# REPORT ON ARCHAEOLOGICAL MONITORING OF EXCAVATIONS FOR GRADING AND IRRIGATION AT THE PARADE GROUND GOVERNORS ISLAND, NEW YORK, NEW YORK



Southeast Corner of the Parade Ground upon completion of grading and irrigation connections, facing southeast (Image 1037: July 31, 2017).

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## EXECUTIVE SUMMARY

This is a report on archaeological monitoring conducted during grading and irrigation line excavations for creating play fields in the Fort Jay Parade Ground on Governors Island, New York. The Parade Ground is within both the Governors Island National Historic Landmark District and the New York City Landmark District. The work was completed to comply with environmental review regulations. It 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 project was conducted for Bedford Carp Construction, Inc under the auspices of The LiRo Group by Linda Stone, RPA.

This project involved leveling the portion of the southern Parade Ground outside of the Governors Island National Monument by removing high spots and filling low spots. Once the new grade was established, irrigation lines were installed throughout the project impact area. Previous archaeological work in the area unearthed remains of a number of archaeological features and research indicated there was the possibility to identify parts of them and a number of historic map-documented structures and features during the Parade Ground project. Previously identified sites include the former Fort Columbus Cemetery, identified in Comfort Road adjacent to the Parade Ground, part of the original St. Cornelius chapel, found in the southeastern part of the project area, the clerk's quarters building found in the southern part of the Parade Ground and a possible footing of the battery/magazine found in the center of the project parcel. Other potential features known from historic maps include the garden, mapped in 1813, 1867 and 1879, and the paint shop and carpenter shop complex, bandmasters quarters, sutler's stores, laundress quarters, gardener's house and cow shed, mapped in 1867.

Archaeological monitoring was conducted of both grading and irrigation line excavations. Three archaeological features were identified. These were part of the foundation or a footing of the partially completed magazine/battery mapped in 1879 and parts of two paved surfaces, one brick and the other Belgian block. Additionally, other deposits were identified that may be related to those or other now unknown archaeological features. Finally, a previously identified large scatter of demolition debris was clarified as defunct utility fill.

No further excavation is planned for the Fort Jay Parade Ground play field project and; therefore, no additional archaeological work is recommended. However, should site plans change and additional excavation become necessary, those locations should be evaluated for their archaeological potential.

## SHPO MANAGEMENT SUMMARY FORM

SHPO Project Review Number (if available):

Date of Report:

Involved State and Federal Agencies (DEC, CORPS, FHWA, etc): Trust for Governors Island Phase of Survey: 1BLocation Information Location: Governors Island Historic District, New York City Minor Civil Division: n/aNew York County: Survey Area (Metric & English) Monitoring Length: Trenches varied from 12 - 443 feet (4 - 135 cm) Width: Trenches approximately 6 inches (15 cm) Depth: (when appropriate): Trenches up to 1.8 feet (53 cm), Grading up to 2 feet (61 cm) Number of Acres Surveyed: approximately 7.5 acres Number of Square Meters & Feet Excavated (Phase II, Phase III only): n/a 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: n/a 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: 3 - foundation corner or footing of c.1879 battery/magazine, brick surface, Belgian block surface Number & name of sites recommended for Phase II/Avoidance: 0 **Results of Architectural Survey** Number of buildings/structures/cemeteries within project area: n/aNumber 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

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#### INTRODUCTION

The Trust for Governors Island is once again planning to construct a play field in the Fort Jay Parade Ground (see Figure 1); however, the plans have changed from its initial conception and from its recent iteration (see Appendix A). The current configuration of the irrigation lines was sensitive to the archaeological potential of the Parade Ground and was partially changed from the planned location to avoid archaeological resources to the extent possible. Figure 2 depicts the as-built irrigation lines. Additionally, the approach to the grading excavations was also altered to account for need for less topsoil to be added. In general, just 3 inches (8 cm) of topsoil was used, versus the 1.5 feet (46 cm) planned. Figure 3 depicts the grade changes that were implemented. The area affected measures approximately 7.5 acres (3 ha).

Although the original recommendation was to conduct pre-construction archaeological work at the St. Cornelius chapel site, the implemented grading plan did not extend to the depth of the previously identified remains of the chapel. There had also been a recommendation to evaluate a debris field at the southeastern end of the Parade Ground. The approach recommended in the approved Archaeological Work Plan, for these and other locations within the project area, was monitoring of the contractor's excavations (see Appendix A).

The impacts to potential archaeological resources from this project included the following known archaeological sites and historic map-documented structures; the paint shop and carpenter shop complex, bandmasters quarters, sutler's stores, laundress quarters, gardener's house and cow shed (all mapped in 1867), the former Fort Columbus Cemetery and St. Cornelius chapel (as mapped in 1867 and 1879), the partially completed battery/magazine and the NCS and general clerk's quarters (both mapped in 1879). Archaeological remains of the former cemetery, the chapel, the clerk's quarters building and possible footing of the battery/magazine have been previously identified (PAL 1997: 31; Stone 2012: 4-8, 2016: 13, 50-52, 55). Because of the depth of excavation for the Play Field Project was relatively shallow, these archaeological resources were either not likely to be unearthed during construction or only minimally impacted.

Three intact archaeological resources were identified during archaeological monitoring of the Play Field Project; part of the battery/magazine, part of a brick surface and part of a Belgian block surface. The project also enabled clarification of the previously identified debris field as historic utility fill.

The Parade Ground project is within part of the Governors Island National Landmark District and the New York City Governors Island Landmark District. Therefore, the archaeological work described is 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 report presents details of the archaeological work and findings of the Governors Island Park Parade Ground Play Field Project. The report was prepared for the Trust for Governors Island under the auspices of The LiRo Group and Bedford Carp Construction, Inc. by Linda Stone, RPA. She conducted the archaeological field work between May 8 and July 31, 2017. The author would like to acknowledge the following individuals for their help in facilitating the archaeological work; Dave Opferkuch of Bedford Carp, Richard Falletti of BrightView Landscape Development, Dan James of RR Irrigation, Damon Arrington and Jack Newnom of the LiRo Group and William Johnson of the Trust for Governors Island.

## SITE HISTORY AND ARCHAEOLOGICAL POTENTIAL

#### Pre-Contact Period

Three Native American archaeological sites have been identified on Governors Island, the closest one is just south of Fort Jay and outside of the project impact area. However, Native American cultural material has also been found in redeposited contexts in many other places on the Island (PAL 1996: 11; Stone 2006: 10; UMass 2003:110-111). One of those is a shovel test pit located within the center of what is now the current project parcel where a pottery sherd was recovered from a mixed or redeposited context (PAL 1997: App. A). The Phase 1A Archaeological Assessment defined certain areas, including the Fort Jay Parade Ground, as sensitive for the preservation of prehistoric archaeological sites (PAL 1996: Figure 4-1).

