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(HP 2000)

**NEW YORK CITY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
STORM WATER AND SANITARY DRAINAGE PLAN**

**STAGE 1B  
ARCHAEOLOGICAL TEST EXCAVATIONS  
within  
BMP-2 AND BMP-3, BLUE HERON WATERSHED  
SOUTH RICHMOND, STATEN ISLAND, NEW YORK**

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ENVIRONMENTAL REVIEW

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DEPARTMENT OF ENVIRONMENTAL PROTECTION  
STORM WATER AND SANITARY DRAINAGE PLAN**

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ARCHAEOLOGICAL TEST EXCAVATIONS  
within  
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SOUTH RICHMOND, STATEN ISLAND, NEW YORK**

***Prepared for:***

**Northeast Construction, Inc.  
100 Route 70  
Lakewood, NJ 08701**

***Prepared by:***

**Historical Perspectives, Inc.  
P. O. Box 3037  
Westport, CT 06880**

**Principal Investigators:**

**Betsy Kearns, R.P.A.  
Cece Saunders, R.P.A.**

**Primary Author and Field Director:**

**Edward J. Lenik, R.P.A.**

***Date Prepared:***

**December 1999**

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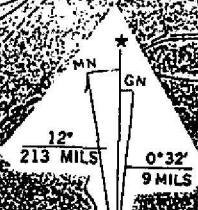
## **MANAGEMENT SUMMARY**

The New York City Department of Environmental Protection has developed a drainage plan for the sanitary collection and storm water management of the Blue Heron Watershed drainage area in South Richmond, Staten Island, New York. The storm water management plan includes the construction and installation of Best Management Practices (BMP). In 1997, a cultural resources assessment had concluded that specific BMP areas in the Watershed possessed medium sensitivity for prehistoric resources. The project location map from the 1997 study is included in the Management Summary.

The purpose of this Stage 1B investigation was to determine the presence or absence of prehistoric (Native American) period cultural resources within the proposed sites of BMP-2 and BMP-3 within the Blue Heron Watershed. Site BMP-2 is located southwest of the intersection of Lipsett Avenue and Eylandt Avenue. Site BMP-3 is located north of the junction of Koch Boulevard and Holdridge Avenue. A series of archaeological test excavations were carried out within these two BMP sites in December 1999.

No prehistoric cultural resources were found within the project areas. The proposed construction work at project sites BMP-2 and BMP-3 will have no impact on any cultural resource. No further archaeological investigation of these areas is necessary.

**FIGURE 1**  
**USGS Topographic Quad: Arthur Kill**



# I. INTRODUCTION

## A. PROJECT DESCRIPTION

The New York City Department of Environmental Protection has developed a drainage plan for the sanitary collection and storm water management of the Blue Heron Watershed drainage area [Bureau of Water and Sewer Operations, Capital Project SE-1 and SE-100]. The storm water management plan includes the construction and installation of Best Management Practices, hereafter referred to as BMPs in this report. In 1997, a cultural resources assessment (or, Stage 1A study) had concluded that specific BMP areas in the Watershed possessed medium sensitivity for prehistoric resources.

The purpose of this Stage 1B investigation was to determine the presence or absence of prehistoric (Native American) period cultural resources within the proposed sites of BMP-2 and BMP-3 within the Blue Heron Watershed in South Richmond, Staten Island. To that end, a series of archaeological test excavations were carried out within these two sites in December 1999. This report, performed under contract to Northeast Construction, Inc. of New Jersey, details the results of this program of testing and makes recommendations based on the findings.

## B. LOCATION AND DESCRIPTION OF PROJECT AREAS

Site BMP-2 is located southwest of the intersection of Lipsett Avenue and Eylandt Avenue. A wetland-pond system with extended detention is planned for this area (Hazen and Sawyer 1999a). This project site is wooded and contains dense pockets of greenbrier and underbrush. A small stream flows south-southwesterly through the area as the landscape slopes gently from Eylandt Avenue on the north to Blue Heron Park to the south. An excavated paper street and concrete sidewalk extend along the easterly side of this BMP site. Ground disturbance, trash dumping, and landfilling has occurred along the roadside of Eylandt Avenue and along the paper street, an unfinished extension of Lipsett Avenue.

Site BMP-3 is located north of the junction of Koch Boulevard and Holdridge Avenue. Koch Pond, a shallow body of water, is situated near Koch Boulevard and adjacent to an unfinished and undeveloped extension of Holdridge Avenue. The proposed construction work in this area will include landscape regrading, the excavation of a low flow channel, a head wall at the

storm sewer intake, a forebay and micropool, and outlet channel improvements (Hazen and Sawyer 1999b). The landscape is considerably disturbed along the northern edge of Koch Boulevard and along the unfinished extension of Holdridge Avenue. The area surrounding Koch Pond and along its outlet stream is wooded and the landscape on its south and easterly sides is low and wet.



## **II. ARCHAEOLOGICAL RESEARCH DESIGN AND METHODS**

### **A. CULTURAL RESOURCES SENSITIVITY**

Documentary research and field reconnaissance was previously conducted within the Blue Heron Watershed drainage area (see HP, Inc. 1997). The 1997 sensitivity evaluation found that BMP sites 2 and 3 were not sensitive for the presence of cultural deposits from the historical period. Prehistoric sensitivity, however, was assessed as medium potential except for those zones which were disturbed, underwater, or low-lying and wet.

### **B. TEST EXCAVATION METHODS AND PROCEDURES**

Archaeological shovel test excavations were conducted at various locations within BMP-2. Placement of the shovel tests was dictated by on-site landscape conditions. The test excavations were conducted in areas which could reasonably be expected to contain buried cultural deposits. We focused the testing on flat to gently sloping and seemingly well-drained surfaces. Those zones within BMP-2 that were disturbed, underwater or wetlands were not archaeologically tested.

