

REPORT ON
ARCHAEOLOGICAL WORK RELATED TO
GRADING EXCAVATIONS TO CREATE
PLAY FIELDS AT THE SOUTHERN END
OF THE PARADE GROUND
ON GOVERNORS ISLAND
NEW YORK, NEW YORK



Original St. Cornelius Chapel (undated photo), facing northeast (<http://nycago.org/Organs/NYC/html/StCorneliusEpis.html>).

Prepared for: West 8
333 Hudson Street, Suite 905
New York, New York 10013

Submitted by: Linda Stone, MA, RPA
249 East 48th Street, #12B
New York, New York 10017

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EXECUTIVE SUMMARY

This is a report on archaeological work conducted in advance of creation of a play field in the Fort Jay Parade Ground on Governors Island, New York City. The location of this work was within the Governors Island National Historic Landmark District and the New York City Landmark District. This report is being prepared to comply with environmental review regulations and meets the standards of both the New York State Office of Parks, Recreation and Historic Preservation (SHPO) and the New York City Landmarks Preservation Commission (LPC). The work was conducted for West 8 by Linda Stone, RPA.

The Parade Ground Play Field is located in an area of high archaeological potential, with numerous historic map documented structures and four previously documented archaeological sites/deposits. It has also been determined sensitive for the preservation of Native American resources. The archaeological work conducted for this project included a combination of archaeological probing and hand excavation. Two locations were probed a combined 175 times and one excavation unit resulted in order to evaluate a previously identified concentration of demolition debris at the western side of the Play Field. Seven hand excavated trenches/units were also placed to either identify or evaluate potentially significant archaeological resources. The excavation unit work was successful in identifying part of a brick wall thought to be from the foundation of the first St. Cornelius chapel, built in 1847. The units also enabled a clearer understanding of the extent of a previously identified loci of demolition debris at the eastern side of the planned Play Field.

The project initially also included testing parts of the Parade Ground Play Field where irrigation and drainage installation had the potential to affect the Fort Columbus Cemetery and other historic map documented structures. However, that aspect of the project went into redesign and will now be included in the Governors Island Park and Public Space Project: Phase 1. As will the additional archaeological work recommended for this project.

Additional archaeological excavation is recommended for the possible St. Cornelius chapel remains and monitoring is recommended for the demolition debris field in the eastern side of the planned Play Field, as well as for those locations described in the Archaeological Work Plan, should the Play Field work take place as initially designed (see Appendix A: Figure 23). It is also suggested the Play Field designers and engineers be made aware of the possible presence of a solid floor in the part of the Parade Ground where the chapel once stood, possibly beneath their planned depth of impact, because it may affect their drainage plans. Finally, it is recommended that the location of the brick foundation be recorded in the Governors Island GIS database, along with the general location of the eastern debris field.

SHPO MANAGEMENT SUMMARY FORM

SHPO Project Review Number (if available):

Involved State and Federal Agencies (DEC, CORPS, FHWA, etc): Trust for Governors Island

Phase of Survey: 1B/II

Location Information

Location: Governors Island, New York City – South end of Fort Jay Parade Ground
Minor Civil Division: n/a
County: New York

Survey Area (Metric & English) - Excavation units and probing

Length: approximately 300 feet (91 m)

Width: approximately 300 feet (91 m)

Depth: (when appropriate): up to approximately 3.5 feet (107 cm)

Number of Acres Surveyed: n/a

Number of Square Meters & Feet Excavated (Phase II, Phase III only): 3 units totaling 19 sq. ft. (1.77 sq. m.)

Percentage of the Site Excavated (Phase II, Phase III only): n/a

USGS 7.5 Minute Quadrangle Map: Jersey City, NJ - NY

Archaeological Survey Overview

Number & Interval of Shovel Tests: n/a

Number & Size of Units: 5 @ 2 x 6 feet (61 x 183 cm)

Width of Plowed Strips: n/a

Surface Survey Transect Interval: n/a

Results of Archaeological Survey

Number & name of prehistoric sites identified: 0

Number & name of historic sites identified: 1 – partial brick foundation

Number & name of sites recommended for Phase II/Avoidance: 1 – partial brick foundation

Results of Architectural Survey

Number of buildings/structures/cemeteries within project area: n/a

Number of buildings/structures/cemeteries adjacent to project area: n/a

Number of previously determined NR listed or eligible buildings/structures/cemeteries/districts: n/a

Number of identified eligible buildings/structures/cemeteries/districts: n/a

Report Author(s): Linda Stone, RPA

Date of Report: June 18, 2012

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INTRODUCTION

The Trust for Governors Island (TGI) plans to create a play field in the Fort Jay Parade Ground on Governors Island, located within the Governors Island National Historic Landmark District and the New York City Landmark District (see Appendix A: Figure 1 for the location). Archaeological testing was conducted in advance of construction to identify the presence or absence of the remains of map documented structures and features, as well as to identify potential Native American archaeological resources. Previous archaeological testing in the area of the planned play field had identified two loci of historic demolition debris and a brick feature which had been left *in situ* at that time. The current work was also designed to determine if these features would be impacted by the play field construction and, if so, then to determine their extent, integrity and significance.

The archaeological work plan for the project (see Appendix A) included probing to establish the locations of the western of the two debris loci and the previously identified brick feature to determine if they would be impacted by the creation of the play field. The brick feature was not identified within the probing, but the debris concentration was and an archaeological excavation unit was placed to recover additional information. At least one hand excavated archaeological trench was recommended to determine the extent of the eastern debris loci, with the option of adding another depending on the results. The additional unit was added. Seven other hand excavated archaeological trenches were also recommended. The hand excavation resulted in identification of part of a brick wall that may be remains of the foundation of the original St. Cornelius chapel, built in 1847. No other *in situ* structural remains or Native American resources were identified in the remaining units. While the field work was underway, there were changes to the Play Field irrigation and drainage plans which had the potential to alter the locations of the work at one of the planned archaeological units. Those changes also resulted in the elimination of the mechanical excavation of a trench to identify possible remains of one of the map documented structures and of the Fort Columbus Cemetery. The timing of those changes in relation to the play field contractor selection process for the Governors Island Park and Public Space Project: Phase I has resulted in any further archaeological work in this area being deferred and included in that upcoming project, including the areas of the Parade Ground Play Field where archaeological monitoring was recommended as specified in Appendix A.

This report presents the findings of archaeological work conducted for the Parade Ground Play Field project. The work has been conducted in accordance with the guidelines of both the New York State Office of Parks Recreation and Historic Preservation (SHPO) and the New York City Landmarks Preservation Commission (LPC). This report was prepared by Linda Stone, RPA for West 8, the designers of the Governors Island Park and Public Space project. The archaeological fieldwork described in this report was conducted by Ms. Stone with assistance of Marc Lorenc and Ashley Mallette from January 20 through January 31, 2012. The author would like to acknowledge the assistance and support of Blair Guppy of West 8, Simon Bertrang and Claire Kelly of TGI and the staff of Turner Construction Corporation for facilitating the archaeological work.

SITE HISTORY AND ARCHAEOLOGICAL POTENTIAL

Pre-Contact Period

The Phase 1A Archaeological Assessment of Governors Island indicates much of the Parade Ground Play Field area is sensitive for the preservation of "possible Native American sites" (Public Archaeology Laboratory, Inc. 1997:67). There are three Native American sites on Governors Island, but they are not located in or near the Parade Ground Play Field. However, Native American cultural material has also been found on the Island in many other redeposited contexts (PAL 1996: 11; Stone 2006: 10; Stone 2008b: 7; UMass 2003: 110-111). One of those is a shovel test pit located along the northern edge of the Play Field where a pottery sherd was recovered from a mixed or redeposited context (PAL 1997: App. A).

Historic Period

Historic period archaeological potential is related to both historic map-documented structures and features and to previously identified archaeological features. Map-documented structures and features include: the uncompleted barbette battery (and its magazines) and clerk's quarters depicted on the 1879 map; the original St. Cornelius Chapel built in 1847; the gardener's house, garden and cow shed mapped in 1867; and the Fort Columbus Cemetery. The Cemetery was active from 1798 to 1878. Louis Berger Associates (LBA) found documentation the graves had been moved and no physical evidence of the cemetery was identified during testing (LBA 1986: 3-5 – 3-6). Other historic features which may be impacted by the Parade Ground Play Field project that have been identified during previous archaeological work include an undated brick feature and a footing for an historic post, possibly part of the former gun battery, as well as two concentrations of demolition debris. Attachment A, the Work Plan for the project, contains copies of the historic map overlays and other details, including information on previous disturbances. The most significant of those disturbances was the modification of the former Parade Ground into a golf course in the 20th century, along with the construction of a tennis court that was present in the eastern side of the Parade Ground Play Field project area.

METHODOLOGY

Archaeological excavation units/trenches were located in the field using a combination of GPS and triangulation. Each unit/trench was assigned a unique sequential number (see Figure 1). T1 was located in an area that was subject to redesign and thus eliminated from this phase of the project. T2 and T3 were located in the southeastern corner of the Parade Ground Play Field to identify possible remains of the original St. Cornelius Chapel (see Table 1). T4 and T8 were placed to determine the limit of the previously identified debris field. T5 was placed near the center of the planned Play Field and within the footprint of both the former Gardner's House and the Battery/Magazine. T6 was placed to the northwest to determine if remains of the Battery/Magazine were present there. T7 was placed within the footprint of the former cow shed. T9 was placed to unearth remains of the debris concentration at the western end of the Play Field after probing identified an obstruction(s).

Field data were recorded on forms. Elevations were recorded as depth below ground surface (bgs). Stratigraphy was recorded using comparison to the Munsell Soil Color Charts. Photo documentation was done as appropriate. Appendix B is the stratigraphic data, including comments and artifacts that were noted in the field, but not retained because they were not diagnostic and/or modern garbage.

The artifact inventory is Appendix C. All recovered artifacts were assigned a provenience number that was comprised of the trench/unit number followed by a decimal and the stratum number then another decimal and the level number. The artifacts were washed and rinsed in tap water and left to air dry before labeling and rebagging in clean 4-mil perforated zip-lock bags. Ceramic and glass artifacts were individually labeled with the site abbreviation "GI" (Governors Island) and project identifier "PGPF" (Parade Ground Play Field) and the context number. All zip bags were labeled with the same information along with the excavation date. All ceramic and glass artifacts in the inventory are sherds, unless otherwise noted. Governors Island is the current repository for all artifacts recovered during the conduct of work described in this report. Artifacts will be transferred there from the archaeological consultant upon acceptance of this report by the review agencies.

RESULTS

Two locations were probed to establish whether or not previously identified features would be impacted by the Parade Ground Play Field project. One location, that containing a previously identified debris concentration, was found. Once obstructions were found during probing an excavation unit was placed in that spot. Including that unit, a total of eight archaeological trenches/units was hand excavated. The following is a discussion of the work at each location, including the stratigraphy recorded and artifacts found.

Probing

Probing was conducted to re-establish the location and depth of two previously identified archaeological features; a debris concentration (Stone 2008a) and a brick feature (Stone 2007). A 4-foot long steel probe was used to penetrate the earth until either it hit an obstruction or until it could not be advanced any deeper. Probing was done in a grid pattern with individual probes spaced 1 foot (30 cm) apart. Figure 2 depicts the results.

Debris Concentration

One hundred twenty-seven (127) probes were placed in a circular area where a concentration of debris was documented during archaeological monitoring of a previous project. The debris was originally found when the former golf course was graded. It was buried just beneath the top soil in an area measuring approximately 12 x 8.5 feet (3.6 x 2.5 m) across (Stone 2008a: 4). Once grading excavations were completed, the debris was covered and reburied.

Probing encountered obstructions at 32 locations. However, the majority of these were within the topsoil itself, the upper 0.3 feet (9 cm) (n = 19). Of the other locations, a concentration of obstructed probe locations was present within the southeastern portion of the probed area and a 3 x 3 foot (91 x 91 cm) excavation unit was placed there. It was called Unit 9 and the results of the excavation are discussed below along with the other units/trenches.

Brick Feature

Forty-eight (48) probes were placed in a rectangular area where a brick feature was identified during archaeological testing for a previous project. The portion of the feature exposed during that testing measured approximately 1.5 feet (46 cm) square and was found buried at 0.8 feet (24 cm) below ground surface. The brick feature was reburied upon completion of testing (Stone 2007: 5). However, subsequent work to level out the golf course may have altered the depth below ground surface at which the brick feature may now rest. The current grading plan for the area of the brick feature will involve cutting the grade down by approximately 0.8 feet (24 cm) or less.

Obstructions were encountered in only two of the probes; one at 0.4 feet (12 cm) below ground surface and the other at 1.2 feet (37 cm). Because these were non-adjacent locations, they were ruled out as the location of the brick feature. The brick feature was not identified in the probing. Either, it was not present or was more deeply buried. No further archaeological work was conducted at this location.

Trenches/Units

Many of the archaeological excavation units were oblong shaped and therefore described as trenches, measuring either 2 by 6 or 1 by 5 feet (61 x 183 or 30 x 152 cm). The units were all placed to maximize the potential for identifying archaeological resource and were excavated to the depth of planned impacts from grading excavations. Table 1 provides the unit designations and dimensions with the expected findings. All units were excavated stratigraphically and all soil removed was screened for artifact recovery, unless otherwise noted on the field forms and in Appendix B. The following unit descriptions also provide interpretations of the excavation results.

TABLE 1 Excavation Unit/Trench Designations and Dimensions with Expected Resources

TRENCH/ UNIT NUMBER	EXPECTED FIND	LENGTH	WIDTH	DEPTH
T2	chapel, debris	6	2	3.5
T3	chapel, debris	6	2	3.1
T4	debris field	5	1	1.3
T5	magazine/battery, gardener's house	6	2	1.9
T6	magazine/battery	6	2	0.7
T7	cow shed	6	2	1.5
T8	debris field	5	1	2.5
U9	probed debris	3	3	1.5

Trench 2

Trench 2 (T2) was placed to identify possible remains of the southern side of the first St. Cornelius Chapel, built in 1847 and demolished when a new edifice was erected across the street in 1905, as well as to determine if the debris field found during previous archaeological work extended that far south. Possible foundation remains of the Chapel were identified, but the debris field found further to the north was not encountered.

T2 was excavated in eight strata. Stratum 1 was partially frozen topsoil with grass. Stratum 2 was topsoil without the grass. Both strata contained plastic and other modern cultural material. Stratum 3 was located only in the northern part of the unit and corresponded to Stratum 4 which was in the south. These strata likely represent fill that was added once the former tennis court went into disuse. An asphalt tennis court was demolished in 2008. Archaeological monitoring of that removal also documented a concrete tennis court beneath that which was underlain with gravel. The gravel was removed exposing soil described similarly to that identified in T2 Strata 3 and 4. Stratum 5 was an even earlier incarnation of the tennis court, a clay version. In addition to a few fragments of coal found imbedded in the clay, a bullet was also unearthed. The bullet was identified as a type used in sniper rifles and manufactured since World War II¹.

