

A. INTRODUCTION

This chapter considers the potential for the proposed project to increase shadows on publicly-accessible open spaces, historic resources with significant sun-sensitive features, and important natural resources. The analysis compares the shadows that would be cast by the proposed project to the shadows that are cast by the buildings that currently exist on the site.

As described in Chapter 1, “Project Description,” the proposed project would result in the construction of a predominantly residential, mixed-use development on the project site. Each proposed building would have components at various heights, ranging from 4 to 12 stories (up to approximately 125 feet), with the tallest structures sited at the eastern end of the project site near the Gowanus Canal. The western end of the project site, along Bond Street, would have a lower six-story component (up to approximately 60 feet). The midblock portions of the buildings would consist of four-story (43-foot-high), townhouse-style housing. In addition, the proposed project would provide approximately 30,821 square feet (about 0.7 acres) of publicly-accessible open space along the Gowanus Canal.

PRINCIPAL CONCLUSIONS

The proposed project would not result in significant adverse shadow impacts on any existing publicly-accessible open spaces, sun-sensitive features of nearby historic resources or important natural features.

B. METHODOLOGY

Following the guidelines of the *CEQR Technical Manual*, this analysis considers shadows for six representative times of the year: March 21 and September 21, the vernal and autumnal equinoxes; May 6 and August 6, the midpoints between the summer solstice and the equinox; June 21, the summer solstice; and December 21, the winter solstice. In identifying potential effects, CEQR focuses on uses and users of the open space, landscaping and vegetation, and if there are historic resources, features, or details that are both sunlight-dependent and make such resources significant. The CEQR methodology does not generally consider shadows and incremental increases in shadows within 1½ hours of sunrise or sunset to be significant. Therefore, the analysis period is between 1 ½ hours after sunrise and 1 ½ hours before sunset.

The *CEQR Technical Manual* identifies the following situations when a proposed project may result in a significant shadow impact:

- Substantial reduction in sunlight where a sensitive use is already subject to substandard sunlight (i.e., less than the minimum time necessary for survival);
- Reduction in sunlight available to a sensitive use from more to less than the minimum time necessary for its survival;

- Substantial reduction in sunlight to a sun-sensitive use or feature; and
- Substantial reduction in the usability of the open space.

Shadows cast on open spaces that are part of a proposed project or action are not considered impacts of an action because without the action, the open space would not exist.

C. SCREENING ANALYSIS

A screening analysis was performed to determine which open spaces, sunlight-sensitive architectural resources, or important natural features could be affected by project shadows at any time of year. Using the heights and forms of the proposed buildings, the full extent of the area that could be shaded by the proposed buildings was calculated for each of the analysis days and delineated on a street map. In coordination with the open space and historic resources analyses provided in other chapters of this EIS, any publicly-accessible open space, important natural resource and historic resources located within the shaded area was identified.

Figure 6-1 provides a representation of the full extent of the area that could be shaded by the proposed buildings for each of the CEQR analysis time periods.

PUBLICLY-ACCESSIBLE OPEN SPACES

It was determined that there are no off-site publicly-accessible open spaces that could be affected by the proposed buildings' shadows. The only publicly-accessible open space which would be affected by project shadows at varying times on all four of the analysis days would be on-site, at the project's proposed waterfront open space that would run along the west bank of the Gowanus Canal from Carroll Street to 2nd Street.

On the December 21 and March 21 analysis days, areas of the northern section of the waterfront open space between Carroll Street and 1st Street would be affected by incremental shadows in the late afternoon.

On the May 6 and June 21 analysis days, incremental shadows would fall on portions of both the northern and southern sections of the waterfront open space throughout the second half of the day.

While shadows would be cast on this publicly-accessible open space, as mentioned above, shadows cast on open spaces that are part of a proposed project or action are not considered impacts of an action because without the action, the open space would not exist. In consideration of these shadowing conditions, the proposed publicly-accessible open space areas will be designed to incorporate shadow tolerant species where necessary. The applicant will consult with the New York City Department of Parks and Recreation (DPR) to ensure that all open space tree species planted on site are appropriate for the project area.

SUN-SENSITIVE FEATURES OF NEARBY HISTORIC RESOURCES

The only historic resources within the affected area are the Carroll Street Bridge and the Gowanus Canal bulkhead (a contributing element within the S/NR-eligible Gowanus Canal Historic District). Neither of these resources include features that are sunlight-sensitive.



IMPORTANT NATURAL FEATURES

The only natural feature to fall partially within the perimeter representing the maximum shadow lengths cast by the proposed project was a portion of the Gowanus Canal adjacent to the project site. As described in Chapter 10, “Natural Resources,” the portion of the Gowanus Canal adjacent to the project site has been designated Use Class SD. The SD classification may be given to those waters that, because of natural or man-made conditions, cannot meet the requirements for primary or secondary contact or fish propagation. The Gowanus Canal contains contaminated sediments, limited opacity and a poor benthic community structure as a result of a history of heavy industrial uses. As discussed in Chapter 11, ‘Hazardous Materials,’ the canal has provided commercial shipping access for a variety of industries, including oil refineries, machine shops, manufactured gas plants (MGP), chemical plants, soap makers, and tanneries. Industries with the greatest amount of environmental impact, as indicated through sediment sampling, included MGP facilities, petroleum bulk-storage facilities, chemical manufacturers, metal smelters, and coal yards. As a result, these activities have created an environmentally stressed condition in the canal, and many of the species using the waterway must be tolerant of highly variable conditions. For these reasons, the Gowanus Canal would not be considered a natural feature that is significantly sensitive to sunlight intensity. However, to address comments received during the scoping process for this project, a more detailed shadow analysis was performed to determine the extent and duration of the shadows that would be cast on the portions of the canal from the proposed project.

