
Washington Square Park Greenwich Village, New York Phase 2 Construction Field Testing Report

NYS Site Designation: Washington Square Park Potter's Field (WSPPF)

NYS Site No.: USN A06101.016915



10/23/09

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Prepared for the New York City Department of Parks and Recreation
Prepared through Tucci Equipment Rental Corporation
Prepared by Joan H. Geismar, Ph.D., LLC
July 2012

ABSTRACT

This report presents the methods and findings of archaeological testing and monitoring undertaken intermittently from October 15, 2009, and March 30, 2011, during Phase 2 construction of Washington Square Park in Greenwich Village. Joan H. Geismar, Ph.D., LLC prepared the report for the New York City Department of Parks and Recreation through Tucci Equipment Rental. Matthew A. Brown was the Bioarchaeologist for this phase of the park's construction.

As during the previous construction phase (Phase 1 construction), field testing and monitoring followed a scope of work approved by the New York City Landmarks Preservation Commission (NYCLPC) and was based on earlier monitoring reports and a 1A Archaeological Assessment. These had determined the park's potential archaeological sensitivity that included a late-18th-century domestic complex and a late-18th- to early-19th-century Potter's Field. While field investigations during Phase 1 construction did not find any evidence of the late-18th-century domestic complex, it did verify that human remains from the Potter's Field, both in disturbed contexts and intact burials, was an issue.

Phase 2 construction, which followed the established archaeological field protocol for testing and monitoring and for addressing human remains, was carried out where construction-related excavation was planned more than 2 feet below the 2008 park surface. Field conditions and findings resulted in monitoring or testing thirteen catch basins (CB), seven drop inlets (D), eleven utility trenches (UT), one test trench (TT), six test pits (P, GTP, and JJ TP), and five light pole locations (LP). Three intact burials were documented in the field and protected *in situ* and seventeen isolated (disturbed) human bones were removed for analysis and later reburial in the park (a total of 93 bones was counted, but most were associated with the intact burials documented and left *in situ*). While fewer burials and isolated bones were found during this second construction phase (a minimum number of seven individuals including the three intact burials and seventeen isolated bones) than in Phase 1 (ten individuals--many young adults--and 515 isolated bones that increased the minimum number of individuals to sixteen). Yet the information recovered during this second construction phase was invaluable. It documented the presence of late middle-aged burials, and the femur of an infant offered the only documentation to date for what must have been numerous infant or child burials. It also confirmed the presence of stacked burials in pits. The discovery of James Jackson's beautifully engraved headstone not only provided unprecedented information about a Potter's Field burial, this find and the research it engendered altered the perception of the Potter's Field's population in general.

Limited recovery of artifact grab samples verified the extensive grading that occurred when the Parade Ground replaced the Potter's Field in 1825, and field investigations again highlighted the homogenous nature of the park's sandy soil. As in Phase 1 construction, the monitoring and testing clearly revealed that burials are an issue where past disturbance is minimal or an unknown within the limits of the former Potter's Field. It also confirmed that archaeological issues must be considered in any present or future park construction.

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WASHINGTON SQUARE PARK

Phase 2 Construction: Field Report

INTRODUCTION

This report presents the findings of the second phase of archaeological field testing and monitoring at Washington Square Park (Block 549) in Manhattan's Greenwich Village (Figures 1 and 2). The New York State Historic Preservation Office (NYSHPO) designated the archaeological component of this New York City Department of Parks and Recreation (Parks) project as Washington Square Park Potter's Field (WSPPF2) and assigned it the New York State site number USN A06101.016915. However, it is referred to in this report as "the park" or "WSP." Joan H. Geismar, Ph.D., directed and participated in the fieldwork and prepared this report. Shelly Spritzer served as field and lab technician and Matthew A. Brown, the bioarchaeologist for the Phase 2 construction, identified faunal and human bone material in the field, documented any intact burials, and conducted the analyses of isolated (scattered) human remains in the laboratory. Tucci Equipment Rental (Tucci) was the contractor for this second construction phase.

As during the earlier construction phase, George Vellonakis, the park's designer, and John Krawchuk, Director of Historic Preservation for Parks, were frequently on site and always available for consultation, as was Amanda Sutphin, Director of Archaeology at the New York City Landmarks Preservation Commission (NYCLPC). In general, excavation was carried out with a CAT M315, a HITACHI CR200, a Case 590 SUPER M, or a KUMATSU excavator using excavation buckets of various sizes. In addition, when warranted, the crew of Tucci Equipment Rental provided hand excavation that was archaeologically monitored. The locations of archaeological excavations, whether construction related or solely for archaeological purposes, are shown in Figure 3.

This second phase of field testing and monitoring, like the first, was based on the findings of a 1A documentary report¹ and, like the earlier phase, followed a scope of work approved by NYCLPC.² Once again, the concern was that introduction of infrastructure might encounter and disturb human remains from the city's late-18th- to early-19th-century Potter's Field, a burying ground once active on approximately the eastern two-thirds of what is now Washington Square Park. This concern was verified by the discovery during Phase 1 construction of ten intact burials documented *in situ* and 515 isolated human bones collected and analyzed in the laboratory.³ Both construction phases complied with a protocol established by the NYCLPC to address human remains in the park. This included archaeological monitoring of all excavations deeper than 2.0 feet below the park's 2008 surface. Eliminated from this protocol was a portion of the western part of the park, or approximately one-third of the park's total area, that had remained private property before it was acquired by the city to enlarge the 1825 Parade Ground then being created on and beyond the western limit of the Potter's Field, the City's second public burial ground.⁴

New catch basins, drop inlets, and most proposed utility trenches were archaeologically tested or monitored. In addition, testing was carried out in pits and at least one non-utility trench,

¹ Geismar 2005

² Geismar 2009a

³ Geismar 2009b:30

⁴ The first Potter's Field was located within what is now Madison Square Park.

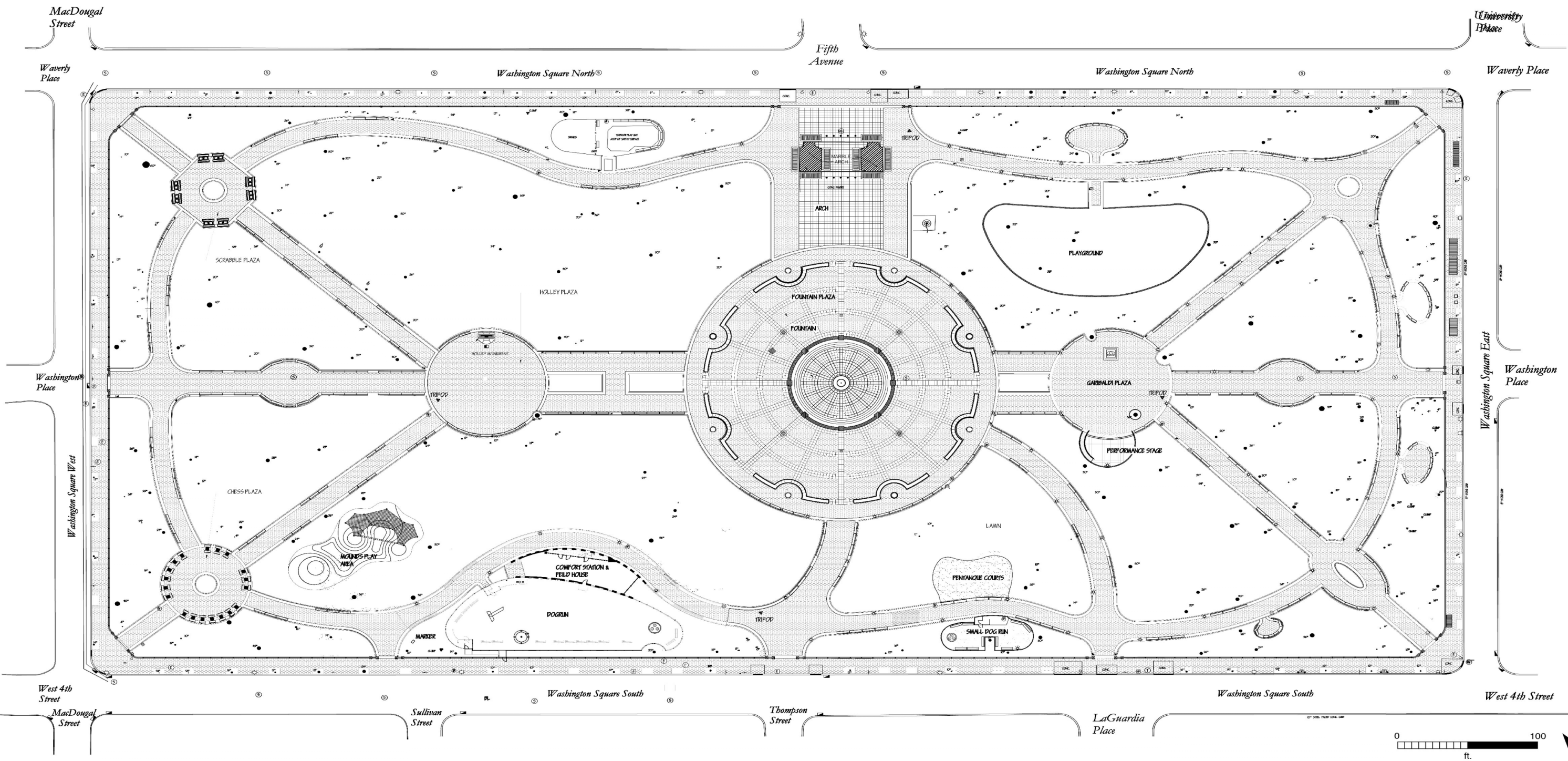


3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 500 ft Scale: 1:12,800 Detail: 14-0 Datum: WGS84



Washington Square Park





all of various dimensions. A major testing effort was conducted in relation to the project's most intriguing and revealing artifact, the headstone of James Jackson, a young, Irish-born victim of the city's 1799 summertime yellow fever epidemic.

The methods and findings of the Phase 2 investigation are presented in the following sections of this report and in its appendices.

METHOD

To provide a framework for the project's archaeological component, four test quadrants were established during the park's Phase 1 construction: the northwest quadrant (9a), the northeast quadrant (9b), the southwest quadrant (9c), and the southeast quadrant (9d). Since identified archaeological issues in Quadrant 9a were addressed during the Phase 1 construction, only Quadrants 9b, 9c, and 9d were at issue during this second phase of the park's reconstruction (see Figure 3). It should be noted that Phase 1A archaeological research had identified the site of the Potter's Field Keeper's house as well as a portion of properties owned by mid-seventeenth century freed Africans—Anthony Portuguese and Manuel Trumpeter—within the Phase 2 project area (see Figure 3).

With knowledge acquired during Phase 1 construction—for example, that intact burials could be found anywhere between 2.5 and 12.0 feet (0.76 and 3.7 m) below the current ground surface—thirteen¹ catch basins (CB), seven drop inlets (D), eleven utility trenches (UT), one test trench (TT), six test pits (P, GTP, and JJ TP), and five light pole locations (LP), were excavated for archaeological purposes or monitored during construction excavation between October 15, 2009, and March 30, 2011 (see Figure 3 for locations).

The typical field method was to monitor backhoe excavations either in anticipation of, or during, the introduction of planned infrastructure. Exceptions included four test pits (P1-P4) located where footings for an expanded comfort station were a consideration, and another (GTP1) below the basement floor of the extant 1968-1970 comfort station where a geothermal well was proposed. Another exception was an exploratory excavation (JJ TP) located south of CB17, that is, south of Phase 2's most startling and unique find, the aforementioned headstone that marked the 1799 death of James Jackson, after it was removed for conservation and safe keeping (see James Jackson Headstone below). These six tests were all hand excavated. And, finally, hand excavation of two proposed soil boring sites (SB1 and SB2) was terminated at shallow depths (see Table 1 for a list of excavations and Appendix A for a summary of field information).

FIELD INVESTIGATIONS

Testing during Phase 2 construction encountered deeply buried human remains (WSP-SK1-09, WSP-SK2-09, WSP-SK3-09) assumed to represent three intact burials. Following the project's established protocol, these burials were documented in the field and then protected in place. Among the seventeen isolated human bones collected for laboratory analysis was the femur (thighbone) of a full term or newborn infant. This bone (WSP-SK4-09), the only infant or child bone found during either construction phase, was recovered from the back dirt of drop inlet 8 (D8) in the park's southeast

¹ Two catch basins (CB3 and CB4) required re-excavation, resetting, or a small shift in location, and are not considered in the count; CB17 was relocated and is counted twice.

Table 1. WSP PHASE 2 CONSTRUCTION Quadrants 9b, 9c, and 9d, Summary of Test Data

Unit No.	Quadrant	Construction Type**	Length/Width or Diameter/Depth	Cat No.	Remarks
D1	9b	Drop inlet	—	—	Existing, eliminated from testing
D2	9b	Drop inlet	Diameter 4.5 x 3.2	101	[10/15 & 10/19/09] formerly CB2
D3	9b	Drop inlet	—	—	Existing, eliminated from testing
D4	9b	Drop inlet	9.1 x 5.0 - 7.3 irr x 6.2	109	[11/6/09] 9.1 x 5.0-7.3 irr with ST 6.2 deep
D5	9b	Drop inlet	5.0 x 5.0 x 5.5	—	Suspended re electric, ultimately terminated
D6	9d	Drop inlet	7.0 x 5.0 x 1.5	218	[11/5/09] suspended at 1.5 BGS; ultimately terminated ¹
D7	9d	Drop inlet	7.4 x 5.3 irr x 5.7	201	[11/5/09] 7.4 x 5.3 x 5.7
D8	9d	Drop inlet	7.5 x 5.0 x 5.7	203	[11/5/09] human infant femur recovered
D9	9d	Drop inlet	8.0 x 6.0 x 4.5	217	[11/16/10] W side of new entrance
D10	9c	Drop inlet	9.0 x 7.0 x 4.0	314	[11/19/10] old detention basin in relocated CB17
CB1	9b	Catch basin	7.5 x 6.0 x 8.5	103	[10/20/09] relatively clean fill, asphalt frags
CB2	9b	Catch basin	11.0 x 7.0 x 9.2	104	[10/20/09] relatively clean fill; terra-cotta sewer pipe
CB3	9b	Catch basin	9.0 x 6.2 x 7.2	105	[11/5/09] 2 segments ÷ by wall
CB3	9b	Catch basin	25.0 x 20.0 x 10.0	118	[11/25/09] CB3 relocated slightly E of the original location
CB4	9b	Catch basin	12.0 x 5.5 - 7.8 x 9.2	107	[11/6/09] great disturbance [re-excavated & reset 11/25/09] see Cat No. 117 below]
CB4	9b	Catch basin	20.0 x 15.0 x 10.0	117	[11/25/09] re-excavated and reset
CB5	9b	Catch basin	—	—	Existing, eliminated from testing
CB6	9b	Catch basin	—	—	Existing, eliminated from testing
CB7	9b	Catch basin	10.1 x 6.3 x 9.2	108	[11/6/09] Unmarked flat stone frags; deep excavation
CB8	9d	Catch basin	—	—	Existing, eliminated from testing
CB9	9d	Catch basin	8.0 x 5.4 x 5.5-7.3	202	[11/5/09] disturbance, fill material
CB10	9d	Catch basin	—	—	Existing, eliminated from testing
CB11	9d	Catch basin	—	—	Now D8 (see above), CB11 number not reassigned
CB12	9d	Catch basin	7.0 x 6.0 x 3.5	216	[11/16/10] relatively clean fill
CB13	9d	Catch basin	10.5 x 6.25 x 9.0	211	[3/19/10] brick platform; relatively clean, late fill
CB14	9c	Catch basin	6.0 x 6.0 x 6.0	313	[11/18/09] N of storage bldg; highly disturbed
CB15	9c	Catch basin	6.0 - 9.0 x 6.0 x 5.5	304	[11/10/09] mottled fill; human bone frags collected (SK8A-B-10; see Appendix B)
CB16	9c	Catch basin	9.0 - 9.6 x 9.0 x 7.0	303	[11-2-09] typical late-18 th to early-19 th C fill elements
CB17	9c	Catch basin	6.0 x 6.0 x 6.5	301	[10/23/09] James Jackson stone exposed; [11-19-09] CB location shifted slightly (see Cat No. 315)
CB17	9c	Cleaning	—	305	[11/12/09] cleaning to view stone
CB17	9c	Catch basin	9.0 x 7.0 x 6.0	315	[11/19/09] relocated just E of original CB location w/o incident
CB17 (JJ)	9c	Test pit	5.6 x 4.0 x ST 12.1	302a 302/b	[10/26/09] pit N side of JJ stone; ST to 12.1 ft BGS; No evidence of burial
JJ Stone/ JJ TP	9c	Test pit	15.0 x 7.5 x 11.82	306- 309	[11/16/09] JJ stone removed; excavation S of stone; top of human skull 11.25 ft BGS; left <i>in situ</i> (later, WSP-SK1-10; see Appendix B)
JJ TP	9c	Test pit	4.9 x 5.6 x 13.0	310- 312	[11/17 to 11/18/09] S (and E) of JJ stone after removal; human remains: 2nd Skull (WSP SK2-10), foot bones (WSP SK3-10; see Appendix B); all left <i>in situ</i>
TT7	9b	Garibaldi Statue base	18.0 x 7.0 - 8.0 x 3.0 - 8.0	102	[10/19/09] water pipe break; 6.0 - 8.0 deep at break, 3.0 deep beyond
UT1a	9b	Utility trench	60.0 x c 5.0 x 3.25 - c 5.0	110	[12/1/09] connects D2 to CB1; highly disturbed
UT1b	9b	Utility trench	65.0 x 5.0 - 6.0 x 5.0 - 6.0	111- 112	[12/1/09] CB1 to CB2; highly disturbed
UT2	9b	Utility trench	100.0 x 5.0 x 3.0 - 5.0	113	[12/1/09] connects D3 to CB3
UT3	9b	Utility trench	75.0 x 5.0 x 4.0 - 10.0	116	[12/2/09] CB3 to CB4
UT3a	9b	Utility trench	70.0 x 3.5 - 5.0 x 5.0 - 9.0	115	[12/2/09] added "T"; CB2 to CB4; CB4 set too high, lowered 1ft

