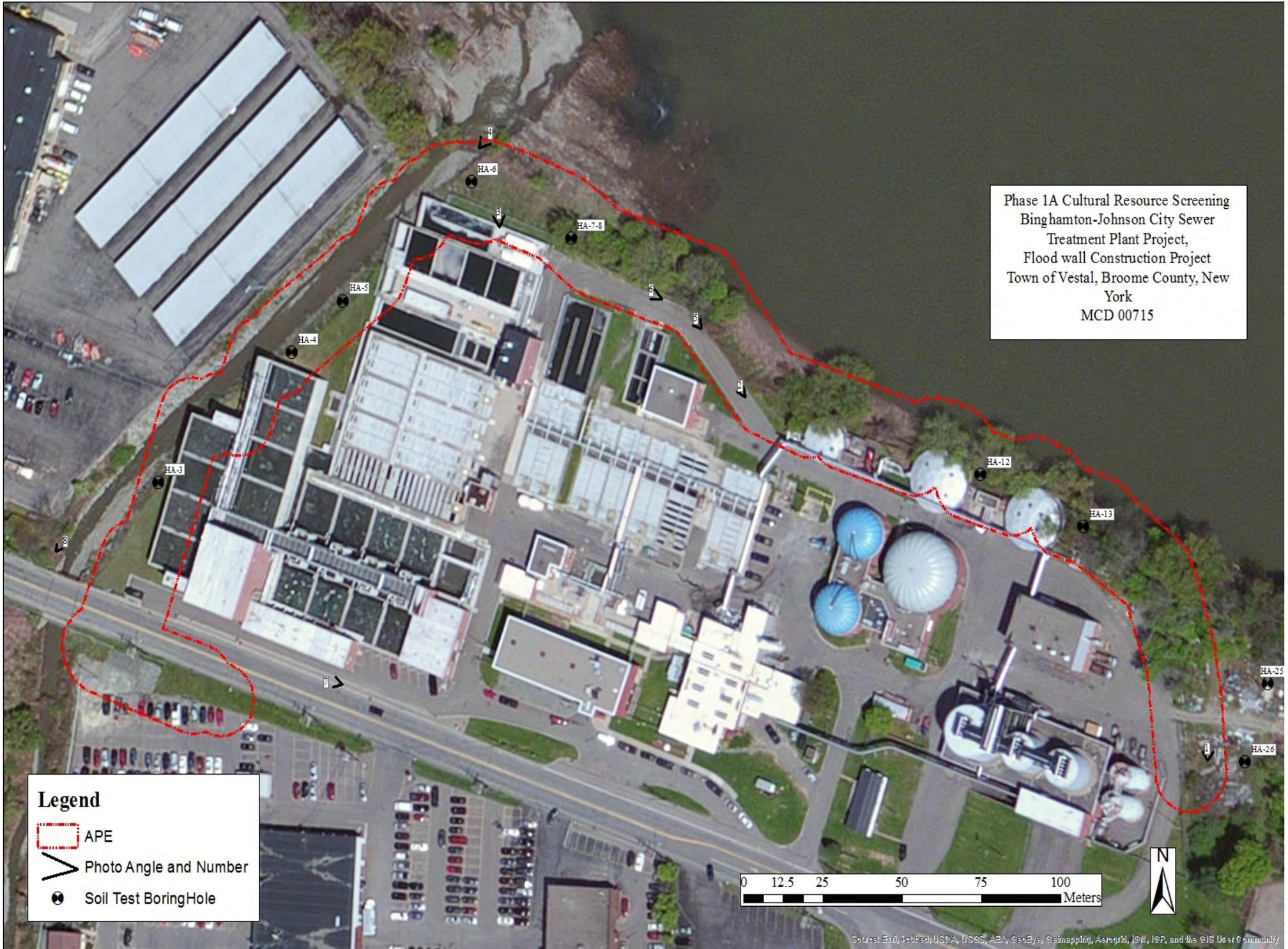


APPENDIX III. Figure 9. Project Map





Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189
518-237-8643

4 March 2014

Ms. Susan Rivers
Elan.3 Consulting
18 Division Street, Studio 304
Saratoga Springs, NY 12866

Re: CORPS PERMITS, DEC
Binghamton-Johnson City Sewage Treatment Plant Floodwall
Town of Vestal, Broome County
14PR00526

Dear Ms. Rivers:

The State Historic Preservation Office (SHPO) has reviewed the information submitted for this project (*Phase 1A Cultural Resource Screening, Binghamton-Johnson Sewer Treatment Plant Project, Floodwall Construction Project, Town of Vestal, Broome County, New York*, dated July 2013 and *Phase 1B Archaeological Survey, Binghamton-Johnson Sewer Treatment Plant Project, Floodwall Construction Project, Town of Vestal, Broome County, New York*, dated January 2014, both prepared by Public Archaeology Facility). Our review has been in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

SHPO has the following comments and requests for additional information.

1. In the Phase IB report, please provide a table that presents the following information for each test or group of test locations –
 - a. the depth of the Area of Potential Effects (APE);
 - b. the top and bottom elevations of potentially culture-bearing deposits (i.e. below fill and above glacial gravels, high-velocity alluvium, or bedrock); and
 - c. the maximum depth of archaeological testing.
2. Please provide the locations of the mitigation area(s) mentioned in the Phase IA report and the results of archaeological testing, as appropriate. SHPO cannot provide final comments until all portions of the APE have been examined.
3. As of last December, SHPO requires submission of reports on disk in PDF format (see enclosed). Please submit final reports with this guidance.

If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio, Historic Preservation Program Analyst – Archaeology Unit
Phone: 518-237-8643 x3276; FAX: 518-233-9049
Email: Philip.Perazio@parks.ny.gov

Enclosure

Cc: Nina Versaggi, PAF (via email)



Public Archaeology Facility Report

PHASE 1B ARCHAEOLOGICAL SURVEY

**BINGHAMTON-JOHNSON SEWER TREATMENT PLANT PROJECT
FLOODWALL CONSTRUCTION PROJECT
TOWN OF VESTAL
BROOME COUNTY, NEW YORK
(MCD 00715)**

PREPARED BY:

RICHARD A. KASTL, M.A., RPA

SUBMITTED TO:

**GRIFFITHS ENGINEERING, LLC
13 S. WASHINGTON STREET, SUITE 1
BINGHAMTON, NY 13903**

SPONSOR:

**BINGHAMTON-JOHNSON CITY
JOINT TREATMENT PLANT**

JANUARY 15, 2014

**Binghamton University, State University of New York
Binghamton, New York 13902-6000**

PHASE 1B ARCHAEOLOGICAL SURVEY
BINGHAMTON-JOHNSON SEWER TREATMENT PLANT PROJECT,
FLOODWALL CONSTRUCTION PROJECT
TOWN OF VESTAL
BROOME COUNTY, NEW YORK
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SPONSOR:

BINGHAMTON-JOHNSON CITY
JOINT TREATMENT PLANT

JANUARY 15, 2014

MANAGEMENT SUMMARY

Project Name: Binghamton-Johnson City Sewer Treatment Plant Project, Flood wall Construction Project

SHPO Project Review Number (if available):

Involved State or Federal Agencies (DEC, CORPS, FHWA, etc): DEC

Phase of Survey: 1B Archaeological Survey

Location Information

Location #1: Old Vestal Road

Location #2: Gates Road

Minor Civil Division: Town of Vestal (MCD 00715)

County: Broome

Survey Area (Metric & English)

Length: Location #1: 536 m (774 ft); Location #2: 52 m (171 ft)

Width: Location #1: 20 m (66 ft); Location #2: 12 m (40 ft)

Depth: (when appropriate): 2 m (6.6 ft)

Number of Acres Surveyed: Location #1: 3.2 ac (1.32 ha); Location #2: .15 ac (.06 ha)

USGS 7.5 Minute Quadrangle Map: Binghamton West

Archaeological 1B Survey Overview

Number & Interval of Shovel Tests: Location #1; Area A: 22 @ 7.5 m intervals, Area B: 3 STPs @ 5 m intervals; Location #2 (Area C): 4 @ 15 m intervals; 1 @ 1m intervals

Number & Size of Backhoe Units: Location #1, Area A: 2 trenches, 1.5 x 5 m

Report Author(s): Richard A. Kastl, M.A, RPA

Date of Report: January 15, 2013

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I. INTRODUCTION

This report presents the results of a Phase I B archaeological survey for the proposed Flood Wall Construction Project, Binghamton-Johnson City Sewer Treatment Project, Town of Vestal, Broome County, New York (Figure 1). The facility is located on the south bank of the Susquehanna River, east of the confluence with Fuller Hollow Creek, on Old Vestal Road. The proposed Area of Potential Effect (APE) includes an area approximately 20 m (66 ft) wide around the perimeter of the facility (Figure 2).

The Phase 1A cultural resource assessment recommended that 25-30 STPs be excavated and that 2-3 short backhoe trenches be excavated into possible undisturbed soils. The potential impacts associated with this project include the construction of a Flood wall around the perimeter of the Binghamton-Johnson Sewer Treatment plant on Old Vestal Road, Town of Vestal, Broome County, NY. Construction plans call for the installation of a concrete T-Wall, with an estimated depth of excavation of 6 feet (1.83 m) below the existing surface; installation of steel sheet piling; and the construction of a mitigation area. The location of the mitigation area and its size and depth have not yet been determined. (See attached preliminary plans, Appendix II, p. 17.) The Gates Road Pumping Station was also added to this project for testing. Three outbuildings are proposed on the south side of the paved drive (See attached map, Appendix II, p. 17).

There are two test areas for this project, the first around the main sewage plant facility along Old Vestal Road and the second near the Pumping Station on Gates Road. Along the Old Vestal Road facility there are two areas to be tested by STPs: Area A, located between the sewage plant and the Susquehanna River, and Area B located along Old Vestal Road. STPs around the Gates Road facility were designated Area C. The backhoe trenches were excavated to the east of the Old Vestal Road facility.

The fieldwork summarized in this document was performed under the supervision of Dr. Nina M. Versaggi, Director of the Public Archaeology Facility, Binghamton University. Richard A. Kastl served as the project director and is the author of this report. Maria Pezzuti and Annie Pisani performed all related administrative duties. In compliance with the Standards for Cultural Resource Investigations in New York State (1994) and the National Park Service's How to Apply the National Register Criteria for Evaluation (1990), the area within the project limits is considered the area of impact for the purpose of conducting the survey. *The results of the research performed for this report do not apply to any territory outside the project area.*

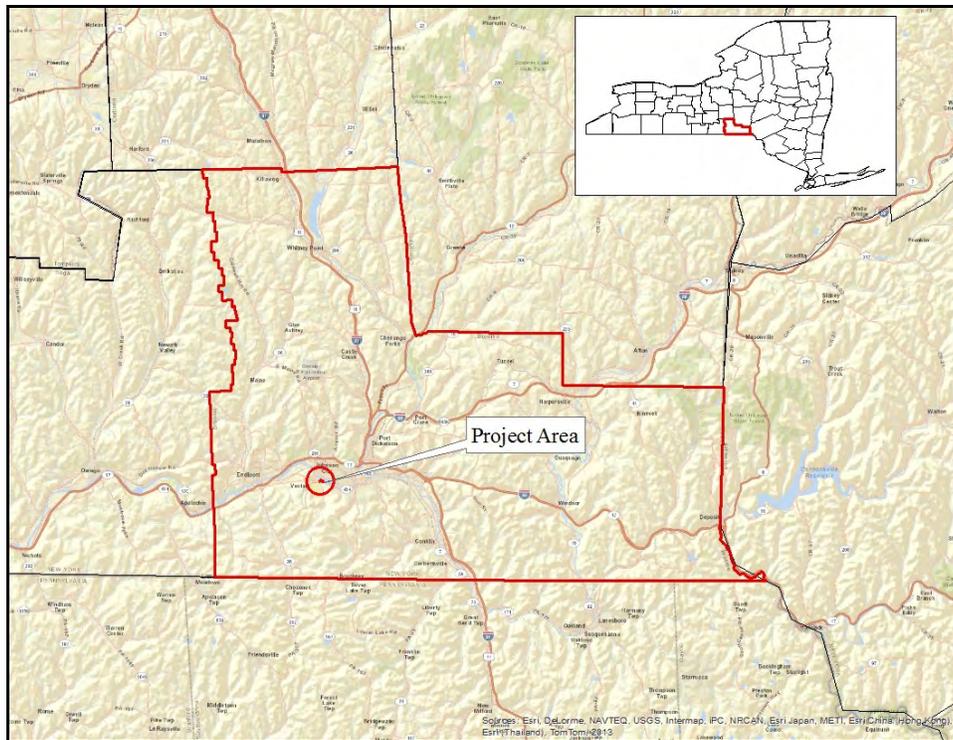


Figure 1. Location of the project area in Broome County and New York State.

