

Open Air Pavilion and Kids Culture Garden at the Queens Botanical Garden

43-50 Main Street (Block 5107, Lot 200)

KISSENA PARK, FLUSHING, QUEENS COUNTY, NEW YORK

Phase 1A Archaeological Documentary Study

Prepared for:

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Management Summary

NYSOPRHP Project

Review Number: 21PR00293

Involved Agencies: Dormitory Authority of the State of New York (DASNY)

Phase of Survey: Phase 1A Documentary Study

Location Information

Location: Flushing, New York

Minor Civil Division: 08101

County: Queens County

Survey Area, Open Air Pavilion

Length: Approximately 500 feet

Width: Approximately 175 feet

Area: 1.7 acres (73,000 square feet)

Survey Area, Kids Culture Garden

Length: Approximately 160 feet

Width: Approximately 350 feet

Area: 1 acres (45,000 square feet)

USGS 7.5 Minute Quadrangle Map: Flushing and Jamaica

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A. INTRODUCTION AND PROJECT DESCRIPTION

The Queens Botanical Garden Society, Inc. (“Queens Botanical Garden” or “QBG”) is proposing to construct improvements on the QBG grounds within Kissena Park in the Flushing neighborhood of Queens, New York (see **Figure 1**). The QBG is an approximately 39-acre property located on Block 5107, Lot 200 in the Flushing neighborhood in the borough of Queens, Queens County, New York. The QBG is located at 43-50 Main Street and is bounded by Main Street to the east; Elder Avenue, 133rd Street, and Booth Memorial Avenue to the south; College Point Boulevard to the west; and Blossom and Dahlia Avenues and Crommelin Street to the north Project Site. The Proposed Project would provide the QBG with new garden amenities that would support the QBG’s sustainability initiatives while enhancing the visitor experience of the garden, including opportunities for hands-on experiences for children visiting the garden.

The Dormitory Authority of the State of New York (“DASNY”) has received a funding request from QBG for its *Open Air Pavilion and Kids Culture Garden* as part of the Community Capital Assistance Program (“CCAP”) and/or the State and Municipal Facilities Program “SAM”) (DASNY project #8140). The Proposed Action would involve DASNY’s authorization of the expenditure of CCAP and/or SAM program bond proceeds for the Proposed Project as described below. The grant funding would be used for the design and construction of an open air pavilion with composting toilets, and a kids culture garden (“the Proposed Project”). The open air pavilion would provide approximately 3,200 square feet (“sf”) of covered space that is envisioned to be used for educational programs for children and adults and for professional development for teachers. The approximately 0.5-acre kids culture garden would provide hands-on learning opportunities. The Proposed Project is part of a multi-phase Education Center that will also include an approximately 13,000-gross-square-foot (“gsf”) Education Building. The Education Building is currently in design and undergoing a separate environmental assessment.

The Project Site therefore includes two non-contiguous locations within the QBG: 1) the open air pavilion site is located in the southwest portion of the QBG and 2) the kids culture garden site is located in the south-central portion of the QBG (see **Figure 2**). The construction of the open air pavilion will require site clearing and the installation of piles to support a structural slab for the base of the pavilion. The kids culture garden would include woodlands, a garden, and water play areas. Both locations are grassy, unprogrammed open areas that are landscaped with small, mature, and common trees.

B. PROPOSED ACTION AND REQUIRED APPROVALS

The land on which the QBG is located is mapped parkland owned by the City of New York and receives funding through the Office of the Mayor of New York, the New York City Council, and the Office of the Queens Borough President, with most City funding issued through the New York City Department of Cultural Affairs (“NYCDCLA”). In addition, the QBG receives New York State funding through New York State Office of Parks, Recreation and Historic Preservation (“NYSOPRHP”). The QBG is under the jurisdiction of NYCDCLA. The QBG capital projects must receive approval from the New York City Department of Parks and Recreation (“NYC Parks”). Approval from the New York City Public Design Commission (“NYCPDC”) is also required because the QBG is on City-owned property. The Proposed Project is therefore being reviewed pursuant to the *State Environmental Quality Review Act (“SEQRA”)*, codified at Article 8 of the *New York Environmental Conservation Law (“ECL”)*, and its implementing regulations, promulgated at Part 617 of Title 6 of the *New York Code, Rules and Regulations (“N.Y.C.R.R.”)*, which collectively contain the requirements for the *State Environmental Quality Review (“SEQR”)* process. The environmental review of the Open Air Pavilion and Kids Culture Garden project (“Proposed Project”) follows *SEQRA*, and the *New York City Environmental Quality Review (“CEQR”) Technical Manual* generally is used as a guide with respect to environmental analysis methodologies and impact criteria for evaluating the Proposed Project.¹ For purposes of *SEQR*, the Proposed Action would consist of DASNY’s authorization of the issuance of the grant funding to the QBG.

The Proposed Project is also being reviewed in conformance with the *New York State Historic Preservation Act of 1980 (“SHPA”)*, specifically the implementing regulations of Section 14.09 of the *Parks, Recreation and Historic Preservation Law (“PRHPL”)*, as well as with the requirements of the Memorandum of Understanding (“MOU”), dated March 18, 1998, between DASNY and the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP).

Pursuant to these regulations, consultation was initiated with NYSOPRHP regarding the Project Site’s potential archaeological sensitivity. In a comment letter dated January 20, 2021, NYSOPRHP determined that the Project Site is potentially archaeologically sensitive and requested that a Phase 1A Literature Search and Sensitivity Assessment (also known as a “Phase 1A Archaeological Documentary Study” or “Phase 1A Study”) be prepared to further assess areas of archaeological sensitivity within the Project Site. Specifically, NYSOPRHP stated that the site was in close proximity to New York State Museum (“NYSM”) archaeological site number 4524, which was reported to include precontact archaeological resources and human remains potentially associated with military activity in the area during the Revolutionary War. This Phase 1A Study has been prepared to satisfy these comments.

¹ The City of New York, Mayor’s Office of Environmental Coordination, *CEQR Technical Manual*, 2020.

C. RESEARCH GOALS AND METHODOLOGY

The Phase 1A Study of the QBG Project Site has been designed to satisfy the requirements of NYSOPRHP and it also follows the guidelines of the New York Archaeological Council (“NYAC”). The study documents the development history of the Project Site and its potential to yield archaeological resources, including both precontact and historic period cultural resources. This Phase 1A Study has four major goals: (1) to determine the likelihood that the Project Site was occupied during the precontact (Native American) and/or historic periods; (2) to determine the effect of subsequent development and landscape alteration on any potential archaeological resources that may have been located within the Project Site; (3) to make a determination of the Project Site’s potential archaeological sensitivity; and (4) to make recommendations for further archaeological analysis, if necessary. The steps taken to fulfill these goals are explained in greater detail below.