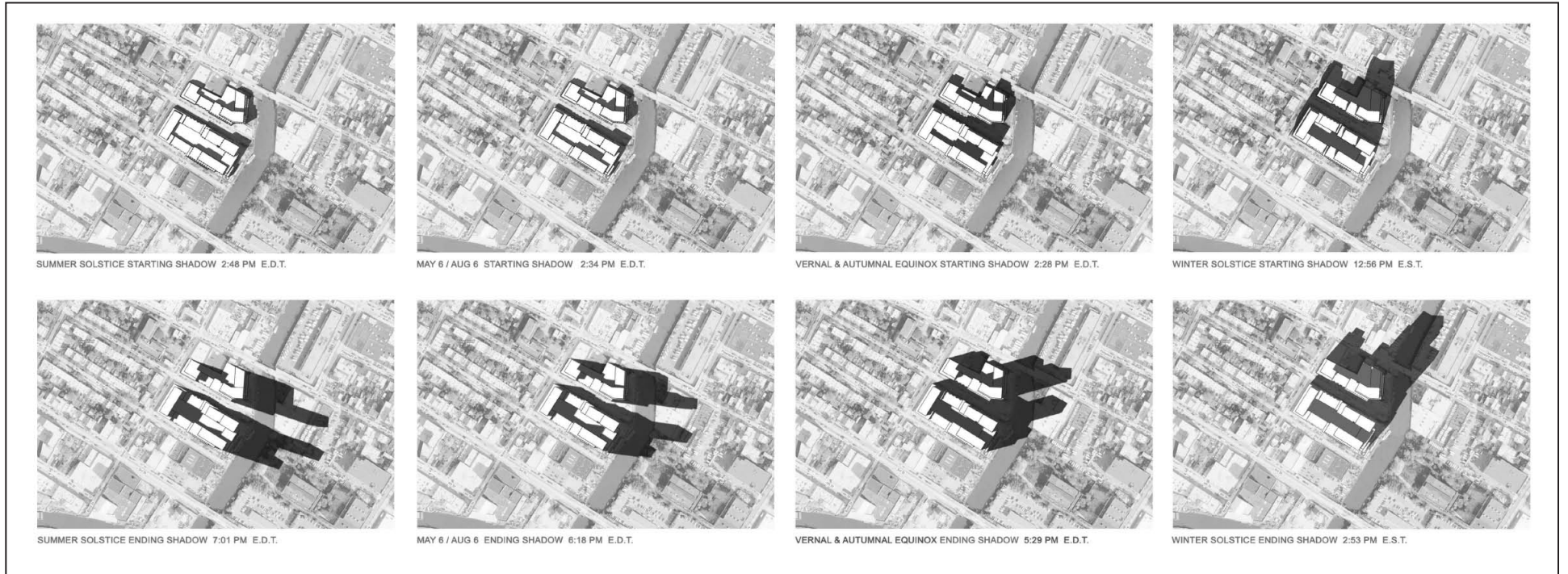
D. DETAILED ASSESSMENT OF SHADOWS

The extent and duration of shadows cast on the Gowanus Canal from the proposed buildings on the CEQR-specified analysis days are presented in Table 6-1 and illustrated in Figure 6-2.

**Table 6-1
Shadow Durations on the Gowanus Canal**

	March 21/Sept. 21 (Vernal/Autumnal Equinoxes)	May 6/August 6	June 21 (Summer Solstice)	December 21 (Winter Solstice)
Analysis Time Period	8:36AM—5:29PM EDT	7:27AM—6:18PM EDT	6:57AM—7:01PM EDT	8:51AM—2:53PM EST
Starting Shadow	2:28PM	2:34PM	2:48PM	12:56PM
Ending Shadow*	5:29PM	6:18PM	7:01PM	2:53PM
Duration	3h 1m	3h 44m	3h 13m	1h 57m
Notes: EDT—Eastern Daylight Time EST—Eastern Standard Time * CEQR methodology does not consider shadows and incremental increases in shadows within 1½ hours of sunset to be significant. Therefore the analysis period ends 1 ½ hours before sunset. While shadows cast on portions of the Gowanus Canal from the proposed buildings may remain past the analysis end times, these shadows would not be considered significant.				

The project site is located to the west of the Gowanus Canal. The proposed project would result in shadows on portions of the canal in the late afternoons on all analysis days, the longest duration being 3 hours and 44 minutes on the May 6/August 6 analysis days. On these two days (the midpoints between the summer solstice and the equinox), the shadow would just begin to



363-365 Bond Street FEIS

touch the western bank of the canal at 2:34 PM, and as the afternoon progresses, would gradually elongate eastward across the canal immediately adjacent to the project site. As mentioned above, because of the current condition of the waters of the Gowanus Canal (i.e., limited opacity, and poor benthic community structure), the canal would not be considered a natural feature that is significantly sensitive to sunlight intensity. Many of the species using the waterway must be tolerant of highly variable conditions. A late-afternoon shadow progressing across a narrow portion of the canal over a period of less than four hours would not significantly affect the aquatic resources associated with the canal. Any potential for a minor hindrance on fish passage within the narrow band of shadow cast across the canal would not be considered significant. Therefore, the proposed project would not result in a significant adverse shadow impact. *