9

Natural Resources

This chapter assesses the potential for the Proposed Actions to result in significant adverse impacts to natural resources, which are defined as the City's biodiversity (plants, wildlife, and other organisms); any aquatic or terrestrial areas capable of providing suitable habitat to sustain the life processes of plants, wildlife, and other organisms; and any areas capable of functioning in support of the ecological systems that maintain the City's environmental stability.

Introduction

Pursuant to Chapter 11 of the *2021 CEQR Technical Manual*, a natural resources assessment considers species in the context of the surrounding environment, habitat, or ecosystem and examines the potential for a project to affect the species and/or any supporting resources, which include the City's water, wetland, upland, and built resources. The determination of whether a natural resources assessment is appropriate should consider whether a natural resource(s) occurs on or near the site of a project and if the project would result in disturbance of the identified resource(s). As defined in Chapter 11 of the *CEQR Technical Manual*, disturbance to natural resources can include both direct and indirect effects. Direct effects on natural resources are defined as: "*activities that directly alter the condition of a resource*." Indirect effects occur when: "*the changes on a site alter conditions to adjacent or nearby resources or on the site itself after construction has ended*."

Based on review of existing ecological conditions, the limited areas of vegetated habitat that occur within the Project Area, which consist primarily of turf grass areas with trees, vegetated parking lot islands and borders, street tree pits, and roadside vegetation, are natural resources, as defined in the *CEQR Technical Manual*. This natural resources assessment was prepared because the Proposed Actions have the potential to result in direct and indirect effects to the natural resources within the Project Area.

Principal Conclusions

According to Chapter 11 of the *CEQR Technical Manual*, disturbance to natural resources can result in effects that directly alter the condition of a resource during construction or indirectly alter the condition of onsite, adjacent, or nearby resources after construction is completed. The natural resources examined in this assessment include habitats and vegetation, wildlife, rare/protected species, and wetlands and surface waters.

Redevelopment of the Project Area as facilitated by the Proposed Actions would result in habitat replacement and removal of vegetation, both of which are identified as direct effects to natural resources in Chapter 11 of the *CEQR Technical Manual*. As compared to existing conditions, habitat replacement under the Proposed Project would result in an overall expansion of vegetated habitats and a reduction in unvegetated/impervious surfaces, thereby improving habitat conditions and resulting in a net ecological benefit for the Project Area over time. As a result of proposed tree replacement measures that would increase the quantity and quality of trees within the Project Area, the direct effects of tree removals under the Proposed Actions would be fully mitigated over time as the replacement trees reach maturity.

As the quality and quantity of vegetated habitats and trees would increase significantly as compared to existing conditions, habitat conditions for resident wildlife in the post-construction Project Area would improve. Due to the overall expansion of vegetated habitat, the existing faunal assemblage of species adapted to landscaped settings within urban areas would continue to utilize the Project Area at increased species population densities. Therefore, direct effects on wildlife from habitat loss due to tree removal under the Proposed Project would not be permanent and would be fully mitigated over time through the maturation of replacement trees and expansion of vegetated habitats.

There are currently no records for New York State or federally listed plants, wildlife, or significant natural communities in the Project Area or vicinity, and the Project Area and vicinity do not provide suitable habitat for the four federally listed species known to occur regionally. Accordingly, the Proposed Project would not result in direct or indirect effects to rare/protected species.

In Jurisdictional Determination No. 2-6302-00857/00004, issued July 31, 2024, the NYSDEC determined that the Project Area is not located within jurisdictional areas regulated under the Tidal Wetlands Act (Environmental Conservation Law Article 25), the Freshwater Wetlands Act (Environmental Conservation Law Article 24), or under the Costal Erosion Hazard Area (CEHA) program (Environmental Conservation Law Article 34). Accordingly, NYSDEC Tidal Wetlands, Freshwater Wetlands, or CEHA permits would not be required for the Proposed Project. As there are no wetlands or surface waters located at or adjacent to the Project Area, the Proposed Project would not result in direct effects to same. Indirect effects to Flushing Bay (located approximately 120 feet (ft) to the north of the Project Area) due to shadows, stormwater generation, and sanitary flows would not result in significant adverse effects to this natural resource. Potential adverse impacts to Flushing Bay and other natural resources during construction will be avoided through best management practices and adherence to all conditions of an NYSDEC-approved Stormwater Pollution Prevention Plan.

Methodology

This assessment of natural resources follows the methods set forth in Chapter 11 of the *CEQR Technical Manual* for identifying and characterizing natural resources, evaluating the potential for a

project to result in direct or indirect effects to natural resources, performing the appropriate analyses to the determine the degree of any recognized effects, and identifying potential avoidance, minimization, and/or mitigation measures for any potential adverse effects, as applicable.

Existing Conditions

Following *CEQR Technical Manual* methodology, the existing natural resources within the Project Area were assessed through desktop review of relevant government agency maps, records, and data (as noted throughout the text), as well as a growing season ecological field survey conducted by a Certified Ecologist on September 22, 2022.