The first goal of this documentary study is to determine the likelihood that the Project Site was inhabited during the precontact and/or historic periods, and identify any activities that may have taken place in the vicinity that would have resulted in the deposition of archaeological resources.

The second goal of this Phase 1A Study is to determine the likelihood that archaeological resources could have survived intact within the Project Site after development and landscape alteration (e.g., erosion, grading, filling, etc.). Potential disturbance associated with grading, utility installation, and other previous development-related impacts was also considered. As described by NYAC in their *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State*, published in 1994 and subsequently adopted by NYSOPRHP:

An estimate of the archaeological sensitivity of a given area provides the archaeologist with a tool with which to design appropriate field procedures for the investigation of that area. These sensitivity projections are generally based upon the following factors: statements of locational preferences or tendencies for particular settlement systems, characteristics of the local environment which provide essential or desirable resources (e.g., proximity to perennial water sources, well-drained soils, floral and faunal resources, raw materials, and/or trade and transportation routes), the density of known archaeological and historical resources within the general area, and the extent of known disturbances which can potentially affect the integrity of sites and the recovery of material from them (NYAC 1994: 2).

The third goal of this study is to make a determination of the Project Site’s archaeological sensitivity. As stipulated by the NYAC standards, sensitivity assessments should be categorized as low, moderate, or high to reflect “the likelihood that cultural resources are present within the project area” (NYAC 1994: 10). For the purposes of this study, those terms are defined as follows:

- Low: Areas of low sensitivity are those where the original topography would suggest that Native American sites would not be present (i.e., locations at great distances from fresh and salt water resources), locations where no historic period activity occurred before the installation of municipal water and sewer networks, or those locations determined to be sufficiently disturbed so that archaeological resources are not likely to remain intact.
- Moderate: Areas with topographical features that would suggest Native American occupation, documented historic period activity, and with some disturbance—but not enough to eliminate the possibility that archaeological resources are intact on the project site.
- High: Areas with topographical features that would suggest Native American occupation, documented historic period activity, and minimal or no documented disturbance.

As mentioned above, the fourth goal of this study is to make recommendations for additional archaeological investigations where necessary. According to NYAC standards, Phase 1B testing is generally warranted for areas determined to have moderate sensitivity or higher. Archaeological testing is designed to determine the presence or absence of archaeological resources that could be impacted by a proposed project. Should they exist on the Project Site, such archaeological resources could provide new insight into the precontact occupation Queens, the transition from Native American occupation to European colonization, or the historic period occupation of the Project Site.

To satisfy the goals as outlined above, documentary research was completed to establish a chronology of the Project Site’s development, landscape alteration, and to identify any individuals who may have owned the land or worked and/or resided there, and to determine if buildings were present there in the past. Data was gathered from various published and unpublished primary and secondary resources, such as historic maps; topographical analyses (both modern and historical); historical and current photographs (including aerial imagery); newspaper articles; local histories; and previously conducted archaeological surveys. These published and unpublished resources were consulted at various repositories, including the Main Research Branch of the New York Public Library (including the Local History and Map Divisions), the Library of Congress, the New York City Municipal Archives, and the Queens Public Library Archives. Previously identified archaeological sites and previously conducted archaeological resources in the vicinity were collected from the files of NYSOPRHP, NYSM, and the New York City Landmarks Preservation Commission (“NYCLPC”). Information on previously identified archaeological sites and previous cultural resources assessments was accessed through the New York State Cultural Resource Information System (CRIS) maintained by NYSOPRHP.¹ Online

¹ <https://cris.parks.ny.gov>

textual archives, such as Google Books and the Internet Archive Open Access Texts, were also accessed.

A. CURRENT CONDITIONS

The two sections of the Project Site are currently undeveloped, landscaped areas. The location of the proposed open air pavilion is generally level with a slight rise upward to the south (see **Photographs 1 through 3 on Figure 3A**). Paved pathways and a haul road extend through and around this portion of the Project Site. The site of the kids culture garden is also situated in a generally level area north of a steep hill that rises up to the south and leads to Elder Avenue (see **Photographs 4 through 6 on Figure 3B**). Both portions of the Project Site are grassy lawns with some trees or other landscaping elements.

B. GEOLOGY AND TOPOGRAPHY

The Borough of Queens is located within a geographical region known as the Atlantic Coastal Plain Physiographic Province. The Atlantic Coastal Plain, which includes all of Long Island, tends to include flat, gently sloping land (Isachsen, et al. 2000). Glacial till characterizes the surficial geology of the site (Cadwell 1989). The till in the western portion of the Project Site is specifically associated with the Monmouth Group, a combination of silty clay and gravel dating while the till in the eastern portion is associated with the Raritan Formation, composed of clay, silty clay, sand, and gravel (Fisher, et al. 1980). Both till types date to the Upper Cretaceous Period of the Mesozoic Era, which lasted between approximately 97 and 66 million years ago (Fisher, et al. 1980; Isachsen, et al. 2000). This till was deposited by the massive glaciers that retreated from the area towards the end of the Pleistocene 1.6 million years before present (“BP”) to approximately 10,000 years BP. There were four major glaciations that affected New York City, culminating approximately 12,000 years ago with the end of the Wisconsin period. During the ice age, a glacial moraine bisected Long Island, running in a northeast-southwest direction through the center of what is now the borough of Queens (Isachsen, et al. 2000). The Project Site is situated to the north of the Terminal Moraine, the ridge of hills that runs through central Queens marking the southernmost extent of the glacial advancement.

In addition to the deposition of till, the retreating glaciers also left behind a trail of melting ice and water, resulting in the formations of wetlands and small bodies of water across the region. Between 12,000 and 6,000 years BP, sea levels fluctuated, followed by a rapid rise in sea levels, reaching their current state by approximately 3,000 years ago (Geoarcheological Research Associates 2007). As seen on the 1891 United States Geological Survey (“USGS”)

maps of the area (see **Figure 4**), the Project Site was historically included in an inundated marsh associated with the larger wetland network known as Flushing Meadows.

