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**To:** Ms. Marcha Johnson, Ph.D, ASLA, Landscape Architect and Ecological Restorationist,  
City of New York Department of Parks and Recreation, Olmsted Center, Flushing  
Meadows, Corona Park, Flushing, New York 11368

**From:** Eugene J. Boesch, Ph.D., R.P.A. Principal Investigator



**Re:** Sub-surface Testing for the Expanded APE for the Pelham Bay Park South Waterfront  
Naturalization project, located in Pelham Bay Park, the Bronx, New York. New York  
State Office of Parks, Recreation and Historic Preservation Project Review Number  
13PR01852

**April 25, 2016**

### **1.0 Introduction**

This letter report presents the results of a Phase IB archaeological investigation of the vicinity of a swale recently added to the area of potential effect (APE) for the Pelham Bay Park South Waterfront Naturalization project, located in Pelham Bay Park, the Bronx, New York (Figure 1). New York State Parks, Recreation and Historic Preservation (NYSOPRHP) have assigned the project review number 13PR01852 to the project. The expanded APE consists of an approximately 340 foot long and 30 to 150 foot wide section of the swale and adjoining areas of raised, better drained ground that are located approximately 300 feet south and east of the closed Pelham Bay landfill site along the shore of Eastchester Bay (Figure 2). The swale continues further to the northwest. A small, unnamed stream, possibly seasonal in nature, flowed into Eastchester Bay along the approximate route of the swale prior to the area's development. A drainage pipe was installed into the swale sometime during the twentieth century. The pipe no longer functions. Some trenching, grading, and filling to install the pipe and create or expand the swale occurred at the time. The work likely effectively eliminated the small stream. The APE currently is covered by wetland vegetation, a few trees, grass, and scrub vegetation (Figures 3-5). Standing water is occasionally present within the APE, particularly at its northern and western portions. One early twentieth century brick and concrete feature, three by three feet in size, was identified within the APE during the field work (Figures 2 and 6). It possibly is the base of a water fountain serving early twentieth century recreational activities in the area. A buried now non-functioning water pipe was identified leading towards the feature during the fieldwork.

Impacts within the expanded APE will occur as a result of the removal of the six foot diameter non-functioning drainage pipe, associated concrete and riprap headwall, and deteriorated concrete and rubble seawalls and pavements. The naturalization project will restore the shore line to its approximate pre-development grade and recreate the seasonal waterway and low-lying swale draining into the bay.

Prior archaeological investigations for the project's initial APE identified a Pre-Contact period archaeological shell midden extending to within 50 feet of the swale vicinity from its south side. Middle Woodland and possibly other Woodland period components were identified at the site (Geiger and Loorya 2015).

The objectives of this Phase IB investigation of the expanded APE are to:

- 1) determine whether significant archaeological resources, particularly a continuation of the identified Pre-Contact period shell midden, are present within the swale vicinity. The intent of the work is to determine whether the Pre-Contact period site extends from the south into the expanded APE;
- 2) provide Parks with enough information to design and implement the naturalization project in a way that will not adversely affect the archaeological site that has been identified south of the swale. The intent of the work is to aid Parks in developing a configuration for the naturalized swale that will not impact archaeological resources; and
- 3) develop recommendations as to the need for further work, if warranted.

The investigation was requested by Ms. Marcha Johnson, Ph.D, ASLA, Landscape Architect and Ecological Restorationist, City of New York Department of Parks and Recreation, Olmsted Center, Flushing Meadows, Corona Park, Flushing, New York 11368.

All work undertaken for this Phase IB archaeological investigation was conducted according to the current guidelines and standards for cultural resource investigations put forth in the New York City CEQR Technical Manual and those currently adopted by the New York City Landmarks Preservation Commission (NYCLPC) and NYSOPRHP for conducting archaeological investigations (New York State Archaeological Council 1994, 2000; NYSOPRHP 2005). All work was undertaken by, or under the direct supervision of, Eugene J. Boesch, Ph.D., R.P.A. Representatives of Federally-recognized tribes were contacted by Ms. Johnson and invited to observe the archaeological fieldwork. The representatives declined the invitation.

## **2.0 Methodology**

The Phase IB investigation of the expanded APE was conducted in two stages consisting of the excavation of 14 archaeological shovel tests and five (5) small test trenches dug using a standard tractor mounted backhoe and operator supplied by Parks. The number of shovel tests excavated was determined by Parks. The 14 archaeological shovel tests were located along the south edge of the swale-like topographical feature, the side facing the previously identified Native American site. Based upon the inconclusive results of the shovel tests, a second stage of testing, consisting

of the excavation of five small test trenches, was conducted in order to recover the necessary information to meet the investigation's objectives.

The shovel testing investigated the stratigraphy present in the expanded APE and recovered a sample of the cultural material that may be associated with those strata in order to determine whether evidence of Pre-Contact period and/or Historic period activity were present. The shovel tests were located on the slightly raised ground overlooking the south edge of the swale (Figure 2). Each shovel test was approximately 18 inches (46 cm.) in diameter and extend either to depths below which naturally occurring, culturally sterile sub-soil was encountered or the extent achievable using the shovel testing techniques employed. At a minimum, however, tests were extended to at least 30 inches (76 cm.) below modern grade or to bedrock. Shovel tests were placed along a single transect at intervals of 20 to 25 feet. If potentially significant soil layers or artifacts were identified within a shovel test, additional tests were to be placed in the immediate vicinity of the initial test find to further evaluate the location. This proved not to be necessary. The location of each shovel test conducted is shown on Figure 2.