Archaeological shovel test excavations were conducted within a flat to gently sloping and undisturbed area on the north side of Koch Pond within site BMP-3. Several tests were also excavated on the west side of the unimproved portion of Holdridge Avenue near the outlet of the pond.

All test units were excavated by shovel and hand trowel and the soils were screened and examined. The shovel test pits (STPs) measured 50 centimeters by 50 centimeters and were excavated in a linear or grid pattern at intervals of 25 feet. Test intervals were adjusted, more or less, because of physical conditions such as the presence of trees, water, or disturbed areas. The tests were excavated to culturally sterile depths or to depths dictated by physical conditions such as the presence of large roots or water. Artifacts recovered were recorded and bagged by test number and stratigraphic layer. All test pits were backfilled at the conclusion of each excavation. The location of each archaeological test within BMPs 2 and 3 is shown on the project site maps, FIGURES 3 and 4.

### III. ARCHAEOLOGICAL TEST EXCAVATIONS AT BMP-2

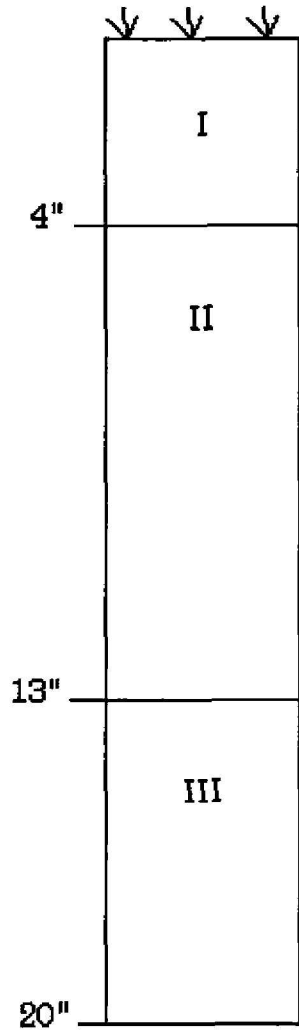
Twenty-six (26) shovel test pits were excavated within this project site. In general, three strata of soils were encountered at this site. Stratum I, the upper layer, typically consisted of black silty loam, humus, and roots. This layer varied in thickness from two to six inches but averaged four inches in depth. Stratum II, immediately beneath stratum I, was a dark yellowish brown silty clay of variable thickness. Stratum III was a yellowish brown or strong brown silty clay. Only a few cobbles or fragments of red sandstone were occasionally found within this soil layer. FIGURE 1 presents two representative soil profiles from this site.

The test excavations revealed wet or moist soils or a high water table in several locations. Wet soils and water were encountered in STPs 3, 20, 22, 23, and 24. Disturbed soils were observed within two shovel tests: STP number 19 was an eighteen inch thick deposit of mixed clayish soils. A buried "A" soil horizon was found in STP 20. Overall, the entire site seems to have a clay base. Water drains southerly through this area and wetland conditions prevail at the southern end.

Three historic period artifacts were recovered from this site. A probable iron bolt, badly rusted, was found within STP 4, soil stratum II. A fragment of yellowware ceramic was recovered from STP 5 stratum II. This specimen has a broad temporal span; its date range is 1828 to 1940 (LBA 1995:17). A small fragment of whiteware ceramic with blue transfer printed decoration was found in STP 7 stratum II. This artifact dates between 1815 and 1915 (LBA 1995:16). No historic period cultural features were encountered at this site.

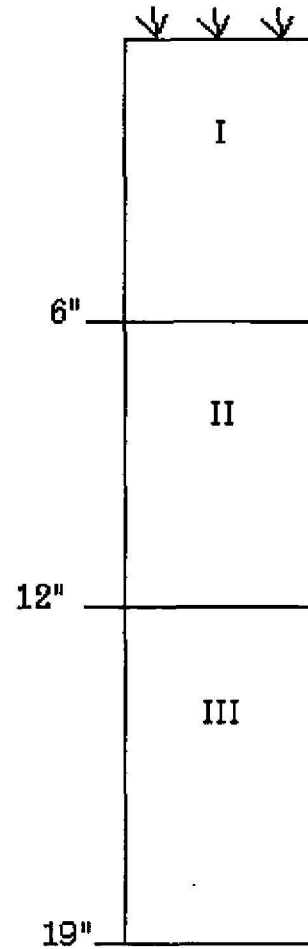
No prehistoric artifacts or cultural features were found within BMP-2.

SHOVEL TEST  
NUMBER 5



- I: 10YR 2/1 black, silty loam, humus
- II: 10YR 4/4 dark yellowish brown silty clay
- III: 7.5YR 5/6 strong brown silty clay

SHOVEL TEST  
NUMBER 23



- I: 10YR 3/3 dark brown silty loam, wet
- II: 10YR 4/4 dark yellowish brown sandy silty clay
- III: 10YR 6/2 and 7/8 mottled light brownish gray and yellow silty clay, water.