The clay tennis court was on top of a thick coal ash layer; Stratum 6. The upper level was darker, which could have been a result of depositional conditions. In any case, the two levels were screened separately for artifact recovery. The *tpq*² is the 1870s based on a glass bottle neck and finish. Other artifacts of interest include a piece of lead paint with chromium yellow (Context T2.6.1) and a number of shoe part fragments (Context T2.6.2). Besides a profusion of coal, cinder and slag, large brick fragments and stone were also present, becoming denser with depth. Stratum 7 was the stratum where the possible brick foundation remains of St. Cornelius Chapel were identified in the northwestern corner of the unit. It was approximately 2.5 feet (76 cm) below ground surface. The dense concentration of brick and stone

¹ John Hanson, gun hobbyist (pers. comm.).

² *TPQ* = *terminus post quem*. This is the earliest possible deposition date and is based on the beginning manufacture date of the most recent temporally diagnostic artifact.

continued from Stratum 6 into Stratum 7 and can be seen in Photo 1, which also shows one of the larger stones protruding from the western side of the unit in Stratum 6. The *tpq* of Stratum 7 is 1901 based on a machine made bottle rim. The date corresponds nicely with the known demolition of the original chapel; 1905. Stratum 7 also contained a small amount of an unknown and unusual viscous white substance which was sampled and subjected to pXRF³ (portable x-ray fluorescence) and determined to be predominantly calcium. It is possible the calcium was used as a component of some form or construction material, possibly mortar or paint. Stratum 8 was found toward the base of excavation. It was the same soil type as Stratum 7, but contained far fewer inclusions and no temporally diagnostic artifacts.

TABLE 2 Dimensions T2 Strata 7 and 8 Bricks

LENGTH	WIDTH	HEIGHT
8	3 5/8	2 3/8
7 7/8	3 1/2	2 3/8
7 7/8	3 1/2	2 1/4
7 3/4	3 1/2	2 1/8
7 7/8	3 1/2	2 1/4
-	3 1/4	2 1/4
-	3 1/2	2 1/4
-	3 5/8	2 1/4
-	3 5/8	2 1/4
-	3 1/2	2 1/4
-	3 1/2	2 1/4
-	3 1/2	2 1/4
-	3 1/2	2 1/4
-	3 1/2	2 1/4
-	3 1/4	2 1/4
-	3 1/2	2 1/4
-	3 1/2	2 1/4
-	3 1/2	2 1/4
-	3 1/2	2 1/4
-	3 1/2	2 1/4

By the time the base of excavation was reached, the possible brick foundation was exposed to its maximum extent within the excavation and project vertical APE (see Photo 2). The brick feature represents either a corner or a jog in a brick wall that could have been part of the foundation. Historic maps depict the former chapel with a "+" shaped footprint that was expanded over time and by 1879 had additions on the eastern and western sides of the structure (see Cover Photo which depicts the addition on the western side and Appendix A: Figure 5). Although the thickness of the wall was not exposed in T2, the vertical dimension and configuration of the bricks is clear. Five courses of bricks were present, although it is likely the wall extends deeper with more courses. Figure 3 contains a profile drawing which more clearly represents the configuration of the bricks. The southern part of the wall was laid in alternating rows, one all stretchers and one with every other a stretcher or header. The stretcher only course contains two bricks within the excavation and the stretcher/header rows contain three. The

³ X-ray fluorescence is a non-destructive elemental assay. The author brought the sample to a pXRF workshop for analysis at no cost to the project.

northern part of the feature is all headers in the exposed dimension with two bricks per course exposed in the unit.

No marks were visible on the *in situ* bricks. It is likely they are not marked based in the large number of unmarked bricks and brick fragments documented in Strata 7 and 8. Those displaced bricks are possibly part of the demolished structure that wound up in its fill. Table 3 contains the measurements of the brick from Strata 7 and 8 that contained at least two measurable dimensions. The feature was left *in situ* and T2 backfilled pending further work.

Trench 3

Trench 3 (T3) was placed to identify possible remains of the northern side of the first St. Cornelius Chapel. While field work was underway, there was a light dusting of snow that had melted prior to excavation of T3. It was observed that the area between T2 and T3 where the interior of the former chapel would have been located, remained muddy, while the snow melt was well drained elsewhere (see Photo 3). It is assumed the reason for the poor drainage is the archaeological presence of the buried chapel floor, or partial floor, preventing water from absorbing uniformly throughout the former Parade Ground in this area.

Although evidence of the former chapel was documented in T2 and seems likely to exist buried between T2 and T3, no structural remains were found during excavation of T3. The deposits excavated in T3 were similar to those in T2 (see Figure 4). The former clay tennis court was found underlain with two levels of coal ash in T3, as in T2. However the coal ash was found directly on top of the truncated brick structure in T2, but not in T3. It is possible T3 was not positioned in the precise location to identify another wall or it is equally possible a wall is present in that location, but more deeply buried, beneath the planned Play Field depth of impact (3.1 feet or 94 cm). Artifacts recovered from the basal stratum of T3 are not very telling regarding deposition date because of the large range of manufacture dates. The *tpq* of the stratum is the early-19th century based on a whiteware ceramic sherd.

Trench 4

Trench 4 (T4) was placed to identify possible the extent of remains of a large expanse of demolition debris documented during two previous archaeological projects (Stone 2008a, 2011). Unconsolidated brick and cut stone pieces were previously found in a coal ash matrix which provided a *tpq* of c. 1890. T4 was located in an area suspected to be near the western limit of the debris. The debris was identified as Stratum 2, buried only 0.4 feet (12 cm) below ground surface, just beneath the topsoil (see Photo 4). The deposit extended to a depth of 1.1 feet (34 cm). The *tpq* of the T4 deposit (Context T4.2.1) is c. 1930s based on two pieces of plastic.

Trench 5

Trench 5 (T5) was placed to identify possible remains of the battery/magazine and/or the gardener's house. Neither was encountered. T5 was excavated in three strata; sod with topsoil, loam and mottled silty sand. The *tpq* of Stratum 2 is c. 1930 based on part of a plastic comb. The *tpq* of Stratum 3 is 1867 based on a sherd of molded glass.

Trench 6

Trench 6 (T6) was also placed to identify possible archaeological remains of the battery/magazine, but did not unearth them either, likely partially because the depth of planned Play Field impacts and T6 excavation are/were not deep enough. T6 was excavated to only 0.7 feet (21 cm) below ground surface. Remains of a footing thought to be from the battery/magazine were identified during previous archaeological work buried approximately 2.5 feet (76 cm) deep (PAL 1997: 67 - 68). Although T6 excavation did not penetrate beneath the loamy topsoil and landscaping deposits, a large conglomerate of brick fragments in concrete was encountered. By the completion of excavation, the conglomerate took up most of the unit (see Photo 5). The *tpq* of the basal stratum of T6 is the early-19th century based on

The figure displays a 10x10 grid of numerical values, likely representing a spatial field or a discretized function. The values are arranged as follows:

		0.4	0.3	0.2	0.2	0.5	0.3		
	0.1	0.1	0.5	0.3	0.3	0.3	0.5	0.6	0.6
	1.0	0.1	0.4	0.4	0.3	0.3	0.4	0.4	0.7
1.2	0.4	0.5	0.2	0.3	0.3	0.1	0.5	0.1	0.1
0.4	0.4	0.5	0.4	0.5	0.6	0.5	0.4	0.3	0.1
0.6	0.7	0.4	0.2	0.3	0.5	1.0	0.9	0.2	0.6
1.0	1.1	1.0	0.6	0.8	0.6	0.6	0.9	1.0	0.6
1.0	1.1	0.3	0.5	0.6	0.7	0.7	1.1	1.0	0.5
	1.0	0.7	0.5	1.1	0.5	1.0	1.0	0.7	0.3
		0.9	0.9	0.7	0.3	0.9	1.0	0.9	0.9
			0.9	0.7	0.6	0.7	1.2	0.6	1.2

A 3x3 sub-region is highlighted with a thick black border, centered around the value 0.6 at row 7, column 9.

 = excavation unit location



North

1.0	0.4	1.2	1.2	1.3	1.4
1.2	1.1	1.2	1.2	1.3	1.3
1.1	1.2	1.2	1.3	1.4	1.2
1.2	1.2	1.2	1.3	1.4	1.2
1.2	1.2	1.3	1.4	1.2	1.2
1.0	1.2	1.2	1.3	1.2	0.9
1.1	1.1	1.2	1.2	1.2	0.9
1.2	1.2	1.0	1.0	0.9	0.9

 = obstruction encountered



North

Figure 2 Results of probing to re-establish locations and depths of previously identified archaeological features.

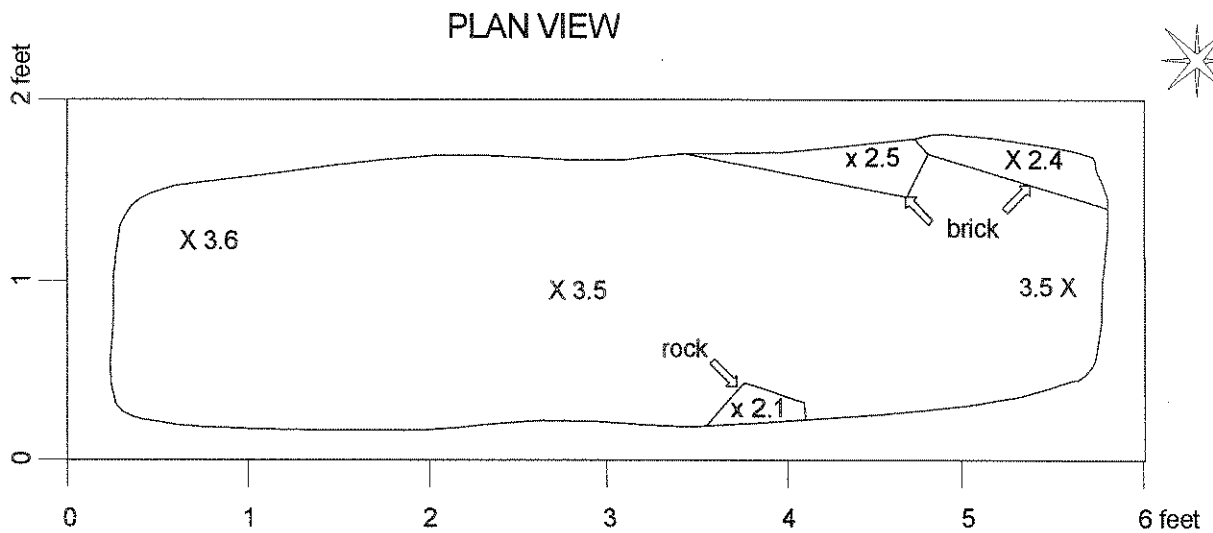
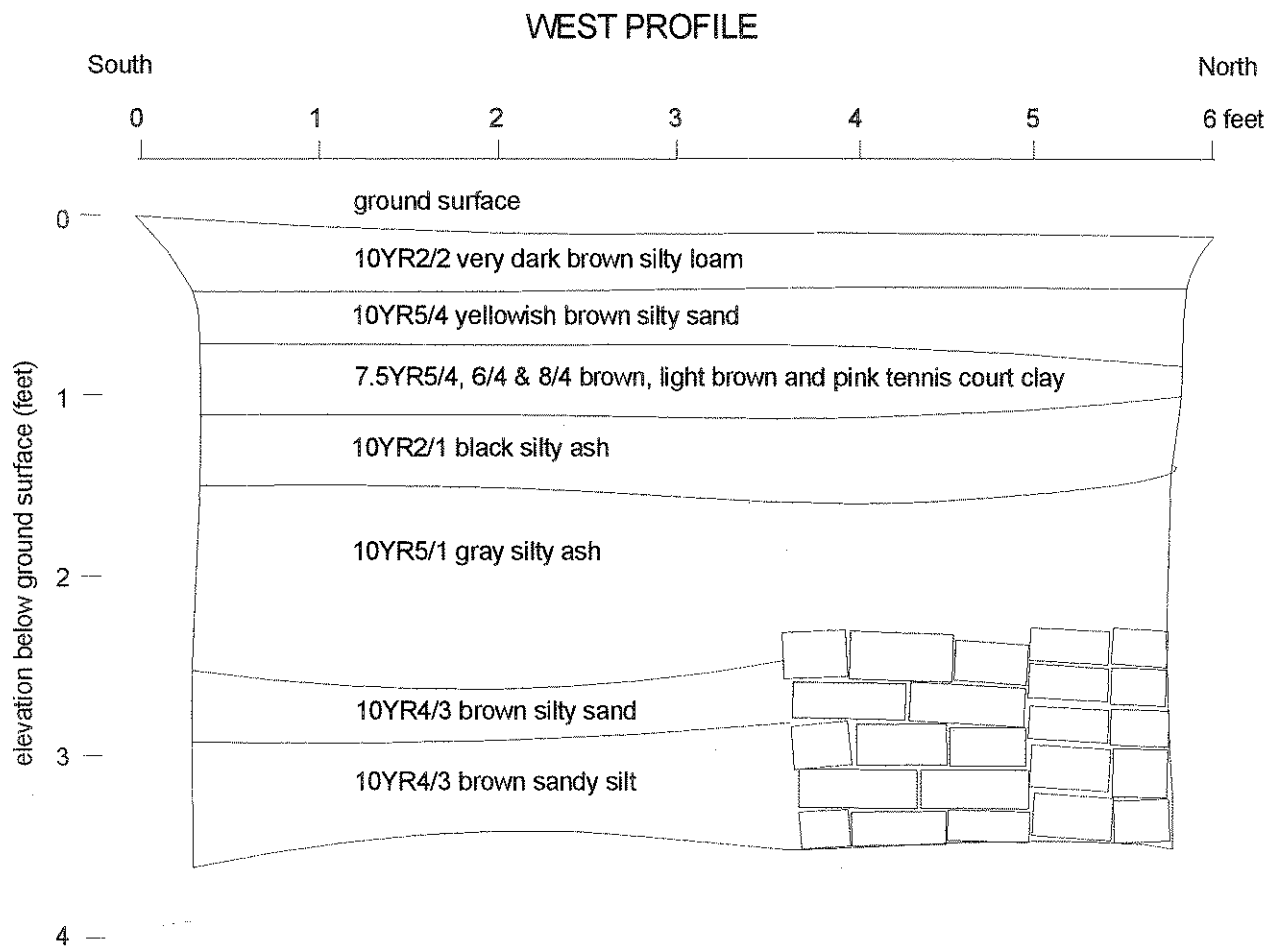


Figure 3 Trench 2 plan and profile.