All soil removed from the shovel tests was screened through ¼ inch mesh (hardware cloth) to detect the presence of artifacts. Separation of artifacts from different stratigraphic contexts was maintained to the extent possible with the procedures used. Recovered artifacts were returned to the archaeological laboratory where they were washed, tabulated, and where possible identified as to period of manufacture. All artifacts subsequently will be placed in clean plastic bags labeled according to provenience.

Following processing of the artifacts, the stratigraphy encountered in the shovel test was analyzed in conjunction with the finds recovered in order to interpret the survey results. No Pre-Contact/Contact period or potentially significant Historic period artifacts were recovered by the testing. Based on the types of artifacts recovered, specialized analyses of the finds was not necessary.

Due to the generally inconclusive results of the shovel testing, specifically the inability to penetrate the fill which was more than 30 inches deep across most of the tested area, it was suggested to Parks, NYCLPC, and NYSOPRHP that a series of mechanized test trenches be excavated in the vicinity of the shovel tests to recover more comprehensive stratigraphic information for the area. The three agencies agreed with the recommendation.

Accordingly, five mechanized test trenches were excavated at intervals of approximately 30-35 feet within the southern and westernmost approximately 170 feet of the swale naturalization project. The trenches will extend in depth below fill and into naturally occurring sub-soil or former wetland/water laid deposits. The trenches were of adequate length and width so as to provide useful soil profiles. The profiles were prepared for recording and one representative wall profile for each trench was documented. All potentially significant stratigraphic information was identified and recorded. Intact former ground surfaces or other potentially significant deposits or features identified in the trenches were sampled via the trench wall with the soil screened through ¼ inch mesh (hardware cloth) to detect the presence of artifacts. No potentially significant artifacts were recovered. The locations of the trenches are shown on Figure 2. A standard tractor mounted backhoe and operator supplied by Parks was employed to dig the

trenches.

All shovel tests and test trenches were backfilled by the field crew or backhoe and operator following completion of the work.

Appendices A and B present the stratigraphy and artifact inventories for the shovel tests and test trenches.

Locations of photographic views included in this report as Figure 3- 6 are shown in Appendix C. Locations of photographic views for Figures 7-11 are towards the indicated profile walls for test trenches A-E.

### **3.0 Results of Field Work**

#### **3.1 Summary**

No Pre-Contact/Contact period or potentially significant Historic period deposits or individual artifacts were recovered during the shovel testing or test trenching.

Modern near surface soils were the initial strata identified in all of the shovel tests excavated. Below these layers in shovel tests 1 – 8 were encountered various fill layers extending to at least 30 inches below the surface. The naturally encountered sub-soil was encountered at 30 to 34 inches in depth in shovel tests 1 and 2. Excavations did not penetrate the fill in shovel tests 3-8. Only a limited quantity of relatively recently manufactures artifacts or non-significant early twentieth century artifacts (coal, slag/cinder, metal, glass, and possibly red brick) and a few pieces of shell were recovered by shovel tests 1-8. Ground water was encountered at 23 inches in depth in shovel tests 7 and 8.

Modern near surface soils were the initial strata identified in shovel tests 9-14. Beneath these layers were encountered naturally accumulating soils possibly accentuated by minor filling. Beneath those soils were encountered sub-soil transition layers and the naturally occurring sub-soil, including water affected/deposited sub-soil layers. The only artifacts recovered from these contexts were relatively recently manufactures items or non-significant early twentieth century artifacts (coal, slag, metal, glass, and possibly red brick) and a few pieces of shell from shovel tests 9, 10, and 14. Groundwater was encountered at 23 inches in depth in shovel test 14. Bedrock was encountered between 24 and 28 inches in depth in shovel tests 11-13.

Within the test trenches, the following stratigraphic sequences were encountered:

Test Trench A – Various fill layers extending to 32 inches in depth followed a three inch thick disturbed buried former ground surface layer (or possibly a continuation of the fill) beneath which was the natural sub-soil. Two disused utility pipes and their installation trenches were identified within the uppermost two feet of the trench. The pipes seemingly were used for potable water and drainage. Ground water was encountered at 46 inches in depth. Only a limited quantity of relatively recently manufactures items or non-significant early twentieth century artifacts were recovered from the test trench coming from the various fill layers.

Test Trenches B and C – Various fill layers extending to 40 to 44 inches in depth followed by wetland related soils representing the pre-development and pre-fill layers for the area. Ground water was encountered at 25 and 42 inches below grade. Only a limited quantity of relatively recently manufactured items or non-significant early twentieth century artifacts were noted in the test trench coming from the various fill layers.

Test Trench D – Modern surface soil overlying a former asphalt road surface with road bedding extending to 16 inches below grade were the initial layers seen in this trench. They were followed by a disturbed naturally developed soil accumulation and/or fill layer beneath which was a water deposited deposit and the natural sub-soil. Only plastic and asphalt from the initial strata were recovered from the trench.

Test Trench E - Modern surface soils were the initial layers from in this trench. They were followed at eight inches below grade by a naturally developed soil layer and/or fill layer beneath which was a water deposited layer. No artifacts were recovered from the trench.

### **3.2 Shovel Tests**

#### **Shovel Test 1**

The initial strata encountered in shovel test 1 consisted of three inches of recently developed dark brown sandy silt humus (Stratum I) and nine inches of an underlying leaching zone of dark gray brown sandy silt (Stratum II). Fragments of white plastic from Stratum II were the only artifacts recovered from these contexts. Beneath Stratum II, at 12 inches in depth were encountered a seven inch thick fill deposit of light brown mixed with dark brown sandy silt (Stratum III) followed by an 11 inch thick fill or disturbed former ground surface layer of mottled dark brown and yellow brown sandy silt with large and small rocks (Stratum IV). Only a limited quantity of relatively recently manufactured items or non-significant early twentieth century artifacts were recovered from Stratum III and IV.