FIGURE 1: Representative Shovel Test Profiles in BMP-2

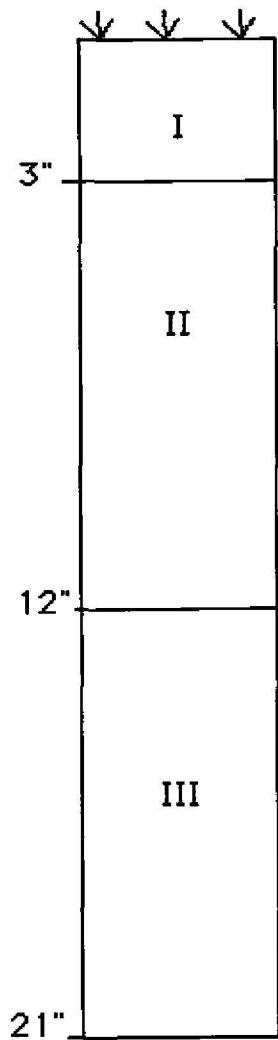
## **IV. ARCHAEOLOGICAL TEST EXCAVATIONS AT BMP-3**

Twenty-eight shovel test pits were excavated within BMP-3. Twenty-four tests were excavated along three transects on the north side of Koch Pond. Three strata of soils were encountered at this site. Stratum I, the upper soil layer, was black silty loam, humus, and contained numerous roots. This soil layer was three to four inches in depth. Stratum II, directly beneath I, was a strong brown or dark brown sandy silt that occasionally contained small pebbles. This layer varied in thickness from four to fifteen inches but averaged nearly nine inches. Stratum III was strong brown sandy silt or sandy silty clay that occasionally contained pebbles and cobbles. In general strata II and III were similar in terms of texture and content but differed slightly in color. Figure 2 presents two representative soil profiles from this site.

Four shovel test pits were excavated on the west side of the unimproved section of Holdridge Avenue. The soils were disturbed in STP number 25. Two layers of soil were encountered in this location. The upper soil layer was black sandy silty loam containing many roots. Stratum II beneath the first was yellowish red sandy silty clay that probably represents disturbed landfill material.

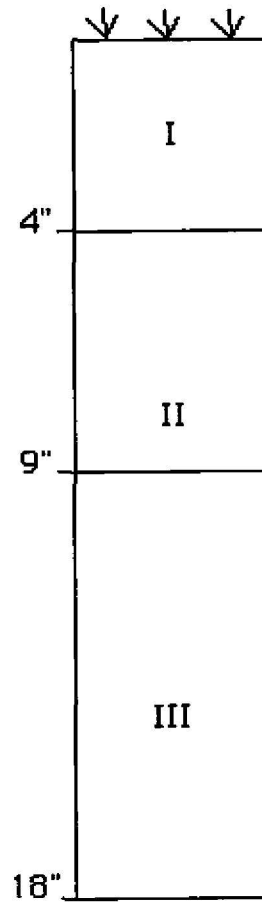
No prehistoric or historic period artifacts or cultural features were found within BMP-3.

SHOVEL TEST  
NUMBER 7



- I: 10YR 2/1 black silty loam, humus, roots
- II: 7.5YR 4/6 strong brown sandy silt
- III: 7.5YR 5/6 strong brown sandy silt

SHOVEL TEST  
NUMBER 20



- I: 10YR 2/2 black sandy silty loam, humus, roots
- II: 7.5YR 4/4 dark brown sandy silty clay, two cobbles
- III: 7.5YR 5/6 strong brown sandy silty clay, pebbles

FIGURE 2: Representative Shovel Test Profiles in BMP-3

ASPINWALL STREET

CLERMONT AVENUE

FINLAY STREET

BLOCK 7924

BLOCK 7925

BLOCK 7922

BLOCK 7934

12' WIDE PERMANENT MAINTENANCE ACCESS WAY (445 L.F. ±) W/ GARVEL SEE DWG. D

OUTLET STILLING BASIN W/ NATURAL FIELD STONES TO EL. 8.31 BOT. EL. 3.00

ARCHAEOLOGICAL TESTING

- T Transect
- Transect Interval Test
- Sensitive Locus Test
- Judgmental Test
- Unexcavated due to inundation or other disturbance

WARNING  
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NO.	DATE	ISSUED FOR	BY
		06/17/02 JAF	

DESIGNED	J.A.F.
DRAWN	J.A.F.
CHECKED	
SECT. CHIEF	R.D.S.
PROJ. ENGR.	S.M.

SCALE	1"=20'-0"
CAD REF	16300/CH/BMP-1E1

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Environmental Engineers & Scientists  
HAZEN AND SAWYER, P.C. • 498 SEVENTH AVENUE • NEW YORK, NEW YORK 10018