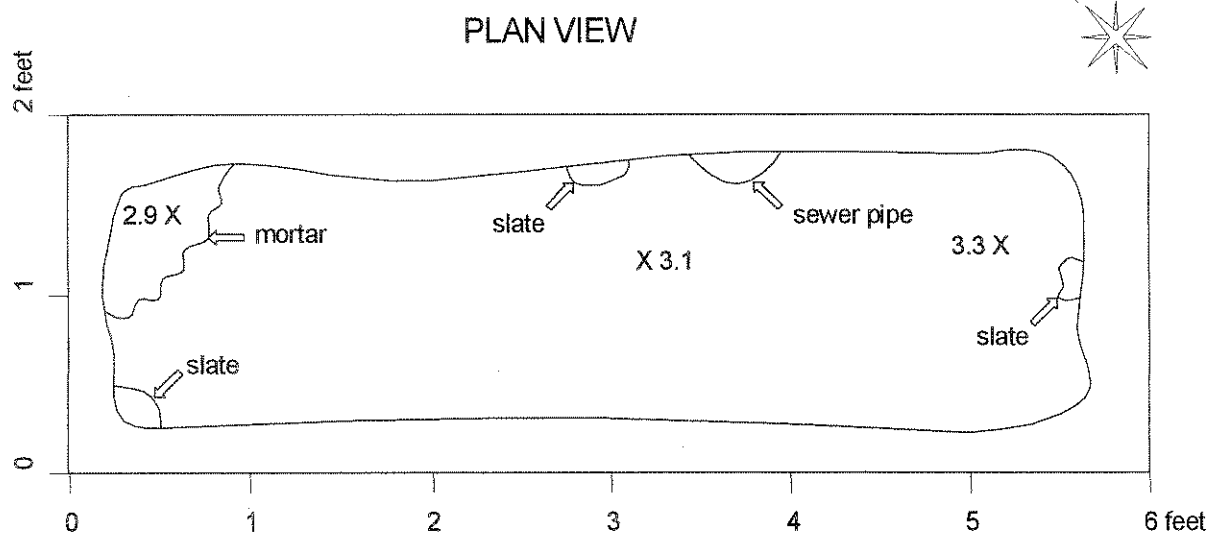
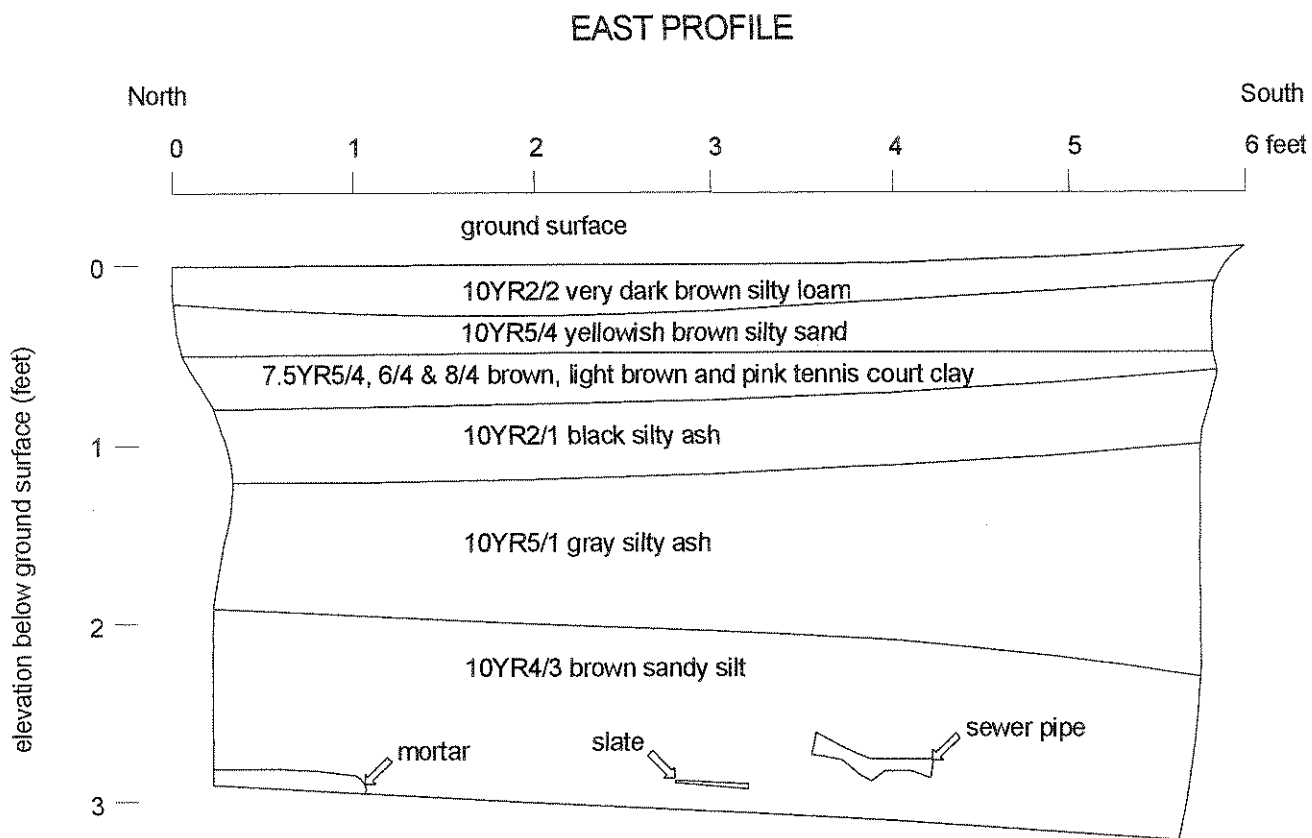


Figure 4 Trench 3 plan and profile.



Photo 1 Trench 2, Stratum 7, Level 1 showing the brick feature in the northwest corner (upper right) and brick debris in the southern part of the unit, facing west (January 25, 2012).

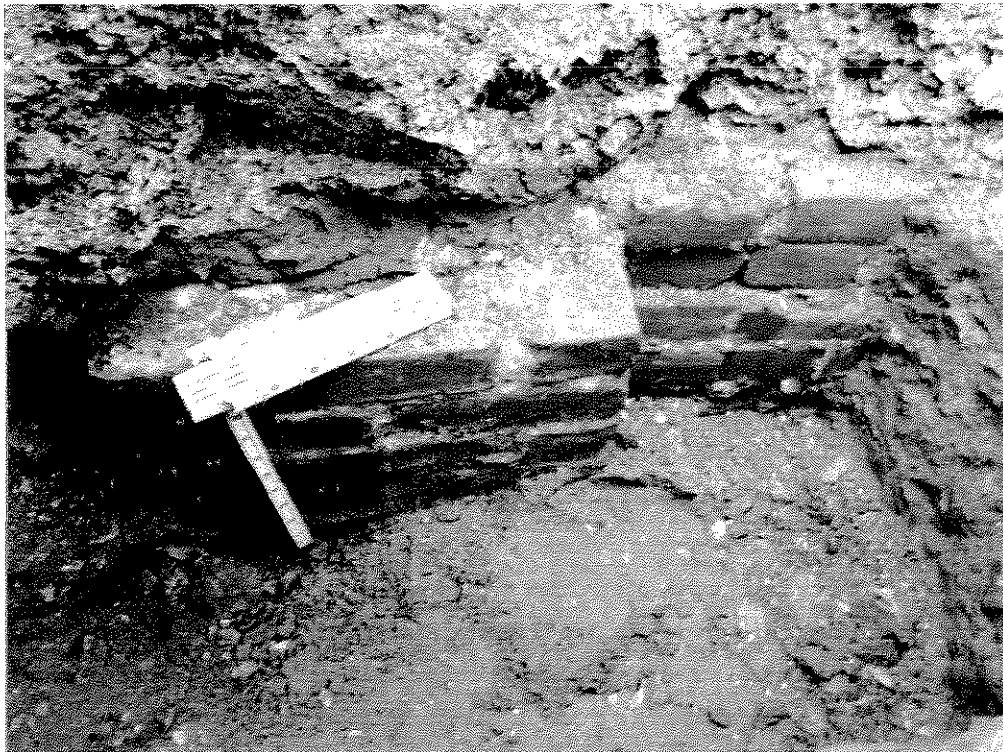


Photo 2 Brick feature in T2 upon completion of excavation, facing west (January 25, 2012).

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APPENDIX A

ARCHAEOLOGICAL WORK PLAN
AND ADDENDUM

ARCHAEOLOGICAL RESEARCH AND WORK PLAN FOR
GRADING EXCAVATIONS TO CREATE PLAY FIELDS AT
THE SOUTHERN END OF THE PARADE GROUND ON
GOVERNORS ISLAND, NEW YORK, NEW YORK

January~~September 28~~, 2012~~±~~

The Trust for Governors Island (TGI) is planning to create an area that will allow for active recreation at the southern end of the Parade Ground on Governors Island, New York, New York (see Figure 1). This work is located within the Governors Island National Historic District and the New York City Governors Island Landmark district. The archaeological work described here is therefore subject to the regulations of and the review by the New York State Office of Parks, Recreation and Historic Preservation (SHPO) and the New York City Landmarks Preservation Commission (LPC). This document was originally submitted on September 28, 2011, but changes have since been made based on the addition of an irrigation plan and on SHPO comments. Changes include the replacement of Figures 2 and 9 with more legible and informative drawings, the addition of a new figure showing recommended archaeological field work, as well as appending the detailed monitoring protocol. Text changes were made mainly to reflect the new plans and drawings, and are shown with underlining and strikethroughs. Most notable is the addition of plans to include irrigation lines and recommendations for mechanically assisted archaeological trenching in sensitive areas where those lines will require deep excavation, as well as the change in dimensions for excavation units.

Currently, the Parade Ground slopes downhill toward the south and west. On the southern end of the parade ground, the former golf course, tennis courts, and hotel have left the topography with uneven and sometimes abrupt grade changes. The plans for the parade ground include grading this area to allow for passive and active recreation. The grading plan includes both cutting and filling to create a gently sloped area measuring approximately 300' by 300'. The proposed grades slope to the south and tie into the existing slopes at the top and bottom of the Parade Ground. Existing mature trees around the perimeter of the Parade Ground will be preserved, and no fencing or above ground structures will be added to the existing landscape.

The active use areas of the Parade Ground (the play field) will require the addition of 18" of clean fill. Some areas will require excavation to meet the required soil profile, while other areas will require fill. In areas of proposed cut this will require excavation to a subgrade elevation, followed by the addition of 18" of clean fill. The depth of the excavation to subgrade will vary depending on the current and planned elevations, but may involve the removal of up to 3.4 feet of soil. Other areas will require fill in addition to the 18" of clean fill to meet the proposed grades. Figure 2 is a working cut-fill diagram. Red shading indicates the area to be cut and red spot elevations indicate the depth of the cut to subgrade. and Green shading indicates areas to be filled and green spots indicate the amount-addition of fill to subgrade. In general, no excavation will occur to the north, west and most of the south of the play fields within the limit of disturbance. Those areas will be filled to grade or left as is. Minimal excavation will occur to the east. The most excavation will be within the play field, as shown, and outside of the play field to the southeastern corner where up to 6.7±.6 feet of soil will be removed during excavation for the new utility line. That utility line is part of the irrigation plan which has been added to the grading excavation project. Figure 2 also depicts the locations of trenches needed for drainage and irrigation lines, including three new catch basins, as well as locations of three old catch basins which will be removed. The irrigation plan will involve the placement of water mains on three sides of the play field, 10 feet out. The lines on the east and west will be buried

under 2.5 feet of cover, requiring excavation of varying depths, as shown on Figure 2. The combined line on the south will also be 10 feet out from the play field, but will slope down westward requiring excavation of 4.7 to 6.7 feet below current grade. The irrigation plan also includes connections to lines that will be placed inside of the clean fill within the play field (not shown on Figure 2 since no excavation affecting potential archaeological resources will be needed). However Figure 2 does show the limit of excavation as being more extensive than the cut area, not only along the utility lines themselves, but also in the western part of the limit of disturbance because of the utility excavations and eventual connections. No other utilities will be added to the grading excavation project.

The determination of archaeological potential of the grading project has involved three elements; a comparison of the location to several historic maps, review of known disturbances, and review of past archaeological work completed in the vicinity.

Three historic maps were used for comparative purposes to determine past use within the project's limit of disturbance; the 1813 Mangin map, the 1867 Barnard map, and the 1879 First Army Engineers Map. The 1813 Mangin map (see Figure 3) depicts close to half of the grading excavation project limit of disturbance within a garden. However, no former structures are shown within the project footprint in 1813.

By 1867, there was much more activity in the area of the grading excavation project. Several buildings are depicted on the 1867 Barnard Map within the footprint of the planned work (see Figure 4). The garden was still present and had been expanded. A "Gardener's House" had been added and is shown in the middle of the planned play fields. A chapel had been built in what is now the southeast corner of the grading excavation limit of disturbance. A cemetery existed along what is now the western side of the project limit of disturbance. Other buildings shown within the project limits on the 1867 map are a cow shed, paint shop and carpenter shop, as well as two unlabeled buildings depicted next to the paint and carpenter shops.

By 1879 all that remained were the chapel and the cemetery (see Figure 5). Within the footprint of the grading excavation project limit of disturbance, the 1879 First Army Engineers Map also depicts construction of magazines, which were part of an unfinished barbette battery, and clerk's quarters had occurred in the intervening years. The battery and magazines were located throughout the northwest quadrant of the planned grading excavation and the clerk's quarters encroaches in part of the southern edge of the project limit.

Table 1 Comparison of 1813 and 2011 elevations

1813 elevation	2011 elevation
23	23.3
20.5	22.5
20.75	22.5
20	21.5
19	20.5

The amount of fill added to the area of planned work over time was also evaluated using the historic maps. The 1813 Mangin Map provides spot elevations that have been compared to

those on the current survey (see Figure 2). Five spot elevations are depicted within the footprint of the planned grading. The elevations at these locations are detailed in Table 1. In no case is the current elevation lower than it was in 1813, indicating original ground surfaces may still be present and shallowly buried. However, it there is no way to know if the same datum was used.

Disturbances over time within the grading excavation limit of disturbance have been fairly localized. The two main disturbances have to do with creating and removing part of a golf course and with building and then demolishing two structures in approximately the same location. There was also a tennis court in the eastern part of the project footprint, the construction and demolition of which had little below ground impact. Figure 6 is part of the 1994 Coast Guard survey depicting some of the golf course features, former Building # 293 and the tennis court.

There have been minimal utility disturbances in the area of the grading excavation project, mainly because there has been no historic need for it. The two main exceptions are utilities that were once needed for the former Building #293, and its predecessor, and for water lines to feed the golf course. Figure 7 is a utility plan overlay based on the 2006 Mercator survey. Several catch basins are depicted toward the southern end of the project limits (to be removed as part of this project), just to the north of where Building #293 once stood, although there is no mapped evidence that drainage lines connected them. It is possible there were no drainage lines; however, the utility maps of Governors Island are notoriously lacking and this may be another example. It is also curious that no below-ground electrical lines are depicted. Again, it is possible these were overhead, but it would not be surprising to find evidence of unmapped utilities during excavations, either utilities themselves, if shallowly buried, or utility trenches.

