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PHASE IA ARCHEOLOGICAL SENSITIVITY ASSESSMENT AND PHASE IB ARCHEOLOGICAL FIELD RECONNAISSANCE

Bronx-Whitestone Bridge Queens Approach
Project BW-89C

Malba and Whitestone
Queens County, New York

HAA # 4278-11 and 4278-21
OPRHP 10PR 000963

Submitted to:
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MANAGEMENT SUMMARY

SHPO Project Review Number: **10PR 000963**
Involved State and Federal Agencies: **NYSDEC, NYSDOS, USACE**
Phase of Survey: **Phase IA/IB**

LOCATION INFORMATION

Location: **Queens Approach to Bronx-Whitestone Bridge, Whitestone and Malba**
Minor Civil Division: **Queens**
County: **Queens (08101)**

SURVEY AREA

Number of Acres Surveyed: **14.2 (5.7 ha)**
7.5 Minute Quadrangle Map: **1979 USGS Flushing**

RESULTS OF RESEARCH

Sites within two mile: **23**
Surveys in immediate vicinity: **Two**
NR/NRE sites in or adjacent: **One.**
OPRHP inventoried structures in or adjacent: **None**
Precontact Sensitivity: **High**
Historic Sensitivity: **Portions are high.**

ARCHEOLOGICAL SURVEY OVERVIEW

Number and Interval of Shovel Tests: **21;** Thirteen at 50-foot intervals, 7 at 25-foot intervals, and one test was 35 feet from the nearest test.

RESULTS OF ARCHEOLOGICAL SURVEY

Number and name of precontact sites identified: **1; G.L. Smith Precontact Site**
Number and name of historic sites identified: **1; G.L. Smith Historic Site**
Number and name of site recommended for Phase II/Avoidance: **Sites will be avoided by project redesign.**

RECOMMENDATIONS

No further archeological work is recommended for the Bronx-Whitestone Bridge, Queens Approach, as currently designed.

Report Authors: Lori J. Blair and Matthew Lesniak
Date of Report: June 2010

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23. Photo taken in July, 1937 showing "Workers building the foundation for the bridge's approach near Parsons Blvd" (From Antos 2006:103).
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Table List

PHASE IA LITERATURE REVIEW AND ARCHEOLOGICAL SENSITIVITY ASSESSMENT

INTRODUCTION

Hartgen Archeological Associates, Inc. (HAA, Inc.) was retained by PB Sells to conduct a Phase IA literature review for the proposed replacement of the Queens approach to the Bronx-Whitestone Bridge located on I-678 (Whitestone Expressway) in Queens Borough, Queens County, New York. This review and sensitivity assessment was conducted to comply with the State Environmental Quality Review Act (SEQRA), Section 14.09 of the State Historic Preservation Act and Section 106 of the National Historic Preservation Act. The investigation was conducted according to the New York Archaeological Council's (NYAC) Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State (NYAC 1994).

PROJECT INFORMATION

A site visit was conducted by Lori J. Blair on April 7, 2010 to observe and photograph existing conditions within the project area. The information gathered during the site visit is included in the relevant sections of the report. The project site is located in the MTA right-of-way between the Whitestone Expressway 14th Avenue off-ramp and the (Queens) anchorage of the bridge.

Project Location

The project area consists of the Queens approach to the Bronx-Whitestone Bridge (Maps 1 and 2a-2d). It extends north along the Whitestone Expressway (I-678) roughly from 11th Avenue on the west side and 12th Avenue on the east side north to the Queens anchorage located on the south side of the East River. The main area of construction and operational activity will occur within the existing MTA jurisdiction area, which extends twenty-one feet from the current edge of the Bronx-Whitestone Bridge on both sides. The MTA has an existing service easement that extends an additional thirty feet beyond the MTA jurisdictional area on each side of the bridge.

Description of the Project Area/Area of Potential Effects (APE)

The area of potential effects (APE) includes all portions of the project area that will be directly or indirectly altered by the proposed undertaking. For the purposes of this study the APE includes the entire project area (Maps 2a-2d) which encompasses approximately 5.7 ha (14.2 ac).

The project area is beneath and along the existing raised roadbed of the Queens approach to the Bronx-Whitestone Bridge. The area beneath the raised roadbed includes paved areas, roadways, and playgrounds within the eastern portion of Francis Lewis Park (Photos 1-6).

The proposed project will replace the 11-span steel approach and the seven-span concrete end ramp of the elevated Queens Approach of the Bronx-Whitestone Bridge, as well as at-grade approach roadways, from the Whitestone Expressway 14th Avenue off-ramp (on the west of the Approach), and northbound from the Third Avenue Exit to the Queens anchorage of the bridge. The approach structure currently has six nonstandard lanes (with no shoulders). The seven-span replacement structure will be wider than the existing one so that there will be six standard-width lanes (with standard-width shoulders). Photos 7-8 show the current conditions within the vicinity of the proposed piers south of 3rd Avenue (see Photos 1-6 for area north of 3rd Avenue). The structural improvements of the project also include replacement of the existing two-column piers with three-column arched piers to accommodate the modified roadway. Photos 9 and 10 are of ongoing construction on the Bronx side of the bridge showing the widened roadway and piers similar to those proposed in Queens.

The bottom of excavation for the pier footings will generally be 5.5 feet (1.7 m) below the ground surface (Table 1). Each footing contains 16 minipiles that will extend to depths ranging from 67 to 81 feet. Note that

the top 3'-3" of mini pilings will be within the pier footing. The 12" -diameter piles will be cast in place, thus the soil will be augured out to the appropriate depth. For reference, Photo 11 shows excavation of a pier footing on the Bronx side of the bridge.

Table 1: Depths of Pier features

Pier	Location	Top of Grade El (ft)	Bottom of Excavation (ft)	Depth of Excavation	Min. Length of Minipiles (ft)
1Q	West	12	6.5	5.5	80
	Center	18	12.5	6.5	
	East	12	6.5	5.5	
2Q	West	34	28.5	5.5	67
	Center	34	28.5	5.5	
	East	34	28.5	5.5	
3Q	West	36	30.5	5.5	67
	Center	36	30.5	5.5	
	East	36	30.5	5.5	
4Q	West	36.5	31	5.5	74
	Center	36.5	31	5.5	
	East	36.5	31	5.5	
5Q	West	36.5	31	5.5	81
	Center	36.5	31	5.5	
	East	36.5	31	5.5	
6Q	West	36	30.5	5.5	71
	Center	36	30.5	5.5	
	East	36	30.5	5.5	
7Q Abutment		39.5	35.5	4	79

The on-grade pavement adjacent to the elevated approach structure will be completely replaced with a new full-depth asphalt pavement to match the widened approach structure. In the northbound direction, approximately 600 feet of pavement will be replaced and will extend beyond the jurisdictional boundaries of the Triborough Bridge and Tunnel Authority (TBTA) to include pavement owned and maintained by the New York City Department of Transportation (NYCDOT). In the southbound direction, approximately 1,100 feet of pavement will be reconstructed, the remaining areas within the TBTA jurisdictional limits will be milled and overlaid with a new wearing surface. Photos 12-16 show these areas.

The design for the replacement Approach structure includes improvements to the drainage system of the Queens Approach. New drainage pipes and catch basins will be installed with connections to the City's system at two locations and one new outfall to the East River will be constructed near the Queens Anchorage (Photo 17). An underground stormwater detention chamber will be installed within the Queens interchange. The interchange also will be used for temporary staging (Photos 12 and 16). Most of the interchange is characterized as sloping, likely a result of significant grading from construction activities. Utilities run through the more level portions.

The proposed project will require the reconstruction of hand-ball courts and the relocation of the Francis Lewis Playground at Francis Lewis Park to allow for the removal and replacement of piers underneath the Queens approach (Map 2e). Currently, the hand-ball courts and the playground are located underneath the approach where construction will take place (Photos 4 and 5). The relocated playground and an associated path and utilities will be relocated to a grassy area of the park just east of the existing facilities (Photos 18 and 19).

ENVIRONMENTAL BACKGROUND

The environment of an area is significant for determining the sensitivity of the project area for archeological resources. Precontact and historic groups often favored level, well-drained areas near wetlands and waterways. Therefore, topography, proximity to wetlands, and soils are examined to determine if there are landforms in the project area that are more likely to contain archeological resources. In addition, bedrock formations may contain chert or other resources that may have been quarried by precontact groups. Soil conditions can provide a clue to past climatic conditions, as well as changes in local hydrology.

Present Land Use and Current Conditions

Soils

Soil surveys provide a general characterization of the types and depths of soils that are found in an area. This information is an important factor in determining the appropriate methodology if and when a field study is recommended. The soil type also informs the degree of artifact visibility and likely recovery rates. For example, artifacts are more visible and more easily recovered in sand than in stiff glacial clay, which will not pass through a screen easily.

Table 2. Soils in Project Area

Name and symbol	Soil Horizon Depth in (cm)	Color	Texture, Inclusions	Slope	Drainage	Landform
Foresthills series 0-2 in	0-5.1 (0-2 in)	Vr dk gr br	loam	3-8%	Well drained	Anthropogenic fill areas on urbanized till plains
	2-15	Br Yel red Black	Silt loam Loam Loam			
	15-17	Black	Loam			
	17-28	Brown	Loam			
	28-42	Re br	loam			
Montauk series	0-2	brown	Sandy loam	3-8%	Well drained	Till plains and moraines
	2-27	Yellowish brown	Fi sandy loam			
	27-40	Brown	Sandy loam			

Key: Color: Br-Brown, Dk-Dark, Gr-Gray, Re-Red, Y-Yellow, Bk-Black, Ol-Olive
Texture: Co-Coarse, Fi-Fine, Gv-Gravel(ly), Lo-Loam, Sa-Sand, Si-Silt, Vy-Very

The soils in the vicinity of the project area have been identified as Pavement and buildings- Foresthills-Montauk complex (0-8% slopes) (Map 3; USDA 2005). These soils are described as "nearly level to gently sloping urbanized areas of till plains and moraines that have been substantially cut and filled with natural soil materials, mostly for residential use…located from the terminal moraine northward in Brooklyn and Queens" (USDA 2005:11). The parent material of the Foresthills series is described as loamy fill, less than 40 inches deep over an intact or truncated glacial till soil while the Montauk series is derived from glacial till.

Soil borings

Soil borings within the project area reveal varying depths of fill within the APE (Appendix 1). The depths of fill exceed the proposed excavations. The fill materials consist mostly of "brown to gray, loose to dense, fine to coarse sand, with some gravel, silt and clay" (PB Sells 2007:7). Inclusions consist of considerable amounts of cobbles with some cinders, brick fragments, concrete and wood. Below the fill are glacial and interglacial deposits described as "(1) brown to gray, medium dense to very dense, fine to medium sand with varying amounts of silt, clay and gravels and (2) stiff to hard, silty clay and clayey silt, with different amounts of sand and gravels" (PB Sells 2007:8).

Bedrock Geology

The project area is underlain by Upper Cretaceous age Coastal Plain Deposits consisting of clay, silty clay, sand and gravel of the Raritan Formation (Fisher et al. 1970). No bedrock outcrops are located in the project area.