Habitats and Vegetation

The vast majority (80.5 acres or 82 percent of existing site coverage) of the 98-acre Project Area is comprised of unvegetated, impervious surfaces created in association with the existing site usage as surface parking and roads. The Project Area also includes areas of pervious surfaces, including turf grass areas with trees, vegetated parking lot islands and roadside borders, street tree pits, and other vegetated habitats totaling 17.5 acres, or 18 percent of existing site coverage. Based on the foregoing, the existing habitats that occur in the Project Area have been created by humans or significantly altered by human activity. Such habitats, as defined in the *CEQR Technical Manual*, are "terrestrial cultural communities," which refers to communities that are "*substantially different from the character of the substrate or resident community as it existed prior to human influence.*"

Pursuant to *CEQR Technical Manual* methodology, the observed habitat conditions described above have been further categorized through use of the New York Natural Heritage Program (NYNHP) publication *Ecological Communities of New York State*[1] (ECNYS), which provides detailed descriptions and includes global and state rarity rankings for various ecological communities that occur within New York State. As observed during the field survey, the Project Area is dominated by the following four ECNYS communities: Paved Road/Path, Mowed Lawn, Mowed Lawn with Trees, and Flower Herb Garden. Significantly, the four ECNYS communities have not been assigned rarity rankings by the NYNHP. Instead, they are designated by the NYNHP as "unranked cultural communities" due to their artificial origin, disturbed/developed conditions, and wide distribution throughout New York State. Description of the four unranked cultural communities that comprise the Project Area are provided below.

The unvegetated, paved surfaces that occur across the vast majority of the Project Area (82 percent), including parking lots, roads, sidewalks, pathways, etc., are representative of the ECNYS Paved Road/ Path community, which is defined as "*a road or pathway that is paved with asphalt, concrete, brick, stone, etc.*" Due to its artificial origin and unvegetated conditions, the Paved Road/Path community, and, therefore, the vast majority of the Project Area is largely insignificant from an ecological perspective.

Landscaped areas occur sporadically throughout the Project Area, including turf grass parking lot islands and borders, roadside landscaping, and street tree pits. Larger blocks of vegetated habitat consisting of mowed/maintained lawns that have been planted with trees and occasional shrubs occur primarily within the western and northern perimeter portions of the Project Area, where turf grass areas with trees, vegetated parking lot islands, and roadside borders occur. The habitats described above are representative of the ECNYS Mowed Lawn, Mowed Lawn with Trees, and

[1] Edinger, G.J., et al. (editors). 2014. *Ecological Communities of New York State*. Second Edition. New York Natural Heritage Program, NYSDEC.

Flower/Herb Garden communities. Among the most frequently occurring tree species that have been planted within the four landscaped communities are Willow Oak (*Quercus phellos*), Pin Oak (*Quercus palustris*), Northern Red Oak (*Quercus rubra*), Honey Locust (*Gleditsia triacanthos*), Green Ash (*Fraxinus pensylvanica*), White Mulberry (*Morus alba*), London Plane Tree (*Plantanus x acerifolia*), Crabapple (*Malus baccata*), Japanese Zelkova (*Zelkova serrata*), Maidenhair Tree (*Gingko Biloba*), and Littleleaf Linden (*Tilia cordata*). Other vegetation within the landscaped areas includes ornamental shrubs, herbaceous plants, and turf grasses that are subject to regular maintenance.

An unmaintained, approximately 1.40-acre vegetated habitat occurs at the northwestern corner of the Project Area, on disturbed land located adjacent to the Grand Central Parkway and Northern Boulevard. The unmaintained vegetation within this area is representative of the ECNYS Urban Vacant Lot and Successional Southern Hardwoods communities, which are described respectively as: "*an open site in a developed, urban area that has been cleared either for construction or following the demolition of a building*" and "*a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed.*" According to ECNYS, Urban Vacant Lot is considered an unranked cultural community, while Successional Southern Hardwoods is ranked as "demonstrably secure," both within New York State and globally. The observed mature trees and saplings within the community include Black Cherry (*Prunus serotina*), White Mulberry, Pin Oak, Northern Red Oak, Willow Oak, Eastern Redbud (*Cercis canadensis*), Green Ash, Hackberry (*Celtis occidentalis*) and the non-native/invasive trees Tree-of-Heaven (*Ailanthus altissima*) and Common Buckthorn (*Rhamnus cathartica*). The observed herbaceous cover is comprised of a number of "weedy" herbaceous plants, including non-native/invasive species Garlic Mustard (*Alliaria petiolata*), Mugwort (*Artemesia vulgaris*), Japanese Knotweed (*Polygonum cuspidatum*), Goldenrods (*Solidago spp.*), Lamb's Quarters (*Chenopodium album*), Pokeweed (*Phytolacca americana*), and others. Due to its small size, location adjacent to major highways, disturbed condition, lack of woodland interior habitat, and the presence of non-native/invasive plant species, the community has low overall ecological value.

Wildlife

The unvegetated and paved surfaces that predominate within the Project Area do not provide habitat for most wildlife species that are expected to occur at and within the general surrounding area of the Project Area. The expected fauna of the parking lots consists primarily of a limited number of birds and mammals adapted to unvegetated, developed conditions, such as Pigeon (*Columba livia*), House Sparrow (Passer domesticus), European Starling (*Sturnus vulgaris*), Herring Gull (*Larus argentatus*), Norway Rat (*Rattus norvegicus*) and similar opportunistic species known to take advantage of the occasional forage opportunities that occur within the parking lots. Street trees within the parking lots provide foraging, perching, and/or nesting opportunities for a wider faunal assemblage of birds that includes those species listed above, a number of common songbirds, and transient visits by migratory birds during seasonal stopovers. With the exception of the street trees, the parking lots do not represent a viable source of habitat for most wildlife known to occur at and within the general surrounding area of the Project Area.

A somewhat broader wildlife fauna is expected within the landscaped or otherwise vegetated habitats that comprise the remainder of the Project Area. The observed and expected fauna include common songbirds, such as American Robin (*Turdus migratorius*), Northern Cardinal (*Cardinalis cardinalis*), Song Sparrow (*Melospiza melodia*), Mourning Dove (*Zenaida macroura*), Northern Mockingbird (*Mimus polyglottos*), and similar species adapted to landscaped habitats within urban settings. Avian diversity is expected to be highest during the late spring and early autumn periods,

when Warbler species and other seasonal migrants arrive or move through the area. The trees within the vegetated habitats offer foraging, breeding, and/or nesting opportunities for year-round residents and migratory bird species. A limited number of small mammals such as Eastern Gray Squirrel (*Sciurus carolinensis*) and other rodent species (e.g., several species of mice, moles, and shrews) are expected to be the most abundant mammals within the landscaped areas.