Beneath Stratum IV, at 30 inches below grade, was encountered the naturally occurring, culturally sterile sub-soil which was excavated to 34 inches in depth.

#### **Shovel Test 2**

The initial strata encountered in shovel test 2 consisted of two inches of recently developed dark brown sandy silt humus (Stratum I) and eight inches of an underlying leaching zone of dark gray brown sandy silt (Stratum II). Fragments of white plastic from Strata I and II and a fragment of hard shell clam from Stratum II were the only artifacts recovered from these contexts. Beneath Stratum II, at 10 inches in depth, were encountered layered fill deposits consisting of:

- 1) 10 inches of yellow brown sandy silt mottled with dark brown sandy silt (Stratum III) from which fragments of oxidized metal and glass were recovered;
- 2) Four inches of dark brown sandy silt mottled with yellow brown sandy silt (Stratum IV) from which red brick fragments were recovered; and

- 3) 10 inches of brown sandy silt with large rocks (Stratum V) from which a complete red brick containing no manufacturer's mark on its frog was the only artifact recovered.

Beneath Stratum IV, at 34 inches below grade, was encountered the naturally occurring, culturally sterile sub-soil which was excavated to 37 inches in depth.

### **Shovel Test 3**

The initial strata encountered in shovel test 3 consisted of five inches of recently developed dark brown sandy silt humus (Stratum I) and five inches of an underlying leaching zone of dark gray brown sandy silt (Stratum II). Fragments of green plastic, coal, slag, hard shell clam, and oxidized metal were the only artifacts recovered from these contexts. Beneath Stratum II, at 10 inches in depth, were encountered a series of fill layers consisting of:

- 1) Five inches of dark brown black sandy silt (Stratum III) from which fragments of oxidized metal and slag were recovered;
- 2) Three inches of black sandy silt with cinder and yellow sand lenses (Stratum IV), from which only cinder fragments were recovered; and
- 3) 16 inches of mottled dark brown and light brown sandy silt (Stratum V) from which coal and slag fragments were recovered.

Excavation in shovel test 3 was extended to 34 inches below grade and did not penetrate the Stratum V fill.

### **Shovel Test 4**

The initial strata encountered in shovel test 4 consisted of two inches of recently developed dark brown sandy silt humus (Stratum I) and four inches of an underlying leaching zone of dark gray brown sandy silt (Stratum II). Fragments of amber tinted bottle glass from Stratum II were the only artifacts recovered from these contexts. Beneath Stratum II, at 6 inches in depth, were encountered a series of fill layers consisting of:

- 1) Eight inches of brown black sandy silt (Stratum III);
- 2) Five inches of gray black silty sand (Stratum IV); and
- 3) 11 inches of gray black silty sandy with rust brown sandy silt mottling. The layer may have been affected by ground water which accounts for the rust brown sandy silt mottling (Stratum V).

Excavation in shovel test 4 did not penetrate the Stratum V fill which was extended to 30 inches below grade. No artifacts were recovered from Stratum V.

### **Shovel Test 5**

The initial strata encountered in shovel test 4 consisted of two inches of sod (Stratum I) and four inches of an underlying leaching zone of dark gray brown sandy silt (Stratum II). Fragments of oxidized metal, coal, glass, and white plastic were the only artifacts recovered from these contexts. Beneath Stratum II, at 6 inches in depth, were encountered two sequential fill layers consisting of:

- 1) Eight inches of gray silt and gravel (Stratum III) from which coal, glass, and slag were recovered. The layer may represent part of a former road bed; and
- 2) 29 inches of brown sandy gravel with large rocks (Stratum IV) from which fragments of oxidized metal and coal were recovered.

Excavation in shovel test 5 extended to 33 inches below grade and did not penetrate the Stratum IV fill.

### **Shovel Test 6**

The initial strata encountered in shovel test 6 consisted of two inches of dark brown black sandy silt (Stratum I) and six inches of an underlying leaching zone of dark gray brown sandy silt (Stratum II). Fragments of coal, glass, and green plastic were the only artifacts recovered from these contexts. Beneath Stratum II, at 8 inches in depth, were encountered three sequential fill layers consisting of:

- 1) Three inches of gray silt and gravel (Stratum III) from which asphalt fragments were the only artifacts recovered. The layer may represent part of a former road bed;
- 2) Three inches of black silt (Stratum IV) from which no artifacts were recovered; and
- 3) 18 inches of brown sandy gravel with large rocks (Stratum V) from which no artifacts were recovered.

Excavation in shovel test 6 did not penetrate the Stratum V fill and was extended to 33 inches below grade.

### **Shovel Test 7**

The initial strata encountered in shovel test 7 consisted of two inches of dark brown black sandy silt (Stratum I) and six inches of an underlying leaching zone of dark gray brown sandy silt (Stratum II). Fragments of plastic, styrofoam, and glass were the only artifacts recovered from these contexts. Beneath Stratum II, at 8 inches in depth, were encountered two sequential fill layers consisting of:

- 1) Eight inches of gray silt and gravel (Stratum III) from which coal, glass, and slag were recovered. The layer may represent part of a former road bed; and

- 2) 16 inches of brown sandy gravel with large rocks (Stratum IV) from which only fragments of coal were recovered.

Excavation in shovel test 7 was extended to 30 inches below grade and did not penetrate the Stratum IV fill.

### **Shovel Test 8**

The initial strata encountered in shovel test 8 consisted of two inches of dark brown black sandy silt (Stratum I) and eight inches of an underlying leaching zone of dark gray brown sandy silt (Stratum II). Fragments of glass, milk glass, and wire nails were the only artifacts recovered from these contexts. Beneath Stratum II, at 10 inches in depth, were encountered three sequential fill layers consisting of:

- 1) Six inches of gray black sandy gravel (Stratum III) from which seven fragments of coal were the only items recovered;
- 2) Four inches of gravel black sandy gravel (Stratum IV) from which no potentially significant artifacts were recovered; and
- 3) Eleven inches of brown sandy gravel with large rocks (Stratum V) from which two fragments of coal were recovered.