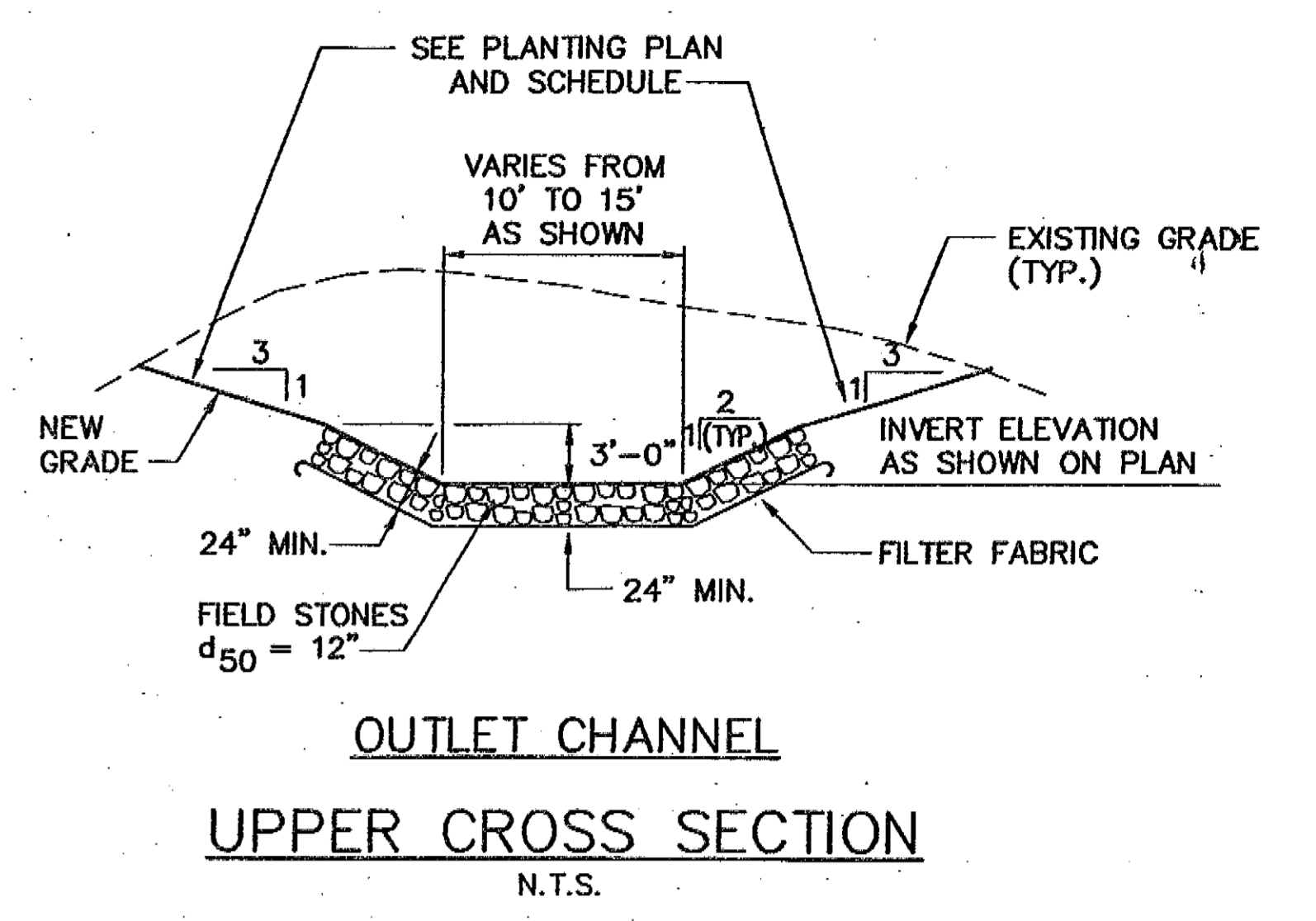
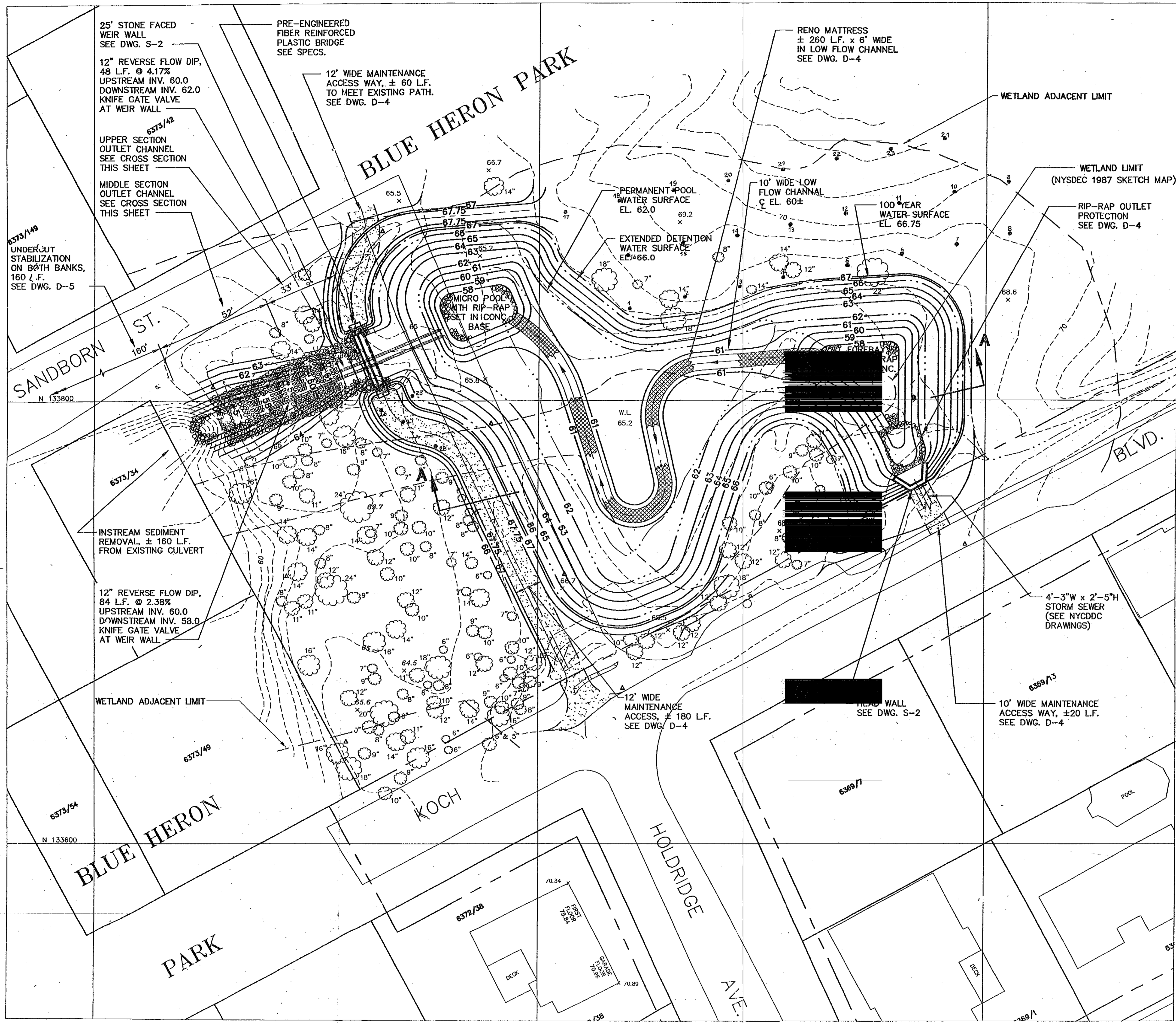
APPROVED FOR THE CITY OF NEW YORK  
PROJECT MANAGER



CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER AND SEWER OPERATIONS  
CAPITAL PROJECT SE-1 AND SE-100  
STORM WATER AND SANITARY DRAINAGE  
MANAGEMENT PLAN FOR SOUTH RICHMOND  
STATEN ISLAND, NEW YORK

STORM WATER AND SANITARY DRAINAGE PLAN  
CONFERENCE HOUSE PARK DRAINAGE AREA  
EXISTING SITE PLAN  
SHEET 1

DATE	JUNE 2002
SHEET	OF
DWG. NO.	C-2



BH-3 STONE SCHEDULE			
LOCATION	SIZE, d <sub>50</sub> (IN.)	COVERAGE (S.F.)	COMMENTS
INLET PROTECTION	12	330	RIP-RAP EXTENDS FROM HEADWALL TO FOREBAY, 22' LONG x 15' WIDE
FOREBAY BASE (IN CONCRETE)	6	675	EXTENDS TO EL. 58.0
MICRO POOL BASE (IN CONCRET)	6	675	EXTENDS TO EL. 58.0
OUTLET CHANNEL	12	2,300	FIELD STONES AS SHOWN AROUND WEIR TO EL. 67.0

- NOTES:  
1. SEE DWG. D-4 FOR INLET AND OUTLET STONE DETAILS.  
2. SEE DWG. D-5 FOR RIP-RAP SET IN CONC. DETAIL.

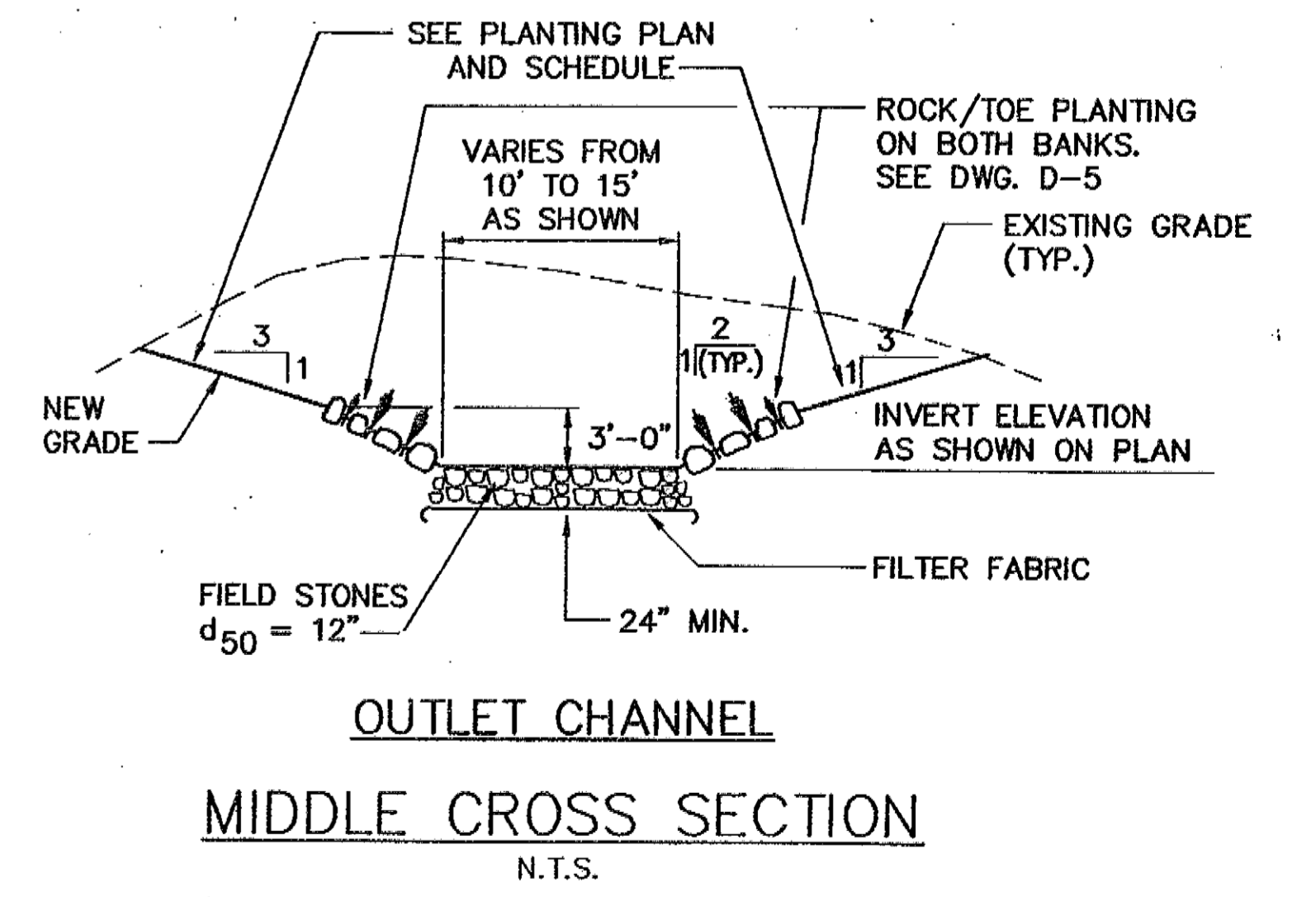


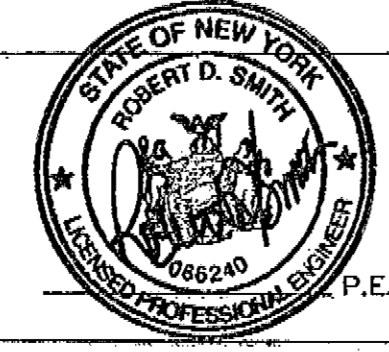
Figure 4: BMP-3  
Blue Heron Watershed  
Key: ● = Archaeological Testing  
Scale: 1" = 20'  
December 1999



DATE FLOW: 01-02-1995  
COORDINATES AND BEARINGS ARE IN THE SYSTEM AS ESTABLISHED BY THE UNITED STATES COAST AND GEODETIC SURVEY FOR NAD83 - LONG ISLAND ZONE.  
ELEVATIONS REFER TO BROMWICH HIGH WATER DATUM.