The 1891 maps indicate that the elevation of the area was at sea level. Modern Lidar elevation data recorded by USGS in 2013 indicates that the site of the open air pavilion is situated at an elevation of 18 to 24 feet relative to the North American Vertical Datum of 1988 (“NAVD88”) and the kids culture garden is largely situated between 18 and 22 feet NAVD88, with the steep hill near its southern side rising to elevations of 32 feet or more. Both portions of the Project Site include a slight rise to the south, and the areas of slightly higher elevation may overlap with areas of fast land as seen on the 1891 USGS maps. The 1891 maps appear to suggest that the elevations of these fast land areas was less than 20 feet above sea level in both locations. This appears to suggest that the majority of the Project Site contains between 18 and 24 feet of fill deposits and that additional fill deposits are expected to overlie the former areas of dry land at the southern boundary of the Project Site.

C. HYDROLOGY

A small creek known as either “Kissena Creek,” “Ireland Mill Creek,” or “Mill Creek” historically passed through the marshes through and in the vicinity of the Project Site (Kadinsky 2016). Portions of the creek continue to run through subsurface sewers and culverts throughout Flushing Meadows and Kissena Parks, including beneath the QBG (ibid).

D. SOILS

The Web Soil Survey maintained by the United States Department of Agriculture’s Natural Resources Conservation Service¹ indicates that two soil complexes are present within the Project Site. The open air pavilion site is situated in an area where the soils are characterized as the “Laguardia-Ebbets complex.” The typical profile of these types of soils includes 0 to 8 inches of “cobbly-artifactual coarse sandy loam” over layers of subsoil characterized as “very cobbly-artifactual coarse sandy loam.” These well-drained soils are typically found in level areas with slopes ranging from 0 to 3 percent. The same soils are present within the northern portion of the kids cultural garden portion of the Project Site. The southern part of the kids culture garden portion of the Project Site is characterized by a similar soil complex known as “Laguardia artifactual coarse sandy loam.” The typical profile of that soil type is the same as seen to the north; however soils associated with that complex are typically found in areas with 8 to 15 percent slopes.

¹ <https://websoilsurvey.sc.egov.usda.gov/>

A. PREVIOUSLY IDENTIFIED NATIVE AMERICAN ARCHAEOLOGICAL SITES NEAR THE PROJECT SITE

In general, Native American habitation sites are most often located in coastal areas with access to marine resources, near fresh water sources and areas of high elevation and level slopes (less than 12 to 15 percent) (NYAC 1994). Further indication of the potential presence of Native American activity near a Project Site is indicated by the number of precontact archaeological sites that have been previously identified in the vicinity. Information regarding such previously identified archaeological sites was obtained from various locations including the site files of NYSOPRHP, LPC, NYSM, and from published accounts. Seven sites have been identified within one mile of the Project Site in databases maintained by NYSOPRHP and NYSM (accessed via CRIS) and the Project Site is located within a generalized area of archaeological sensitivity as mapped by NYSOPRHP. These sites are summarized in **Table 3-1**, below.

Table 3-1
Precontact Archaeological Sites in the Vicinity of the Project Site

Site Name/ Number	Site Type	Approximate Distance from Project Site	Other	Source Information
Linnean Garden NYSM Site 4524	Burial Site	Location 1: 150 feet	The site is mapped in two different locations in CRIS; actual location appears to be Location 2	Furman 1875; Parker 1920; Bolton 1922;
		Location 2: 4,100 feet		
Matinecock Settlements NYSM Site 4526	Villages	4,700 feet	Multiple village sites described along coasts of in northern Flushing and Long Island	Parker 1920
NYSM Site 4542	Camp	4,000 feet		Parker 1920
NYSM Site 4544	Camp	1,400 feet		Parker 1920
NYSM Site 4545	Traces of occupation	Overlaps		Parker 1920
New York Hall of Science Precontact Site NYSOPRHP: 08101.011526	Surface finds, possible camp	5,000 feet		
Flushing Friends Meeting House Precontact Site NYSOPRHP: 08101.011370	Woodland-era campsite with projectile points and other lithic artifacts	4,000 feet		
Source: CRIS (https://cris.parks.ny.gov)				

The majority of these sites were mapped using descriptions provided by Parker (1920) based on reports from other archaeologists and avocational archaeologists in the late 19th and early 20th centuries. Little is known about these sites and they were not excavated according to modern archaeological standards or ethical guidelines. Two sites were documented through

modern archaeological surveys. The first (NYSOPRHP site 08101.011526) included a surface find—a possible lithic core—on the grounds of the New York Hall of Science nearly one mile west of the Project Site. The other site (NYSOPRHP site 08101.011370) included a small Woodland-period campsite that included projectile points and other precontact lithic artifacts that was documented by archaeologists Eugene Boesch and Jerome Wooden in the location of the Friends Meeting House, which also contains a historic-period cemetery.

THE FLUSHING OR LINNAEAN GARDEN SITE

DESCRIPTION OF THE LINNAEAN GARDEN SITE

The final site, known as the Flushing or Linnaean Garden Site (NYSM site 4524) has been reported to have been located in the vicinity of the Project Site. The site is believed to have been utilized as a “station,” or occupation site, with planting fields that were later repurposed as botanical gardens in the historic period, long before the modern QBG was formed (Bolton 1922:182). The CRIS listing for the site is based on the description included in Parker (1920), which describes the site as: “Burial sites yielding 11 skeletons, in the Linnaean Garden in Flushing in 1841. All heads were to the east” (Parker 1920:672). Parker’s source for information on the site was historian Gabriel Furman (1875), who described the site and its discovery as follows:

In the month of July 1841, eleven human skeletons were unearthed in excavating the ground to run a road through the Linnæan Garden, at Flushing, in Queens County. The place where they were found has been for fifty years used as a horticultural nursery. They were within a circle of thirty feet, their heads all lay to the east, and some nails and musket-balls were found with them. Conjecture has been foiled in speculating upon the circumstances under which they were inhumed (Furman 1875: 5-6).

A similar narrative was published by historian Benjamin F. Thompson in 1843, only two years after the reported discovery of the remains. Additional similar reports have been repeated in other published works, including Bolton (1922). Fulton’s account therefore appears to have been based on Thompson’s:

In the autumn of 1841, while some persons were employed in excavating the ground, in the grading of Linnæus street, through a part of what was once the Linnæan Gardens, a dozen or more human skeletons were discovered and exhumed almost entire. From the fact of leaden bullets being found among the bones, it seems highly probably that the unfortunate individuals whose relics they were had fallen by an enemy in battle—and from the circumstance that a very considerable British force was stationed here during the Revolutionary war, it is no more reasonable to suppose, these bones may have been the remains of some of our countrymen, or of their opponents, who had fallen in a skirmish with each other (Thompson 1843 II: 93-94).