Rare/Protected Species

No New York State or federally listed plant or wildlife species were observed in the Project Area during the field survey. Based on review of the New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper[2] and EAF Mapper[3] and correspondence from the NYNHP, dated April 7, 2023, there are currently no NYNHP records of New York State-listed plants, wildlife, or significant natural communities for the Project Area or vicinity (**Appendix C**).

The USFWS Information for Planning and Consultation (IPaC) resources list for the Project Area includes three federally listed birds and one mammal (**Appendix C**). IPaC Official Species List data are based on known species ranges in the USFWS database, cross-referenced with the geographic location entered into the IPaC system. The potential presence of listed species or species habitat at a particular location must be determined through performance of a habitat assessment. Habitat assessments for the four federally listed species were performed during the field survey of the Project Area. A summary of the USFWS IPaC Resources List and habitat assessment results is provided in **Table 9-1**.

[2] New York State Department of Environmental Conservation. Environmental Resource Mapper. Available at: https://www.dec.ny.gov/animals/38801.html Accessed June 2023.

[3] New York State Department of Environmental Conservation. EAF Mapper. Available at: https://gisservices.dec.ny.gov/eafmapper/ Accessed June 2023.

Table 9-1 Summary of USFWS IPaC Resources List

Scientific Name	Common Name	Listing[1]	Habitat Characteristics[2, 3]	Habitat Assessment and NYNHP Record Status
Calidris canutus rufa	Red Knot	Federal (T) NYS (T)	Uncommon, transient visitor to sandy coastal beaches during migratory stopovers.	Species habitat does not occur at or in the vicinity of the Project Area. No NYNHP records for this species.
Charadrius melodus	Piping Plover	Federal (T) NYS (T)	Annual migrant that breeds and forages during spring and summer on sandy coastal beaches.	Species habitat does not occur at or in the vicinity of the Project Area. No NYNHP records for species.
Sterna dougallii dougallii	Roseate Tern	Federal (E) NYS (E)	Shoreline communities, including salt marsh islands and sparsely vegetated beaches.	Species habitat does not occur at or in the vicinity of the Project Area. No NYNHP records for this species.
Myotis septentrionalis	Northern Long-eared Bat	Federal (E) NYS (E)	Summer roost habitat includes live trees or snags (standing dead trees) ≥3 inches diameter, with exfoliating bark, cracks, crevices, and/or cavities.	Trees found in highly developed urban areas (e.g., street trees, downtown areas) are unsuitable habitat.[4] No NYNHP records for this species within the Borough of Queens or adjoining municipalities.

1 E = Endangered T = Threatened
2 New York Natural Heritage Program. Online Conservation Guides. Available at: https://guides.nynhp.org/ Accessed June 2023.
3 United States Fish and Wildlife Service. Long Island Recovery Efforts. Available at: https://www.fws.gov/northeast/nyfo/es/lirecovery.htm Accessed June 2023.
4 United States Fish and Wildlife Service. 2023. Range-Wide Indianan Bat and Northern Long-eared Bat Survey Guidelines.

As summarized in **Table 9-1**, the Project Area and vicinity do not provide suitable habitat for Red Knot (*Calidris canutus rufa*), Piping Plover (*Charadrius melodus*), or Roseate Tern (*Sterna dougallii dougallii*), and there are no NYNHP records of these species for the Project Area or vicinity.

Summer roost habitat for Northern Long-eared Bat (*Myotis septentrionalis*) includes live trees or snags (standing dead trees) that are three inches diameter or greater and have exfoliating bark, cracks, crevices, and/or cavities. Unsuitable habitat for Northern Long-eared Bat includes "*Trees found in highly developed urban areas (e.g., street trees, downtown areas).*" [4] Furthermore, according to the USFWS Final Listing for Northern Long-eared Bat, activities that are unlikely to result in "take" (i.e., to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect) of this species include "t*ree removal that occurs at any time of year in highly developed urban areas (e.g., street trees, downtown areas).*" [5] Moreover, there are no NYNHP records of Northern Long-eared Bat for the Project Area or vicinity, and, based on the NYSDEC's *Northern Long-eared Bat Occurrences by Town* map, there are no records for species occurrences within the Borough of Queens, the adjoining Borough of Brooklyn to the west, or the adjoining Towns of Hempstead and North Hempstead in Nassau County to the

[4] United States Fish and Wildlife Service. 2023. Range-Wide Indianan Bat and Northern Long-eared Bat Survey Guidelines.
[5] 87 FR 73488. Endangered and Threatened Wildlife and Plants; Endangered Species Status for Northern Long-Eared Bat. November 30, 2022.

east.[6] Based on these factors, Northern Long-eared Bat is not expected to occur within the Project Area and vicinity.

Based on the foregoing, the Project Area does not provide suitable habitat for the four species on the IPaC resources list.

Wetlands and Surface Waters

According to the USFWS National Wetlands Inventory (NWI) (**Figure 9-1**), there are no wetlands or surface waters at or adjacent to the Project Area, and no such features were observed at or adjacent to the Project Area during the field survey. Review of the NWI indicates that the nearest wetland/surface waters are Flushing Bay, located approximately 120 ft to the north of the Project Area and an impoundment of Flushing Creek, located approximately 650 ft to the east of the Project Area.