Previous archaeological reports have also been consulted to determine what archaeological resources have been identified in proximity to the grading excavation project and what types of deposits may be expected. The Phase 1A archaeological study divides the Governors Island historic district into zones of sensitivity for the preservation of archaeological resources. Most of the grading excavation project falls within the zone sensitive for the preservation of Native American resources (PAL 1994: Figure 4). Five archaeological field projects have been conducted within the vicinity of the planned grading excavation project (see Figure 8); post hole testing in advance of construction of Building #293 (LBA 1986), archaeological testing as part of a larger program (PAL 1997), archaeological testing related to changes in the golf course (Stone 2007), monitoring of demolition of Building #293 and associated grading (Stone 2008), and inspection of soil sampling (Stone 2011).

Louis Berger and Associates (LBA) researched and tested the area of the former Building #293 prior to its construction. This was within the mapped location of the Fort Columbus cemetery. The cemetery was active from 1798 to 1878. Both the 1857 and 1867 Barnard Maps depict the cemetery having been in only the westernmost part of the grading excavation project limit of disturbance (see Figure 4). Records of the individuals interred, which were made during the exhumations, reportedly conflict with the actual burial records, a possible indicator that the removal of the graves was more thoroughly recorded than the actual burials were (LBA 1986: 3-5 – 3-6; UMass 2003: 65-67). The original contract for the removal required “Each grave from which remains were taken was to be strewn either with powdered iron sulphate or ‘chloride of lime’, tamped down to a level surface and generally left ‘in a neat and tidy condition.’” (LBA 1986:3-6). It is unclear from the secondary reports whether individual empty grave sites could now be discerned, should they be encountered, by identification of the chemicals applied to the soil, or if the chemicals were applied consistently to the entire area precluding the identification of individual grave locations. The 1986 field testing consisted of post hole excavations along

transects which were 20 feet apart. The testing did not identify any grave sites or other physical evidence of the cemetery, however the report conceded that some of the graves may have been missed during the 1889 disinterment and the entire former cemetery should not be written-off without archaeological consideration.

PAL, Inc. conducted archaeological testing throughout the Governors Island Historic District as part of the Coast Guard closure project in 1997. They excavated 3 blocks of 13 test pits each within, or partially within, the grading excavation limit of disturbance, in addition to excavating one trench and a test pit array within two of the blocks (on Figure 8 depicted as a rectangle and circle, respectively). One of the blocks was almost entirely within the footprint of the former cemetery. The report makes no mention of the findings in that block, however the artifact inventory shows that a wide range of historic period artifacts were recovered, as well as several pieces of calcined bone. It is not known if the bone was examined to determine whether its origin was human or animal. Native American artifacts were recovered from disturbed deposits in the other two blocks, also containing historic debris. The mechanically excavated trench revealed the remains of a post buried approximately 2.5 feet deep. The report indicated that post have may been from the corner foundation of the battery/magazine depicted on the 1879 map in that location (see Figure 5). The array was placed to explore a "deposit of loosely packed fieldstones with some brick and mortar rubble" found buried less than 1 foot below the ground surface. No intact feature was identified and the report hypothesized the debris was from the demolition of the battery/magazine (PAL 1997: 67 - 68).

Linda Stone completed two archaeological test trenches to examine changes to the golf course over time and determine if intact surfaces remained buried there. The western of the two trenches was partially within the footprint of the former cemetery. The trench excavations exposed an unidentified brick feature and a cinder-filled deposit. The brick feature was buried only 0.8 feet beneath the golf course green, in what was mapped as a garden in 1867, and was left in place and reburied when the trench was backfilled. No artifacts were associated with the brick feature. The cinder-filled deposit was located within the footprint of the former cemetery and contained artifacts that date it no earlier than the mid- to late-nineteenth century. The eastern trench revealed the earlier golf course ground surface buried between 1.5 to 3.5 feet (Stone 2007: 5 - 7).

In 2008, Linda Stone conducted additional archaeological investigations in the area of the grading excavation project, related to the demolition of Building #293, its parking lot and the adjacent tennis court, and grading to level out some of the golf course features in the area. Findings during this project included two discrete concentrations of building demolition debris and part of a brick foundation. One of the debris concentrations was located buried at the level of the golf hole green beneath a berm formerly located near the western edge of the planned play field toward the southern end, but was leveled in 2008. It contained no temporally diagnostic artifacts. The other concentration was near the east central section of the grading excavation area limit of disturbance and into the planned play field, within the northern third of the former tennis court, buried just beneath the paving. Here unconsolidated brick and cut stone were found in a coal ash matrix containing artifacts with a beginning manufacture date of c. 1890. The brick foundation was located outside of the limit of disturbance. All of these archaeological finds were left in place and reburied (Stone 2008: 4-6).

Recent excavations for soil testing were archaeologically examined at three locations within the grading excavation limit of disturbance (Stone 2011). The large demolition debris concentration identified in 2008 within the northern third of the former tennis court was also identified in that vicinity buried under 0.5 feet of topsoil. A similar deposit, possibly from the same source, was

also found in the area corresponding to a place south of the center of the tennis court; however, it was buried 1.2 feet deep. This deeper deposit dates no earlier than 1886, a similar time frame to the deposit to the north as identified in 2008. The other test was placed in the western side of the planned play field. No potentially significant archaeological deposits were encountered there.

Based on the combination of historic map overlays, topographic analysis, past disturbances and previous archaeological studies, it may be expected that a number of archaeological resources could remain within the footprint of the grading excavation project limit of disturbance. Map documented structures and features include a carpenter shop, cemetery, chapel, clerk's quarters, cow shed, garden, gardener's house, magazine, paint shop, and two structures that were not labeled on the 1867 map. Archaeological remains, possibly from the partially completed battery and magazines mapped in 1879, were excavated in discrete places within the footprint of the limit of disturbance. Therefore, additional remains of the magazine may be expected. Archaeological features or deposits identified during the 2007 and 2008 projects still remain within the footprint of the grading excavation limit of disturbance. These include a brick feature and two concentrations of demolition debris. Recent archaeological field work suggests one of these debris fields is larger than originally thought. Figure 9 is a composite of all these resources based on the historic map overlays and archaeological reports also showing the area within the limit of disturbance where grading excavation will take place. It may be noted that, with regard to the overlay, features found on more than one map, such as the cemetery and chapel, do not align perfectly on the overlays. This is normal for overlays when the base maps are left unaltered.

The locations of mapped structures and features and archaeological resources have been compared to the working cut and fill drawing (see Figures ~~2 and~~ 9) to determine where grading excavation will take place and how deep it will penetrate. Fill will actually be added to certain areas without the need for excavation. The resources where excavation is planned include the part of the cemetery, the chapel, the garden, gardener's house, ~~and magazine~~, paint shop, cow shed, and clerk's quarters, as well as ~~the four of the~~ all five locations of previous archaeological finds. These resources in the areas of planned excavation constitute the archaeological potential of the grading excavation project which also includes previously unknown resources and possible Native American deposits.

In those locations where no excavation will be necessary, no further archaeological work is recommended. However, different archaeological approaches are recommended for identification and/or evaluation of the resources where grading excavations will occur because of both their locations in relation to excavation, the nature of the expected find and previous archaeological studies. The recommended approach, along with the amount of soil to be removed from all locations are listed in Table 2. Approaches are either pre-grading archaeological excavation to the depth of planned impact, mechanically assisted archaeological trenching, or grading excavation monitoring. Although archaeological work is recommended for the identification of specific resources identified on historic maps, the depths at which those resources may be found is unknown because of the inability to determine the historical datum used and the amount of undocumented fill since added. The pre-grading archaeological work recommended here will allow for evaluation of historic map elevations should intact structural remains and/or original ground surfaces be identified during testing at the depths of the planned work.

Table 2 Potential archaeological resources with planned excavation depths and recommended archaeological approach

RESOURCE	EXCAVATION	APPROACH
Carpenter shop	none	no further work
Cemetery	0 - 0.5 6.7 feet	<u>mechanically assisted archaeological trenching and monitoring</u>
Chapel*	0 - 0.5 6.0 feet	pre-grading archaeological excavation
Clerk's quarters	none 2.5 - 5.0 feet	no further work <u>pre-grading archaeological excavation and monitoring</u>
Cow shed*	none 1.5 feet	no further work <u>pre-grading archaeological excavation</u>
Garden	0 - 0.5 6.0 feet	monitoring
Gardener's House	1.8 - 1.9 feet	pre-grading archaeological excavation
Magazine/Battery*	0 - 1.9 feet	pre-grading archaeological excavation
Paint Shop*	none 6.0 feet	no further work <u>mechanically assisted archaeological trenching</u>
Unlabeled 1867 structure	none	no further work
PAL 1997 north (debris)	0 - 1.0 0.5 feet	pre-grading archaeological excavation
PAL 1997 south (footing)	1.8 - 1.9 feet	pre-grading archaeological excavation
Stone 2007 (brick feature)*	0.5 feet	pre-grading archaeological excavation
Stone 2008 east (debris field)	0.1 0.5 - 2.0 2.5 feet	pre-grading archaeological excavation
Stone 2008 west (debris concentration)*	none appx. 2 feet	no further work <u>pre-grading archaeological excavation</u>
Stone 2011 (debris field)	appx. 3 feet	pre-grading archaeological excavation

* Parts of these features may also be explored during monitoring of the areas of the former garden and cemetery.

Pre-grading archaeological excavation is recommended to identify possible remains of the chapel, cow shed, clerks quarters, gardener's house and battery/magazine, and to further explore and evaluate the archaeological brick feature and a debris concentration remaining *in situ* and deposits identified in previous archaeological studies within the former tennis court area [see Figure 10]. The largest of the possible features to be explored is the battery/magazine complex depicted on the 1879 map (Figure 5). Previous archaeological testing unearthed part of a footing that may have belonged to the battery and also exposed an area of demolition debris thought to be from its destruction. Furthermore, the former gardener's house is within its footprint. However, it is possible construction of the magazine obliterated archaeological evidence of the gardener's house depending on the depth below ground of each of these structures.

Two ~~one~~ two foot by six three-foot square archaeological hand excavated trenches ~~excavation~~

~~units~~ are recommended to test for the presence or absence of remains of the magazine and/or gardener's house, further exploring the two locations of PAL's 1997 findings. One ~~unit~~ trench will be placed within what is thought to be the footprint of the eastern side of the gardener's house which is also within the footprint of the magazine battery. The other ~~unit~~ will be placed at one of the corners of an individual magazine with the body of the battery, depending on field conditions, existing grade and planned grading excavation depth.

Two two foot by six foot ~~three-foot square excavation units~~ archaeological hand excavated trenches are also recommended for the footprint of the former chapel in the deepest part of the planned grading area that is most likely to be along one of the chapel's foundation walls to determine if its remains are present. Excavations in this area may also help to shed light on the demolition debris field identified during earlier archaeological work in the area of the former tennis court.

One two foot by six foot archaeological hand excavated trench each are also recommended to identify possible remains of the cow shed and clerk's quarters.

It is not clear based on the Governors Island survey used during the 2007 work if the buried brick feature that was identified then will be affected by the grading excavation work or not. The location of the brick feature must be reestablished and then an assessment can be made. Probing and then hand excavation to expose the brick feature will be done to confirm it's location in the field and determine if it will be affected by grading excavations. The same is true for the smaller debris concentration first identified in 2008, located near the western edge of the play field and along the path of the planned irrigation trench. If there will be no affect, then no further work is recommended for ~~that~~ those locations. However, if grading excavation will extend to the depth of the brick feature and/or the debris concentration, or deeper, then further archaeological hand excavation is recommended to determine the extent of the features and collect information that may help place ~~it~~ them in a broader context.

If grading excavation will affect the brick feature and or debris concentration, hand excavation of the deposits above the features will be done to follow ~~it~~ their extent within the limit of disturbance. This soil will be selectively screened for artifact recovery. The amount of soil screened will depend on the extent of the overlying deposits. If the features must be removed, then additional archaeological excavation will be necessary. For the brick feature, the bricks will be documented in situ and then removed. Any matrix will be screened for artifact recovery. Once removed, at least one unit covering as much of the footprint of the feature as possible is recommended with a minimum of a 1.5 feet (the width of the feature as found in 2007) by 3 feet (or the maximum length affected). For the debris concentration, one 3 x 3 foot unit (the unit may be smaller, based on the extent of the debris affected by the project impacts) will be excavated to determine the depth of the debris and if it can be associated with any previously existing structure in the vicinity, or if its source and/or deposition date can otherwise be determined.

The large demolition debris field identified in 2008 likely extends southward to at least the area of the 2011 work. The source of this deposit is currently unknown. The extent of the deposit is also unknown. Its deposition date is no earlier than c. 1890. Artifacts found within the deposit include brick and cut stone, ceramic sherds and a shell casing. Archaeological excavation is recommended to determine the extent of the deposit and potentially its source or origin and to further refine its deposition date. The above recommended archaeological work related to identifying remains of the chapel may also help achieve these goals, and should be completed prior to excavations for the debris field. At least one five-by-one foot archaeological

excavation unit/trench is recommended for this area to determine the extent of the debris field to see if its edge can be located. That unit should be placed near the northern of the 2011 soil testing location and extend westward. If the debris field is not documented during archaeological excavations for the chapel, then an additional five-by-one foot excavation is recommended to identify its southern limit. That unit should be located to the south of the southern 2011 testing location and placed opportunistically based on the results of the chapel excavations.

Table 3 Number, size and location of pre-grading archaeological hand excavations units

PRIMARY RESOURCE	SECONDARY RESOURCE	# UNITS	SIZE (feet)
Battery/magazine	PAL 1997, gardeners house	2	±2 x ±6
Chapel	debris field (Stone 2008, 2011)	2	±2 x ±6
<u>Clerk's quarters</u>	---	1	2 x 6
<u>Cow shed</u>	<u>cemetery</u>	1	2 x 6
Brick feature (Stone 2007)	---	TBD	at least 1.5 x 3
<u>Debris concentration (Stone 2008)</u>	<u>cemetery</u>	1	up to 3 x 3
Debris field (Stone 2008, 2011)	---	1 or 2	5 x 1

Table 3 summarizes the recommended archaeological excavation units/trenches by location. Depending on the results of any of the archaeological excavation units/trenches, additional pre-grading excavations or monitoring may be added to those locations. Additional archaeological excavations would be recommended should potentially significant resources be identified during the pre-grading excavations and monitoring would be added should identified deposits indicate archaeological potential still exist, but expected resources were not identified in the test units. Archaeological excavation units/trenches will be excavated using standard stratigraphic methodology. All excavated soils will be screened through 1/4-inch hardware mesh for artifact recovery. The deposits will be recorded on forms and photographs taken as appropriate. Artifacts will be recovered by provenience from the excavation units.