Physiography and Hydrology

Steeply sloped areas are considered largely unsuitable for human occupation. As such, the standards for archeological fieldwork in New York State generally exclude areas with a slope in excess of 12% from archeological testing (NYAC 1994). Exceptions to this rule include steep areas with bedrock outcrops, overhangs, and large boulders that may have been used by precontact people as quarries or rock-shelters. Such areas may still warrant a systematic field examination.

There are no bedrock outcroppings in the project area so there is no likelihood of potential quarries or rock-shelters. The project APE has areas that are relatively level to gently sloping and areas of steeper slopes. The former includes most of the areas beneath the raised roadbed with the exception of the northernmost area where it slopes rapidly down to the water (see for example Photos 1 and 17). The more sloping areas are located alongside the existing roadway adjacent to the abutment (Photos 7 and 13) where these areas have been filled or adjacent to the expressway where land has been cut (see for example Photo 12 and 14).

DOCUMENTARY RESEARCH

Archeological Sites

Previously reported archeological sites provide an overview of both the types of sites that may be present in the project area and relation of sites throughout the surrounding region. The presence of few reported sites, however, may result from a lack of previous systematic survey and does not necessarily indicate a decreased archeological sensitivity within the project area.

An examination of the archeological site files at the Office of Parks, Recreation and Historic Preservation (OPRHP) and the New York State Museum (NYSM) identified 23 reported archeological sites within a two mile (3.2 km) radius of the project area. Ten of the sites are located in Queens while the others are located in the Bronx. Nineteen of the sites are precontact in age, or contain precontact-aged components, two of the sites are historic or contain historic components and three of the sites are unknown. While most of the sites are located at a distance from the project area, one NYSM site #4541, described as traces of occupation, is shown covering a large area, including a large portion of the project area. The site is one of many initially reported by Arthur Parker in the 1920s (Parker 1922:672). Parker based his site locations on information from local archeologists and local collectors. Often his sites have not been verified by modern systematic survey, however, their proximity indicates an overall archeological sensitivity.

The known site next nearest to the project area is the National Register eligible Wilkins Site, located on Fourteenth Avenue about 1300 feet southwest of the project's southwestern limit. The site, a late-precontact village and associated burial ground, was investigated in 1939 and 1940 by the Flushing Historical Society.

The topsoil and much of the subsoil had been removed from the area as fill for construction, reportedly for sale to the 1939 World's Fair (Boesch, Bianchi and Howson 2000:5). All of the artifacts that define the site were recovered from 18 subterranean storage pits that were found (Smith 1950:177). Human remains were found in a refuse-filled pit uncovered by construction activities in 1950 (Smith 1950:177 and Boesch, Bianchi and Howson 2000:7). Archeological investigations conducted in 2000 in this same vicinity identified additional archeological deposits (Boesch, Bianchi and Howson 2000). The 2000 investigations are summarized below under the previous surveys section.

Table 3. OPRHP/NYSM Archeological Sites within Two Miles (3.2 km) of the Project Area

OPRHP Site No.	**NYSM Site No.**	**Site Identifier**	**Description**	**Proximity to Project Area**
A00501.000057		Throgs Neck Site or Schley Avenue Shell heap	Excavated in the early 1900s; Woodland and transitional periods; destroyed.	2 miles north in the Bronx.
A08101.000133		Grantville	Multi-component precontact site excavated in the 1930s	1.5 miles southwest
A08101.007355	9356	Wilkins Site	Multi-component precontact site including lithic and ceramic artifacts and skeletal remains. **National Register Eligible.**	1300 feet southwest
	713	Clasons Point	No information; from old site file	About 7000 feet northeast
	715	Schurz: Throgs Neck	Multi-component – precontact and historic European; midden, trade items and colonial foundation; question as to site 715 or 7768	6500 feet northeast
	716	Old Ferry Point; Ferry Point	No information; from old site file	3500 feet north
	718	Locust Point	No information; from old site file	2 miles northeast
	719	College Point: Graham Court	Late Woodland village, burial site, shell midden, dog burial	9500 feet southwest
	2825	ACP Brnx 3	Early shell middens near Weir Creek Point	6000 feet north
	2840	ACP Brnx 18	Shell midden on Classon Point	7500 feet northwest
	4524	ACP Quns 1; Li nnaean Garden?	Burials (11) described as probably from Revolutionary war; lead bullets among the bones	10500 feet southwest
	4525	ACP Quns 2	Burial site; probably Native American due to presence of "stone relics"	2 miles southeast
	4526	ACP Quns 3A, 3B and 3C;Matinicocks' Settlements	Possible villages at Flushing, Glen Cove and Cow Harbor	8000-12000 feet south
	4527	ACP Quns 4A and 4B	Village and burial site at College Point	4500-7500 feet west
	4540	ACP Quns no #	Burial site	4500-8500 feet southwest
	4541	ACP Quns no #	Traces of occupation	Shown covering a large area across Malba and Whitestone, from 5th Avenue south

OPRHP Site No.	NYSM Site No.	Site Identifier	Description	Proximity to Project Area
	4542	ACP Quns no #	Camp site	8500-11500 feet southwest
	5327	ACP Brnx no #	Traces of occupation	2 miles north
	7146	ACP Brnx no #	Village	2 locations one is 7500 feet north other is about 8500 feet northeast
	7768	Schurz Cemetary (sic)	Late Woodland possibly Historic cemetery; similar description to site 715 but mapped separately	7500 feet northeast
	7769	No information	Shell middens; possible extension of 715	6000 feet northeast
	7770	No information	Shell middens; possible extension of 715	6000 feet north
	8288	New Saint Raymond's Cemetery	Chert debitage and possible chopper from below fill	8000 feet north

State and National Register

A search of the computer files at OPRHP did not identify any properties listed on the State/National Registers of Historic Places (NR) located within one-quarter mile of the project area. Two properties determined eligible (NRE) for listing on the registers are located within the immediate vicinity of the project area, including the Bronx-Whitestone Bridge (see discussion below in Architectural Discussion section). In addition to the two structures, one of the archeological sites listed above, the Wilkins Site (A08101.007355/9356) also has been determined eligible for the National Register. No buildings located immediately adjacent to the project area have been inventoried at the OPRHP. The locations of and a brief description of the two NRE structures are provided below in Table 4.

Table 4. NRE Properties within the vicinity of the Project Area

OPRHP Number	Property Name	Status	Description	Location and Proximity to Project Area
08101.000053	Bronx-Whitestone Bridge	NRE	Steel suspension bridge over the East River between the Bronx and Queens	Project area includes the approach to the bridge on the Queens side of the river.
08101.000121	Eng. Co. 295/ Hook & Ladder 144 Firehouse	NRE	Constructed between 1912 and 1914; moved to its current location from 14th Ave. in 1938.	12-49 149th Street; about 2000 feet southeast of project.

Previous Surveys

The library of the OPRHP was examined for reports of archeological surveys previously conducted within one-quarter mile of the project area. Only one report was on file in this area. In June 2000, archeological investigations were conducted at the intersection of 14th Avenue between 141st and 142nd Streets in advance of construction activities proposed by the New York City Department of Design and Construction (NYC DDC), southwest of the current project area (Boesch, Bianchi and Howson 2000). The archeological investigations were deemed necessary because the proposed work was to occur adjacent to the previously identified Wilkins Site (located in Block 4109) initially investigated in 1939 and 1940 by the Flushing Historical Society and briefly described above. In the 1950s, the resident of the house on Lot 2 of Block

4109 identified additional pits when grading occurred for houses in other portions of the block. Two pits were near the garage in Lot 2 and contained human remains. These pits were 150 feet or so from the original site location. The NYC DDC proposed widening 141st Street adjacent to Block 4109, Lot 2, the installation of new sidewalks along both sides of 141st Street and along the north side of 14th Avenue between 141st and 142nd Streets, as well as the realignment of the driveway to the garage on block 4109, Lot 2. Grading would occur in the raised ground adjacent to the side yard of Lot 2, Block 4109 as well as limited grading for sidewalks. Impacts also included the replacement of an existing 10" sewer with new catch basins in the intersection. Archeological testing was limited to the raised ground. Only limited archeological testing or monitoring was conducted in the remaining areas. The latter did not produce archeological deposits. Only the raised ground contained archeological resources (Boesch, Bianchi and Howson 2000).

In 2006, Hartgen Archeological Associates, Inc. (Hartgen) was retained by PB Sells to conduct a Phase IA Literature Review and Sensitivity Assessment for the proposed improvements to the Bronx approach to the Bronx-Whitestone Bridge (OPRHP 06PR05395) which included the installation of approximately 14 piers to support the deck replacement of the elevated portion of the roadway. The construction on the Bronx approach is the same as that proposed on the Queens approach as far as replacing the existing two-column piers with three-column piers (Photos 9-11). In correspondence dated March 16, 2007, the OPRHP stated they had no further building concerns regarding the proposed approach work. After reviewing the Phase IA archeological assessment and subsequently requested soil boring data, on April 9, 2007 the OPRHP issued a letter of No Effect upon cultural resources in or eligible for inclusion in the National Register of Historic Places for the Bronx work.

New York City Landmarks Preservation Commission (NYCLPC)

There are no New York City designated landmarks or districts within or near the project area. The nearest designated property lies to the east at Powells Cove Blvd and Totten Street. It is identified as the Arthur and Dorothy Dalton Hammerstein House at 168-11 Powells Cove Blvd in Beechhurst. This house is one of many mansions built along the north shore of Long Island in the early decades of the 20th century (NYCLPC 2004:288-289). Other designated landmarks lie to the west in the College Point section of Queens. These include the Herman A. and Malvina Schleicher House located at 11-41 123rd Street built in 1857 and the Queens Borough Public Library, Poppenhusen Branch, located at 121-23 14th Avenue. It is not anticipated that these landmarks will be affected by the project.

The NYCLPC was contacted by email in regards to the archeological sensitivity of the project area. In a response dated April 7, 2010, the NYCLPC identified properties both with no archeological significance and with archeological significance (Appendix 2). The two properties with no archeological significance include the Bronx-Whitestone Bridge Queens approach portion of the APE and the Third Avenue Borough/Block/Lot (BBL) 40444480111. The latter includes the underwater portion of Francis Lewis Park. According to the NYCLPC correspondence, the land portion of the park (BBL 4044480110) is considered to have archeological significance based on sensitivity models and historic maps. These resources indicate that there is a potential for the recovery of remains from the 19th century and Native American occupation.

HISTORICAL MAP REVIEW

A series of historical maps was reviewed to document development in the vicinity of the project area. Maps examined ranged in date from the late 18th century to the late 20th century. Not all are presented in this report.

The late 18th and early 19th century maps examined do not show great detail in the vicinity of the project area. Places identified include Lawrence neck (currently College Point vicinity) and Whitestone. No development is detailed in either of these locations other than a road crossing through; development is concentrated in the area identified as Flushing, to the south of the project area (Sauthier 1779 and Burr 1829).