Excavation in shovel test 8 was extended to 31 inches below grade and did not penetrate the Stratum V fill.

### **Shovel Tests 9 -14**

The stratigraphy encountered in these six tests were similar. They were located in the western portion of the tested area and outside of the area of fill identified elsewhere. The initial strata encountered in the six tests consisted of two to four inches of dark brown black sandy silt (Stratum I) and four to seven inches of underlying leaching zone of dark gray brown sandy silt (Stratum II). Fragments of glass, slag, coal, oxidized metal, plastic, and hard shell clam were recovered from the contexts but only from shovel tests 9 and 10. Underlying Stratum II, at seven to ten inches in depth, was encountered the sub-soil transition layer consisting of yellow brown sandy silt with dark gray brown sandy silt mottling (Stratum III) that was two to three inches thick. Fragments of coal and slag from shovel test 10 were the only artifacts recovered from Stratum III. Beneath Stratum III, at 10 to 12 inches in depth, was encountered the naturally occurring, culturally sterile yellow brown sandy silt sub-soil (Stratum IV) that was four to 16 inches thick. Below Stratum IV, at 16 to 28 inches in depth, was encountered a second sub-soil layer consisting of rust brown silty sand with gravel or rust orange silty sand with gravel that represent a water affected soil deposit. No cultural materials were recovered from Stratum V.

Stratum V was excavated to between 23 and 32 inches in depth. Bedrock was encountered below Stratum V between 24 and 28 inches in depth in shovel tests 11-13 while ground water was encountered at 23 inches in depth in shovel test 14.

### **3.3 Test Trenches**

#### **Test Trench A**

Test trench A was 12 feet north to south by three feet east to west in size. It was located in the southeast portion of the expanded APE, nearest the Eastchester Bay shoreline (Figures 2 and 7). The initial 32 inches encountered in test trench A (Figures 2 and 7) consisted of various fill layers (Stratum I) including pipe trench deposits for what likely were a potable water pipe and stoneware drainage pipe. The water pipe was oriented towards the red brick and concrete feature (Figure 6), located about 15 feet to the north mentioned earlier which likely was the base for a water fountain or other recreational feature. Plastic, coal, oxidized metal, 20 twentieth century ceramics including drainage pipe fragments, and soda cans were noted and recovered from Stratum I. At 32 inches in depth was a layer of dark brown sandy silt with yellow brown sandy silt mottling (Stratum II) which represents a continuation of the fill or a disturbed buried former ground surface. No artifacts were recovered from the layer. Beneath Stratum II, at 35 inches below grade was encountered the naturally occurring, culturally sterile yellow brown sandy silt sub-soil (Stratum III) which was excavated to 56 inches below grade. Ground water was encountered in test trench A at 56 inches in depth.

#### **Test Trench B**

Test trench B was 15 feet north to south by three feet east to west in size. It was located in the south central portion of the expanded APE (Figures 2 and 8). The initial 44 inches encountered in the test trench consisted of various fill layers (Stratum I). Beneath the fill was encountered a wetland related soil deposit consisting of black gray silty clay (Stratum II) associated with the pre-development marsh that was present in the original swale area prior to local filling. No peat or other vegetation layer was seen to overlie the black gray silty clay which would usually be present in natural settings. According to Ms. Johnson (2016), such layers were sometimes stripped for some commercial or private use. Such an event may have occurred prior to the filling of the former swale vicinity. Stratum II was excavated to 50 inches below grade at which depth excavation of test trench B was terminated. Ground water was encountered in the test trench at 42 inches below grade. Plastic, coal, glass, and oxidized metal from Stratum I were the only artifacts recovered or noted from test trench B.

#### **Test Trench C**

Test trench C was 12 feet north to south by three feet east to west in size. It was located in the south central portion of the expanded APE (Figures 2 and 9). The initial 40 inches encountered in the test trench consisted of various fill layers (Stratum I). Beneath the fill was encountered a wetland related soil deposit of black gray silty clay (Stratum II) similar to that seen in test trench B. Stratum II is associated with the pre-development marsh that was present in the original swale area prior to local filling. According to Ms. Johnson (2016) such layers were sometimes

stripped for some commercial or private use. Such an event may have occurred prior to the filling of the former swale vicinity. Stratum II was excavated to 51 inches below grade at which depth excavation of test trench C was terminated. Ground water was encountered in the test trench at 25 inches below grade. Plastic, coal, glass, and oxidized metal from Stratum I were the only artifacts recovered or noted from test trench C.

### **Test Trench D**

Test Trench D was 10 feet north to south by three feet east to west in size. It was located in the southwestern portion of the expanded APE (Figures 2 and 10). The initial 16 inches consisted of sod (Stratum I) overlying intact asphalt pavement (Stratum II), indicating the former presence of a paved road, followed by an underlying gray silt with rock (Stratum III) that served as road bedding. Beneath Stratum III was a 12 inch thick deposit of dark brown black sandy silt with light brown sandy silt mottling (Stratum IV) that represents a natural soil accumulation layer possibly with some redeposited former surface soils also contribution to the layer as fill. Underlying Stratum IV, at 38 inches in depth, was a water deposited layer of light gray clay with light brown sandy silt mottling (Stratum V) that was six inches thick. Following Stratum V, at 44 inches in depth, was the naturally occurring yellow brown sandy silt sub-soil (Stratum V), which was excavated to 66 inches below grade at which point excavation in test trench D was terminated. Plastic items from Stratum I and asphalt pavement from Stratum II were the only artifacts recovered or noted from test trench D.