THE LOCATION OF THE LINNAEAN GARDEN SITE

The Linnaean Garden site is mapped in CRIS in two different locations. The first is in the immediate vicinity of the Project Site and the second is mapped more than 4,000 feet north of the Project Site. The identification of the second location appears to be the result of research completed by William Roberts of Greenhouse Consultants, Inc. in 1997. Roberts also noted that the NYSOPRHP files indicate that the Linnaean Garden site was in the vicinity of Kissena Park to the east of the Project Site. However, Roberts speculated that the site was mapped in the incorrect location, as the 1873 Beers atlas depicted “Linnaeus Street” in downtown Flushing, in the location of what is now Prince Street north of Main Street. This location is more consistent with the second location of the site as mapped in CRIS more than 4,000 feet north of the site. Innes (1908) and Seyfried (2001) also indicate that the garden was located in the vicinity of modern Prince Street to the north of the Project Site. Smith’s 1841 map of Flushing also depicts the garden in this area and depicts the proposed line of Linnaeus Street.

The confusion regarding the site’s location appears to be related to the fact that there were multiple garden sites in Flushing during the 19th century, as the neighborhood had a long history as a place where domesticated crops and exotic plants were cultivated (Seyfried 2001). Named after biological classifier Carl Linnaeus, Linnaean gardens were popular precursors to modern botanical gardens in Europe and the Americas in the 18th and 19th centuries (Upsala 2021). An 8-acre “Linnaean Botanic Garden” was established in the Flushing area by William Prince ca. 1750 and was later operated by his children, William Prince, Jr. and Benjamin Prince, known collectively as “William Prince and Sons” (Thompson 1839; Seyfried 2001). The garden was initially noted for its extensive grove of English cherry trees and it later yielded a variety of ornamental trees and other crops as well (Thompson 1839). It was expanded to 24 acres in 1793 and covered more than 60 acres by the late 1830s (ibid). Revolutionary War activity was documented in the vicinity of the garden, as British General William Howe ordered his guards to protect the garden’s ample resources after his arrival in Flushing in the summer of 1777 (ibid). It was Howe who gave the Linnaean Gardens its name, having previously been known as Prince’s Gardens (Seyfried 2001).

Following the war, William and Benjamin Prince established additional nurseries in Flushing that were later consolidated into a single business (Seyfried 2001). After the Prince family embarked upon a silk business that was ultimately a failure, the nurseries were foreclosed upon in 1851 and later operated by Gabriel Winter operating as “Winter and Company” until 1862 (ibid). William Prince attempted to re-start his horticultural career by opening a new, 51-acre nursery south of 41st Avenue, though the size of the new parcel was significantly reduced following the construction of the a railroad line through the area (ibid). The 1852 Connor map of Queens County (see **Figure 5**) depicts “Prince’s Nursery” on a 10-acre parcel situated to the south of the Project Site in an area situated between roads that appear to be precursors to modern Elder Avenue and Booth Memorial Avenue. The map continues to depict the Project Site as almost entirely, if not entirely, covered with marshland. The map continues to depict a small parcel of land in the vicinity of modern Prince and Main Streets north of the Project Site as “Prince’s Nursery.”

Furthermore, maps appear to indicate that the Project Site continued to be largely occupied by inundated marshland until the early 20th century, making it unlikely that it was the site of any historic-period burials. Therefore, it appears that the site where at least eleven graves were disinterred was more than 4,000 feet north of the Project Site and was unrelated to the Prince's gardens that was established to the south of the Project Site ca. 1851. AKRF notified NYSM of the mapping error and OPRHP has remapped the site in its correct location as OPRHP site 08101.013320.

B. DEVELOPMENT HISTORY OF THE PROJECT SITE

As described previously, the Project Site remained inundated marshland until the early 20th century. The 1891 Wolverton and 1904 Ullitz atlases continue to depict a creek running through a portion of what is now the QBG. Wolverton's atlas depicts a mill to the southwest of what is now the QBG, which appears to have given the adjacent creek its name. The Ullitz map also suggests that the areas of tidal marsh were divided into large privately-owned tracts that were presumably associated with salt hay farming and cultivation. The 1909 Bromley atlas of Queens (see **Figure 6**) depicts the Project Site in the same manner, though it reflects greater urban development surrounding the Project Site, including to the south of modern Elder Avenue. The map also identifies the stream in the vicinity of the Project Site as "Mill Creek." Sanborn maps published in 1917 and a 1924 aerial photograph taken by the City of New York¹ indicate that the creek and surrounding marshes were still present. The 1917 Sanborn map indicates that some residential development occurred by this time along the northern side of Elder Avenue within the modern QBG property but outside of the Project Site, which was still inundated by Mill Creek and its associated marshlands.

The dramatic transformation of the Flushing Meadows area occurred in the 1930s in preparation for the 1939 World's Fair. The fairgrounds extended as far east as College Point Boulevard, the western boundary of the modern QBG (Cotter 2009). Though it was situated east of the fairgrounds, modern Kissena Park, including the QBG, was filled at the same time.² A portion of the fairgrounds that had been filled and landscaped as part of the "Gardens on Parade" exhibit was transformed into the first site of the QBG after the fair concluded (ibid). Though the 1951 Sanborn map continues to depict Kissena Creek running through the Project Site, a 1951 aerial photograph depicts the modern location of the QBG as filled, but undeveloped. As part of the preparation for the 1964 World's Fair, which was also held in Flushing Meadows, the QBG was moved to its current location in 1961 (QBG 2021). At the time of the relocation, the modern QBG site was still largely occupied by "bog and dumps" and required significant grading and filling to create a landscape suitable for ornamental gardens (*New York Times* 1961: 16). Some of the trees planted in the garden exhibit for the 1939 fair

¹ Accessible here: <https://maps.nyc.gov/then&now/>.

² Photographs documenting the filling of marshes in the vicinity of Kissena Park can be found here: <http://nycma.lunaimaging.com/luna/servlet/s/g50x12> and here: <http://nycma.lunaimaging.com/luna/servlet/s/a19k4z>.

were replanted in the modern QBG (QBG 2021). As initially planned, the formal gardens were to be located in the QBG’s southeast corner, near Main Street, while the remainder of the site, including the Project Site, was to be “informally landscaped” pending later development and associated landscape initiatives that do not appear to have been realized (*Ridgewood Times* 1962). Sanborn maps published between 1981 and the present and aerial photographs taken between 1996 and the present depict the Project Site as an undeveloped and landscaped portion of the park.