The Whitestone area was settled by the Dutch beginning in 1645; originally purchased from the Matinecock Indians (NYC Parks 2010). The area was incorporated into New York City in 1898.

By the mid-19th century, the Whitestone area had undergone some modest development, in particular to the east and south of the project area. Very few structures are shown along or near the future alignment of the Bronx-Whitestone Bridge and its approach through the Whitestone/Malba areas (Higginson 1860 and Beers 1873, Maps 4 and 5). The earlier map shows a structure associated with the name Smith near the northern part of the project area in the vicinity of the present Francis Lewis Park. The Beers map shows the area in a little more detail. Three structures, including a residence, bathing house and an unidentified building, are shown in the northern portion of a lot belonging to G.L. Smith. They appear to be located immediately east of the bridge and within the current park. The lot to the west belongs to J. Nostrand, whose residence is shown to the south near present-day 8th Avenue, west of Parsons Blvd. The bridge and its approach are located generally on the lot line that separates the Nostrand and Smith parcels and south into lots owned by E. Powell. Streets to the south of the project area, in the vicinity of the Whitestone Expressway are shown as paper streets as opposed to those shown to the east and southeast where development is more dense. No significant changes are noted by the end of the 19th century (1891 Wolverton).

Four Sanborn insurance maps were examined for this report and are presented as Maps 6, 7, 8, and 9. The maps show great detail. The earliest of these maps dates to 1903 (Map 6). Although unlabeled, the Nostrand lot remains the same; the Smith lot has been divided into two lots. The northern one contains several structures; one would appear to be a residence, the nearest to it is labeled a woodshed; there is a large stable shown in the project area and another unidentified structure to the east. These buildings are in the vicinity of the proposed path/water line and relocated playground. . The most recent Sanborn map prior to construction of the bridge and its approach is the 1916 map (Map 7). The map appears to show the same structures as the earlier Sanborn but they are drawn much closer to the shore. While the stable is shown partly within the project area, the others are further from the path/water line and relocated playground. No other structures are indicated within the project area. Only five structures are shown in Malba along Parsons Blvd. west of the project area. Malba's name was derived from the first letters of the surnames of the five men who developed the former Nostrand farm in 1908.

Newspaper articles indicate that construction of the bridge and approach necessitated the removal of numerous structures. One article indicates that up to forty-seven structures, including garages, residences, small factories and others buildings would be removed along the approach right-of-way between Whitestone and the Flushing River (*Whitestone Herald*, July 29, 1937). Another article states that 30 homes were affected (*Whitestone Herald*, September 2, 1937). It is unclear if and how many were located within the project area, as most indications are that the structures were located to the south. One newspaper account states "Selection of 148th Street as the Whitestone approach to the bridge is viewed by engineering experts as most logical. This street towards the shore is relatively free of building development at the present time, thus reducing the condemnation awards" (*Whitestone Herald*, August 17, 1936). The 148th alignment seems to have been abandoned as it appears the bridge approach was built on an alignment nearer to 145th Street.

The Bronx-Whitestone Bridge opened on April 29, 1939, just 22 months after construction began and one day before the start of the 1939-1940 World's Fair in Flushing Meadows-Corona Park. At the time, the bridge was the fourth longest in the world measuring 2,300 feet long and 74 feet wide. The bridge was initially 4 lanes wide and featured a walkway. In 1946, stiffening trusses were added to improve stability of the bridge, the walkway was removed and the roadway was widened to six lanes. In 2004, the trusses were removed and wind farings were installed. Three years later, the concrete roadway was replaced by a steel orthotropic deck (MTA 2009).

The Whitestone Expressway began its life as the Whitestone Parkway, extending south from the bridge to Northern Blvd (NY25A), subsequently joining the Grand Central Parkway. The parkway had two 12-foot wide lanes in each direction, with the northbound and southbound lanes separated by a large grassed median. All in part, to bring people to the 1939-1940 World's Fair in Flushing Meadows-Corona Park, south of the current project area. The bridge was one of many structures conceived and built by Robert Moses and in the

case of the Bronx-Whitestone Bridge, was built to relieve congestion from Long Island and New York City with areas to the north. In 1961-1963, the parkway was upgraded to expressway status with four 12-foot wide lanes, longer acceleration and deceleration lanes and paved shoulders. Upgrading the Whitestone Parkway had been planned by Moses but was expedited due to the upcoming 1964-1965 World's Fair. Beginning in 2003, the NYDOT has been undertaking $200 million reconstruction of the expressway and its connections to other highways including rebuilding "the geometry of the main roadways" from the Flushing River Bridge north to the Bronx-Whitestone Bridge (NYC Roads 2010).

While scattered development occurred early, much of the north shore of eastern Queens and adjacent sections of Long Island were built-up in the early decades of the 20th century. The Bronx-Whitestone Bridge and the Whitestone Expressway separated the neighborhoods of Whitestone to the east from Malba on the west. Map 8 is a portion of the 1943 Sanborn maps that shows the area just four years after the bridge opened. Malba is rendered as quite developed while the Whitestone area just east of the bridge approach is relatively vacant. Francis Lewis Park is called Whitestone Park. The proposed pedestrian path and relocated playground are located south of what would have been a continuation of Powell's Cove Blvd. The 1951 Sanborn map (Map 9) shows Whitestone fully developed.

Francis Lewis Park is adjacent to and extends beneath the bridge on the Whitestone side of the East River shore. The park is named in honor of Francis Lewis, an early American merchant and signer of the Declaration of Independence. Lewis lived in the Whitestone area; his home was apparently located to the east of the project area (Prestwich 1937). In 1776, the British destroyed his property and abducted his wife. The New York City Parks department acquired the property from the private estate of Edwin H. Brown in 1937 (Photos 20 and 21). The park underwent renovations in 1992. The work included reconstructing the shoreline, the overlook, and embankment areas. The bocce court was added in 1999 (NYC Parks 2010). The proposed path leading to the new playground runs adjacent to the bocce court.

Map-Documented and Existing Structures

Each past or current structure within the Project Area is assigned a unique structure number. Map-documented structures—those structures that are depicted on one or more maps—are distinguished using the abbreviation "MDS" after the structure number (e.g. Structure 3 (MDS)). The historical maps examined for the report show very limited development in the immediate vicinity of the project's impact areas. The documented structures in the vicinity of the project area are limited to those in the park which appear on the maps between 1860 until 1916.

Table 5. Summary of map-documented and existing structures within/adjacent to the Project Area/APE

Structure #	Map 4 (1860)	Map 5 (1873)	Map 6 (1903)	Map 7 (1916)	Map 8 (1943)	Map 9 (1951)	Extant (2010)
1 (MDS)	X (Smith)	X (GL Smith)	X	Summer boarding house	-	-	-
1a (MDS)		Bathing house			-	-	-
1b (MDS)		Unidentified	X	Wagon shed & coop	-	-	-
1c (MDS)			Wood shed	Wood shed	-	-	-
1d (MDS)			Barn or garage	Barn or garage	-	-	-

ARCHITECTURAL DISCUSSION

According to the inventory form and resource evaluation on file at the OPRHP, the Bronx-Whitestone Bridge was completed in 1939 in preparation for the New York World's Fair. It was designed by Aymar Embury II who also designed the Throgs Neck, George Washington and Verrazano-Narrows bridges as well. It was built by O.H. Ammann. The OPRHP determined the bridge eligible for the National Register of

Historic Places for meeting Criteria A and C. Its significance derives from its association with the transportation history and development of New York City and for its engineering design. At the time it was built, it was the fourth longest suspension bridge in the world. It provided a link between the Bronx and Queens, improving access between Long Island and areas to the north and east.

Alterations to the bridge began only one year after it was completed. In response to concerns over the collapse of a similarly constructed bridge , eight cable stays were installed from the towers to the decks of the bridge. Five years later two stiffening trusses were installed, the pedestrian walkway removed and six traffic lanes widened. In the 1980s, a tuned mass damper was added and in 2003 the stiffening truss was removed and aerodynamic fairing added (OPRHP Resource evaluation form).

ARCHEOLOGICAL SENSITIVITY ASSESSMENT

The New York Archaeological Council provides the following description of archeological sensitivity:

> Archaeologically sensitive areas contain one or more variables that make them likely locations for evidence of past human activities. Sensitive areas can include places near known prehistoric sites that share the same valley or that occupy a similar landform (e.g., terrace above a river), areas where historic maps or photographs show that a building once stood but is now gone as well as the areas within the former yards around such structures, an environmental setting similar to settings that tend to contain cultural resources, and locations where Native Americans and published sources note sacred places, such as cemeteries or spots of spiritual importance (NYAC 1994:9).

The archeological potential of an area consists of its sensitivity modified by modern disturbance. Recommendations for additional investigation are based on the project area's archeological sensitivity and potential, and are discussed below.

Precontact Archeological Sensitivity

The project is located within an area designated on the OPRHP website as a known archeologically sensitive area. Generally, this designation is based on the proximity of reported archeological sites. The OPRHP and NYSM files contain nineteen sites that are precontact or contain precontact components located within a two-mile radius of the project area. While most of the sites are located at a distance from the project area, one NYSM site #4541, described as traces of occupation, is shown covering a large area, including a large portion of the project area. The site is one of many initially reported in the 1920s (Parker 1922:672) that were based on information from local archeologists and local collectors but that have not necessarily been verified by modern systematic survey. Their proximity, however, indicates an overall archeological sensitivity of the area. A known site nearest to the project area is the National Register eligible Wilkins Site, located on Fourteenth Avenue about 1300 feet southwest of the project's southwestern limit. Archeological investigations at this site indentified precontact storage pit features in the undisturbed portions of the area. These pits contain artifacts and in the case of two of them, human remains.

The project's location along the East River in the vicinity of smaller streams and wetlands would suggest a potential for occupation or use of the area by Native Americans who occupied the area. Therefore, undisturbed portions of the project area would be considered to be highly sensitive for the presence of precontact deposits.

Historic Archeological Sensitivity

The historic sensitivity of an area is based largely on the examination of historical maps as well as the presence of documented archeological sites in the vicinity. The 19th-century property maps indicate

development east and south of the project area. The proposed relocated park playground and the associated path will be placed in the vicinity of map-documented structures shown on 19th century maps.

While the maps available for this area and examined for this report do not show structures within the project area, local histories (Antos 2006) and newspaper accounts (for example *Whitestone Herald,* July 29, 1937 and September 2, 1937*)* indicate that numerous structures were taken prior to construction of the bridge and the approach. It is likely that many of these were located to the south of the current project area along the route of the Whitestone Expressway (nee parkway). Based on the examination of historical maps, it would seem that with few exceptions (ie: those shown in the immediate vicinity of the project on the 1916 Sanborn) any structures in the immediate vicinity of the project area that may have been razed prior to construction activities likely would have dated to the second or third decades of the 20th century. Other than those formerly located in the park parcel, none of the structures dated to the 19th century. Therefore, it's not likely that any structures outside the park parcel would have had deep shaft features such as cisterns or privies that might survive archeologically as public utilities were available by that time. The 1916 Sanborn map shows water lines within the streets.