### **Test Trench E**

Test Trench E was 10 feet north to south by three feet east to west in size. It was located in the western portion of the expanded APE (Figures 2 and 11). The initial 13 inches consisted of recently developed dark brown black sandy silt (Stratum I) humus overlying a dark gray brown sandy silt (Stratum II) leaching zone. Beneath Stratum II was a 19 inch thick deposit of dark brown black sandy silt (Stratum III) that represents a natural soil accumulation layer possibly with some redeposited former surface soils contributing to the layer as fill. Underlying Stratum III, at 27 inches in depth, was a water deposited layer of yellow brown silty clay with rust and brown clay lenses and mottling (Stratum IV) which was excavated to 53 inches below grade at which point excavation in test trench E was terminated. No artifacts were recovered or noted from test trench E.

## **4.0 Conclusions**

Pre-Contact/Contact period or Historic period archaeological resources were not identified within the portion of the expanded APE investigated by the shovel tests and mechanized test trenches. No impacts to deposits associated with the Pre-Contact period archeological site previously identified south of the revised APE will occur if proposed project impacts do not extend beyond the area tested by this investigation. According to Ms. Marcha Johnson (2016) of Parks such impacts will not occur since the locations of the shovel tests and test trenches is the approximate location where the slope created by down cutting to recreate the swale will merge with the modern grade.

Shovel tests 1-8 revealed the presence of over 30 inches of fill, likely deposited during the early twentieth century to eliminate the swale and former wetlands associated with it. The naturally occurring sub-soil was encountered below the fill two of the shovel tests (numbers 1 and 2). Excavations in the other tests were unable to extend deep enough to penetrate the fill. The presence and depth of the fill was confirmed by the excavations of test trenches A-C. Test trench A also revealed the presence of a potable water pipe and drainage pipe extending through the area. According to Ms. Johnson (2016), a utility map in Parks' possession indicates countless pipes extending through the swale area. Below the fill in test trenches B and C were revealed wetland-type soils, confirming the former presence of a pre-development marsh in the area that was filled in, likely during the early twentieth century.

Shovel tests 9-14 revealed the presence of naturally occurring near surface soils, relatively thin, naturally accumulating soils possibly slightly accentuated by minor filling, and natural sub-soils. The characteristics of some of the encountered sub-soil layers suggests that they may have been water deposited or affected by water saturation during some periods. The soil sequences identified in shovel tests 9-14 were confirmed by the strata revealed in test trenches D and E which were located in the vicinity of those shovel tests.

## **5.0 Recommendations**

Further archaeological investigations of the expanded APE for the Pelham Bay Park South Waterfront Naturalization project are not recommended based upon the results of this sub-surface archaeological investigation.

## **6.0 References Cited**

Geiger, Lisa and Alyssa Loorya

2015 Phase II Archaeological Testing Area; The Reconstruction of the Waterfront Between Pelham Bay Landfill and Watt Avenue – Located in Pelham Bay Park, Bronx County, New York. (Block 4335, Lot 1) (Contract No. X039-507MA and NY SHPO#: 13PR01852). Prepared for City of New York – Department of Parks and Recreation, New York, New York and William A. Gross Construction Associates, New Hyde Park, New York. Prepared by Chrysalis Archaeological Consultants, Inc., New York, New York.

Johnson, Marcha

2016 Personal Communications, March 3 and April 13, 2016. Ms. Johnson, Ph.D, ASLA, is Landscape Architect and Ecological Restorationist for the City of New York Department of Parks and Recreation, Olmsted Center, Flushing Meadows, Corona Park, Flushing,

New York State Archaeological Council

1994 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. The New York Archaeological Council. Standards adopted by the New York State Office of Parks, Recreation, and Historic Preservation.

2000 Cultural Resource Standards Handbook. Guidance for Understanding and Applying the New York State Standards for Cultural Resource Investigations. The New York Archaeological Council. Standards adopted by the New York State Office of Parks, Recreation, and Historic Preservation.

New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP)

2005 New York State Historic Preservation Office (SHPO) Archaeological Report Format Requirements. Prepared by the New York State Office of Parks, Recreation and Historic Preservation, Waterford, New York.

United States Geological Survey

1975 Flushing, New York 7.5 Minute Series (Topographic). United States Department of the Interior, Geological Survey, Washington, D.C.