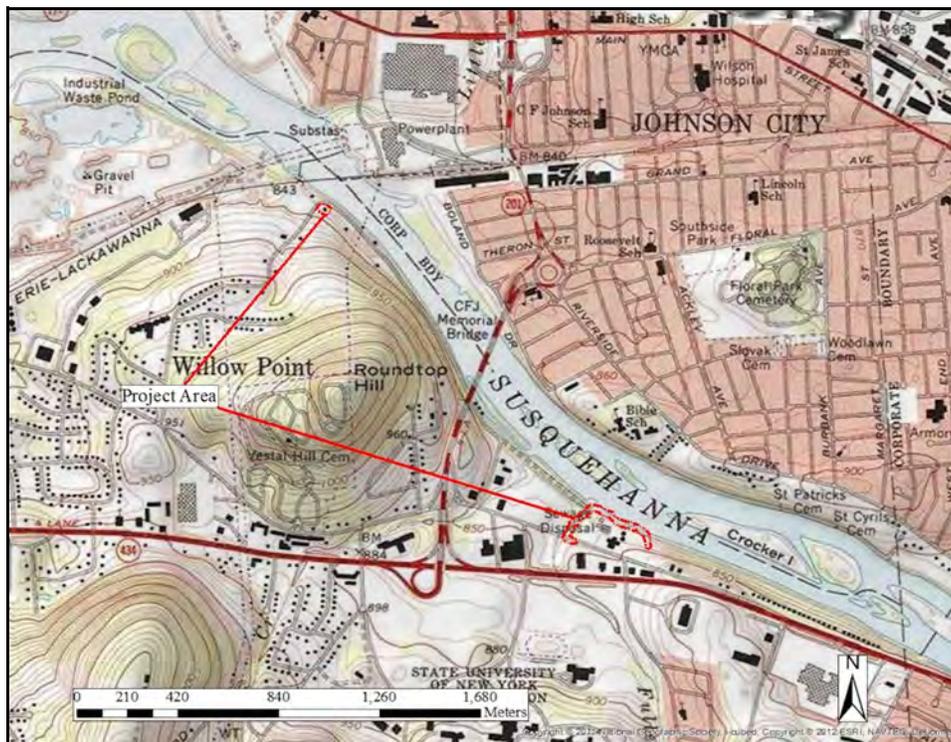


Figure 2. Location of the two project parcels on the Binghamton West, 7.5' USGS Quadrangle.



Photo 1. Project area (sewer plant parcel), looking north onto potential mitigation area at east side of facility.



Photo 2. Project area (sewer plant parcel), facing north from Fuller Hollow Creek.



Photo 3. Project area (sewer plant parcel), looking west along north perimeter.



Photo 4. Project area (sewer plant parcel), looking west along north perimeter.



Photo 5. Project area (sewer plant parcel), looking west along Old Vestal Road.



Photo 6. Gates Road project area, looking east from Gates Road.

II. BACKGROUND RESEARCH

2.1 Environmental Context

The environmental context was summarized in the Phase 1A report (Kastl 2013). The project area along Old Vestal Road is located on a portion of the Susquehanna River flood plain near the confluence of Fuller Hollow Creek in the Town of Vestal, New York. The elevation of the project area is approximately 256 m (840 ft) amsl. The second survey area is on Gates Road and adjacent to the Susquehanna River. The elevation is 255 m (837 ft) amsl. The soil survey map of Broome County indicates the presence of four major soil types within the project area boundaries: Dalton silt loam, 2-8% slopes, Wayland silt loam, Tioga silt loam, and Howard and Chenango series soils. These soil types are described in Table 1, p. 7. The majority of the project area has Tioga silt loam and Wayland silt loam, and lesser amounts of the Dalton and Chenango-Howard associations.

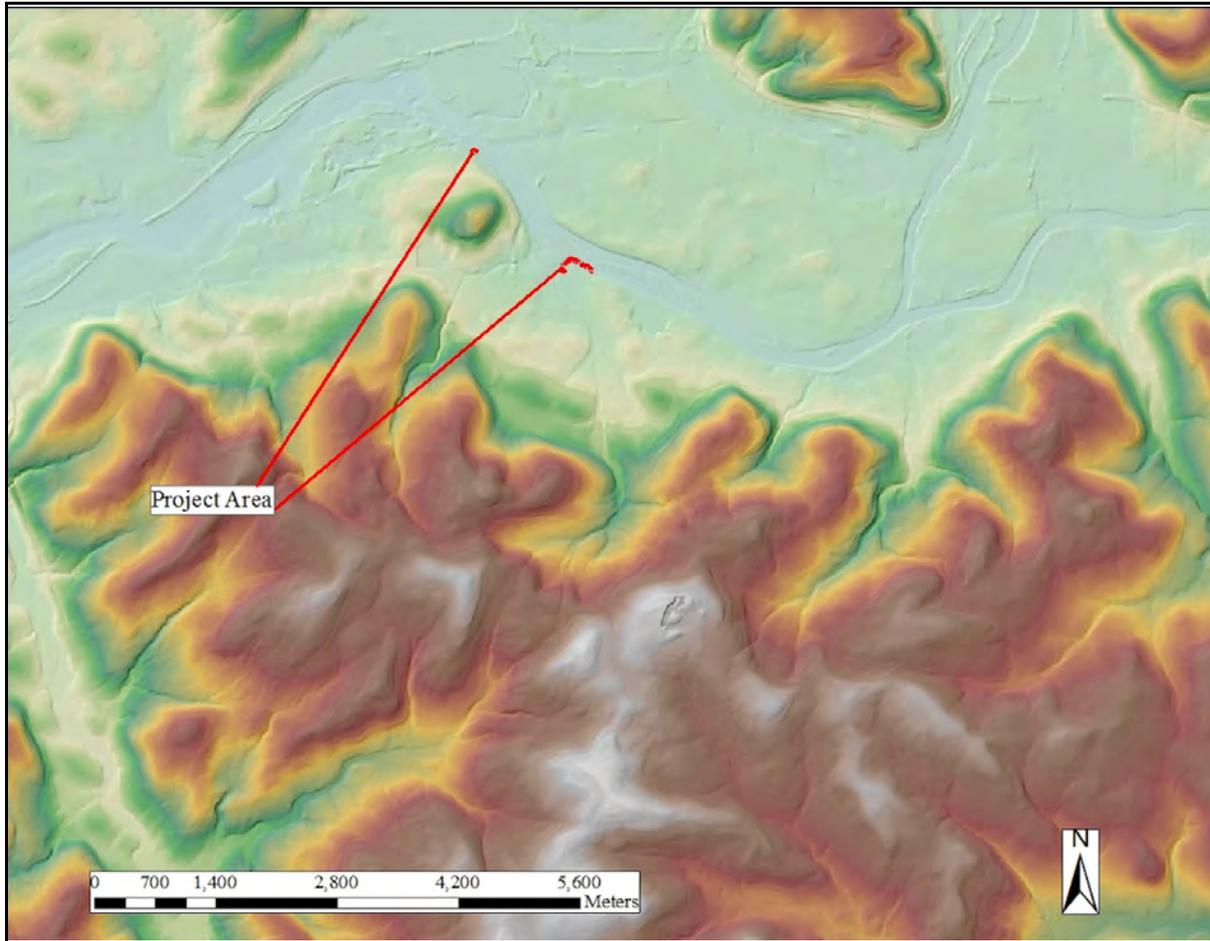


Figure 3. Digital elevation model (DEM) showing the project area and regional landscape.

The environmental context of the project area on a portion of the Susquehanna River flood plain near a major confluence suggests a high to moderate probability for prehistoric cultural material (if these materials have not been destroyed by ground disturbance). Given the setting, a variety of prehistoric sites may be located within the project area boundaries. If natural soils are encountered, excavation should reach at least 1 m (3.3 ft) below the original surface A horizon.

Soil Borings

The results of soil borings for the Old Vestal Road project area were summarized in the Phase 1A report (Kastl 2013). On the basis of the boring results, the project area between the Susquehanna River and the north perimeter of the facility is likely to encounter intact soils and should be tested at 15 m intervals. In the other areas on the east and

west sides of the facility, it is unlikely that intact soils can be reached using shovels and other strategies should be employed if impacts will extend into intact soil horizons. No soil borings are available for the Gates Road parcel.

Table 1. Predicted soil types for the Binghamton-Johnson City Flood wall project areas.

Series Name	Slope	Horizons	Color/Texture	Landforms
Tioga silt loam	level	Ap 0-20 cm (0-8 in) Bw1 20-46 cm (8-18 in) Bw2 46-92 cm (18-36 in) C 92-127 cm (36-50 in)	dk gr brown silt loam brown silt loam yl brown silt loam dk yl brown silt loam	Deep, well drained soils formed in alluvium on higher positions in flood plains
Dalton silt loam	2-8%	Ap 0-20 cm (0-8 in) Bg 20-38 cm (8-15 in) Eg 38-46 cm (15-18 in) 2Bx1 46-106 cm (18-42 in) 2Bx2 106-142 cm (42-56 in) 2C 142-183 cm (56-72 in)	v dk gr brown silt loam gr brown silt loam lt br gray silt loam brown ch loam gr brown ch loam gr brown ch loam	Very deep soils that are mainly along lower valley sides. Soils formed in loamy till that has a silty mantle.
Wayland silt loam	level	A 0-15 cm (0-6 in) Bg1 15-31 cm (6-12 in) Bg2 31-46 cm (12-18 in) C1 46-117cm (18-46 in) C2 117-183 cm (46-72 in)	dk gr brown silt loam dk gr brown silt loam gr brown silt loam gray silt loam gray si clay loam	Very deep nearly level soils formed in recent alluvium, found in low areas or slackwater areas on flood plains.
Chenango Series	5-15%	Ap 0-20 cm (0-8 in) Bw1 20-31 cm (8-12 in) Bw2 31-51cm (12-20 in) BC 51-76 cm (20-30 in) 2C 76-183 cm (30-72 in)	v dk gr brown grv si lo dk yl brown grv si lo dk yl brown v grv si lo brown v grav si lo dk gr brown ex grav si lo	Deep soils formed in water sorted material on outwash plains, kames, eskers, terraces and alluvial fans.
Howard Series	5-15%	Ap 0-23 cm (0-9 in) E 23-38 cm (9-15 in) E/B 38-61 cm (15-24 in) B/E 61-69 cm (24-27 in) Bt1 69-76 cm (27-30 in) Bt2 76-114 cm (30-45 in) C 114-183 cm (45-72 in)	dk brown grav loam brown v grav loam pale brown v grav loam brown v grav loam brown v grav loam brown v grav loam gr brown ex grav sand	Very deep soils formed in medium textured glacial outwash deposits, found on valley terraces, outwash plains, kame moraines, and eskers.