A. CONCLUSIONS

As part of the background research for this Phase 1A Study, various primary and secondary resources were analyzed, including historic maps and atlases, historic photographs, newspaper articles, and local histories. The information provided by these sources was analyzed to reach the following conclusions.

ASSESSMENT OF PREVIOUS DISTURBANCE

The Project Site was inundated by a creek and surrounding marshlands until filling efforts transformed the landscape in the 1930s. These landfilling initiatives included the diversion of the creek into sewers and culverts that allow the stream to continue to run beneath the larger QBG property. The site of the QBG experienced further disturbance during its conversion to the modern botanical garden in the 1960s, at which time the QBG was graded and landscaped.

PRECONTACT SENSITIVITY ASSESSMENT

The precontact sensitivity of project sites in New York City is generally evaluated by a site's proximity to level slopes, watercourses, well-drained soils, and previously identified precontact archaeological sites. As described in **Chapter 3, "Background Research,"** the Project Site is located in the vicinity of a number of previously reported archaeological sites.¹ While the marshes within and surrounding the Project Site would have provided important resources for local indigenous groups during the precontact period, the Project Site was occupied by an active Creek and tidal marsh until the 1930s. The efforts made to transform the area into the QBG would therefore have resulted in significant landscape modification. Therefore, given the extent to which the Project Site has been disturbed as a result of both natural and anthropomorphic landscape modification associated with an active waterway, landfilling efforts, and the construction of the QBG, the Project Site is determined to have low sensitivity for archaeological resources associated with the precontact occupation of the area.

¹ The previously reported Linnean Garden archaeological site (NYSM 4524) containing human remains was determined by AKRF to have been mapped in the wrong place in NYSOPRHP's CRIS and was actually located more than 4,000 feet to the north of the Project Site.

HISTORIC SENSITIVITY ASSESSMENT

The Project Site was inundated until the 1930s and a review of historical maps indicated that no historical development occurred on the Project Site until the QBG was established there in the 1960s. The Project Site is therefore determined to have no archaeological sensitivity for resources associated with the historic period occupation of the area.

B. RECOMMENDATIONS

The Project Site is determined to have low sensitivity for precontact archaeological resources and no sensitivity for archaeological resources associated with the historic period. The impacts associated with the construction of the open air pavilion and the kids culture garden are therefore not expected to result in the disturbance of archaeological resources and no further archaeological analysis is recommended.

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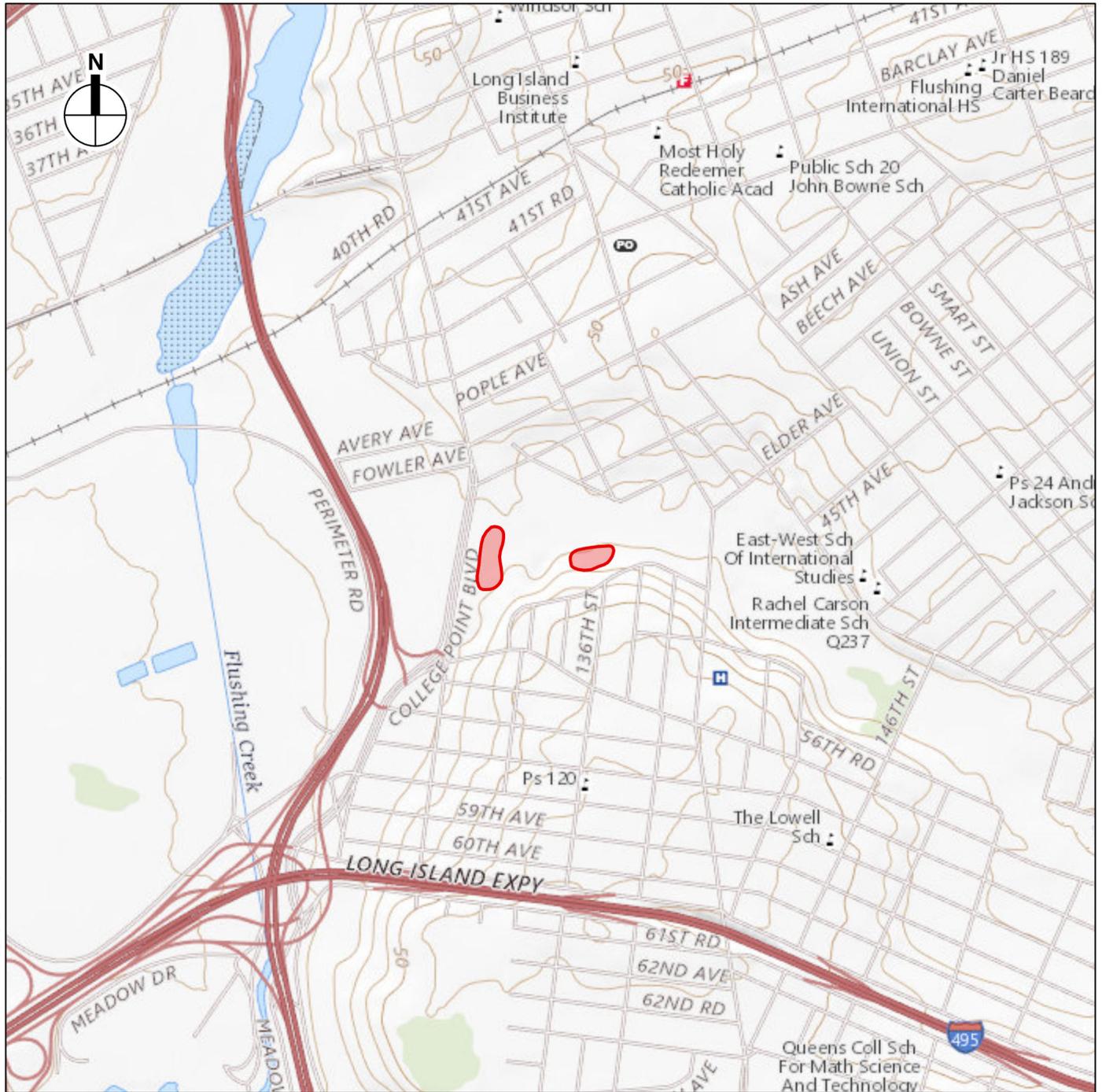
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Figures

2/5/2021

Source: USGS The National Map, <https://basemap.nationalmap.gov/darcjs/esri/services/USGSTopo/MapServer>