## **FIGURES**

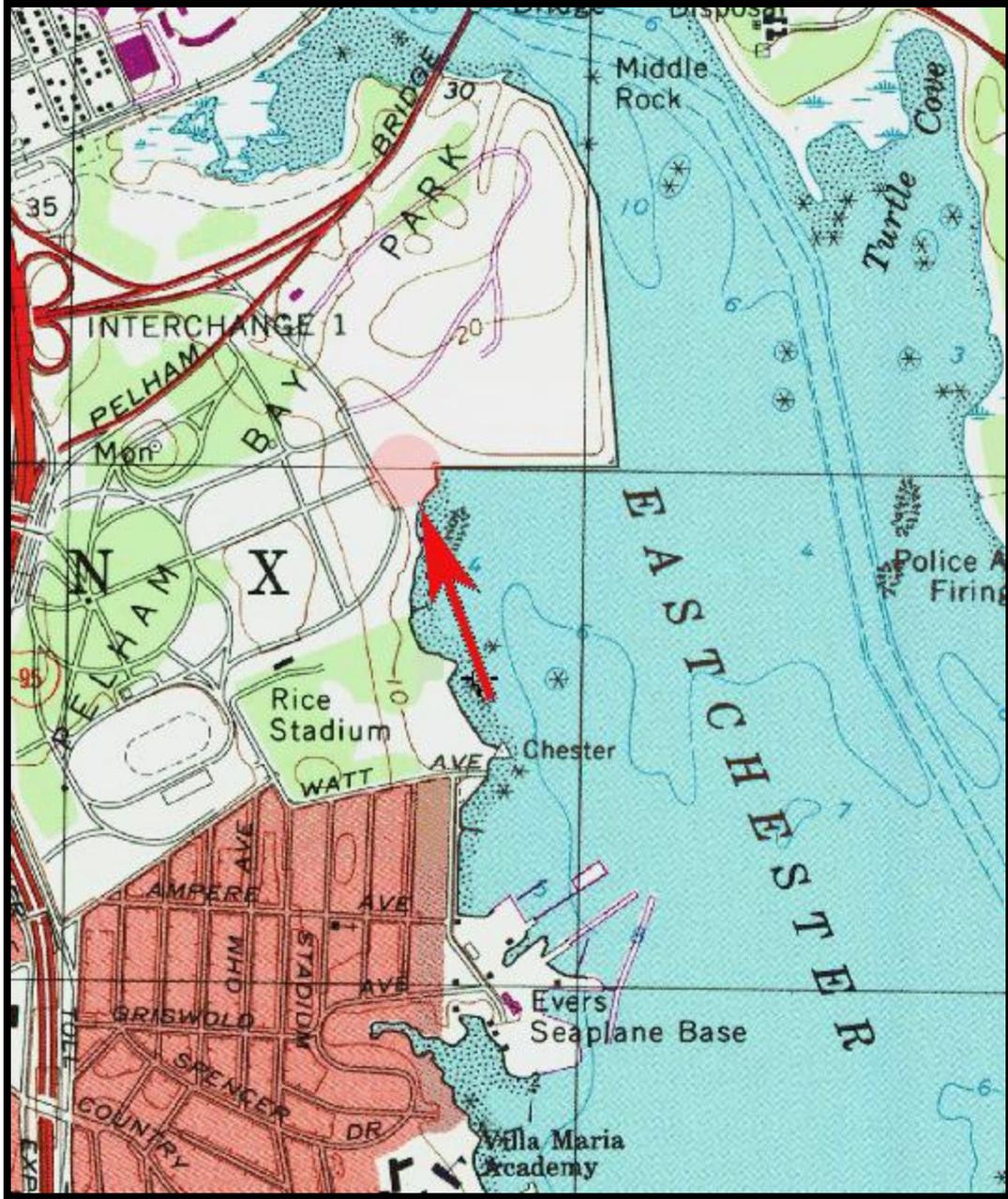


Figure 1

**Pelham Bay Park South Waterfront Naturalization Project Region  
(Flushing, NY 7.5 Minute Quadrangle)**

**Arrow and Circle indicate Project Location**



**Figure 2**

**Approximate Locations of Shovel Tests, Test Trenches, and Brick and Concrete Feature**

**Key:**

**\_\_\_\_\_** : Area of Potential Effect

**1-14**: Shovel Test Locations

**A-E and - - - - -**: Test Trench Locations

**X**: Brick and Concrete Feature Location



**Figure 3**

**Southeastern Part of the Tested Portion of the Expanded Area of Potential Effect for the Pelham Bay Park South Waterfront Naturalization Project**



**Figure 4**

**South Central Part of the Tested Portion of the Expanded Area of Potential Effect for the Pelham Bay Park South Waterfront Naturalization Project**



**Figure 5**

**Southwestern Part of the Tested Portion of the Expanded Area of Potential Effect for the Pelham Bay Park South Waterfront Naturalization Project**



**Figure 6**

**Brick and Concrete Recreational Feature – Early Twentieth Century**



**Figure 7**

**Test Trench A – East Profile**



**Figure 8**

**Test Trench B – East Profile**



**Figure 9**

**Test Trench C – East Profile**



**Figure 10**

**Test Trench D – East Profile**



**Figure 11**

**Test Trench E – West Profile**

## **APPENDICES**

**APPENDIX A**

**SHOVEL TEST STRATIGRAPHY AND ARTIFACT INVENTORY**

SHOVEL TEST	STRA.	DEPTH (inches)	DESCRIPTION	CONTEXT	CULTURAL MATERIAL
1	I	0-3	Dark Brown Sandy Silt	Modern Surface/ Humus	None
1	II	3-12	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	3 fragments white plastic
1	III	12-19	Light Brown mixed with Dark Brown Sandy Silt	Fill	5 red brick fragments (wt.: 39.6 grams) 7 fragments coal (wt.: 25 grams) 8 fragments clear glass
1	IV	19-30	Mottled Dark Brown Sandy Silt with Large and Small Rocks	Fill/Disturbed Former Ground Surface	3 fragments clear glass 1 red brick fragment (wt.: 79.6 grams)
1	V	30-34	Yellow Brown Silty Sandy	Sub-soil	None
2	I	0-2	Dark Brown Sandy Silt	Modern Surface/ Humus	7 plastic fragments
2	II	2-10	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	5 plastic fragments 1 hard shell clam fragment (wt.: 2.4 grams)
2	III	10-20	Yellow Brown Sandy Silt mottled with Dark Brown Sandy Silt	Fill	9 fragments oxidized metal (16.6 grams) 5 green glass fragments 8 clear glass fragments
2	IV	20-24	Dark Brown Sandy Silt mottled with Yellow Brown Sandy Silt	Fill	Red brick fragments
2	V	24-34	Brown Sandy Silt with Large Rocks	Fill	Complete red brick – no manufacturer's mark
2	VI	34-37	Yellow Brown Silty Sand	Sub-soil	None
3	I	0-5	Dark Brown Sandy Silt	Modern Surface/ Humus	5 fragments clear glass
3	II	5-10	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	10 coal fragments (wt. 21.5 grams) 2 hard shell clam fragments (wt.: 7.8 grams) 3 fragments green plastic
3	III	10-15	Dark Brown Black Sandy Silt	Fill	3 fragments oxidized metal (wt.:17.8 grams) 6 slag fragments (wt.: 12.2 grams)
3	IV	15-18	Black Sandy Silt with Cinder and Yellow Sand Lenses	Fill	Cinder fragments
3	V	18-34	Mottled Dark Brown and Light Brown Sandy Silt	Fill	Coal fragments Slag fragments