#### Historic Period

Governors Island historic archaeology is primarily due to its military uses and associated support of the military. Historic period archaeological potential of the Play Field Project is related to both historic mapdocumented 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, cow shed, the paint shop and carpenter shop complex, bandmasters quarters, sutler's stores and laundress quarters, all mapped in 1867; and the Fort Columbus Cemetery.

The Fort Columbus Cemetery was active from 1798 to 1878. The portion of the Cemetery that could remain in the play field is likely more recent because the 1813 Mangin depicts a smaller cemetery footprint that did not extend into what became the Parade Ground, but the 1857 Barnard map shows the expansion into the project impact area. Although documentation of the removal of burials exists, there is reason for skepticism. A number of burials from the Fort Columbus cemetery were identified in Comfort Road as part of the Potable Water Project. They were retrieved by the Army Corps of Engineers for reburial (Stone 2016: Appendix F). Those burials were identified at least 3 feet (91 cm) below the roadbed, deeper than the impacts from the Play Field Project.

Archaeological remains have also been identified in the Parade Ground during other past projects. These include part of the original St. Cornelius chapel, a footing for an historic post, possibly part of the former, partially completed gun battery, and three locations of structural remains of the clerk's quarters as well as two concentrations of demolition debris (PAL 1997: 31; Stone 2008: 8, 2012: 4-5, 7-8, 2016: 13, 50-52, 55). Appendix A, the Archaeological Work Plan for the Play Field 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 20<sup>th</sup> century, along with the construction and demolition of a Super 8 Motel and tennis courts the southern part of the Play Field Project area (see Figure 1).

Because of the depth of excavation for the Play Field Project was relatively shallow, these archaeological resources and historic map-documented structures were either not likely to be unearthed during construction or only minimally impacted.

## METHODOLOGY

The approved AWP stipulated the archaeologist had the authority to temporarily stop excavation should resources be identified. Contractor excavation methods were different for the grading, removals, irrigation mains, irrigation laterals and sprinkler heads. Sod was removed across the entire project area prior to archaeological monitoring.

Grading excavations were conducted using a bull dozer. After obvious high spots were leveled and that soil redistributed to the low spots, the machine was mounted with a GPS system programed to the subgrade elevation. Each pass of the machine would push 2 - 5 inches (5 - 13 cm) of soil depending on the location. This soil was also used to fill low spots.

Removals of two existing light posts, several trees and concrete elements were not included in the monitoring protocol and were completed without archaeological monitoring, except for the light post footing removals. However, the archaeologist examined all of the removal sites prior to filling.

The irrigation mains were excavated using a Ditch Witch after the grading was completed, but prior to addition of new soil. The Ditch Witch created a narrow trench measuring 6 inches (15 cm) wide. The depth of excavation was 21 inches (53 cm) and would be 2 feet (61 cm) below finish grade once the new soil was added. Valve locations were manually excavated, widening the trench to up to 3 feet (91 cm). Valves were placed at approximately 50 foot (15 m) intervals and each was assigned a unique number beginning with the letter "B" (see Figure 2). Valve numbers were used in the field to document the location of finds. The valve numbers in the original site plans had been changed in the as-built drawings. Therefore, the numbers used in this analysis and report have already been converted to the final as-built valve numbers. Original field records remain unchanged, but contain a copy of the conversion key.

Irrigation lateral lines were installed after the addition of the new soil. There was no excavation for the lateral lines, but rather the Ditch Witch was mounted with a piece of equipment that vibrated and pulled the pipe at a depth of 1 foot (30 cm) below ground surface. This did not remove any soil; however, the sound of the machine would change and the operator would feel hesitation if obstructions were encountered. That enabled identification of potential archaeological resources. Laterals lines were generally in the east/west or north/south direction.

Sprinkler heads were spaced approximately 50 feet (15 m) apart along the lateral lines. Excavation for them was done by hand. The resulting excavation measured approximately 4 feet (122 cm) along the path of the laterals and 1 foot (30 cm) wide. They were slightly deeper than the lateral lines themselves at 1.2 feet (37 cm) below ground surface. Sprinkler heads were recorded by adding a letter suffix to the valve number to which the sprinkler was connected. Letters began with "a" and were assigned west to east or north to south depending on the configuration of the lateral lines in the Parade Ground.

Field data were recorded on forms. Elevations were recorded as depth below original grade, below subgrade or below finish grade depending of the exposed surface at the time of documentation. Stratigraphy was recorded using comparison to the Munsell Soil Color Charts. Photo documentation was done as appropriate. Appendix B is a summary of the field data, including stratigraphy, comments and artifacts that were noted in the field, but not retained because they were either observed in backdirt (no clear provenience), were not diagnostic and/or were modern garbage.

The artifact inventory with context number key is Appendix C. All recovered artifacts were assigned a provenience number beginning with a "G" for those found during grading excavations and a "I" for those from irrigation excavations. Recovered 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. Labels were made from acid-free paper and adhered to the artifact with a 25% B-72 solution in acetone. 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. Recovered artifacts will be transferred to the Trust for Governors Island from the archaeological consultant upon acceptance of this report by the review agencies.

### RESULTS

## Grading

Grading (cutting and filling) was conducted in order to even out the elevations of the Parade Ground. The majority of the cutting was conducted in the eastern half of the project area and that soil was redistributed to the low spots where they existed. After this was completed, additional soil was brought in to raise the elevation throughout from subgrade to finish grade.

The initial grading excavation was done by line of sight. Those excavations leveled high spots and spread the dirt over low spots. Loci numbers were assigned based on the location of work (see Figure 4). Evidence of the 20<sup>th</sup>-century use of the area for recreation (tennis courts and a golf course) was visible beneath the surface during this stage. Initial grading also exposed a small mix of disparate artifacts. These included a ponytail holder with a blue plastic bead fastener, a sherd of reinforced glass and a sherd of transfer printed pearlware. It was clear these artifacts came from mixed fill and therefore were not retained.

Grading Locus 1 was in the footprint of both the former gardener's house mapped in 1867 and the former battery/magazine which was mapped in 1879. Grading Locus 2 was directly north of the former tennis court area. There may have been disturbance there related to tree and shrub removal. Grading Locus 3 was in the area of the former mulberry tree. Like Grading Locus 2, potential archaeological resources in this area could have been affected by the tree removal itself. Although Grading Locus 4 was also not within the footprint of any historic map-documented structures, there was a soil change there from loam to silty loam. However, exposed artifacts include cellophane and clear flat glass and there was evidence of a golf course sand trap. Grading Locus 5 was in the footprint of both the bandmaster's quarters which was mapped in 1867 and the former clerk's quarters building which was mapped in 1879. However, prior tree stump grinding was previously completed there, possibly affecting archaeological resources.