ARCHEOLOGICAL POTENTIAL

The archeological potential is the likelihood of locating intact archeological remains within the project area. The combined site file and environmental data suggest the project area has a high sensitivity for both precontact and historic cultural resources. However, documentary research and modern conditions indicate that much of the project area has undergone substantial prior disturbance associated with construction/reconstruction and maintenance of the existing bridge facilities as well as development of the areas beneath the raised portions of the bridge. Although the exact vantage point is unknown, some historical photos give an idea of the extent of soil-moving that occurred during construction of the bridge and its approach (Photos 22 and 23). An exception to this is the proposed location of the relocated playground and the proposed path extending between the new playground and the existing drive and comfort station. It is possible the surface soils in this area have been previously disturbed by clearing or grading, however there is no documentation confirming the disturbance.

Table 6: Depths of Pier Features and Soil Boring Data Showing Depths of Fill

Pier	Location	Top of Grade El (ft)	Bottom of Excavation (ft)	Depth of Excavation	Min. Length of Minipiles (ft)	**Soil Boring data**	
						Boring	**Stratigraphy**
1Q	West	12	6.5	5.5	80	1QR	10 feet fill
	Center	18	12.5	6.5			
	East	12	6.5	5.5			
2Q	West	34	28.5	5.5	67	2QR	11 feet fill
	Center	34	28.5	5.5			
	East	34	28.5	5.5		2QL	9 feet fill
3Q	West	36	30.5	5.5	67	3QR	8 feet fill
	Center	36	30.5	5.5			
	East	36	30.5	5.5		3QL	
4Q	West	36.5	31	5.5	74	4QR	10 feet fill
	Center	36.5	31	5.5			
	East	36.5	31	5.5		4QL	
5Q	West	36.5	31	5.5	81	5QR	8 feet fill
	Center	36.5	31	5.5			
	East	36.5	31	5.5		5QL	
6Q	West	36	30.5	5.5	71	6QR	8 feet fill

Pier	Location	Top of Grade El (ft)	Bottom of Excavation (ft)	Depth of Excavation	Min. Length of Minipiles (ft)	Soil Boring data	
						Boring	Stratigraphy
	Center	36	30.5	5.5			
	East	36	30.5	5.5		6QL 7QL	8 feet fill 15 feet fill
7Q Abutment		39.5	35.5	4	79	As built plans 7QR Over 40' to nw	9 feet fill 2 feet fill

Bold numbers indicate boring within footprint of footing.

Soil borings conducted for the Queens approach indicate fill or disturbed soils varying from depths of two to 15 feet. The available data suggests that deep levels of fill are located in the vicinity of the proposed pier footings. The proposed excavations associated with the pier footings will not extend beneath the fill levels. Excavations for the abutment will extend only 4 feet. As built- drawings provided by the client indicate that excavations conducted at the time of its initial construction extended to depths of 9 feet (Appendix 1). Therefore, although a soil boring excavated 40 feet to the northwest of the abutment and outside of proposed construction, shows only two feet of fill, it can not be considered representative of soils in the area of proposed construction.

RECOMMENDATIONS

In order to assess the presence of absence of archeological deposits and/or prior disturbance, limited Phase IB archeological testing was recommended for one area. The hand excavation of screened shovel tests was recommended for the relocated playground and associated path and utilities in Francis Lewis Park. The survey was conducted on May 24, 2010.

PHASE IB ARCHEOLOGICAL FIELD RECONNAISSANCE

INTRODUCTION

In order to replace the piers supporting the Queens Approach for the Bronx-Whitestone Bridge, the TBTA plans to relocate the playground in Francis Lewis Park. The archeological fieldwork was conducted based on plans depicting the new location of the playground equipment, drinking fountains, a splash pad, and a bio-swale. The plans also detailed two utilities, a new water line and a sanitary sewer, proposed to extend into the new playground from the western portion of the park, from the area of Francis Lewis Park beneath the Bronx-Whitestone Bridge's ramps. Aa new stormwater line designed to drain the bio-swale area into a concrete manhole at the northeastern corner of the new playground area was included in the plans. Subsequent to the fieldwork, the plans for the utilities have been considerably redesigned, and their depiction on Map 2e is the current design.

Project Location

The playground relocation portion of the Bronx-Whitestone Bridge Queens Approach project is in the western half of Francis Lewis Park, but still east and south of the bocce courts (Photo 24). The playground relocation will be between 75 and 300 feet (23 to 91 m) north of Whitestone's 3rd Avenue.

Project's Area of Potential Effects (APE)

Currently, the playground relocation will involve reseting the playground equipment, installation of a splash pad, a paved area, and the bio-swale. There will be two drinking water fountains, one 230 feet (70 m) from 3rd Avenue and one in the south 110 feet (34 m) from 3rd Avenue. The new water line associated with the fountains will be installed in previously disturbed alignments, as indicated by the mapped utilities and the new sod in the bocce ball court vicinity. The new water line will follow the existing water line supplying the bocce ball court on the west side of the court, and will then follow the waste water pipe draining away from the court to the east (Map 2e). The new water lines total approximately 660 linear feet (201 m).

The two water fountains and the splash pad will have sanitary sewer conveyances leading to an on-site septic system at the eastern edge of the playground (Map 2e). The three sanitary sewers total approximately 420 linear feet (128 m).

The bio-swale on the northeast edge of the new playground will be constructed by building up the ground surface with fill, rather than by excavation below the existing grade. The bio-swale will have overflow drainage along the ground surface to the north, into an existing concrete manhole.

Table 7. Summary of Utilities Associated with the Playground Relocation

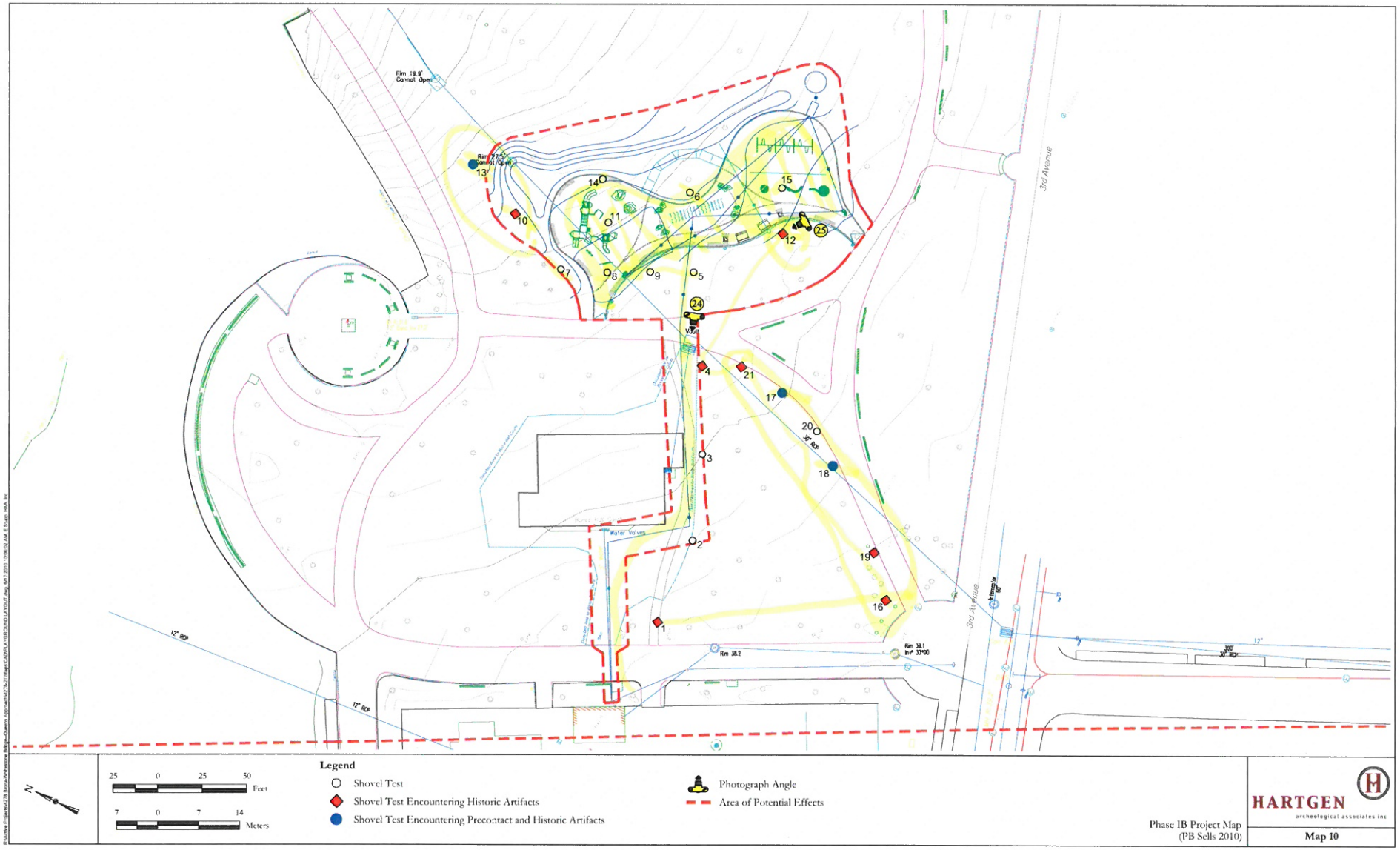
Utility	Diameter	Length	Maximum Depth	Course
Water line	2 in (5 cm)	660 ft (201 m)	4 feet (1.2 m)	Skirts bocce ball courts and uses existing bocce ball court utilities
Sanitary sewer line	4 in & 6 in (10 & 15 cm)	420 ft (128 m)	2.5 feet (0.8 m)	Three lines within the new playground area
Total		1,080 ft (329 m)	4 feet	

METHODOLOGY

The archeological field reconnaissance of the playground relocation area consisted of hand-excavated shovel tests. A total of 21 shovel tests were used.

Thirteen shovel tests were placed at 50-foot intervals, seven tests were at 25-foot intervals, and one test was 35 feet from the nearest test (Map 10). Each shovel test was 16 inches (40 cm) in diameter. All excavated soil was passed through 0.25-inch hardware mesh screens and examined for both precontact (Native American)

Bronx-Whitestone Bridge Queens Approach (BW-89C), Queens, New York
Phase IA Archeological Sensitivity Assessment and Phase IB Archeological Field Reconnaissance



and historic artifacts (Photo 25). The stratigraphy of each test was recorded including the depth, soil description, and artifact content (see Appendices 3 and 4). Color hue and texture information was collected for the soils according to the Munsell classifications (Munsell 2002). The location of each shovel test was plotted on the project map provided by the client, and the tests were also surveyed for accuracy (Maps 2e and 10).

The Phase IB Archeological Field Reconnaissance was performed on May 24, 2010, under the overall management of Karen S. Hartgen, RPA. The archeologists in the field were Rebecca Glazer, Steve Riester, and Shannon Wright, with Matt Lesniak acting as Project Director. Conditions were temperate and intermittently sunny, with a passing shower in the early afternoon.