**SURVEYOR**  
RAJAKARUNA & ETLINGER P.C.  
CONSULTING ENGINEERS & CITY SURVEYORS  
125 LAKE AVENUE-STATEN ISLAND, N.Y. 10303

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BUREAU OF WATER AND SEWER OPERATIONS  
CAPITAL PROJECT SE-1 AND SE-100  
STORM WATER AND SANITARY DRAINAGE  
MANAGEMENT PLAN FOR SOUTH RICHMOND  
STATEN ISLAND, NEW YORK

STORM WATER AND SANITARY DRAINAGE PLAN  
BLUE HERON DRAINAGE AREA  
BMP BH-3 KOCH POND  
FINAL SITE PLAN

DATE: MARCH 1999  
SHEET: 12 OF 34  
DWG. NO.: C-9

NO.	DATE	ISSUED FOR	BY

DESIGNED	M.J.T.	SCALE
DRAWN	J.A.F./E.B.	1"=20'-0"
CHECKED	M.J.T.	CAD REF
SECT. CHIEF	R.D.S.	63001/BH/BMP-3
PROJ. ENGR.	S.M.	

## **V. CONCLUSIONS AND RECOMMENDATIONS**

### **A. PREHISTORIC ARCHAEOLOGICAL RESOURCES**

Documentary research and field reconnaissance were previously conducted within sites BMP-2 and BMP-3 but no evidence of prehistoric (Native American) occupation or use of these areas was found (H.P. Inc. 1997). Several undisturbed sections within these sites were observed, and were assessed as having medium potential or archaeological sensitivity. During this investigation, twenty-six archaeological tests were excavated within BMP-2 and twenty-eight were excavated within BMP-3. These archaeological tests did not locate or identify any evidence of prehistoric occupation within these project areas.

### **B. HISTORIC ARCHAEOLOGICAL RESOURCES**

No historic period cultural features were uncovered at the sites during our test excavations. Indeed, the previous background research indicated that no structures were ever present on the project site. Three historic period artifacts were recovered from shovel tests 4, 5, and 7 within BMP-2. These artifacts, an iron bolt and two ceramic fragments, represent sheet trash dumped or dropped on this site. These artifacts lack research potential and are not significant specimens of material culture.

### **C. SUMMARY CONCLUSION AND RECOMMENDATION**

This Phase 1B cultural resources investigation has determined that the proposed construction of BMP-2 and BMP-3 will have no impact upon any cultural resources. Therefore, no further archaeological investigation is necessary.



## VI. REFERENCES

Hazen and Sawyer, P.C.

1999a *Storm Water and Sanitary Drainage Plan, Blue Heron Drainage Area, BMP BH-2 Eylandt Street. Final Site Plan. Dwg. No. C-2.*  
Environmental Engineers & Scientists, New York NY.

1999b *Storm Water and Sanitary Drainage Plan, Blue Heron Drainage Area, BMP BH-3 Koch Pond. Final Site Plan. Dwg. No. C-9.*  
Environmental Engineers & Scientists, New York NY.

Historical Perspectives, Inc.

1997 *Phase 1A Cultural Resources Sensitivity Evaluation of the Blue Heron, Arbutus Creek and Lemon Creek / Sandy Brook Watersheds in South Richmond, Staten Island, New York.*  
Westport, CT. On file with the New York State Office of Parks, Recreation, and Historic Preservation, Albany, NY.

Louis Berger & Associates, Inc.

1995 *Analytical Coding System For Historic Period Artifacts.* The Cultural Resources Group, East Orange, NJ.

## VII. APPENDICES

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# APPENDIX A: TEST EXCAVATION RECORDS

SITE: BLUE HERON WATERSHED, BMP-2

<u>Test Number</u>	<u>Depth Stratum</u>	<u>Description of Strata (inches)</u>	<u>Cultural Munsell Soil Color</u>	<u>Remains</u>
1.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-11	Dk. yellowish brown silty clay, roots; 10YR 4/4	none
	III	11-19	Yellowish brown silty clay, roots; 10YR 5/6	none
2.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-15	Dk. yellowish brown silty clay, roots; 10YR 4/4	none
	III	15-22	Yellowish brown silty clay, roots; 10YR 5/6	none
3.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-11	Dk. yellowish brown silty clay, wet; 10YR 4/4	none
	III	11-18	Yellowish brown silty, wet clay; 10YR 5/6	none
4.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-12	Dk. yellowish brown silty clay, roots, 2 pebbles; 10YR 4/4	iron
	III	12-18	Yellowish brown silty clay; 10YR 5/6	none
5.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-13	Dk. yellowish brown silty clay, roots; 10YR 4/4	ceramic frag.
	III	13-20	Strong brown silty clay; 7.5YR 5/6	none
6.	I	0-4	Black silty loam; humus; 10YR 2/1	none
	II	4-11	Dk. yellowish brown sandy silt, cobbles, pebbles; 10YR 4/4	none
	III	11-19	Yellowish brown silty sandy clay, pcs. of red sandstone; 10YR 5/6	none
7.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-15	Dk. yellowish brown silty clay, roots; 10YR 4/4	ceramic frag.
	III	15-21	Strong brown silty clay; 7.5YR 5/6	none
8.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-13	Dk. yellowish brown silt, pebbles, 1 cobble; 10YR 4/4	none
	III	13-21	Strong brown silty clay, red sandstone frag.; 7.5YR 5/6	none
9.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-11	Dk. yellowish brown silt, gravel; 10YR 4/4	none
	III	11-18	Yellowish brown silty clay; 10YR 5/6	none
10.	I	0-4	Black silty loam, humus, bits of charcoal; 10YR 2/1	none
	II	4-10	Dk. yellowish brown silt, roots; 10YR 4/4	none
	III	10-18	Strong brown silty clay; 7.5YR 5/6	none
11.	I	0-3	Black silty loam, humus, bits of charcoal; 10YR 2/1	none
	II	3-11	Dk. yellowish brown silt, pebbles; 10YR 4/4	none
	III	11-18	Strong brown silty clay, red sandstone frags.; 7.5YR 5/6	none
12.	I	0-4	Black silty loam, humus; 10YR 2/1	none
	II	4-15	Dk. yellowish brown silt, roots; 10YR 4/4	none
	III	15-21	Strong brown sandy silty clay; 7.5YR 5/6	none
13.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-11	Dk. yellowish brown silt, pebbles, clam shell frag.; 10YR 4/4	none