Once the bull dozer was mounted and programmed with a GPS guidance system, the grading excavation resumed. A number of iterations of the former tennis court were exposed and removed, including several fence and net footings. In some areas, yellow, green and red clay were present and underlain with dark yellowish brown (Munsell 10YR 4/4) silty sand, the usual subsoil on Governors Island (see Photo 1). Screening for artifact recovery was conducted at 0.2 feet (6 cm) above subgrade, and approximately 50 feet (15 m) north of the irrigation controller, from the dark yellowish brown stratum. It contained two whiteware ceramic sherds, a smoking pipe stem fragment and a clear flat glass sherd (Context G1).

Excavation to finish grade at other parts of the tennis court area exposed broken concrete chunks and coal ash. It is not clear whether there were one or two episodes of coal ash deposited in that area or if the same deposit merely became darker due to saturation. In any case, there was a darker coal ash underneath the lighter coal ash in places throughout the former tennis court area, one of the high spots in the Parade Ground. A sample of the coal ash was screened for artifact recovery, but no artifacts were present. However, an almost intact light green beer bottle was observed on the top of the darker coal ash deposit, documented, but not retained. The bottle was marked "SLIEBMANS SONS Brewing Co/Registered...", a mark dated 1884 - 1920 (oldbreweries.com).

As grading proceeded, it became clear that the coal ash was used as cover for a field full of numerous defunct clay drain pipes (see Photo 2). At least five defunct clay drain pipes were exposed at 0.6 feet (18 cm) above subgrade to subgrade depth, first in the area directly to the west of the former tennis court. Ultimately, similar pipes were exposed running north to south throughout the entire southeastern quadrant of the Parade Ground. Those exposed at subgrade elevation were spaced from 7 to 35 feet (213 - 1067 cm) apart, but it seems likely, based on the pervasive coal ash fill, that if excavation continued, more of the pipes would be exposed and the spacing could be more uniform and the connection between the drains potentially identified. The coal ash covering the pipes was filled with a substantial amount of demolition

debris such as bricks, of many types, both whole and fragmented, concrete chunks and large rocks, including some boulder size examples (see Photo 3). One temporally diagnostic artifact was retained from subgrade in the ash deposit above one of the drain pipes (Context G2). This was a embossed bottle base with most of the body intact. It is an amber Pabst beer bottle. This type was manufactured between 1889 and 1920 (Lindsey 2017; Mechow 2010).

The only other noteworthy finding during grading operations were three previously buried fence post footings which were exposed and removed from the northeastern side of the Parade Ground, approximately 12 feet (366 cm) west of the Evans Road curb adjacent to Building #18. They were spaced 10 feet (305 cm) apart. No other notable findings were identified during grading excavations.

## Removals

The removal of two adjacent former light pole footings within the western side of the project area along Comfort Road was monitored. Nothing of archaeological importance was exposed there. The remainder of the removals were conducted in the southeastern portion of the project area. These include a former staircase, walkway and associated retaining wall, the mulberry tree to the west of that complex, the elm tree directly to the east of the irrigation controller (adjacent to the main between B17 and B21) (see Figure 4). All were removed without monitoring. This was also the case for the concrete surrounding the elm tree, some of which was previously exposed at original grade (See Photo 4). There were reportedly three other similarly sized concrete elements, approximately 3 feet (91 cm) high, removed at the same time from that tree removal location. In addition, the contractor retained a porcelain bathroom fixture fragment from somewhere in this vicinity, but could not be certain where it came from or from what type of deposit. Similar porcelain artifacts were documented in the fill in this portion of the Parade Ground during previous archaeological work to remove and grade the former tennis court (Stone 2008: 6) and during the installation of the irrigation lines in advance of the existing controller (Stone 2014: 20).

## **Irrigation Mains**

As previously stated the excavation for the irrigation main lines was conducted after grading to subgrade was complete and prior to the addition of new topsoil, although this was not always sequential. For example, much of the Parade Ground was already at subgrade (see Figure 3). Irrigation main excavation began on the same day as grading began, but only in those parts of the Parade Ground already at the appropriate elevation.

Irrigation main excavation monitoring revealed both two archaeological features and also the extent of the existing top soil in some places. These features are part of a brick path and its construction staging area (Irrigation Locus 1 on Figure 4), approximately 24 feet (731 cm) south of B11, and part of a possible footing or foundation (Irrigation Locus 2 on Figure 4), approximately 10 feet (305 cm) south of B32, which could have been belonged to the former battery/magazine.

Irrigation Locus 1 is partially within Grading Locus 2, although excavated deeper. This locus contained part of a dry laid brick surface or path at the northern end of the locus and a possible construction staging area for it directly to the south. The contractor had to open the trench wider at the northern end of the locus at the brick surface to be able to evaluate a way to lay the pipe. This afforded the opportunity to document the exposed brick path in a unit measuring approximately 1.8 by 2.7 feet (55 - 82 cm) and was 0.9 feet (27 cm) below ground surface (see Photo 5). No mortar was present. Only one artifact was recovered from the deposit above the brick, a sherd of polychrome porcelain (Context I1) which has a very broad manufacture time frame. Just a few of the bricks that were in the path of the main were removed. A possible staging area for the brick path was encountered to the south of the brick surface, continuing to approximately 22 feet (671 cm) south of B12. A variety of bricks, both ordinary and fire bricks. Some had marks that include "CRATER" and "ROSE", as well as some partial marks. Further southward, demolition rubble was observed. It included some brick fragments, concrete chunks and a few small cut stones, no larger than 1 foot (30 cm) in diameter. Continuing south from there to approximately B14 and adjacent to Grading Locus 1, a concentration of larger brick fragments was noted. The building materials were within the topsoil layer in what used to be the tennis court area.

Irrigation Locus 2 was between B31 and B32 on the western side of the Parade Ground. It appears to be part of a foundation or footing near what would have been a corner, and was buried 1 foot (30 cm) below subgrade and within stratum 2 (see Photo 6). If the feature was part of a structure, it would have been quite large based on the thickness of the walls, 2.5 feet (76 cm). It was composed of stone, brick and mortar (see Figure 4). However, the stone and brick did not appear to be laid in courses, but rather in more random fashion. The largest measurable stone was 1.5 feet (46 cm) in diameter and the smallest were approximately 6 inches (15 cm). No whole bricks were discernable. The mortar contained very large aggregate, suggestive of an older structure. Several buckets of soil from various locations around the structure were screened for artifact recovery, but no artifacts were present, save fragments of the building materials mentioned and a small amount of coal. However a sherd of blue shell edge pearlware was recovered from the backdirt in that vicinity (Context I2). This sherd dates from the early-19<sup>th</sup> century and could have been deposited at the time the battery/magazine was constructed, although the provenience of the sherd cannot be determined. Ultimately, the contractor was able to place the main above the feature, thereby leaving it *in situ*.

In addition to the above archaeological findings, there were a myriad of other observations that were not archaeologically significant, but could be useful during any future work that takes place in the Parade Ground. Those are detailed here. However, it should first be noted the southern 55 feet (17 m) of the irrigation main, from B19 northward 55 feet, were within the trench of the existing potable water line at a higher elevation. Therefore, excavated material there was entirely backfill through the depth of excavation for the current irrigation main.