The archeological testing was based on an earlier design which differed slightly from the final project design as presented in this report as Map 2e. Most importantly, at the time of the shovel testing, a new sanitary sewer line was proposed in one of the existing paved pathways in the park, parallel to Tests 16 to 21. That utility is no longer part of the project.

RESULTS

In brief, a small amount of both precontact (i.e., dating from before c. A.D. 1609) and historic artifacts were recovered from the shovel tests, enough artifacts to indicate that there is an archeological site in the west half of Francis Lewis Park.

The horizontal scatter of precontact artifacts defines the archeological site: they consist of four debitage flakes (three chert flakes and one quartz flake), found in three separate shovel tests. The historic artifacts likely dating from the 19th century were more numerous: refined tablewares such as whiteware, pearlware, and creamware; stoneware; yellow ware; a clay tobacco pipe stem; and a cut nail.

Small amounts of building materials such as brick fragments, mortar, or nails were found in ten tests (Tests 1, 2, 4, 5, 9, 10, 12, 15 and 19). However, none of the tests encountered levels that could be characterized as demolition levels or unconsolidated building rubble; instead, the building materials were either minor admixtures to former topsoil strata, or were in utility trench backfill. The archeological survey also did not encounter any intact building structures. Therefore, there was no clear archeological evidence of the 19th-century, G. L. Smith structures in the soil at the project area, although as previously discussed historical maps indicate they were in the vicinity.

Stratigraphy

There were three types of soil columns encountered in the shovel tests at the Playground Relocation project area:

- Topsoil (Ap) underlain by subsoil (B), with only small amounts of disturbance, including admixtures of artifacts, in the topsoil (seven tests, Tests 3, 5, 6, 10, 12, 13, and 15);
- Disturbed topsoil or fill (multiple levels) underlain by subsoil (B) (five tests, Tests 4, 18, 19, 20, and 21);
- Disturbed topsoil or fill levels with no subsoil (B) detected (nine tests, Tests 1, 2, 7, 8, 9, 11, 14, 16, and 17).

The first and second classes of soil columns are considered typical for a park setting in a location that has never seen concentrated development, i.e., the construction of urban housing. The subsoil was described as yellowish brown (or dark yellowish brown) sandy silt or silty sand; yellowish brown sandy clay; yellowish brown sand with gravel; yellowish brown sand; yellowish brown silt; yellowish brown silty sand with gravel; dark yellowish brown silt; and brownish yellow sandy silt (Appendix 3).

The average depth of tests with the third class of soil columns was 68.9 centimeters (27 in). Based on their location between a buried intake vault and a concrete manhole, Tests 8, 9, 11, and 14 probably owe their disturbance to a buried, 30-inch stormwater conveyance. Test 7 was likely disturbed by a tree planting (there was still a segment of a wooden stake at the edge of the test and a number of young pine trees nearby), and Tests 1 and 16 were so close to pavement that it is not surprising they encountered disturbance from filling or excavating in the past. Test 2 may have been disturbed during recent work on the bocce ball courts.

Artifact Collection

Lithic debitage, also known as debitage flakes, is the debris which results from making stone tools such as projectile points, knives, hide-scrapers, gravers, or spokeshaves. Tools can be chipped out from a wide variety of stone or minerals, but in the Northeast the most sought-after rock for stone tool-making was chert (a micro-crystalline quartz stone type, of which flint is a special case). Quartzite and quartz crystals were also used for tools where chert was not readily available. Trim flakes, as operationally defined in the HAA, Inc. laboratory, are simply thin shavings of material no more than 1.5 centimeters (0.6 in) long. The four flakes found in the Francis Lewis Park shovel tests are each about 1 centimeter (0.4 in) long. There were three chert flakes, and one quartzite flake. Agricultural plowing and other historic activities can occasionally produce debitage-like fragments, but that does not appear to be the case at the playground relocation project area because the flakes are relatively large, and no other stones or minerals in the tests were crushed or flaked.

The chert flake found in the topsoil level of Test 13, outside the northeastern corner of the project area, was considered an isolated, outlying artifact. There are at least four shovel tests between Tests 13 and 17 which do not contain any precontact material (see Map 10).

In order to determine the potential significance of the historic deposit, we have focused on the probable 19th-century artifacts because the map-documented structure in the western part of Francis Lewis park dates from the middle of the 19th-century to the mid-1930s. Pearlware and creamware are rare after c. 1840 (Miller, et al. 2000:10, 11), and the height of popularity for light blue transfer printed patterns on whiteware was in the middle of the 19th century. Cut nails are also associated with the 19th century, having been replaced in the first couple of decades of the 20th century by wire nails. Clay tobacco pipes were used for centuries, falling off in popularity in the first decades of the 20th century.

Twentieth-century artifacts were also encountered in a number of the tests, including items such as aluminum beverage can pull tabs and pull rings, beverage bottle caps and plastic bottle cap liners, pieces of cloth, wire nails, plastic, and paper wrappers. These items were recorded, but left in the project area. Some items which date to both the 19h and 20th century, such as food waste bones, clam or oyster shells, vessel glass, slag, or scrap metal, were also found, and many of them were collected (see Appendix 4).

DISCUSSION

G. L. Smith Precontact Site

The Phase IB investigation recovered four precontact artifacts consisting of two chert trim flakes, one quartz thinning flake and one chert thinning flake. The distribution of debitage flakes in the playground relocation project area indicates a very thin lithic scatter centered on Test 17, 50 feet (15 m) away from the relocated playground itself. No information is available from the flakes regarding the specific period or the activity pattern of the site due to the lack of diagnostic material and the marginal number of flakes recovered, as well as the potentially disturbed context in which the Test 17 and 18 flakes were found (the levels were interpreted as fill). The precontact site appears to be only a lithic scatter – there is no evidence for precontact features or burials.

G. L. Smith Historic Site

The Phase IB archeological investigation was conducted within the relocated playground area and along linear corridors originally proposed for sanitary and water utility lines. Historic materials were retrieved mostly from the tests conducted along the utility corridors which are no longer part of the project. Some limited materials were recovered from Test 1, which was disturbed, as well as from Tests 10 and 12— but these are later materials and not considered significant in terms of defining the site limits. Based on the artifact distribution of the shovel tests, the historic site is interpreted as being at least 150 feet square (the distance between Tests 1 and 4, and between Tests 1 and 16). Therefore the site is situated west of the relocated playground area (see Map 10).

The historic artifact scatter is a mixture of domestic and structural materials, including 19th and 20th century tablewares and utilitarian ceramics, a clay pipestem fragment, a possible bone or horn handle, food waste bone, clamshells, lamp chimney glass, vessel glass, coal, nails, and window glass (Table 8). It is important to note that the G. L. Smith Historic site was defined based solely on artifact finds, rather than any evidence of intact or demolished structures. The historic site is only an artifact scatter, at the present state of knowledge.

Table 8: Historic Materials Recovered During Phase IB Testing

STP, Level	Whiteware	porcelain	Creamware	Pearlware	White, Redware, Yellowware, Buff/pink Grey Buff	Pipe stem	Window Glass	Vessel Glass	Brick	Shell/ Bone	Coal	Iron/ hardware	*Total*
1, 3	4				1 (wb)					2			**7**
4, 2	2										1		**3**
4, 3												2	**2**
10, 1		2 (mend)						1				1	**4**
12, 1								1				1	**2**
13,1	4									4			**8**
16, 1								1		2		1	**4**
16, 3	3			1			2						**6**
17, 2	2	1	1				2	1					**7**
18, 2					1 (redware) 1(yellowware) 1 (white) 2 (buff/bink)	1		2		5			**13**
19,3							1	1	1	1		3	**7**
21,2	1												**1**
21, 3					1 (white) 1 (grey) 1 (buff)								**3**
Total	**16**	**3**	**1**	**1**	**9**	**1**	**5**	**7**	**1**	**14**	**1**	**8**	**67**

White bodied= white bodied earthenware; buff/pink=buff/pink bodied hallowware/ grey=grey bodied hallowware, buff bodied=buff bodied hallowware

The archeological deposit of the G.L. Smith Historic Site is possibly associated with the map documented structures located in the vicinity. The 1860 Higgins map shows a structure associated with the name Smith in the vicinity of the present Francis Lewis Park. The 1873 Beers map shows the area in a little more detail with three structures, including a residence, bathing house and an unidentified building, shown in the northern portion of a lot belonging to G.L. Smith. The earliest of four Sanborn insurance maps examined for this report dates to 1903 and shows the Smith lot subdivided into two, smaller lots. The northern one contains several structures; one would appear to be a residence, the nearest to it is labeled a woodshed; there is a large stable shown and another unidentified structure to the east. These buildings are in the vicinity of the proposed path/water line and relocated playground. . The most recent Sanborn map prior to construction of the bridge and its approach is the 1916 map and appears to show the same structures as the earlier Sanborn but they are rendered much closer to the shore. While the stable is shown partly beneath the bridge, the others are further from the path/water line and relocated playground. Historical photographs (20 and 21) included in the report suggest the structures were located close to the riverfront

Cursory examination of census data indicates that G.L. Smith was George L. Smith, listed as farmer and operator of a boarding house. Subsequent census data indicates the property passed to his son Henry Dewitt Smith who continued to operate the boarding house into the 20th century. The property appears to have remained in the Smith family as late as 1930 when Henry Dewitt Smith (age 50) is listed as living with his mother, Mary W. Smith on Powell's Cove Blvd. The New York City Parks department acquired the property from the private estate of Edwin H. Brown in 1937 (NYC Parks 2010). No information on Brown or how he came to possess the property from the Smith family was readily available, but it is evident he did not own the property very long when it was purchased for the park.

Site Avoidance

With its current design, the playground relocation will not impact the G. L. Smith Historic or Precontact archeological sites. The new waterline will be in a previously disturbed alignment, and there is no longer a utility proposed for the path parallel to Tests 16 to 21. The two small, archeological sites lie outside of the proposed playground relocation area as the archeological shovel tests in the southeastern half of the playground did not encounter any significant archeological deposits, and the tests in the northeastern half of the playground documented disturbed soil stratigraphy. Also, most of the APE in the northeastern half of the playground will occur atop filled ground surfaces, and will not extend below the current grade.

RECOMMENDATIONS

No further archeological work is recommended for the Bronx-Whitestone Bridge, Queens Approach, as currently designed.

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MAPS

PHOTOGRAPHS

Photo 1. View south from south end of project showing existing path and roadway leading to the Queens anchorage located behind the photographer. A new access road is proposed in this area seen in the left of photo. Pier 1Q will be located near the beginning of the steps in the center of the photo.

Photo 2. View southeast along the west side of the project area in vicinity of Pier 1Q and proposed outfall.

