Chapter 10: Natural Resources

A. INTRODUCTION

As described in Chapter 1, "Project Description," the applicants, the New York City Department of City Planning (DCP) and SJC 33 Owner 2015 LLC, are proposing a series of discretionary actions (the proposed actions) that would facilitate the redevelopment of St. John's Terminal Building at 550 Washington Street (Block 596, Lot 1) (the development site) with a mix of residential and commercial uses, and public open space (the proposed project) in Manhattan Community District 2. According to the *City Environmental Quality Review (CEQR) Technical Manual*, a natural resource is defined as a plant or animal species and any area capable of providing habitat for plant and animal species or capable of functioning to support environmental systems and maintain the City's environmental balance. Such resources include surface and groundwater, wetlands, dunes and beaches, grasslands, woodlands, landscaped areas, gardens, and built structures used by wildlife. An assessment of natural resources is appropriate if a natural resource exists on or near the site of the proposed action, or if an action involves disturbance of that resource.

The proposed project would occur in a fully developed area of Manhattan that contains limited natural resources other than exterior structural habitat and common urban wildlife species that use these structural habitats (e.g., rock doves, house sparrow, etc.). Any individual wildlife that use the development site would be expected to move to adjacent similar habitats. However, the proposed project has the potential to cast shadows on the Hudson River, a natural resource. Therefore, this chapter of the Environmental Impact Statement (EIS) only addresses the potential for a shadow impact on the Hudson River due to project-generated shadows, based on the analyses performed in Chapter 7, "Shadows."

PRINCIPAL CONCLUSIONS

Based on the preliminary assessment presented in this chapter, the proposed actions would not result in significant adverse impacts to natural resources. The development site is located in a fully developed area of Manhattan that contains limited natural resources other than exterior structural habitat and common urban wildlife species that use these structural habitats (e.g., rock doves, house sparrow, etc.). Any individual wildlife that uses the development site would be expected to move to adjacent similar habitats. The proposed actions would not result in a loss of habitat or function that would diminish the Hudson River's ability to serve as a major natural resource that provides wildlife habitat and functions as a recreational and scenic resource due to incremental shadows being cast on natural resources. As discussed above, the extent and duration of the incremental shadows would be limited, and therefore, would not constitute a significant adverse impact on natural resources.

B. SCREENING ASSESSMENT

As described in Chapter 2, "Analytical Framework," this Environmental Impact Statement (EIS) considers two scenarios: the proposed project and the proposed project with big box retail. Either of these scenarios could contain hotel or office use on the South Site. The shadows analysis of the Hudson River considers both scenarios, as they would have the same building envelope. For the South Site, the hotel use is considered, as it would produce a taller building with longer shadows than the office use.

According to the *CEQR Technical Manual*, a significant adverse shadows impact on a natural resource could occur when the incremental shadow added by a project falls on a sunlight-sensitive resource and substantially reduces or completely eliminates direct sunlight, thereby significantly threatening the viability of that resource. Each case must be considered on its own merits based on the extent and duration of new shadow and an analysis of the resource's sensitivity to reduced sunlight.

The Hudson River is an important natural resource flowing along the western border of Manhattan and the Bronx. The river habitat supports both small and large living organisms; the vitality of phytoplankton, microalgae, and numerous fish and invertebrate species could be affected by the duration of direct sunlight falling on the river's surface.

As described in Chapter 7, "Shadows," the new shadow falling on the Hudson River would not result in a significant adverse impact on natural resources. The proposed project would cast new shadows on a narrow portion of the Hudson River along the shore of Manhattan, generally within the pier headline, from approximately West 10th Street on the north to Spring Street on the south. In the beginning of all analysis days, incremental shadows would stretch as much as several hundred feet into the river then shrink in extent as the day continued, moving closer to the shoreline. In addition, incremental shadows cast by the proposed project would move over the course of the morning and would be off the river by 10:30 AM, such that no portion of the river is within the shadow for the entire duration that it is cast. New shadows on the river would last just over three hours on the June 21 analysis day, followed by nine hours of sunlight for the duration of the analysis period. New shadow would fall on the river for less than two hours on all other analysis days. Incremental shadows would have moved off the river by 10:30 AM, at the latest, and the river would remain in sunlight for the rest of the analysis period. Due to the resource's position along the bank of the Hudson River, almost all areas of the river affected by incremental shadows would continue to receive direct sunlight throughout the afternoon of the analysis days. A small, approximately 5,000-square-foot (0.1-acre) section of the Hudson River located adjacent to the northern façade of Pier 40 receives less than two hours of direct sunlight without the proposed project. With the proposed project, the same patch would receive 30 to 45 minutes less of direct sunlight. However, with an average river current of 1.4 knots (2.3 feet per second) in the Hudson River, phytoplankton, whose movements are largely governed by prevailing tides and currents, would quickly move through the areas of new shadow and into areas with sufficient sunlight for photosynthesis. Phytoplankton is able to perform photosynthesis with limited direct sunlight. The minimal light requirement for estuarine primary producers, such as phytoplankton, is for one percent of the surface irradiance to reach the lower depth limit for that species. The low light requirement of primary producers, combined with the relatively short residence time within the area of new shadow by primary producers, would limit potential impacts to phytoplankton from shading in the relatively well flushed lower Hudson River.

Overall, the proposed actions would not result in a loss of habitat or function that would diminish the Hudson River's ability to serve as a major natural resource that provides wildlife habitat and functions as a recreational and scenic resource due to incremental shadows being cast on natural resources. As discussed above, the extent and duration of the incremental shadows would be limited, and therefore, would not constitute a significant adverse impact on natural resources. ✷