¹Cat. No. corrected (106 to 218)

Table 1. WSP PHASE 2 CONSTRUCTION Quadrants 9b, 9c, and 9d, Summary of Test Data (continued)

Unit No.	Quadrant	Construction Type**	Length/Width or Diameter/Depth	Cat No.	Remarks
UT3b	9b	Utility trench	30.0 x 15.0 - 20.0 irr x 13.0	119	[12/2/09] added T; CB4 to CB6; CB4 lowered see above)
UT4	9b	Utility trench	—	—	Partly in playground; excavated (?); not monitored
UT5	9b	Utility trench	80.0 x 6.0 x 4.0 - 5.0	114	[12/1/09] CB7 to CB6. Old sewer pipe runs length of trench (previously excavated)
UT8	9d	Utility trench	—	—	Not monitored
TT9	9d	Wall (stage)	—	—	Less than 2 ft BGS; not monitored
UT10	9d	Utility trench	—	—	Not monitored
UT11	9d	Utility trench	40.0 x 10.0 - 11.0 x 4.0 - 5.0	209	[12/3/09] CB9 to CB10
UT12	9d	Utility trench	43.0 x 4.0 - 4.5 x 4.0	205-207	[12/3/09] connects D8 to CB10; highly disturbed
UT12a	9d	Utility trench	c. 35.0 x irr x 3.0 - 4.0	208	[12/3/09] CB10 running SE to D7; disturbance
TT13	9d	Wall (stage)	—	—	Not tested/monitored; less than 2 ft BGS
UT14/ UT14a	9d	Utility trench	45.0 x 6.0 x 3.0-3.5	210	[12/3/09] D8 running W; terminated because of trailer; [9/24/10] tested as EPB1, LP9, LP10, LP11 (see Cat No. 212 below)
UT15- UT20	9e	Utility trenches	—	—	Eliminated or not available for monitoring
EPB1	9d	Electric splice box	5.0 x 5.0 x 3.0	212	[9/24/10] shallow trench to connect LP to splice box
LP9	9d	Light pole	5.0 x 4.0 x 5.0	213	[9/24/10] disturbed
LP10	9d	Light pole	5.0 - 7.0 irr x 5.0 x 5.0	214/ 214a	[9/24/10] disturbed
LP11	9d	Light pole	4.0 - 8.0 irr x 4.0 x 5.0	215/ 215a	[9/24/10] disturbed
LP14	9c	Light pole	7.5 x 5.0 x 4.0	323	[3/30/11] W of new Sullivan St entrance; no cultural material
LP15	9c	Light pole	6.5 x 5.0 x 4.5	324	[3/30/11] N side of path; no cultural material
P1	9c	Pit	3.5 x 3.5 x 3.5	316	[3/19/10] N of Comfort station; hand excavated
P2	9c	Pit	3.5 x 3.2 x 3.6	317	[3/19/10] N & W of Comfort station; under concrete; hand excavated
P3	9c	Pit	4.3 x 3.5 x 3.5	318	[3/19/10] W of Comfort Station, S of Dog Run; mixed fill (includes an 1855 French coin and 1925 dime)
P4	9c	Pit	3.5 x 3.7 x 3.5 - 4.5	319	[3/19/10 & 4/9/10] W of Comfort Station, adjacent to small storage building; under concrete.
GTP1	9c	Pit	3.5 x 3.0 x 6.2 (ST)	320	[4/19/10 & 4/20/10] hand excavation at proposed geothermal rod location below basement of Comfort Station (BBF); part of human skull (WSP SK5-10) in upper 3.5 ft of ST in SW corner of pit removed for analysis (see Appendix B); mid-20 th C Coca Cola bottle nearby
SB1	9c	Pit	5.0 x 5.0 x c. 5.0	321	[5/25/10] proposed soil boring location; terminated
SB2	9c	Pit	4.0 x 4.0 x c.2.0	322	[5/25/10] proposed soil boring location; terminated

*Dimensions in 10ths of feet **Catch basins are type C-1 or C-2 (both diam 5.5 ft) and as deep as the basin plus 3.17 ft; Drop inlets (type D-2 diam 4.4 ft) are the depth of the inlet plus 2.5 ft as noted in drawings reviewed 10/13/09.

Note: UT6 was eliminated and the number not reassigned; there is no UT7; ST=shovel test

quadrant (Quadrant 9d). Another isolated find came from a test pit (GTP1) 6.0 feet (1.8 m) beneath the basement floor of the existing comfort station in the park's southwest quadrant (9c), that is, about 16.0 feet (4.9 meters) below the park's pre-construction ground surface. Three additional isolated human bones, all found in association with miscellaneous animal bones, were also collected from this pit for laboratory analysis (see Bioarchaeological Analysis Summary below and Appendix B for a description and analysis of observed and collected human bone material).

In addition to the three presumed intact human burials and seventeen isolated human bones, archaeological testing and monitoring exposed the beautifully carved headstone that marked the death of James Jackson. This startling and unique find in a potter's, or pauper's, field prompted intensive research that not only provided interesting if scant information about the life and death it chronicled, but also determined why this headstone was found in a potter's field. The findings also offered an explanation for the fragmented coffins and headstones discovered during construction of the Washington Square Memorial arch 120 years ago as reported in the *New York Times* on May 13, 1890.⁶ But beyond this, the information recovered about James Jackson proved to be a lynchpin of sorts, that is, a key to others buried in the Potter's Field, heretofore an unknown.

In general, the monitored backhoe excavations and hand-excavated trenches and pits were devoid of significant or profuse cultural material. With a few notable exceptions, the excavated soils suggested the disturbance caused by the park's development over time. Excavation exposed brick catch basins or drop inlets that date to the 1930s (e.g., Figure 4), old iron water or electrical pipes, more recent PVC pipes, and evidence of former asphalt roadbeds that once crossed the park. It also documented the mottled, poorly defined soils typical of fill material (see Figures 5 to 10 for a selection of typical schematic field profiles and photos).

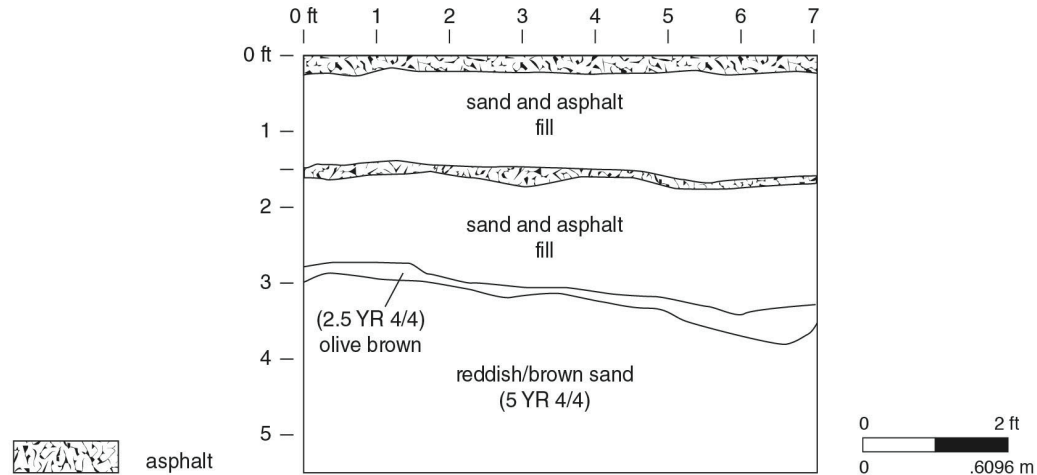


4 D2, a drop inlet, an extant example of the park's 1930s infrastructure. (10/19/09)

As in the earlier construction phase, the ceramic sherds and the sparse bottle and other glass fragments noted in the field or collected as grab samples relate to the early-19th-century filling that created the Parade Ground after 1825 (see Appendix C, a catalog of the artifact grab sample collected from these excavations). However, here there were no caches of early-19th century ceramics and butchered animal bones as were found on the once privately-owned land tested in Quadrant 9a during the earlier construction phase. Based on the park's two construction phases, the deposition pattern of these artifacts offered subsurface conditions remarkably easy to "read." However, the exceptions were revealing and, in regard to the James Jackson headstone, were both intriguing and startling.

As noted previously, the femur of a full term or newborn infant recovered from the D8 back dirt in the park's southeast quadrant (9d; see Figure 3 for D8 location) is the only evidence of a child's burial recovered to date. In addition, James Jackson's headstone discovered in the park's

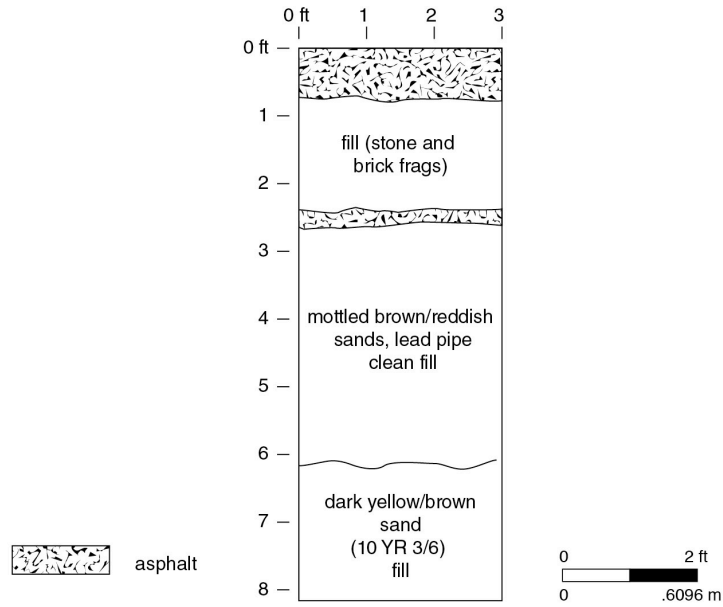
⁶ Cited in Geismar 2005:30.



5a Schematic Profile



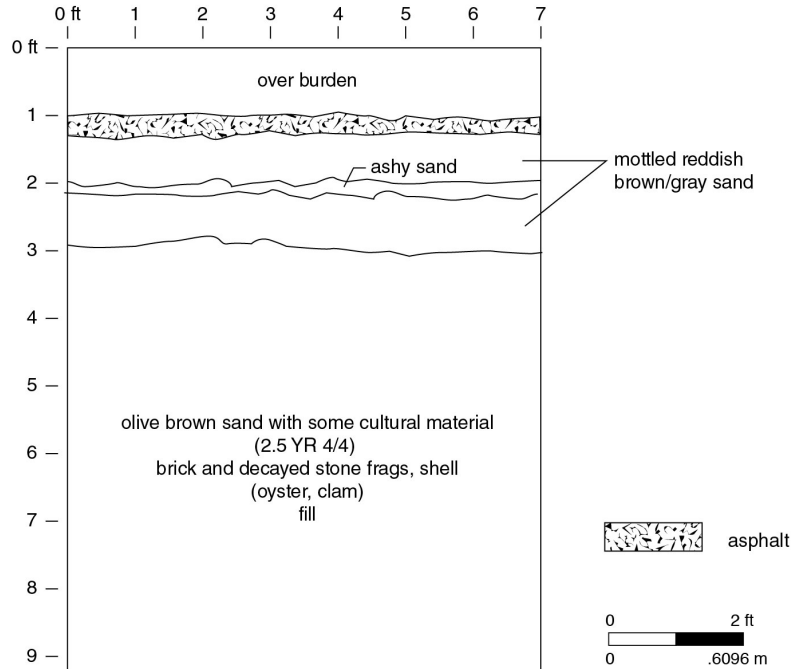
5b D8 after backhoe excavation. The view is to the south. The femur of a full term or new-born infant was recovered from the excavated backdirt that clearly comprised a mixed fill. Note the remnant of an old brick catch basin (arrow), the cause of earlier disturbance. (11/5/09)