0 2,000 FEET

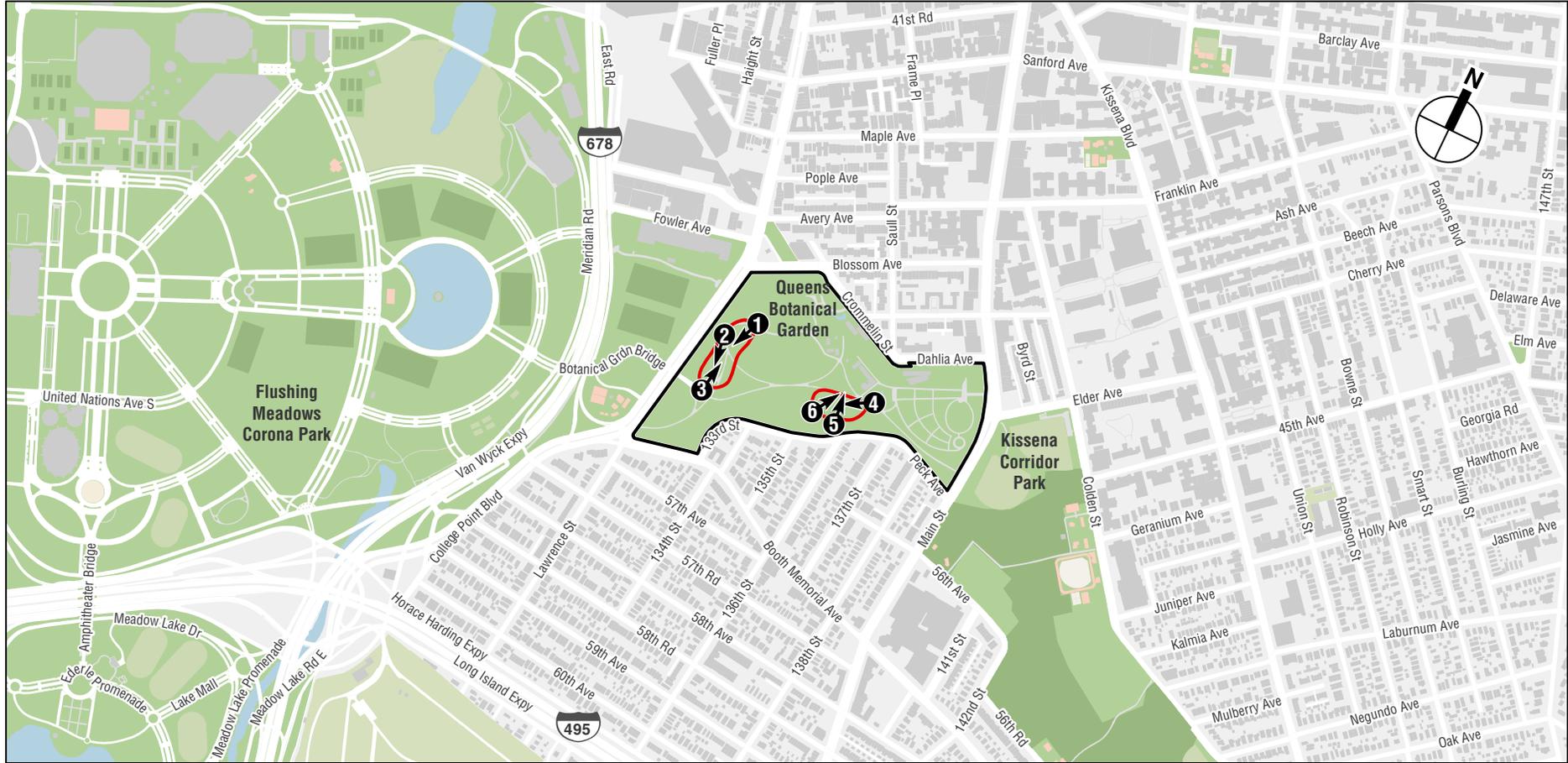
 Project Site

Approximate coordinates of Project Site:
73°49'49"W 40°45'1"N



USGS Topographic Map - Flushing and Jamaica Quadrangles
QUEENS BOTANICAL GARDEN – OPEN AIR PAVILION AND KIDS CULTURE GARDEN Figure 1

2.3.21



-  *Project Site*
-  *Queens Botanical Garden*
-  *Photograph View Direction and Reference Number*

Note: Approximate locations of the Proposed Open Air Pavilion and Kids Culture Garden.



QUEENS BOTANICAL GARDEN – OPEN AIR PAVILION AND KIDS CULTURE GARDEN

Project Location
Figure 2

View southwest from the Parking Garden **1**



View south from the haul road **2**



View north from area near the bridge over College Point Boulevard **3**



Note: Approximate location of the Proposed Open Air Pavilion

View west including the hill on the left and the composting and farm areas in the far distance 4