Approximately 15 feet (457 cm) north of B7, a piece of concrete with rebar was unearthed within the topsoil. It could have been part of general fill, but alternatively could have been associated with a previous structure in the vicinity. Further south, demolition debris, possibly from the former Super 8 motel once located in the southern parade ground, was documented in the irrigation main trench within the topsoil stratum between B24 and B16. That stratum was present from approximately 22 feet (671 cm) feet west of the "T" between B24 and B16 to 33 feet (1006 cm) east of that "T" through the base of excavation. This was also the case for the excavation southward from the "T" and to the trench branching off to the irrigation controller, although a second stratum was exposed at the base of excavation in places. In addition to the demolition debris, the topsoil also contained plastic tarp shreds, orange pvc, cellophane tape, pink insulation foam, corroded unrecognizable metal (possibly part of a pipe and/or wire), as well as the ubiquitous coal, through the base of excavation. This modern junk was similar to that documented during the Potable Water Project when the irrigation controller connection was installed (Stone 2016: 56). Also in this area was a defunct pipe with pebble fill, documented approximately 90 - 102 feet (27 - 31 m) east of B24. The pipe was buried 1.4 feet (42 cm) below subgrade and the pebble fill extended to the base of excavation there. Finally, the concrete surface identified during excavation monitoring for the existing irrigation connection (Stone 2014: 21, Figure 39) was found buried 0.5 feet (15 cm) below the former walkway and measured 1 foot (30 cm) thick. The portion exposed during the current project was encountered at 0.9 feet (27 cm) below subgrade, indicating 0.4 feet (12 cm) of fill had been added during grading at that specific location.

## **Irrigation Laterals**

Once subgrade was exposed, there was a hiatus in excavation while the new soil was brought in and the Parade Ground project area raised to finish grade. Depending on the amount of soil added to specific locations, some of the lateral excavation was entirely within the new soil, and/or with the material removed from high spots, or partially within the added soil. This factor, combined with the original archaeological sensitivity assessment, resulted in the elimination of some areas from lateral monitoring. Monitored lateral lines included B9, B18 - B20 and B22 - B29, as well as parts of B12 - B16 and B30 - B35.

Two different diameter conduits were used for the lateral lines (see Figure 2). The laterals were pulled from valve to sprinkler head locations and brought up to the surface at the sprinkler where the change in pipe size was required, as well as at the terminal sprinklers off the valves. As described above, the contractor exposed the sprinkler head locations manually using a shovel to open the locations large enough to install the sprinklers. This excavation measured approximately 4 feet long by 1 foot wide ( $122 \times 30 \text{ cm}$ ) and 1.2 feet (37 cm) deep. That excavation enabled the archaeological examination of four locations where

obstructions were documented at sprinkler head locations during lateral pulling; B12b, B14c, B32a and B34d (see Figure 4). Thirteen other obstruction locations were noted between sprinkler heads and were documented, but no excavation was conducted since the contractor did not need to open the ground in those places; B12b-c, B12c-d, B13c-d, B14c-d, B16c-d, B20a-b, 60 feet (18m) east of B20c-d, B22a-b, B22c-d, B23b-c, B24a-b, B34c-d and B35a-b (see Figure 4).

The obstruction at B12b was due to the presence numerous unarticulated rocks, some cut, and concrete fragments measuring around 3 inches (8 cm) in diameter, as well as a few 6 inch (16 cm) diameter cobbles, but very little brick, in stratum 2 (see Photo 7).

Excavation of the obstruction at B14c exposed and unearthed several Belgian blocks, some fragmented (see Photo 8). It seems likely based on the compaction of the material that at least part of this surface had been *in situ* before the lateral was pulled through it. The majority of the removed Belgian block fragments came from the eastern side of the trench. There was no cultural material documented in that area. However, the western part of the trench contained looser soil that included a piece of styrofoam.

B32a contained part of a previously displaced conglomerate of brick fragments, stones and mortar, as well as some loose fragments of those materials (see Photo 9). The contractor piloted to 1.6 feet (49 cm) at one edge to determine if the irrigation line could pass beneath it, but the conglomerate extended at least to that depth and had to be removed. However, it was so dense that the contractor used a pick, bar and sledge, but could only partially break it up. The upper part was removed to create space for the sprinkler, but the majority of the conglomerate as it crossed the trench remains intact. In this process, the trench was expanded somewhat to 5.5 feet long by 2 feet wide (168 x 61 cm) and 1.4 feet (43 cm) deep. The conglomerate measured approximately 1.8 feet (55 cm) across and was unearthed at 0.4 feet (12 cm) below finish grade. The soil documented appearing to extend beneath the conglomerate was the same subsoil type found in the remainder of the trench, as well as throughout Governors Island (Munsell 7.5YR 4/6 strong brown silty sand).

Hand excavation at B34d unearthed concrete chunks, brick fragments and cobbles measuring up to 7 inches (18 cm) in diameter. The soil was quite compact and contained two strata. However, no intact features were present. The only artifacts present were the fragmented building materials.

B12b-d encountered three possible obstructions. Although the machine was quite noisy, it was not jerking and the obstructions were easily drawn through by the lateral. There was more noise created by the obstruction at B13c-d, but the machine didn't jerk there either and also easily went through whatever was present. The obstruction encountered at sprinkler head B14c also extended approximately 20 feet (6 m) to its east (B14c-d). Two small voids were detected there and the contractor shoveled to remove the obstructions that created the voids. These were two pieces of Belgian block stone and one asphalt chunk, none of which appeared *in situ*. However, their proximity to a seemingly intact Belgian block surface unearthed 20 feet (6 m) away at B14c may mean these voids were created by the lateral pulling through an edge of that surface or through a repair to it. The contractor also shoveled directly west of B14c and found the location contained extremely compacted soil, but no solid obstruction. Pulling the lateral between B16c-d unearthed a large stone, similar in size to, but not, a Belgian block, measuring 1.6 feet (488 cm) across (see Photo 10). Although no evaluation of the deposit was possible, it seems this stone could have been either part of a paved area that surrounded the former church that once stood nearby or demolition material from the church itself. A small obstruction was noted directly west of B20b and was easily drawn through with the lateral. An unidentified obstruction was also documented approximately 60 feet (18m) east of where the lateral line branches to connect to the main between B20c-d. Pulling the pipe through B22a-b brought up some concrete fragments, but did not affect the lateral installation. A larger obstruction was encountered approximately 10 feet (305 cm) west of B22d, but nothing was unearthed there. The lateral at B23b-c had an intense obstruction covering approximately 20 feet of the trench. The operator thought it may be concrete, however none was pulled up by the machine. A small obstruction was easily drawn through directly west of B24b without bringing up any of it to provide a clue as to what caused the machine to vibrate loudly there. Approximately 20 feet north of B34d where fragmented building materials obstructed the sprinkler location, additional unmarked brick fragments were brought up during lateral

pulling. These were generally no more than a couple of inches in diameter and; therefore, therefore not likely to have been *in situ*. Finally, the obstruction at B35a-b proved to be merely a defunct pipe.