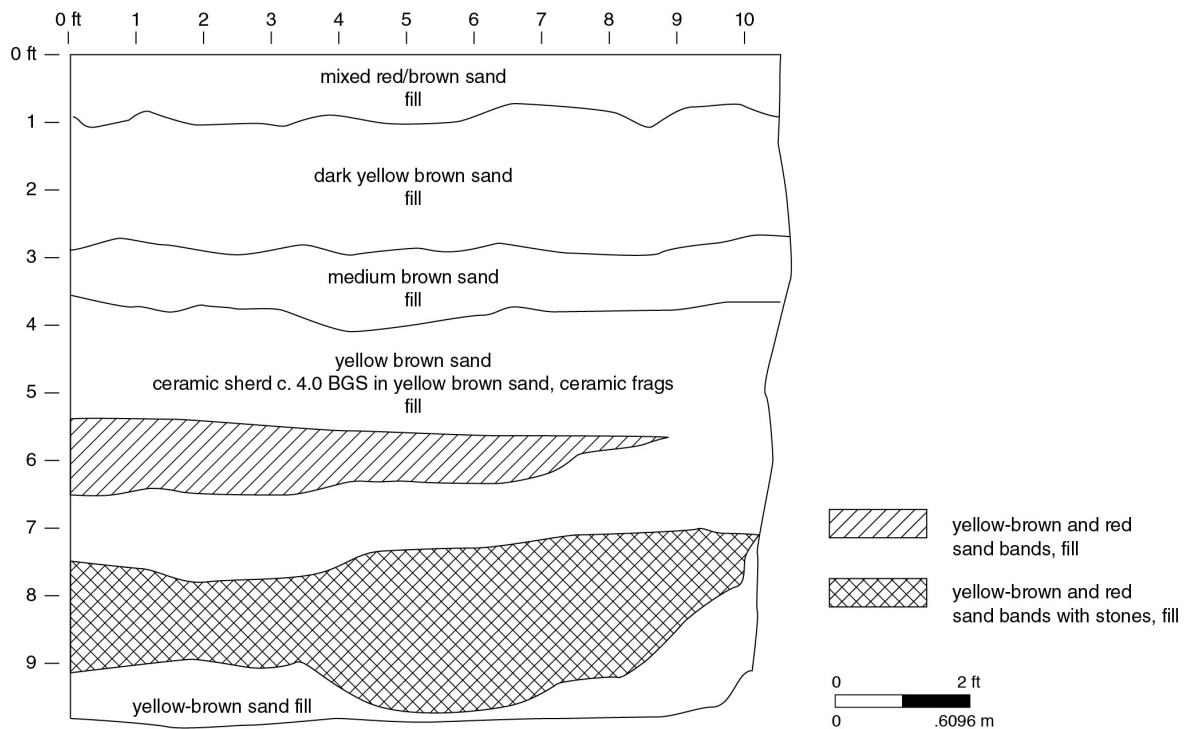
6a Schematic Profile



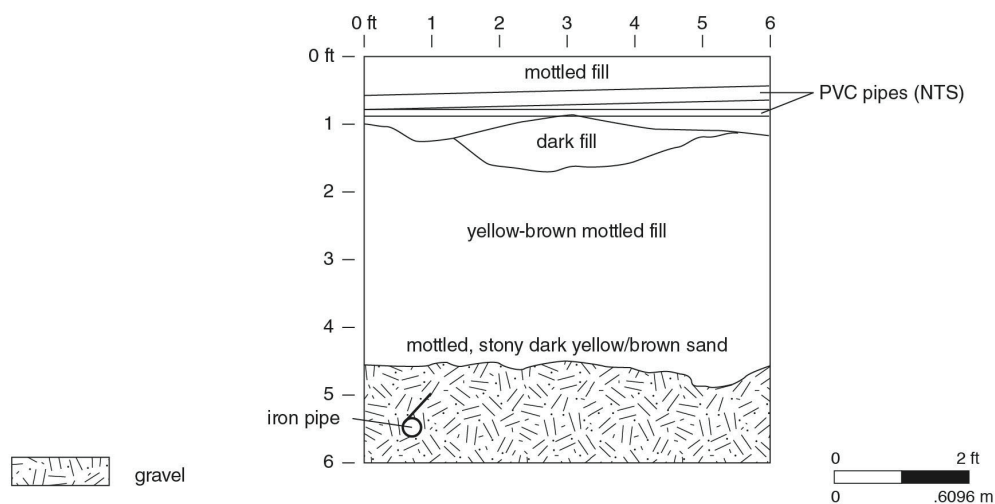
6b West (left) and north walls of CB1 after excavation. Evidence of disturbance that included asphalt at 2.5 feet (0.76 meters) below the surface and an even deeper iron pipe (4 feet [1.22 meters]) clearly indicated disturbance. (10/20/09)



7a Schematic Profile CB2



7b Schematic Profile CB13

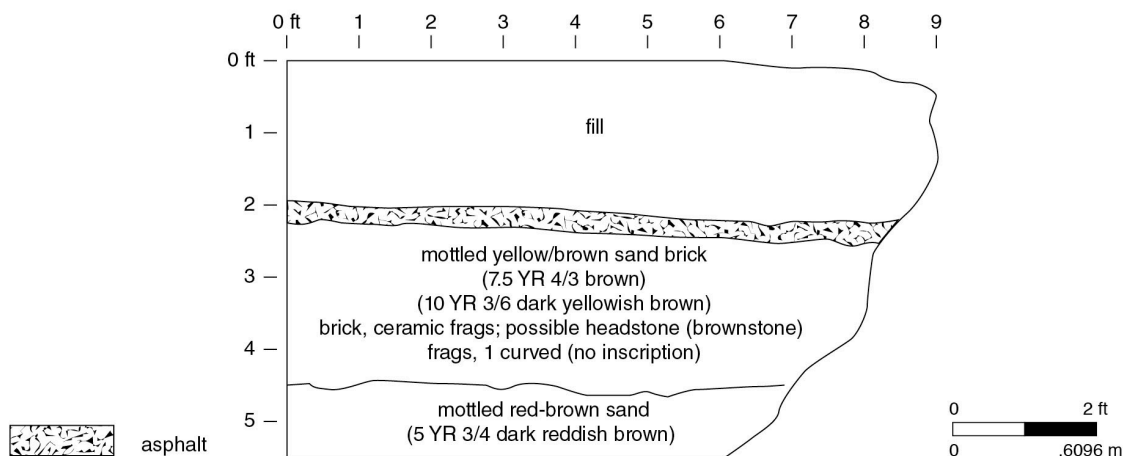


Note: iron pipe in N wall c. 5.5 ft GBS (in gravel) bends into W wall of CB14 excavation.

8a Schematic Profile



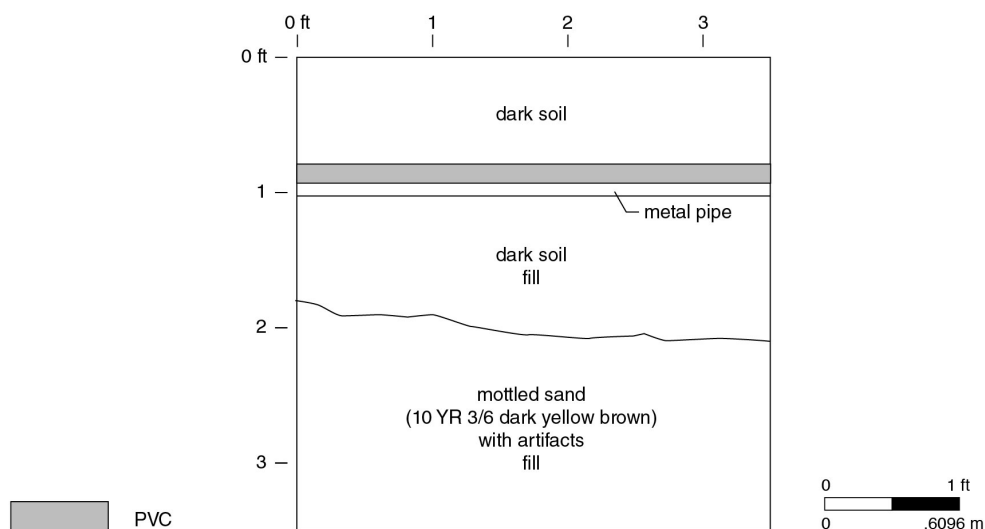
8b Looking into CB14 after excavation. Both iron and PVC pipes were uncovered in this disturbed context. (11/18/09)



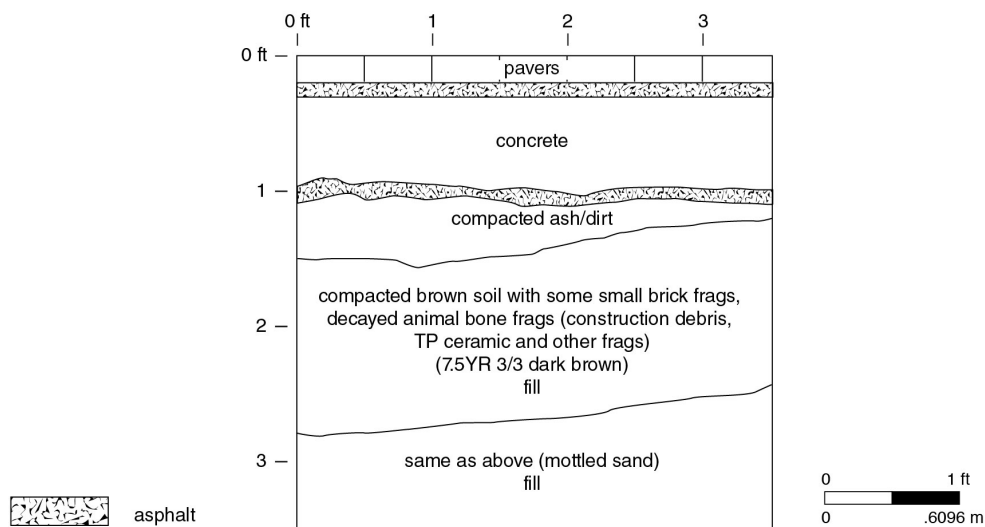
9a Schematic Profile



9b CB15 after excavation. The south wall is to the left (arrow). Cultural material in the mixed fill included a sandstone slab fragment at 4 feet below the ground surface that might be the remnant of a head- or footstone. It also included isolated human bone material collected for analysis (see Appendix B, WSP-SK8-A-B-10). (11/10/09)



10a Pit 3 (P3) West Wall Profile



10b Pit 4 (P4) South Wall Profile

southwest quadrant (9c) seemed a complete anomaly in a potter's field. Exposed only 1.5 feet (0.46 meters) below the ground surface, this remarkably preserved brownstone marker offered unprecedented information about a late-18th-century burial in the Potter's Field. In addition, it introduced a human element that extends to the untold number of unmarked burials that undoubtedly remain. The Jackson stone, the information recovered in relation to the stone, and the findings of the excavation to locate an associated burial are among the highlights of the archaeological component of the park's Phase 2 Construction.

THE JAMES JACKSON HEADSTONE

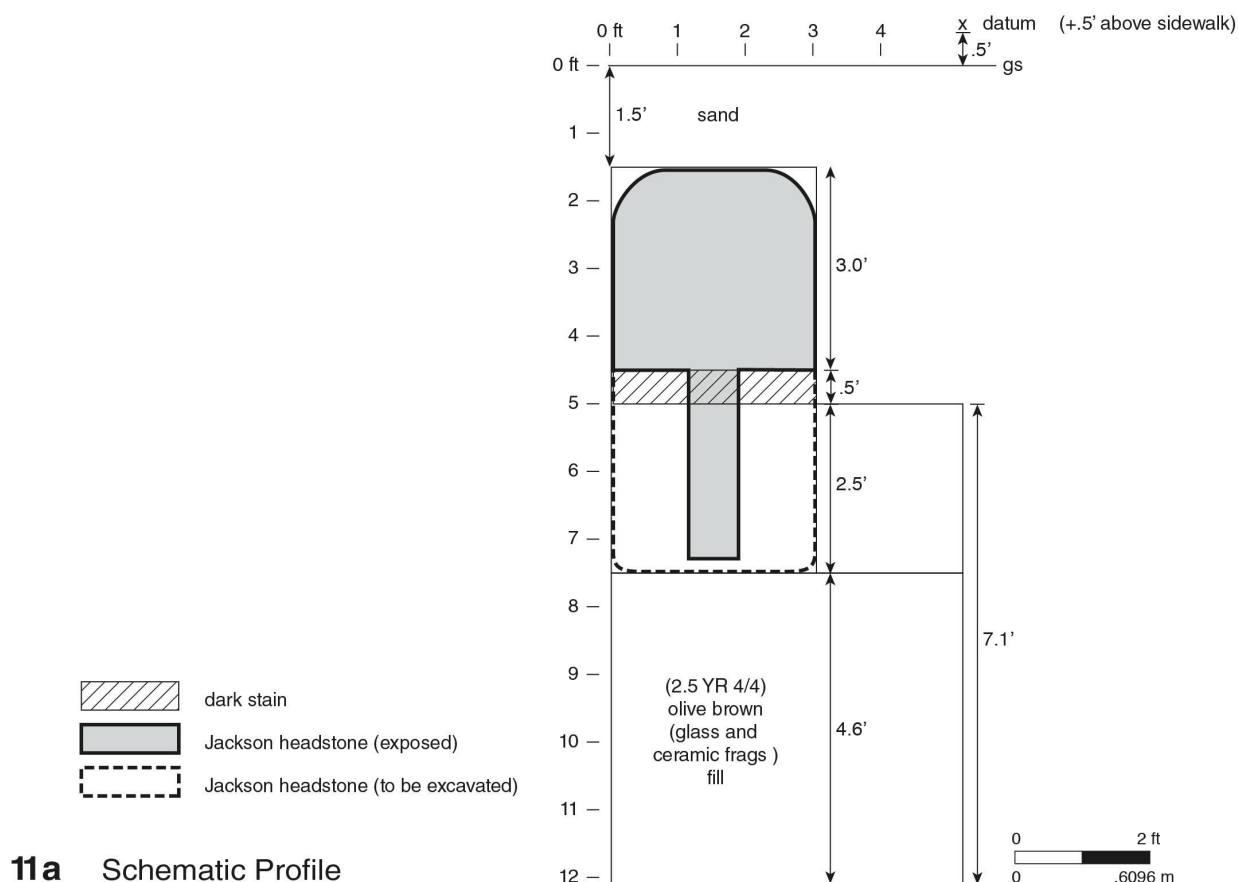
On October 23, 2009, during archaeological testing where a catch basin (CB17) was to be installed near the southern edge of the park's southwest quadrant (9c), the backhoe uncovered the narrow edge of a stone slab about 1.5 feet (0.46 meters) below the ground surface that proved to be the top of an upright grave marker (Figures 11a and 11b; see Figures 3 and 12 for location). Backhoe excavation immediately halted, and, to everyone's amazement, hand clearing revealed the aforementioned headstone that offered unprecedented information about a burial in the former Potter's Field. Engraved on the stone's northern face was the following inscription:

Here lies the body of
JAMES JACKSON
Who departed this life
The 22^d day of Septembe^r
1799 aged 28 years
Native of the County
Kildare Ireland

This simple but beautifully made brownstone marker revealed the name of the deceased, his sex, age at death, date of death, and the country and county of his birth (see Figure 11b). Moreover, it debunked the idea of a potter's field being the last resting place solely of the indigent or unknown, as James Jackson was both identified and obviously a person of means, or at least someone who had the wherewithal—be it personal wealth or association with a family, a group, or an organization—to provide a headstone.

The exposed headstone, perched at an angle, was protected under a tarp structured by plywood and 2 by 4s (Figure 13) until it could be removed for cleaning and safekeeping. Troweling into the soil below the inscription had revealed a horizontal split that suggested a headstone supported by a base, and a dark, horizontal line seemed to define a former ground surface (see Figure 11b). However, both ultimately proved to be illusions.

On November 17, 2009, the stone was carefully removed by Dun-Rite Specialized Carriers—art movers—who employed a gantry to extract what proved to be a single, 6-foot long stone broken into almost two equal parts rather than a stone and base (Figure 14). The stone, in two parts, was packed in a padded wooden case for its voyage to Dun-Rite's Bronx



11a Schematic Profile

11b The north face of the James Jackson headstone exposed during testing in anticipation of placing CB17. The image documents additional testing carried out in an attempt to locate an associated burial, but none was found. The tarp on top of the stone provided a temporary cover and the 2 x 4 was introduced for stability. (10/26/09)





GPS coordinates superimposed on 2006 aerial photo



13 Protecting the James Jackson headstone with a tarp and 2 x 4s. The intersection of Washington Square South and Sullivan Street can be seen beyond the chain-link fence. (11/12/09)



14 The bottom half of the James Jackson headstone being removed by Dun-Rite Art Movers. A gantry was employed to carefully extract both halves of the stone from the ground. (11/16/09)

facility (Figure 15). At this writing, the stone, still in two parts, is protected in a wood and Plexiglas case and stored in a Parks' warehouse awaiting a final resting place.

On a whimsical note: shortly after the headstone was removed, a much used, blue wheelbarrow was spotted nearby. Emblazoned on its side was the name "JACKSON" (Figure 16). Apparently manufactured by Jackson Professional Tools, and so a perfectly reasonable and apparently well-known logo, in context it was a startling, almost mystical coincidence.



15 James Jackson's stone in two parts crated in preparation for removal to the Dun-Rite facility in the Bronx. (11/17/09)



16 The "Jackson" wheelbarrow looking south toward the site of the James Jackson headstone shortly after it was removed. Washington Square South is in the background. (11/17/09)

THE SEARCH FOR JAMES JACKSON'S REMAINS

Prior to the headstone's removal, hand excavation was undertaken on the north side to determine if there were associated human remains. However, a stepped excavation taken to 12.0 feet (3.7 meters) below the ground surface did not reveal any evidence of a burial (Figure 17). Once the stone was removed, the attempt to locate an associated burial continued to the south, that is, on the blank side of the stone, an uncommon but not unheard of arrangement.