View east including crab apple trees on the left and the hill on the right 5



View northeast from the hill including crab apple trees 6



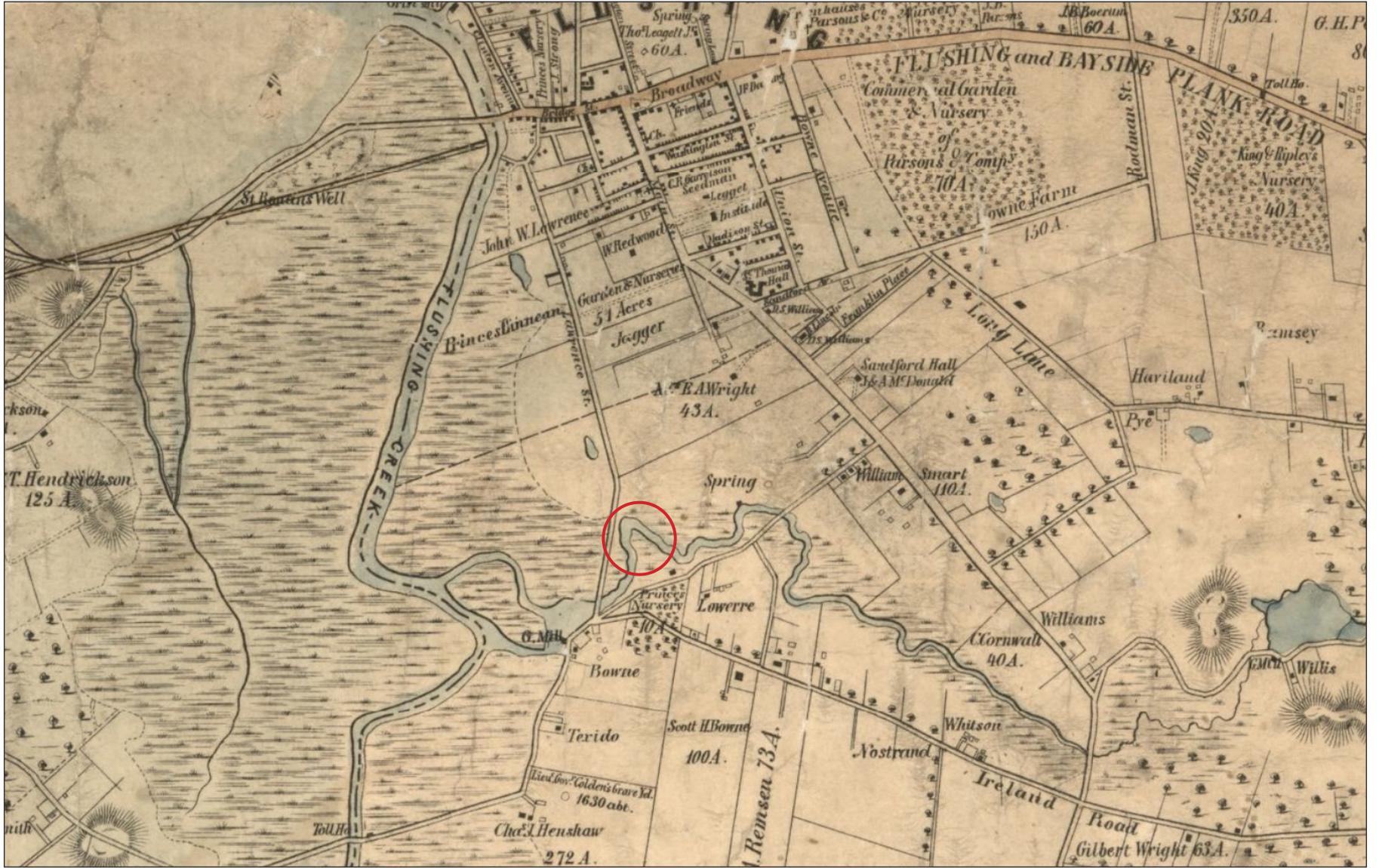
Note: Approximate location of the Proposed Open Air Pavilion



 *Project Site*

0 2,000 FEET

1891 USGS Maps, Brooklyn and Harlem
QUEENS BOTANICAL GARDEN – OPEN AIR PAVILION AND KIDS CULTURE GARDEN **Figure 4**



 Approximate Location of Project Site



Project Site

0 1,000 FEET

Appendix A:

Plan for the Unanticipated Discovery of Human Remains

Open Air Pavilion and Kids Culture Garden at the Queens Botanical Garden

43-50 Main Street (Block 5107, Lot 200)

KISSENA PARK, FLUSHING, QUEENS COUNTY, NEW YORK

Plan for the Unanticipated Discovery of Human Remains

Prepared for:

Dormitory Authority of the State of New York (DASNY)
One Penn Plaza, 52nd Floor
New York, New York 10119-0098

Prepared by:



AKRF, Inc.
440 Park Avenue South
New York, NY 10016
212-696-0670

March 2021

**Queens Botanical Garden Open Air Pavilion
and Kids Culture Garden Project:
Plan for the Unanticipated Discovery of Human Remains**

PART 1: INTRODUCTION AND PROJECT BACKGROUND

The Queens Botanical Garden Society, Inc. (“Queens Botanical Garden” or “QBG”) is proposing to construct improvements on the QBG grounds within Kissena Park in the Flushing neighborhood of Queens, New York. The Proposed Project would provide the QBG with new garden amenities that would support the QBG’s sustainability initiatives while enhancing the visitor experience of the garden, including opportunities for hands-on experiences for children visiting the garden. The Dormitory Authority of the State of New York (“DASNY”) has received a funding request from QBG for its *Open Air Pavilion and Kids Culture Garden* as part of the Community Capital Assistance Program (“CCAP”) and/or the State and Municipal Facilities Program “SAM”) (DASNY project #8140). The Project Site therefore includes two non-contiguous locations within the QBG: 1) the open air pavilion site is located in the southwest portion of the QBG and 2) the kids culture garden site is located in the south-central portion of the QBG.

The Proposed Project is being reviewed pursuant to the *State Environmental Quality Review Act (“SEQRA”)*, codified at Article 8 of the *New York Environmental Conservation Law (“ECL”)*, and its implementing regulations, promulgated at Part 617 of Title 6 of the *New York Code, Rules and Regulations (“N.Y.C.R.R.”)*, which collectively contain the requirements for the *State Environmental Quality Review (“SEQR”)* process. The environmental review of the Open Air Pavilion and Kids Culture Garden project (“Proposed Project”) follows *SEQRA*, and the *New York City Environmental Quality Review (“CEQR”) Technical Manual* generally is used as a guide with respect to environmental analysis methodologies and impact criteria for evaluating the Proposed Project.¹ The Proposed Project is also being reviewed in conformance with the *New York State Historic Preservation Act of 1980 (“SHPA”)*, specifically the implementing regulations of Section 14.09 of the *Parks, Recreation and Historic Preservation Law (“PRHPL”)*, as well as with the requirements of the Memorandum of Understanding (“MOU”), dated March 18, 1998, between DASNY and the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP).

Pursuant to these regulations, consultation was initiated with NYSOPRHP and the New York City Landmarks Preservation Commission (“NYCLPC”) regarding the Project Site’s potential archaeological sensitivity. In a comment letter dated January 20, 2021, NYSOPRHP determined that the Project Site is potentially archaeologically sensitive and requested that a Phase 1A Literature Search and Sensitivity Assessment (also known as a “Phase 1A Archaeological Documentary Study” or “Phase 1A Study”) be prepared to further assess areas of archaeological sensitivity within the Project Site. Specifically, NYSOPRHP stated that the site was in close

¹ The City of New York, Mayor’s Office of Environmental Coordination, *CEQR Technical Manual*, 2020.

proximity to New York State Museum (“NYSM”) archaeological site number 4524, which was reported to include precontact archaeological resources and human remains potentially associated with military activity in the area during the Revolutionary War. NYCLPC made a similar request in a comment letter issued February 2, 2021. A Phase 1A Study was prepared by AKRF in February 2021 (Revised, March 2021) to satisfy these comments.¹

The Phase 1A Study concluded that the Project Site is not sensitive for archaeological resources and determined that no additional archaeological analysis or testing was required. In separate comment letters issued February 22, 2021, NYCLPC and NYSOPRHP concluded that out of an abundance of caution, a plan for the unanticipated discovery of human remains be prepared and implemented in the unlikely event that human remains are encountered during the construction of the project. NYSOPRHP specifically requested that the Human Remains Discovery Protocol as issued by the New York State Historic Preservation Office (“SHPO”) in January 2021 be implemented in the event that human remains are encountered during the project’s construction. This protocol is included here as **Part 2: SHPO Human Remains Discovery Protocol**. The steps that would have to be followed in order to implement the SHPO protocol in compliance with the *Guidelines for Archaeological Work in New York City* as issued by NYCLPC in 2018² are included in **Part 3: Plan for the Unanticipated Discovery of Human Remains**.