KEY=dk=dark; v=very, grav=gravelly; ex=extremely, si=silt, lo=loam, gr=gray, lt=light, br=brown, ch=channery

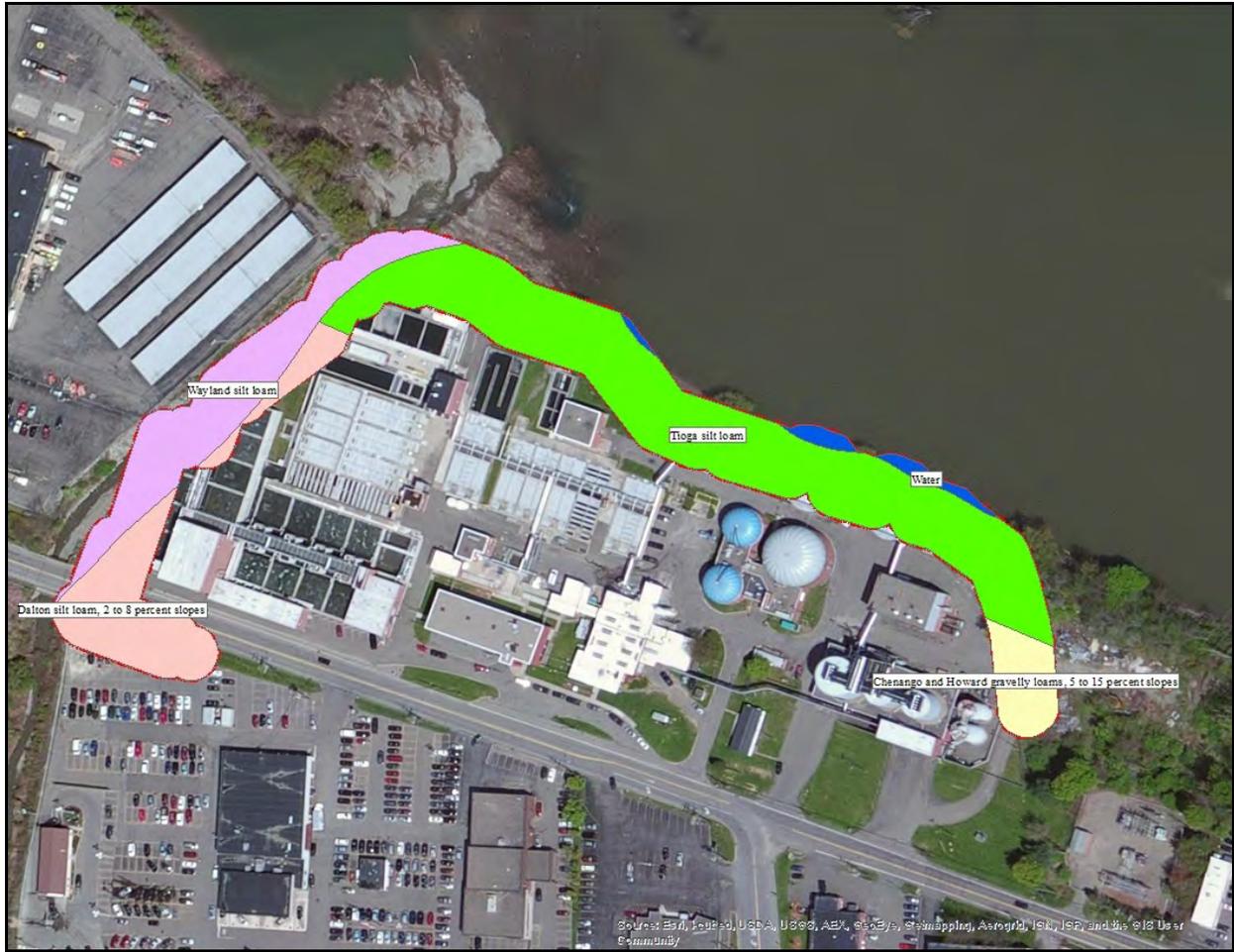


Figure 4. Approximate location of the Old Vestal Road APE showing the mapped soils.



Figure 5. Approximate location of the Gates Road APE showing the mapped soils.

2.2 Site Files Summary

The site files check at the New York State Office of Parks, Recreation, and Historic Preservation for a previous study (Kudrle 2001) listed 8 prehistoric sites within 3.2 km (2 mi) of the project area. One site, NYSM 2858, is a site identified by Parker (1920), and is listed as adjacent to Fuller Hollow Creek. This location should probably be placed somewhere near the middle to eastern third of the project area, since the creek channel appears to have been moved. The site is listed as an unidentified prehistoric village, and there is no further information. None of the sites has produced diagnostic artifacts, but they do suggest that the land around the project area was intensely utilized throughout the prehistoric period for all types of purposes, ranging from villages and base camps to specialized resource processing locations.

2.3 Prehistoric Context

The prehistoric context was summarized in the Phase 1A report (Kastl 2013). The location of the project near the confluence of Fuller Hollow Creek and the Susquehanna River would favor prehistoric residential sites, such as villages and base camps. The project parcels location on the Susquehanna River near a tributary stream suggest that a wide range of prehistoric site types is likely near this project area. These site types could include villages, small multi-task camps, and temporary foraging sites. Along Gates Road, the parcel's location adjacent to the Susquehanna River would suggest a wide range of sites, including villages, small multi-task camps, and temporary foraging sites.

2.4 Historic Context

The historic context of the project area along Old Vestal Road was summarized in the Phase 1A report (Kastl 2013). Based on the results of the historic maps analysis, and the lack of documented historic archaeological sites within a 3.2 km (2 mi) radius of the Old Vestal Road project area as well as the Gates Road Project area, the probability of encountering historic archaeological sites is low.

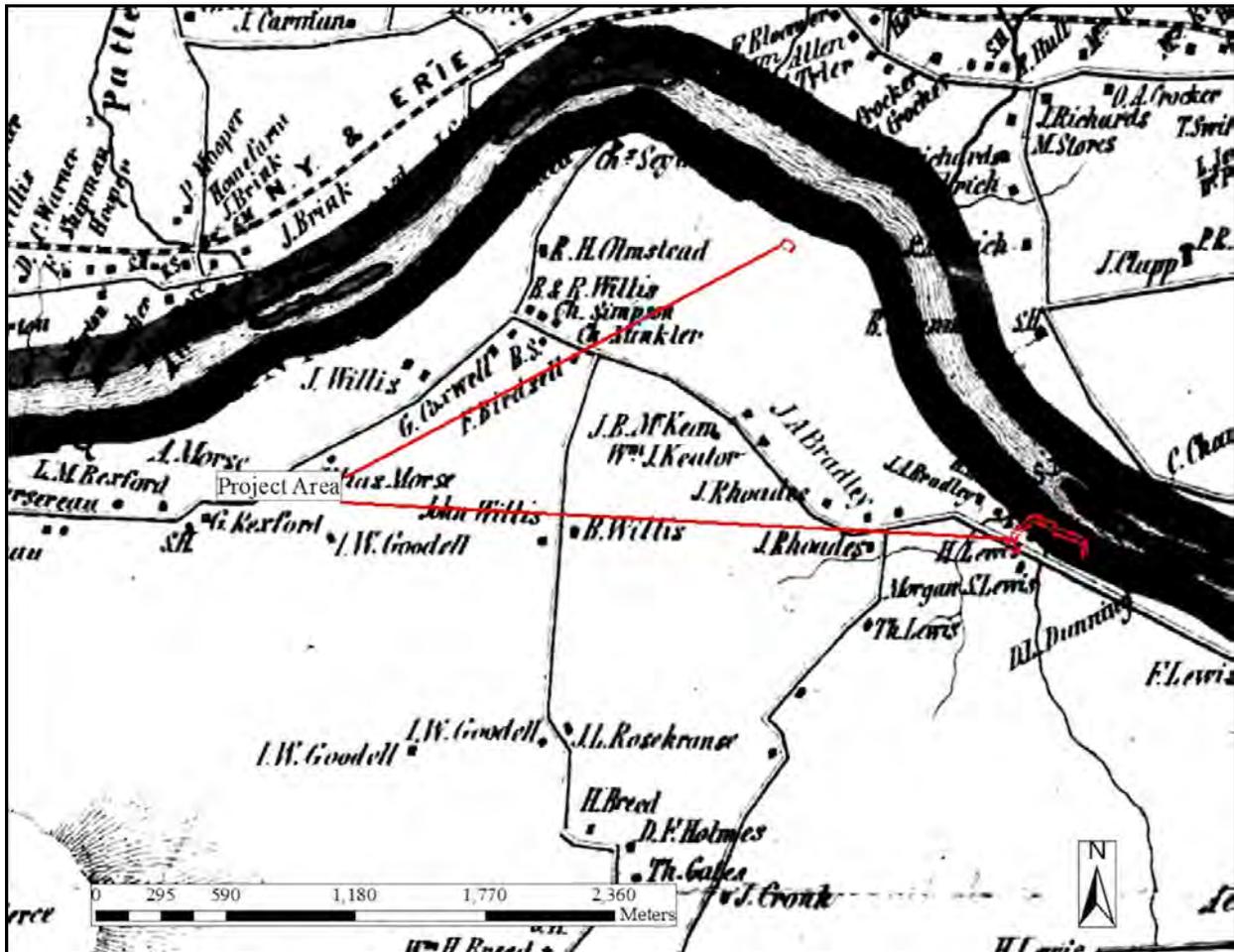


Figure 6. 1855 Gifford map showing the project area.