Here excavation encountered two human skulls and a set of foot bones in a staggered formation (Figure 18), none of them logistically associated with the Jackson headstone. In addition, *in situ* observation and measurement of the skulls determined that one (WSP SK1-09), found 11.25 feet (3.5 m) below the ground surface, was a mature male, the other (WSP-SK2-09), situated perpendicular to, and a foot above WSP-SK1-09, was a mature female (see Appendix B). The foot bones (WSP-SK3-09), situated well above and south of WSP-SK2-09, documented a third unassociated burial. The relationship of the two skulls and the foot bones suggest the remains represented three stacked burials. Although only partially exposed, as noted previously, all were considered intact burials and, following the project protocol, all three were measured, photographed, and preserved in place. Based on sex, age, and/or location, none were the remains of James Jackson.



17 Testing to find James Jackson's grave on the north side of the headstone. A shovel test (arrow) was taken to 12.0 feet (3.7 meters) below the ground surface (BGS), but no human remains were encountered. (10/26/09)



18 Three stacked burials discovered on the south side of Jackson's headstone. These were represented by a female skull (left arrow) with a deeper male skull oriented perpendicularly to it (middle arrow) and shallower articulated foot bones to the right (right arrow). (11/17/09)

JAMES JACKSON RESEARCH

Research determined that James Jackson resided at 19 East George Street at his death in 1799. He was 28 years old when he succumbed to yellow fever in New York on September 22, 1799, although September 23, 1799, is his recorded date of death in a list of yellow fever victims published in *The Spectator* on October 5, 1799 (perhaps he died at midnight, or perhaps his death was not recorded until the next day⁷). At the time of his death, he may have been a watchman and/or a grocer and was a tenant at the 19 East George Street address located in the City's 7th Ward.⁸ According to city directories, he left an unnamed widow who is listed at the East George Street address in 1800, her first and last directory listing. Subsequent research has identified her as Elizabeth Jackson.⁹

James Jackson was not buried in the Potter's Field because he was poor, but because he died of yellow fever. In fact, he had considerable personal worth (\$262 according to the 1799 Tax Assessment). He was a native of County Kildare, but we do not know when he left Ireland for New York or why.¹⁰ On the 1800 Federal Census, taken less than a year after his death, there were four children in his widow's household, two boys and two girls all under the age of eleven. In addition, a Mr. Jackson, who may or may not be our man, buried a year-old child who died of "flux," that is, dysentery but conceivably the effect of yellow fever, in 1798.¹¹ If it was Jackson's infant son, he died a year before his father's own death, possibly of the same disease.

With the exception of 1796, when only one James Jackson is found in the City directory, as many three James Jacksons are listed in the directories each year between 1795 and 1799. By the process of elimination, the James Jackson who lived at 52 Warren Street and described himself as a Watchman in the 1796 directory was our James Jackson. Again listed at the Warren Street address in 1797, he then identified himself as a laborer.¹² In 1798, a James Jackson, a Watchman, was living at 19 East George Street. I suggest this was our James Jackson, a Watchman according the health department's list of 1799 yellow fever deaths.¹³

As mentioned previously, a newspaper reprint of a health department accounting with the names and addresses of those who died of yellow fever in that year lists a James Jackson, a watchman, residing at 19 East George Street, who died on September 23rd (sic). A 1799 tax

⁷ I am grateful to Joseph Ditta at the NY Historical Society Library for this information.

⁸ East George Street, sometimes identified only as George Street, was renamed Market Street in 1813 (Post 1882: 59; Tauber 2005), and while it appeared from the 1799 tax assessment that Jackson was then the building's sole tenant, the 1800 *NY City Directory* lists Thomas Richards, a watchmaker who is also on the 1800 census, at the 19 East George Street address.

⁹ Jackson's widow was identified by coordinating data from the 1800 federal census with information in the *NY City Directories* that determined she then lived in the city's 7th Ward. The 1800 census lists another Elizabeth Jackson then residing in the 6th Ward.

¹⁰ Marion Casey, an Assistant Professor of Irish Studies at NYU's Irish House, feels strongly that it was for political reasons (Casey 2010, 2011: Personal communication).

¹¹ Hardie 1799:108

¹² A James Jackson in the 1797 directory was a merchant at the Tontine Coffee House, the equivalent of today's stock exchange. This is probably the James Jackson who gave his nationality as English on his 1797 naturalization application and whose witness to the application was John Hyde, the keeper of the Tontine Coffee House. It also is likely that he is the James Jackson on the 1790 census with two household members under the age of 16 (children?) as well two adult females (wife and mother or mother-in-law?). In other words, he does not appear to be our James Jackson.

¹³ NY Board of Health 1799

assessment lists a James Jackson as a tenant in a house at 19 East George Street that belonged to the “Heirs of Isaac Slidel.”¹⁴ As noted, Jackson’s personal wealth was given as \$262, a substantial sum in 1799. The following year, “Mrs. Jackson, Widow of James,” is still found at the 19 East George Street address. Based on the 1800 census manuscript and City Directories, it appears that Widow Jackson’s name was Elizabeth, and the 1800 listing is the only one to note her whereabouts (parenthetically, and perhaps of interest, for many years after 1800, an Elizabeth Jackson is noted in newspaper advertisements listing those with unclaimed mail, and so, for that matter, is a James Jackson in 1804).¹⁵

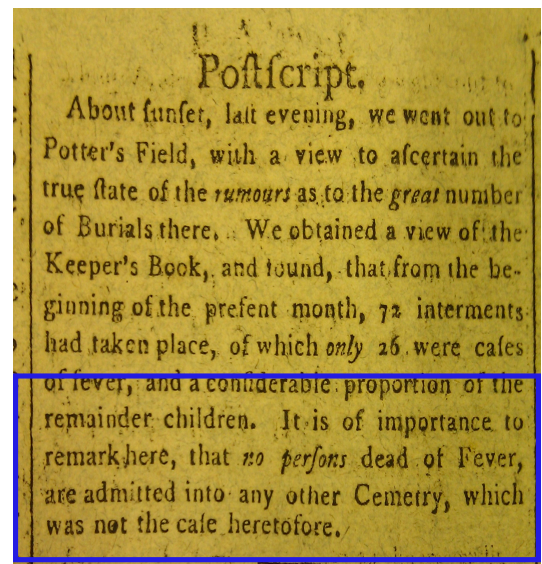
In 1819, what had been 19 East George Street, now the corner of Market and Henry Streets, became the site of the Northern Dutch Reformed Church, a structure sponsored by Henry Rutgers, who had acquired the property in 1785.¹⁶ The church edifice, now the Chinese Presbyterian Church of the USA, still stands but is now adjacent to the Manhattan Bridge. Just why the 1799 tax assessment lists 19 East George Street in the Estate of Isaac Slidell is somewhat of a mystery.¹⁷

YELLOW FEVER IN 1799

Among the many questions that arose during research into James Jackson’s life and death was why would there be a headstone for someone buried in a potter’s field? And, for that matter, why would James Jackson, a man of relative mean, be buried in a potter’s field? The answer to both questions is, once again, found in the newspapers of the day.

On August 28, 1799, a short article about New York’s Potter’s Field appeared on page three of the *New York Gazette* (as was the norm, also later reprinted verbatim in newspapers in other cities¹⁸). It describes a visit to the Potter’s Field to evaluate rumors regarding the large number of deaths from yellow fever and found the numbers did not support the claims. Most importantly, it also makes mention of a new directive that required all who died of the fever to be buried in Potter’s Field (Figure 19).

This directive clearly reflects the pervasive fear of yellow fever’s contagion, especially given the previous summer’s purported devastation.¹⁹ It reflects the general belief that the fever could be spread simply by exposure, a misconception that would endure until the mosquito’s role in its transmission was identified more than a century later. But, beginning with the fever’s first major episode in



19 “Postscript” from the *New York Gazette*, August 28, 1799, reporting on the Potter’s Field. (Enhanced)

¹⁴ The will of Isaac Slidell, a shoemaker, was proved on November 14, 1798 (NYHS 1907:113-114).

¹⁵ e.g., *Daily Advertiser* 1800:2; *American Citizen* 1804:4

¹⁶ Liber of Deeds 42:208; Rutgers sold the property in 1812 with the stipulation that it would become the site of a “good and substantial church,” to be known as the Reformed Dutch Protestant Church in Market Street, New York, and to be no smaller than the Presbyterian Church in Rutgers Street (Liber of Deeds 140:47).

¹⁷ While the building is said to be in Slidell’s estate, it is the very wealthy Henry Rutgers who is the apparent owner and no connection between Slidell and Rutgers has been established. Based on available documents, it appears that Rutgers was the actual owner of the tenanted house occupied by the James Jackson Family until shortly after Jackson’s death.

¹⁸ *Claypoole’s American Daily Advertiser* 1799

¹⁹ Hardie 1799

1793, when it was said to have taken 4,044 lives in Philadelphia, yellow fever was an annual, urban, summertime scourge.²⁰ In New York City, it apparently began in earnest in 1794 when twenty to thirty cases were reported, and by 1795 it is said that “terror [was instilled] in the city.”²¹

Yet, like the Potter’s Field situation reported in the *New York Gazette*’s “Postscript,” accounts of the city’s yearly bouts of yellow fever may be somewhat overblown. For example, Dr. Cecil Heaton, in his 1946 history of yellow fever in New York City, cites the summer of 1798 as “the great epidemic” when 2,086 people in New York City died of the fever and panic ensued.²² However, Heaton’s cited source, James Hardie’s detailed account of the 1798 yellow fever incursion published in January 1799, indicates not all 2,086 deaths were from yellow fever. In fact, only 1,481, or 68.3%, were caused by the fever, a frightening number to be sure, but somewhat less dire than Heaton’s number (see Table 2).

Again citing Hardie, Dr. Heaton reports that, “Every night the dead cart carried corpses to be thrown into the pits of the Potter’s Field, now Washington Square Park.”²³ Yet a reading of Hardie found no such statement. He does, however, indicate that 667 burials were documented in the Potter’s Field between August 1 and November 14, 1798, considerably more than in nineteen other listed burial grounds (Table 3), and presumably most if not all were yellow fever deaths. Without a doubt, yellow fever’s yearly summertime reoccurrence was an understandably dreaded aspect of late-18th- and early-19th-century life in New York and other developing cities, but it was apparently less drastic than perpetuated in the literature.

At the time, doctors offered opinions in essays, newspaper reporters wrote articles, and businessmen and entrepreneurs created advertisements that often focused on the fever’s contagious aspect, fanning fears. One such article, which strongly cautioned against buying feathers from the beds of the stricken, is a case in point.²⁴ But most telling is the final sentence of the above-cited, “Postscript”: “It is of importance to remark here, that no persons dead of Fever are admitted into any other cemetery [sic], which was not the case heretofore.” Unfortunately, James Jackson had the misfortune not only to die of yellow fever, but also to do so shortly after this directive was stipulated. Consequently, he was among the hundreds of fever victims interred in the Potter’s Field during the late summer of 1799. However, unlike so many others, his family, or perhaps a benevolent society, erected a stone to mark his life and death.

Since we have no information about just when Jackson’s stone was erected, and since his remains were not found associated with his stone, it is possible that it never marked his grave, but merely served as a memorial, but, again, this is unknown. Or, since it was found so close to the park’s pre-construction surface, Jackson’s headstone may have been relocated in the past, perhaps during the 1825 creation of the Parade Ground, to commemorate those buried in the former Potter’s Field. Whatever the case, the research conducted to explain the stone’s presence answered questions and raised issues that go beyond those pertaining to Jackson alone.

²⁰ Heaton 1946:68

²¹ Heaton 1946:69-70

²² Heaton 1946:72

²³ Heaton 1946:72-74

²⁴ *New Hampshire Gazette* 1799

Table 2. WSP PHASE 2 Summary of a “*List of the Burials, in the different grave yards in the City of New - York, at Potter’s Fields (sic), and and Bellevue, from 1st August to 12th, November, 1798*” (Hardie 1799:141; recreated)

Month	Men	Women	Children	Fever	Total
August,	133	55	141		329
September,	648	354	150	954	1152
October,	288	158	74	431	522
November,	<u>41</u>	<u>22</u>	<u>20</u>	<u>39</u>	<u>83</u>
Total	1110	589	385*	1424	2086

*The number “3” is backwards in original

Table 3. WSP PHASE 2 CONSTRUCTION “*The number of persons interred in each of the burying grounds of this city, from 1st August, to 10th November 1798*” (Hardie 1799:142; original)

Trinity,	-	-	-	-	214
St. Pauls,	-	-	-	-	211
St. Peters,	-	-	-	-	86
Christ Church,	-	-	-	-	23
United Presbyterians,	-	-	-	-	186
Dutch Churches,	-	-	-	-	129
German Lutherans,	-	-	-	-	50
English do.	-	-	-	-	26
Friends,	-	-	-	-	42
Moravians,	-	-	-	-	3
Methodists,	-	-	-	-	79
Baptists,	-	-	-	-	28
Scotch Presbyterians,	-	-	-	-	34
Associate Presbyterians,	-	-	-	-	10
German Reformed,	-	-	-	-	29
French Protestants,	-	-	-	-	10
Negroes,	-	-	-	-	41
Jews,	-	-	-	-	11
Potters-field,	-	-	-	-	667
Bellevue,	-	-	-	-	207
					<u>2086</u>

On May 13, 1890, during construction of Stanford White's memorial arch on the north side of the park, a *New York Times* article reported the discovery 10 feet (3.1 meters) below the ground surface of human remains, coffins, and a gravestone inscribed with an 1803 date.²⁵ Many explanations were offered for this find, among them that it was a former church cemetery. Research has indicated this was not the case, and it is more than likely this headstone, like James Jackson's, marked the death of yet another solvent New Yorker from a summertime yellow fever incursion, this time in 1803. Beyond this, knowing that burial in the Potter's Field was mandated for all who died of the fever after August 28, 1799, it is possible to identify a minimum number of 352 yellow fever burials between August 28 and October 21, 1799.²⁶ However, since the burial ground then extended east of what is now Washington Square Park, it can perhaps be assumed that not all were buried within the confines of the park.

BIOARCHAEOLOGICAL ANALYSIS SUMMARY AND FINDINGS

Human skeletal material comprising 93 bones and 21 teeth that represent a minimum number of seven individuals was documented during the park's Phase 2 construction. As noted previously, testing exposed portions of three deeply buried, staggered, and therefore apparently stacked, intact burials (WSP-SK1-09, WSP-SK2-09, WSP-SK3-09) just south of James Jackson's headstone. Following the project's established protocol, these intact remains were documented (measured and photographed), protected, covered, and left *in situ*. The aforementioned femur bone of a full term or newborn infant and sixteen other isolated (scattered) human bones were collected and removed to the Brooklyn College Zooarchaeology Laboratory and Hunter College Bioarchaeology Laboratory, CUNY, for analysis by Matthew Brown, the bioarchaeologist for the park's Phase 2 construction. With the 76 bones measured in the field and seventeen isolated bones brought to the lab, 93 bones were analyzed (see Appendix B for details).

Based on observed and measured skull characteristics, the sex of two of the stacked burials was identified in the field, one a male, the other a female, both of them late middle aged; the third, represented merely by foot bones, lacked age or gender markers. Laboratory analysis of a partial cranium (WSP-SK5-10; Figure 20) recovered 3.5 feet (1.1 meters) into GTP1, a test pit beneath the basement floor of the existing comfort station (Figure 21), established it was a young adult female. Several teeth in the maxilla (upper jaw) were mechanically filed, others showed dark staining (blackening), and some were both filed and stained (Figure 22). Brown indicated both might be evidence of treatment for tooth decay (caries). However, he also determined the staining could have been caused by mercury used to treat syphilis (see Appendix B, WSP-SK5-10).