	III	11-19	Strong brown sandy silt, red sandstone frags.; 7.5YR 5/6	none
14.	I	0-3	Black silty loam, humus, roots; 10YR 2/1	none
	II	3-14	Dk. yellowish brown sandy silty clay; 10YR 4/4	none
	III	14-20	Dk. yellowish brown sandy clay, gravel; 10YR 4/6	none
15.	I	0-4	Black silty loam, humus, bits of charcoal; 10YR 2/1	none
	II	4-18	Dk. yellowish brown sandy silty clay; 10YR 4/4	none
	III	18-24	Dk. yellowish brown sandy clay, cobbles; 10YR 4/6	none
16.	I	0-3	Black sandy silty loam, roots; 10YR 2/1	none
	II	3-9	Dk. yellowish brown sandy silt, roots; 10YR 4/4	none
	III	9-18	Strong brown sandy silty clay; 7.5YR 5/6	none
17.	I	0-3	Black sandy silty loam; 10YR 2/1	none
	II	3-12	Dk. yellowish brown sandy silty clay, one pebble; 10YR 4/4	none
	III	12-19	Yellowish brown sandy silty clay, red sandstone frags.; 10YR 5/6	none
18.	I	0-4	Black sandy silty loam, humus; 10YR 2/1	none
	II	4-11	Dk. yellowish brown sandy silt; 10YR 4/4	none
	III	11-18	Strong brown sandy silty clay; 7.5YR 5/6	none
19	I	0-18	Mixed gray, grayish brown, reddish brown clay fill with pebbles; 10YR 5/1, 4/2; 5YR 4/4 Disturbed soils.	none
20.	I	0-2	Dk. yellowish brown sandy silt; 10YR 4/4; disturbed	none
	II	2-10	Reddish brown sandy silty clay; 5YR 4/4; disturbed	none
	III	10-13	Dk. brown sandy silty clay; 10YR 3/3	none
	IV	13-16	Grayish brown silty clay, organic matter, water; 10YR 5/2	none
21.	I	0-3	Very dk. gray silty clay; 10YR 3/1	none
	II	3-15	Lt. brownish gray and yellow silty sandy clay; 10YR 7/2, 7/8	none
	III	15+	Test halted by large root	
22.	I	0-3	Black silty loam; 10YR 2/1	none
	II	3-15	Brown silty clay; 10YR 4/3	none
	III	15-21	Mottled lt. brownish gray and yellow silty sandy clay, water; 10YR 6/2, 7/8	none
23.	I	0-6	Dk. brown silty loam, wet; 10YR 3/3	none
	II	6-12	Dk. yellowish brown sandy silty clay, roots; 10YR 4/4	none
	III	12-19	Mottled lt. brownish gray and yellow silty clay, water; 10YR 6/2, 7/8	none
24.	I	0-4	Dk. brown silty loam, wet; 10YR 3/3	none
	II	4-12	Dk. yellowish brown sandy silty clay; 10YR 4/4	none
	III	12-18	Yellowish brown sandy silty clay, water; 10YR 5/8	none
25.	I	0-3	Black sandy silty loam; 10YR 2/1	none
	II	3-6	Brown silty clay; 10YR 4/3	none
	III	6-15	Yellowish brown sandy silty clay; 10YR 5/6	none
26	I	0-2	Black sandy silty loam; 10YR 2/1	none
	II	2-4	Brown silty clay; 10YR 5/3	none
	III	4-10	Pale brown silty clay; 10YR 6/3	none
	IV	10-16	Mottled brownish yellow, yellow sandy silty clay; 10YR 6/6, 7/8	none