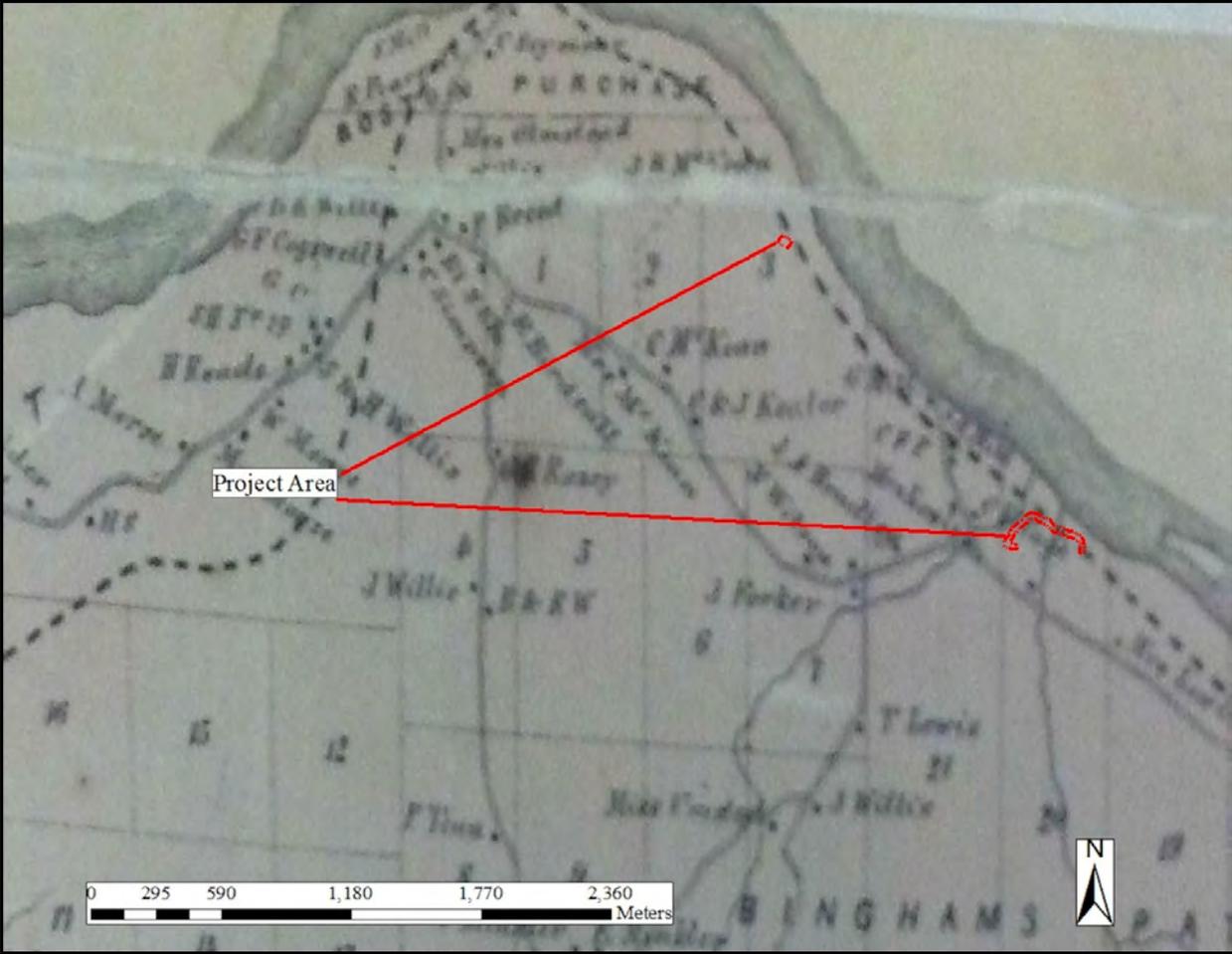


Figure 7. 1866 Beers map showing the project area.

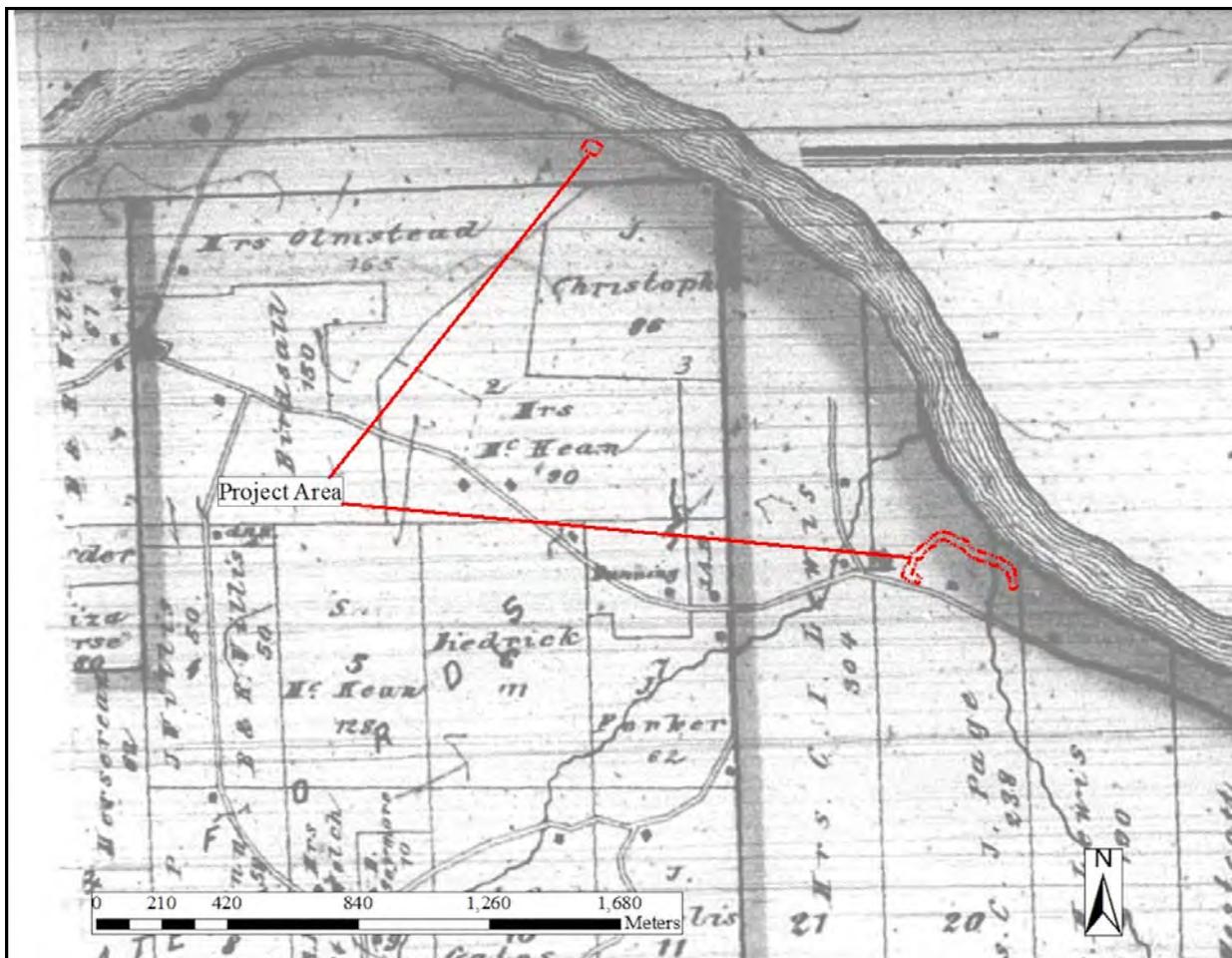


Figure 8. 1876 Everts, Ensign, and Everts map showing the project area.

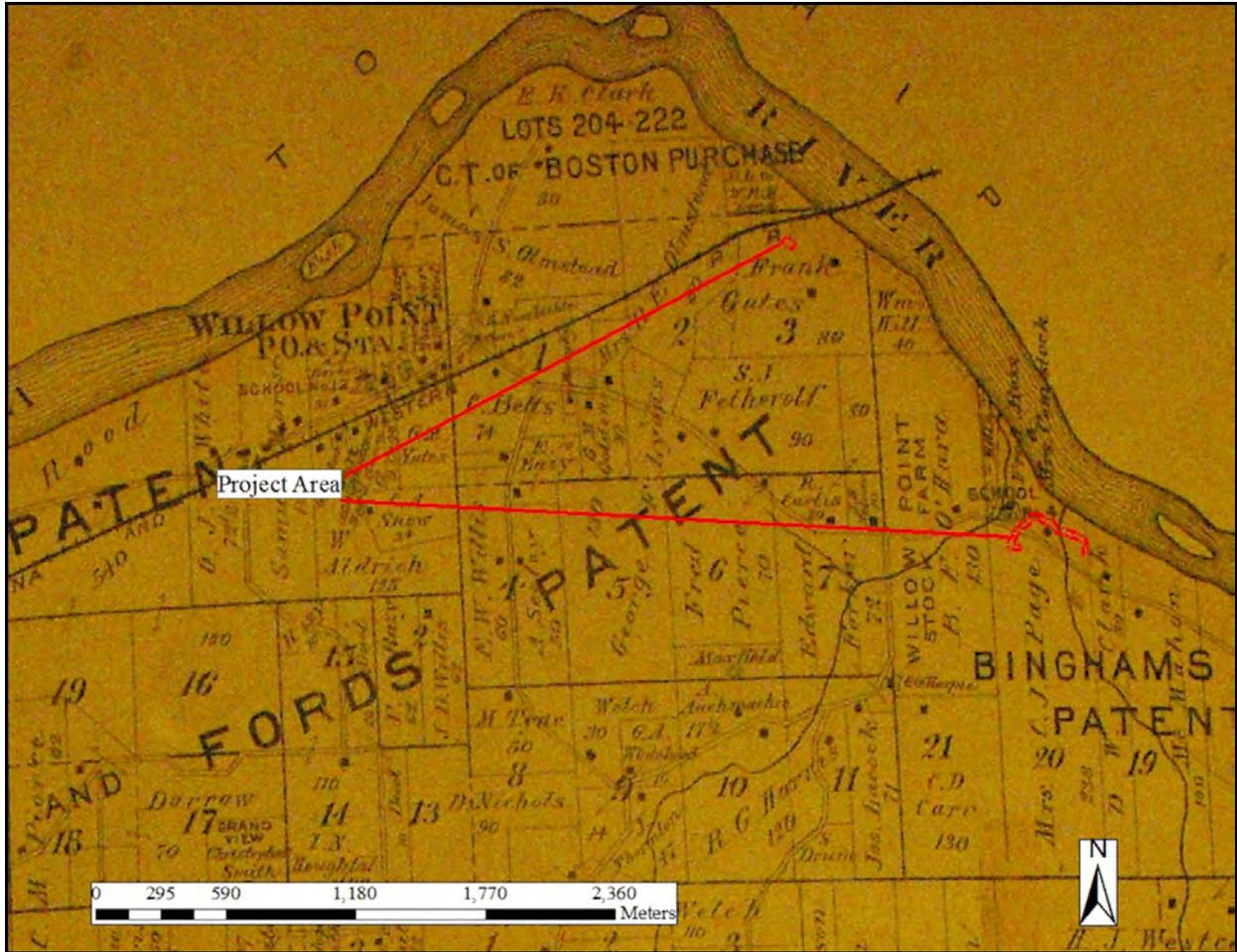


Figure 9. 1908 Plat book of Broome County, showing project area.

III. METHODOLOGY

3.1 Subsurface Testing Procedures

STPs were approximately 35-40 cm (14-16 in) in diameter and were dug with hand tools (shovels). Testing intervals were at 7.5 m (25 ft) along the Susquehanna River and 15 m (49.2 ft) in other locations. Soils were passed through ¼ in hardware cloth to standardize recovery rates. All STPs were excavated to at least 15 cm (6 in) into sterile subsoil, unless stopped by rock, root, water, or some other impediment.

3.2 General Laboratory Methods

Following fieldwork, all artifacts were processed and analyzed in the laboratories of the Public Archaeology Facility. Processing included washing and dry-brushing fragile materials, as well as checking and re-tagging of the artifact bags.

All of the artifacts, notes and other documentation of the reconnaissance testing are curated according to federal (36 CFR Part 79) and state guidelines (NYAC 1994) in the facilities of the Department of Anthropology at Binghamton University.

IV. PHASE 1B RESULTS

Archaeologists excavated 33 STPs at 15 and 7.5 m intervals within of the project areas. No artifacts were recovered from STPs. Two backhoe trenches were excavated on the east side of the sewage plant property. The shovel testing was conducted in three areas: the north side of the sewage facility between the chain link fence and the Susquehanna River (A1-A22); the south side of Old Vestal Road (B1-B3); and the Gates Road Area (C1-C4). No cultural material was encountered in either the STPs or in the backhoe trenches.