According to the NYSDEC Tidal Wetlands Maps, Flushing Bay is mapped as a Littoral Zone (LZ) tidal wetland, and Flushing Creek is mapped as Littoral Zone (LZ), Intertidal Marsh (IM), and Formerly Connected (FC) tidal wetlands (**Figure 9-1**). Flushing Bay is regulated by the NYSDEC under Article 25 of the Environmental Conservation Law (Tidal Wetlands Act) and its implementing regulations (6 NYCRR Part 661). Pursuant to Part 661, the NYSDEC regulates various land uses and activities within mapped tidal wetlands, including adjacent upland areas extending up to 150 ft landward from the tidal wetland boundary (referred to as the "tidal wetland adjacent area"). However, in Jurisdictional Determination No. 2-6302-00857/00004, issued July 31, 2024 (**Appendix C**), the NYSDEC determined that the Project Area is not located within jurisdictional areas regulated under the Tidal Wetlands Act (Environmental Conservation Law Article 25), the Freshwater Wetlands Act (Environmental Conservation Law Article 24), or under the Costal Erosion Hazard Area (CEHA) program (Environmental Conservation Law Article 34).

No-Action Condition

Absent the Proposed Actions, it is assumed that the Project Area would continue operating under existing conditions and therefore it would remain as paved parking lots and other impervious surfaces, with limited areas of vegetated habitat. The vast majority of the Project Area would continue to exist as unvegetated pavement, with correspondingly low levels of wildlife habitat availability. The vegetated communities in the Project Area would persist and continue to provide habitat for a fauna comprised primarily of birds and a limited number of small mammal species adapted to urban settings.

With-Action Condition

As described in detail in **Chapter 1, Project Description**, the Proposed Actions would result in the redevelopment of the approximately 98-acre Project Area with a mixed-use development. The Proposed Project is anticipated to comprise up to approximately 3.7 million square feet of new construction, with destination entertainment that includes a music hall, hotel, a gaming facility,[7]

[6] New York State Department of Environmental Conservation. Protection of Northern Long-eared Bat. Available at: https://www.dec.ny.gov/animals/106090.html. Accessed June 2023.

[7] The inclusion of a gaming facility is contingent upon receiving a gaming license from the New York State Gaming Commission.

convention and meeting space, restaurant and retail space, and office and community facility space. In addition to the commercial development, the Proposed Project would also include public park space—at least 20 acres of the Development Site would be improved with landscaping and other amenities for public recreation—improved connections to the Mets-Willets Point No. 7 Train NYCT Subway Station, and other public realm improvements as well as structured parking facilities to accommodate up to 13,750 spaces.

Pursuant to Chapter 11 of the *CEQR Technical Manual*, disturbance to natural resources can include both direct and indirect effects. Direct effects on natural resources are defined as: "*activities that directly alter the condition of a resource*." Indirect effects occur when: "*the changes on a site alter conditions to adjacent or nearby resources or on the site itself after construction has ended*." As the Proposed Actions have the potential to result in direct and indirect effects to the natural resources identified in the Existing Conditions—including habitats and vegetation, wildlife, rare/protected species, and wetlands and surface waters—effects assessments for each of the four natural resources categories have been prepared.

Figure 9-1 USFWS National Wetlands Inventory



Habitats and Vegetation

Redevelopment of the Project Area, as facilitated by the Proposed Actions, would result in habitat replacement and removal of vegetation—both of which are identified as direct effects to natural resources in Chapter 11 of the *CEQR Technical Manual*. The Proposed Project has been designed to avoid conversion of existing vegetated habitats to non-vegetated conditions, by avoiding or minimizing development of buildings within the northern perimeter and other perimeter areas of the Project Area, where the majority of existing landscaped habitats occur. As established in Existing Conditions, the vast majority (80.5 acres/82 percent) of the 98-acre Project Area is comprised of unvegetated, paved surfaces. As such, the vast majority of redevelopment with buildings and pavement that would occur under the Proposed Project would be on land that is already developed with the impervious surfaces of the Paved Road/Path community and, therefore, would not result in conversion of vegetated habitats to non-vegetated habitat types. Specifically, Area of Development A, Area of Development B, and Area of Development C would be constructed entirely within existing parking lots. While the construction of Area of Development D would eliminate an existing vegetated parking lot island vegetated with turf grasses and trees, the remainder of the development footprint of the proposed parking structure occurs within an existing paved and unvegetated parking lot.

In contrast, the majority of landscaped habitats that would be created by the Proposed Project would occur within areas that are currently occupied by paved surfaces, resulting in habitat conversion from unvegetated/impervious uses to vegetated/pervious habitats. Specifically, the creation of at least 20 acres of new public park space in the Project Area, consisting of six open space areas (OS-1 through OS-6, see **Chapter 5, Open Space**). The six open space areas would include substantial acreage of vegetated habitats, including open lawns, picnicking areas, sports fields, gardens, and other vegetated habitats that would mimic native woodland and native meadow communities. The Planting Plan for the Proposed Project delineates various proposed habitat zones and provides details of the trees, shrubs, vines, and herbaceous plants to be installed within each habitat zone, including species lists, planting acreages, quantities, sizes, and spacing (**Appendix C**).[8] Quantity, size, and spacing information for the various understory/groundcover plantings are also provided in the Planting Plan. As detailed on the Planting Plan, native and native-adaptive species would be installed throughout the open space areas. The Planting Plan prioritizes the use of non-fertilizer or low-fertilizer dependent plantings and does not incorporate any species that are included in the New York State Prohibited and Regulated Invasive Plants List.[9] As the Proposed Project prioritizes public access to open space, multiple public access points to the various open space areas are proposed, as shown on the Planting Plan (black arrowhead symbols).