PART 2: SHPO HUMAN REMAINS DISCOVERY PROTOCOL (JANUARY 2021)

In the event that human remains are encountered during construction or archaeological investigations, SHPO recommends that the following protocol is implemented:

- Human remains shall be treated with the utmost dignity and respect. Should human remains or suspected human remains be encountered, work in the general area of the discovery shall stop immediately and the location shall be secured and protected from damage and disturbance.
- If skeletal remains are identified and the archaeologist is not able to conclusively determine if they are human, the remains and any associated materials must be left in place. A qualified forensic anthropologist, bioarchaeologist or physical anthropologist shall assess the remains in situ to help determine if they are human.
- If the remains are determined to be human, law enforcement, the SHPO, the appropriate Indian Nations, and the involved state and federal agencies shall be notified immediately. If law enforcement determines that the burial site is not a criminal matter, no skeletal remains or associated materials shall be removed until appropriate consultation takes place.

¹ AKRF (2021): “Open Air Pavilion and Kids Culture Garden at the Queens Botanical Garden; 43-50 Main Street (Block 5107, Lot 200); Kissena Park, Flushing, Queens County, New York: Phase 1A Archaeological Documentary Study.” Prepared for: Dormitory Authority State of New York; New York, NY.

² https://www1.nyc.gov/assets/lpc/downloads/pdf/2018_Guidelines%20for%20Archaeology_Final_high%20res.pdf

- If human remains are determined to be Native American, they shall be left in place and protected from further disturbance until a plan for their avoidance or removal is developed. Please note that avoidance is the preferred option of the SHPO and the Indian Nations. The involved agency shall consult SHPO and the appropriate Indian Nations to develop a plan of action. Photographs of Native American human remains and associated materials should not be taken without consulting with the involved Indian Nations.
- If human remains are determined to be non-Native American, the remains shall be left in place and protected from further disturbance until a plan for their avoidance or removal is developed. Please note that avoidance is the preferred option of the SHPO. The involved agency shall consult SHPO and other appropriate parties to develop a plan of action.
- The SHPO recommends that burial information is not released to the public to protect burial sites from possible looting.

PART 3: PLAN FOR THE UNANTICIPATED DISCOVERY OF HUMAN REMAINS

In the event that human remains or suspected human remains are encountered during construction, the following plan will be implemented to ensure that the Human Remains Discovery Protocol as issued by SHPO will be implemented in compliance with New York City laws and the guidelines of NYCLPC regarding the discovery and handling of human remains.

The following procedures will be adhered to if the discovery of human remains or suspected human remains occurs during construction efforts associated with the Proposed Project. This protocol outlines the notification procedures that will be in place to ensure that all involved parties are appropriately notified of the discovery of human remains or suspected human remains.

In the event of the discovery of human remains or suspected human remains:

1. The Contractor will stop work immediately in the area of the find to protect the integrity of the find. The location of the find will be flagged or fenced to ensure the safety of the human remains and to avoid potential impacts.
2. The Contractor will immediately notify QBG and QBG will notify the archaeological consultant of the find. Notification will include: specific location of discovery within the disturbed area of the work site; the nature of the discovery; and the location of the find flagged/fenced to insure safety and avoidance of impacts. At all times human remains must be treated with the utmost dignity and respect. The Contractor will not restart work in the area of the find until QBG has granted clearance.
3. The Contractor will immediately call 911 to notify both the New York City Police Department (“NYPD”) and the Office of the Chief Medical Examiner (“OCME”) of the find, and cooperate with OCME to notify, as required, any additional law enforcement agencies, as appropriate.

SHPO Contact: Dr. Bradley Adams, Forensic Anthropologist
Telephone: Primary: 212.447.2030; Secondary: 718.804.8050
Address: 520 First Avenue, New York, New York 10016
E-mail: badams@ocme.nyc.gov

4. QBG will promptly notify NYSOPRHP and NYCLPC of the find.

NYSOPRHP Contact: Philip A. Perazio, Historic Preservation Program Analyst—
Archaeologist
Telephone: (518) 268-2175
Address: New York State Office of Parks, Recreation, and Historic
Preservation, Division for Historic Preservation
P. O. Box 189, Waterford, NY 12188-0189
Express Address: Delaware Avenue, Cohoes, New York 12047
E-mail: Philip.Perazio@parks.ny.gov

NYCLPC Contact: Amanda Sutphin, Director of Archaeology
Telephone: 212.669.7823
Address: New York City Landmarks Preservation Commission
1 Centre Street, 9th Floor, New York, NY 10007
E-mail: asutphin@lpc.nyc.gov

5. If OCME/NYPD determine that they have no concerns for the remains, QBG will retain the services of an archaeological consultant (if one has not already been retained) and will direct the archaeological consultant to begin a more detailed archaeological assessment of the find's significance.
6. If it is determined that intact interments or disarticulated human remains are present and may be disturbed by continuing construction, then QBG will attempt to locate and identify next of kin or a descendant community (if known or if lineage can be determined), NYSOPRHP and NYCLPC regarding additional measures to avoid or mitigate further damage. These measures may include:
- Formal archaeological evaluation of the site;
 - Visits to the site by NYSOPRHP, NYCLPC, and other parties as necessary;
 - Preparation of a mitigation plan by QBG, including procedures for disinterment and reinterment, for approval by NYSOPRHP and NYCLPC;
 - Implementation of the mitigation plan; and
 - Approval to resume construction following completion of the fieldwork component of the mitigation plan.
7. In the event that intact human remains are to be disinterred from the site, a funeral director will be retained by QBG. As necessary and required by New York City law, the

funeral director will apply for a disinterment permit from the New York City Department of Health (“NYCDOH”) before human remains are removed from the site pending the implementation of a mitigation plan prepared pursuant to **Step 6** of this plan.

8. QBG will then grant clearance to the Contractor to restart work.