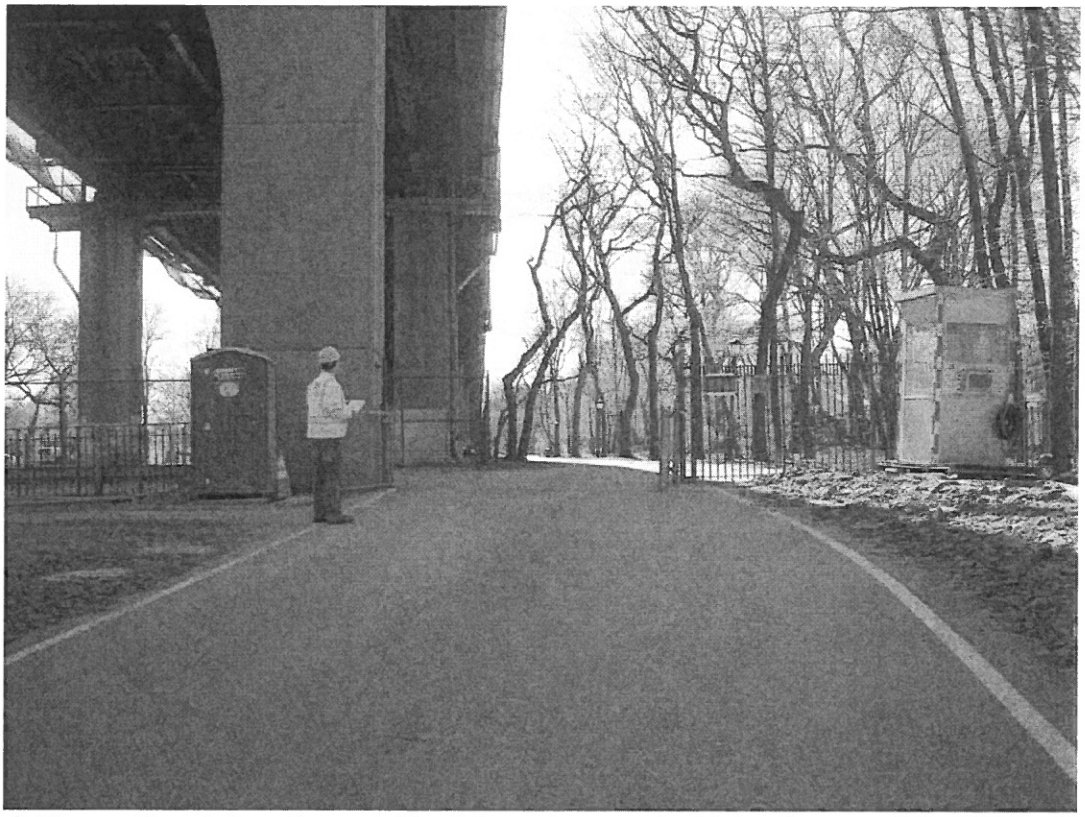

Photo 3. View southeast along the west side of the project area in vicinity of proposed Pier 2Q.

Photo 4. View southeast toward existing Francis Lewis Park ballcourts under the bridge approach.

Photo 5. View south toward existing Francis Lewis Park playground with bridge approach to the west.

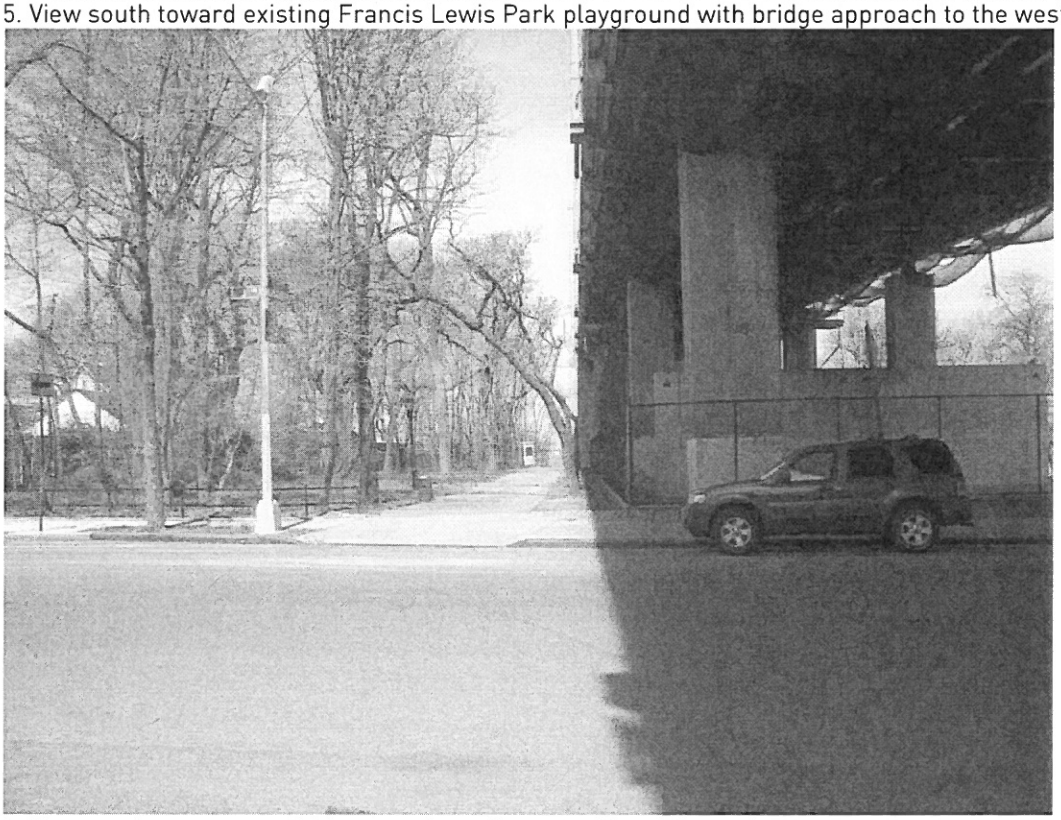

Photo 6. View northwest across 3rd Avenue along the west side of the project area.

Photo 7. View south from 3rd Avenue along the east side of the project area. The bridge abutment is shown in the center-right of the photograph.

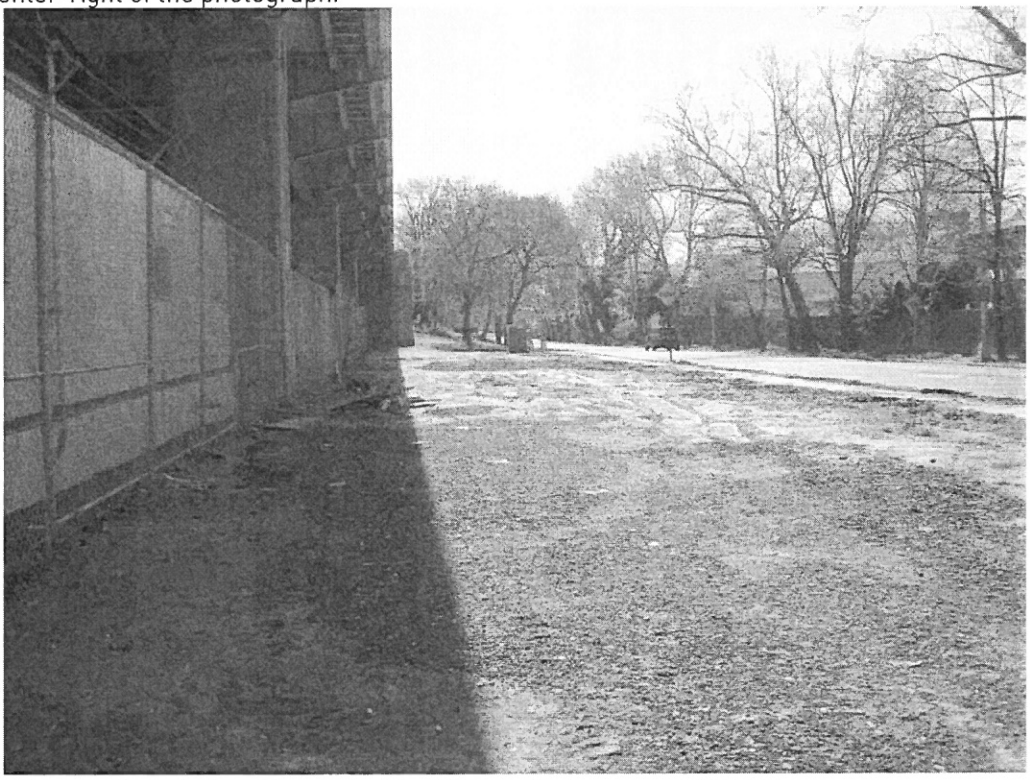

Photo 8. View southwest along the west side of the project area near Pier 5Q.

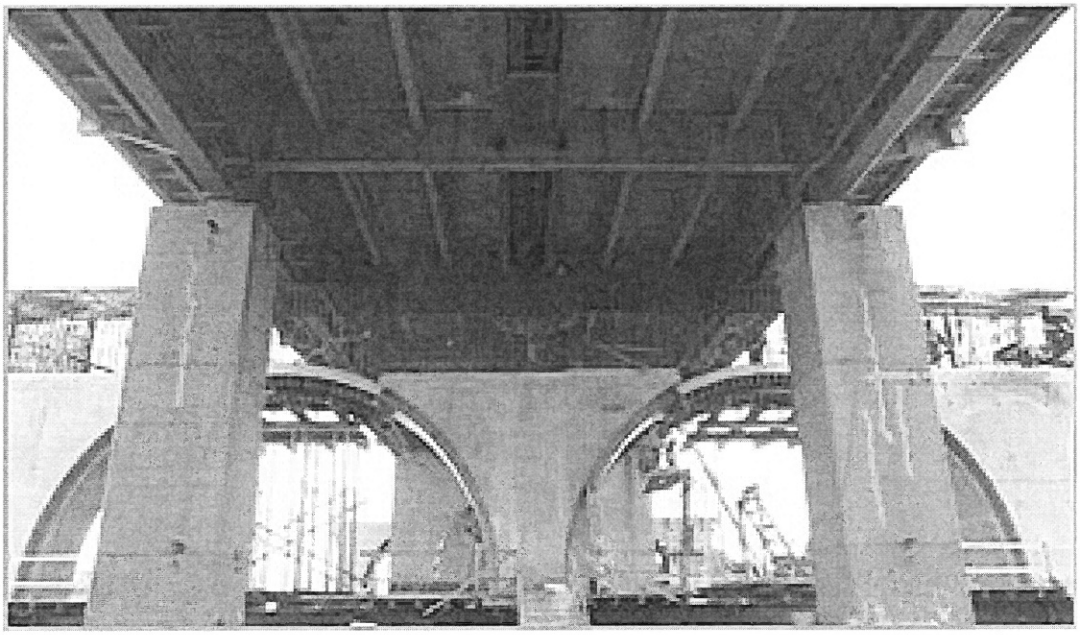

Photo 9. Construction occurring on the Bronx side of the Bronx-Whitestone Bridge. The existing two column piers are being replaced by three-column arched piers, the same as proposed on the Queens side (www.mta.info/bandt/html/btconstruction.html)