Proposed habitat zones such as the "Willets Green Woodland" and "North Shea Garden" incorporate canopy trees, understory trees and shrubs, and groundcover vegetation that would mimic native woodland species associations, including Sugar Maple (*Acer saccharum*), Flowering Dogwood (*Cornus florida*), American Hornbeam (*Carpinus caroliniana*), Tupelo (*Nyssa sylvatica*), Winterberry (*Ilex verticillata*), Witch Hazel (*Hamamelis virginiana*), Spicebush (*Lindera benzoin*), Pennsylvania Sedge (*Carex pensylvanica*), White Wood Aster (*Eurybia Divaricata*), and False Solomon's Seal (*Smilacina racemosa*). Similarly, native grassland associations featuring grasses such as Little Bluestem (*Schizachyrium scoparium*), Switchgrass (*Panicum virgatum*), and Big Bluestem (*Andropogon gerardii*)

[8] As noted on the Planting Plan, plant quantities, areas, and locations are based on the current site design and are subject to revision based on final site design.

[9] New York State Department of Environmental Conservation and New York State Department of Agriculture and Markets. 20214.

would be installed within the "Pork Chop Hill" habitat zone and at other locations within the Project Area. The native grassland associations would also include a number of important pollinator plants such as Purple Coneflower (*Echinacea purpurea*), Wild Bergamot (*Monarda fistulosa*), New York Ironweed (*Veronica noveboracensis*), Butterfly Milkweed (*Asclepias tuberosa*), Common Milkweed (*Asclepias syriaca*), and Swamp Milkweed (*Asclepias incarnata*). Significantly, the latter three species are required as egg laying sites and larval habitat by the federal Candidate Species Monarch Butterfly (*Danaus plexippus*).

Native plant associations continue throughout other proposed habitat zones within the Project Area, including "Northfield Park," "Shea Sun Garden," "Roosevelt Shade Area," "Southfield Park," "Southfield West Sensory Park," and the "South Gateway District." Similar to the Willets Green Woodland, North Shea Garden, and Pork Chop Hill habitat zones described above, the remaining habitat zones incorporate native plant associations occurring within canopy, understory, and ground cover layers to maximize plant species richness and habitat diversity. An additional direct effect on natural resources that would occur as a result of the Proposed Project is removal of trees. The majority of vegetation removal to occur under the Proposed Project would be the removal of 575 street trees from the existing parking lots located within the development footprints of Area of Development A, Area of Development B, and Area of Development D. Removal of trees on New York City property and construction work within 50 ft of trees is regulated under Title 18, Chapter 1, Section 18-129 of the New York City Administrative Code and requires a Tree Work Permit. Tree removals for the Proposed Project and any associated avoidance, minimization, and/or mitigation measures, including tree replacement, will occur during building plan review, which is a multi-step design review process jointly administered by the New York City Department of Parks and Recreation and Department of Buildings. To the extent practicable based on the construction schedule or other extenuating circumstances, tree removals will occur during the winter months (October 1 to March 31), when birds are not breeding. If tree clearing must occur outside of this period (i.e., between April 1 and September 30), surveys of trees and any associated understory vegetation will be conducted to ensure there is no potential taking of bird species protected under the Migratory Bird Treaty Act. To further minimize the potential for adverse effects due to tree removal, the Proposed Project prioritizes preservation of existing, healthy trees to the maximum extent practicable. As detailed on the Tree Removal and Protection Plan (**Appendix C**), 282 existing trees located beyond the proposed building and infrastructure footprints would be preserved under the Proposed Project. These include tree clusters consisting of numerous large, mature trees that occur within Pork Chop Hill, along Shea Road, to the south of Roosevelt Avene, and along the perimeter of Citi Field. To prevent potential adverse impacts to trees during construction work, tree protection measures will be installed around all existing trees to be preserved. Significantly, in addition to the 282 existing trees to be preserved, the Tree Planting Plan (**Appendix C**), includes the installation of 1,148 new trees throughout the Project Area within the various habitat zones described above and along roadways and adjacent to building foundations.[10] The trees to be installed include large "specimen" tree species, medium-sized shade and flowering trees, small deciduous trees, and various conifers. The Tree Planting Plan incorporates many important native species, including those described previously and others such as White Oak (*Quercus alba*), Common Hackberry (*Celtis occidentalis*), American Holly (*Ilex opaca*), Eastern White Pine (*Pinus strobus*), and Eastern Red Cedar (*Juniperus virginiana*). Also included in the Tree Planting Plan are trees that currently occur with frequency within the Project Area (as noted in Existing Conditions), including Northern Red Oak, Willow Oak, and London Plane Tree. Based on the above, many large specimen trees would be preserved under the Proposed Project, and mitigation for tree removal would consist

[10] As noted on the tree Planting Plan, the total number of new trees to be installed is subject to revision based on final site design.

of installation of numerous new trees at a ratio that would exceed applicable minimum tree replacement rations and result in a net increase of 573 trees within the Project Area, as compared to existing conditions. As such, the direct effects of tree removal would be fully mitigated over time through tree replacement and overall expansion of vegetated habitats in the Project Area.

From an ECNYS ecological community perspective, direct effects of the Proposed Project due to habitat replacement would occur primarily within the Paved Road/Path community, which has been designated by the NYNHP as an unranked cultural community due to its artificial origin, disturbed/developed conditions, and wide distribution throughout New York State. Limited additional clearing would occur within the unranked Mowed Lawn, Mowed Lawn with Trees, Flower Herb Garden, and Urban Vacant Lot cultural communities, though some existing trees and other vegetation within these communities would be preserved. Accordingly, the Proposed Project would not result in the removal of rare, protected, or otherwise significant habitat types or vegetative associations. Following implementation of the Proposed Project, and similar to existing conditions, examples of the Paved Road/Path, Mowed Lawn, Mowed Lawn with Trees, and Flower Herb Garden communities would continue to occur onsite within the development areas and the park areas of the Project Area. In particular, the latter three landscaped communities would represent the dominant vegetated habitats in the Project Area following the completion of construction. Moreover, as described above, the various proposed habitat zones within the Project Area would incorporate canopy trees, understory trees and shrubs, and groundcover vegetation that would mimic native plant species associations, including those that occur within local woodlands and grasslands.