Lacking evidence to the contrary, the Phase 2 skeletal material, like that recovered or documented in place during the first construction phase, is assumed to be Caucasian. As mentioned previously, an infant's femur (WSP-SK4-09; Figure 23) from the backdirt of D8 is the only



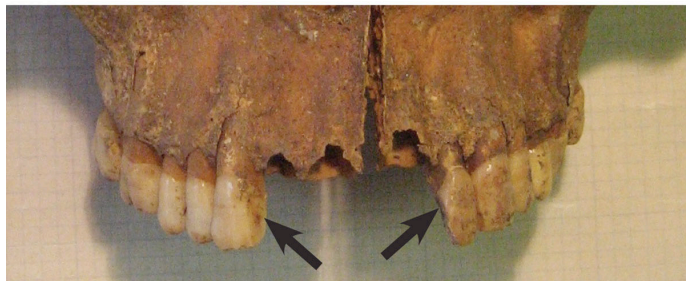
20 Partial female cranium (WSP-SK5-10) from GTP1.

²⁵ *NY Times* 1890

²⁶ Among them was Elijah Perkins, a doctor who made his mark as the inventor of the "Metallic Tractor." Comprising one rod of brass and one of iron, Perkins claimed his invention could cure many diseases, among them yellow fever. Ironically, he died of the fever on September 6, 1799 (Miller 1935:40-45) and is found in the Board of Health list of 1799 yellow fever deaths.



21 Test pit (GTP1) beneath the basement floor of the 1968-1970 comfort station. The partial cranium of a young adult female (WSP-SK5-10; see Figure 20) was extracted 3.5 feet (1.1 meters) into the pit. A shovel test (arrow) brought the pit depth to 16 feet (4.9 meters) below the ground surface. (4/20/10)



22 Detail of the maxilla (upper jaw) of the partial cranium of a young female (WSP-SK5-10) from GTP1. The teeth showed evidence of mechanical filing (left arrow) and dark staining, or blackening. In at least one instance, evidence of both was found on a single tooth (right arrow).



23 Femur (WSP-SK4-09) of full term or newborn infant from the fill of D8, a drop inlet in Quadrant 9d. (photo: M. Brown)

evidence of a child burial found to date. This despite the aforementioned newspaper reporter who visited the Potter's Field in August 1799 and noted that "a considerable number" of the 76 burials recorded in the Keeper's Book during the first three weeks in August were children (see Figure 19).

Data from New York City's African Burial Ground (ABG), discovered in 1991, has provided archaeologists with a significant and unique body of comparative skeletal material.²⁷ Possibly beginning in the 1650s and operating until 1795, it served as the burial ground for the city's large slave and free African population. The Howard University team conducting the skeletal analysis sorted the 435 excavated burials into four time periods, Early, Middle, Middle Late, and Late, with the period assignments based on stratigraphic placement within the cemetery. Of the four, the Late Period, believed to date from about 1776 until the cemetery's closing in 1795, is most chronologically relevant to the much smaller Potter's Field sample. Two years before the city established the Potter's Field in Greenwich Village, the African Burial Ground, then known as the "Negroes" Burial Ground, located east of Broadway and north of Chambers Street, was relocated to Christie Street on Manhattan's Lower East Side without removing the burials.

It was noted in the Phase 1 field report that the Potter's Field sample from Phase 1 construction (comprising a minimum number of sixteen individuals [MNI] from intact and postulated burials) was too small to provide a statistically valid database to compare with the ABG sample of 435 MNI. Consequently, only observational similarities and differences could be addressed. The same is true of the Phase 2 sample with a MNI of seven (three intact burials and seventeen isolated bones representing at least four individuals). Moreover, no markers were identified to suggest physical stress or bone pathologies such as those noted in the ABG sample and, to a degree, in the Phase 1 bone assemblage. Although the Potter's Field burial population initially was considered socially, economically, and politically marginal and, therefore, comparable to the ABG burial population, newly determined variations have now been suggested.

With the discovery of James Jackson's headstone and subsequent research, it has become apparent the Potter's Field burial population was not as homogenous as once thought. While initially intended for the indigent and unknown, the 1799 directive that required burial in the Potter's Field for all who died of yellow fever introduced the variables of a general population early in the cemetery's history. Thus, the two burial populations actually are, to an unknown degree, less similar than originally assumed. With this in mind, the assemblages from the two burial grounds exhibit observable similarities and differences. Most notably, these pertain to pit burials, stacked burials, infant and child burials, and tooth modification.

It has been remarked that pit burials, usually associated with epidemics and wars,²⁸ were not documented in the ABG—or at least none were located in the excavated area. However, the absence of this kind of burial may, in fact, be a consequence of time: the ABG, which had its beginnings in the 17th century, was closed and relocated in 1795, before the onset of New York City's large scale, summertime yellow fever epidemics. However, they were a fact of urban life when the Potter's Field was established in 1797, and to at least some degree undoubtedly the impetus behind its inception. After 1803, this scourge recurred to a lesser degree, but persisted intermittently with the last reported outbreak said to have occurred in 1870.²⁹

²⁷ Perry *et al.* 2006a

²⁸ Perry *et al.* 2006b:231-238

²⁹ Heaton 1946:78

Despite the observation that preservation of children's remains in the ABG was relatively poor, of its Late Period burials, that is, those from approximately 1776 until the cemetery closed in 1795, 28 of the 114 in the sample, or 24.6%, were children under the age of fifteen. Thirteen of these, or 11.4%, were under a year.³⁰ The single infant's bone in the Potter's Field Phase 2 sample (WSP-SK4-09) represents only .4% of the assemblage (this percentage becomes even smaller if the bone count from Phase 1 is considered). This discrepancy is undoubtedly not only an effect of poor preservation, but also of the Potter's Field random data recovery. A systematic research design might have produced a more representational sample, but the goal of the archaeological investigation was solely to document and protect any randomly encountered human remains.

Examples of tooth modification from the two cemeteries may be comparable. At the ABG, the incisors of a Late Period male were filed (Burial 194),³¹ as noted earlier, at the Potter's Field, the teeth of a young female showed evidence of filing and mercury-induced blackening (WSP-SK5-10). Both the filing and blackening (Figure 23) may indicate treatment for tooth decay. Or, the blackening might instead be the result of mercury used to treat syphilis. It is also possible, at least in the ABG example, that filing may have been a purely cultural modification.³²

ARTIFACTS

A grab sample of 166 artifacts was collected during the Phase 2 field investigations. Most (110, or 66.3%) were ceramic sherds (e.g., see Figure 24), but there were also 37 corroded nails or nail fragments considered coffin nails (22.3%), 11 glass fragments (6.6%), two coins (1.2%), two undated kaolin smoking pipe fragments (1.2%), one marble slab fragment (0.6%), one 6-inch long oyster shell (0.6%), one leather fragment (0.6%), and a piece of aluminum foil (0.6%) (see Appendix C for a detailed artifact catalog). This small, randomly collected assemblage was intended to offer comparisons with similarly collected artifacts from Phase 1 construction.

The two coins, an 1855 French 10-centimes piece found above a 1925 Liberty dime (Figure 25), were both from Pit 3 (P3). Located northwest of the comfort station constructed between 1968 and 1970, the mixed fill in P3, like that in P1, P2, and P4, clearly demonstrate past disturbance.

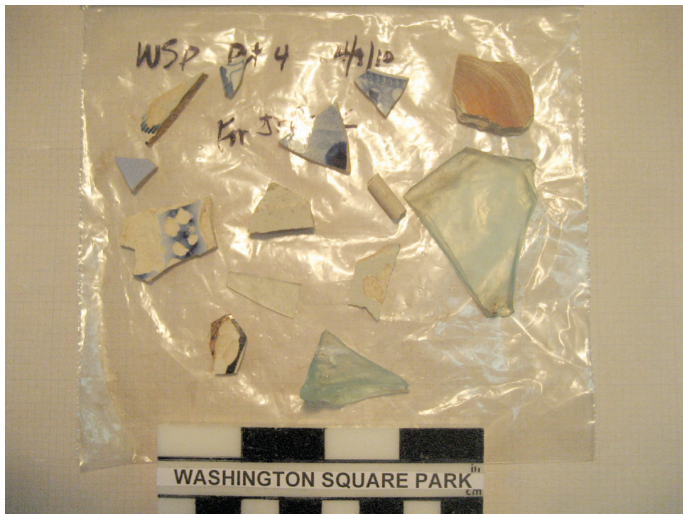
In general, the collected ceramic sherds provided *terminus post quem* (TPQ) dates of 1785 to 1820, that is, the earliest possible dates of manufacture and, by extension, of the deposit. In this context, ceramics are considered a reliable dating tool, especially given the paucity of observed or collected bottle fragments that can raise the TPQ of an artifact assemblage.

The Phase 1 artifacts documented the filling of the former burial ground in anticipation of creating the Parade Ground after the Potter's Field closed in 1825. The sparse and not very distinguished artifacts from Phase 2 confirmed this finding. The presence of coffin nails in both assemblages suggest the park's former cemetery function, as do fragmentary marble and brownstone slabs uncovered in fill during this second construction phase. These stone slab fragments are more than likely remnants of former head- or footstones. One, a worked, marble slab fragment with a trace of engraving recovered from the back dirt of CB7, was collected and cataloged (WSP 108b-1). The others were photographed but not collected (Figure 26).

³⁰ Data derived from Perry *et al.* 2006b:231-238

³¹ Perry *et al.* 2006b:246

³² Perry *et al.* 2006b:246



24 Ceramic and glass sherds from Pit 4 (P4) after washing and drying but before being numbered and cataloged. This grab sample of early ceramics was collected when testing was resumed after a 3-week hiatus imposed to accommodate removal of a buried concrete layer. A candy wrapper at 3.6 feet (1.1 meters) below the surface was indicative of the mixed nature of the pit's fill. (4/9/10)



25 Two coins, an 1855 French 10-centime piece on the left, a 1925 Liberty dime on the right. Both were from the mixed fill in Pit 3 (P3, Quadrant 9c). The dime was found below the French coin, highlighting the fill's random quality.



26 Stone slab fragments recovered from fill in CB7 (Quadrant 9b) and photographed in the field. All are possibly remnants of head- or footstones. (11/06/09)

Following established procedure, the 166 artifacts recovered during Phase 2 construction were washed, numbered, and the ceramics identified mainly by Dr. Meta Janowitz, a ceramics specialist. All the artifacts were cataloged and boxed.

SUMMARY AND CONCLUSIONS

To summarize, the archaeological field endeavor for Phase 2 construction of Washington Square Park comprised monitoring or testing thirteen catch basins (CB), seven drop inlets (D), eleven utility trenches (UT), one test trench (TT), and five test pits (P). A sixth test pit, JJ TP, was an unsuccessful exploration for James Jackson's remains. There were also five light pole locations (LP), and one proposed geothermal well location (GTP). In addition, two test pits were opened where soil borings were planned (SB), but these were terminated at a shallow depth. It should be noted that several catch basins (CB) and drop inlets (D) were either incorporated into others or not monitored, typically because they were existing features that were to be reused (see Table 1).

An artifact grab sample of 166 artifacts, which was somewhat larger than the Phase 1 sample (166 versus 71 artifacts), again mainly comprised ceramic fragments and coffin nails. Like the grab sample from the earlier construction phase, the assemblage suggests the filling and grading that followed the closing of the Potter's Field in 1825. The coffin nails clearly indicate the site was once a burial ground, in this case, the City's second Potter's Field. They also indicate that at least some if not all were coffin burials.

Documented human skeletal material was represented by 93 bones, with seventeen of them "isolated," or disturbed, finds that were analyzed in the Brooklyn College Zooarchaeology Laboratory and Hunter College Bioarchaeology Laboratory, CUNY, by Matthew Brown, the bioarchaeological specialist for this second construction phase. The others, considered components of intact burials, were documented in the field and protected in place (*in situ*).

Compared with Phase 1, the skeletal sample from this phase comprised a smaller minimum number of individuals (MNI) (seven versus sixteen) with fewer isolated human bones (seventeen versus 515) collected for analysis. Once again, male and female skeletal material was identified, but the two Phase 2 burials where age and gender could be determined, that is, the stacked male and female burials identified in test pit JJ TP, were both late middle aged, and, therefore, somewhat older than individuals identified in the Phase 1 skeletal assemblage. The femur of the full term or new born infant from D8 offered the only evidence to date of what undoubtedly were numerous burials of children. This dearth of such burials is quite likely a reflection of poor bone preservation of the very young, but another factor is at least in part related to the randomness of the Potter's Field sample.

Given the small sample size, not much can be said about individuals in the Phase 2 skeletal assemblage (see Appendix B this report for detailed analysis of this skeletal material). However, the sample reconfirmed that human remains are to be found within the boundaries of Washington Square Park, and particularly in the southwest quadrant (9c).

While little was revealed about the individual characteristics of those buried in the Potter's Field, information was recovered regarding the circumstances of burial. In addition to confirming the presence of stacked burials as suggested during the Phase 1 investigation, the placement of three intact burials encountered south of the James Jackson stone (WSP-SK1-09, WSP-SK2-09, and WSP-SK3-09) indicated that at least of some of these stacked burials were in

pits. This corroborates the description of a Potter's Field pit found in an 1824 newspaper article about a medical student's aborted attempt at grave robbing. As noted in the ABG report, pit burial, which was not documented at the ABG, is most often associated with war and epidemics, the latter being the Potter's Field situation. It is conceivable that the dearth of pit burials in the ABG may be a reflection of its closure in 1795, that is, before the onset of the city's more widespread and devastating yellow fever epidemics.

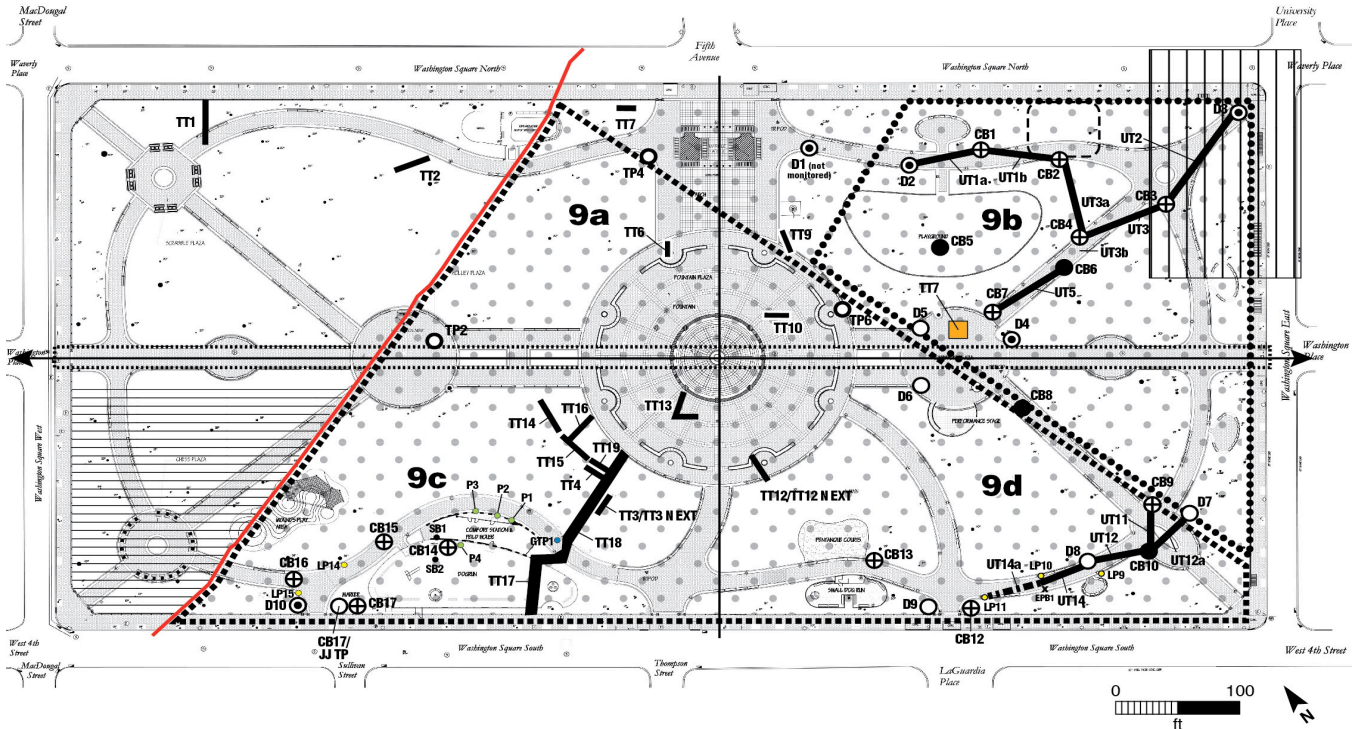
Cultural modification evidenced by filing and the blackened enamel of teeth from the partial cranium of a young Potter's Field female seems related to late-18th to early-19th century practices regarding tooth care and possibly the treatment of disease. Matthew Brown, the Phase 2 bioarchaeologist, has determined that the discoloration might be the result of using mercury to eliminate tooth decay, but it might also have been used to cure an illness such as syphilis (the teeth of a male burial in the ABG assemblage were modified by filing that might also have been treatment for tooth decay, or it could have been solely a cultural modification).