Soils in Area A consisted of a dark brown (10YR4/2 to 5/2) silt loam A Horizon that averaged 29.4 cm in depth. The B Horizon consisted of a yellow brown (10YR5/3 to 5/4) sandy silt to compact silt that averaged 66.3 cm in depth, although several STPs were able to reach 85 to 100 cm in depth. These soils are generally consistent with the Tioga silt loam soils predicted for this area. This area was considered a high probability area and all STPs were placed at 7.5 m intervals. This area is adjacent to the sewage treatment plant and there were some signs of disturbance in some areas, particularly near A1-3. However, enough STPs were able to reach a depth of 1 m or into gravels or rocks to adequately test the soils, and the area with the noted disturbance was also near the area tested with backhoe trenches.

The Area B soils consisted of a dark brown (10YR3/2 to 6/2) silt loam A Horizon that was 20.7 cm below the surface. The B Horizon extended to 36.7 cm and consisted of a dark yellow brown (10YR5/2 to 5/6) silt loam. These soils are consistent with the predicted Dalton series soils for this area. This area is located adjacent to Old Vestal Road, and may have some disturbance due to road construction and utility construction.

The Area C soils consisted of a dark brown (10YR3/2 to 6/3) silt loam A Horizon that extended to 19.4 cm. The B Horizon extended to 33.2 cm and consisted of a dark yellow brown (10YR4/2 to 5/3) silt loam. These soils are consistent with the predicted Chenango and Howard gravelly loams. Testing in this area occurred on the south side of the Gates Road building at the foot of a steep slope.

The two backhoe trenches were excavated at the eastern part of the APE. Soil borings had identified layers of fill, but possibly intact soils under the fill. In Trench #1, an intact A horizon was encountered at 168 cm below the surface and consisted of a 10YR3/2 very dark gray brown silt loam. The B horizon was encountered at 218 cm below the surface. In Trench #2, the A horizon consisted of a 10YR5/4 yellow brown silt loam, 228-250 cm below the surface. The B horizon was a 10YR5/3 brown silt loam that started at 250 cm below the surface. Both trenches were too deep to enter so soils from both the A and B horizons were brought to the surface by the backhoe and screened. No cultural material was encountered.

V. RECOMMENDATIONS

Parts of the areas tested have had extensive disturbance over the years. Historic maps consistently show that the course of Fuller Creek has been altered and likely originally entered the Susquehanna River somewhere to the east of the sewage plant. Construction activities for the sewage plant, the Gates Road facility and Old Vestal Road may have created other disturbances. Phase 1B archaeological testing did not identify any prehistoric or historic sites. We recommend that the proposed impacts associated with the project will not impact any cultural resources. No further archaeological work is recommended.

APPENDIX I. BIBLIOGRAPHY

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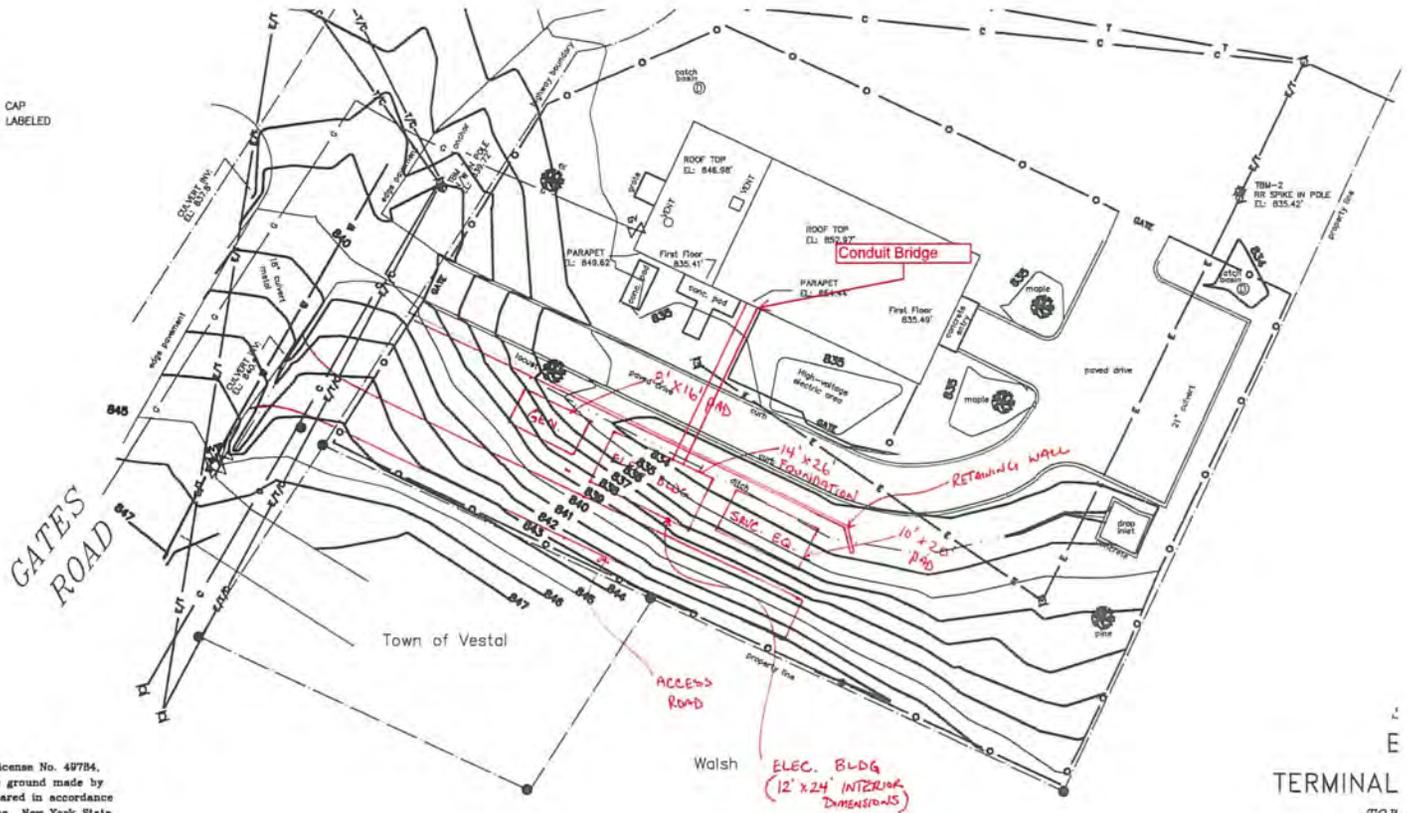
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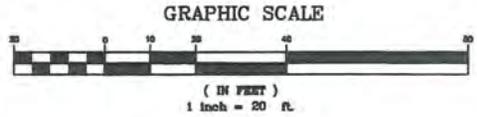
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DATE: November 21, 2013

The Turner House, Suite 101
 24 NYS Rte 98
 Oswego, NY 13627
 E-Mail: we_la_pc@yahoo.com



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APPENDIX III. STP Record

PA=PALE LT=LIGHT MD=MEDIUM DK=DARK
 BR=BROWN GR=GRAY YL=YELLOW OL=OLIVE TN=TAN RD=RED BK=BLACK WH=WHITE
 SI=SILT SA=SAND CL=CLAY LO=LOAM GVL=GRAVEL
 P=PREHISTORIC H=HISTORIC N=NO CULTURAL MATERIAL
 DISC.=DISCARDED

STP	#	4Rnd	Lev	Beg	End	Soil Description	CM	Crew	Date
A	1		1	0	16	Br Sa Lo	N	JFA/PB	12/19/13
A	1		2	16	24	Dk Gr Br Sa Si	N	JFA/PB	12/19/13
A	1		3	24	40	Yl Br Si Sa W/ Roots; Stopped By Roots	N	JFA/PB	12/19/13
A	2		1	0	20	Dk Br Si Lo	N	DP/EA	12/19/13
A	2		2	20	30	Yl Br Sa Si W/ Dense Rock; Stopped By Rocks	N	DP/EA	12/19/13
A	3		1	0	23	Dk Br Sa Si W/ Rocks	N	JFA/PB	12/19/13
A	3		2	23	30	Yl Br Sa Si W/ Rocks; Stopped By Rocks	N	JFA/PB	12/19/13
A	4		1	0	25	Dk Br Sa Si W/ Roots & Rocks	N	JFA/PB	12/19/13
A	5		1	0	21	Dk Br Si Lo W/ Roots	N	DP/EA	12/19/13
A	5		2	21	39	Dk Yl Br Compact Sa Si W/ Gvl & Rocks	N	DP/EA	12/19/13
A	6		1	0	30	Dk Br Sa Si W/ Roots; Stopped By Roots	N	JFA/PB	12/19/13
A	7		1	0	25	Br Sa Si	N	DP/EA	12/19/13
A	7		2	25	50	Br Sa Si; Stopped By Large Rocks	N	DP/EA	12/19/13
A	8		1	0	30	Br Sa Si W/ Roots	N	DP/EA	12/19/13
A	8		2	30	50	Br Sa Si W/ Roots; Stopped By Large Rocks	N	DP/EA	12/19/13
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A	10		3	50	75	Dk Yl Br Si Sa	N	JFA/PB	12/19/13
A	10		4	75	90	Dk Yl Br Si Sa; Stopped By Root (Japanese Knotweed)	N	JFA/PB	12/19/13
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A	11		2	70	85	Yl Br Sa Si	N	DP/EA	12/19/13
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A	12		2	30	60	Br Sa Si	N	DP/EA	12/19/13
A	12		3	60	75	Br Sa Si	N	DP/EA	12/19/13
A	12		4	75	100	Mottled Dk Ol Br / Dk Strong Br Sa Si	N	DP/EA	12/19/13
A	13		1	0	25	Ol Br Sa Si	N	JFA/PB	12/19/13
A	13		2	25	40	Ol Br Sa Si	N	JFA/PB	12/19/13
A	13		3	40	61	Gr W/ Ol Br Sa Si	N	JFA/PB	12/19/13
A	13		4	61	82	Gr Si Sa	N	JFA/PB	12/19/13
A	14		1	0	55	Br Si Lo	N	DP/EA	12/19/13
A	14		2	55	78	Gr Br Sa Si	N	DP/EA	12/19/13
A	15		1	0	25	Dk Yl Br Sa Si	N	JFA/PB	12/19/13
A	15		2	25	50	Dk Yl Br Sa Si	N	JFA/PB	12/19/13
A	15		3	50	68	Dk Yl Br Sa Si	N	JFA/PB	12/19/13
A	15		4	68	86	Gr Br Si Sa	N	JFA/PB	12/19/13
A	16		1	0	29	Br Wet Sa Si	N	DP/EA	12/19/13
A	16		2	29	54	Br Wet Sa Si	N	DP/EA	12/19/13