The Planting Plan has been carefully designed to match vegetative species with the variations in environmental site conditions expected to occur throughout the Project Area following implementation of the Proposed Project, including the amount and duration of sunlight vs. shaded conditions and soil conditions, moisture levels, the anticipated degree of human presence/activity, and other critical environmental factors that may influence plant growth. Therefore, the Planting Plan incorporates a diverse flora of native and native-adaptive vegetation suited to specific site conditions within the individual habitat zones, considering factors such as plant height, spread, and form. A layered planting design would be used within the many of the proposed habitat zones to maximize the use of available light and space, and habitat zones that mimic wooded or other shaded conditions include understory plants that thrive in low-light conditions and can tolerate shade from larger trees or shrubs. The design approach of the Planting Plan is intended to ensure the successful establishment of the proposed landscaping and habitat zones. Following implementation of the Proposed Project, it is the intent of the Applicant to maintain the ecological integrity of the landscaping and habitat zones to be installed within the Project Area. Once a final landscape design has been completed, an appropriate monitoring and adaptive management plan would be developed in accordance with applicable industry standards and best management practices for maintaining landscaped habitats. Regarding habitat and vegetation within Flushing Meadows Corona Park (located beyond the MTA New York City Transit Corona Maintenance Facility & Casey Stengel Bus Depot to the south of the Project Area), the Proposed Project would not result in removal or disturbance to vegetation within this resource area. Moreover, as detailed in the shadows analysis, shading of landscapes and vegetation within the park would not occur as a result of the Proposed Project. Therefore, direct or indirect effects to habitats and vegetation within Flushing Meadows Corona Park are not expected.

Based on the foregoing, habitat conversion from vegetated to unvegetated conditions under the Proposed Project would be limited, and the vast majority of habitat conversion that would occur

would be conversion of unvegetated/impervious surfaces to pervious habitats, including vegetated habitats, resulting in a net increase in pervious surfaces at the Project Area from 17.5 acres (18 percent) of existing site coverage to 24.3 acres (25 percent) of proposed site coverage. Similar to existing conditions, the vegetated landscaped habitats that would occur in the Project Area following implementation of the Proposed Project would include the ECNYS Mowed Lawn, Mowed Lawn with Trees, and Flower Herb Garden communities, though at increased acreage for each. As noted in Existing Conditions, the existing 80.5-acre Paved Road/Path community currently renders the vast majority of the Project Areas largely insignificant from an ecological perspective. Therefore, the expansion of pervious surfaces, including vegetated habitat, from 18 percent to 25 percent of site coverage, and reduction in unvegetated/impervious surfaces from 82 percent to 75 percent of site coverage, that would occur under the Proposed Project would result in a significant quantitative improvement in vegetated habitat conditions. The Proposed Project would also preserve 282 existing mature trees and includes the installation of 1,148 new trees, resulting in a net increase of 573 trees within the Project Area. From a qualitative perspective, implementation of the Proposed Project would result in significant gains in plant species diversity, native plant abundance, tree quantities, and native plant associations, thereby substantially improving vegetated habitat conditions within the Project Area. Accordingly, the Proposed Project would result in a net ecological benefit to habitats and vegetation within the Project Area.

Wildlife

With the exception of street trees that provide foraging, perching, and nesting opportunities for birds, the unvegetated and paved surfaces of the parking lots (i.e., the ECNYS Paved Road/Path community) that occupy approximately 80.5 acres of the Project Area do not represent a viable source of habitat for most wildlife known to occur within the general surrounding area of the property. As the direct effects of habitat replacement and removal of vegetation would occur primarily within the Paved Road/Path community, the resulting impacts to wildlife would be limited mainly to the avian fauna that utilize the existing street trees within the parking lots. As noted in Existing Conditions, the expected faunal assemblage of these trees includes birds adapted to unvegetated, developed conditions as well as a number of common songbirds and occasional use by transient birds during seasonal migratory stopovers. To a lesser extent, habitat replacement and vegetation removal would occur within the landscaped habitats in the Project Area and would therefore impact the wider faunal assemblage of birds and small mammals that currently utilize these areas.

Based on the foregoing, the primary impact of habitat replacement and vegetation removal on wildlife would be displacement of resident species. In analyzing the potential impacts to wildlife due to displacement, it is noteworthy that many factors other than resource availability influence wildlife population densities—including disease, parasites, predation, weather, human disturbances, etc. Therefore, it is highly likely that wildlife species populations may already be below the theoretical carrying capacities in the Project Area due to one or more limiting factors. For example, paved and largely unvegetated conditions across approximately 69.5 acres of the Project Area, and the high levels of development and human activity that characterize the urban environments of the Project Area and surrounding areas, are likely limiting factors for most local wildlife species. Notwithstanding the above, under the assumption that resource availability is the only limiting factor affecting wildlife population density, in the short-term it is anticipated that portions of the Project Area that would not be redeveloped, as well as properties in the general surrounding area of the Project Area, would experience a temporary increase in wildlife populations during clearing of existing habitats for the Proposed Project. More specifically, the resident birds that dominate the wildlife assemblage at the

Project Area would be displaced due to tree removal and would therefore increase use of trees in the general surrounding area as foraging, perching, and or nesting habitat. Subsequently, it is anticipated that inter- and intra-specific competition for available resources within these surrounding habitats would result in a net decrease in local population size for most species, until equilibrium between wildlife populations and available resources is achieved. Given the already limited availability of viable wildlife habitat in the Project Area, the number of displaced individuals from affected species is expected to be low, and the overall impacts on resource availability and local species population sizes are expected to be minimal in nature and temporary.