There are two locations where the planned irrigation system has the potential to impact archaeological resources and the required excavation will be to depths beyond those safe for hand excavation (approximately 6 - 7 feet below ground surface): part of the paint shop shown mapped in 1867 and part of the cemetery. Mechanically assisted archaeological excavation is recommended for the portion of the irrigation line that crosses through these locations because of the potential for identifying deeper archaeological deposits (see Figure 10). Mechanically assisted archaeological excavation will involve the archaeologist directing the contractor to excavate in small increments within the footprint of the irrigation trench stopping frequently so the archaeologist may examine the deposits and enter the trench while it is safe to do so. Soil may be selectively screened for artifact recovery. Since the depths at which the potential resources may be identified are unknown, work will proceed in this manner until the expected archaeological resource has been found, culturally sterile soil has been reached, or the depth of the planned irrigation trench is reached, whichever is encountered first. If archaeological resources are identified, the same procedures to document and evaluate them will be applied, as detailed below and in Appendix A.

Monitoring is recommended for the areas of the cemetery, ~~and~~ the garden, and the part of the

clerk's quarters along the utility trench. A corner of the clerk's quarters will also be monitored because it falls within the area of the former garden that is to be monitored, as does part of the magazine/battery and chapel. Part of the cow shed and part of the paint shop fall within part of the cemetery where grading excavation will occur and are therefore also included in the monitoring plan. These are shown with hatching on Figure 10 ☺ along and near the eastern and western sides of the planned play field. The cemetery itself is located mainly in the portion of the limit of disturbance where no excavation will take place and, in fact, soil will be added. Only a small portion of the former cemetery location is within the footprint of the play field where grading excavation will be limited to only 0.5 feet or less. At that shallow depth, it seems quite unlikely that graves will be visible. However, it is possible that grave shafts could be detected. It is for that reason that monitoring is the recommended approach.

Monitoring is also recommended for the area of the former garden mapped in 1813, where the deepest grading excavations are planned and the opportunity to evaluate deposits least likely to have been affected by the former golf course exists. However, parts of the area of the 1813 garden are also recommended for pre-grading archaeological excavation (described above) for other resources which will allow for identification of garden related features, should they also be present. Generally; however, there is little chance of finding what would have been ephemeral garden-related features because such features may not have left lasting archaeological evidence throughout the subsequent use of the area as a parade ground and golf course. The best chance of identifying garden related features is through exposing a large area and this is why monitoring is recommended for the area of the former garden.

Monitoring will include observing the excavations and inspecting them and the backdirt. This may also involve the archaeologist entering the excavation area, if it is safe to do so, so that deposits or features can be directly assessed. The monitoring protocol (paraphrased here and attached in its entirety as Appendix A) gives the archaeologist authority to halt contractor excavations to document any archaeological resources, should they be encountered. The archaeologist will communicate directly with the machine operator should excavations need to temporarily stop for archaeological purposes. Should any potentially significant archaeological resources be identified, the contractor will be instructed to stop excavation until the resources can be evaluated and the archaeologist hand excavates, measures and/or otherwise records the find(s). The amount of time necessary for this will be relative to the extent of the find(s) and the weather conditions, but a minimum of one half hour should be expected. Should this initial inspection determine the resources are potentially significant, the TGI and Turner Construction Company would be immediately contacted. In such a case, the TGI, SHPO and LPC will have to be consulted and either a plan to recover archaeological data will have to be produced or other mitigation measures developed. While those consultations are taking place, the work may have to be temporarily stopped in that location while the decision on how to proceed is made. If no archaeological features are encountered, the archaeologist will document the soils and fill deposits. This will include taking photographs and measurements for drawings. Stratigraphy will be recorded using comparison to the Munsell Soil Color Charts. Artifacts may also be collected opportunistically during monitoring to inform the nature and deposition date of those deposits.

Should potentially significant archaeological resources be identified and the project redesigned as a result, then any changes to the project plans will also be archaeologically evaluated to assess their potential to impact archaeological resources and this plan amended.

Any recovered artifacts will be subject to standard methods of artifact processing, labelling, identification, evaluation and documentation. It is expected items such as coal, cinder, brick

fragments and modern garbage will be recorded but not retained. Upon completion of the excavations, documentation, artifact processing and analysis, a report detailing the work will be prepared, according to the current standards of practice. The report will include detailed maps indicating results of the investigations with locations of the work and of archaeological resource recovered, if any, as well as detailed text descriptions of the work and findings.

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APPENDIX A

MONITORING PROTOCOL

MONITORING PROTOCOL FOR
GRADING EXCAVATIONS TO CREATE PLAY FIELDS AT
THE SOUTHERN END OF THE PARADE GROUND ON
GOVERNORS ISLAND, NEW YORK, NEW YORK

- The archaeologist has the authority to halt contractor excavations to document any archaeological resources, should they be encountered.
- The archaeologist will communicate directly with the machine operator should excavations need to temporarily stop for archaeological purposes.
- Should any potentially significant archaeological resources be identified, the contractor will be instructed to stop excavation until the resources can be evaluated and the archaeologist hand excavates, measures and/or otherwise records the find(s).
- The amount of time necessary for this will be relative to the extent of the find(s) and the weather conditions, but a minimum of one half hour should be expected for any given location. More time may be necessary if it is rainy, snowy or below freezing.
- The objective of investigations will be to identify any potentially significant archaeological resources (as identified in Table 2 of the Work Plan or previously unknown resources). If identified, these resources will be documented in a number of ways, depending on and appropriate to the resource. Archaeological field techniques may include hand excavation to expose the resource, screening of soil for artifact recovery, taking measurements, producing field drawings, and /or photographing the resource(s).
- It is possible the archaeologist will require assistance from the excavation contractor, such as erecting protection for potentially significant archaeological resources, moving backdirt or providing shelters to work under winter conditions if data recovery excavations are needed.
- Should the initial inspection determine the resources are potentially significant, the TGI and Turner Construction Company would be immediately contacted. In such a case, the TGI, SHPO and LPC will have to be consulted and either a plan to recover archaeological data will have to be produced or other mitigation measures developed, including possible project redesign. Should additional archaeological excavations be determined necessary, then the consultations will also include a discussion of time frames for conducting and completing that work.
- If a data recovery or mitigation plan is needed, there are two potential time lines. The time line chosen will depend on what point in the project the find occurs, its potential significance and/or the weather conditions. One alternative is to protect the archaeological resource until all monitoring is completed and the other alternative is to work on the one location until it is fully addressed prior to continuing with the remaining monitoring in that area.
- If the potentially significant archaeological resource requires immediate action, the archaeologist will have up to one week from the time the verbal agreement is reached between TGI, SHPO and LPC to prepare a written plan for their review. The agencies will have up to one week from verification of receipt to review the plan. Their concurrence in writing will be needed prior to field work.

- If any unexpected finds are identified in the field during monitoring, those too will need to be addressed in a similar manner. However, it may be necessary to conduct additional documentary research as it may relate to the unanticipated resource.
- Should potentially significant archaeological resources be identified and the project redesigned as a result, then any changes to the project plans will also need to be archaeologically evaluated. All time frames previously applied would also apply in this case, including conducting research, preparation of a work plan, and agency reviews.
- If no archaeological features are encountered, the archaeologist will document the soils and fill deposits. This will include taking photographs and measurements for drawings. Stratigraphy will be recorded using comparison to the Munsell Soil Color Charts.
- Any recovered artifacts will be subject to standard methods of artifact processing, labelling, identification, evaluation and documentation. It is expected items such as coal, cinder, brick fragments and modern garbage will be recorded but not retained. Upon completion of the excavations, documentation, artifact processing and analysis, a report detailing the work will be prepared, according to the current standards of practice. The report will include detailed maps indicating results of the investigations with locations of the work and of archaeological resource identified, if any, as well as detailed text descriptions of the work and findings.

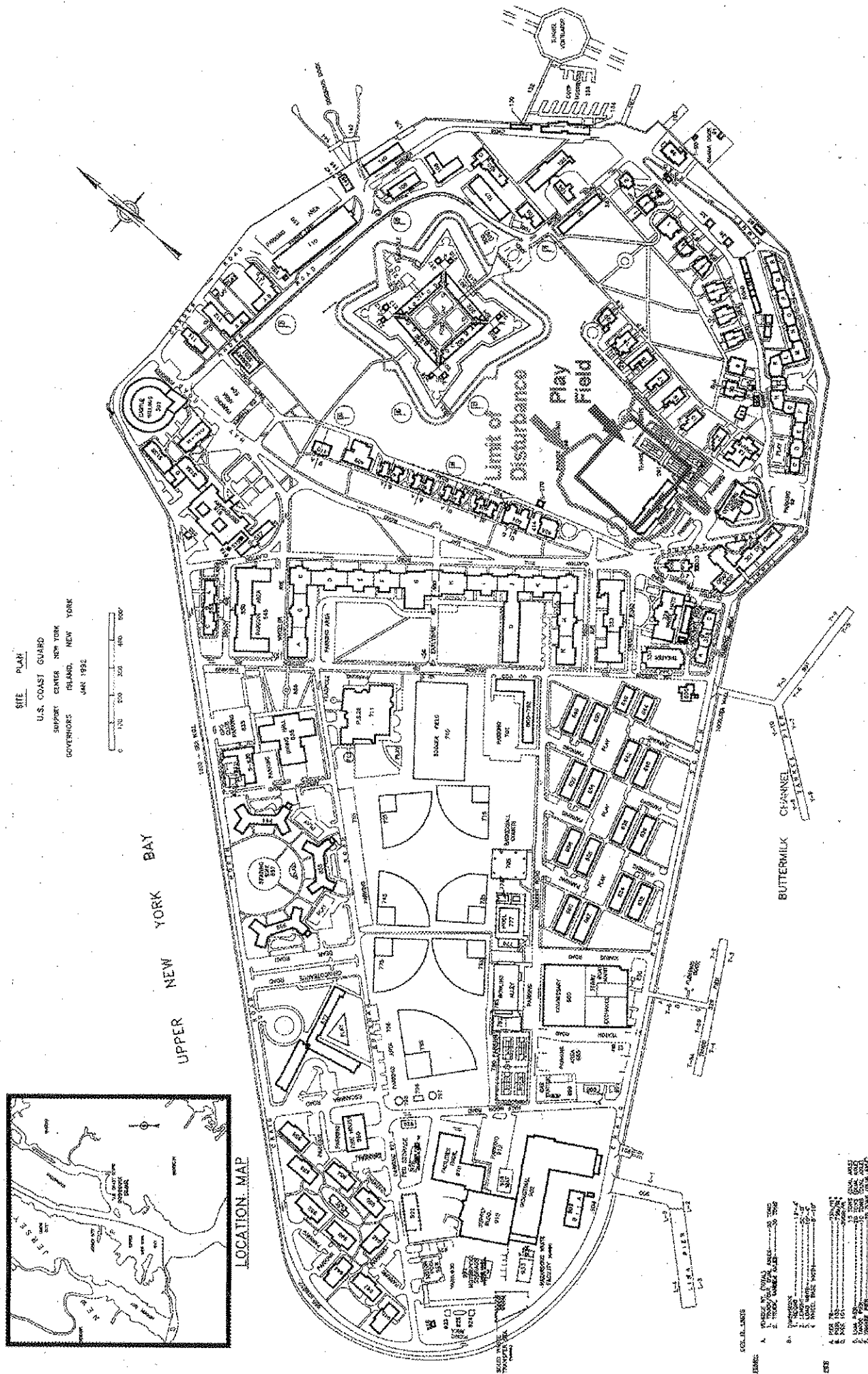
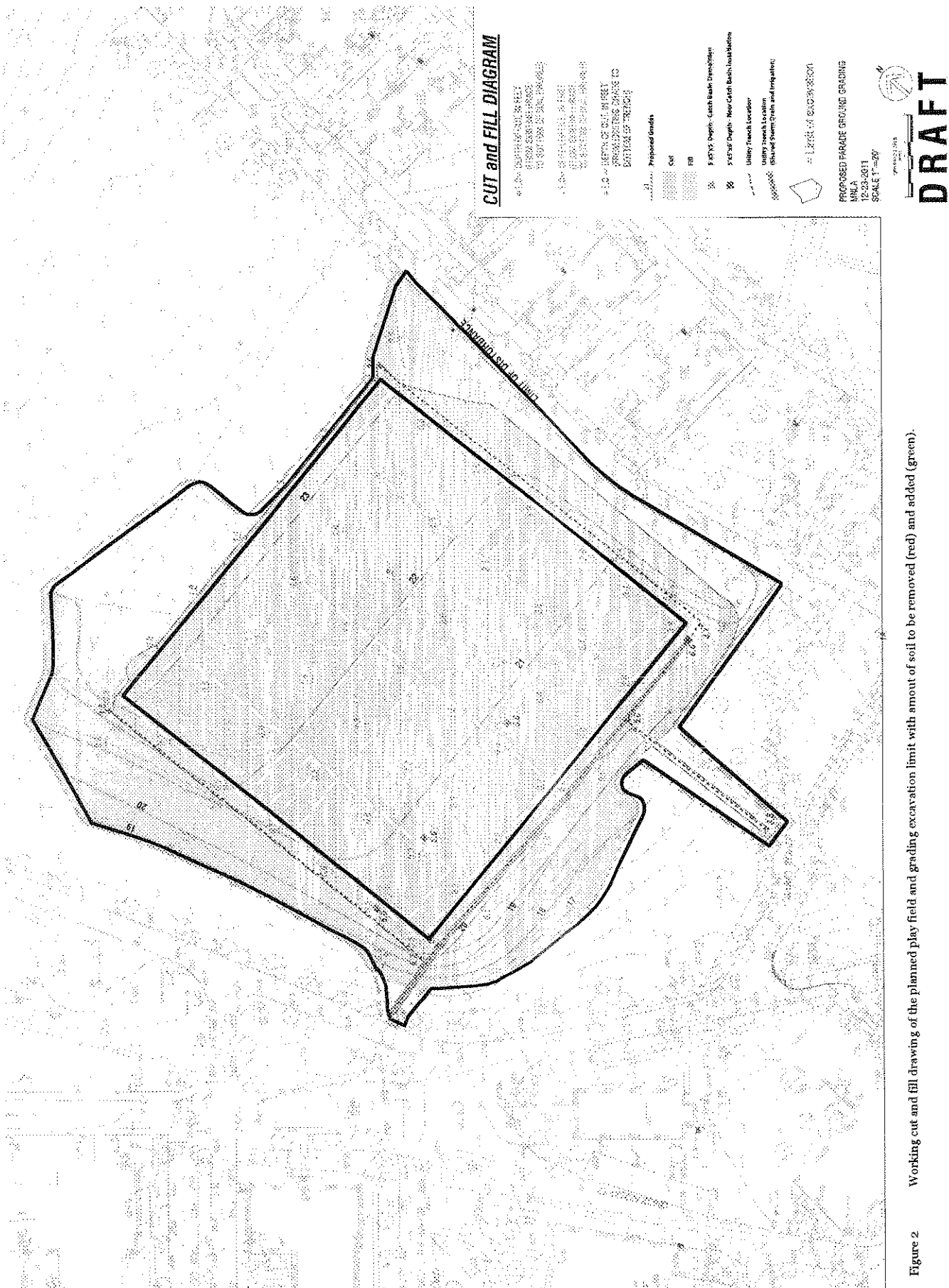


Figure 1
The location of planned play field and grading excavation limit on Governors Island.