STP	#	4Rnd	Lev	Beg	End	Soil Description	CM	Crew	Date
A	16		3	54	85	Dk Ol Br Wet Sa Si	N	DP/EA	12/19/13
A	17		1	0	25	Dk Yl Br Sa Si	N	JFA/PB	12/19/13
A	17		2	25	50	Dk Yl Br Sa Si	N	JFA/PB	12/19/13
A	17		3	50	61	Dk Yl Br Sa Si	N	JFA/PB	12/19/13
A	17		4	61	85	Gr / Yl Br Si Sa	N	JFA/PB	12/19/13
A	18		1	0	50	Br Si Lo	N	DP/EA	12/19/13
A	18		2	50	70	Gr Br Si Lo	N	DP/EA	12/19/13
A	19		1	0	25	Dk Br Sa	N	JFA/PB	12/19/13
A	19		2	25	50	Dk Br Sa	N	JFA/PB	12/19/13
A	19		3	50	65	Dk Br Sa	N	JFA/PB	12/19/13
A	19		4	65	85	Dk Gr Br Sa	N	JFA/PB	12/19/13
A	20		1	0	23	Dk Br Si Lo	N	DP/EA	12/19/13
A	20		2	23	53	Mottled Dk Ol Br / Strong Br Wet Si Lo	N	DP/EA	12/19/13
A	20		3	53	80	Mottled Dk Ol Br / Strong Br Wet Si Lo	N	DP/EA	12/19/13
A	21		1	0	25	Br Sa Si	N	JFA/PB	12/19/13
A	21		2	25	50	Br Sa Si	N	JFA/PB	12/19/13
A	21		3	50	55	Br Sa Si; Plastic - Disc.	N	JFA/PB	12/19/13
A	21		4	55	69	Gr / Gley Br Si Sa	N	JFA/PB	12/19/13
A	21		5	69	85	Yl Br Sa Si W/ Rocks	N	JFA/PB	12/19/13
A	22		1	0	25	Br Si Lo	N	DP/EA	12/19/13
A	22		2	25	45	Br Si Lo	N	DP/EA	12/19/13
A	22		3	45	63	Gr Br Cl Si	N	DP/EA	12/19/13
B	1		1	0	20	Dk Br Si Lo W/ Rocks	N	DP/EA	12/19/13
B	1		2	20	35	Dk Yl Br Si Lo W/ Rocks	N	DP/EA	12/19/13
B	2		1	0	22	Dk Gr Br Sa Lo W/ Rocks - Fill	N	DP/EA	12/19/13
B	2		2	22	44	Dk Yl Br Sa W/ Gvl & Rocks - Fill	N	DP/EA	12/19/13
B	3		1	0	20	Dk Gr Sa	N	JFA/PB	12/19/13
B	3		2	20	31	Lt Br Sa W/ Gvl; Stopped By Rocks	N	JFA/PB	12/19/13
C	1		1	0	20	Dk Br Si Lo W/ Gvl	N	DP/EA	12/19/13
C	1		2	20	47	Dk Yl Br Sa Lo W/ Gvl & Rocks	N	DP/EA	12/19/13
C	1	1mW	1	0	25	Dk Br Lo W/ Rocks	N	DP/EA	12/19/13
C	1	1mW	2	25	50	Dk Yl Br Sa Lo W/ Rocks; Stopped By Rocks	N	DP/EA	12/19/13
C	2		1	0	15	Dk Br Sa Si Fill W/ Gvl & Large Rocks; Stopped By Rocks	N	JFA/PB	12/19/13
C	3		1	0	20	Gravel Fill W/ Stabilizing Rock; Stopped By Rocks	N	JFA/PB	12/19/13
C	4		1	0	17	Br Si Lo	N	DP/EA	12/19/13
C	4		2	17	34	Gr Br Sa Lo W/ Dense Rock	N	DP/EA	12/19/13

APPENDIX IV. Backhoe Trench Record

Trench #1 Soils

Stratum	Texture/Color	Depth/Fill or Natural	Artifacts
I	10YR4/6; yellow brown silt loam with gravel and rocks	0-85 cm; Fill	NCM
II	10YR3/2; dark grayish brown silt loam	85-105 cm; Fill	NCM
II	10YR6/4; light yellowish brown silt loam with gravel	105-168 cm; Fill	NCM
IV	10YR3/2; very dark grayish brown silt loam	168-218 cm; A Horizon	NCM
V	10YR6/6; brownish yellow silt loam	218-241 cm; B Horizon	NCM

Trench #2 Soils.

Stratum	Texture/Color	Depth/Fill or Natural	Artifacts
I	10YR3/4; dark yellow brown sandy silt with gravel	0-64 cm; Fill	NCM
II	10YR5/2; gray brown sand with gravel and rocks	64-228 cm; Fill	NCM
II	10YR5/4; yellow brown silt loam	228-250 cm; A Horizon	NCM
IV	10YR5/3; brown silt loam	250-265 cm; B Horizon	NCM

Binghamton-Johnson City Sewer Project
Trench #1, West Wall

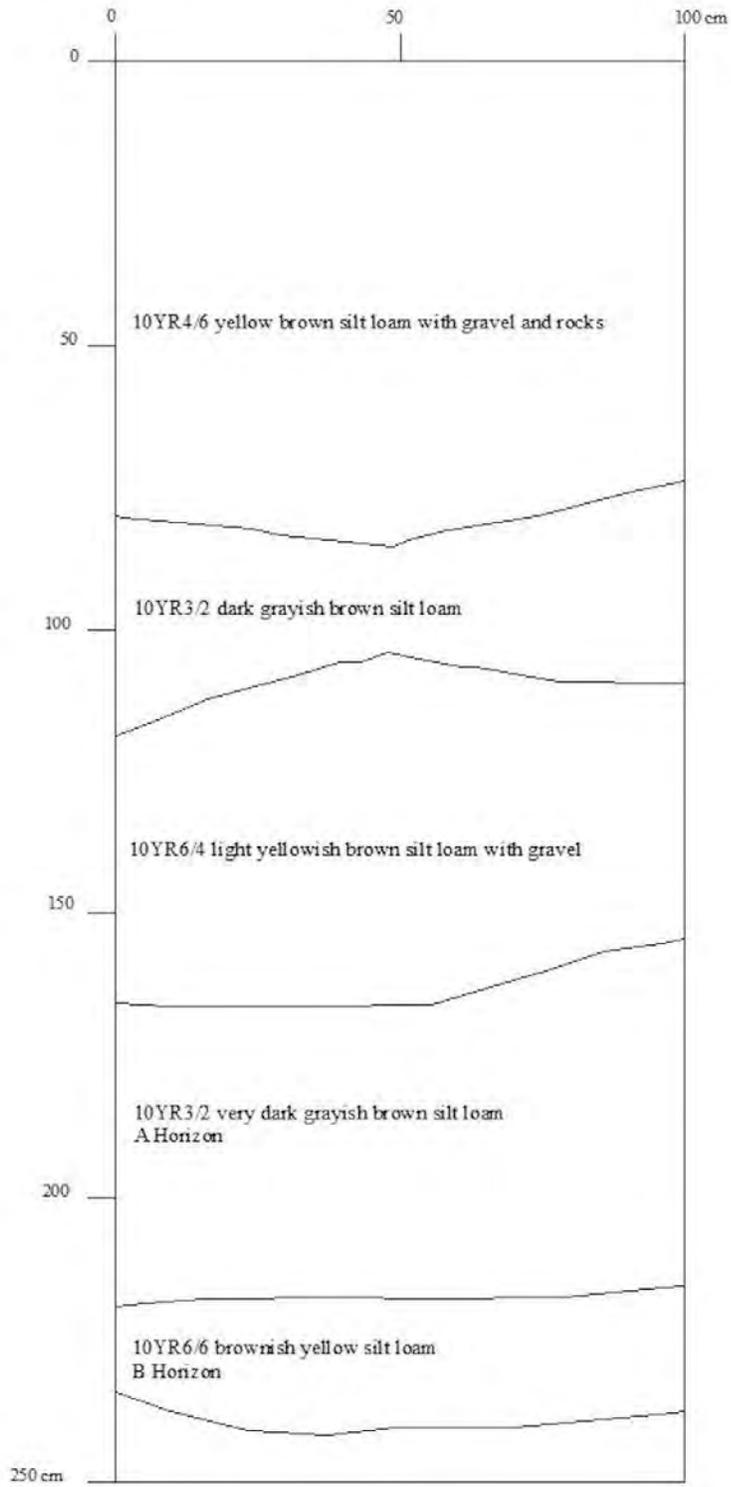




Photo 7. Trench 1, West Wall.