SITE: BLUE HERON WATERSHED, BMP-3

1.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-14	Strong brown sandy silty clay, roots; 7.5YR 4/6	none
	III	14-22	Strong brown sandy silty clay, pebbles, wet; 7.5YR 5/6	none
2.	I	0-3	Black silty loam, humus, roots; 10YR 2/1	none
	II	3-15	Strong brown sandy silty clay, pebbles; 7.5YR 4/6	none
	III	15-21	Strong brown sandy silty clay, pebbles; 7.5YR 5/6	none
3.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-13	Strong brown sandy silty clay, pebbles; 7.5YR 4/6	none
	III	13-21	Strong brown sandy silty clay; 7.5YR 5/6	none
4.	I	0-3	Black silty loam, humus, roots; 10YR 2/1	none
	II	3-9	Strong brown sandy silty clay, pebbles; 7.5YR 4/6	none
	III	9-18	Strong brown sandy silty clay, red sandstone frags.; 7.5YR 5/6	none
5.	I	0-4	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	4-13	Strong brown sandy silty clay; 7.5YR 4/6	none
	III	13-20	Strong brown sandy silty clay; 7.5YR 5/6	none
6.	I	0-5	Black silty loam, humus, pebbles, one cobble; 10YR 2/1	none
	II	5-10	Strong brown sandy silty clay; 7.5YR 4/6	none
	III	10-15	Strong brown sandy silty clay; 7.5YR 5/6	none
	IV	15+	Test halted by large root	none
7.	I	0-3	Black silty loam, humus, roots; 10YR 2/1	none
	II	3-12	Strong brown sandy silt; 7.5YR 4/6	none
	III	12-21	Strong brown sandy silt; 7.5YR 5/6	none
8.	I	0-4	Black silty loam, humus, roots; 10YR 2/1	none
	II	4-10	Strong brown sandy silt, pebbles; 7.5YR 4/6	none
	III	10-20	Strong brown sandy silt; 7.5YR 5/6	none
9.	I	0-3	Black silty loam, humus, roots; 10YR 2/1	none
	II	3-15	Strong brown sandy silt; 7.5YR 4/6	none
	III	15-23	Strong brown sandy silty clay; 7.5YR 5/6	none
10.	I	0-3	Black silty loam, humus, roots; 10YR 2/1	none
	II	3-11	Strong brown sandy silt, cobbles; 7.5YR 4/6	none
	III	11-18	Strong brown sandy silty clay; 7.5YR 5/6	none
11.	I	0-4	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	4-14	Strong brown sandy silt, roots, one cobble; 7.5YR 4/6	none
	III	14-20	Strong brown sandy silty clay, roots; 7.5YR 5/6	none
12.	I	0-4	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	4-9	Dk. brown sandy silt, pebbles; 7.5YR 4/4	none
	III	9-19	Strong brown sandy silt, cobbles; 7.5YR 5/6	none
13.	I	0-4	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	4-13	Strong brown sandy silt; 7.5YR 4/6	none
	III	13-20	Strong brown sandy silty clay, pebbles, wet; 7.5YR 5/6	none
14.	I	0-3	Black sandy silty loam, humus, bits of charcoal, two large cobbles; 10YR 2/1	none

	II	3-7	Strong brown sandy silt; 7.5YR 4/6	none
	III	7-19	Strong brown sandy silt, pebbles, wet 7.5YR 5/6	none
15.	I	0-4	Black sandy silty loam, humus; 10YR 2/1	none
	II	4-15	Dk. brown sandy silty clay, two cobbles; 7.5YR 4/4	none
	III	15+	Test halted by large roots	none
16.	I	0-4	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	4-13	Dk. brown sandy silt, cobbles; 7.5YR 4/4	none
	III	13-16	Strong brown sandy silty clay, pebbles; 7.5YR 5/6	none
	IV	16+	Test halted by large roots	none
17.	I	0-4	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	4-12	Dk. brown sandy silt, cobbles; 7.5YR 4/4	none
	III	12-19	Strong brown sandy silt; 7.5YR 5/6	none
18.	I	0-4	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	4-9	Dk. brown sandy silt, pebbles, sandstone frags.; 7.5YR 4/4	none
	III	9-18	Strong brown sandy silt; 7.5YR 5/6	none
19.	I	0-3	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	3-13	Dk. brown sandy silt, pebbles, roots; 7.5YR 4/4	none
	III	13-20	Strong brown sandy silt; 7.5YR 5/6	none
20.	I	0-4	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	4-9	Dk. brown sandy silty clay, two cobbles; 7.5YR 4/4	none
	III	9-18	Strong brown sandy silty clay, pebbles; 7.5YR 5/6	none
21.	I	0-4	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	4-14	Dk. brown silty sand, gravel; 7.5YR 4/4	none
	III	14-22	Strong brown silty sandy clay; 7.5YR 5/6	none
22.	I	0-3	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	3-18	Dk. brown sandy silt, pebbles; 7.5YR 4/4	none
	III	18+	Test halted by large root	none
23.	I	0-3	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	3-15	Dk. brown sandy silt, pebbles; 7.5YR 4/4	none
	III	15-23	Strong brown sandy silt, pebbles; 7.5YR 5/6	none
24.	I	0-3	Black sandy silty loam, humus, roots; 10YR 2/1	none
	II	3-15	Dk. brown sandy silt, pebbles; 7.5YR 4/4	none
	III	15-22	Strong brown sand, gravel, silt; 7.5YR 5/6	none
25.	I	0-4	Black gravel, fill material; 10YR 2/1, disturbed	none
	II	4-8	Yellowish red sandy silty clay; 5YR 5/6; disturbed	none
	III	8+	Test halted by large roots	none
26.	I	0-4	Black sandy silty loam, roots; 10YR 2/1	none
	II	4-15	Dk. brown sandy silty clay; one cobble; 7.5YR 4/4	none
	III	15+	Test halted by large roots	none
27.	I	0-3	Black sandy silty loam, roots; 10YR 2/1	none
	II	3-18	Yellowish red sandy silty clay; 5YR 4/6	none
28.	I	0-3	Black sandy silty loam, root; 10YR 2/1	none
	II	3-20	Yellowish red sandy silty clay; 5 YR 4/6	none

## APPENDIX B: ARTIFACT INVENTORY

SITE: BLUE HERON WATERSHED, BMP-2

<u>Test No./ Soil Stratum</u>	<u>Artifact</u>	<u>Material/Color</u>	<u>Quantity</u>	<u>Comments</u>
4 - I	bolt (?)	iron/rusted	1	?
5 - II	yellowware frag.	ceramic/yellow	1	1828-1940
7 - II	whiteware frag. with blue transfer printed decoration	ceramic/white	1	1815-1915

SITE: BLUE HERON WATERSHED, BMP-3

NONE