In summary, contractor work installing irrigation laterals identified a number of obstructions. Of those obstructions, four were likely *in situ* structural remains. B14c through B14c-d were part of a Belgian block surface. B16c-d unearthed part of cut stone that likely had been part of a structure or surface. Although no structural remains were brought up during pulling at B22c-d, the obstruction was quite large and could have been related to a historic map-documented structure. The obstruction at B23b-c was even larger, making that location also likely to have a relationship with an historic structure.

## INTERPRETATION SUMMARY AND RECOMMENDATIONS

Table 1 provides a summary of the findings made during monitoring of grading and irrigation excavations at the Fort Jay Parade Ground on Governors Island. These includes likely structural remains of the former magazine/battery (irrigation main) and parts of two paved surfaces, one of brick (irrigation main) and the other Belgian block (irrigation lateral).

Irrigation Locus 1, deeper than and partially within Grading Locus 2, contained part of a brick surface and a possible staging area for it. None of the historic maps used for this report depict any paths or roads in that location. However, the 1813 map depicts the area as part of a "Garden." One would assume the garden could have had brick pathways traversing it, but there is no indication on the map (see Figure 5). Furthermore, although none of the bricks removed from the feature to lay the irrigation main were marked, the presence of marked bricks associated with a possible staging area for this feature would indicate it was constructed during the late-19<sup>th</sup> to early-20<sup>th</sup> century and not part of the 1813 Garden. However, it could have been laid as a latter iteration of the Garden which was continued and depicted without a boundary on the 1867 map (see Figure 6).

Belgian block was a common paving material used in the early-19<sup>th</sup> century. The Belgian block surface identified at B14c-d was also not associated with any historic map-documented features or structures. However, it too could have been associated with the 1813 Garden, but also with the nearby former Chapel depicted on the 1867 map (see Figure 6). The "Post garden" persisted on the historic maps through 1879, although to the west and south of where it was depicted in 1813 and away from B14c-d (see Figure 7).

The 1879 map also depicts the partially completed battery/magazine. Several loci of findings from this project are potentially associated with it (see Figure 7). The most substantial of these is the possible footing or foundation corner identified in Irrigation Locus 2. Although no artifacts were found in association with the portion of the feature exposed in the irrigation main trench, the mortar used had very large aggregate, indicative of an older structure. Furthermore, based on the size of the feature, the walls of this structure would have been 2.5 feet (76 cm) thick. Both of these facts are consistent with a battery and magazine.

Three loci of obstructions were documented at other places within the footprint of the former battery/magazine during lateral pulling and sprinkler excavation. The obstruction encountered at sprinkler B12b was exposed, but was not an intact feature, rather it was a substantial concentration of unarticulated fragmented building materials and cobbles. Three other, likely related, obstructions were documented during later pulling directly to the east of B12b, however nothing was brought up to the surface. The sprinkler at B32a revealed a large previously displaced conglomerate of building materials that could have been from the construction of the battery/magazine. However, it could also have merely been part of older fill brought into that area. No temporally diagnostic artifacts were associated with it. The final location potentially related to the magazine/battery was identified at B34d and B34c-d. The sprinkler location unearthed fragmented building materials and cobbles, but no artifacts. The lateral to the north of it was also obstructed by fragmented building materials. However, those brought to the surface were no more than a couple of inches across, possibly indicating they were not part of an intact structure, but rather fill or demolition debris.

Obstructions encountered during pulling of the irrigation laterals also could have been part of other structures or features known from historic maps, but too little was exposed or encountered to make a definitive conclusion. Historic maps show some of these obstructions are within the footprints of former buildings or features. For example, numerous obstructions were encountered during lateral work in the area of the former garden, first depicted in 1813. Of those not previously mentioned, the obstruction at B13c-d did not bring anything to the surface. The obstruction at B16c-d proved to be a large stone that was more likely associated with the former chapel than the garden. A very large obstruction at B23b-c was likely due to a large structural element rather than a garden feature. It could have either been part of the

Carpenter shop mapped in 1867 (see Figure 6) or the walkway in front of the former Super 8 Motel (ca. 1986 - 2008). Finally, the material observed in Grading Locus 4 was modern garbage and definitely not from the time the area was used as a garden.

LOCATION	FINDING	POSSIBLE ASSOCIATION
Grading Locus 1	modern and historic surface artifacts	
Grading Locus 2	tree disturbance	
Grading Locus 3	tree disturbance	
Grading Locus 4	modern garbage	
Grading Locus 5	tree disturbance	
Irrigation Locus 1	brick path & construction staging	1867 Garden
Irrigation Locus 2	foundation or footing	1879 Battery/Magazine
Sprinkler B12b	fragmented building material	1879 Battery/Magazine
Sprinkler B14c	Belgian block surface	1813, 1867 Garden or 1867 Chapel
Sprinkler B32a	conglomerate	1879 Battery/Magazine
Sprinkler B34d	fragmented building material	1879 Battery/Magazine
Lateral B12b-c and B12c-d	unknown obstruction	1879 Battery/Magazine
Lateral B13c-d	unknown obstruction	
Lateral B14c-d	void with Belgian block	1813, 1867 Garden or 1867 Chapel
Lateral B16c-d	large stone	1867, 1879 St. Cornelius Chapel
Lateral B20a-b	unknown obstruction	
60 feet east of Lateral B20c-d	unknown obstruction	1867 Sutler's Stores
Lateral B22a-b and B22c-d	concrete fragments and large obstruction	1879, 1906 Quarters building
Lateral B23b-c	20' obstruction, possible concrete	1867 Carpenter shop or 1986 Super 8
Lateral B24a-b	unknown obstruction	
Lateral B34c-d	unmarked brick fragments	1879 Battery/Magazine
Lateral B35a-b	defunct pipe	

 Table 1
 Findings Encountered During the Parade Ground Play Field Project

Pulling the lateral line through the former Fort Columbus Cemetery did not unearth any remains associated with it. One obstruction was noted at B24a-b, but nothing was brought to the surface. Additionally, the depth of the lateral line there was only 1.5 feet (46 cm) below original grade and the burials identified nearby during previous work were approximately 3 feet (91 cm) below the roadbed which is itself approximately at an elevation 3 feet (91 cm) lower than the base of the lateral line (Stone 2016: AppendixF:2).

Some concrete fragments were brought to the surface at B22a-b and a 10-foot (305 cm) long solid obstruction was encountered at B22c-d. Although no other material was unearthed during lateral pulling here, the solid obstruction and associated concrete fragment are a good indication of structural remains there. These locations are both within the footprint of the former Quarters building mapped in 1879 and 1906 (see Figures 7 and 8).

