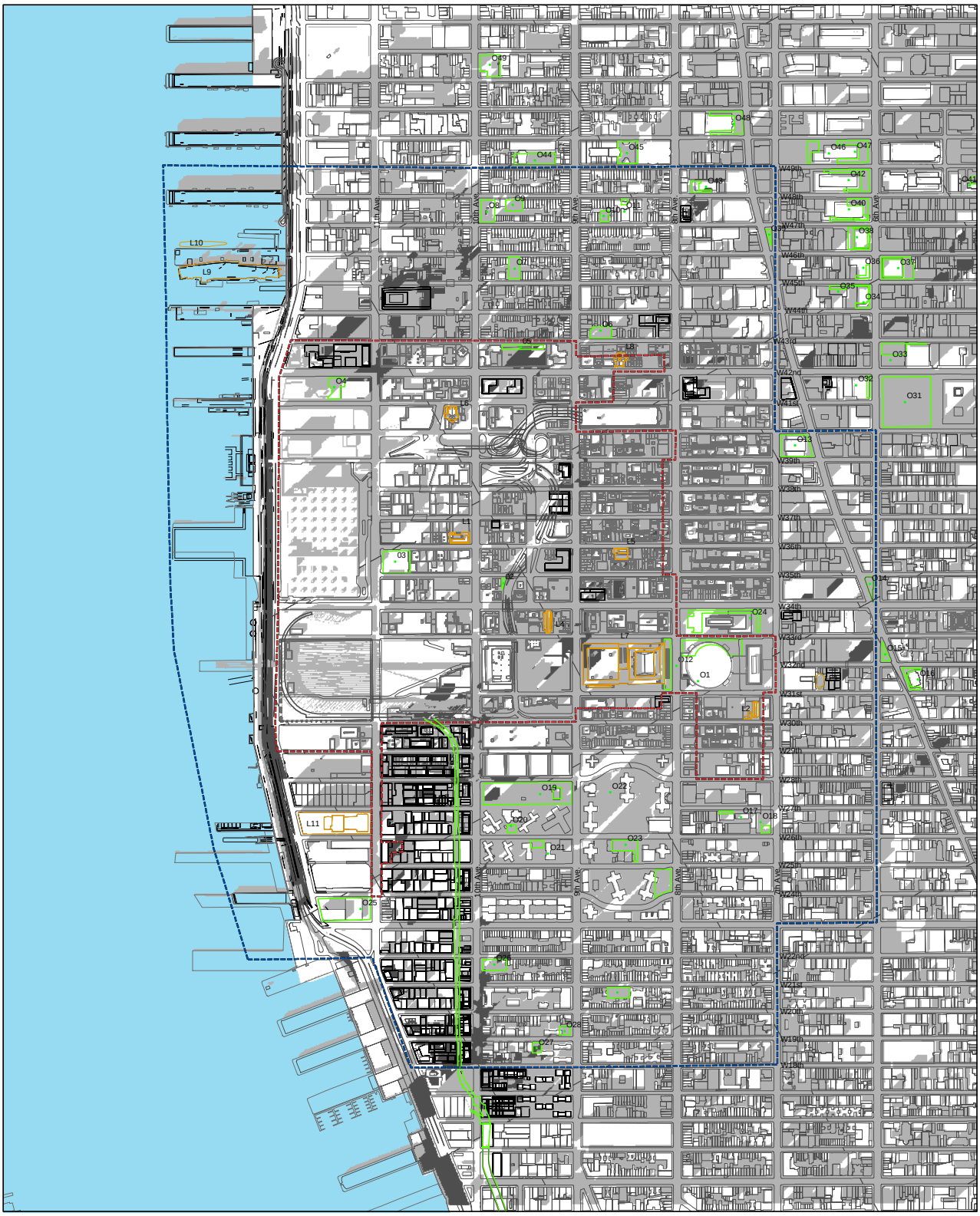
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-63



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 4:29PM

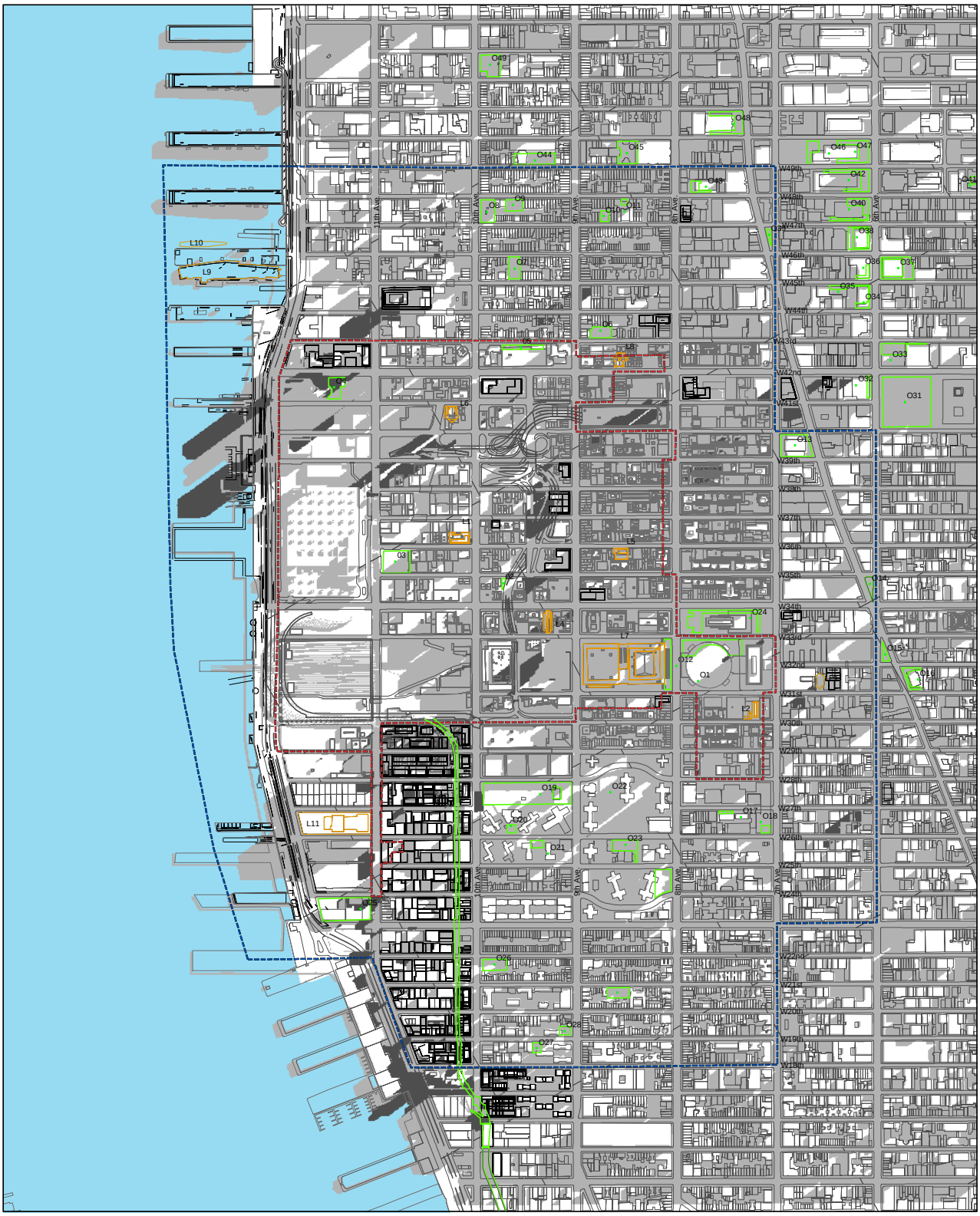
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-64



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

Project Area
Primary Study Area
Open Space Resources
Historic Resources

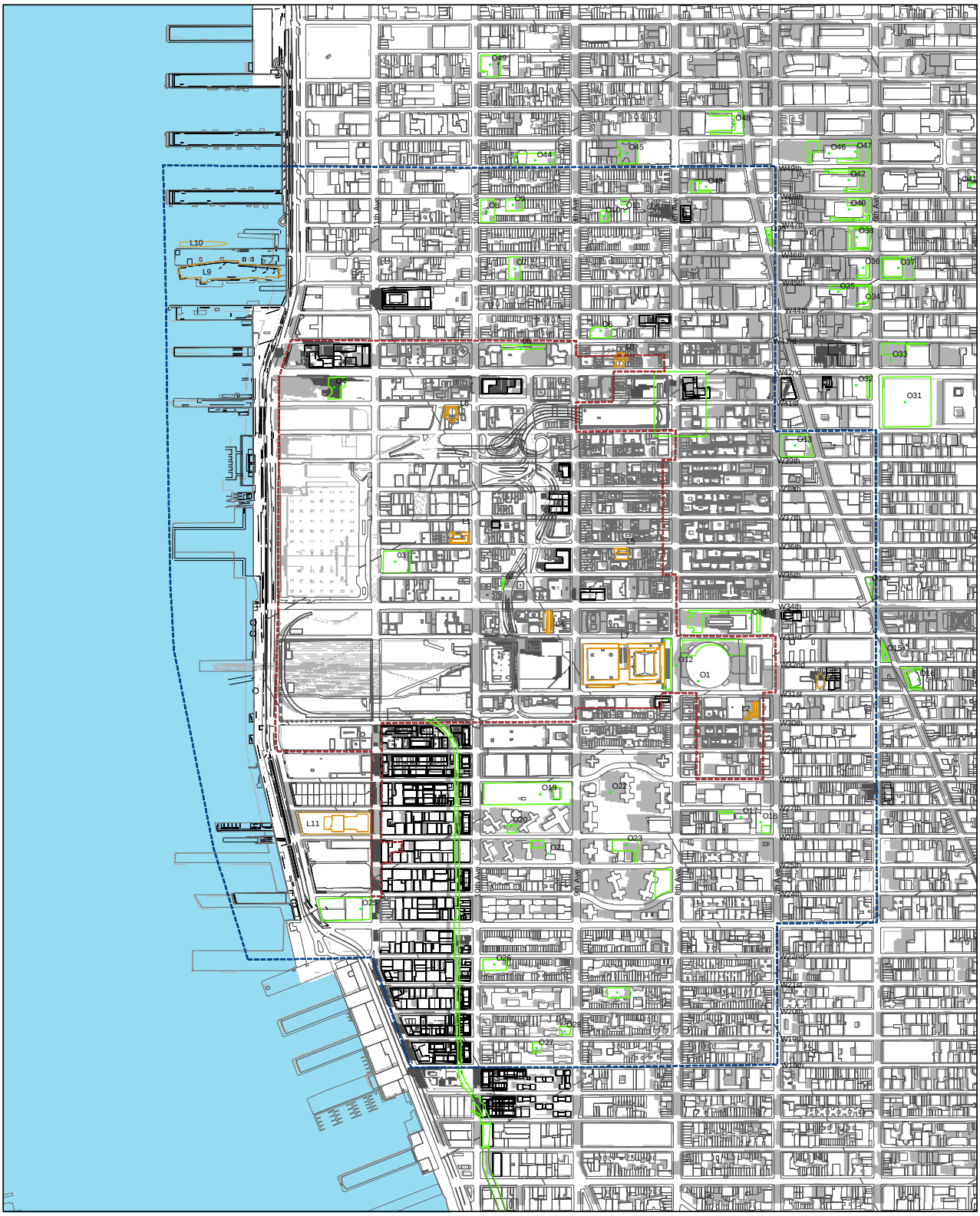
Key for Shadows:
Existing Conditions
No Build Conditions

May 6. 7:27AM

Shadow Analysis
2025 - No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-65



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 11:00AM

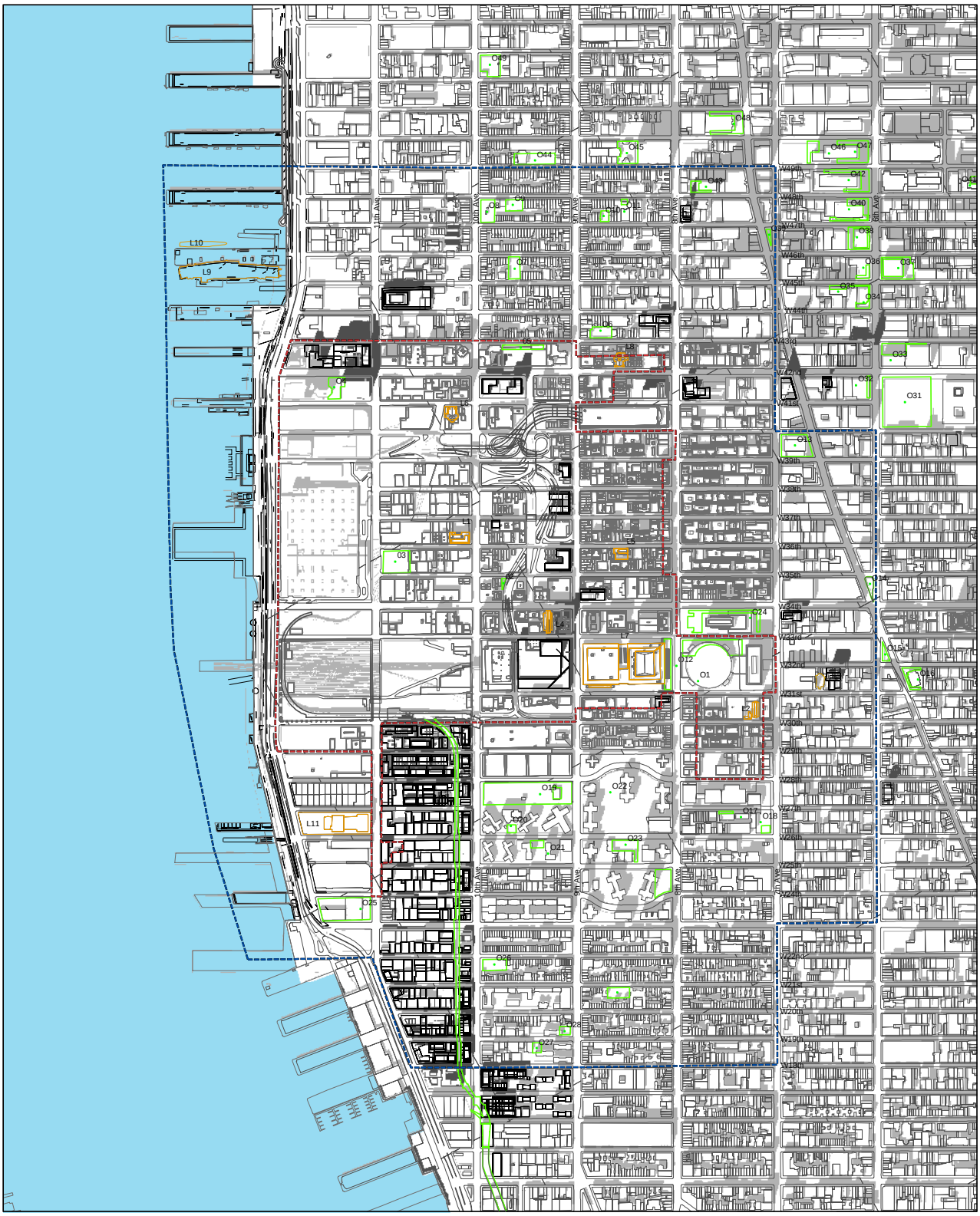
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-66



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 2:30PM

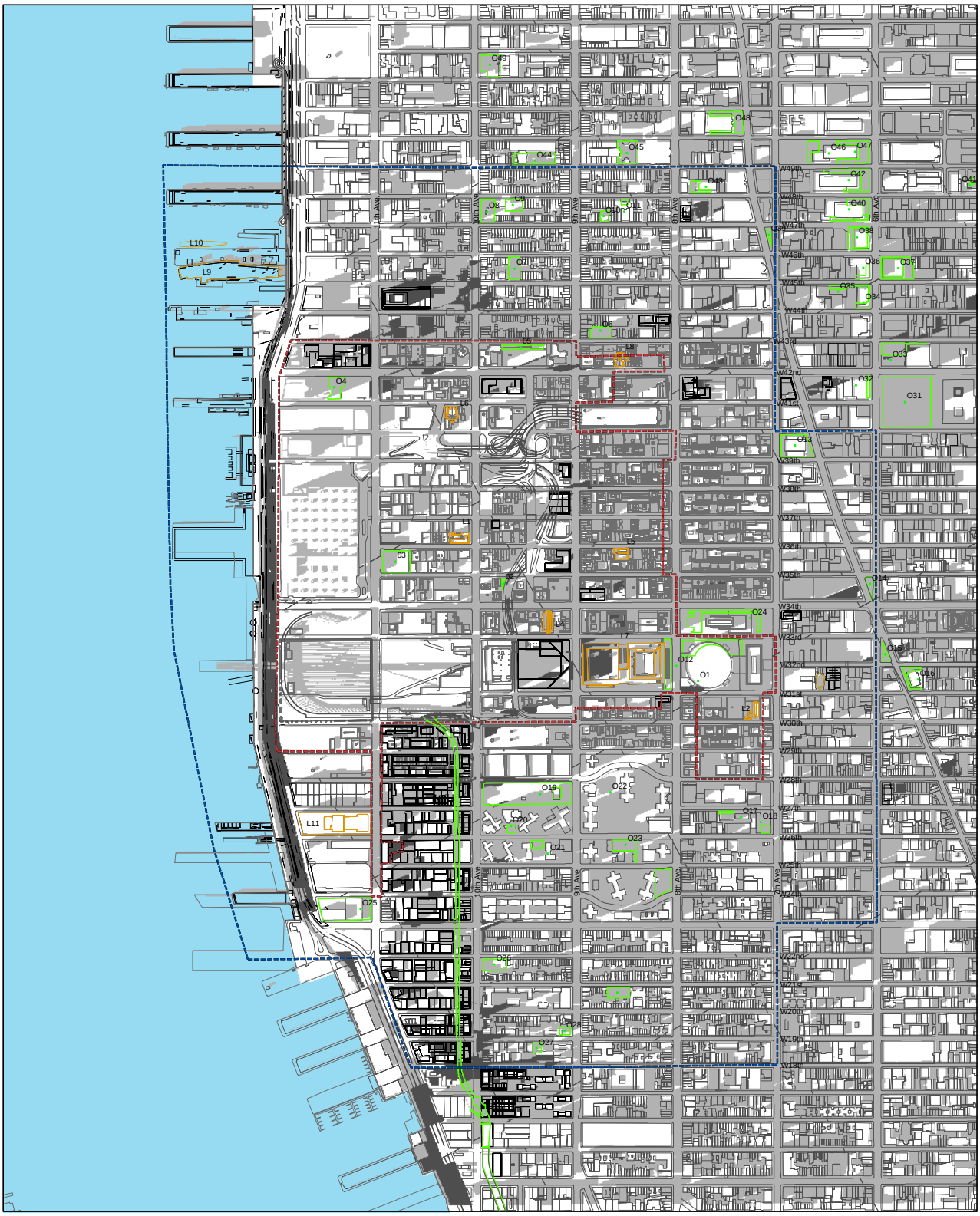
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-67