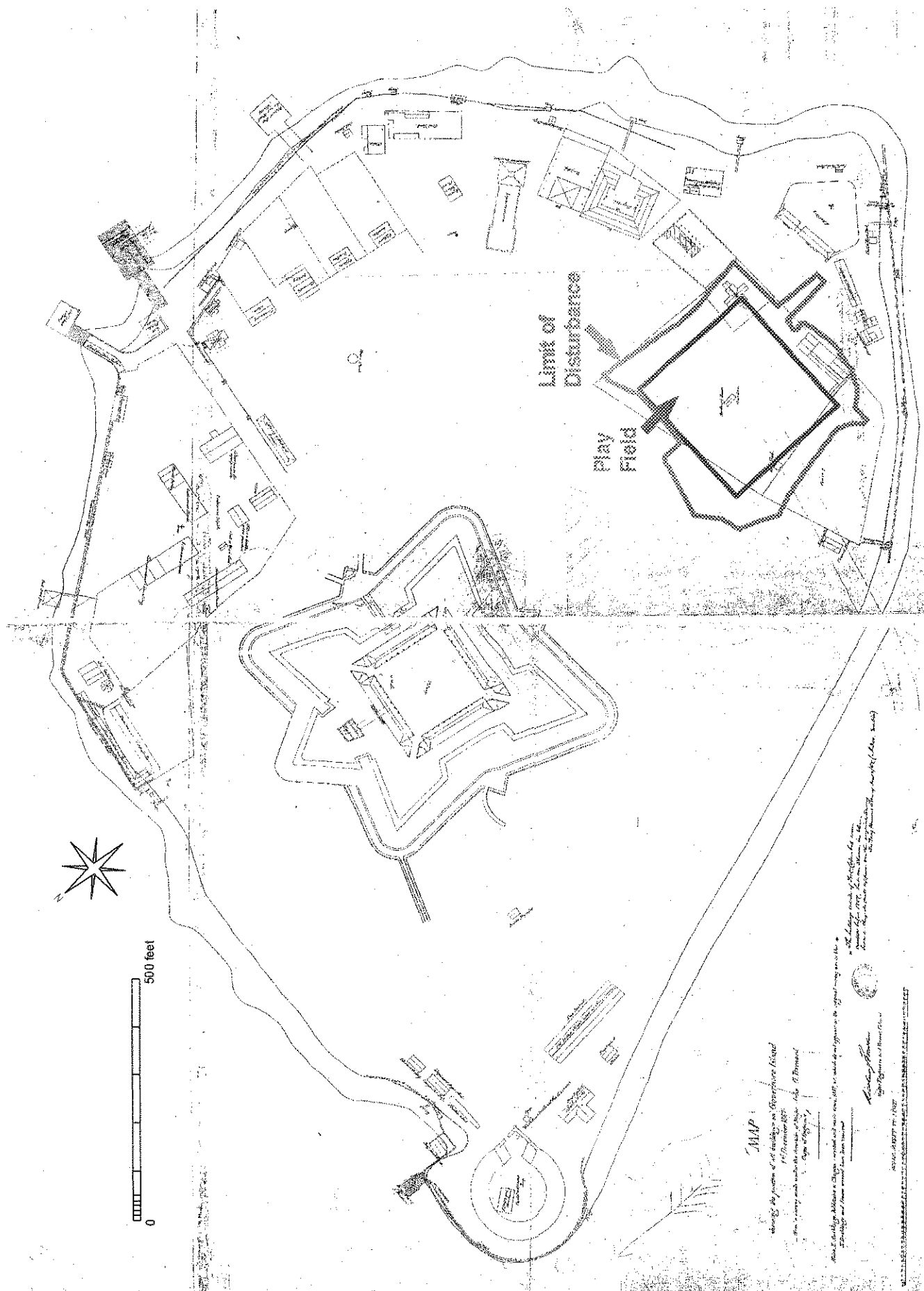


Figure 4 The 1867 Barnard Map of Governors Island showing the location of the planned play field and grading excavation limit.

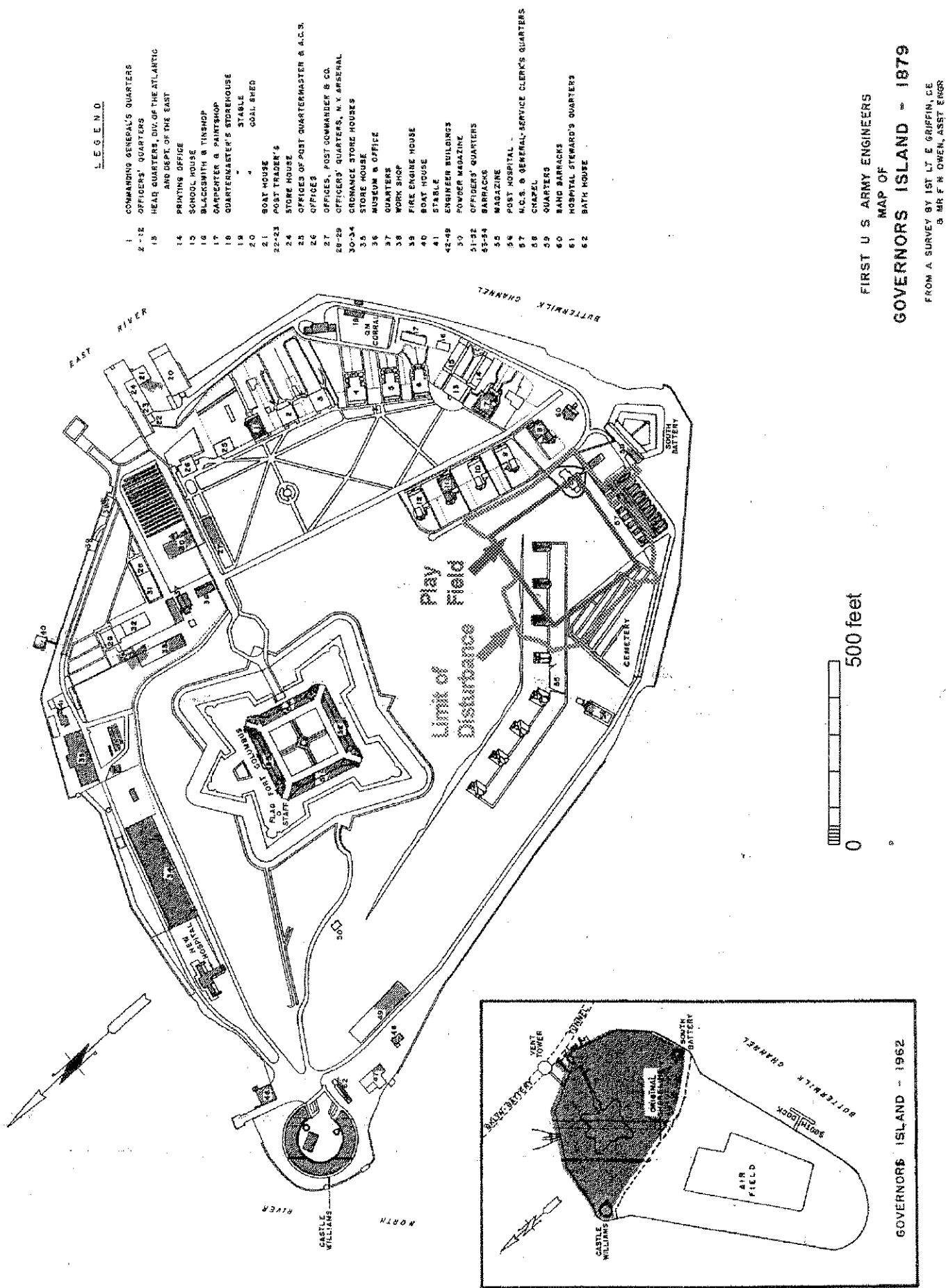
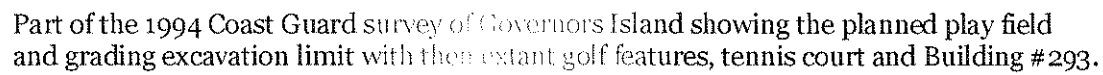


Figure 5 The 1879 Army Map of Governors Island showing the location of the planned play field and grading excavation limit.



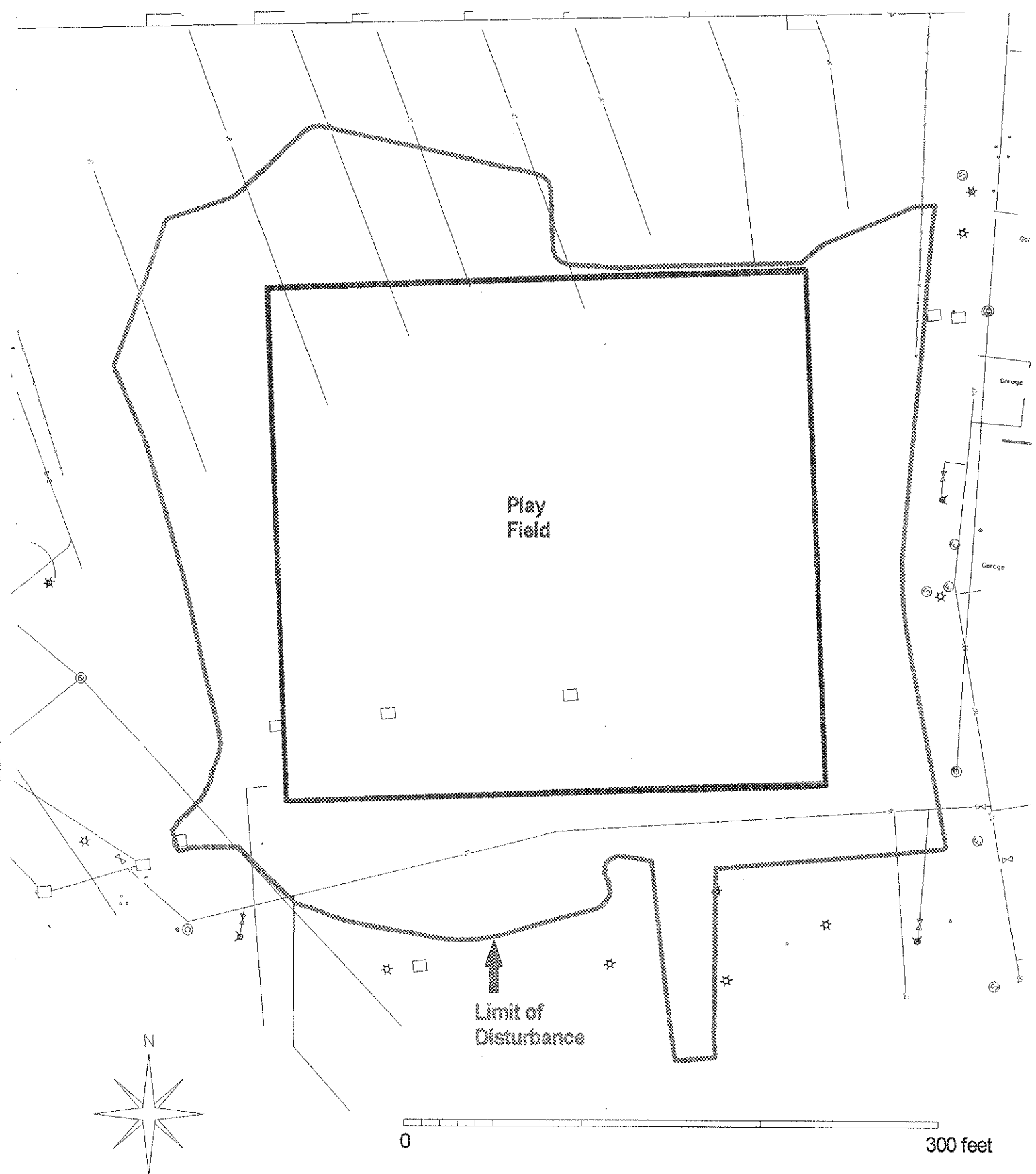


Figure 7 Part of the 2003 utility plan survey of Governors Island showing the planned play field and grading excavation limit with utilities.

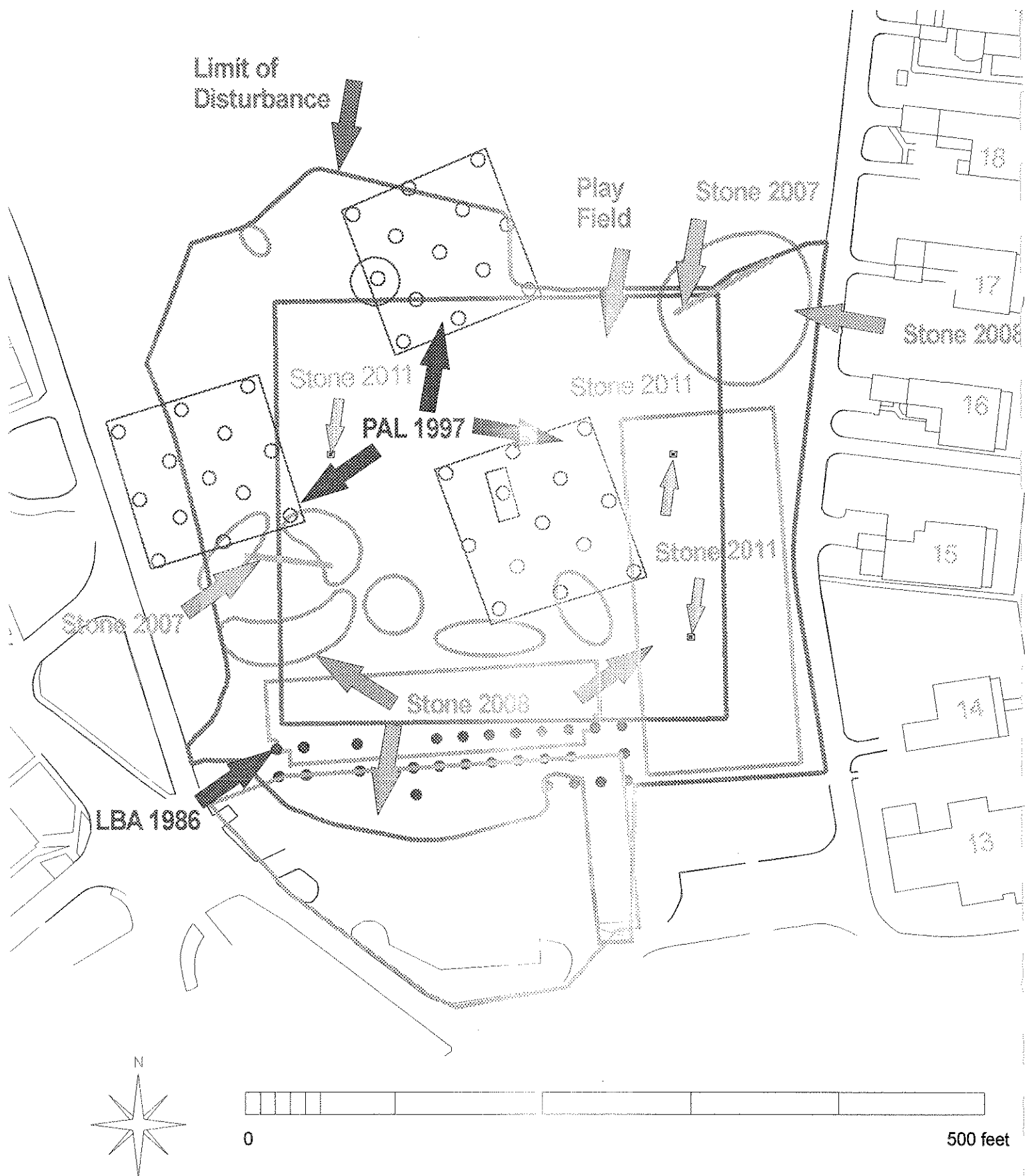


Figure 8 Part of the 2003 Montrose survey of Governors Island showing the planned play field and grading excavation limit in relation to previous archaeological work.