Small unidentified obstructions were also encountered at B20a-b and approximately 60 feet (18 m) east of B20c-d. Since no cultural material was unearthed there, the source of the obstruction is not clear. However, B20c-d is within the footprint of one of the Sutler's Stores mapped in 1867 (see Figure 6).

A possible explanation for some of the fill identified during grading excavations in the southeastern quadrant of the Parade Ground is that the material was fill used to cover an array of now defunct clay drain pipes. Based on the observations made during this work, it is quite likely that was the purpose of the fill which contained early- to mid-20<sup>th</sup> century cultural material. As to what purpose these pipes may have once served, there was much on-site speculation. The most plausible is that these pipes were laid to provide drainage for the former tennis courts that once occupied that area.

No other potentially significant archaeological resources were identified. No further archaeological work was recommended for this project. However, if additional work is planned for the area, particularly in locations of known finds, then further archaeological work should be conducted.



Figure 1 The 1992 map of Governors Island showing the location of the grading and irrigation work.





Figure 3 Part of the 2012 Langan Survey of Governors Island showing the play field grading plan.



Figure 4

Part of the 2012 Langan Survey of Governors Island showing loci of findings in relation to the irrigation plan.



Figure 5

Part of the 1813 Mangin map of Governors Island showing the Parade Ground project area with the location of findings potentially associated with the Garden.



Figure 6 Part of the 1867 Barnard map of Governors Island showing the Parade Ground project area with the location of findings potentially associated with features and structures on this map.



Figure 7

Part of the 1879 Army map of Governors Island showing the Parade Ground project area with the location of findings potentially associated with features and structures on this map.



Figure 8

Part of the 1906 Hilton map of Governors Island showing the Parade Ground project area with the location of findings potentially associated with features and structures on this map.

![](_page_25_Picture_0.jpeg)

Photo 1 Bulldozer with GPS mounted preparing to grade part of the former tennis court. Note the yellow, green and red clay in front of the machine toward the lower left of the photo, facing northeast (Image 915: May 30, 2017).

![](_page_25_Picture_2.jpeg)

Photo 2 Exposed defunct clay drain pipe at subgrade, facing west (Image 918: May 30, 2017).

![](_page_26_Picture_0.jpeg)

Photo 3 Part of an exposed clay drain pipe, left foreground, covered with demolition debris, facing north (Image 953: May 30, 2017).

![](_page_26_Picture_2.jpeg)

Photo 4 Southeastern edge of the Parade Ground, showing excavation from the original installation of irrigation line to the controller. Here are visible some the concrete elements removed as part of the current Parade Ground Project, facing north (Image 3663: November 6, 2013).

![](_page_27_Picture_0.jpeg)

![](_page_27_Figure_1.jpeg)

Irrigation Locus 1, brick surface, facing south (Image 843: May 9, 2017).

![](_page_27_Picture_3.jpeg)

Irrigation Locus 2, foundation or footing, facing northwest (Image 865: May 10, 2017).

![](_page_28_Picture_0.jpeg)

Photo 7 Sprinkler B12b upon completion of excavation showing some of the removed stones in the foreground and lower right of the photo, facing northwest (Image 1061: August 2, 2017).

![](_page_28_Picture_2.jpeg)

Photo 8 Sprinkler B14c upon completion of excavation showing the Belgian block at the top of the trench, as well as some of the removed material at the top of the image, facing north (Image 1066: August 2, 2017).

![](_page_29_Picture_0.jpeg)

Photo 9 Sprinkler B32a upon completion of excavation showing the conglomerate crossing midtrench, facing east (Image 1055: August 2, 2017).

![](_page_29_Picture_2.jpeg)

Photo 10

Large cut stone exposed after pulling the lateral at B16c-d, facing east (Image 1036: July 31, 2017).

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# APPENDIX A

Archaeological Work Plan for Creation of a Play Field in the Fort Jay Parade Ground on Governors Island, New York March 2, 2017

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## ARCHAEOLOGICAL WORK PLAN FOR CREATION OF A PLAY FIELD IN THE FORT JAY PARADE GROUND ON GOVERNORS ISLAND, NEW YORK

## March 2, 2017

The Trust for Governors Island is once again planning to construct a play field in the Fort Jay Parade Ground (see Figure 1); however, the plans have changed from its initial conception. Figure 2 depicts the current plan and Figure 3 is the original plan. The initial plan for a play field was advanced in 2012 and archaeological work for grading was conducted accordingly (Stone 2012). That work resulted in the identification of part of the former St. Cornelius chapel and further definition of a debris field in the eastern part of the play field. Phase 2 archaeological excavations were recommended for the chapel and monitoring of the debris field during construction. Subsequently, the play field project was subsumed by the Governors Island Park and Public Space Project: Phase 1 and irrigation for the play field was added. However, during the project planning phase, the play field location was moved from the southern end of the Fort Jay Parade Ground to the northern end (Stone 2014). The additional archaeological work recommended for the St. Cornelius chapel site and the debris field at the southern end of the Parade Ground was never completed as a result of the change in plans. Ultimately; however, the play field was not installed in that location either.

The current plan to create the play field includes grading to redistribute the existing topsoil as shown in Figure 2 and then capping the entire field with 1.5 feet (46 cm) of new material. Irrigation lateral lines will be placed within the new material; however, there will be a small amount of excavation where the connection is made to the existing service at the area of the irrigation controller (see Figure 4). There is also the possibility that a drain line would be added, if needed, during construction and depending on field conditions. If this were to be included, the drain lines would be placed within the footprint of those removed as part of the Park and Public Space project. The drain lines would be located in the approximate center of the play field as seen on the 2012 Langan Survey (see base map used for Figures 2 - 4).

The current grading plan is less intrusive than that originally proposed in 2012 and will not reach the depth of the archaeological remains of the St. Cornelius chapel. Therefore, the archaeological recommendations have changed. The maximum depth of grading excavation is now 2.1 feet (64 cm). Figure 4 shows approximate six inch contours of grading excavation within the play field boundaries.

The archaeological recommendation for the area of the St. Cornelius chapel site is changed from pre-construction archaeological excavation to construction monitoring. The new planned excavation should not reach the depth of the foundation remains encountered during the initial project testing. Those remains were encountered at 2.4 feet (73 cm) below ground surface. However, archaeological monitoring is now recommended to ensure that should remains of the chapel exist more shallowly buried elsewhere within its former footprint, they can be appropriately documented.