SHOVEL TEST	STRA.	DEPTH (inches)	DESCRIPTION	CONTEXT	CULTURAL MATERIAL
4	I	0-2	Dark Brown Black Sandy Silt	Modern Surface/ Humus	None
4	II	2-6	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	2 fragments amber tinted bottle glass
4	III	6-14	Brown Silty Sand	Fill	None
4	IV	14-19	Gray Black Silty Sand	Fill	None
4	V	19-30	Gray Black Silty Sand with Rust Brown Silty Sand mottling	Fill	None
5	I	0-2	Sod	Modern Surface/ Humus	3 fragments oxidized metal (wt. 23.4 grams)
5	II	2-6	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	5 fragments of coal (wt. 31.5 grams) 4 fragments green tinted glass 5 fragments clear glass 6 fragments white plastic
5	III	6-14	Gravel and Gray Silt	Fill	9 fragments clear glass Numerous fragments coal Numerous fragments slag
5	IV	14-33	Brown Sandy Gravel with Large Rocks	Fill	3 fragments oxidized metal (wt. 19.7 grams) 16 fragments coal (wt. 29.5 grams)
6	I	0-2	Dark Brown Black Sandy Silt	Modern Surface/ Humus	3 fragments green plastic
6	II	2-8	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	14 fragments amber tinted glass 18 fragments coal (wt. 27 grams)
6	III	8-11	Gravel and Gray Silt	Fill	5 fragments asphalt (wt. 175.7 grams)
6	IV	11-14	Black Silt	Fill	None
6	IV	14-32	Brown Sandy Gravel with Large Rocks	Fill	None
7	I	0-2	Dark Brown Black Sandy Silt	Modern Surface/ Humus	3 fragments yellow plastic 1 fragment Styrofoam
7	II	2-8	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	Multiple fragments yellow, green and white plastic 2 fragments clear glass 4 fragment green tinted glass
7	III	8-14	Gravel and Gray Silt	Fill	None
7	IV	14-30	Brown Sandy Gravel with Large Rocks  Encountered Groundwater at 23 inches	Fill	8 fragments coal (wt.: 28.6 grams)

<b>SHOVEL TEST</b>	<b>STRA.</b>	<b>DEPTH (inches)</b>	<b>DESCRIPTION</b>	<b>CONTEXT</b>	<b>CULTURAL MATERIAL</b>
8	I	0-2	Dark Brown Black Sandy Silt	Modern Surface/ Humus	4 fragments green tinted glass 2 wire nails
8	II	2-10	Dark Gray Brown Sandy Silt	Leaching Zone/B- Horizon	1 pc. milk glass
8	III	10-16	Gray Black Sandy Gravel	Fill	7 fragments coal (wt. 11.5 grams)
8	IV	16-20	Gravel and Gray Silt	Fill	None
8	V	20-31	Brown Sandy Gravel with Large Rocks  Encountered Groundwater at 23 inches	Fill	2 fragments coal (wt. 5.9 grams)
9	I	0-2	Dark Brown Black Sandy Silt	Modern Surface/ Humus	15 fragments coal (wt.: 22.9 grams) 3 fragments unidentified shell (wt.: 3.4 grams) 1 fragment clear glass
9	II	2-9	Dark Gray Brown Sandy Silt	Leaching Zone/B- Horizon	4 fragments oxidized metal (wt.: 54.3 grams) 18 fragments slag (wt.: 23.5 grams)
9	III	9-11	Yellow Brown Sandy Silt with Dark Gray Brown Sandy Silt mottling	Sub-soil Transition	4 fragments of coal (wt.: 5.6 grams) 8 fragments slag (wt.: 8.7 grams) 2 fragments clear glass
9	IV	11-20	Yellow Brown Silty Sand	Sub-soil	None
9	V	20-30	Rust Brown Silty Sand with Gravel	Sub-soil – water affected/deposited	None
10	I	0-3	Dark Brown Black Sandy Silt	Modern Surface/ Humus	3 fragments purple plastic 2 cigarette filters
10	II	3-9	Dark Gray Brown Sandy Silt	Leaching Zone/B- Horizon	None
10	III	9-12	Dark Gray Brown Black Sandy Silt with Yellow Brown Sandy Silt mottling	Sub-soil Transition	None
10	IV	12-28	Yellow Brown Silty Sand	Sub-soil	None
10	V	28-32	Rust Brown Silty Sand with Gravel	Sub-soil – water affected/deposited	None