The site's most spectacular and surprising artifact was the well-preserved and beautifully crafted headstone of James Jackson who died of yellow fever on September 22, 1799. The brownstone marker not only recorded his name and date of death, but also his age at death (28), and his place of birth (County Kildare, Ireland). The find prompted research that expanded what we know about the city's administrative response to a late-18th century yellow fever epidemic, which included the requirement that all who died of the fever had to be buried in the Potter's Field. It also considered the public response that fostered exaggeration and, with a misguided fear of contagion, panic. Research also offered information about Jackson himself, as well as about other Potter's Field burials. In addition, it questioned the assumed homogeneity based on economic and social parameters of those buried in the African Burial Ground and in the Potter's Field.

Between 1795 and 1799, one to three James Jacksons are listed in the New York City Directories. By the process of elimination, the James Jackson who lived at 52 Warren Street in 1796 and described himself as a watchman is our James Jackson. He was still at the Warren Street address in 1797 when he identified himself as a laborer. By 1798, he was listed as a grocer living at 19 East George Street. At his death in 1799, when he was again described as a watchman, he still resided at 19 East George Street. His widow, who research identified as Elizabeth Jackson, and his four young children disappear from city records after 1800.

The relatively shallow depth—only 1.5 feet (0.46 meters) below the current ground surface—and the absence of an associated grave suggest we may not have been the first to discover James Jackson's headstone. It is possible that those grading and filling the former Potter's Field in 1825 to create a new parade ground may have used this simple, beautifully made stone to commemorate the multitude of unmarked graves. But, of course, this is only speculation. In the opinion of this writer, this headstone would be a fitting memorial to those who still remain in what was once the city's second Potter's Field. Beyond this, it documents an affecting chapter in New York City's history, when its population was subject to the yearly devastation of yellow fever, a little understood disease.

At this writing, Washington Square Park's third and final construction phase is about to begin (see Figure 27 for a compendium of all tested areas to date). It will be interesting to see what new information this might offer about the former Potter's Field and the development history of this beloved park in New York City's historic Greenwich Village.



- N-S quadrant line
- ↔ E-W quadrant line, 4.5' diam. brick sewer c 21' underneath (1880-1892)
- Potter's Field (1797-1825) within the park's limits (approx.)
- portion of Anthony Portuguese Farm (1645) within Washington Square Park, approx.
- portion of Manuel Trumpeter's Farm (1643) within Washington Square Park, approx.
- The Minetta Waters (approx.) and possible wood culvert
- church cemetery/cemeteries partially or all within Potter's Field (pre 1817)
- not archaeologically sensitive
- disturbance (sewer) documented/assumed
- 9a** research quadrant
- utility trench (UT) or test trench, monitored or tested
- shallow trench, monitored
- Garibaldi statue, relocated
- ⊙ existing drop inlet (D)
- new drop inlet (D)
- existing catch basin (CB)
- ⊕ new catch basin (CB)
- test pit (TP), approx.
- light pole (LP)
- geothermal test pit (GTP)
- JJ TP James Jackson test pit
- x electrical splice box (EPB)
- pit (P)
- soil boring test (SB)

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WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A
SUMMARY OF FIELD NOTES
(Note: measurement in 10^{ths} of feet)

WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A

SUMMARY OF FIELD NOTES

Quadrant 9b*

D2 (Formerly CB2)

Cat. No. 101 (10/15 & 10/19/09) Diameter 4.5 Depth 3.2

Existing Brick basin. Cleaned to locate bottom. Terra-cotta pipes c .6 ft below top of feature. Mud at 2.2 ft. Metal rungs in E side. Concrete bottom.

D4

Cat. No. 109 (11/6/09) Length 9.1 Width 5.0 -7.3 irr Depth 6.2

SW of existing basin, vicinity of old sewer line. Electrical conduit c 1 ft BGS. Upper fill with some stratification. Sawed animal bone c 3 ft BGS (S part). Possible decayed wood frags. Mainly yellow-brown sands; fill.

CB1

Cat. No. 103 (10/20/09) Length 7.5 Width 6.0 Depth 8.5

Top 2 ft fill – stone, brick frags. Brown soils. Removed 1.6-ft high curb for access. Asphalt c 2.5 ft BGS. Iron pipe c 4 ft BGS. Dark yellow-brown sand c 7-8 ft BGS. Clam frags. Sandier with depth. Relatively clean fill.

CB2

Cat. No. 104 (10/20/09) Length 11.0 Width 7.0 Depth 9.2

Sandy soil (fill), relatively clean, isolated cultural material (ceramic frags; dressed stone frags at 6.0-7.0 ft BGS, ceramic, brick 6.0 ft BGS and deeper). Little cultural material except old terra-cotta sewer pipe, brick, ceramic, oyster shell. Shell frags at bottom (9.2 ft).

CB3

Cat. No. 105 (11/5/09) Length 9.0 Width 6.2 (total) Depth 7.2

Relocated after initial testing [see Cat. 118 for relocated CB3]. Highly disturbed, dark brown clean fill over clean yellow-brown sand. Concrete wall 3.5 ft high, c 8 ft thick divides trench into 2 sections with mixed, clean fill. No artifacts noted.

CB3 (relocated)

Cat. No. 118 (11/25/09) Length c 25.0 Width c 20.0 Depth c 10.0

Unconsolidated, red-brown soils; pit widened by trench wall collapses. Iron pipe (electrical) c 3-4 ft BGS. Highly disturbed (brick rubble). Catch Basin was set and then reset. Paving removed along E paths. PVC pipes at street level. 2-ft rise adjacent to area W of path curbing. Soils dark, rich, loamy. Curbing (N-S) 2.6 ft high; paving 1.5 ft thick. (See also Cat. No. 105 above)

CB4

Cat. No. 107 (11/6/09) Length 12.0 Width 5.5 –7.8 Depth 9.2

N side of asphalt path. Ash in upper layer. Disturbed by pipes near top. PVC pipe (in N part), large ceramic drainpipe (SE corner), both c 5 ft BGS. Yellow sand above/below pipes. Shell, animal bone (degraded), ceramics (with age) c 8.2 ft BGS. Mottled yellow sandy soils. Relatively clean fill to 9.2 ft. [CB later reset; see Cat. No. 117]

*Testing/monitoring in Quadrant 9a was completed during Phase 1 construction.

WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A
SUMMARY OF FIELD NOTES
Quadrant 9b (continued)

CB4 (Catch basin reset)

Cat. No. 117 (11/25/09) Length 20.0 Width 15 .0 Depth 10.0

Additional excavation. Soils red-brown, relatively clean, unconsolidated (collapsing). Ceramic sewer pipe, ceramic and brick frags; oyster, clam. [See also Cat. No. 107]

CB7

Cat. No. 108 (11/6/09) Length 10.1 Width 6.3 Depth 9.2

Top .75 ft black soils. Iron pipe in N wall c 2 ft BGS. Sandstone (headstone?) frags (2), unmarked, c 1 ft BGS. Brick, ceramic, shell frags to c 8 ft BGS. Mottled brown-yellow sands to bottom. White marble headstone frag, illegible letters c 8 ft BGS.

TT7

Cat. No. 102 (10/19/09) Length: 18.0 Width: 7.0-8.0 irr Depth 3.0-8.0

Garibaldi Base – New Location. 17.5 ft from center of manhole in E-W walkway to N extent of 9-ft square test to determine disturbance. Curbing exposed 1.5 ft BGS. Soil stony, unlike sand in pristine area. Water 2.8 ft BGS; broken irrigation pipe c 3 ft BGS floods pit. Work halted to cap pipe (extends further S than shown); valve later located in playground to N. Fill (plastic, brick, ceramics, shell) to c 5.5 ft.

Note: TT7 only TT in Phase 2

UT1a

Cat. No. 110 (12/1/09) Length 60.0 Width 5.0 irr Depth 3.25-c 5.0

D2 to CB1. Backhoe and hand excavated. Trench crossed by several metal and PVC pipes at various depths. Highly disturbed area. Soils red-brown to yellow-browns. Brick rubble, clam and oyster shell.

UT1b

Cat. No. 111 (12/1/09) Length 15.0 Width 5.0-6.0 Depth 5.0-6.0

CB1 to CB2. Yellow-brown sandy soils as found through out area. Many cobbles. Varying sizes, some large. Pitches E. Bottle base at c 3-3.5 ft BGS. Butchered animal bone (sheep, goat, cow) oyster, clam. Brick, ceramic frags. Fill.

UT1b

Cat. No. 112 (12/1/09) Length 50.0 Width 5.0- 6 .0 Depth 5.0- 6.0

Continuation of CB1 to CB2. See Cat No. 111 above.

UT2

Cat. No. 113 (12/1/09) Length c 100.0 Width c 5 .0 Depth 3.0- 5.0

D3 to CB3. Pitches SW. One pipe encountered crossing trench. Relatively clean soils. Brick frags, clam and oyster. Ceramics in SW end. Fill.

UT3

Cat. No. 116 (12/2/09) Length c 75.0 Width c 5.0 Depth 4.0-10.0

CB3 to CB4. Trench runs along old paved pathway most of length. N-S PVC pipe across trench 1.5 ft BGS, c halfway between catch basins. Cow bones c 6 ft BGS c 20 ft E of CB4 in N wall. E-W ceramic sewer/drain pipe probably led to old catch basin replaced by CB6, c 4 ft BGS, 25 ft

WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A

SUMMARY OF FIELD NOTES

Quadrant 9b (continued)

UT3 (continued)

from end of trench. Two N-S metal pipes (electric) near surface; one c12 to 15 ft E of CB3, the other at 2.5 ft BGS c 6 ft W of CB3. Highly disturbed area. 4ft deep at CB3, 10 ft at CB4.

UT3a

Cat. No. 115 (12/2/09) Length c 70.0 Width 3.5- 5 Depth 5.0- 9.0

CB2 to CB4. PVC Pipe across trench (E-W) c 2.5 ft BGS, c12 ft S of CB2. E-W terra-cotta sewer pipe 4.5 ft BGS c 4 ft S of CB2. Base 5 ft wide. Beyond c 20 ft. trench becomes “V” shaped as bottom narrows to c 3.5 at S end. Soils in N end unconsolidated. Upper 1-2 ft BGS black over yellow-brown. Pitches S. Feeder roots from area trees. Two PVC pipes c 1 ft BGS near S end of trench. Ceramic frag c 8 ft BGS. Soils relatively clean, some shell and animal bone.

UT3b

Cat. No. 119 (12/2/09) Length 30.0 Width 15.0-20.0 Depth 13.0

CB4 to CB6. Trench previously excavated to accommodate CB6 and during testing for CB4. CB4 had to be lowered c 1 ft. The bottom of CB6 13 ft BGS. Trench uneven to accommodate basin. Highly disturbed area. Relatively clean soils.

UT5

Cat. No. 114 (12/1/09) Length c 80.0 Width 6.0 Depth 4.0- 5.0

CB 7 to CB6. Old sewer pipe 3.35 ft BGS runs entire length of trench. Concrete slab with rebar in trench. Soils, typical sandy red and yellow- browns. Depth N end 4 ft; SW end 5 ft BGS (CB7).

Quadrant 9d

D6

Cat. No. 218* (11/5-11/6/09) Length 7.0 Width 5.0 Depth 1.5 ft

Vicinity of E-W sewer. Electric lines just E of location. Gravel fill under asphalt c .5 ft; brick rubble over concrete (?) c 1.5 ft BGS; possibly road introduced in 1870. Halted (3PM) at 1.5 ft BGS.

Returned 11/6/09 to determine if concrete or asphalt at 1.5 ft., but not possible to test.

*Former Cat. No. 106 corrected to Cat. No. 218 on 5/17/11

D7

Cat. No. 201 (11/5/09) Length 7.4 Width 5.3 irr Depth 5.7

Brick frags under asphalt. Ceramic frag between asphalt layers, 1.2 ft BGS. Plastic, 1.9 ft BGS. Clam shell on water pipe, 2 ft BGS, W side. Unmarked bricks, some whole in mottled fill. Water conduit (vertical) in SW corner, covered by leaves at ground surface. 3 layers of asphalt, old terra cotta drain pipe under asphalt (in brown sand); evidence of disturbance; multiple park episodes.

D8

Cat. No. 203 (11/5/09) Length 7.5 Width 5.0 Depth 5.7

E-W trench. Three layers of asphalt. Brick, clam, oyster and animal bones. Red-brown soils. Cut animal bone in brown soil. Tree roots in N wall of trench an issue. Collected what proved to be animal bone and a neonatal/infant's femur (determined 11/7/09; see Appendix B WSP-SK4-09).

WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A
SUMMARY OF FIELD NOTES
Quadrant 9d (continued)

D9

Cat. No. 217 (11/16/10) Length 8.0 Width 6.0 Depth c 4.5

Backhoe and hand excavated. 1.5 ft W of W column of new park entrance. 1.5 Red-brown clean soils throughout. Shallow trench excavated between CB12 and D8 c 13 ft long and 4 to 5 ft BGS.

CB9

Cat. No. 202 (11/5/09) Length 8.0 Width 5.4 Depth 5.5- 7.3

Electric pipe runs through trench 1 ft BGS. Soils same as D7, with dark overburden. Bricks whole (unmarked) and frags. Sewer pipe. Mammal (animal) long bone .5 ft BGS. Ceramic pipe 4.5 E-W. Disturbance. Old catch basin in NE corner wall. Soils mottled; bottom sandy silt, yellow-brown. Disturbance from electric conduit, ceramic pipe, catch basin.

CB12

Cat. No. 216 (11/16/10) Length 7.0 Width 6.0 Depth c 3.5

Backhoe/hand excavated. 2 ft E of E column of new park entrance. Thin layer of yellow-brown soil over red-brown. Soil clean, no rubble.

CB13

Cat. No. 211 (3/19/10) Length 10.5 Width 6.25 Depth 9.0

Below former brick platform. Stratified fill soils, color range dark brown to yellow-brown at top, red-brown to yellow-red at bottom. Stones c 8.5 ft BGS. Relatively clean, late fill. Some ceramic frags.

[Note: originally Cat. No. 204; reassigned Cat. No. 211 on 3/19/2010]

UT11

Cat. No. 209 (12/3/09) Length c 40.0 Width 10.0-11.0 Depth 4.0- 5.0

CB9 to CB10. Trench previously excavated and pipe introduced during excavation of Jackson Stone. Trenches excavated on either side of pipe. Pipe raised and stone gravel placed beneath. Pitch is N. 2 ft at S end, c 5 ft at CB9. Trench highly disturbed. Broken sewer/drain pipe in wall. Cow, butchered mammal (animal) bone frags. Ceramics, oyster, clam, brick frags, and clinkers.