Table 1 presents the results of the 2012 play field testing along with the new planned depth of impact to those locations. Figures 5 - 8 are historic map overlays showing former mapped structures and features that could potentially be impacted by the upcoming work along with the locations of the 2012 testing. The features which were previously the subject of testing, but were not found, and where even less excavation is now planned are no longer a concern archaeologically. These included the battery/magazine, gardener's house and cow shed. However, the areas of the former Fort Columbus Cemetery (as mapped in 1867 and 1879) and the Paint Shop and Carpenter's Shop complex (mapped in 1867) were not included in the 2012 testing, but could potentially be impacted by the current excavations. The Cemetery may experience grading up to 0.75 feet (23 cm). The other locations will experience grading excavations up to 0.7 feet (21 cm) deep, but most of the cut there will be less than 0.5 feet (15 cm).

TEST	DEPTH (ft)	EXPECTED RESOURCE	RESULT	PLANNED DEPTH (ft)
T2	3.5	St. Cornelius Chapel	foundation at 2.4' bgs	2.0
T3	3.1	St. Cornelius Chapel	no structural remains	2.2
Τ4	1.3	Debris field	debris stratum found	1.1
Τ5	1.9	Battery/magazine and/or gardener's house	not identified	1.5
T6	0.7	Battery/magazine	not identified	0
Τ7	1.5	Cow shed	not identified	0
T8	2.5	Debris field	not identified	1.9
U9	1.5	Probed obstruction	no structural remains identified	0.6

TABLE 1 Results of Archaeological Testing Conducted in 2012

Excavations for the Potable Water project to the west of the Parade Ground in Comfort Road identified remains of the Fort Columbus Cemetery buried approximately 3.6 feet (110 cm), with the shallowest coffins identified at 3 feet (91 cm) below ground surface (Stone 2016: Figure 45 & Appendix F). Although this is significantly deeper than the planned excavation of less than 0.75 feet (23 cm), because of the inherent sensitivity of a cemetery site, archaeological monitoring of the former Fort Columbus Cemetery is recommended.

Excavation for the Potable Water project also resulted in the identification of part of the c. 1871 Quarters building located directly to the south and southwest of where the new irrigation connection will be made (Stone 2016: 13-14). For this reason, it is recommended the new irrigation connection excavation is not conducted in that direction.

In summary, archaeological monitoring is recommended for the excavations taking place

within the footprint of the former Fort Columbus Cemetery, regardless of planned excavation depth. In other locations, archaeological monitoring is recommended for excavation depths exceeding 0.5' (15 cm), assuming the shallow depths have been previously affected by lawn planting and maintenance. This includes the St. Cornelius chapel site, the debris field in eastern part of the play field and a number of historic map documented structures.

The monitoring plan originally used for the 2012 work would also be applied here and is also attached. The SHPO Human Remains Discovery Protocol will be followed, in the event human remains are encountered during this work. The protocol is also attached here.

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## 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 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 LiRo Group 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.

# State Historic Preservation Office/ New York State Office of Parks, Recreation and Historic Preservation Human Remains Discovery Protocol (June 2015)

In the event that human remains are encountered during construction or archaeological investigations, the New York State Historic Preservation Office (SHPO) recommends that the following protocol is implemented:

- At all times human remains must be treated with the utmost dignity and respect. Should human remains or suspected human remains be encountered, work in the general area of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance.
- Human remains or associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.
- The SHPO, the appropriate Indian Nations, the involved state and federal agencies, the coroner, and local law enforcement will be notified immediately. <u>Requirements of the corner and local law enforcement will be met.</u> A qualified forensic anthropologist, bioarchaeologist or physical anthropologist will assess the remains *in situ* to help determine if the remains are Native American or non-Native American.
- If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Please note that avoidance is the preferred choice of the SHPO and the Indian Nations. The involved agency will consult SHPO and appropriate Indian Nations to develop a plan of action that is consistent with the Native American Graves Protection and Repatriation Act (NAGPRA) guidance. Photographs of Native American human remains and associated funerary objects should not be taken without consulting with the involved Indian Nations.
- If human remains are determined to be non-Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Please note that avoidance is the preferred choice of the SHPO. Consultation with the SHPO and other appropriate parties will be required to determine a plan of action.

![](_page_38_Figure_0.jpeg)

Figure 1 Location of the planned play field in the south end of the Fort Jay Parade Ground on Governors Island.

![](_page_39_Figure_0.jpeg)

![](_page_40_Figure_0.jpeg)

![](_page_40_Figure_1.jpeg)

![](_page_41_Figure_0.jpeg)

![](_page_42_Figure_0.jpeg)

Part of the 1813 Mangin map of Governors Island with an overlay of the play field six-inch grading contours, irrigation connection and previous archaeological testing.

![](_page_43_Figure_0.jpeg)

![](_page_44_Figure_0.jpeg)

![](_page_44_Figure_1.jpeg)

Part of the 1879 Army map of Governors Island with an overlay of the play field six-inch grading contours, irrigation connection and previous archaeological testing.

![](_page_45_Figure_0.jpeg)

Part of the 1906 Hilton map of Governors Island with an overlay of the play field six-inch grading contours, irrigation connection and previous archaeological testing.

# APPENDIX B

Field Data

# **IRRIGATION MAIN TRENCH STRATIGRAPHY**

LOCATION	DATE	STRAT	DEPTH	SOIL	ARTIFACTS	COMMENTS					
B5 - B14	5/9/17	1	0 - 1.5'	10YR 3/3 dark brown loam	stoneware sherd, coal frag. and plastic zip tie (nr)	this topsoil extend to boe at 15' south of B5					
		2	1.5 - 1.9'	7.5YR 4/6 strong brown silty loam		deposit becomes sandy silt south of B11					
	General ta unmarked unmarked and phote	General trench comments - Large concrete piece with imbedded rebar, possibly part of a footing, at 15' north of B7. Two large unmarked brick fragments and several chips (nr) were documented directly south of the concrete. One oyster shell frag and one unmarked brick (nr) documented approx. 5' south of concrete at approximately 1.4' bgs. Several artifacts recorded from backdirt and photographed, but not retained include coal, brick fragments, clear flat glass, coke bottle base.									
B38 - 15' south of B31	5/10/17	1	0 - 0.8'	10YR 4/4 dark yellowish brown loam	brick fragments (nr)	brick frags noted from 17' south of B36 to B33					
		2	0.8 - 1.8'	7.5YR 4/6 strong brown silty loam		soil at the boe was silty sand					
	General trench comments - Defunct irrigation wire 0.6' bgs at 1' south of B31, electric wire crosses trench 1.7' bgs at 10' south of B37, conduit crosses trench 1.3' bgs at 16' north of B33, larger pipe crosses trench at 1.4' bgs at B33 and is surrounded with topsoil in the profile. One artifact was retained from the backdirt, a pearlware ceramic sherd (Context I2), directly south of Irrigation Locus 2.										
B14 - 12' north of B15	5/10/17	1	0 - 0.8'	10YR 3/3 dark brown topsoil		topsoil became shallower to the south					
		2	0.8 - 1.4'	7.5YR 4/6 strong brown silty loam							
		3	1.4 - 1.8'	7.5YR 3/3 dark brown sandy silt	brick frags (nr), coal (nr), 2 non-diagnostic porcelain sherds (nr)	stratum contained profuse coal ash in places					
	General trench comments - Several artifacts recorded from backdirt and photographed, but not retained include brick fragments, 1 clear flat glass, 1 non-diagnostic porcelain sherd, 1 gilded (?) porcelain sherd and 1 ribbed clear glass bottle neck										