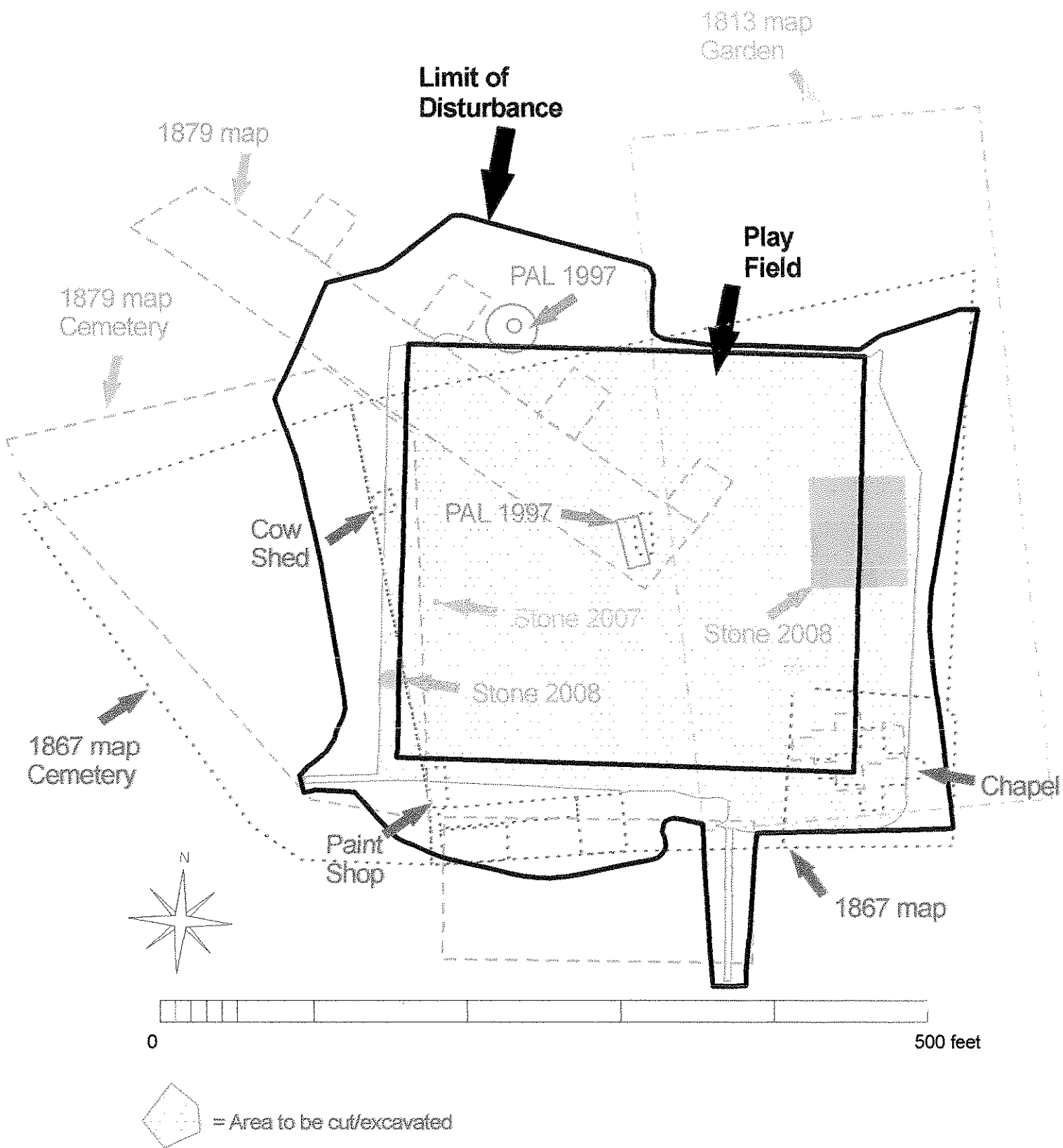
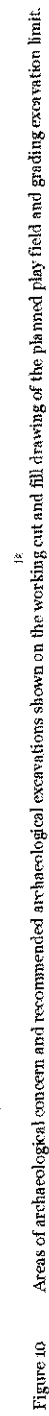


Figure 9 Composite of potential archaeological resources within the planned play field and grading excavation limit also showing areas to be cut.



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5'x5' Depth - New Curb, Asyle Installation	
Utility Trench Location	
Utility Trench Location (Island Sign, Drive and Intersection)	

PROPOSED PARADE GROUND GRADING
MAY 14
12-23-2011
SCALE 1" = 20'

DRAFT

ADDENDUM TO ARCHAEOLOGICAL RESEARCH AND WORK PLAN FOR
GRADING EXCAVATIONS TO CREATE PLAY FIELDS AT
THE SOUTHERN END OF THE PARADE GROUND ON
GOVERNORS ISLAND, NEW YORK, NEW YORK

January 27, 2012

This is an addendum to the January 4, 2012 revision to the original Archaeological Work Plan as it pertains to the mechanically assisted excavation proposed to identify possible remains of the former Fort Columbus cemetery¹. The design of the storm drainage line and associated catch basins and manholes has changed. The new configuration is depicted on Figure 1 in relation to the cemetery and the former Super 8 Motel. Two manholes and three segments of pipe are now planned in that area, as depicted. The change in the alignment and the addition of another branch also alters the contractor's planned excavation depths prompting this addendum.

The new manholes will require excavation measuring 6 feet in diameter. The depth of excavation for Manhole 1 will be approximately 6.5 feet and for Manhole 2 approximately 13 feet. The excavation for the utility line trenches connecting the manholes will range in depth. The pipe entering Manhole 1 will require excavation of approximately 6 feet. That same pipe at Manhole 2 will require excavation of 8 feet, as will the pipe extending eastward from Manhole 2. The pipe headed south from Manhole 2 will require excavation of 13 feet at that manhole, but only to 7.5 feet at the existing manhole in Comfort Road (left side of Figure 1). The width of the utility line trenches will be 3.5 feet.

Mechanically assisted archaeological excavation is recommended for the entire portion of the utility project situated to the west of the location of the former Super 8 Motel (Building #293) because it falls within the location of the former cemetery. The same excavation and documentation protocol detailed in the approved January 4, 2012 Work Plan will apply. The deeper excavation now planned in places should certainly facilitate the identification of the level of the cemetery and put to rest any questions with that regard without the need to excavate beyond the vertical area of potential effect. Should any human remains be encountered, the *SHPO Human Remains Discovery Protocol* will be followed.

¹ The change to the alignment of the utility line resulted in a slight shift northward into the path of the former Super 8 motel disturbance and away from the location possible remains of a 19th-century Paint Shop which the original mechanically assisted excavation was also intended to identify.

LINDA STONE, MA, RPA

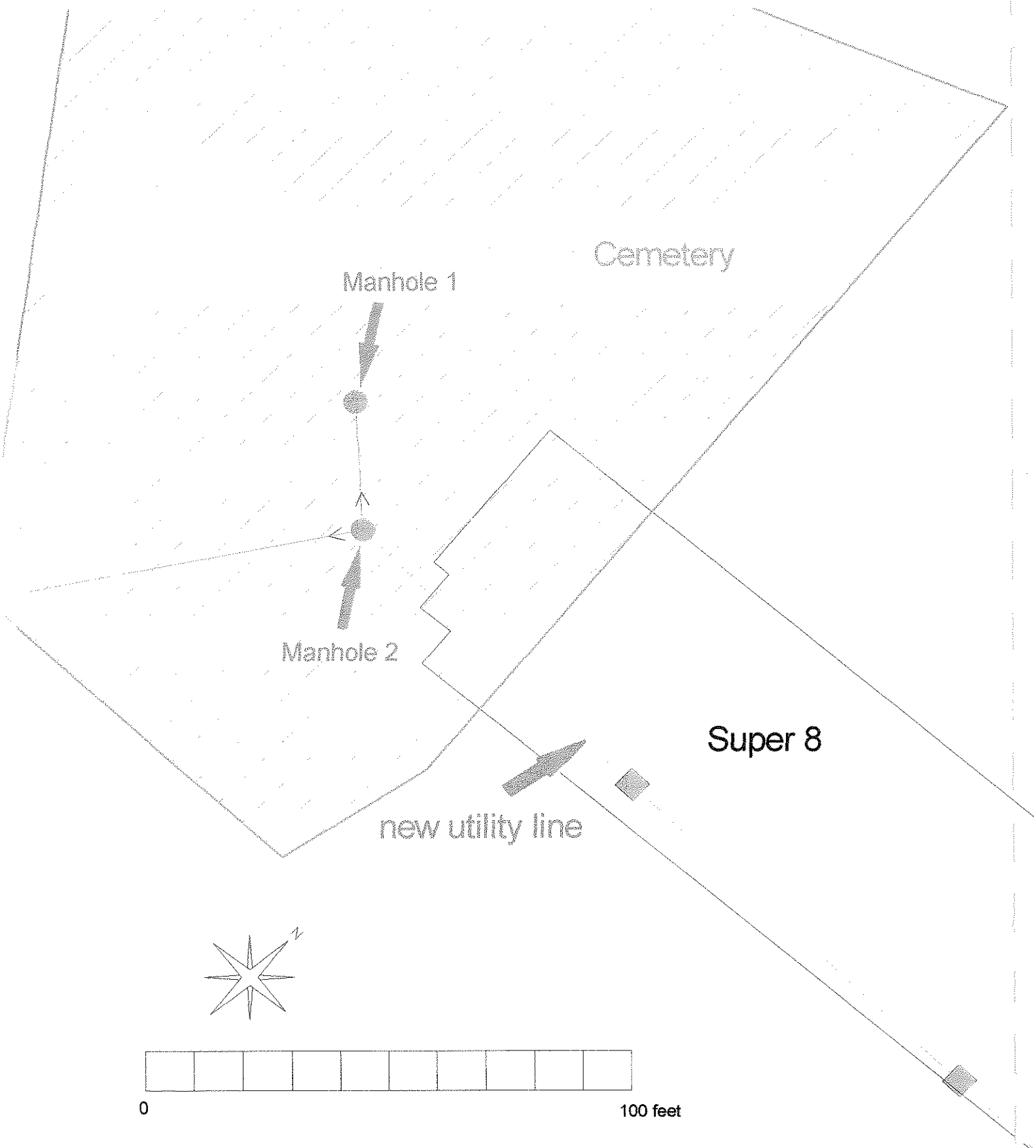


Figure 1 New storm drainage line in relation to the former Fort Columbus Cemetery and Super 8 Motel shown on a portion of the existing survey of Governors Island.

APPENDIX B

EXCAVATION UNIT STRATIGRAPHY

Governors Island Parade Ground Play Field Project
Excavation Unit Stratigraphy

UNIT	STRAT	LEV	DEPTH (FT)	MUNSELL COLOR	TEXTURE	ARTIFACTS NOT RETAINED ¹	COMMENTS
2	1	1	0.4	10YR2/2	very dark brown	coal, flat clear glass, 1 corroded nail, 2 brick frags, 3 plastic	partially frozen
2	2	1	0.5	10YR4/3	brown	much coal, 1 plastic, 1 brick frag, few shell	
2	3	1	0.7	10YR4/3	brown	much coal, 1 shell, 2 flat glass, 1 corroded nail, 1 clear curved glass	northern part of Unit
2	4	1	0.8	10YR5/4	yellowish brown	few coal, 1 clear flat glass, 1 brick frag, 1 slag	southern part of Unit
2	5	1	1.1	10YR8/1, 7.5YR8/4, 7.5YR6/4, 10YR4/2	white, pink, light brown, dark grayish brown	few coal	former tennis court level
2	6	1	1.9	10YR2/1	black	much coal, much slag, 1 corroded nail, 1 curved glass	most recovered artifacts were from the southern part of the Unit
2	6	2	2.5	10YR5/1	gray	much coal, much slag, 1 clear curved glass, few brick frags	some large stones, more brick frags toward bottom of Unit
2	7	1	3.4	10YR4/3	brown	3 corroded nails, few shell, 2 clear flat glass, 3 small wood, 4 clear curved glass, 2 corroded metal, many brick and slate frags	took sample of unknown white substance
2	8	1	3.5	10YR4/3	brown	8 whole bricks, many brick frags, mortar, few wood splinters, 3 corroded nails, slate, 1 clam frag	strat is in south side of Unit
3	1	1	0.4	10YR2/2	very dark brown		not screened
3	2	1	0.6	10YR4/3	brown		not screened
3	3	1	1.0	10YR8/1, 7.5YR8/4, 7.5YR6/4, 10YR4/2	white, pink, light brown, dark grayish brown		former tennis court level, not screened
3	4	1	1.1	10YR2/1	black	slag, flat glass, cinders, few coal	contained small pebbles
3	5	1	2.2	10YR4/3, 10YR5/1	brown and gray	2 corroded metal, shoe lace, 2 clear glass, 2 devitrified clear glass, 3 amber flat glass, much coal and slag	
3	6	1	3.1	10YR4/3	brown	7 clear glass, large corroded metal, few coal, few shell, 1 light green bottle glass, 4 clear flat glass, 7 corroded nails, slate and brick frags	
4	1	1	0.4	10YR3/1	very dark grayish brown	plastic, amber glass, small brick frag, green glass	

¹ Retained artifacts are included in the Artifact Inventory as Appendix C.