Binghamton-Johnson City Sewer Project
Trench #2, East Wall

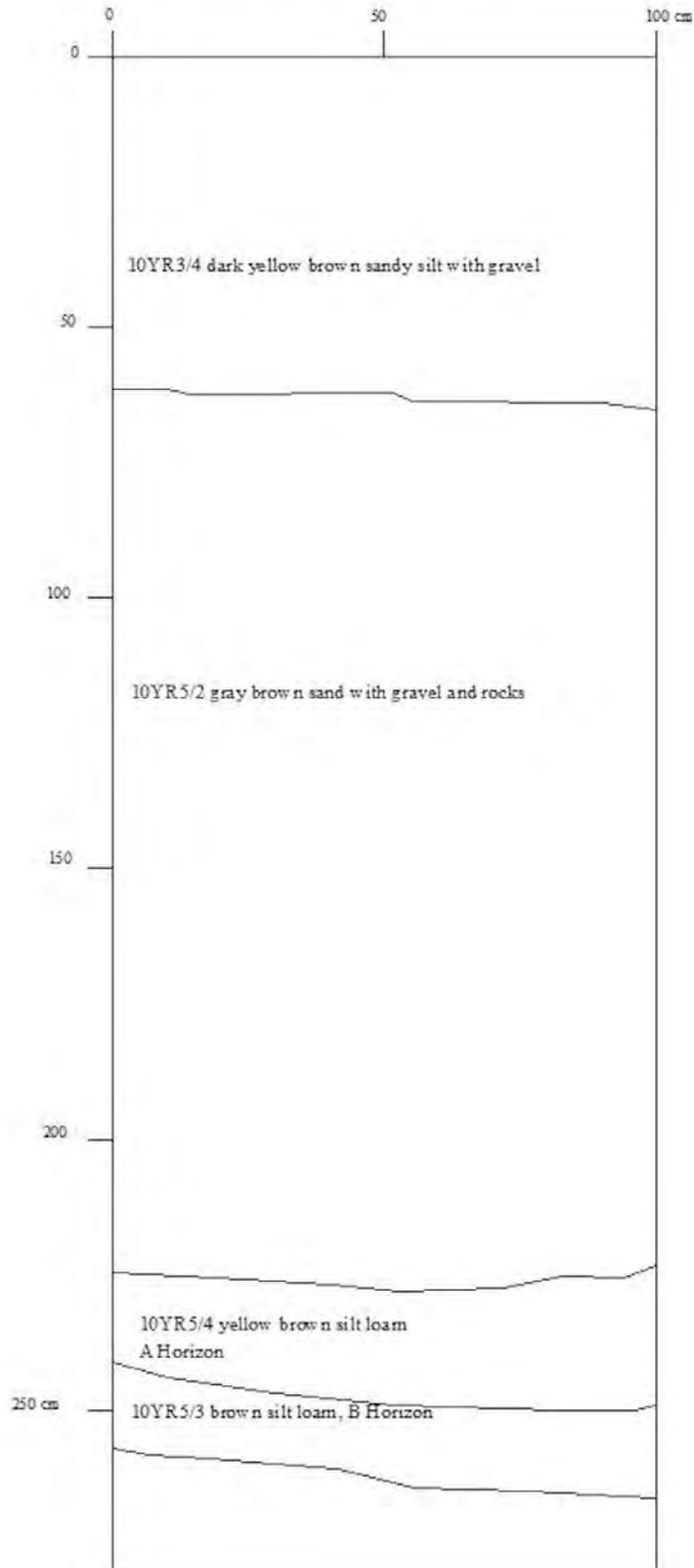
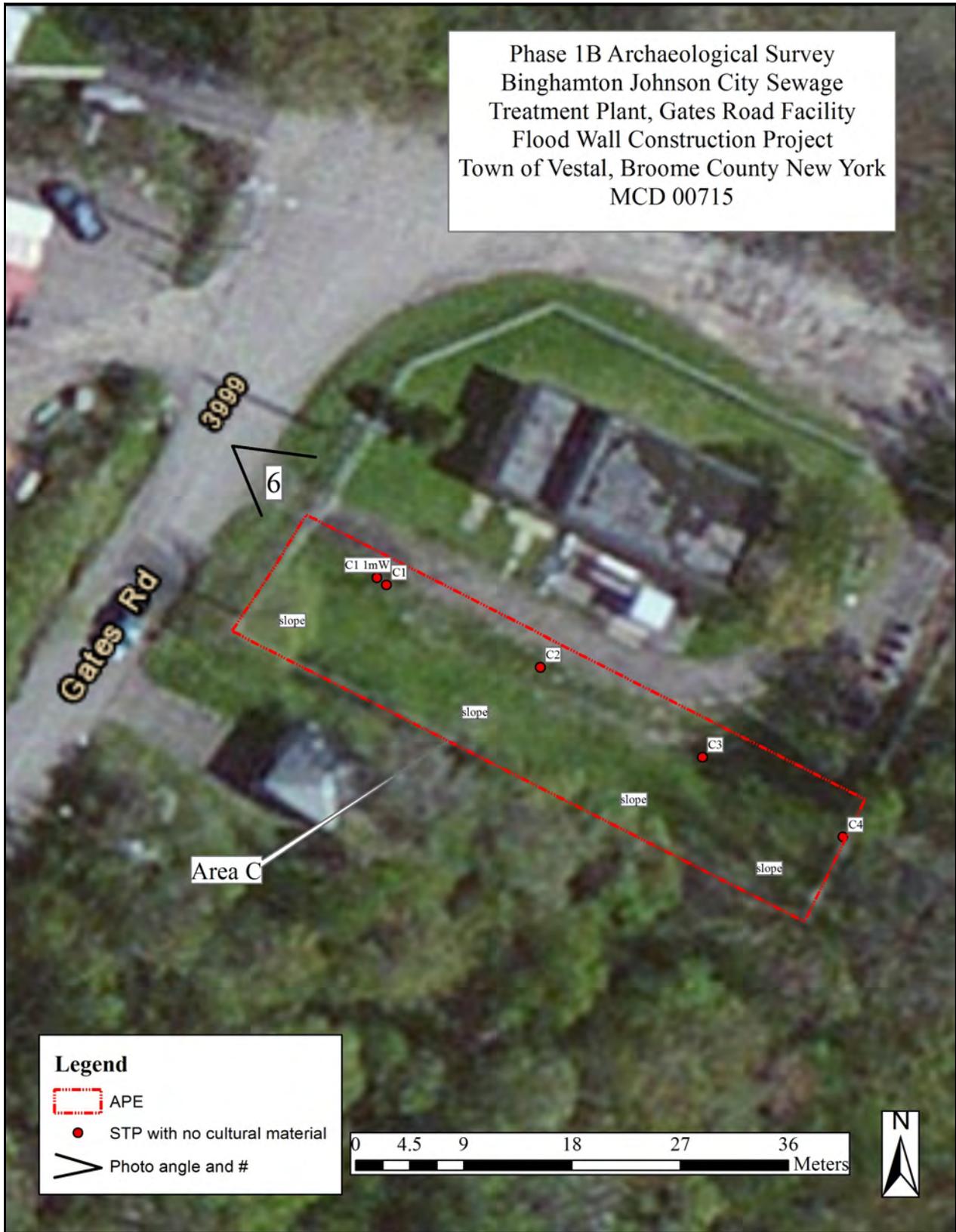


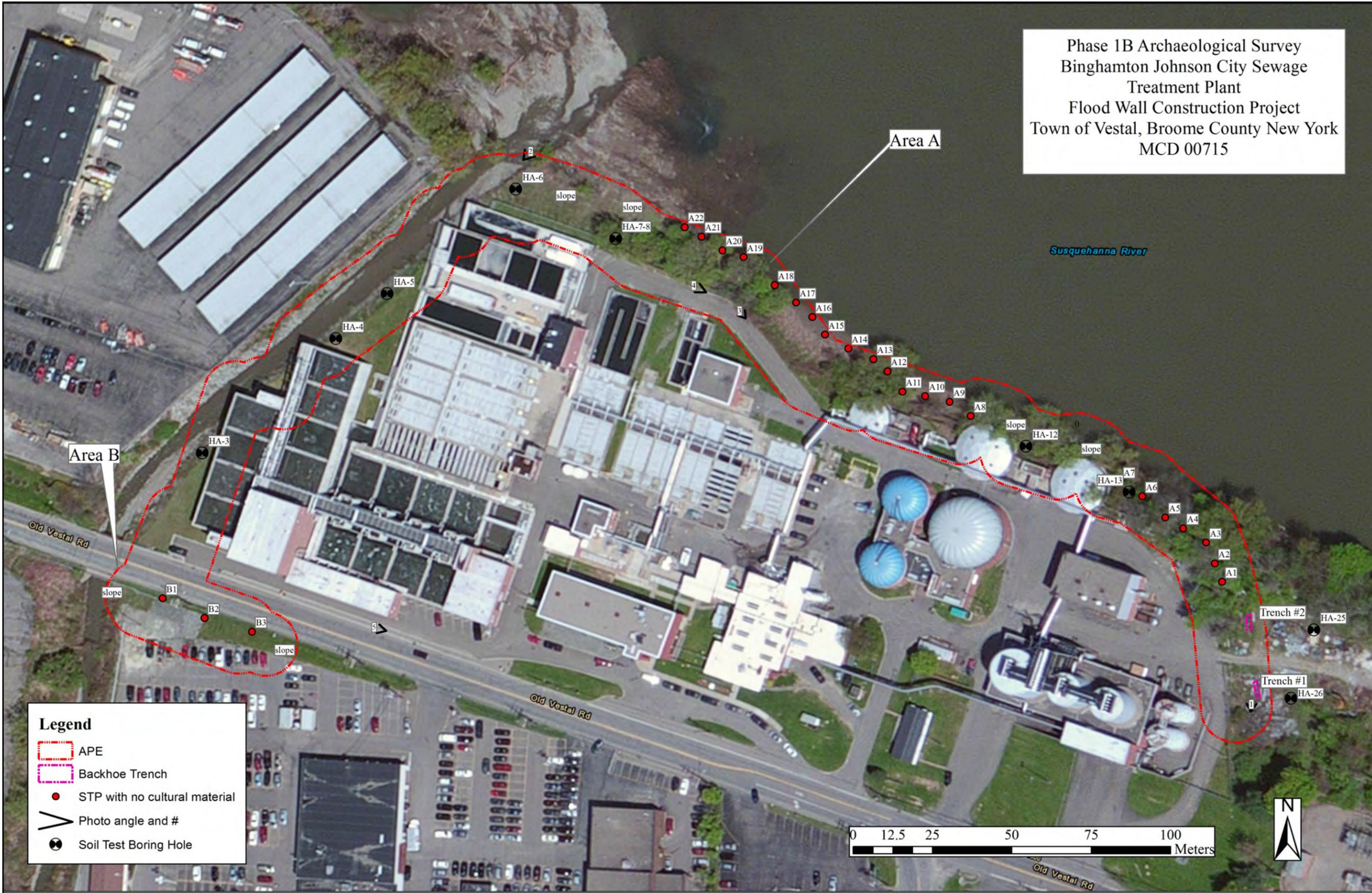


Photo 8. Trench 2, East Wall.

APPENDIX V. Figure 10. Project Map



Phase 1B Archaeological Survey
 Binghamton Johnson City Sewage
 Treatment Plant
 Flood Wall Construction Project
 Town of Vestal, Broome County New York
 MCD 00715



**BINGHAMTON-JOHNSON SEWER TREATMENT PLANT PROJECT
FLOODWALL CONSTRUCTION PROJECT
TOWN OF VESTAL
BROOME COUNTY, NEW YORK
(MCD 00715)**

PREPARED BY:

RICHARD A. KASTL, M.A., RPA

Table of APEs and depths

APE	Maximum depth of APE	Top elevation of potentially cultural deposits	Bottom elevation of potentially cultural deposits	Maximum depth of archaeological testing
Trench APE	180 cm	1.2-4.1 m	1.28-4.3 m	265 cm
APE A	180 cm	surface	6-60 cm	100 cm
APE B	180 cm	surface	22 cm	44 cm
APE C	91-121 cm	surface	25 cm	50 cm

The flood mitigation areas mentioned in the Phase 1A report are no longer required for this project. Therefore there are no further impact areas to delineate or test.



New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189
518-237-8643

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

18 March 2014

Ms. Susan Rivers
Elan.3 Consulting
18 Division Street, Studio 304
Saratoga Springs, NY 12866

Re: CORPS PERMITS, DEC
Binghamton-Johnson City Sewage Treatment Plant Floodwall
Town of Vestal, Broome County
14PR00526

Dear Ms. Rivers:

The State Historic Preservation Office (SHPO) has reviewed the latest information submitted for this project. Our review has been in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

Thank you for submitting the Phase IA and Phase IB reports. In SHPO's review of the original hard copy submissions (Perazio, 4 March 2014) two request for additional information were made.

The first was for a table systematically presenting stratigraphic and test depth information. In response, PAF submitted a draft table which was approved by this office. Please revise the Phase IB report to include this table.

The second request was for information regarding planned mitigation areas, which may require archaeological testing. Please provide this information when it becomes available.

SHPO will provide a single effect recommendation once all requested information has been received.

If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio, Historic Preservation Program Analyst – Archaeology Unit
Phone: 518-237-8643 x3276; FAX: 518-233-9049
Email: Philip.Perazio@parks.ny.gov

Enclosure

Cc: Nina Versaggi, PAF (via email)



New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189
518-237-8643

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

15 April 2014

Ms. Susan Rivers
Elan.3 Consulting
18 Division Street, Studio 304
Saratoga Springs, NY 12866

Re: CORPS PERMITS, DEC
Binghamton-Johnson City Sewage Treatment Plant Floodwall
Town of Vestal, Broome County
14PR00526

Dear Ms. Rivers:

The State Historic Preservation Office (SHPO) has reviewed the latest information submitted for this project. Our review has been in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

Thank you for submitting the revised Phase IB report. SHPO has no further comments regarding this report.

SHPO will continue consultation regarding this project once information pertaining to the off-site mitigation areas mentioned in the Phase IA report is received.

If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio, Historic Preservation Program Analyst – Archaeology Unit
Phone: 518-237-8643 x3276; FAX: 518-233-9049
Email: Philip.Perazio@parks.ny.gov

Enclosure

Cc: Nina Versaggi, PAF (via email)



FEMA

October 15, 2014

Larry Moss
Historic Preservation Technical Specialist
NYS Office of Parks, Recreation and Historic Preservation
PO Box 189
Waterford, NY 12188

Re: **Section 106 Consultation for Federal Emergency Management Agency**
Project #: PA-02-NY-4031-02504(0)
Subgrantee: Binghamton-Johnson City Joint Sewage Treatment Plant
Undertaking: Comprehensive Flood Protection System Project, 4480 Old Vestal Road,
Town of Vestal, Broome County, NY 13850; GPS: 42.09635 -75.96215
Determination: No Effects to Historic Properties

Dear Mr. Moss,

The Public Assistance Program of the Department of Homeland Security-Federal Emergency Management Agency (FEMA) is proposing to provide grant funding to the Binghamton-Johnson City Joint Treatment Plant (Subgrantee) for the construction of a comprehensive flood protection system, including a new floodwall surrounding the existing Binghamton-Johnson City Joint Sewage Treatment Plant (BJCJSTP). The BJCJSTP, located at 4480 Old Vestal Road in the Town of Vestal, Broome County, New York, received flood damage from the Susquehanna River as a result from Tropical Storm Lee, which impacted the Town of Vestal during the incident period of September 7, 2011 to September 11, 2011 (DR 4031).