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 6:18PM

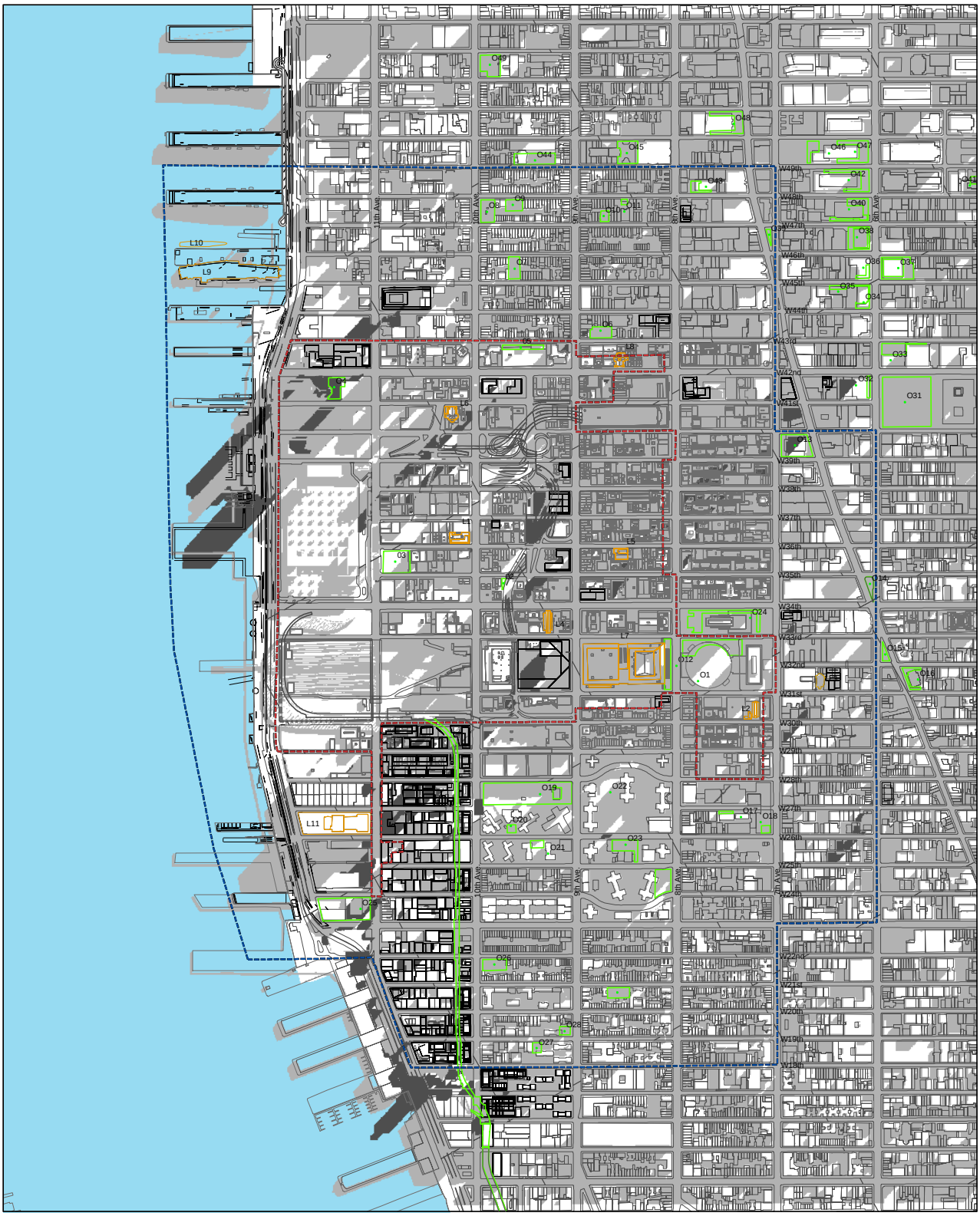
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-68



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

Project Area
Primary Study Area
Open Space Resources
Historic Resources

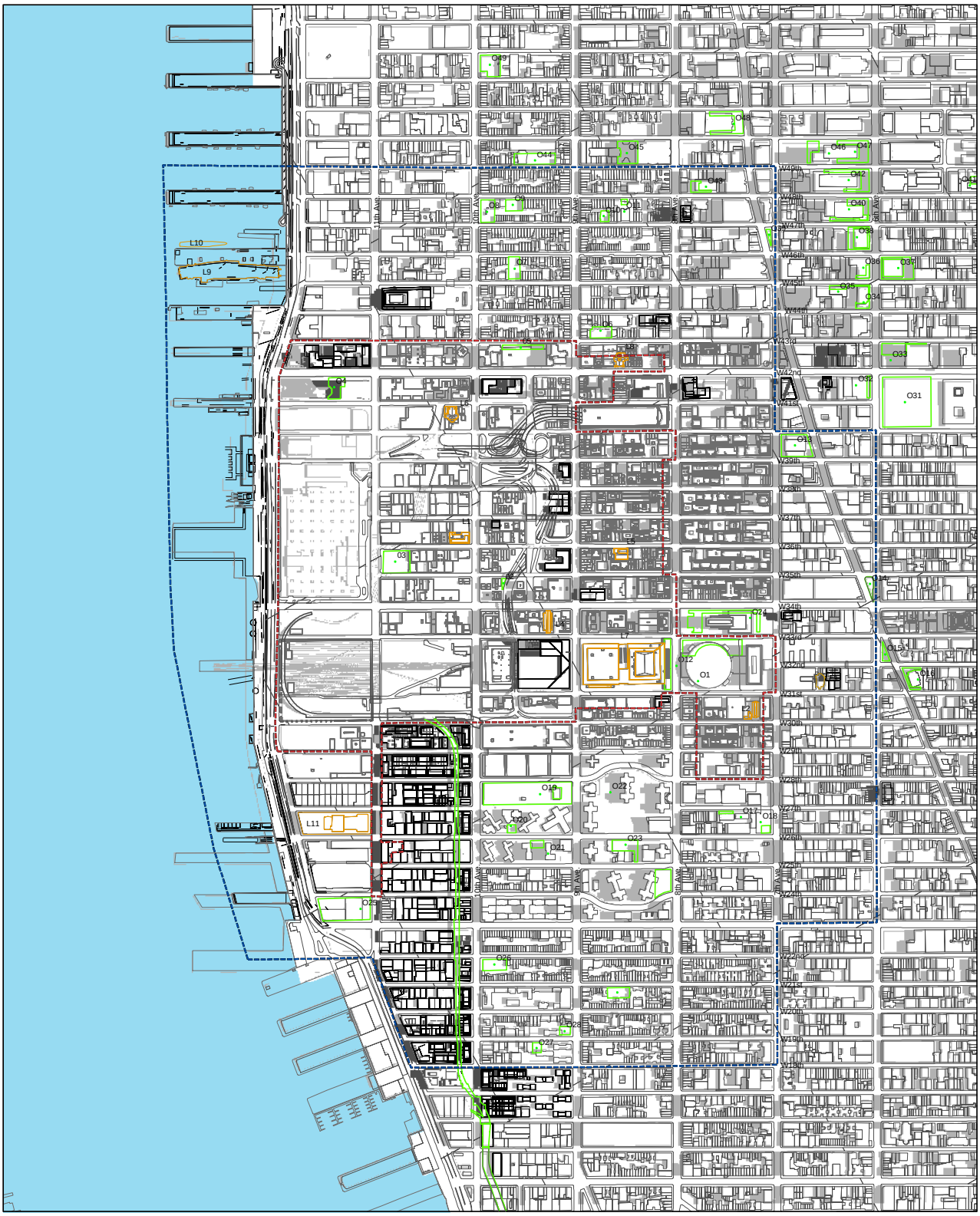
Key for Shadows:
Existing Conditions
No Build Conditions

June 21. 6:57AM

Shadow Analysis
2025 - No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-69



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 11:10AM

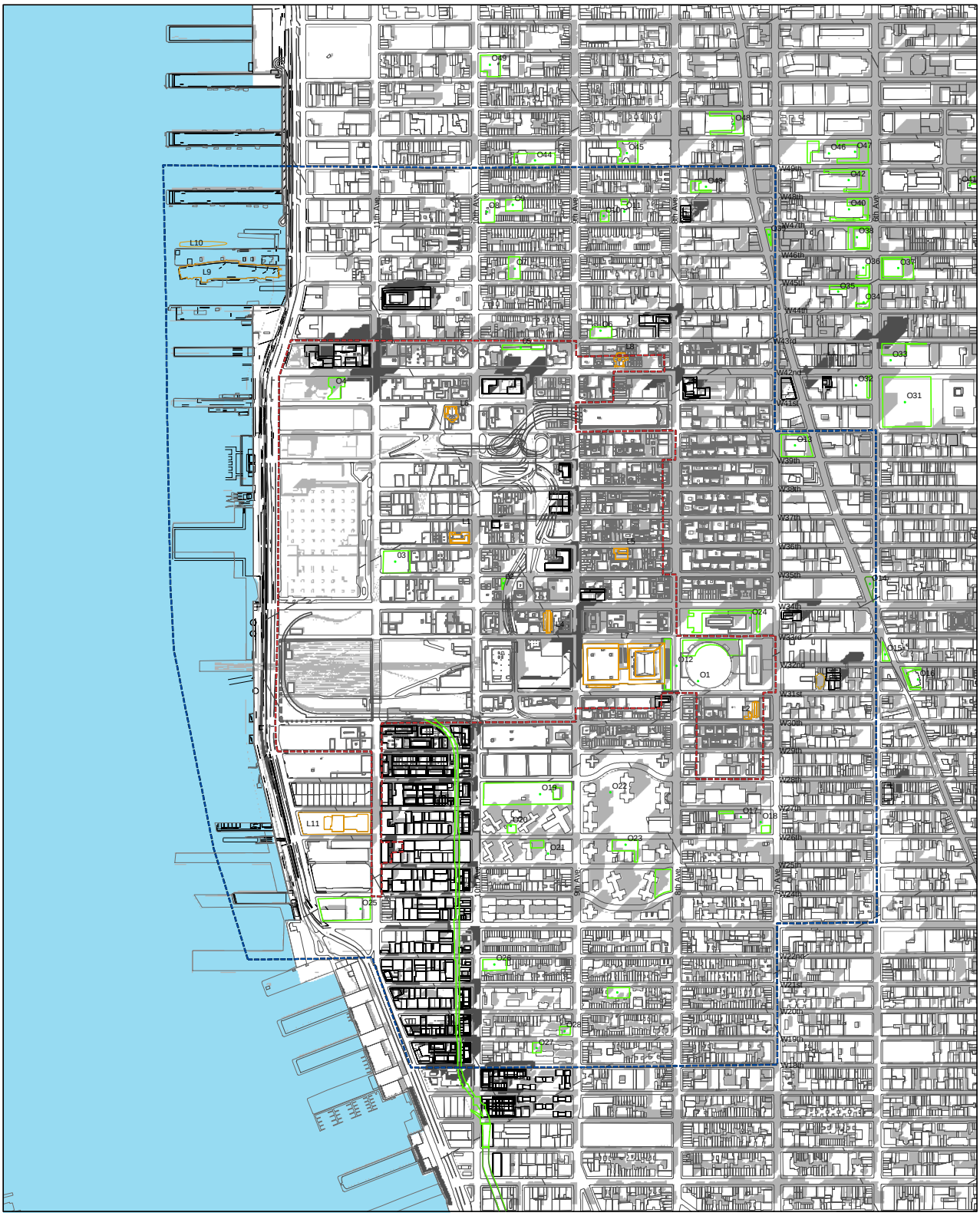
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-70



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 3:30PM

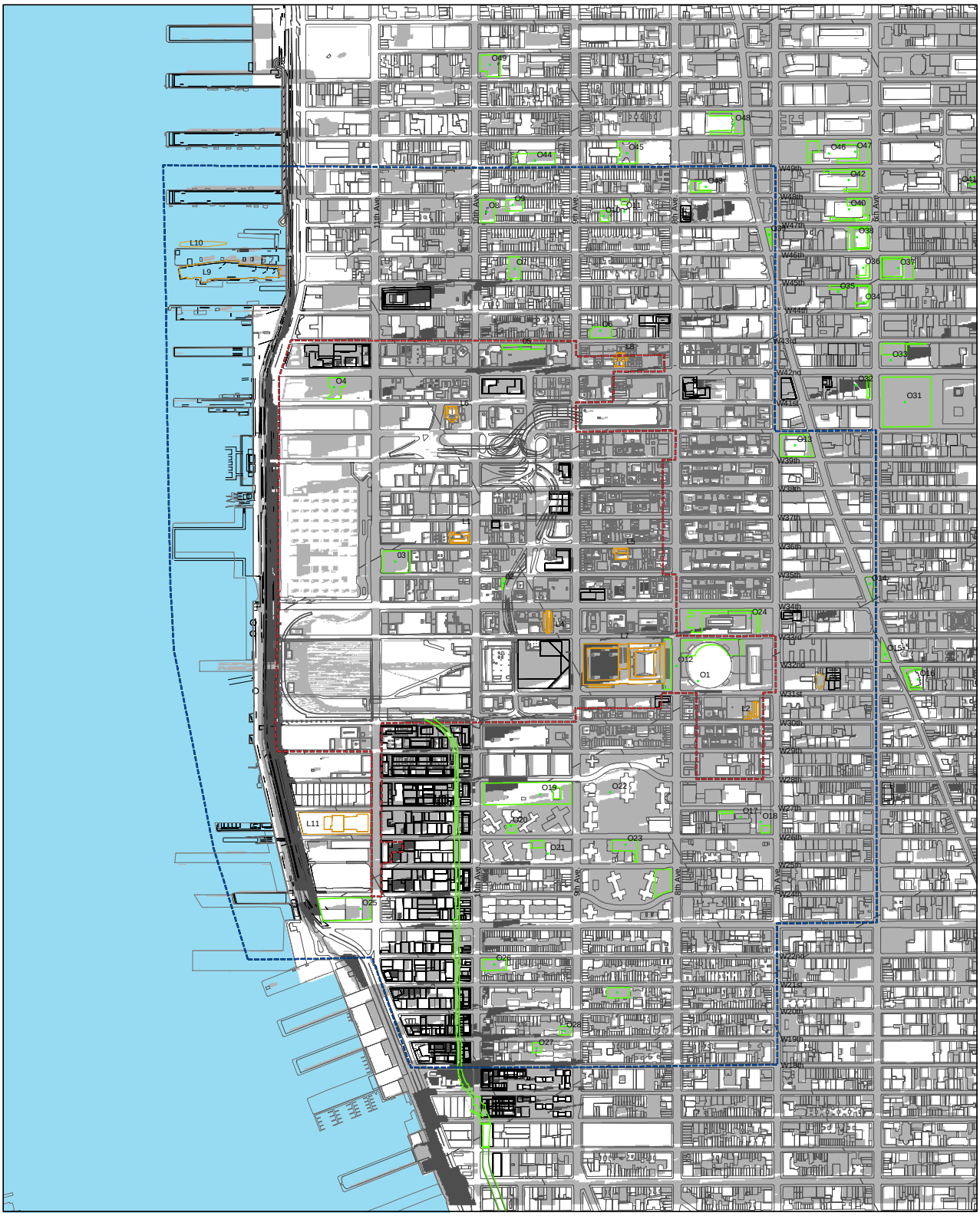
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-71



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 7:01PM

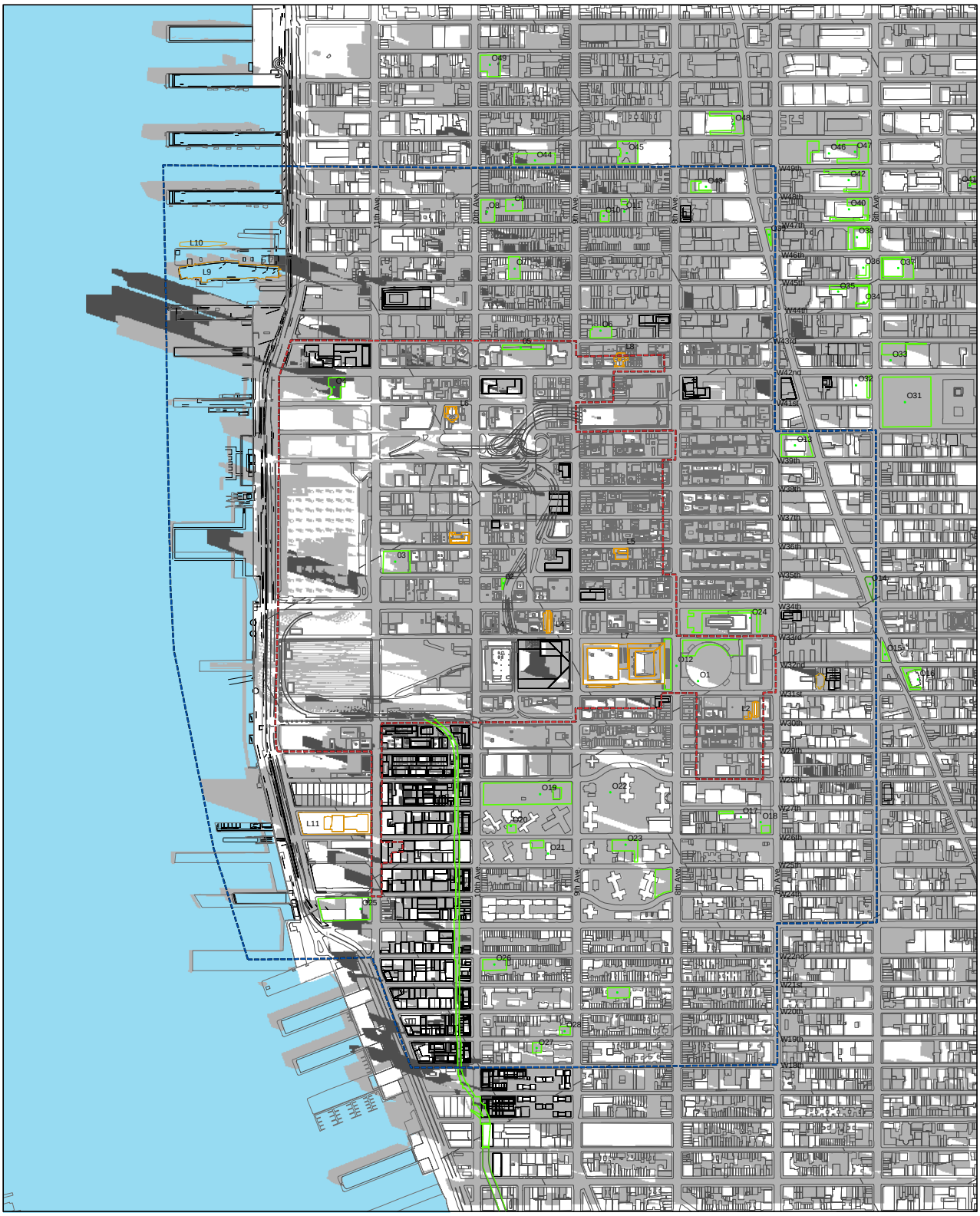
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-72



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 8:51AM

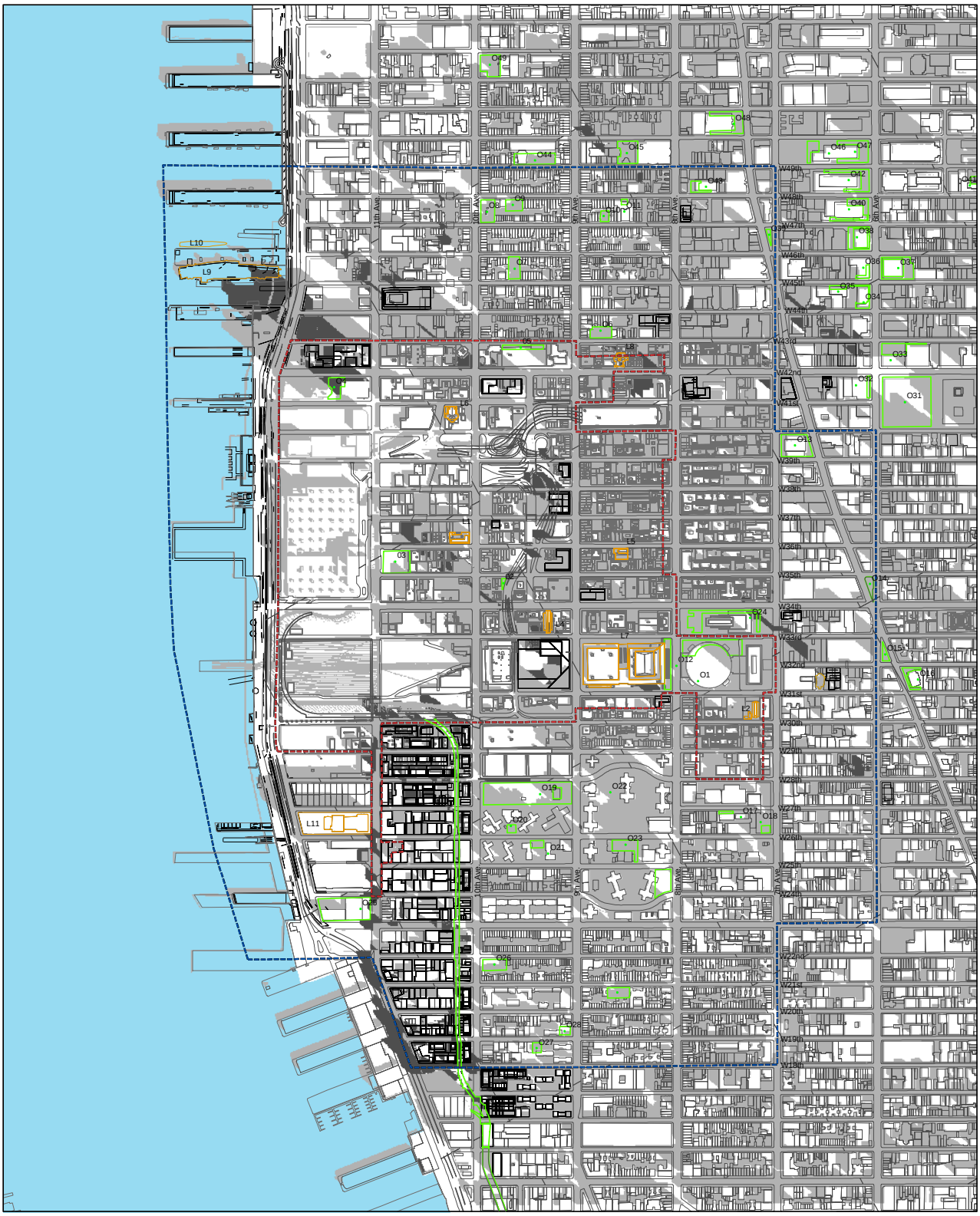
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-73