As noted previously, following implementation of the Proposed Project, the creation of at least 20 acres of new public park space in the Project Area is anticipated to include open lawns, picnicking areas, sports fields, gardens, turf grasses, and other vegetated habitat zones that would mimic the native plant associations of locally occurring habitats such as woodland and meadow communities. The proposed habitat zones described previously would substantially increase the quantity and improve the quality of available habitat opportunities for birds and other local wildlife. Significantly, the flowering trees, shrubs, and herbaceous plants included in the Planting Plan would attract a variety of important pollinator species, including, hummingbirds, bees, and butterflies. In particular, the inclusion of plant species from the Milkweed (*Asclepias*) genus would provide important habitat for the federal Candidate Species Monarch Butterfly, which is obligately associated with Milkweed plants as egg laying sites and for larval habitat.

To the extent practicable based on the construction schedule or other extenuating circumstances, tree removals will occur during the winter months (October 1 to March 31), when birds are not breeding. If tree clearing must occur outside of this period (i.e., between April 1 and September 30), surveys of trees and any associated understory vegetation will be conducted to ensure there is no potential taking of bird species protected under the Migratory Bird Treaty Act. Moreover, the preservation of 282 existing trees would perpetuate the existing habitat opportunities for resident birds, while installation of 1,148 trees would significantly expand the number of trees and available avian habitat within the Project Area, as compared to existing conditions. Therefore, habitat availability, including foraging, breeding, and/or nesting opportunities for both year-round resident birds and migratory birds that occur seasonally would increase. It is further anticipated that the installation of native plant associations consisting of tree, shrubs, and herbaceous plants within the proposed habitat zones would mimic woodland, meadow, and other native habitat conditions that currently do not occur within the Project Area. As a result of these improvements, the existing site fauna of birds and small mammal species adapted to landscaped conditions within urban setting is expected to continue to utilize the Project Area, but at increased individual species population densities, due to the overall expansion of vegetated habitat. Moreover, the creation of the proposed habitat zones would establish habitat conditions that currently do not occur within the Project Area. As such, it is anticipated that avian species diversity would increase following implementation of the Proposed Project.

In order to avoid/minimize the potential for bird/building collisions throughout New York City, the New York City Council adopted Local Law 15 of 2020, which requires that materials that reduce bird strike fatalities be installed on newly constructed or altered buildings. Specifically, Local Law 15 amended Section 1403.8 of the New York City Building Code to include the following bird-friendly measures:

› *1403.8.1 Exterior wall envelope. The exterior wall envelope, and any associated openings, shall be constructed with bird friendly materials up to 75 feet (22 860 mm) above grade. Materials other than bird friendly materials shall not exceed an aggregate of 10 square feet (0.93 m^2) within any*

10 feet (3048 mm) by 10 feet (3048 mm) square area of exterior wall below 75 feet (22 860 mm) above grade.

- *1403.8.2 Bird hazard installations. Bird hazard installations shall be constructed of bird friendly materials regardless of their height above grade.*
- *1403.8.3 Fly-through conditions. Fly-through conditions located 75 feet (22 860 mm) or less above grade shall be constructed with bird friendly materials.*
- *1403.8.4 Adjacency to green roofs. The exterior wall envelope, and any associated openings, installed adjacent to a green roof system on the same building shall be constructed with bird friendly materials up to 12 feet (3658 mm) above the walking surface.*

To avoid/minimize the potential for bird collisions, the Proposed Project would be designed in compliance with Local Law 15, including the provisions of Section 1403.8 of the New York City Building Code outlined above.

The potential for light pollution to adversely affect the life processes of various wildlife, including migratory birds and nocturnal insects, is well documented. Accordingly, the International Dark Sky Association has published *Five Principles for Responsible Outdoor Lighting*, designed to prevent and reduce light pollution through the proper application of quality outdoor electric lighting.

- Useful light: All lighting shall be purposefully used only where needed.
- Targeted light: Light fixtures shall be shielded and aimed to direct light only where needed. Light spill shall be avoided as much as possible.
- Low level light: Lighting used shall be carefully calibrated to be no brighter than necessary for the intended purpose.
- Controlled light: Light controls such as astronomical timeclock and/or daylight sensors shall be used to provide light only at times that it is needed.
- Warm colored light: Use of shorter wavelength (blue-violet) light shall be limited to avoid harmful effects on local wildlife.

To avoid/minimize the potential for adverse impacts to birds and other wildlife due to light pollution, the Applicant is committed to adhering to the *Five Principles for Responsible Outdoor Lighting* in building-mounted and landscape lighting design.

Additionally, in accordance with 2020 NYC Energy Conservation Code, the Applicant is committed to incorporating the following light pollution reduction measures for exterior lighting:

- Daylight shutoff: Lights shall be automatically turned off when daylight is present and satisfies the lighting needs.
- Decorative lighting shutoff: Building façade and landscape lighting shall automatically shut off from not later than 1 hour after business closing to no earlier than 1 hour before business opening.
- Outdoor parking area lighting control: Luminaires serving outdoor parking areas shall automatically reduce the power of each fixture by a minimum of 50% when no activity has been detected in the area for a time no longer than 15 minutes.