FEMA Historic Preservation Specialists have reviewed the information provided to the SHPO office, including the Phase 1A and 1B archeology reports, as well as supplemental information provided by the Subgrantee's consultant. The scope of work described in FEMA project worksheet PA-02-NY-4031-02504 matches that previously reviewed by SHPO and assigned SHPO reference number 14PR00526. SHPO's response to the Subgrantee on April 15, 2014, attached, included a request for more information regarding the proposed mitigation areas before consultation could be concluded. FEMA has confirmed with the Subgrantee and consultants that the previously planned mitigation areas that were noted as requiring archaeological testing are no longer needed and are not included in the revised project plans (see attached).

Based on the previous studies, consultation with SHPO by the Subgrantee's consultant, and the additional information provided regarding the mitigation areas, FEMA has determined that the project will have No Effects to Historic Properties. There are no aboveground historic resources in the APE, and while the proposed project requires new ground disturbance, archeological surveys did not identify any archeological resources within the APE.

FEMA is submitting this Undertaking to you for your review and comment, and requests your comments and/or concurrence within 30 days. Should you have any questions or need additional information regarding this undertaking, please contact me at 518-396-3842 or via email at Shauna.Haas1@fema.dhs.gov. If practicable, I would appreciate an electronic copy of the concurrence letter be emailed to my attention to expedite the grant review process. Receipt of the concurrence letter will conclude Section 106 consultation.

Also note that we are consulting with the following tribes and will be sending the archeology reports to: Oneida Nation of New York, Onondaga Nation, Tuscarora Indian Nation, Delaware Tribe of Indians, Delaware Nation, and Stockbridge-Munsee Community Band of Mohicans.

Sincerely,



Shauna J. Haas
Historic Preservation Specialist

cc: Philip Perazio, NYSOPRHP
Rick Lord, DHSES

Enclosures:
SHPO Response
Project Plans



FEMA

October 20, 2014

Paula Pechonick, Chief
Delaware Tribe of Indians
Delaware Tribal Headquarters
170 N.E. Barbara
Bartlesville, OK 74006

cc: Blair Fink, Delaware Tribe of Indians Historic Preservation Representative

Re: **Section 106 Consultation for Federal Emergency Management Agency**
Project #: PA-02-NY-4031-02504(0)
Subgrantee: Binghamton-Johnson City Joint Sewage Treatment Plant
Undertaking: Comprehensive Flood Protection System Project, 4480 Old Vestal Road,
Town of Vestal, Broome County, NY 13850; GPS: 42.09635 -75.96215
Determination: No Effects to Historic Properties

Dear Chief Pechonick,

The Public Assistance Program of the Department of Homeland Security-Federal Emergency Management Agency (FEMA) is proposing to provide grant funding to the Binghamton-Johnson City Joint Treatment Plant (Subgrantee) for the construction of a comprehensive flood protection system, including a new floodwall surrounding the existing Binghamton-Johnson City Joint Sewage Treatment Plant (BJCJSTP). In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470f), and its implementing regulation, 36 Code of Federal Regulations (CFR) Part 800, FEMA is initiating consultation for the proposed undertaking.

The BJCJSTP, located at 4480 Old Vestal Road in the Town of Vestal, Broome County, New York, received flood damage from the Susquehanna River as a result from Tropical Storm Lee, which impacted the Town of Vestal during the incident period of September 7, 2011 to September 11, 2011. The BJCJSTP serves the City of Binghamton, the Village of Johnson City, as well as other municipalities and industrial users. The Susquehanna River has a history of flooding in the vicinity of the project area, resulting in repetitive flood damage of the BJCJSTP. The construction of a floodwall around the BJCJSTP is proposed in order to minimize or avoid future flood-related damages. According to 44 CFR 9.4, the sewage treatment plant meets the definition of a critical facility and in accordance with 44 CFR 9.7, the 500-year floodplain elevation is the elevation of concern. As the relocation of the treatment plant is not feasible,

flood proofing of the property to one foot above the flood of record is proposed through the construction of a floodwall.

Description of Undertaking:

The Subgrantee proposes to construct flood barrier walls around the BJCSTP, install emergency standby generators, and install dewatering measures within the flood barrier walls to prevent flooding from the adjacent Susquehanna River and interior flooding from influent flow overwhelming the BJCSTP. The flood barrier wall will be constructed to a minimum of 1 foot above the flood of record and constructed of reinforced concrete T walls with two flood gates. A partial depth steel sheet piling cut-off wall will be installed behind the base foundation heel, which faces the river, to help control groundwater seepage rates and to provide scour protection. Some areas of the site will be integrally protected by existing reinforced concrete structures modified as required to withstand the hydraulic forces sustained during a flood event. Excavation for the floodwall would extend approximately six to 12 feet below ground.

Area of Potential Effects:

The Area of Potential Effects (APE) encompasses an approximately 66-foot wide and 2,000-foot long area along the perimeter of the BJCSTP property located on the north side of Old Vestal Road and along the south bank of the Susquehanna River (Figure 1).

Identification and Evaluation

The Subgrantee contracted a cultural resources consultant to conduct a Phase IA and IB Archaeological Survey of the APE. The consultants conducted background research and shovel tests of the APE and found that while parts of the APE were subjected to extensive disturbance over the years, there were areas of intact soil. Shovel tests, however, did not reveal the presence of any prehistoric or historic sites and no artifacts were recovered. The Phase IA and IB reports were submitted by the consultant directly to the New York State Office of Parks, Recreation and Historic Preservation- Historic Preservation Field Services Bureau (SHPO). SHPO requested additional information regarding planned mitigation areas that would require additional archaeological testing, which have since been eliminated from project plans. Revised plans are being sent to SHPO for their concurrence with FEMA's findings (see attached project plans). Also enclosed are copies of the Phase I reports and the initial SHPO response letters (12PR05286).

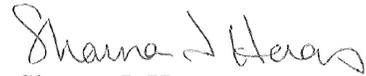
Assessment of Effects/Findings

Based on the aforementioned identification and evaluation, FEMA has determined that the project will have No Effects on Historic Properties. There are no aboveground historic resources in the APE, and while the proposed project requires new ground disturbance, archeological surveys did not identify any archeological resources within the APE.

FEMA is submitting this Undertaking to you for your review and comment, and requests your comments and/or concurrence within 30 days. Should you have any questions or need additional

information regarding this undertaking, please contact me at 518-396-3842 or via email at Shauna.Haas1@fema.dhs.gov. If practicable, I would appreciate an electronic copy of the concurrence letter be emailed to my attention to expedite the grant review process.

Sincerely,



Shauna J. Haas
Historic Preservation Specialist

Additional cc: New York State Office of Parks, Recreation, and Historic Preservation (SHPO)
Oneida Indian Nation
Onondaga Nation
Tuscarora Nation
Delaware Nation
Stockbridge-Munsee Community Band of Mohicans

Enclosures:

Figure 1

Project Plans

SHPO Response

Phase 1A Cultural Resource Screening

Phase 1B Archaeological Survey

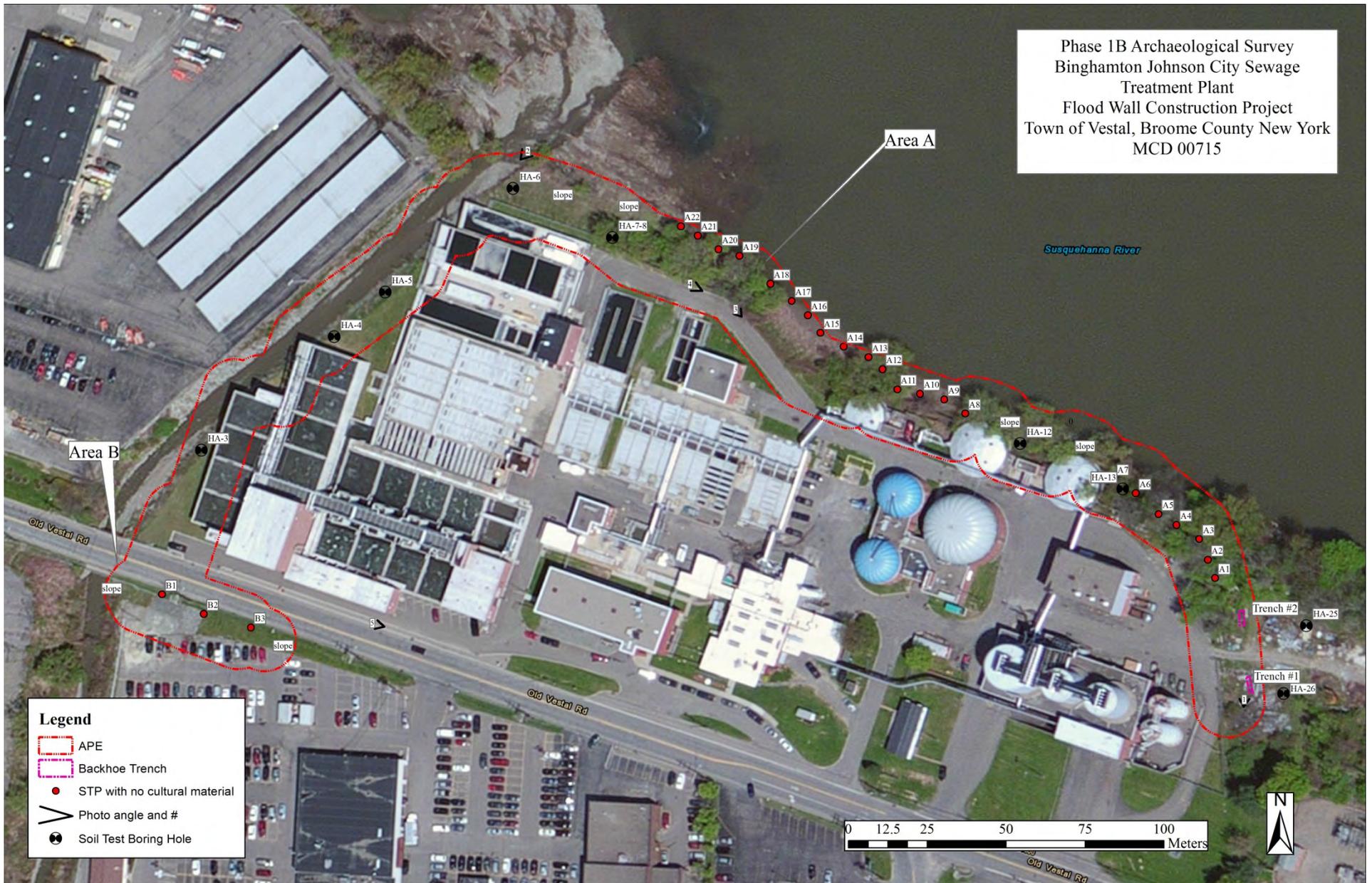


Figure 1: Aerial view of BJCJSTP showing APE.