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 10:30AM

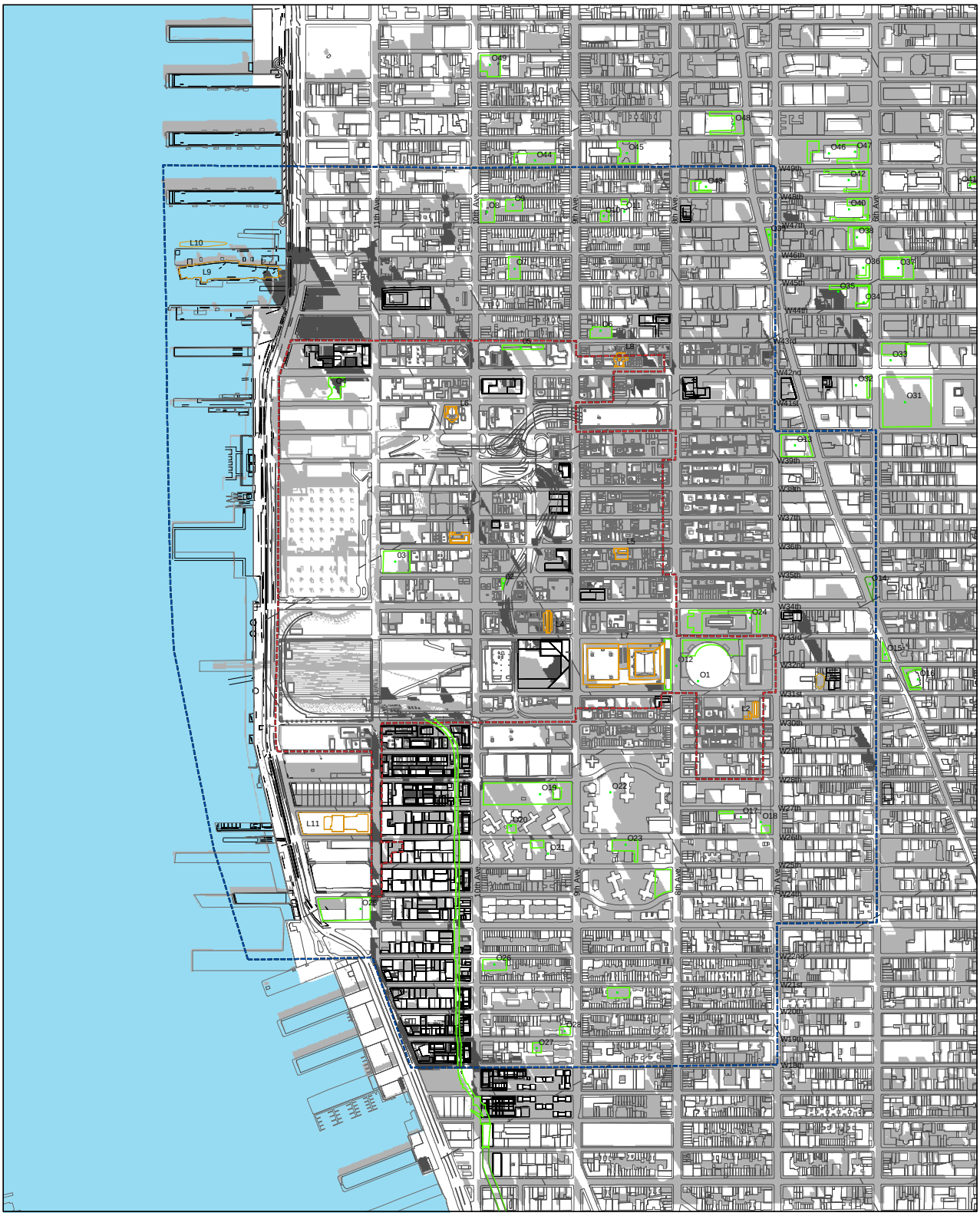
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-74



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 11:52AM

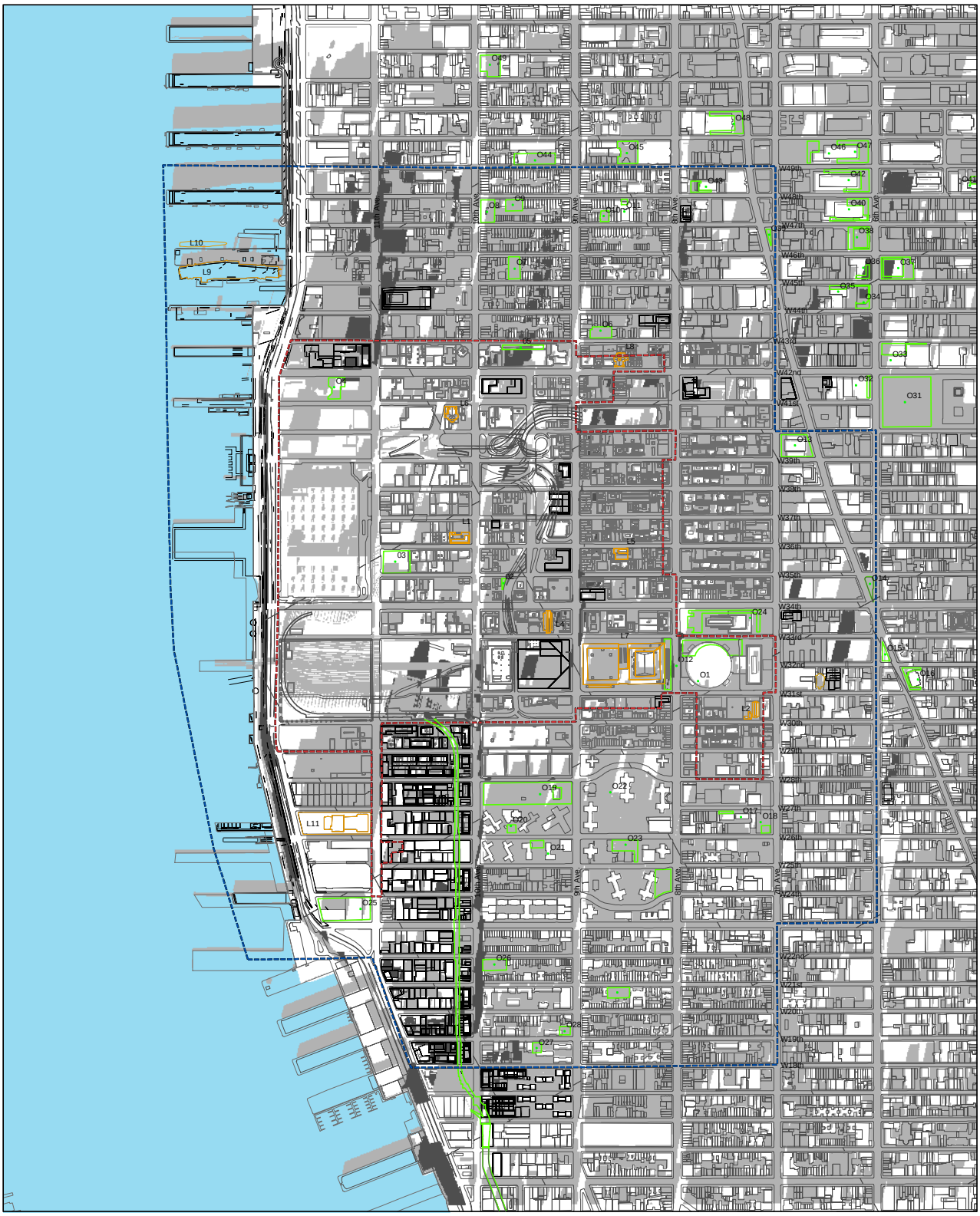
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-75



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 2:53PM

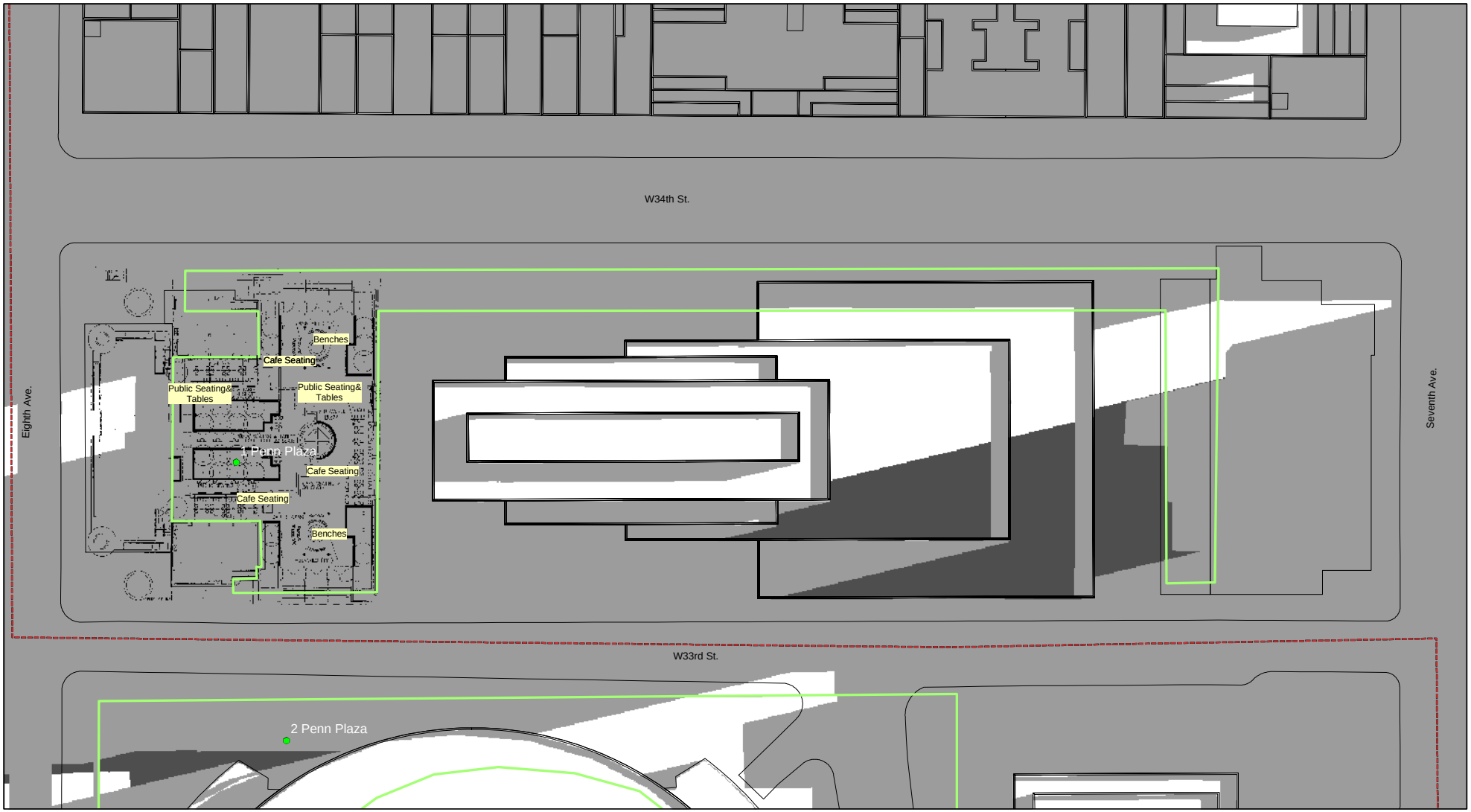
Shadow Analysis
2025 - No Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources

Key for Shadows:
Existing Conditions
No Build Conditions

0 125 250 500 750 1,000 Ft

Figure 8-76



Primary Study Area
Project Area

Open Space Resources

Key for Shadows:

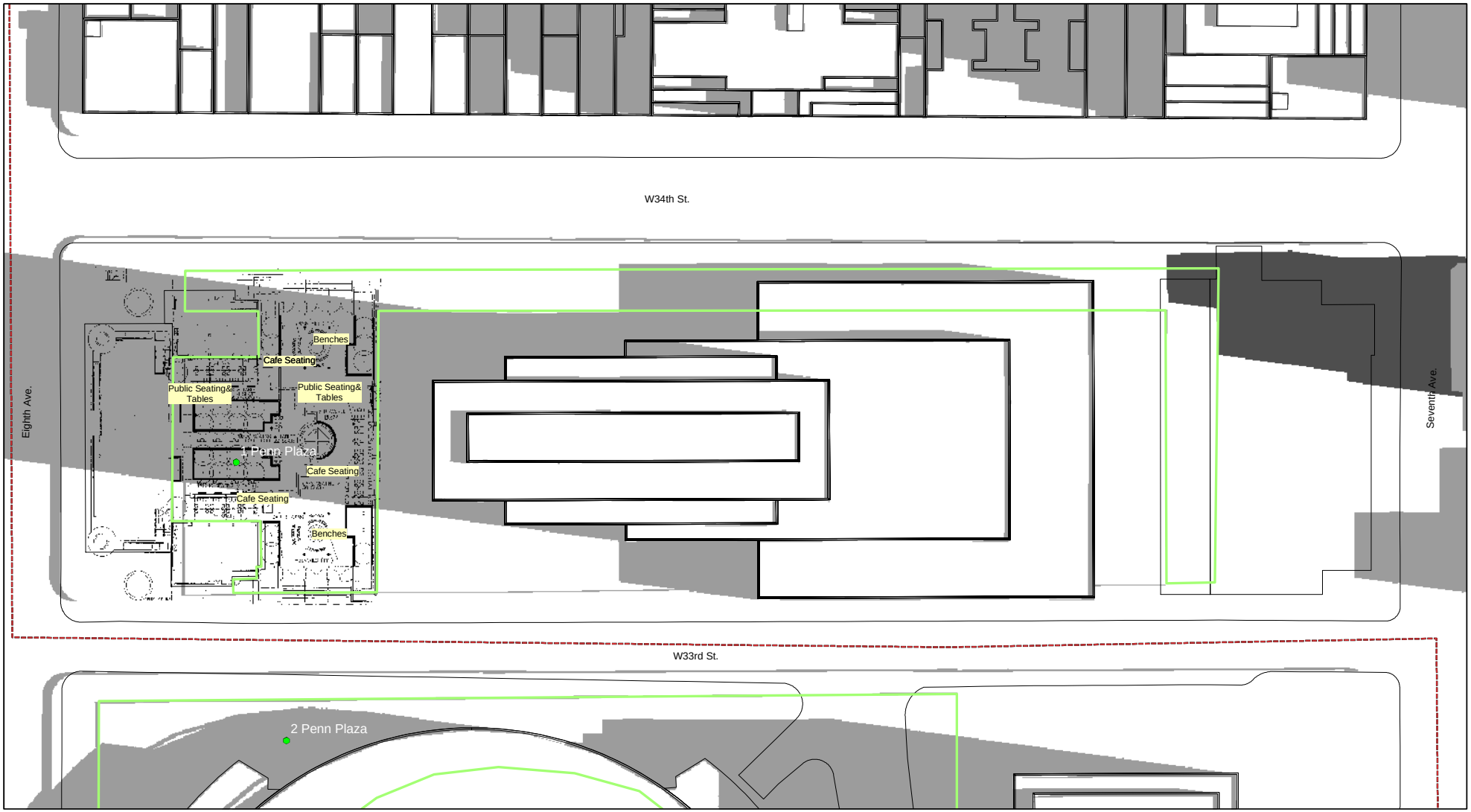
Existing Conditions
No Build Conditions

N
0 12.5 25 50 75 100 Ft

March 21.
7:36AM

2025 - No Build Conditions
One Penn Plaza

Figure 8-77



Primary Study Area
Project Area

Open Space Resources

Key for Shadows:

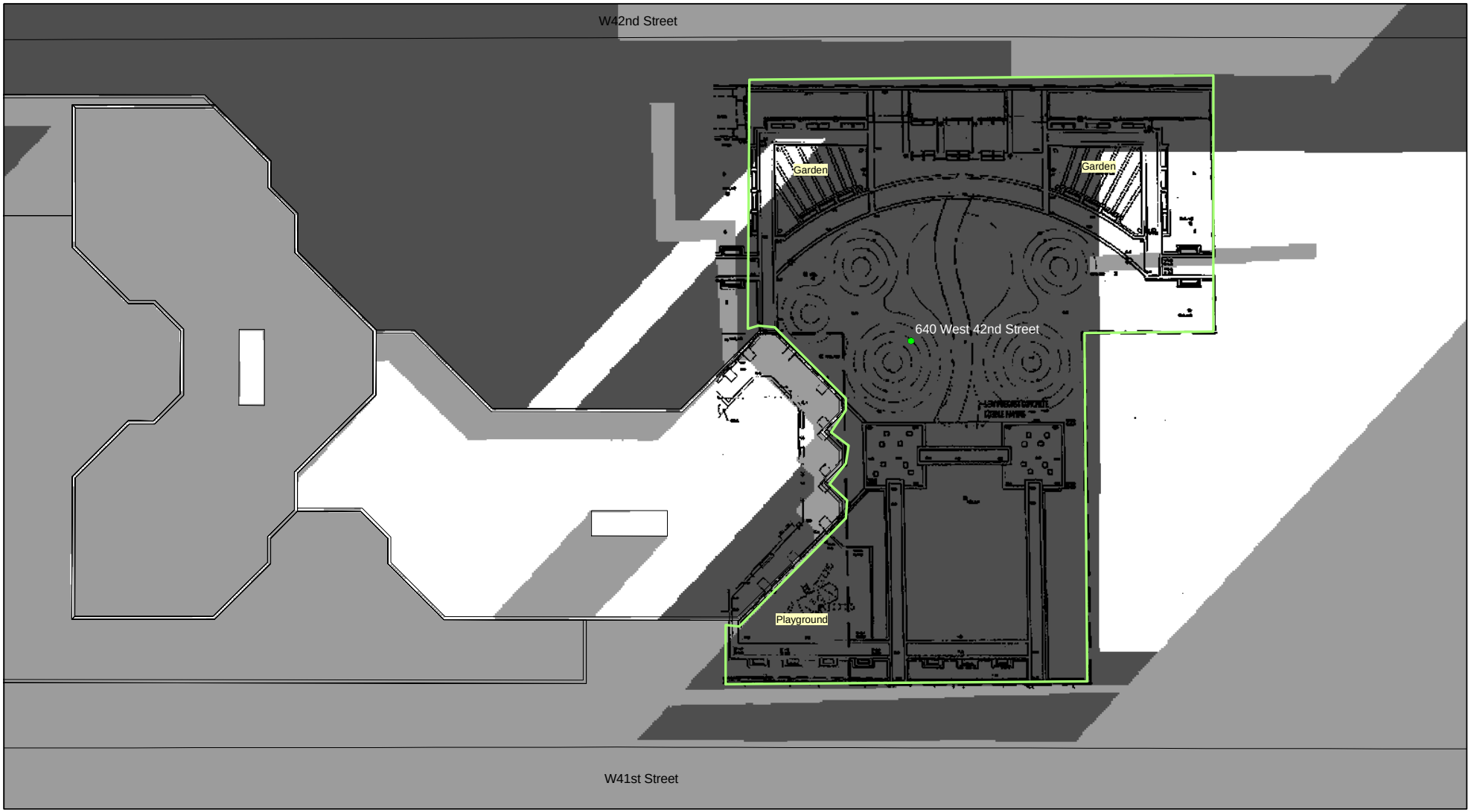
Existing Conditions
No Build Conditions

May 6.
11:00AM

2025 - No Build Conditions
One Penn Plaza

N 0 12.5 25 50 75 100 Ft

Figure 8-78



Primary Study Area
Project Area

Open Space Resources

Key for Shadows:

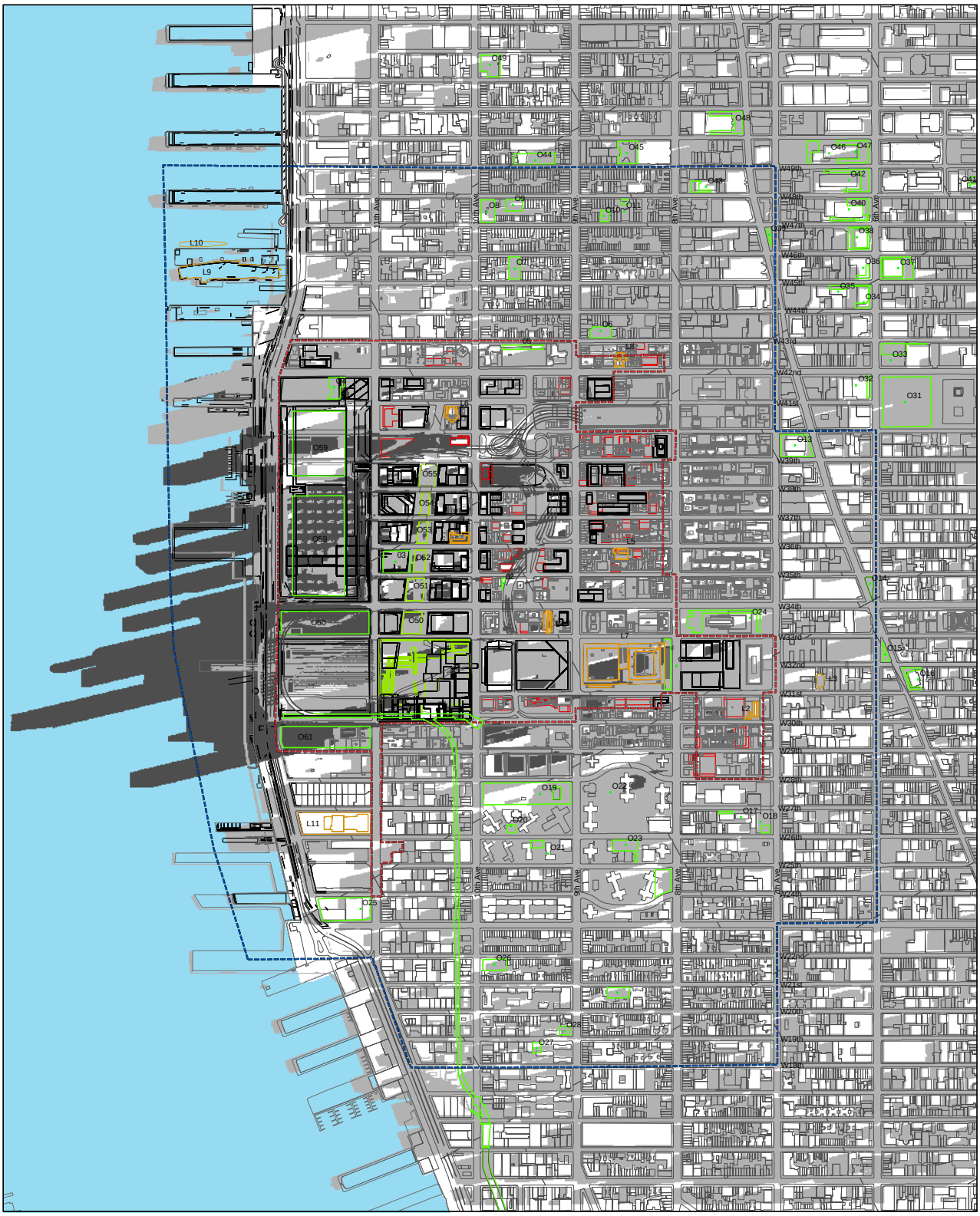
Existing Conditions
No Build Conditions

June 21.
6:57AM

0 5 10 20 30 40 Ft

2025 - No Build Conditions
640 W42nd St. Plaza

Figure 8-79



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 7:36AM

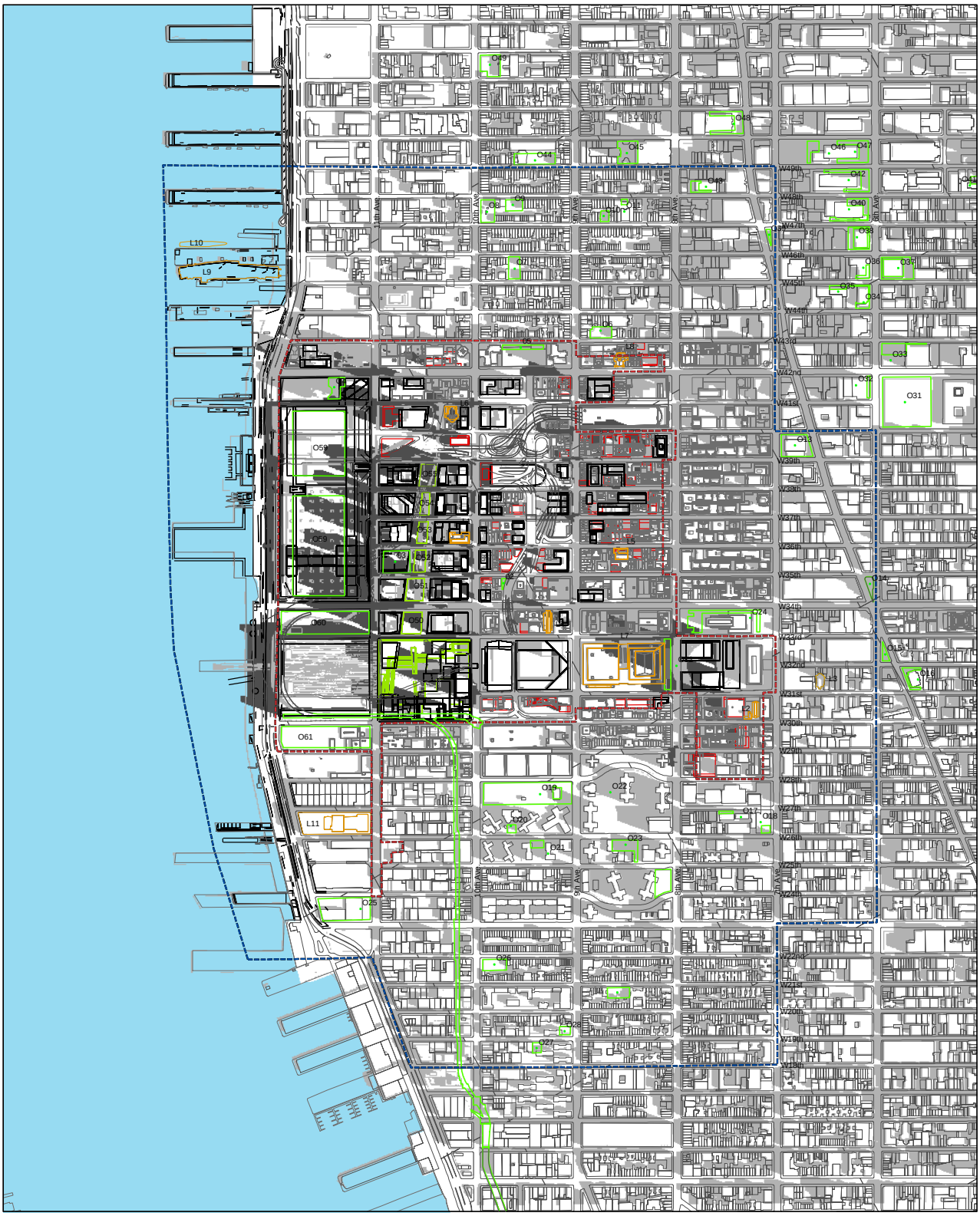
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-80



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 10:05AM

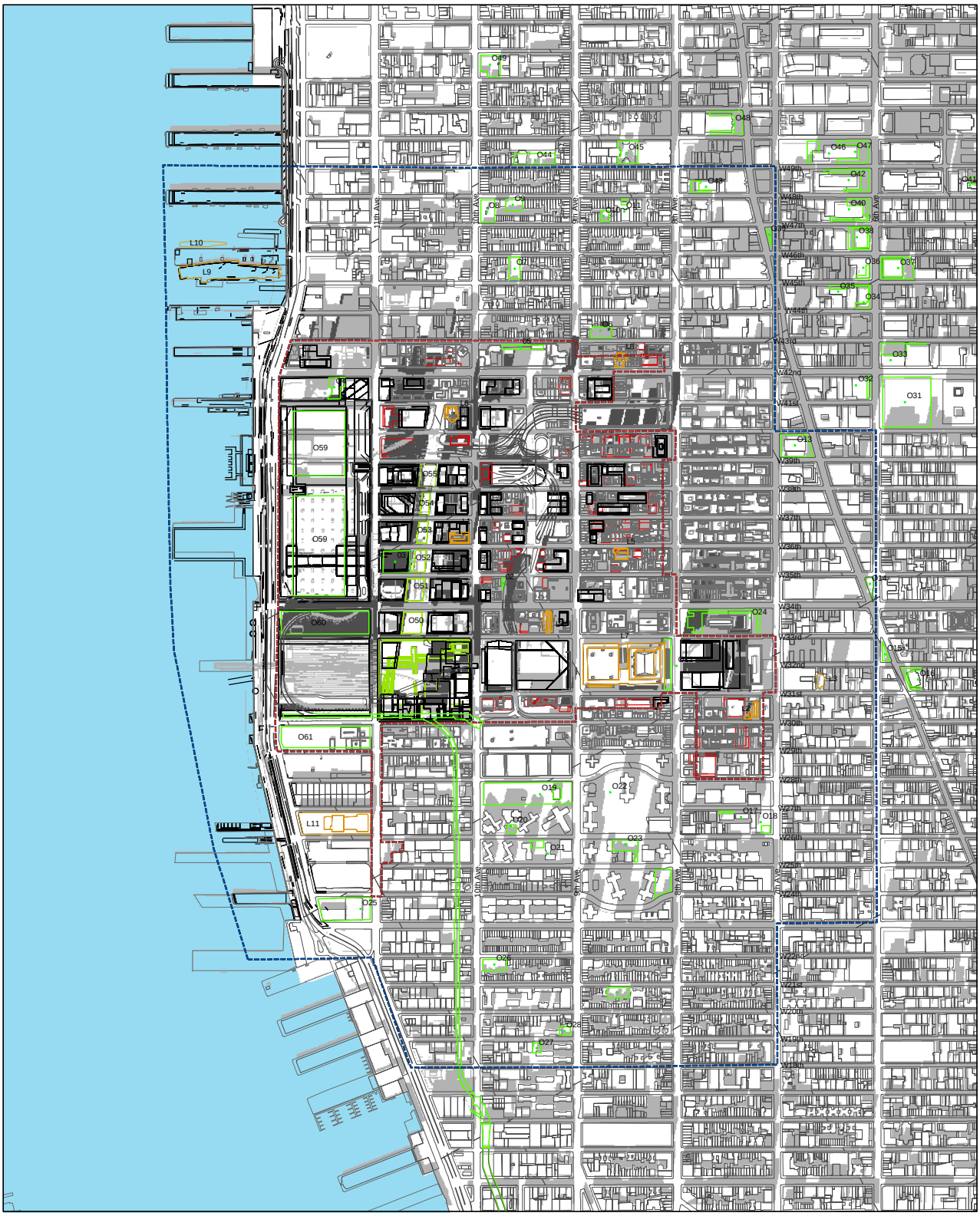
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-81



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 1:59PM

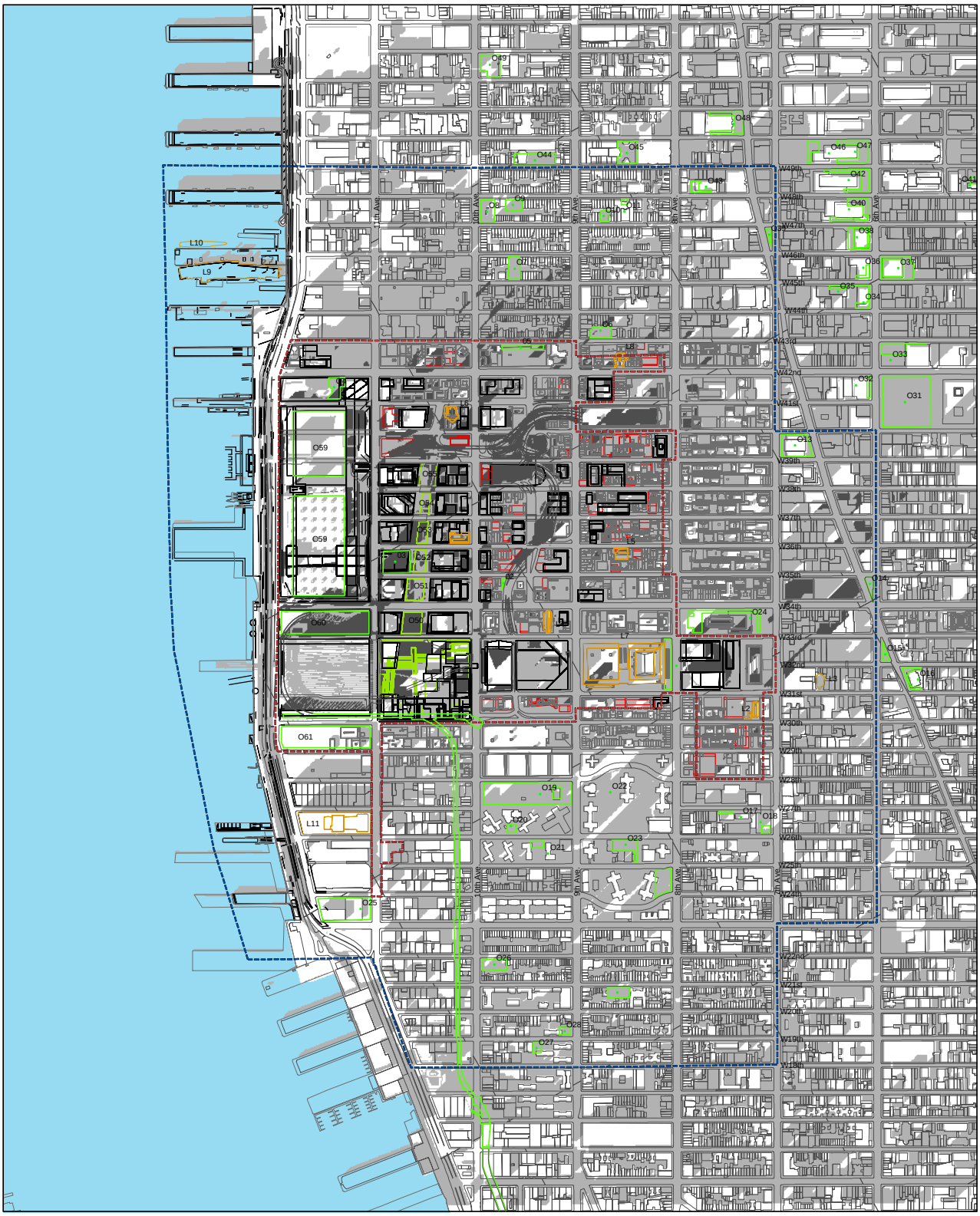
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-82



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

March 21. 4:29PM

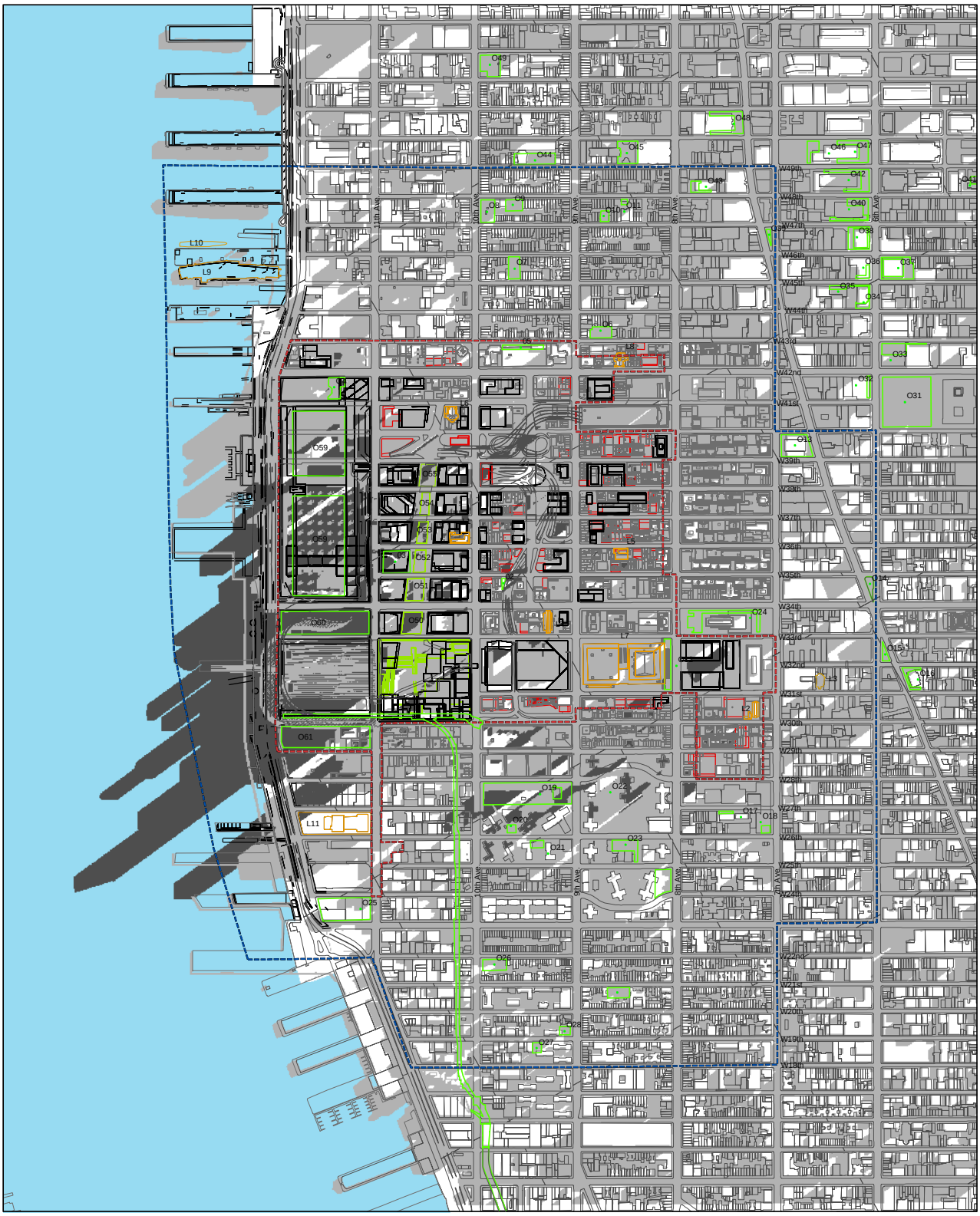
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-83



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 7:27AM

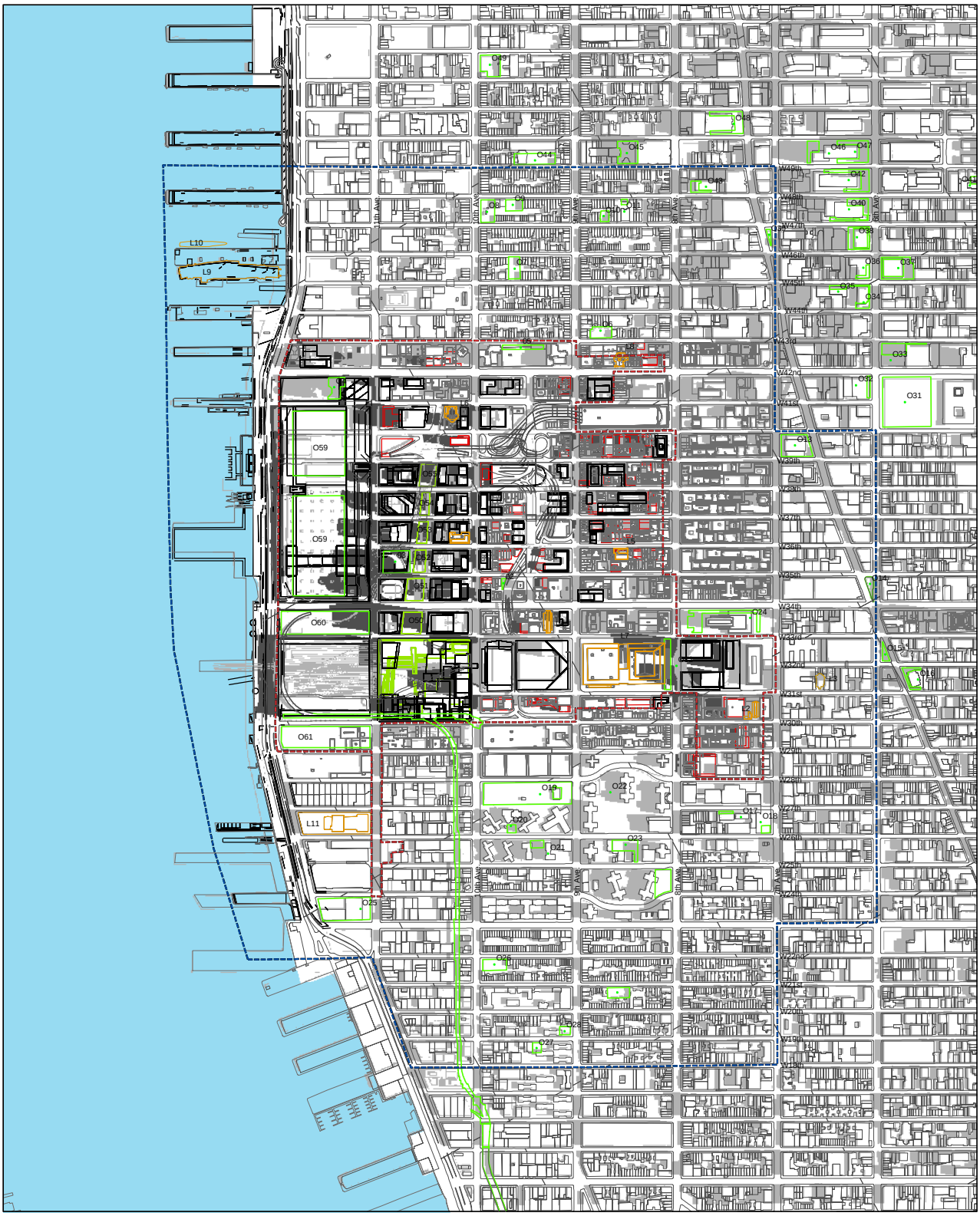
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-84