						-			
15' north of B15 - B16	5/16/17	1	0 - 1.2'	10YR 3/3 dark brown loam					
		2	1.2 - 1.9'	7.5YR 4/6 strong brown sandy silt					
	General tr south of F	rench comn 315. Artifac	nents - A large ts noted in the	piece of aggregate and cl backdirt not retained inc	ay sewer pipe fragments v clude a coffee cup lid, bric	vere noted directly beneath the topsoil 9' k frags. and asphalt frags.			
15' south of B31 - 15' east of B24	south of B31 - east of B24       5/16/17       1       0 - 0.8'       10YR 3/3 d loam         2       0.8 - 1.9'       7.5YR 4/6 s brown sand		0 - 0.8'	10YR 3/3 dark brown loam	3 coal, 1 clay sewer pipe frag, several brick frags. few concrete frags 1 whiteware, 1 oyster shell frag. (nr)				
			7.5YR 4/6 strong brown sandy silt	brick frags (nr), amber bottle neck, pearlware rim (nr)					
	General trench comments - The topsoil extended to the base of excavation around B24. Several artifacts recorded from backdirt throughout and photographed, but not retained include plastic tarp shreds, orange pvc, pink insulation foam, corroded unrecognizable metal, a stoneware rim, transfer print porcelain, whiteware spall, pearlware spall.								
15' east of B24 - B16	ast of B24 - 5/16/17 1 0 - 1.0' 10YR 3/3 loam		10YR 3/3 dark brown loam						
		2	0.6 - 1.1'	coal ash		Strat only present at 60 - 77' east of B24			
		3		7.5YR 4/6 strong brown silty sand					
	General trench comments - Eastern 25' of segment was entirely mottled 10YR 3/2 dark brown loamy sandy silt to boe. Several artifacts recorded from backdirt throughout and photographed, but not retained include brick frags from coal ash vicinity, clay sewer pipe frag near the "T" to the irrigation controller.								

From "T" south 63' to point of disturbance from existing potable water line	5/16- 5/18/17	1	0 - 1.8'	10YR 3/2 very dark grayish brown		
		2	boe	7.5YR 4/6 strong brown sandy silt		this strat was exposed at the boe, but not excavated
	General trench comments - Several artifacts recorded from backdirt throughout and photographed, but not retained include blue plastic cutlery, plastic tarp shreds, brick frags and corroded metal possibly a lawnmower blade (nr)					

(nr) = not retained

boe = base of excavation

bgs = below ground surface

## SPRINKLER HEAD STRATIGRAPHY

LOCATION	DATE	STRAT	DEPTH	SOIL ARTIFACTS COMMENTS		COMMENTS			
B12b	8/2/17	1	0 - 0.4'	7.5YR 4/4 brown sandy loam					
		2	0.4 - 1.2'	10YR 4/4 dark yellowish brown silty loam	rocks, concrete chunks, brick frags (nr)				
B14c	8/2/17	1	0 - 0.5'	10YR 3/3 dark brown sandy loam	k brown				
		2	0.5 - 1.2'	10YR 4/4 dark yellowish brown sandy loam	stryrfoam (nr)				
		2	2 7.5YR 5/3 brown loamy silt			only present directly beneath the Belgian block			
		General trench comments - Belgian block surface exposed between 0.8 - 1.2' bgs							
B32a 8/2/17		1	0 - 0.4'	10YR 4/4 dark yellowish brown silty loam					
		2	0.4 - 1.4'	7.5YR 4/6 strong brown silty sand	conglomerate brick frags, stone and mortar (nr)	this deposit was also present beneath the conglomerate in the center of the trench			
		General tr trench at	rench commer 0.4' bgs. The ι	nts - A large conglomerate upper part was chipped ou	of brick fragments, stone 1t by, but it largely remain	and mortar was present in the center of this as <i>in situ</i> .			
B34D	8/2/17	1	0 - 0.4'	10YR 4/4 dark yellowish brown silty loam	concrete chunks, brick frags, cobbles (nr)	very compact			
		2	0.4 - 1.3'	7.5YR 4/3 brown silty sand	same as stratum 1	less debris than stratum 1			

# GRADING AND OTHER FIELD DATA

LOCATION	DATE	STRAT	DEPTH	SOIL	ARTIFACTS	COMMENTS
15' north of B7	5/9/17				concrete with rebar (nr)	
21' south of B11 - B12	5/9/17		0.9' to boe		brick concentration (nr)	some bricks marked "CRATER" fire brick and "ROSE" plus unmarked (see Photo 5/9 841)
Grading Locus 4	5/10/17	2		7.5YR 4/6 strong brown silty loam	1 cellophane (nr), 1 clear flat glass (nr)	
Irrigation Locus 1						brick surface and staging area
Irrigation Locus 2						foundation or footing
Grading with GPS	5/30/17			10YR 4/4 dark brown silty sand		found beneath tennis court
Grading at former tennis court	5/31/17		surface at 0.8' above subgrade	dark gray coal ash	beer bottle (nr)	Embossed "SLIEBMANS SONS BREWING Co/ Registered"

(nr) = not retained

boe = base of excavation

bgs = below ground surface

# APPENDIX C

Artifact Inventory

## GOVERNORS ISLAND - PARADE GROUND PLAY FIELD ARTIFACT INVENTORY

Page 1 of 1

Context	Material	Identity	Form	Color	Count	Description	Date Range
G1	Ceramic	ball clay	pipe stem	white	1		
G1	Ceramic	whiteware	rim or handle frag	white	2	mends; spall	early 19th C present
G1	Cinder				1		
G1	Glass		flat	clear	1		
						embossed "PABST/MILWAUKEE" encircled around "B" within a hop leaf "TRADE MARK" on front and 'REGISTERED/THIS BOTTLE/NOT BE BE SOLD" ON THE BACK	
G2	Glass		bottle base	amber	1		1889 - 1920
I1	Ceramic	porcelain		white	1	burned; possible polychrome exterior	
I2	Ceramic	pearlware	rim	white	1	blue scallop shell edge	1800 – 1830s
			Tatal Antifasta D		0		

Total Artifacts Recovered = 8

## CONTEXT KEY

G1 = Screened from 48' north of irrigation controller below 0.2' below subgrade in 10YR 4/6 silty sand

G2 = At subgrade in ash deposit above defunct clay drain pipe

I1 = Approximately 25' south of B11 at Irrigation Locus 1 above walkway

I2 = From irrigation main backdirt approximately 20' south of B32, directly south of Irrigation Locus 2