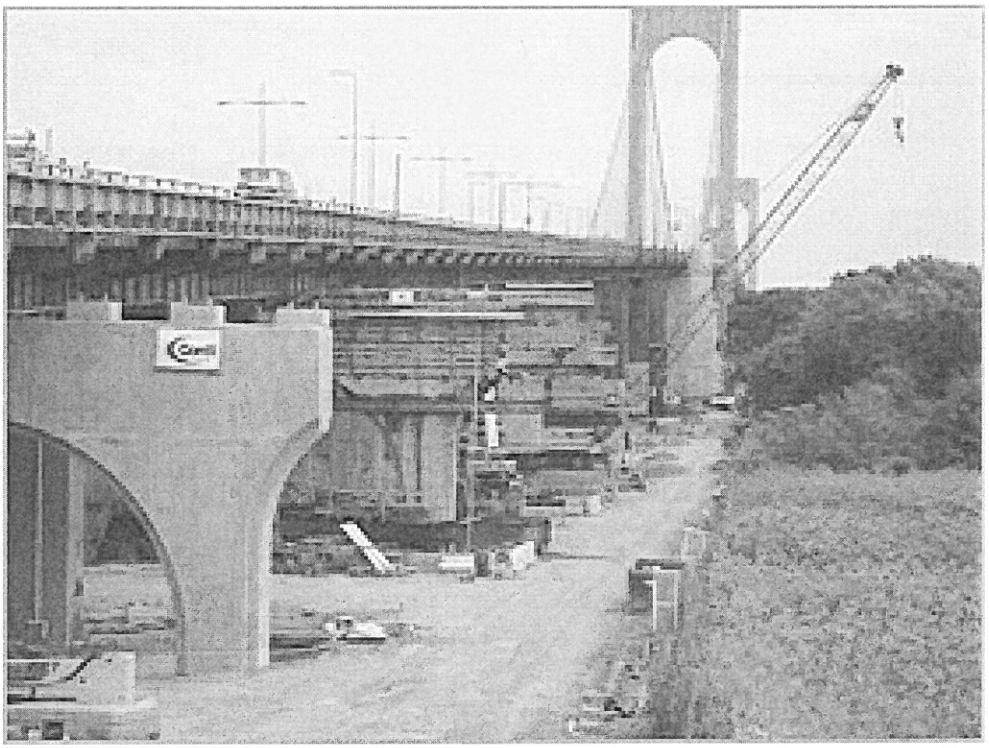

Photo 10. Ongoing construction on the Bronx side of the bridge; note the new pier structures beneath the bridge and limits of disturbance (www.mta.info/bandt/html/btconstruction.html).

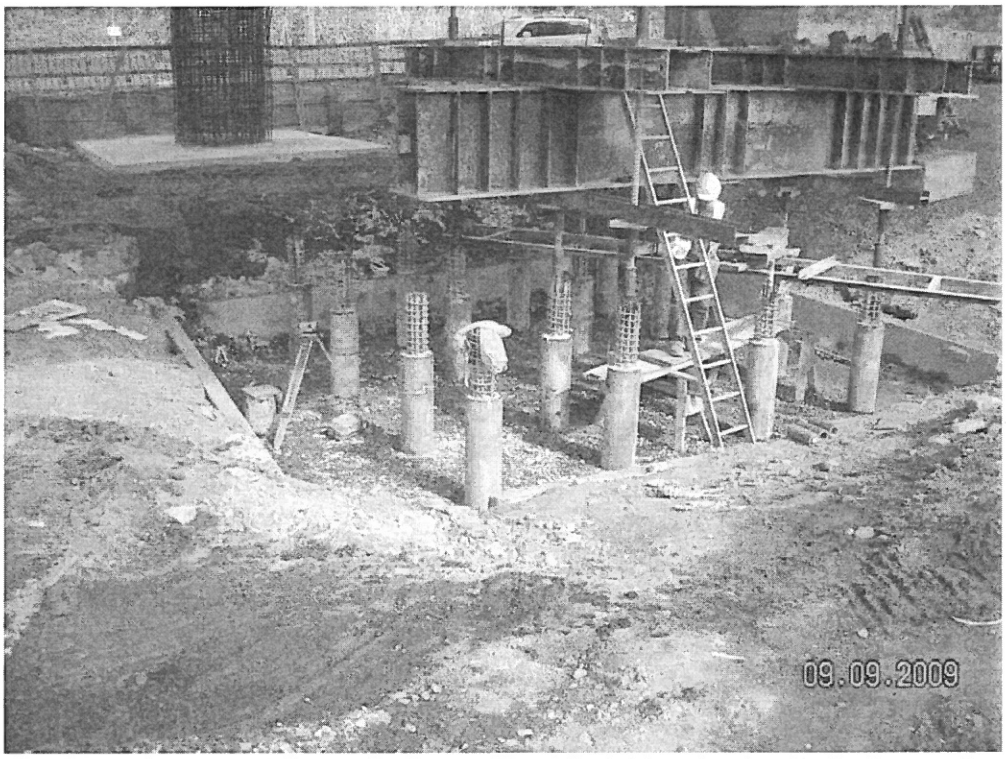

Photo 11. Footing under construction on the Bronx side of the bridge showing depth of excavation and location of minipiles (Photo provided by PB Sells).

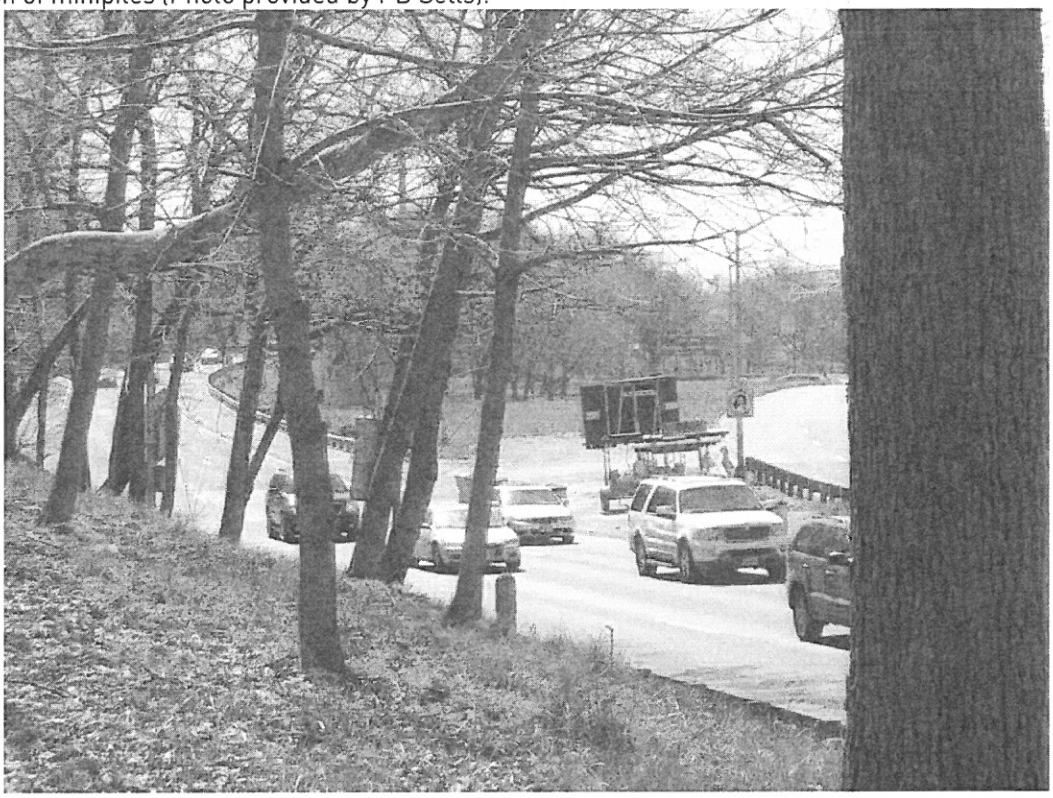

Photo 12. View south from east side of project area in the vicinity of 7th Avenue across lanes of Whitestone Expressway. Note slope down to roadway. The staging area is in the center of the photo.

Photo 13. View northwest from the east side of the project in the vicinity of 6th Avenue. Bridge approach is to the left. Note the sloping filled area between the approach and adjacent roadway.

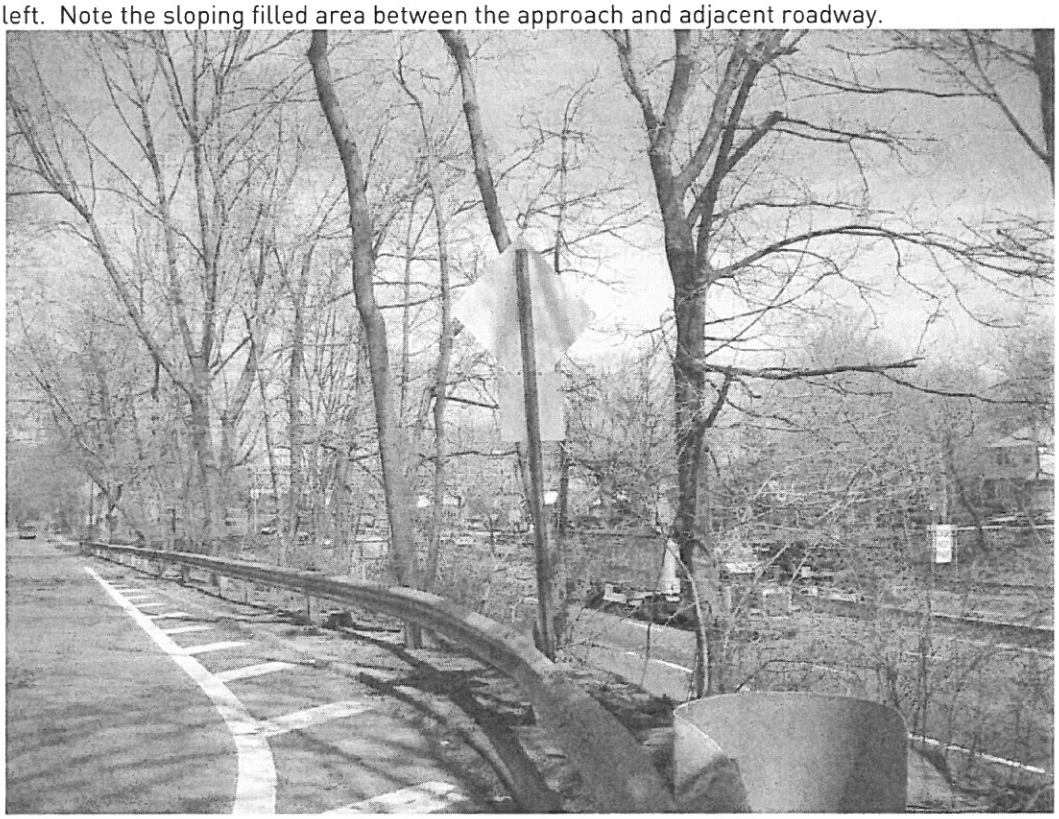

Photo 14. View north from the west side of the project looking across Whitestone Expressway. Note slope down to existing roadway.

Photo 15. View southeast from southbound 14th Avenue Exit (Parsons Road exit). The roadways in the APE from this point south simply will be repaved.