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 11:00AM

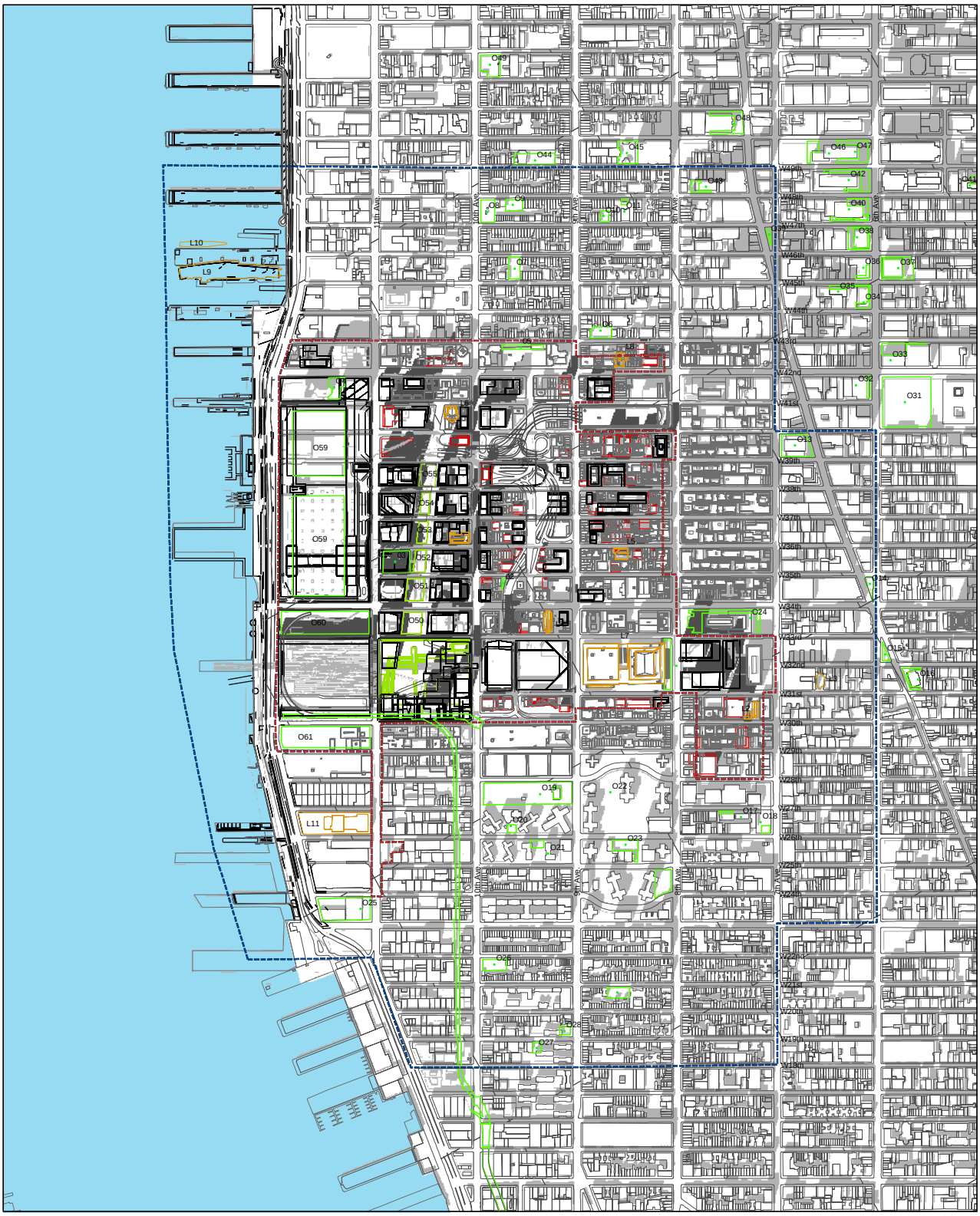
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-85



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 2:30PM

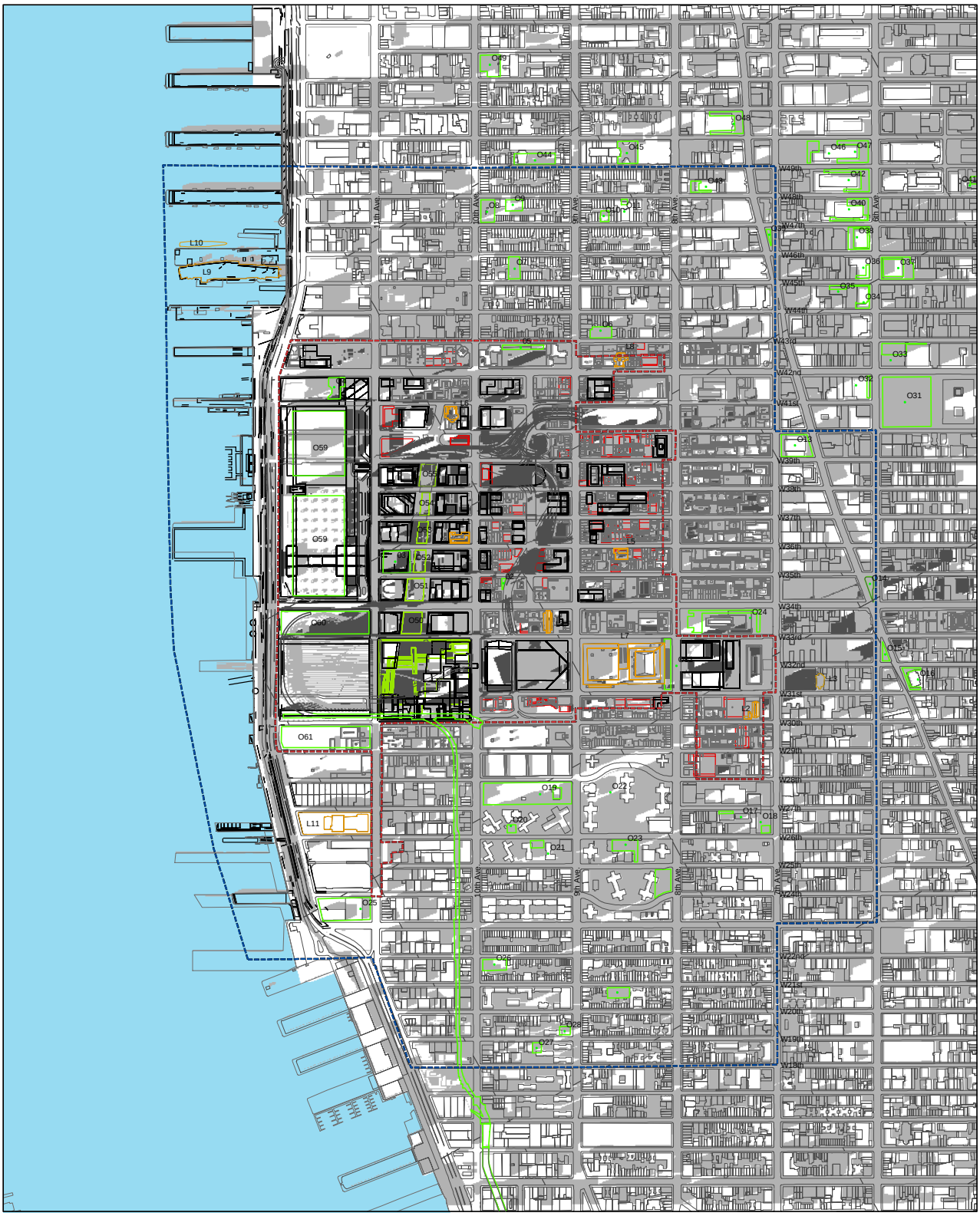
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-86



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

May 6. 6:18PM

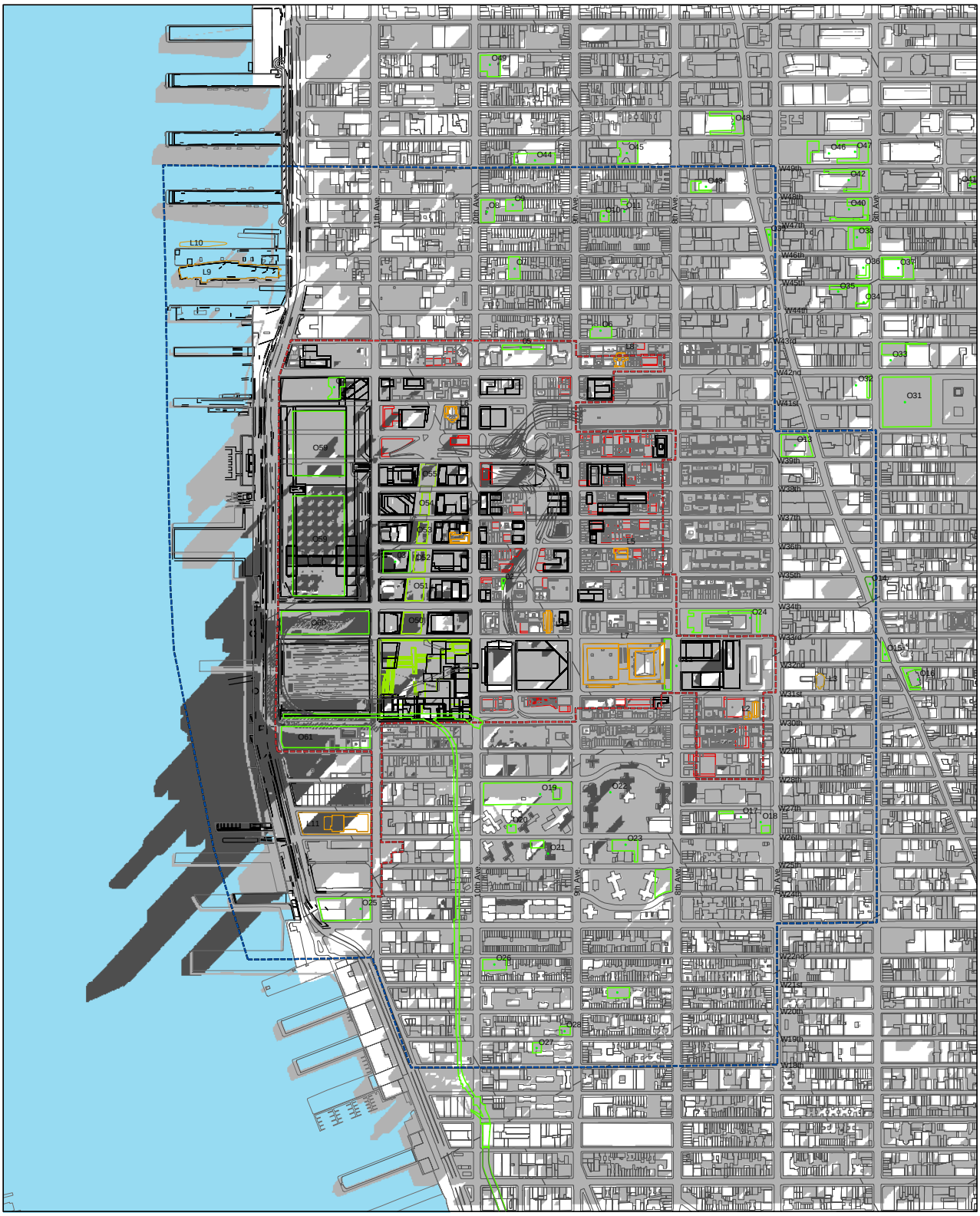
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-87



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 6:57AM

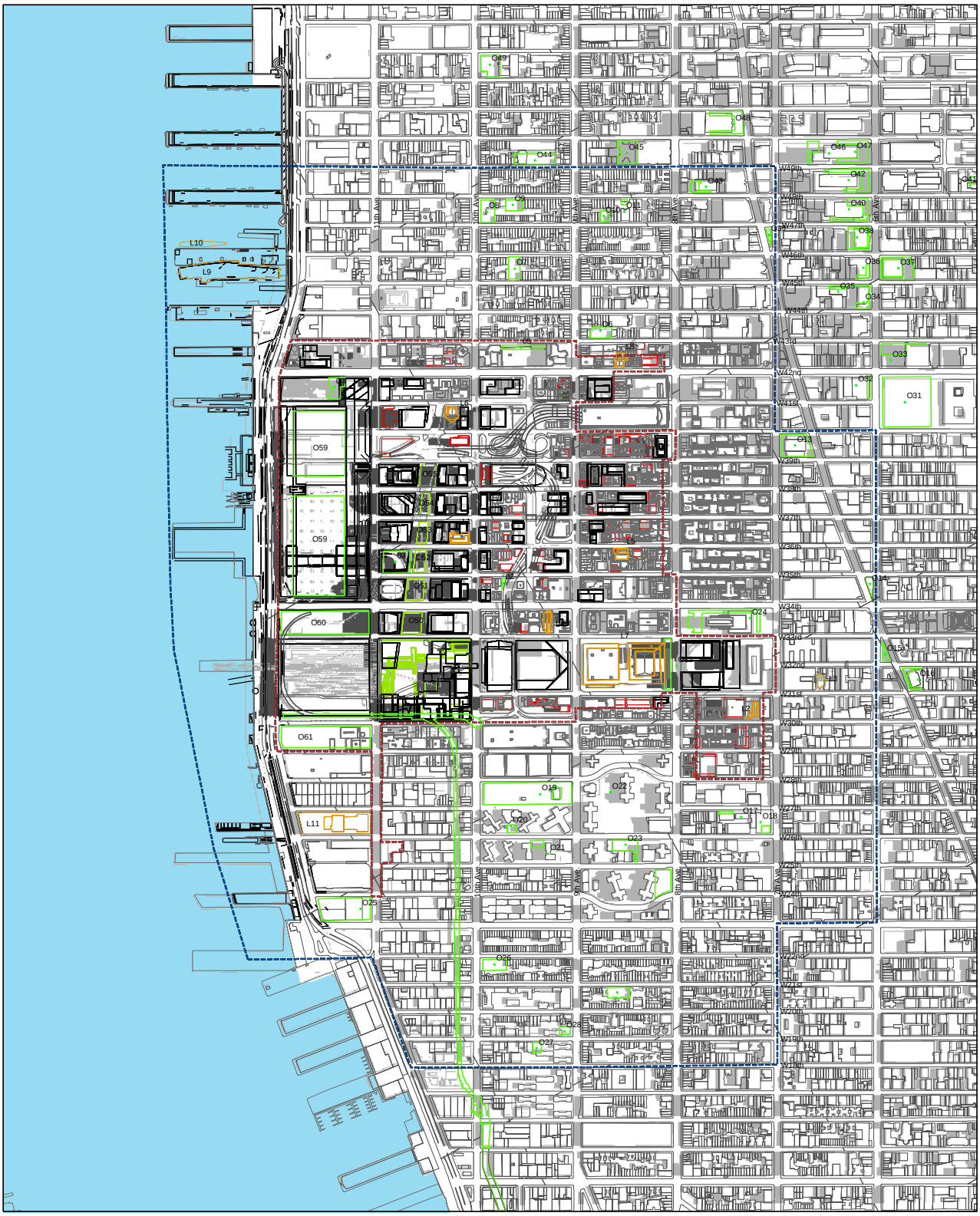
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-88



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 11:10AM

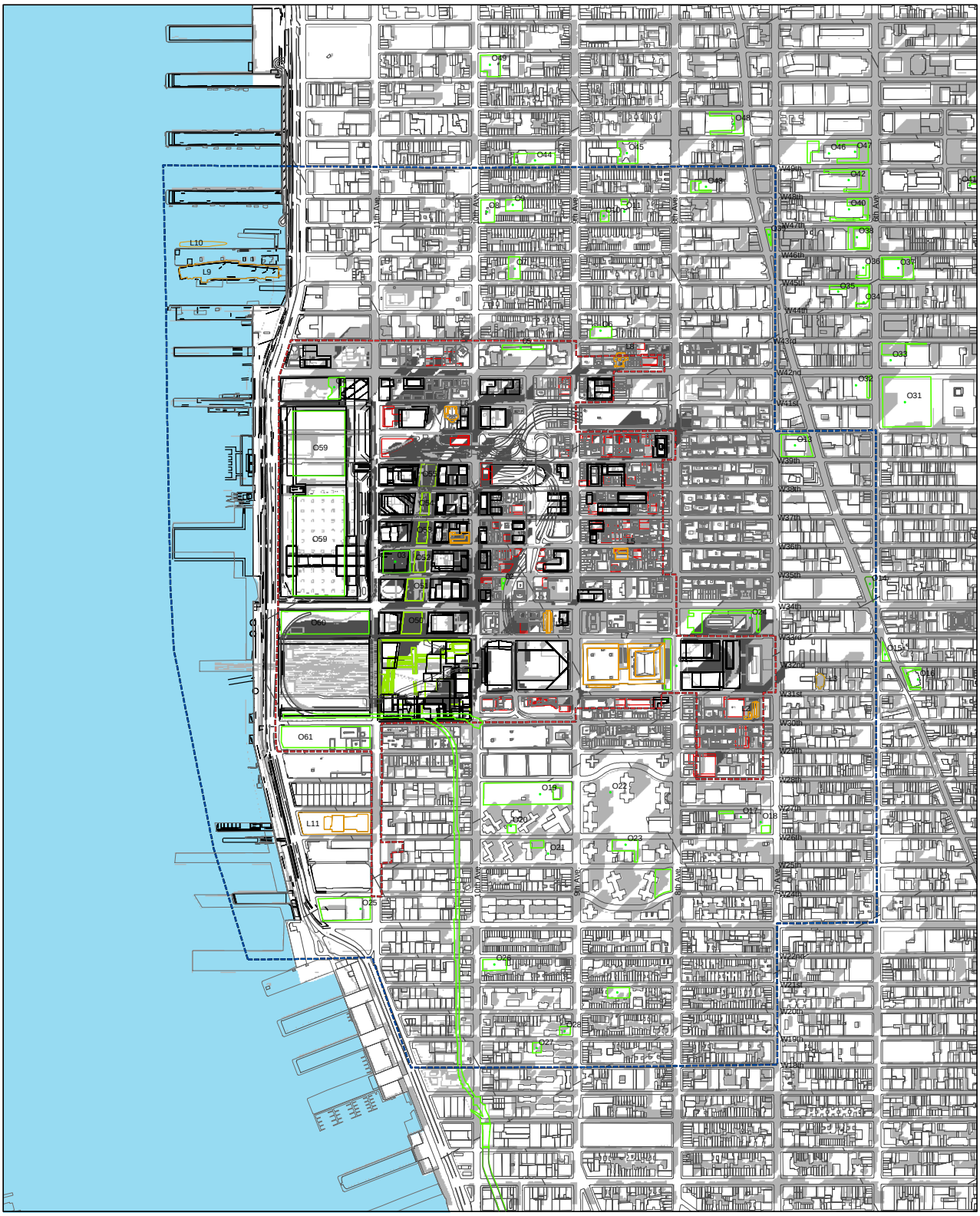
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-89