Regarding wildlife within Flushing Meadows Corona Park, it is important to note that the Project Area is not located adjacent to the park, as the MTA New York City Transit Corona Maintenance Facility & Casey Stengel Bus Depot occupies the intervening land to the south of the Project Area. As such,

baseline conditions adjacent to the park include high levels of human activity, vehicle and machinery operation, and associated noise due to facility operations associated with subway and bus maintenance and repair. Moreover, the northern portions of Flushing Meadows Corona Park are developed with the stadiums and facilities of the National Tennis Center, which includes substantial areas of unvegetated, impervious surfaces. As such, the expected wildlife fauna within northern portions of the park is comprised of species adapted to development and high levels of human presence and activity and therefore would not be significantly impacted by redevelopment of the non-adjacent Project Area. Lastly, as detailed in the shadows analysis, shading of existing wildlife habitat within the park would not occur as a result of the Proposed Project. Based on the foregoing, direct or indirect effects to wildlife or wildlife habitat within Flushing Meadows Corona Park are not anticipated as a result of the Proposed Project.

As summarized above, the direct effects on wildlife from habitat loss due to tree removal under the Proposed Project would not be permanent and would be fully mitigated over time through tree replacement and expansion of vegetated habitats in the Project Area. Moreover, as the quantity and quality of available wildlife habitat within the Project Area would improve significantly, wildlife species diversity and individual species densities are expected to increase accordingly. In accordance with NYC Local Law 15 of 2020, the Proposed Project further incorporates measures to avoid and minimize the potential for adverse impacts to birds due to building collisions. Based on the foregoing, implementation of the Proposed Project would result in a net ecological benefit to wildlife.

Rare/Protected Species

As documented in Existing Conditions, there are currently no NYNHP records for New York State or federally listed plants, wildlife, or significant natural communities for the Project Area or vicinity, and the Project Area and vicinity do not provide suitable habitat for the four federally listed species on the IPaC resources list. Accordingly, the Proposed Project would not result in direct or indirect effects to New York State or federally listed species.

Wetlands and Surface Waters

As there are no wetlands or surface waters located at or adjacent to the Project Area, the Proposed Project would not result in direct effects to same.

The nearest wetland/surface water to the Project Area is Flushing Bay, located approximately 120 feet to the north of the Project Area and an impoundment of Flushing Creek, located approximately 650 feet to the east of the Project Area. Potential indirect effects to these offsite natural resources include shading of water column and benthic environments from proposed site improvements as well as potential water quality impacts from stormwater generation and sanitary flows. However, as detailed in the shadows assessment (**Chapter 6, Shadows**) and the water and sewer infrastructure analysis (**Chapter 11, Water and Sewer Infrastructure**), the Proposed Project would not result in adverse effects to Flushing Bay or Flushing Creek.

Potential adverse impacts to surface waters and other natural resources during construction will be avoided through best management practices incorporated into the construction plan. The physical separation of the Project Area from Flushing Bay by Marina Road, the Flushing Bay Promenade, and the World's Fair Marina bulkhead, will aid in avoiding the potential for adverse impacts to water quality within Flushing Bay.

Stormwater collected onsite will be controlled and discharged to the New York City Department of Environmental Protection (NYCDEP) sewer system, in accordance with NYCDEP requirements. Potential indirect impacts to Flushing Bay would be avoided through implementation of stormwater controls in accordance with all conditions of an approved Stormwater Pollution Prevention Plan (SWPPP), as required by NYCDEP and NYSDEC. The purpose of a SWPPP is to ensure that stormwater discharges generated by construction activities, and those from the completed project, do not degrade water quality within area wetlands and surface waters. Therefore, a SWPPP covers temporary activities created by construction but also requires permanent, post-construction practices to be implemented.

The SWPP design for the Proposed Project will avoid or minimize the potential for sediment generated during construction to be carried by stormwater to existing stormwater infrastructure, thereby preventing water quality impacts to Flushing Bay. Erosion and sediment controls to be implemented under the SWPP include inlet protection to be installed within catch basins, compost filter socks, silt fencing and/or straw bales to be installed along the construction site perimeter, and stabilized construction exits with tracking pads that will be installed to remove sediments from tires where construction vehicles exit the site. Additional erosion and sediment controls, such as sedimentation basins, swales, mulching, stockpile stabilization, and others, will be utilized as necessary to prevent adverse impacts to Flushing Bay and other natural resources. Additionally, dust control measures such as watering trucks and regular street sweeping will be implemented to further protect surface waters and local air quality. All erosion and sediment controls will be installed and maintained according to the *New York State Standards and Specifications for Erosion and Sediment Control* (2016).

As part of the construction closeout, permanent stormwater treatment measures will be installed and maintained in perpetuity as part of the SWPPP. Other water quality treatment practices will be provided through a variety of green infrastructure measures, such as the proposed green roofs, bioswales, and manufactured treatment devices. Implementation of these measures will assist in the removal of suspended solids, hydrocarbons, nitrogen, phosphorus, and other nutrient/pollutants from stormwater runoff—thereby improving the quality of stormwater runoff discharging to the Flushing Bay, as compared to existing conditions.

With respect to potential regulatory constraints associated with Flushing Bay, in Jurisdictional Determination No. 2-6302-00857/00004, issued July 31, 2024 (**Appendix C**), the NYSDEC determined that the Project Area is not located within jurisdictional areas regulated under the Tidal Wetlands Act (Environmental Conservation Law Article 25), the Freshwater Wetlands Act (Environmental Conservation Law Article 24), or under the Costal Erosion Hazard Area (CEHA) program (Environmental Conservation Law Article 34). Accordingly, NYSDEC Tidal Wetlands, Freshwater Wetlands, or CEHA permits would not be required for the Proposed Project.

Based on the foregoing, no significant adverse effects to wetlands or surface waters are anticipated.