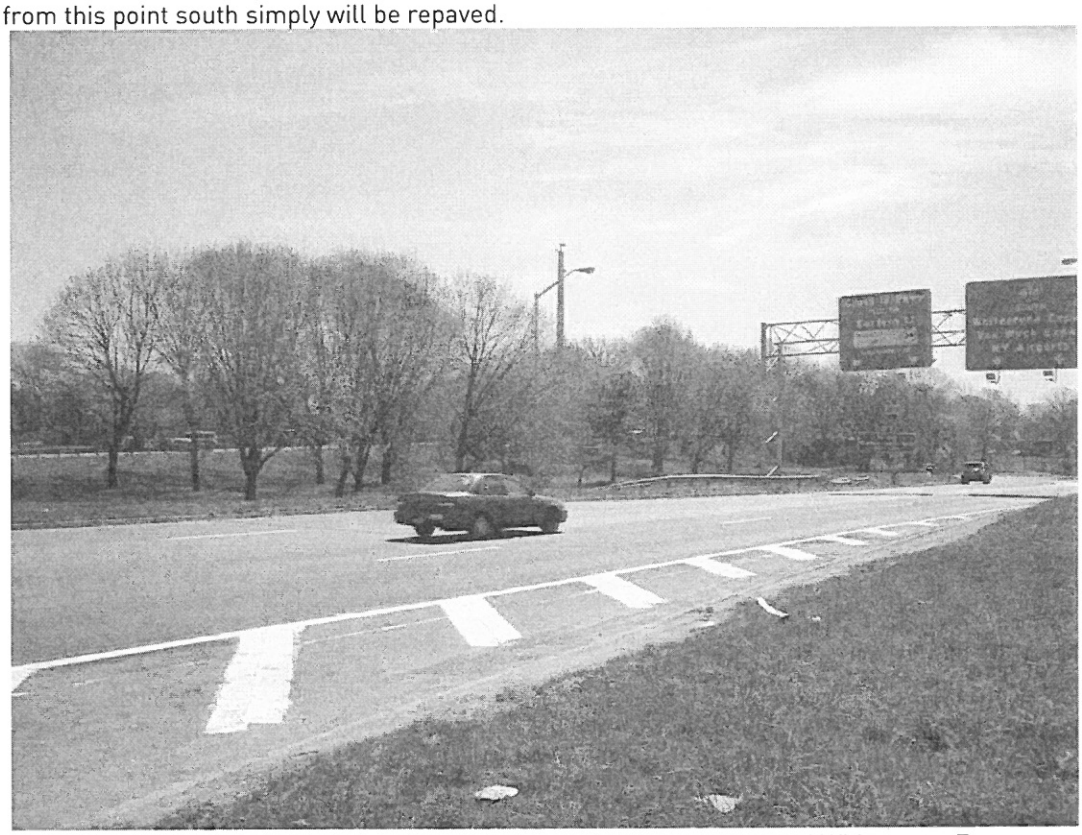

Photo 16. View east from same vantage point as Photo 15 across southbound Whitestone Expressway lanes. The staging area is seen in the center of the photograph.

Photo 17. View west towards the approximate location of the outfall.

Photo 18, View northwest from 3rd Avenue towards the proposed playground relocation area in the center of the photograph, just beyond the bench and path.

Photo 19. View northeast along the approximate location of the proposed path to lead from the existing comfort station to the proposed playground relocation area seen in background of the photograph just beyond the benches.

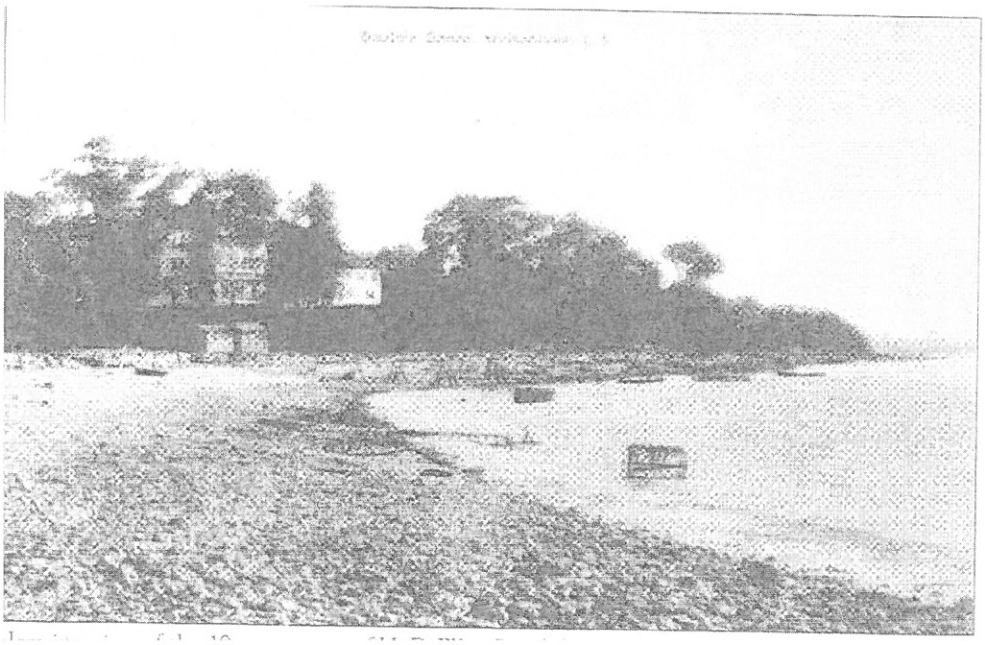

Photo 20. Historical photograph showing the Smith estate. The property was acquired in 1937 and the buildings razed. (Photograph from Antos 2006:41).

Photo 21. This photograph shows a view from Queens of the bridge during construction. Note the structure in the lower left of the photograph in what is now Francis Lewis Park. It appears the area was also used for staging. (Photographer and date unknown; from MTA *From the Archive* 2002:5)

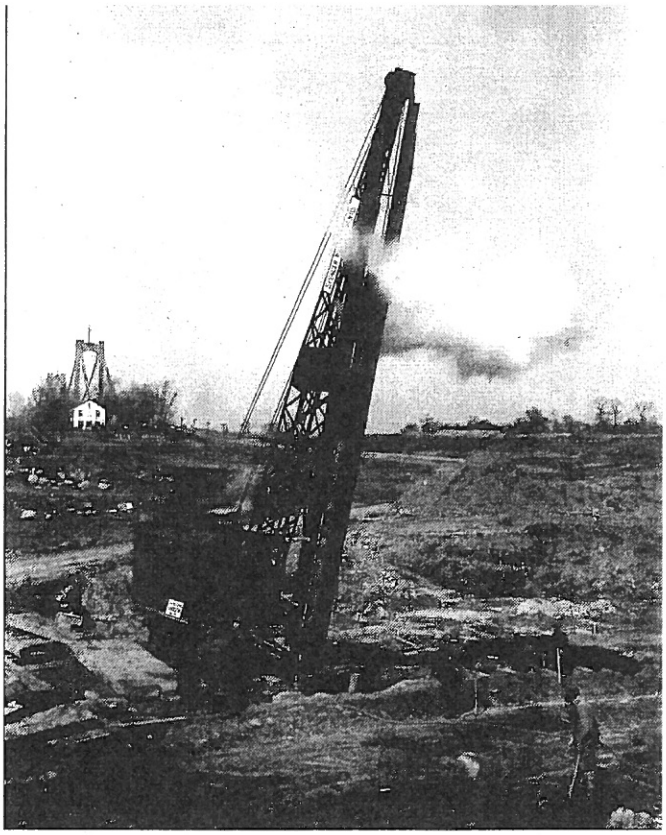

Photo 22. Photograph reportedly taken in 1939. The bridge is shown in the background. The crane is digging the foundation for the approach near the Whitestone Expressway. Note the amount of disturbance shown. Antos (2006:103) notes in the caption that the lone structure shown would be razed. It is difficult to confirm, but there is a structure at 100 Parsons Blvd. that appears to predate the bridge and may have survived that time period. It is not known if it is the one shown in this photograph.

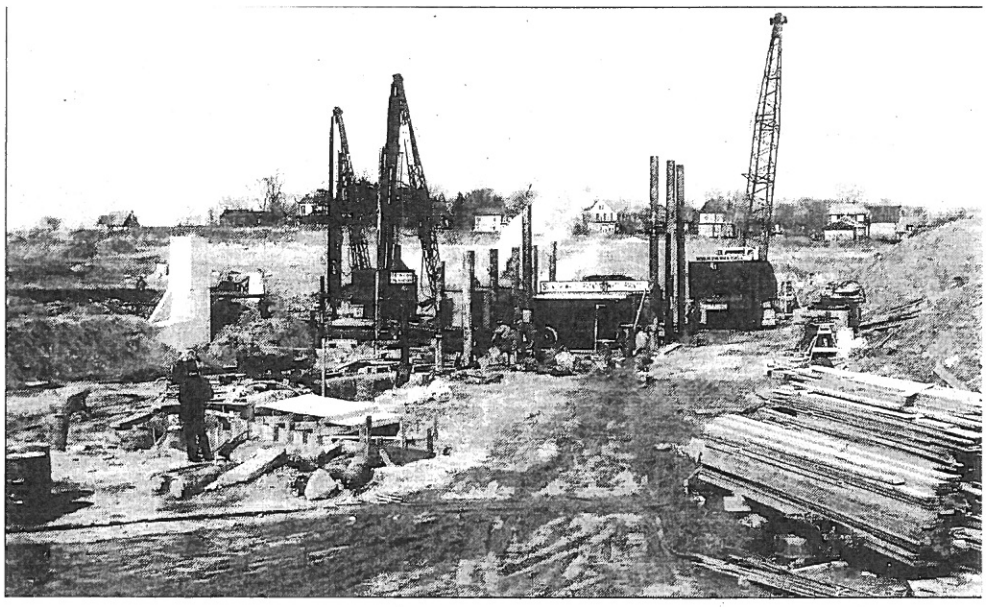

Photo 23. Photo taken in July, 1937 showing "Workers building the foundation for the bridge's approach near Parsons Blvd" (From Antos 2006:103).

Photo 24: The location of Archeological Test 4 in Francis Lewis Park, marked by a yellow flag in the left side of the photograph. Note the stormwater runoff intake grate in the foreground, and the new sod marking the outlines of the bocce ball court construction disturbance. The brick building in the right side background is the park's bathroom, and the beginning point for the new water line. View facing southwest.

Photo 25: A HAA, Inc. archeologist working at Archeological Test 12, in the southeastern half of the relocated playground area. She records data using Munsell terminology for color and soil texture, having already screened all of the soil from the 59 centimeter (23 in) -deep shovel test using the handshaker behind her. View facing northwest.

APPENDIX 1: Soil Boring Logs and As-built Plans

APPENDIX 2: OPRHP and NYCLPC Correspondence

APPENDIX 3: Test Excavation Records

APPENDIX 4: ARTIFACT CATALOG

APPENDIX 5: OPRHP Site Forms

APPENDIX 6: OPRHP Project Review Cover Form