UT12

Cat. No. 205, 206, 207 (12/3/09) Length 43.0 Width 4.0- 4.5 Depth 4.0

D8 to CB10. Brick rubble from old catch basin near CB10. Highly disturbed. Butchered cow bone near top. Metal pipe c 1 ft BGS. Yellow-brown soil layers thicken as trench nears old catch basin area. Bottle base c 4 ft BGS (collected). Brick rubble, clam, oyster, ceramic frags.

UT12a

Cat. No. 208 (12/3/09) Length c 35.0 Width Uneven Depth 3.0-4.0

CB 10 to D7. Pitch is SE to CB 10. Trench from CB 9 to D7 not excavated because of tree in trench line. Soils highly disturbed from CB tests and parallel trench UT11. Iron pipe in S wall c 3.5 ft BGS. Brick rubble from old catch basin. Butchered cow bone, clam and oyster frags. Brick and curbstone rubble in fill.

WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A

SUMMARY OF FIELD NOTES

Quadrant 9d (continued)

UT14

Cat. No. 210 (12/3/09) Length 45.0 Width 6.0 Depth c 3.0-3.5

D8 and moving W. Partly under pathway and grassy area. 2 layers of paving to c 2 ft BGS. Soils dark brown over yellow-brown (c 0.5 ft) over red-brown. PVC pipe (electric) N wall c 1 ft BGS. Some oysters, clinkers. (See Cat. No. 212-215a below)

LP9

Cat. No. 213 (9/24/10) Length 5.0 Width 4.0 Depth c 5.0

LP 108 ft E of E side of new park entrance. Terra-cotta sewer pipe (12 in diameter) 3 ft BGS (paved pathway). Yellow-brown (6 to 8 in over red-brown sand). Disturbed, relatively clean. Shallow trench (1.5 - 2.0 ft) excavated to connect LP9 to EPB1; 48-ft long E/W in path.

LP10

Cat. No. 214 & 214a (9/24/10) Length 5.0 -7.0 Irr Width 5.0 Depth c 5.0

Backhoe /hand excavated. N side of path, 26 ft W of LP9. Animal bone c 3 ft below top of curb, metal frags in N wall, ceramic frag. Thin layer of yellow-brown soil over red-brown sand to bottom. Previously disturbed. Shallow trench (214a) dug between LP10 and EPB1.

LP11

Cat. No. 215 & 215a (9/24/10) Length 4.0-8.0 Irr Width 4.0 Depth c 5.0

Backhoe/hand excavated. 44 ft W of EPB1. Excavated to 4.8 ft below top of curb. Red-brown sand. Bricks, terra-cotta pipe frags, wood blocks. Previously disturbed. Shallow trench (215a) c 2.5 to 3 ft BGS excavated from LP11 to EPB1. Brick wall frag, mortared, exposed in S wall of trench 2.5 ft below top of curb c 1.5 ft long. Bricks marked "SSBCO." Ceramic pipe frags, old paving, metal pipe and wood frags. Previously disturbed area.

EPB1

Cat. No. 212 (9/24/10) Length 5.0 Width 5.0 Depth c 3.0

Splice box, 60 ft E from E side of new park entrance, 1 ft from curbing on S side of pathway. Encountered old ceramic sewer pipe; butchered cow bones. Top 1 ft yellow-brown over red-brown sand.

Quadrant 9c

D10

Cat. No. 314 (11/19/09) Length 9.0 Width 7.0 Depth 4.0

Old brick detention basin exposed in W side of new location of CB 17 (just W of Jackson Stone) 12 inch terra-cotta pipe entered detention basin from N. Marked bricks (SSB Co.) in old detention basin (1930s?). New basin cast concrete 3.4 ft exterior set 4 ft BGS.

CB14

Cat. No. 313 (11/18/09) Length 6.0 Width 6.0 Depth 6.0

Hand excavated. N of storage building. N-S PVC pipe (white) c 1ft BGS. Smaller grey PVC pipe to E. Brick frags, oyster, nails. Dark soils c1.5- 3 ft BGS. Whole bricks (D.P.B.W. & ...VERT)), ceramics (sample collected) 2.5- 3 ft BGS. 2 old iron water pipes 4 ft BGS. Soils

WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A
SUMMARY OF FIELD NOTES
Quadrant 9c (continued)

CB14 (continued)

mottled, disturbed. N-S Metal pipe 4.3 ft under PVC pipes. N part of trench highly disturbed; old layer of gravel under pipes 4.5- 5.5 ft BGS.

CB15

Cat. No. 304 (11/10/09) Length 6.0 - 9.0 Width 6.0 Depth 5.5

Dark soil to c 2 ft BGS, over yellow sand; isolated human bone frags identified at interface (see Appendix B-WSP-SK8A-B-10). Soil changes to red-brown. Clam and brick frags. Soil changes back to yellow sand. Unmarked sandstone frags c 4 ft BGS. Ceramic, brick, oyster frags. Plate frag, Blue TP c 4.5 ft BGS. Soil very mottled. Possible remnant of sandstone headstone, unmarked c 4 ft BGS, 2 ft below layer of asphalt in S wall. Trashed iron pipe c 4 ft BGS. All fill.

CB16

Cat. No. 303 (11/2/09) Length 9-9.6 Width 9.0 Depth 7.0

W of CB 17. Brick, shell (clam), ceramic frags c 3.5 ft BGS. Iron pipe (corroded) c 3.5 ft BGS, sloping surface, strong brown soils. Large brick c 5 ft BGS. Typical late 18th - early 19th C fill material. Brown sand over yellow-brown W side.

NOTE: CB17 (Cat. Nos. 301, 302a, 302b, 305, 306-309) Relate to the Jackson Stone; stone ultimately removed for protection and conservation

CB17

Cat. No. 301 (10/23/09) Length 6.0 Width 6.0 Depth 6.5

Test pit for catch basin. Brick frags 4 ft below the curb on E side of pit; soil change 4 ft BGS; Engraved headstone revealed on west side at 1.5 ft BGS. Brownstone, beautifully carved: "HERE LIES THE BODY OF/JAMES JACKSON/WHO DEPARTED THIS LIFE/THE 22^d DAY OF SEPTEMBER/ 1799 AGED 28 YEARS/NATIVE OF THE COUNTY/KILDARE IRELAND." Stone 2.9 ft high, 2 ft wide; .2 ft thick. Small ceramic (finger painted) and shell (oyster and clam) frags and fragmented animal bone in yellow soil above and around the stone indicate redeposited fill. 2 corroded nails noted in fill. Wood frame with blue tarp to protect stone; hand excavation to continue.

CB17

Cat. No. 302a/b (10/26/09) Length 5.6 Width 4.0 S Depth 12.1
in extended pit (ST)

Hand excavated. A pit on the N side of the Jackson headstone, supported by timbers, excavated to expose any associated burial. Headstone appeared to comprise two pieces; a parallel black line suggested a former ground surface 5.1 ft BGS; rocks uncovered 3.8 ft below top of the stone; ceramic, shell, asphalt frags, and a butchered animal rib 5.5 ft BGS; pit expanded c 2 ft N of stone; "base" about 3 ft long (see below). Olive-brown soil at 7 ft BGS (2.5Y 4/4) with dark yellow-brown sand above (10YR 4/6). Oyster shell, whiteware ceramic frag, 2.75 ft below dark line on bottom stone. Cultural material c 6.7 to 7.1 ft below the black line. Total depth: 12.1 ft. in pit. No evidence of burial.

CB17

Cat. No. 305 (11/12/09) Length -- Width -- Depth --

Monitored cleanup (shoveling, brushing) of the James Jackson headstone for viewing.

WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A
SUMMARY OF FIELD NOTES
Quadrant 9c (continued)

CB17/JJ TP

Cat. No. 306, 307, 308, 309 (11/16/09) Length 15.0 Width 7.5 Depth 11.1

[Jackson stone removed; excavation to S]

[extended pit]

Using a gantry, the James Jackson stone was removed by Dun-Rite, specialist carriers, for conservation in their Bronx facility (see Figure 14 in text). What was thought to be a headstone and a base, each c 3 ft high, proved to be a single, 6-ft stone that had cracked and its upper half shifted, possibly during the backhoe excavation that exposed it. The horizontal black line noted on the stone could conceivably represent the location of the original ground surface on the stone. The headstone was removed and packed for transport. Backhoe excavation to 7 ft, followed by shoveling on the south side of the stone's location, revealed yellow sand that became noticeably darker and included cultural material from 7 to 8 ft BGS (animal bone frags); oyster shell at c 9 ft and 3 corroded nails at c 9.25 ft BGS. Pit widened at 9.25 ft to provide room for excavation to continue; this exposed large bluestone frags c 6-7 ft BGS, several corroded nails with attached wood frags at 8-9 ft BGS. A skull was exposed at 11.10 ft BGS in the extended pit S of the Jackson stone (see Appendix B, WSP-SK1-09). Excavation halted and the skull was protected with the intention of returning the next day with Matthew Brown, the project bioarchaeologist. A cursory examination of the sutures, or lack thereof, suggested it was the skull of a male with some age. Coffin nails with wood fragments noted. Skull's location was marked with plastic and wood and the pit partly backfilled.

JJ TP (S side of Jackson Stone after Removal)

Cat. No. 310, 311, 312 (11/17-11/18/09) Length 4.9 Width 5.6 Depth 11.25

[S and E of Jackson Stone after removal]

[variable]

Backhoe to 7 ft (backfill). Shoring introduced prior to hand excavation to re-expose Skull 1 (see Appendix B, WSP-SK2-09) and determine orientation, age, and sex. Bones from left and right foot (WSP-SK3-09) exposed c .75 ft above and S of Skull 1, c 9.75 ft BGS. A second skull WSP-SK2-09) encountered, staggered above Skull 1 (11.35 ft BGS; see Figure 18 in text); different orientation. Skull 2 (c 50 year old female) faced N with 2 coffin nails in association; Skull 1, c 11.28 ft BGS, c 45+ year-old male. Cow/horse bone (butchered) above Skull 1. No evidence of James Jackson's remains. WSP-SK2-09) encountered, staggered above Skull 1 (11.35 ft BGS; see Figure 18 in text); different orientation. Skull 2 (c 50 year old female) faced N with 2 coffin nails in association; Skull 1, c 11.28 ft BGS, c 45+ year-old male. Cow/horse bone (butchered) above Skull 1. No evidence of James Jackson's remains based on orientation and age of uncovered human remains. 12+ corroded nails (12.1 ft BGS) and ceramic frags in deeper fill. Human remains protected till contact can be made with medical examiner [accomplished the next day; no issue]. Measurements and photographs taken (e.g., see Figure 18 in text and Appendix B); both skulls treated as intact burials although no absolute determination made (limited excavation); articulated toe bones also considered an intact burial (see Figure 18 in text); wooden boxes made to cover and protect exposed skulls prior to backfilling (see Appendix B for detailed analysis of intact burials and isolated finds).

CB17 (Relocated)

Cat. No. 315 (11/19/09) Length 9.0 Width 7.0 Depth 6.0

Just E of original CB17 location. Bluestone frag, wood and plastic bottle in fill. Much of this area previously excavated as p/o Jackson Stone exploration. Catch basin introduced.

WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A
SUMMARY OF FIELD NOTES
Quadrant 9c (continued)

P1

Cat. No. 316 (3/19/10) **Length 3.5** **Width 3.5** **Depth c 3.5**

Hand excavated. N of Brick Wall – N of Comfort Station. Metal pipe diagonally across pit c 1 ft BGS. Large paving stone, large boulder and 2 inch thick metal plate 2-2.5 ft BGS. Soils mottled, relatively clean. Artifacts not collected, plastic (in top 2 ft BGS); tin can, whole brick “CALVERT” at 2.5 ft BGS. Whisky bottle (whole) 3.4 ft BGS. Brick, animal bone frag (small), clam frags. Collected 2 bone frags. Ceramic with maker’s mark 1.5 ft BGS. (Human remains exposed and collected see Appendix B-WSP-SK7A-B-10)

P2

Cat. No. 317 (3/19/10) **Length 3.5** **Width 3.2** **Depth 3.6**

Hand excavated. N & W of comfort Station. Rubble at top. Concrete paving stone c 1 ft BGS broken with sledge hammer. Soils mottled and relatively clean. Devoid of the yellow sand encountered elsewhere. Brick rubble to at least 3.5 ft BGS. Possible coffin nails, highly corroded, 3.2- 3.4 ft BGS (collected).

P3

Cat. No. 318 (3/19/10) **Length 4.3** **Width 3.5** **Depth 3.5**

Hand excavated. NW of Comfort Station, S of dog run. PVC pipe c .7 BGS over iron pipe, both running N-S across pit. Some brick rubble near top. Coin – French, 1855, c 1.5 ft BGS; USA dime, 1925, 2 ft BGS. Below 2 ft BGS ubiquitous yellow sand. Below 3 ft ceramic frag, butchered animal bone, oyster and clamshell frags and unburned coal. Fill probably related to Comfort Station construction.

P4

Cat. No. 319 (3/19 & 4/9/10) **Length 3.5** **Width 3.7** **Depth 3.5-4.5**

Hand excavated. W of Comfort Station in paved area. Adjacent to small storage building. Work halted; compressor needed to cut and remove concrete paving. Ashy soil to 1.5 ft BGS, over red-brown soil. Brick and plaster rubble; some decayed animal bone, shell frags, all above 2 ft BGS. Modern wrapper frag at 2.7 ft BGS. Possible coffin hardware frag 2.84 ft. Glass, corroded metal, some animal bone frags 2.8 to 3 ft BGS in sand. Corroded nails, modern wrapper 3.5 ft BGS. Redeposited fill with fragmented material; early-19th C ceramics, scrap bone (animal), brick, clam shell, corroded metal, cigarette filter, etc. (Mixed fill).

GTP1 (Geothermal Test Pit)

Cat. No. 320 (4/19- 4/20/10) **Length 3.5** **Width 3.0** **Depth 6.2**
(6.2 ft-deep ST in SW corner of Pit)

Hand excavated. Below basement floor of Comfort Station (basement floor 10.35 ft below ground surface). Removed concrete and wire lathing; plastic sheeting below, rebar in fill; asbestos roofing frags 2.0 ft below basement floor (BBF). Abandoned iron pipe 2.5 ft BBF in SE corner of pit. Corroded nail 1.34 ft. Shell, rock frags, mortar deposit 2 ft BBF; Unidentified bone frag (eroded) in upper 3.5 ft of shovel test; nail c 3 ft BBF. Coca Cola bottle (whole) at 2.7 ft BBF. Fragmented cranium (maxilla but no mandible; WSP-SK5-10) 3.5 ft BBF in association

WASHINGTON SQUARE PARK PHASE 2 - APPENDIX A
SUMMARY OF FIELD NOTES
Quadrant 9c (continued)

GTP1 (Geothermal Test Pit) (continued)

with brick & asphalt, oyster frags (see Figure 21 in text); apparently not a burial. What proved to be human bones (WSP-SK6A-C-10) 4 ft BBF. Abandoned iron water pipe, metal rods with nuts, corroded, c 2.85 ft. BBF. Shovel test (ST) in SW corner where geothermal rod to be located: bone frag 4.1 ft collected for appraisal; small brick frags. Sandy soil with silt and grayish sand as pit deepens. Clean, mottled soils below 5.1 ft. No evidence of human bone or intact burials. Soil taken down to 6.2 ft in ST.

SB1

Cat. No. 321 (5/25/10)	Length 5.0	Width 5.0	Depth c 5.0
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Backhoe/hand excavated. Testing for Soil Boring. NW side of storage building. Hand excavated to c 5 ft BGS. Asphalt with soil, brick (whole and frags), cut animal bone, corroded nails, Belgian Block to 1.5 ft, over silty mottled soils across pit to bottom. Excavation terminated.