<b>SHOVEL TEST</b>	<b>STRA.</b>	<b>DEPTH (inches)</b>	<b>DESCRIPTION</b>	<b>CONTEXT</b>	<b>CULTURAL MATERIAL</b>
11	I	0-4	Dark Brown Black Sandy Silt	Modern Surface/ Humus	None
11	II	4-9	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	None
11	III	9-12	Yellow Brown Silty Sand with Dark Gray Brown Sandy Silt mottling	Sub-soil Transition	None
11	IV	12-20	Yellow Brown Silty Sand	Sub-soil	None
11	V	20-25	Rust Orange Silty Sand with Gravel  Bedrock at 25 inches	Sub-soil – water affected/deposited	None
12	I	0-3	Dark Brown Black Sandy Silt	Modern Surface/ Humus	None
12	II	3-7	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	None
12	III	7-10	Yellow Brown Silty Sand with Dark Gray Brown Sandy Silt mottling	Sub-soil Transition	None
12	IV	10-20	Yellow Brown Silty Sand	Sub-soil	None
12	V	20-24	Rust Orange Silty Sand with Gravel  Bedrock at 24 inches	Sub-soil – water affected/deposited	None
13	I	0-4	Dark Brown Black Sandy Silt	Modern Surface/ Humus	None
13	II	4-10	Dark Gray Brown Sandy Silt	Leaching Zone/B-Horizon	None
13	III	10-12	Yellow Brown Silty Sand with Dark Gray Brown Sandy Silt mottling	Sub-soil Transition	None
13	IV	12-19	Yellow Brown Silty Sand	Sub-soil	None
13	V	19-28	Rust Orange Silty Sand with Gravel  Bedrock at 28 inches	Sub-soil – water affected/deposited	None

<b>SHOVEL TEST</b>	<b>STRA.</b>	<b>DEPTH (inches)</b>	<b>DESCRIPTION</b>	<b>CONTEXT</b>	<b>CULTURAL MATERIAL</b>
<b>14</b>	<b>I</b>	<b>0-3</b>	<b>Dark Brown Black Sandy Silt</b>	<b>Modern Surface/ Humus</b>	<b>None</b>
<b>14</b>	<b>II</b>	<b>3-9</b>	<b>Dark Gray Brown Sandy Silt</b>	<b>Leaching Zone/B-Horizon</b>	<b>3 fragments clear glass 1 fragment coal (wt.: 6.8 grams) 7 fragments slag (wt.: 12.8 grams) 3 fragments asphalt (wt.: 7.9 grams)</b>
<b>14</b>	<b>III</b>	<b>9-12</b>	<b>Yellow Brown Silty Sand with Dark Gray Brown Sandy Silt mottling</b>	<b>Sub-soil Transition</b>	<b>None</b>
<b>14</b>	<b>IV</b>	<b>12-16</b>	<b>Yellow Brown Silty Sand</b>	<b>Sub-soil</b>	<b>None</b>
<b>14</b>	<b>V</b>	<b>16-23</b>	<b>Rust Orange Silty Sand with Gravel</b>	<b>Sub-soil – water affected/deposited  Encountered Ground Water at 23 inches</b>	<b>None</b>

**APPENDIX B**

**TEST TRENCH STRATIGRAPHY**

<b>TEST TRENCH</b>	<b>STRA.</b>	<b>DEPTH (inches)</b>	<b>DESCRIPTION</b>	<b>CONTEXT</b>	<b>CULTURAL MATERIAL</b>
A	I	0-32	Various	Fill	plastic, coal, glass, metal, 20th century ceramics, two disused utility pipes (drainage and water), soda cans
A	II	32-35	Dark Brown Sandy Silt with Yellow Brown Sandy Silt mottling and Rocks	Fill/Disturbed Buried Former Ground Surface	None
A	III	35-56	Yellow Brown Sandy Silt  Encountered Ground Water at 46 inches	Sub-soil	None
B	I	0-44	Various	Fill	plastic, coal, glass, metal
B	II	44-50	Black Gray Silty Clay  Encountered Ground Water at 42 inches	Wetland Related Soil	None
C	I	0-40	Various	Fill	plastic, coal, glass, metal
C	III	40-51	Black Gray Silty Clay  Encountered Ground Water at 25 inches	Wetland Related Soil	None
D	I	0-3	Sod	Modern Ground Surface	plastic
D	II	3-5	Asphalt	Former Road Surface	asphalt
D	III	5-16	Gray Silt with Rock	Road Bedding	None
D	IV	16-38	Dark Brown Black Sandy Silt with Light Brown Sandy Silt mottling	Natural Soil Development/Fill	None
D	V	38-44	Light Gray Clay with Light Brown Sandy Silt mottling	Water Deposited Layer	None
D	VI	44-66	Yellow Brown Silty Sand	Sub-soil	None

<b>TEST TRENCH</b>	<b>STRA.</b>	<b>DEPTH (inches)</b>	<b>DESCRIPTION</b>	<b>CONTEXT</b>	<b>CULTURAL MATERIAL</b>
<b>E</b>	<b>I</b>	<b>0-5</b>	<b>Dark Brown Black Sandy Silt</b>	<b>Modern Ground Surface</b>	<b>None</b>
<b>E</b>	<b>II</b>	<b>5-8</b>	<b>Dark Gray Brown Sandy Silt</b>	<b>Leaching Zone/B-Horizon</b>	<b>None</b>
<b>E</b>	<b>III</b>	<b>8-27</b>	<b>Dark Brown Sandy Silt</b>	<b>Natural Soil Development/Fill</b>	<b>None</b>
<b>E</b>	<b>IV</b>	<b>27-53</b>	<b>Yellow Brown Silty Clay with Rust and Brown Clay lenses and mottling</b>	<b>Water Deposited Layer</b>	<b>None</b>

**APPENDIX C**

**LOCATIONS OF PHOTOGRAPHIC VIEWS INCLUDED IN THIS REPORT  
AS FIGURES 3-6**



**LOCATIONS OF PHOTOGRAPHIC VIEWS INCLUDED IN THIS REPORT AS FIGURES 3-6**

**LOCATIONS OF PHOTOGRAPHIC VIEWS FOR FIGURES 7-11 ARE TOWARDS THE INDICATED PROFILE WALLS FOR TEST TRENCHES A-E**