APPENDIX C

ARTIFACT INVENTORY

GOVERNORS ISLAND - PARADE GROUND PLAY FIELD ARTIFACT INVENTORY

Page 1 of 5

Context	Material	Identity	Form	Color	Count	Description	Date Range
2.1.1	Glass		curved	clear	1	white paint on one side	
2.2.1	Ceramic	ball clay	pipe bowl?	white	1		1901 - present
2.2.1	Glass		marble	green	1	3/4" diameter	1790s - c. 1812
2.3.1	Ceramic	pearlware	rim	white	1	partial light blue decoration	c. 1830 - early 20th C.
2.4.1	Ceramic	refined earthenware	rim	white	1	1 1/4" diameter; partial brown decoration	
2.4.1	Ceramic	stoneware		gray	1	metallic glaze	
2.5.1	Metal		bullet		1	some corrosion; 1 1/16" long; 1/4" diameter; pointed nose; sniper rifle type; 30.06 gun; never fired	WWII - present
2.6.1	Bone	faunal			3	bird	
2.6.1	Bone	faunal			1	calcined	
2.6.1	Glass		bottle	green	3		
2.6.1	Glass		bottle neck & finish	green	1	champagne-type; sloped top; flattened rim; hand tooled; applied ring 3/8" diameter	1870s - 1920s
2.6.1	Glass		curved	clear	1	molded	1867 - present
2.6.1	Glass		curved	clear	1		
2.6.1	Metal		strip		5	7/8" wide; likely from same piece	
2.6.1	Metal	lead	strip		1	yellow paint one side	
2.6.2	Ceramic	redware	roof tile	red	1	unglazed	
2.6.2	Leather				7	clothing or shoe parts; several metal eyelets	
2.7.1	Bone	faunal			1	cut marks	
2.7.1	Ceramic	pearlware		white	1	blue transfer print	c. 1780 - early 20th C.
2.7.1	Ceramic	pearlware		white	1		1775 - 1835
2.7.1	Glass		bottle rim	green	1	machine made	1901 - present
2.7.1	Glass		curved	green	1		
2.7.1	Metal	copper	strip		1	3/4" wide	
2.7.1	Metal	iron	hook		1	very corroded; screw end; 4" long	
2.7.1	Metal	iron	nail?		1	very corroded	
2.7.1	Mortar				1		
2.7.1	Stone	slate			1		
2.7.1	Unknown			white		unknown powdery substance; subject to pxf showing primarily calcium	
2.8.1	Mortar				1		
Artifacts Recovered from T2 = 42							
3.4.1	Ceramic ?				1	burned beyond recognition	
3.4.1	Glass		rim	clear	1	machine made	1901 - present
3.5.1	Bone	faunal			1	butchered	
3.5.1	Ceramic	porcelain	base	white	1	burned beyond recognition	
3.5.1	Ceramic	porcelain	bowl	white	2	mends; part of a rim and base; molded; silver overglaze fleur de lys on inside rim	1760s - 1780s
3.5.1	Ceramic	porcelain	button	white	1	Prosser type	1840 - 1942
3.5.1	Ceramic	porcelain	rim	white	1	burned	
3.5.1	Ceramic	porcelain	rim	white	2	mends; scalloped edge; scalloped impressed	
3.5.1	Ceramic	porcelain	rim	white	1	raised flower painted blue	

GOVERNORS ISLAND - PARADE GROUND PLAY FIELD ARTIFACT INVENTORY

Page 2 of 1

Context	Material	Identity	Form	Color	Count	Description	Date Range
3.5.1	Ceramic	porcelain	rim	white	2		
3.5.1	Ceramic	porcelain		white	2		
3.5.1	Ceramic	refined earthenware		white	1	blue transfer print; burned	c. 1780 - early 20 th C.
3.5.1	Ceramic	stoneware	rim	buff	1	clear glaze	1720s - present
3.5.1	Ceramic	whiteware	plate	white	1	burned	early 19th C. - present
3.5.1	Ceramic	whiteware	rim	white	5		early 19th C. - present
3.5.1	Ceramic	whiteware		white	2	brown decoration or possible maker's mark	early 19th C. - present
3.5.1	Ceramic	whiteware		white	1	impressed line; spall	early 19th C. - present
3.5.1	Ceramic	whiteware		white	25		early 19th C. - present
3.5.1	Glass		curved	clear	1	embossed "HE GREAT"; possible bottle part	1867 - present
3.5.1	Glass		curved	clear	3		
3.5.1	Metal	copper	button		1	corroded; 7/16" diameter	
3.5.1	Metal	copper	fastener		1	clothing?; approx. 1.5"	
3.5.1	Metal	copper			1	corroded; possibly stamped or pressed	
3.5.1	Metal	iron	nail		1	very corroded; 3"	
3.6.1	Bone				2		
3.6.1	Ceramic	earthenware		buff	1	sewer pipe?; manganese glaze	
3.6.1	Ceramic	redware	rim	red	1		c. 1750 - 1900
3.6.1	Ceramic	redware		red	1		c. 1750 - 1900
3.6.1	Ceramic	refined earthenware	rim	white	1	green shell edge; scalloped	1770s - 1840
3.6.1	Ceramic	stoneware?		red	1	dark brown salt glaze exterior	
3.6.1	Ceramic	whiteware	rim	white	1	worn	
3.6.1	Metal	copper	nail		3	flat head; 1 7/16"	early 19th C. - present
3.6.1	Metal	iron	disk		1	very corroded	
3.6.1	Stone	slate			1		
Artifacts Recovered from T3 = 72							
4.2.1	Ceramic	redware		red	1	burned	c. 1750 - 1900
4.2.1	Glass		curved	clear	1	partially stippled on one side	late 19 th C. - present
4.2.1	Glass		curved	clear	1	ridges on one side	late 19th C. - present
4.2.1	Metal	iron	nail		2	Corroded; 1 1/4"	
4.2.1	Plastic			white	1	Semi-rigid; 1/16" thick; black, blue and yellow decoration	c. 1930s - present
4.2.1	Plastic			red	1	textured on one side	c. 1930s - present
Artifacts Recovered from T4 = 7							
5.2.1	Bone				2		
5.2.1	Ceramic	ball clay	pipe bowl	white	1		
5.2.1	Ceramic	creamware	rim	white	1		1762 - 1820
5.2.1	Ceramic	creamware		white	3		1762 - 1820
5.2.1	Ceramic	pearlware	base	white	1		1775 - 1835
5.2.1	Ceramic	pearlware		white	1		1775 - 1835
5.2.1	Ceramic	porcelain		white	1		
5.2.1	Ceramic	redware	rim	red	1	unglazed	c. 1750 - 1900

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Context	Material	Identity	Form	Color	Count	Description	Date Range
5.2.1	Ceramic	redware		red	1	unglazed	c. 1750 – 1900
5.2.1	Ceramic	refined earthenware	rim	white	1	green shell edge	1770s – 1840s
5.2.1	Ceramic	refined earthenware		white	1	banded brown, white and rust	c. 1790s – c. 1810
5.2.1	Ceramic	refined earthenware		white	1	blue decoration; spall	
5.2.1	Ceramic	refined earthenware		white	1	blue stippling	1783 – c. 1900
5.2.1	Ceramic	refined earthenware		white	2	blue transfer print; spall	c. 1780 – early 20th C.
5.2.1	Ceramic	refined earthenware		white	1	burned	
5.2.1	Ceramic	refined earthenware		white	1	partial small rust decoration	
5.2.1	Ceramic	refined earthenware		white	1	impressed design	
5.2.1	Ceramic	whiteware	rim	white	1		early 19th C. - present
5.2.1	Ceramic	whiteware	rim	white	1		early 19th C. - present
5.2.1	Ceramic	whiteware		white	1		early 19th C. - present
5.2.1	Ceramic	whiteware		white	4		1867 – present
5.2.1	Glass		bottle base	turquoise	2	mends; embossed “..St”; mamelon on base	
5.2.1	Glass		bottle base	dark green	1	partially melted	
5.2.1	Glass		curved	aqua	1	molded	
5.2.1	Glass		curved	dark green	2		
5.2.1	Metal	alloy	fastener		1	copper and iron disk; embossed “Blue/Buckle”; 11/16” diameter with hole 3/15” in center	c. 1916 – c. 1960
5.2.1	Metal	copper	button		1	3/4” diameter; rear shank	
5.2.1	Plastic		comb	black	1	teeth missing	c. 1930 – present
5.2.1	Unknown				1	3/4”; metal; wood?; clay?	
5.3.1	Bone	faunal			1	bird	
5.3.1	Bone	faunal			1	large mammal; butchered	
5.3.1	Bone	faunal			3	mends; large mammal	
5.3.1	Ceramic	ball clay	pipe bowl?	white	1		
5.3.1	Ceramic	ball clay	pipe stem & bowl	white	1	rouletted; marked “PETE.../..ORNT”	1850 – 1898
5.3.1	Ceramic	pearlware		white	3		1775 - 1835
5.3.1	Ceramic	redware		red	2	unglazed	c. 1750 – 1900
5.3.1	Ceramic	refined earthenware	rim	white	1	hand painted brown band on both sides; brown leaf on one	1790s – c. 1810
5.3.1	Ceramic	refined earthenware	rim	white	1	hand-painted polychrome; blue flower, green leaf; black stem	1795 – 1830
5.3.1	Ceramic	refined earthenware		white	1	blue decoration; spall	
5.3.1	Ceramic	refined earthenware		white	2	blue transfer print	c. 1780 – early 20th C.
5.3.1	Ceramic	refined earthenware		white	1	hand painted brown leaf and yellow stem	1795 – 1830
5.3.1	Ceramic	refined earthenware		white	1	hand painted polychrome; blue flower, black stem	1795 – 1830
5.3.1	Ceramic	refined earthenware		white	2	mends; polychrome; green leaf, red and black	1795 – 1830
5.3.1	Ceramic	refined earthenware		white	1		
5.3.1	Glass		curved	aqua	1	molded ridges	
5.3.1	Glass		curved	green	1		1867 – present
Artifacts Recovered from TS = 60							
6.2.1	Ceramic	ball clay	pipe stem	white	1		
6.2.1	Ceramic	refined earthenware	rim	white	1		
6.2.1	Ceramic	refined earthenware		white	1	spall	

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Context	Material	Identity	Form	Color	Count	Description	Date Range
6.2.1	Metal	iron	nail?		1	very corroded	
6.3.1	Ceramic	pearlware		white	3		1775 - 1835
6.3.1	Ceramic	whiteware	rim	white	1		early 19th C. - present
6.3.1	Metal	iron	nail?		1	very corroded	
6.3.1	Mortar			white	1		
Artifacts Recovered from T6 = 10							
7.2.1	Ceramic	creamware		white	1		1762 - 1820
7.2.1	Ceramic	refined earthenware		white	1	blue decoration; spall	c. 1780 - early 20th C.
7.2.1	Ceramic	refined earthenware		white	1	blue glaze exterior	
7.2.1	Glass		curved	green	1		
7.2.1	Plastic		cigar mouthpiece	white	1		c. 1950 - present
7.3.1	Ceramic	ball clay	pipe stem	white	2	burned after use	
7.3.1	Ceramic	pearlware	rim	white	1		1775 - 1835
7.3.1	Ceramic	pearlware		white	1	partial blue decoration; spall	1775 - 1835
7.3.1	Ceramic	pearlware		white	3		1775 - 1835
7.3.1	Ceramic	porcelain		white	1		
7.3.1	Ceramic	redware		red	2	brown mineral glaze	1830 - 1900+
7.3.1	Ceramic	redware		red	1	clear glaze	
7.3.1	Ceramic	refined earthenware		white	3	blue transfer print	c. 1780 - early 20th C.
7.3.1	Ceramic	stoneware	bottle finish	buff	1	light brown glaze	
7.3.1	Ceramic	whiteware	rim	white	1	spall	early 19th C. - present
7.3.1	Ceramic	whiteware		white	3	spall	early 19th C. - present
7.3.1	Glass		bottle finish	aqua	1		c. 1820s - c. 1920s
7.3.1	Glass		curved	dark green	1		
7.3.1	Metal	copper	rod		1	3/16" diameter	
7.3.2	Ceramic	pearlware		white	1	blue transfer print	c. 1780 - early 20th C.
Artifacts Recovered from T7 = 28							
8.2.1	Ceramic	earthenware	rim?	buff	1	clear glaze	
8.2.1	Glass		curved	clear	1	molded; frosted	late 19th C. - present
8.2.1	Paper?				1		
8.6.1	Glass			clear	1	red haze	
8.7.1	Glass	safety		clear	1	metal reinforcing	1898 - present
8.8.1	Ceramic	ironstone	rim	white	2	hotelware?	early 19th C. - present
8.8.1	Ceramic	ironstone		white	3	hotelware?; 9/16" thick	early 19th C. - present
8.8.1	Ceramic	ironstone		white	2	spall	early 19th C. - present
8.8.1	Glass	milk glass	curved	white	1		1890s - 1960s+
8.8.1	Glass	safety		clear	1	metal reinforcing	1898 - present
8.8.1	Glass		bottle	clear	1	molded; embossed "...E"	1867 - present
8.8.1	Glass		bottle base	amber	1	ovoid with flat side(s); partial embossed mark	late 19th C. - present
8.8.1	Glass		bottle base	amber	1	partial push up	- c. 1870
8.8.1	Glass		bottle lip	green	1	soda type	c. 1900 - present

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Context	Material Identity	Form	Color	Count	Description	Date Range
8.8.1	Glass	bottle neck & finish	clear	1	molded; two part finish; square or rectangular body	c. 1850 - mid 1920s
8.8.1	Glass	curved	clear	1	melted	
8.8.1	Glass	curved	amber	1	mold or seam mark	
8.8.1	Glass	curved	clear	2	molded	1867 - present
8.8.1	Glass	curved	aqua	1	partial embossed design	mid 19 th C. - present
8.8.1	Glass	curved	clear	1	partial embossed design	mid 19 th C. - present
8.8.1	Glass	curved	amber	2		
8.8.1	iron	nail		1	very corroded; 3"	
8.8.1	Metal	"s" fastener		1	1/2"	
8.8.1	Metal	bullet		1	corroded; 1 1/4" long; 1/4" diameter; 308 round rifle bullet; semi automatic; round nose	WWII - present
8.8.1	Metal	nail		1	flat head; 1 1/8"	
8.8.1	Metal	rivet		1	5/8" diameter	
8.8.1	Metal	strip		2	mends; 1/8" hole; possible tag	
				Artifacts Recovered from T8 =	34	
9.2.1	Bone	faunal		2	wing? or scale?	
9.2.1	Ceramic	pearlware	rim	1	spall	1775 - 1835
9.2.1	Glass	bottle base	aqua	1	devitrified; embossed "W.P. & Co"	1867 - present
				Artifacts Recovered from T9 =	4	
				Total Artifacts Recovered =		257