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 3:30PM

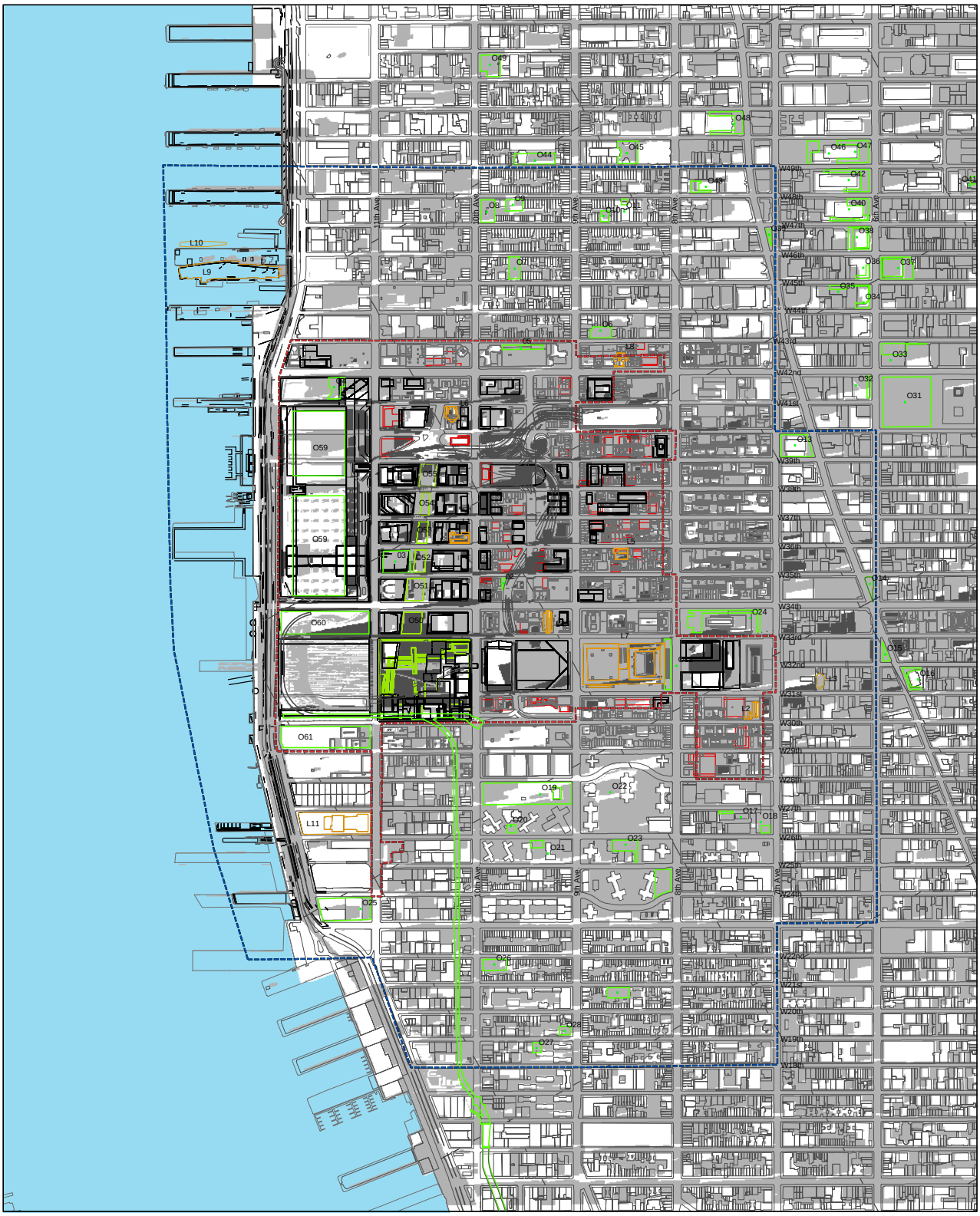
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-90



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

June 21. 7:01PM

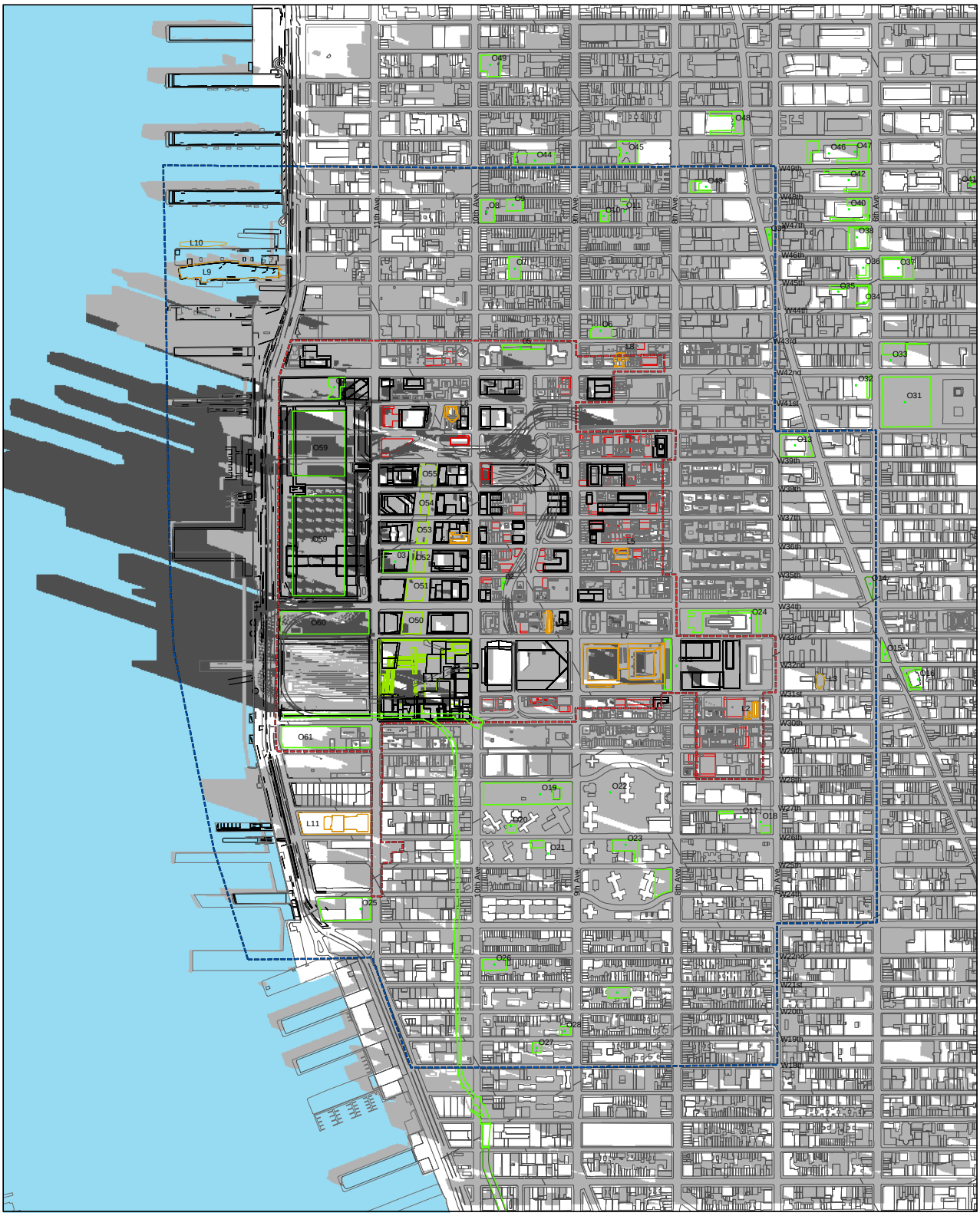
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-91



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 8:51AM

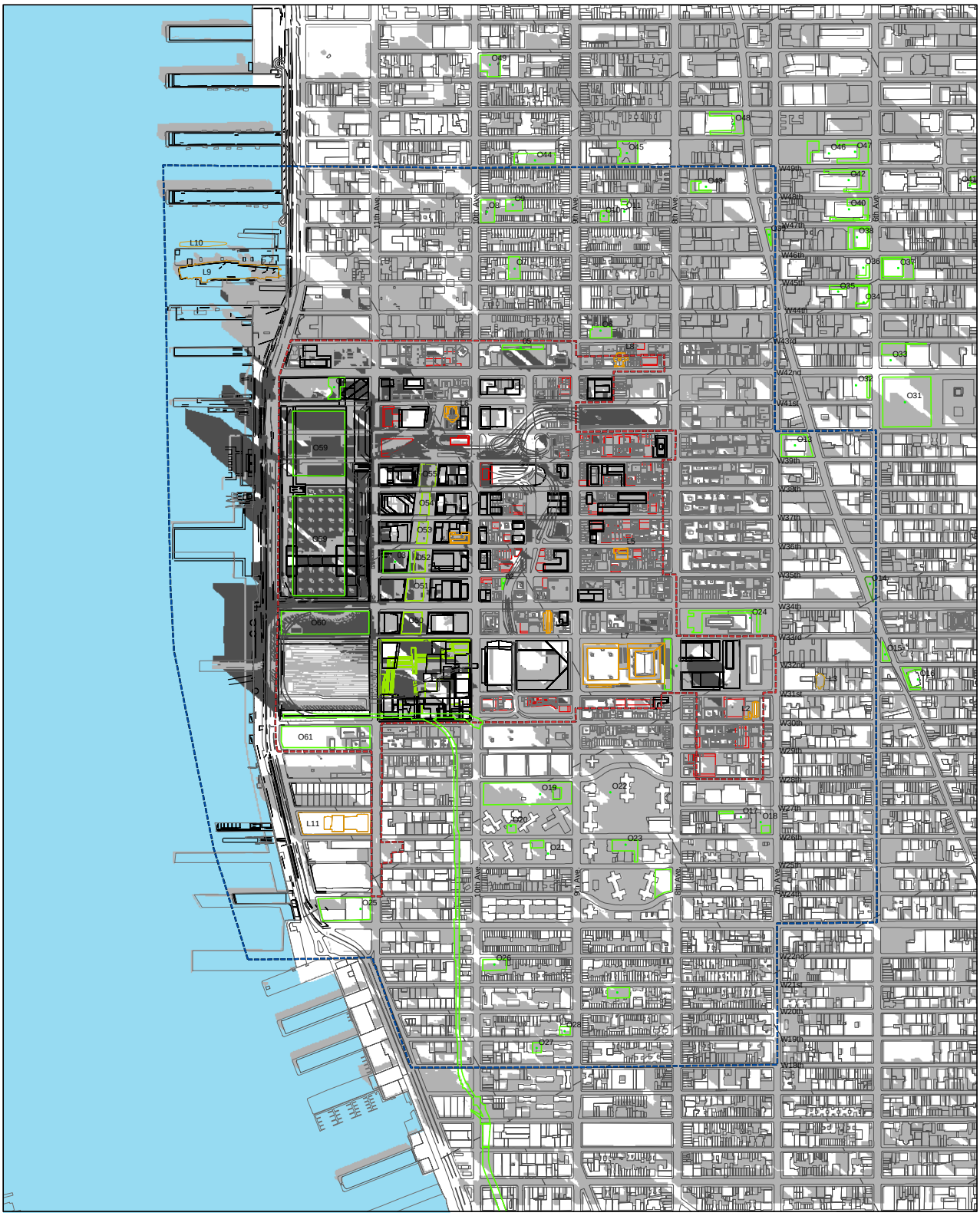
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-92



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 10:30AM

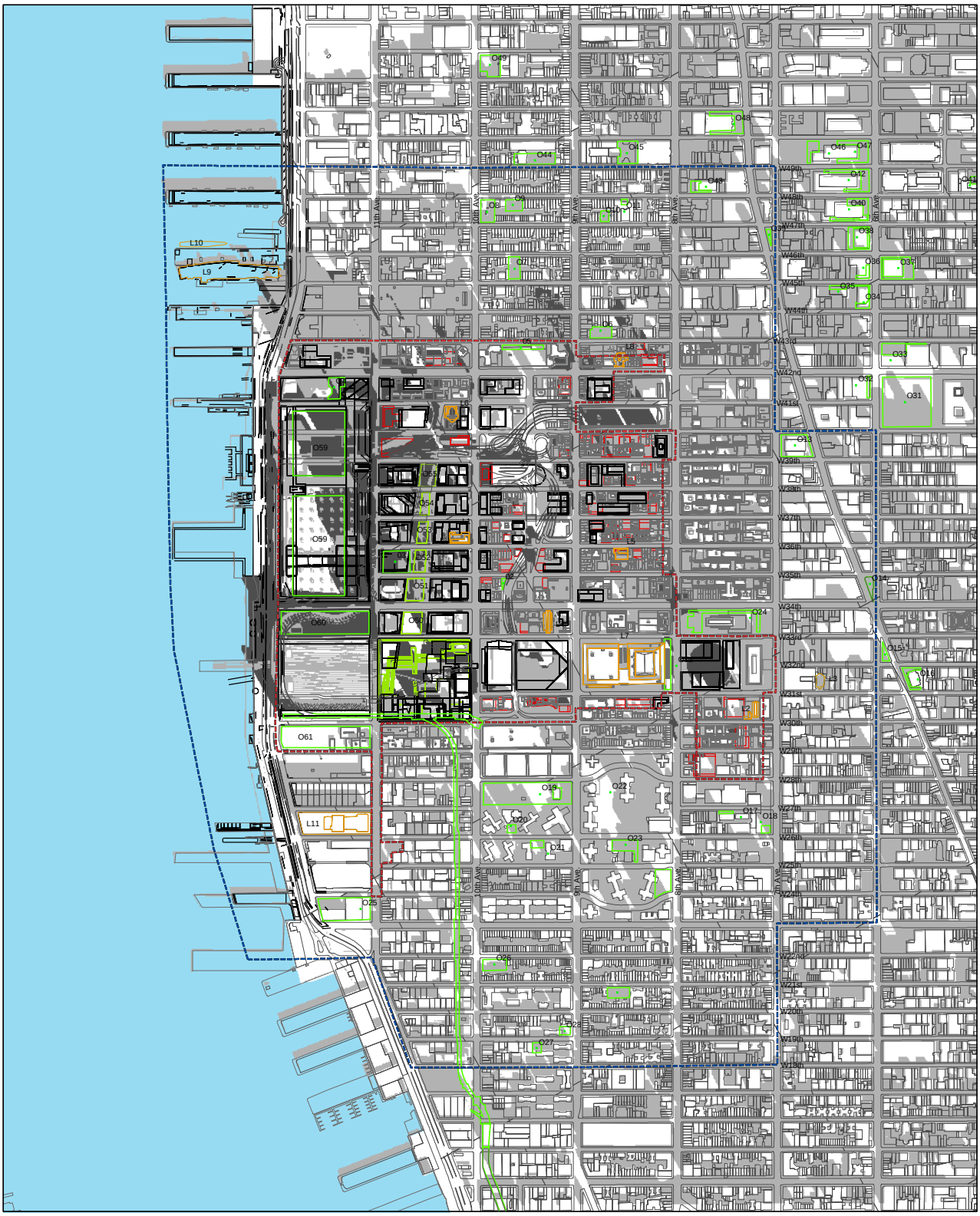
Shadow Analysis.
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-93



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 11:52AM

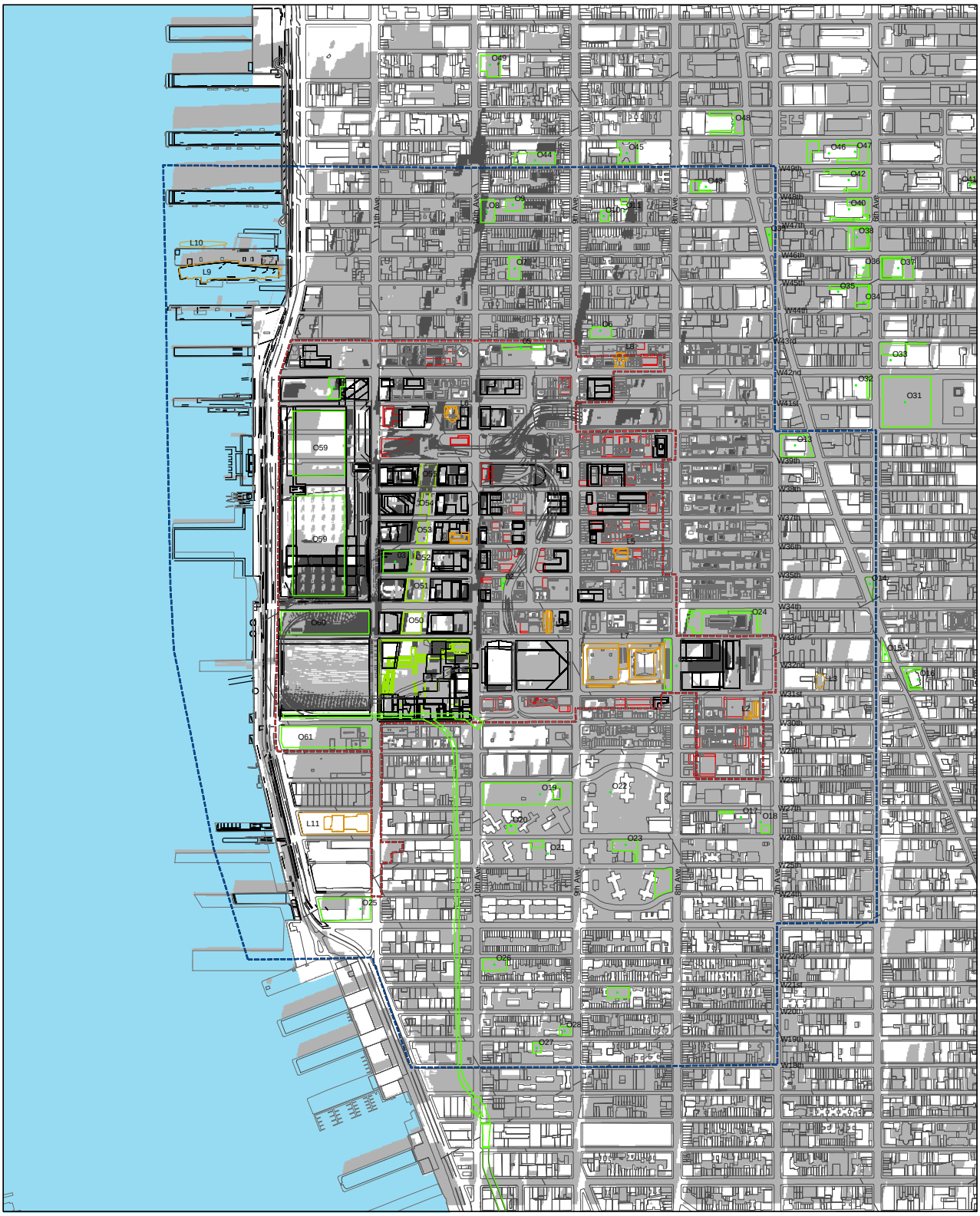
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-94



Open Space Resources

Res. No.	Resource Name
O1	2 Penn Plaza
O2	Bob's Park
O3	Javits Plaza
O4	640 W42nd St. Plaza
O5	Gregory J.M. Portley Plaza
O6	McCaffry Playground
O7	May Matthews Playground
O8	Hell's Kitchen Park
O9	Clinton Community Garden
O10	Ramon Aponte Park
O11	Marion S. Heishel Garden
O12	Post Office Stairs
O13	Golda Meir Square
O14	Herald Square
O15	Greely Square
O16	1250 Broadway Plaza
O17	230 W27th St. Park
O18	FIT Plaza

Res. No.	Resource Name
O19	Chelsea Park
O20	Elliot Houses Open Space
O21	Chelsea Houses Open Space
O22	Penn South Houses Open Space
O23	Penn Station South Houses Playground
O24	1 Penn Plaza
O25	Chelsea Waterside Park
O26	Clement Clarke Moore Park
O31	Bryant Park
O32	1095 Sixth Avenue Plaza
O33	Grace Plaza
O34	1155 Avenue of the Americas Plaza
O35	DeShaw & Co. Plaza
O36	1177 Avenue of the Americas Plaza
O37	1166 Ave. of the Americas Plaza
O38	1185 Ave. of the Americas-Westpoint Stevens Twr.
O39	Father Duffy Square
O43	235 W48th St. Plaza

Res. No.	Resource Name
O44	High School of Graphic Comm./Guttenberg Plygrnd.
O45	Worldwide Plaza
O46	945 Seventh Ave. Plaza
O47	1251 Ave. of the Americas Plaza
O48	1633 Broadway/Paramount Plaza
O50	W. 33rd-34th Streets
O51	W. 34th-35th Streets
O52	W. 35th-36th Streets
O53	W.36th-37th Streets
O54	W. 37th-38th Streets
O55	W. 38th-39th Streets
O56	W. 41st-42nd Streets
O57	Hudson River
O58	Hudson River Park
O59	Convention Center Roof Park
O60	Multi-Use Facility Park
O61	Block 675 Park
O62	High Line

Historic Resources

Res. No.	Resource Name
L1	Hill Building
L2	St. John the Baptist Roman Catholic Church
L3	St. Francis Roman Catholic Church
L4	St. Michael's Catholic Church
L5	Christ Church Memorial
L6	St. Raphael's Roman Catholic Church
L7	The James A. Farley Building
L8	Holy Cross Roman Catholic Church
L9	USS Intrepid
L10	USS Edson
L11	Starrett-Lehigh

December 21. 2:53PM

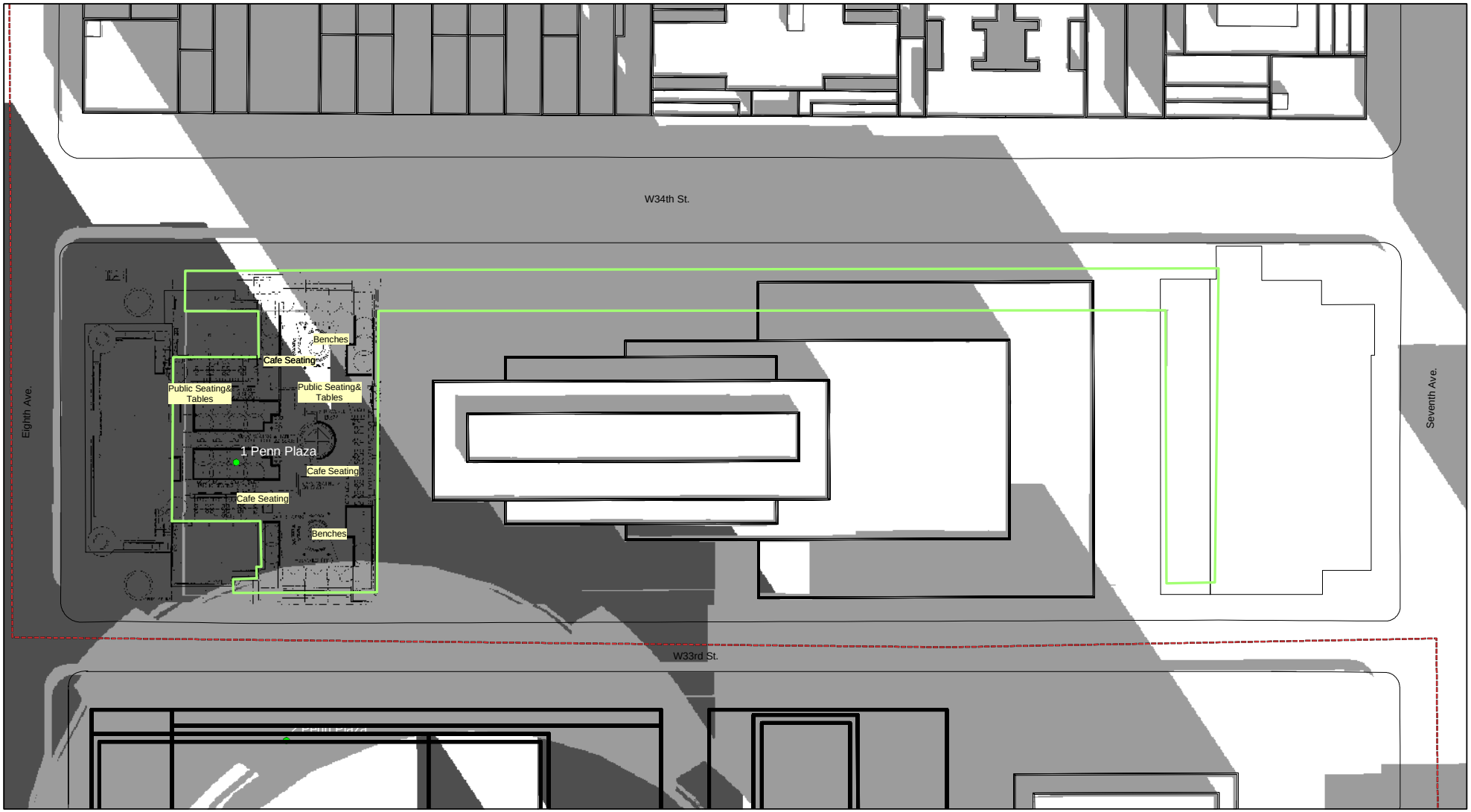
Shadow Analysis
2025 - Build Conditions

Project Area
Primary Study Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 125 250 500 750 1,000 Ft

Figure 8-95



Primary Study Area
Project Area
Open Space Resources
Projected Sites

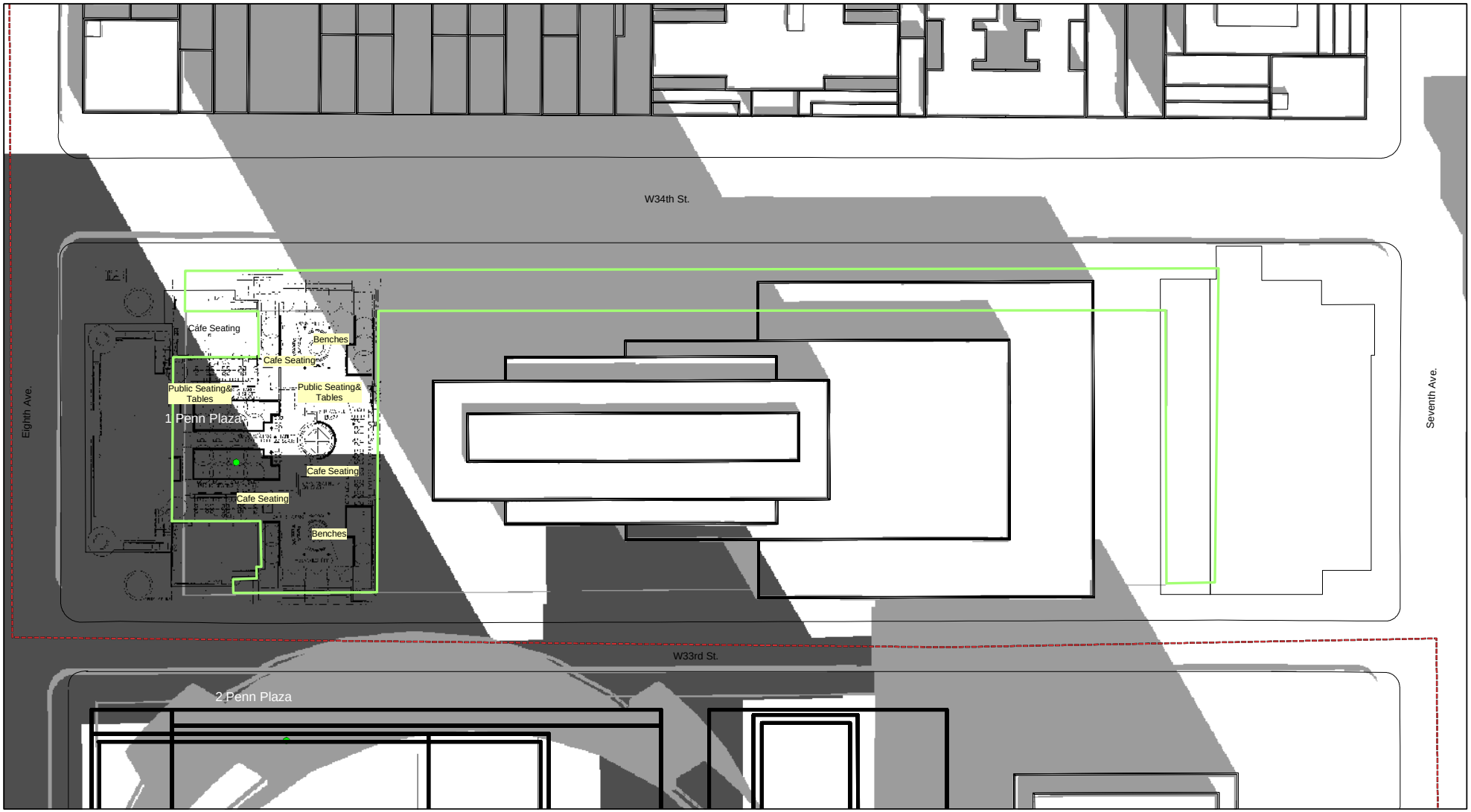
Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

March 21.
11:50AM

0 10 20 40 60 80 Ft

2025 - Build Conditions
One Penn Plaza

Figure 8-96



Primary Study Area
Project Area
Open Space Resources
Projected Sites

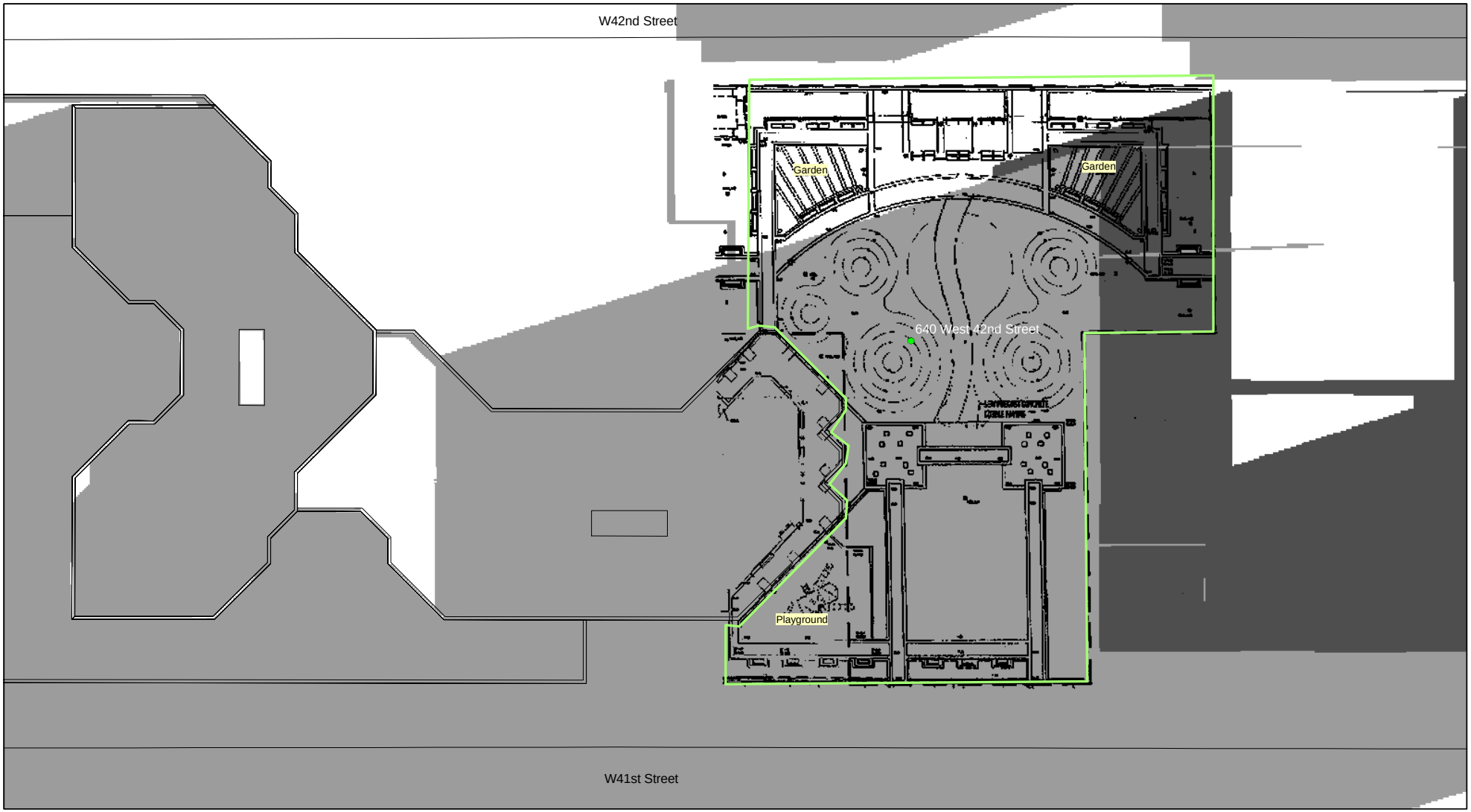
Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

May 6.
12:50PM

2025 - Build Conditions
One Penn Plaza

0 10 20 40 60 80 Ft

Figure 8-97



Primary Study Area
Project Area
Open Space Resources

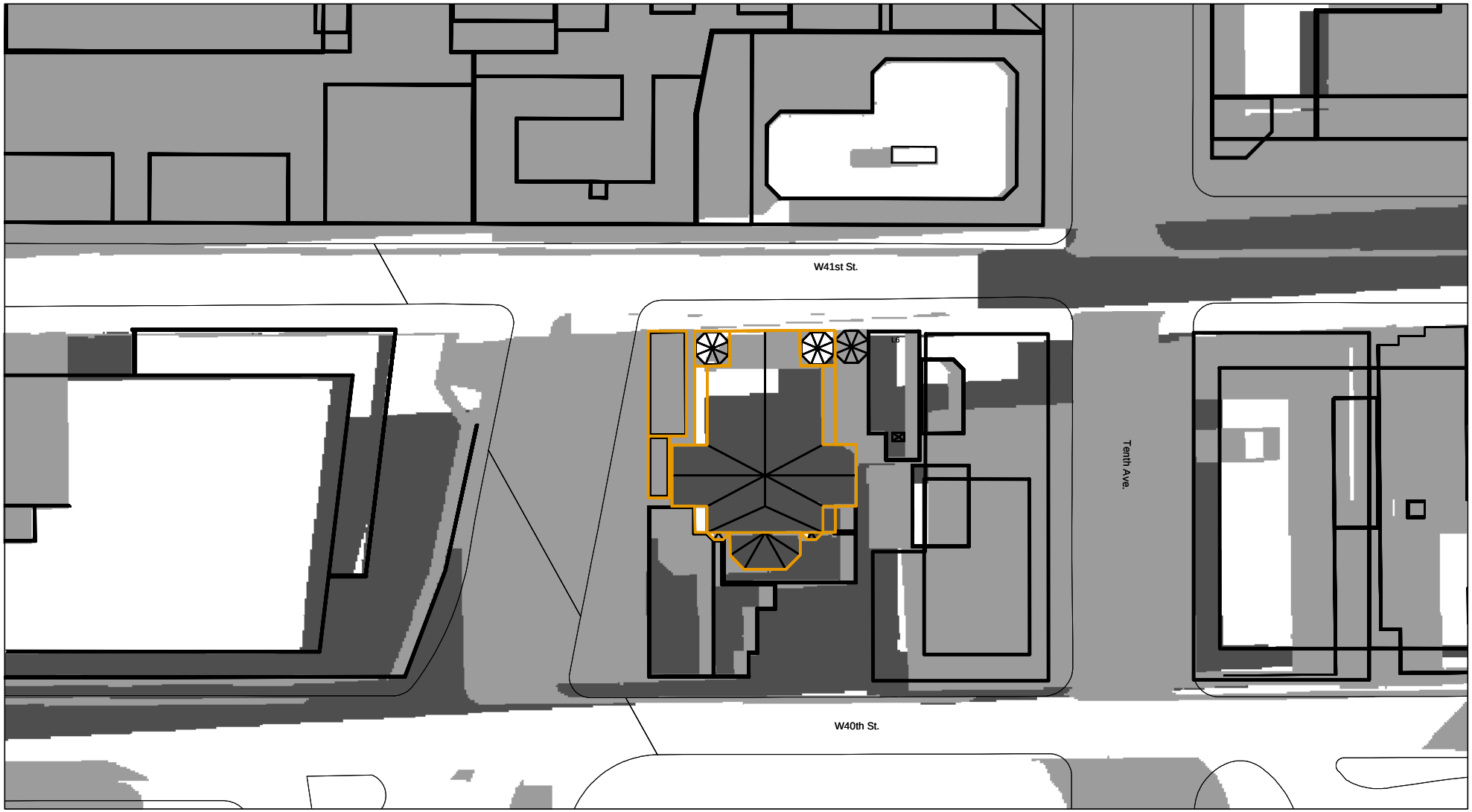
Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

June 21.
10:00AM

2025 - Build Conditions
640 W42nd St. Plaza

N 0 5 10 20 30 40 Ft

Figure 8-98



Primary Study Area
Project Area
Historic Resources
Projected Sites

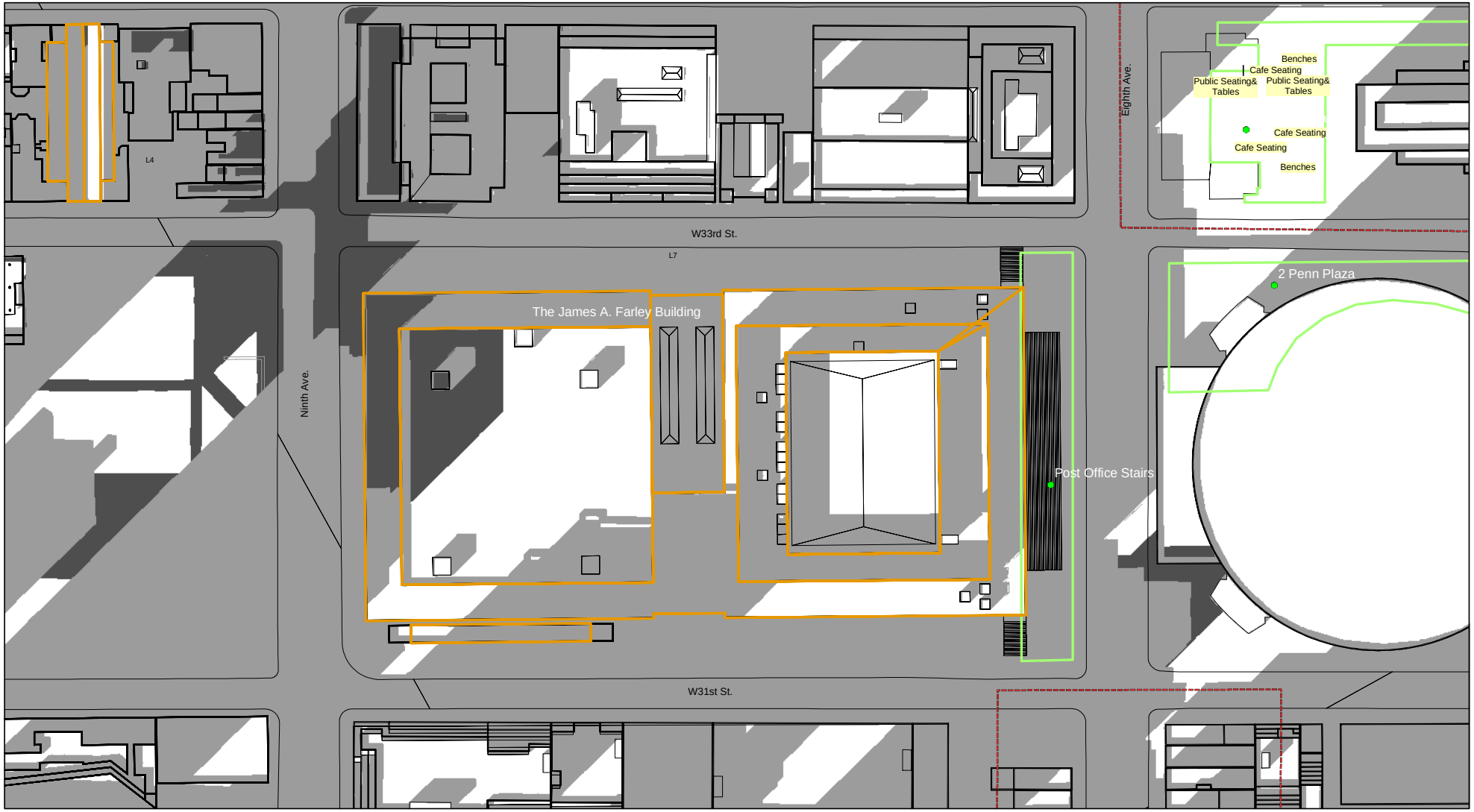
Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

March 21.
8:30AM

2025 - Build Conditions
St. Raphael's Roman Catholic Church

0 10 20 40 60 80 Ft

Figure 8-99



Primary Study Area
Project Area

Open Space Resources
Historic Resources

Key for Shadows:

Existing Conditions
No Build Conditions

N
0 25 50 100 150 200 Ft

March 21.
4:29PM

2025 - No Build Conditions
The James A. Farley Building

Figure 8-100

Primary Study Area
Project Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

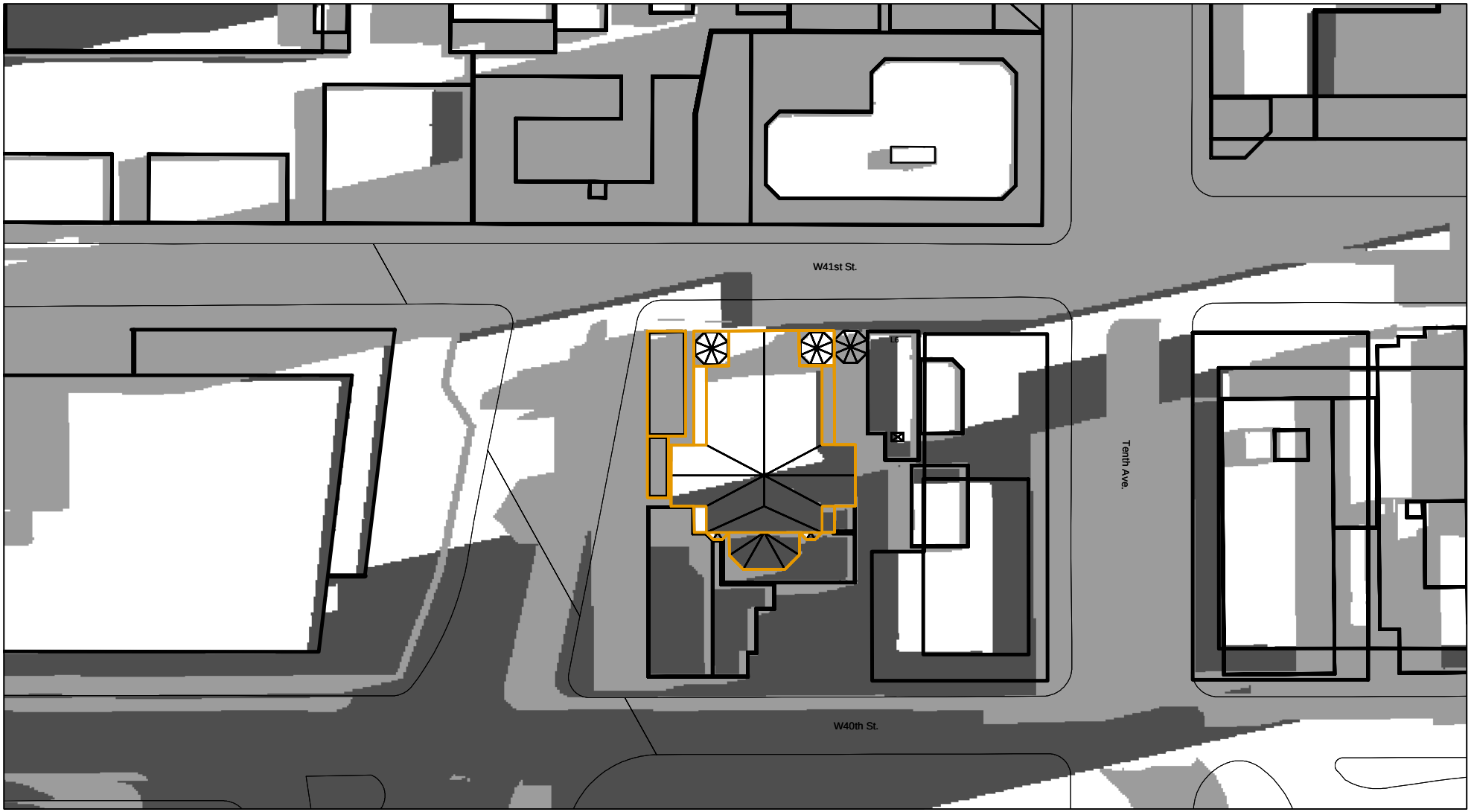
Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

N
0 25 50 100 150 200 Ft

March 21.
10:05AM

2025 - Build Conditions
The James A. Farley Building

Figure 8-101



Primary Study Area
Project Area
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

May 6.
9:40AM

2025 - Build Conditions
St. Raphael's Roman Catholic Church

0 10 20 40 60 80 Ft

Figure 8-102

Primary Study Area
Project Area

Open Space Resources
Historic Resources

Key for Shadows:

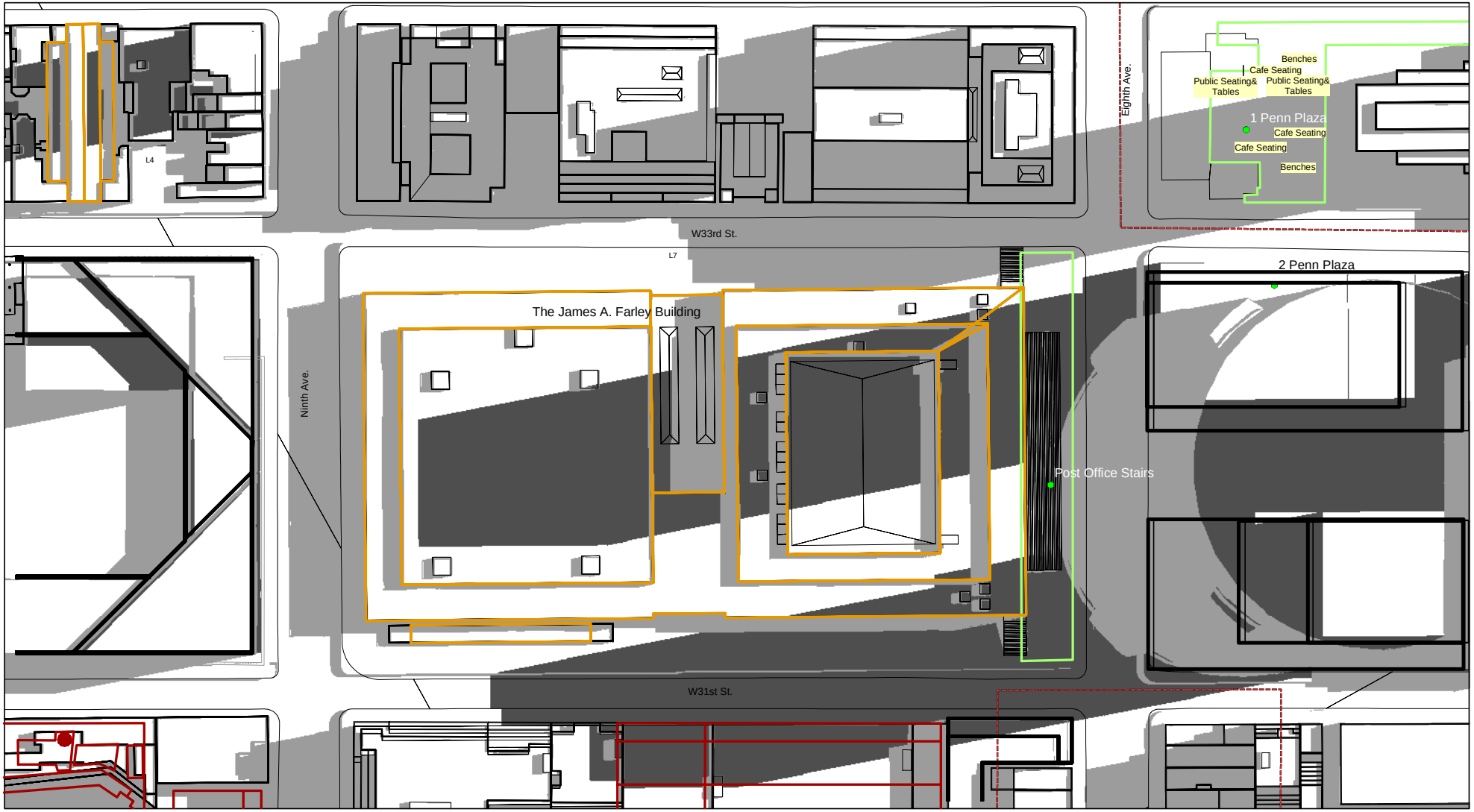
Existing Conditions
No Build Conditions

N
0 25 50 100 150 200 Ft

May 6.
6:18PM

2025 No Build Conditions
The James A. Farley Building

Figure 8-103



Primary Study Area
Project Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

N
0 25 50 100 150 200 Ft

May 6.
9:50AM

2025 - Build Conditions
The James A. Farley Building

Figure 8-104

Primary Study Area
Project Area
Historic Resources
Projected Sites

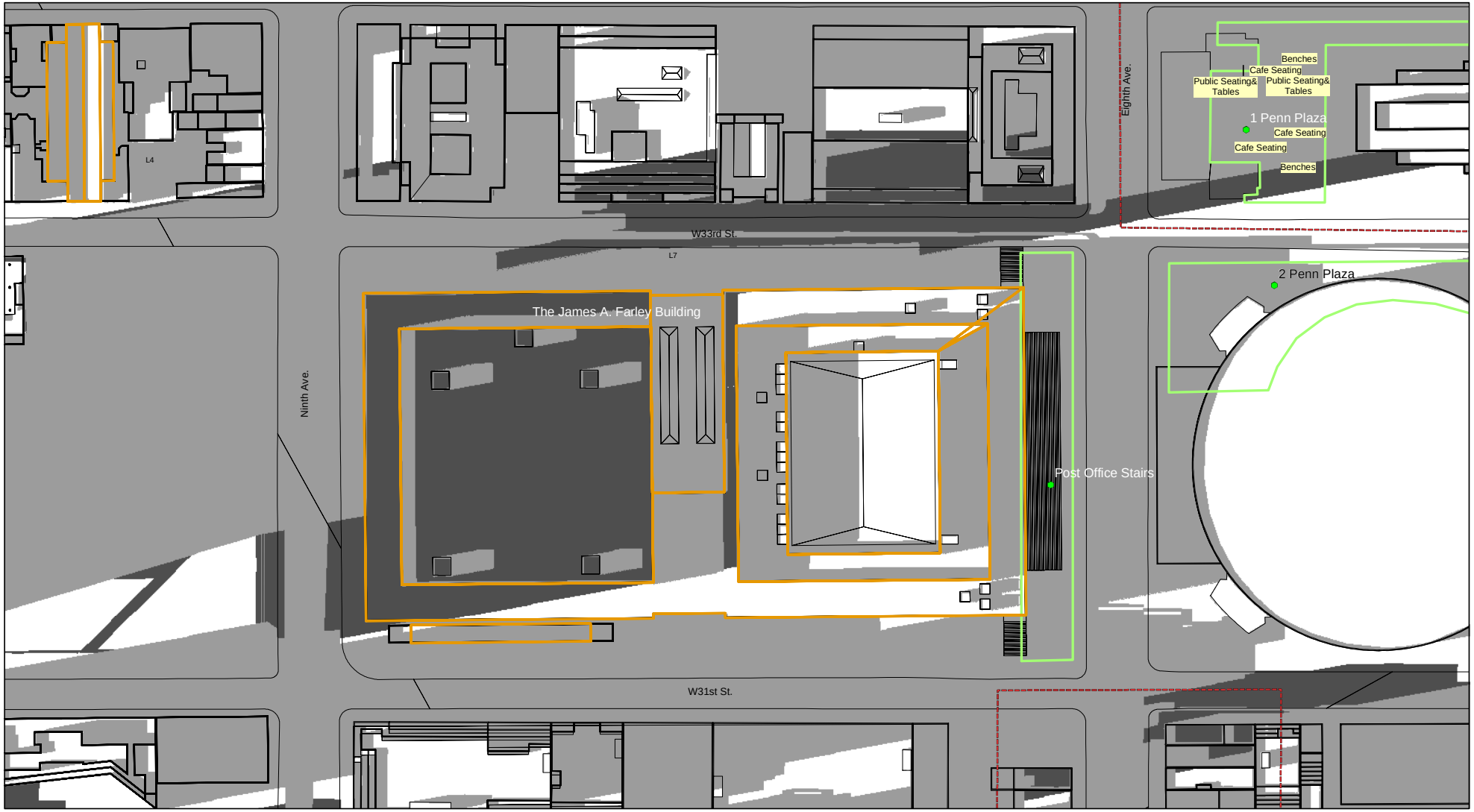
Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 10 20 40 60 80 Ft

June 21.
10:00AM

2025 - Build Conditions
St. Raphael's Roman Catholic Church

Figure 8-105



Primary Study Area
Project Area

Open Space Resources
Historic Resources

Key for Shadows:

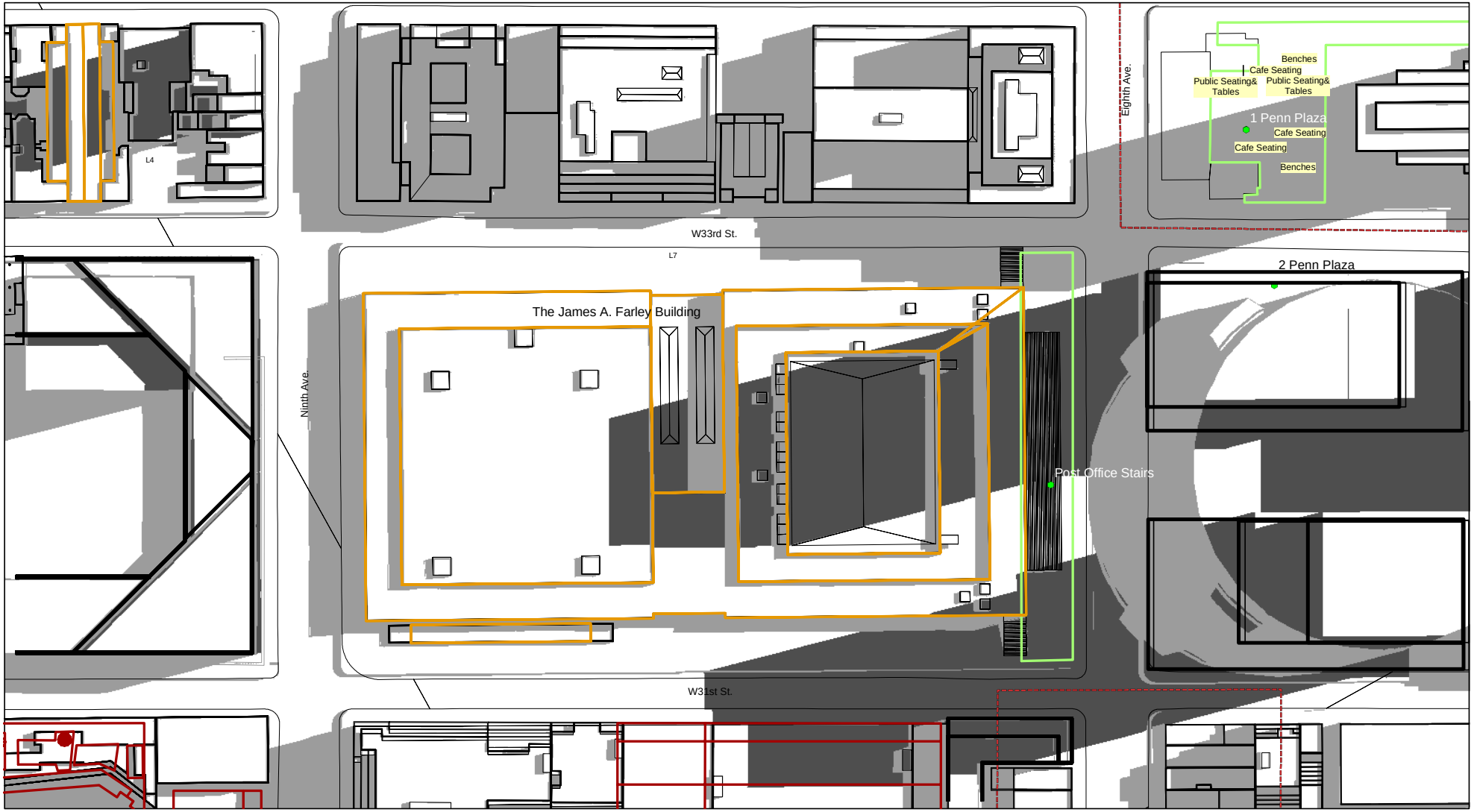
Existing Conditions
No Build Conditions

June 21.
7:01PM

2025 - No Build Conditions
The James A. Farley Building

N
0 25 50 100 150 200 Ft

Figure 8-106



Primary Study Area
Project Area
Open Space Resources
Historic Resources
Projected Sites
Potential Sites

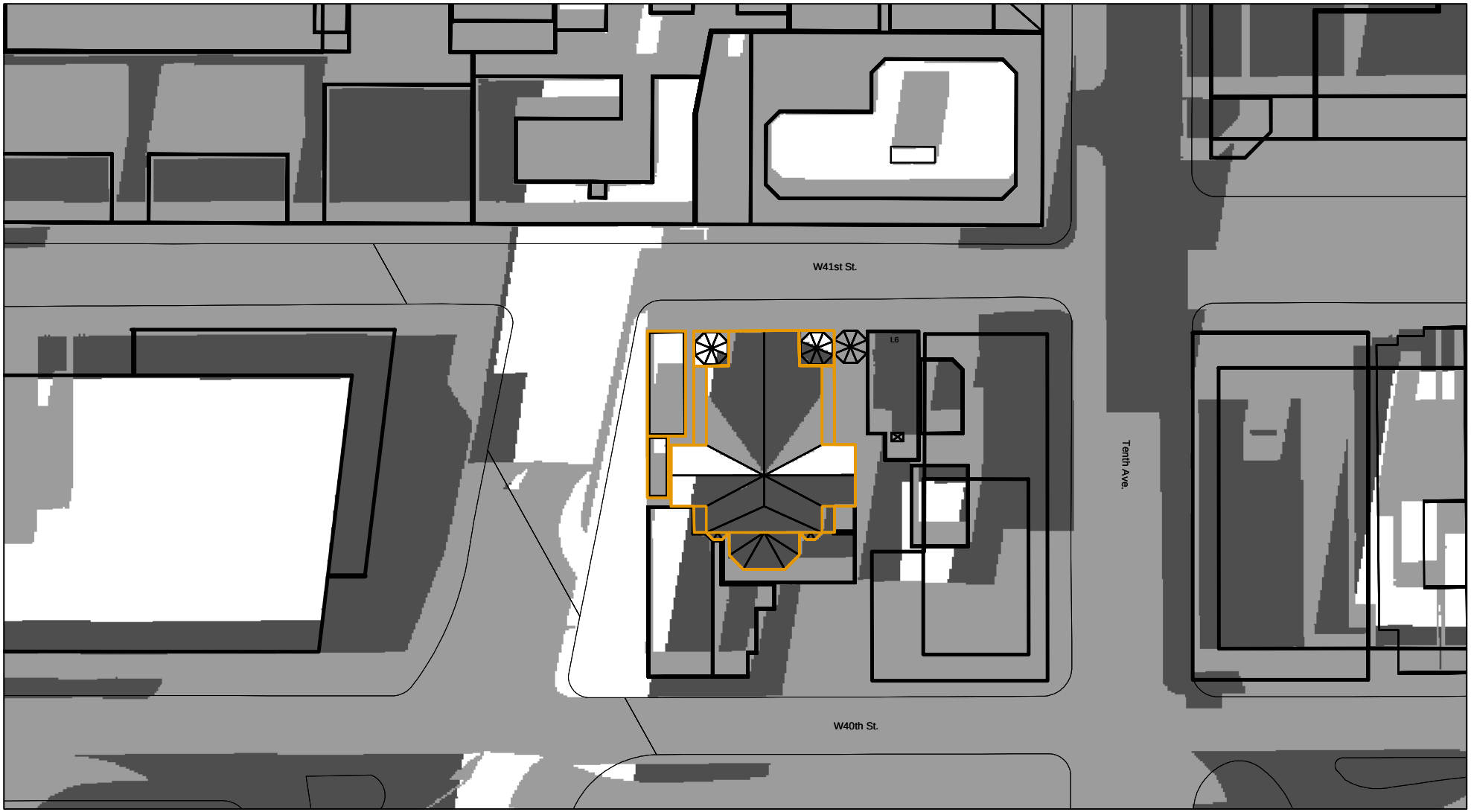
Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

0 20 40 80 120 160 Ft

June 21.
10:15AM

2025 - Build Conditions
The James A. Farley Building

Figure 8-107



Primary Study Area
Project Area
Historic Resources
Projected Sites

Key for Shadows:
Existing and No Build Conditions
Incremental Shadow

December 21.
2:38PM

2025 - Build Conditions
St. Raphael's Roman Catholic Church

N
0 10 20 40 60 80 Ft

Figure 8-108