SB2

Cat. No. 322 (5/25/10)	Length 4.0	Width 4.0	Depth c 2.0
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Hand excavated. Testing for proposed soil boring. E side of storage building. Testing for utilities. PVC pipe N side of pit. Can with paint c 1 ft BGS. Brick frags in dark fill c 1.5 ft BGS. Ceramic, animal bone frags c 2 ft and clamshell frags c 2.3 ft BGS. Excavation terminated.

LP14

Cat No. 323 (3/30/11)	Length 7.5	Width 5.0	Depth 4.0
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Backhoe excavation of light pole location on W side of new Sullivan St entrance. Disturbance throughout (c 12-in diameter terra-cotta drain at c. 3.0 ft BGS across E side of the excavation; electrical pipe at 1.0 ft BGS across W side). One or two undecorated pearlware/whiteware ceramic fragments noted; generally a brown sand that comprised clean fill.

LP15

Cat No. 324 (3/30/11)	Length 6.5	Width 5.0	Depth 4.5
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Backhoe excavation of light pole location on W side of path. Disturbance throughout (electric conduit on W side of the excavation at c 1.0 ft BGS with an adjacent, new, corrugated metal sewer pipe, which was damaged during the excavation, at about 3.0 ft. BGS. Broken-up asphalt in the upper level (1.0 to 1.5 ft) with brown sand below. Small, undecorated whiteware fragment noted, but generally a clean fill.

**APPENDIX B: WASHINGTON SQUARE PARK PHASE 2
BIOARCHAEOLOGICAL ANALYSES
(Matthew A. Brown)**

WSP-SK1-09

(Male Partial Cranium)

Contextual/General Information

These remains (SK1) comprise the partial cranium of an adult male approximately 45 years of age. The cranium was exposed in JJ TP in quadrant 9c (Cat. No. 312) (**See Figure 18 in text**). SK1 comprises the left temporal bone and a fragment of the orbital region of the frontal bone. It was determined in the field that these cranial bones belong with the partial cranium of SK1. No dental material was recovered or found. Since the human remains did not extend into the eastern wall of the pit, it is more than likely that SK1 represented a disturbed burial, but, given the limited excavation allowed, it is considered an intact burial for this analysis.

Orientation and Relationship to Other Burials

SK1 is located approximately 1.0 foot (32 cm) from the north and east walls of the pit, approximately 1.4 feet (c 43 cm) from the south wall, and c 3.9 feet (120 cm) from the west wall (**See Figure 18 in text**). SK1 was exposed at a depth of 13.0 feet (396 cm) BMD [Borough of Manhattan Datum equal to 1.75 above the ground surface at time of excavation]. This was approximately 11.25 feet below the ground surface at the time of excavation and 1.0 foot (30.48 cm) below SK2 and 1.5 feet (45.72 cm) below SK3. It was approximately .83 feet (c 25 cm) west of SK2 and approximately 2.3 feet (70 cm) northeast of SK3. SK1 was oriented with the head to the northwest and the feet to the southeast if the burial was fully extended and the head was in its original orientation, which could not be determined without further excavation into the east wall. The distance, level and orientation of SK1 make it unlikely that it was associated with SK3.

Preservation

The cranium was in fair-to-poor condition with evidence of post-mortem damage (PMD) and was missing most of the basal cranium and parts of the neurocranium.

Cranial Bone Inventory

Seven cranial bones were observed, all in fair to poor condition (**See Cranial Bone Inventory/Pathology Chart**). Both the left and right external auditory meatuses of the temporal bones were filled with dirt which prevented observation or recording of the inner ear bones (incus, malleus, and stapes). No attempt was made to remove the soil from either of the temporal bones.

Age Determination

Determination of age was based solely on the extent of vault cranial suture closure. The lateral vault cranial suture method of age estimation could not be used since portions of the cranium were missing. No significant bias based on biological sex should affect determination of age using the timing of cranial suture closure (Meindl and Lovejoy, 1985). The ectocranial (external cranium) sutures show complete to mostly complete closure in all scoring regions suggesting that SK1 was an older individual. The composite score for the Vault Sutures (**See Age Determination Chart**) was 14 which translates into an age range of 24 – 75 years with a mean age of 45.2.

Determination of Sex

Determination of biological sex was restricted to landmarks found on the cranium. The methods used were based on the scoring system found in Buikstra and Ubelaker (1994). All regions evaluated were scored as a 4 or 5, suggesting a male type cranium (**see Sex Determination Chart**). The pelvis, which is more sexually dimorphic, and therefore a better overall indicator of biological sex, was not available for assessment

Bone Pathology

There was no evidence of any bone pathology affecting SK1. The cranium was assessed for any evidence of abnormality including porosity affecting the external surface of the vault bones and the anterior surface of the orbits.

Table 1. WSP APPENDIX B Cranial Bone Inventory/Pathology Chart WSP-SK1-09

Bone	Side	Complete	Path	Count	Notes
Frontal	L&R	1	No	1	The frontal is in fair condition, missing the left orbital region; the right side is broken but present. No evidence of pathology.
Orbit	R	2	No	1	The right orbit is present but missing approximately 50% of the posterior portion. No evidence of pathology.
Parietal	L	1	No	1	Left parietal bone is complete and in good condition. No evidence of pathology.
Parietal	R	1	No	1	Left parietal bone is complete and in good condition. No evidence of pathology.
Occipital	L&R	2	No	1	The occipital is approximately 50% complete. There is no evidence of pathology. Both condyles are missing post-mortem
Temporal	L	1	No	1	Left temporal bone is complete and in good condition. No evidence of pathology.
Temporal	R	1	No	1	Right temporal bone is complete and in good condition. No evidence of pathology.
Sphenoid	L&R	2	No	1	The sphenoid is in fair. The central portion is missing post-mortem.

Key: L=Left; R=Right; Path=Pathology; 1=75%-100% complete; 2=50%-75% complete

Table 2. WSP APPENDIX B Age Determination Based on Cranial Suture Closure* WSP-SK1-09

External Cranial Vault (Sutures)	Score	Lateral Anterior (Sutures)	Score
Mid-Lambdoid	2	Mid-Coronal	N/A
Lambda	3	Pterion	N/A
Obelion	3	Sphenio-Frontal	N/A
Anterior Sagittal	3	Inferior Sphenio-Frontal	N/A
Bregma	3	Superior Sphenio-Frontal	N/A
Vault Composite Score	14	Lateral Anterior Composite Score	N/A
Vault Composite Age Range	24 – 75 years	Lateral Anterior Composite Age Range	N/A
Vault Mean Age	45.2 years	Lateral Anterior Mean Age	N/A

Table 3. WSP APPENDIX B Sex Determination Based on Cranial Landmarks WSP-SK1-09**

Cranial Region	Score		Notes
Nuchal Crest (Occipital Bone)	N/A		Missing Post-Mortem
Mental Eminence (Mandible)	N/A		Mandible was not recovered
Glabella (Frontal Bone)	4		Male
Supra Orbital Margin (Frontal Bone)	N/A(L)	5(R)	Male
Mastoid Process (Temporal Bone)	5(L)	5(R)	Male

Key: L=Left; R=Right; N/A=Not Applicable

*For a full description and location of the regions see Meindl and Lovejoy 1985

** See Buikstra and Ubelaker (1994) for diagrams used for this report for sex determination

WSP-SK2-09

(Female Cranium)

Contextual/General Information

SK2, the complete cranium of an adult female approximately 50 years of age, was partially exposed in JJ TP in quadrant 9c (Cat. No. 312) (**see Figure 18 in text**). Associated with this skull are the mandible (the condyles were observable) and cervical vertebra. It is likely that the burial was not disturbed. At least one iron nail was found directly associated with the cranium which suggests burial in a wooden coffin. All other bones are believed to have extended into the north wall of the trench. No excavation was conducted to expose any other elements of this individual.

Orientation and Relationship to Other Burials

SK2 is located approximately .09 feet (5 cm) from the north and east walls of the pit, approximately 2.6 feet (80 cm) from the south wall, and approximately 5.0 feet (155 cm) from the west wall. SK2 was exposed at a depth of 12.0 feet (365.8 cm) BMD [Borough of Manhattan Datum], or approximately 1.0 foot (30.5 cm) above SK1 and .5 feet (15.2 cm) below SK3. It was exposed approximately .82 feet (25 cm) east of SK1 and approximately 3.4 feet (105 cm) northeast of SK3. SK2 was oriented with the head to the southwest and the feet to the northeast if the burial was fully extended. However, this could not be determined without further excavation into the pit's north wall, which was not permitted under the WSP protocol related to burials. The location, level, and orientation of SK2 indicate it was not associated with SK3.

Preservation

The cranium was in excellent condition with little to no post-mortem damage (PMD); this was also true of all the maxillary teeth that were present. There were, however, some empty alveolar sockets that showed no evidence of resorption suggesting these teeth were lost post-mortem and within the burial environment.

Cranial Bone Inventory

A total of 17 cranial bones were observable, all of them complete and in excellent condition (**See Cranial Bone Inventory/Pathology Chart**). Both the left and right external auditory meatuses of the temporal bones were filled with dirt that prevented any observation or recording of the inner ear bones (incus, malleus, and stapes). A similar problem was encountered with regard to the vomer bone. In all cases, no attempt was made to remove soil from these areas. The mandible was present but was not removed from the burial environment and is therefore not listed in this inventory.

Dental Inventory

In general the dental remains that were present and available for field assessment (maxilla only) were in good condition showing little to no evidence of post-mortem damage. The maxilla contained a total of ten teeth (**see Dental Inventory/Pathology Chart**) all in good condition and *in situ*. The right upper lateral and mesial incisors and the left mesial incisors were all missing post-mortem. These teeth might be present in the soil where the cranium originally was found but no attempt was made to recover them.

Age Determination

Determination of age was based on the fusion of the sphenio-occipital synchondrosis, along with closure of the vault and lateral vault cranial sutures. No significant bias based on biological sex should affect determination of age using the timing of cranial suture closure (Meindl and

Lovejoy 1985). The ectocranial (external cranium) sutures show complete to mostly complete closure on all scoring regions suggesting this was an older individual. The composite score for the Vault Suture (**see Age Determination Chart**) was 13 which translated into an age range of 24 – 75 years with a mean age of 45.2. The lateral anterior scored a 12 with a range of 34 – 68 years of age and a mean age of 56.2 years. Taken together, this individual was approximately 50 years old (calculated by taking the mean of the Lateral Anterior and Vault Mean Ages).

Determination of Sex

Determination of biological sex was restricted to the landmarks found on the cranium. The methods used were based on the scoring system found in Buikstra and Ubelaker (1994). All regions evaluated were scored as a 1, suggesting a female type cranium (**see Sex Determination Chart**). The pelvis, which is more sexually dimorphic, and is therefore a better overall indicator of biological sex, was not available for assessment.

Bone Pathology Assessment

There was no evidence of any bone pathology affecting SK2. The cranium was assessed for any evidence of abnormality including porosity affecting the external surface of the vault bones and the anterior surface of the orbits. Of a total of four observable articular surfaces, there was no evidence of any pathology, specifically in regard to osteoarthritis/osteophytosis (see Table 3).

Dental Pathology

Of the ten teeth present and observable for evaluation, three showed evidence of pathology. Two of the three evidenced either calculus or caries. The third showed evidence of both calculus and caries (tooth Number 10). No teeth showed evidence of hypoplasia and there was no evidence of infection affecting the maxillary bone.

Carious Lesions (Cavities)

A total of two of the ten teeth present displayed lesions associated with cavities. The upper lateral left incisor exhibited a moderate lesion which destroyed most of the mesial enamel surface. Tooth number 12 (upper left premolar 3) displayed a complete loss of its crown most likely related to carious activity. Of tooth Number 12, all that remains is a small area of enamel on the buccal (cheek) surface and the root.

Calculus

There is some evidence of calculus (mineralized plaque) affecting the upper left canine and the lingual surface of the upper lateral left incisor. The presence of calculus on the teeth of SK2 could be associated with a number of variables including individual genetics, oral pathology, diet and/or a combination of these conditions. A more in depth evaluation of calculus would have required further careful cleaning of the teeth as it was difficult to distinguish between calculus and the soil coating some of the tooth surfaces.

Dental Wear/Attrition

All but tooth Number 12 showed some evidence of dental wear. The crown of this tooth was destroyed by a cavity. All other teeth displayed minimal wear with a total of four of the nine remaining teeth showing small patches of exposed dentine (see Dental Inventory Chart). Dental wear seems significantly minimal for someone of this age with little to no dentine exposure. This observation could be a reflection of diet, genetics, or loss of lower dentition at a young age (mandibular teeth were present but not available for study) since loss of the lower teeth would

have effectively stopped all attrition of the maxillary dentition. It is also possible that the age of the individual has been overestimated based on the cranial suture closure.

Table 4. WSP APPENDIX B Cranial Bone Inventory/Pathology Chart WSP-SK2-09

Bone	Side	Complete	Path	Count	Notes
Frontal	L&R	1	No	1	The frontal bone is complete and in good condition. No pathology.
Orbit	R	1	No	1	The right orbit is complete and in good condition. No pathology.
Orbit	L	1	No	1	The left orbit is complete and in good condition. No pathology.
Parietal	L	1	No	1	The left parietal bone is complete and in good condition. No pathology.
Parietal	R	1	No	1	The right parietal bone is complete and in good condition. No pathology.
Occipital	L&R	1	No	1	The occipital is complete and in good condition. No pathology.
Temporal	L	1	No	1	The left temporal bone is complete and in good condition. No pathology.
Temporal	R	1	No	1	The right temporal bone is complete and in good condition. No pathology.
Zygomatic	L	1	No	1	The left zygomatic is complete and in good condition. No pathology.
Zygomatic	R	1	No	1	The right zygomatic is complete and in good condition. No pathology.
Sphenoid	L&R	1	No	1	The sphenoid is complete and in good condition. No pathology.
Palatine	L	1	No	1	The left palatine bone is complete and in good condition. No pathology.
Palatine	R	1	No	1	The right palatine bone is complete and in good condition. No pathology.
Nasal	L	1	No	1	The left nasal bone is complete and in good condition. No pathology.
Nasal	R	1	No	1	The right nasal bone is complete and in good condition. No pathology.
Lacrimal	L	1	No	1	The left lacrimal bone is complete and in good condition. No pathology.
Lacrimal	R	1	No	1	The right lacrimal bone is complete and in good condition. No pathology.
Ethmoid	L&R	1	No	1	The ethmoid bone is complete and in good condition (orbital part).
Maxilla	L&R	1	No	1	The maxilla is complete and in good condition. No pathology.

Key: L=Left; R=Right; Path=Pathology; 1=75%-100% complete

Table 5. WSP APPENDIX B Dental Inventory/Pathology Chart WSP-SK2-09

T#	Tooth Score	Path	Caries	Calculus	Hypoplasia	Wear	Other	PMD	Count	Tooth Notes
1	1	No	No	No	No	Yes	No	No	1	Tooth is in good condition showing minimal wear with the cusps clearly observable. No evidence of pathology.
2	1	No	No	No	No	Yes	No	No	1	Tooth is in good condition showing minimal wear. No evidence of pathology.
3	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Tooth was lost ante-mortem. Alveolar socket resorbed.
4	1	No	No	No	No	No	No	No	1	Tooth is in good condition showing minimal wear. No evidence of pathology.
5	1	No	No	No	No	No	No	No	1	Tooth is in good condition showing minimal wear with a small patch of dentine exposed on the buccal cusp. No evidence of pathology.
6	1	No	No	No	No	No	No	No	1	Tooth is in good condition showing minimal wear with a small patch of dentine exposed on the lingual edge of the cusp. No evidence of pathology.
7	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Tooth missing post-mortem. This tooth most likely fell out of its socket and is now in the soil below the cranium.
8	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Tooth missing post-mortem. This tooth most likely fell out of its socket and is now in the soil below the cranium.
9	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Tooth missing post-mortem. This tooth most likely fell out of its socket and is now in the soil below the cranium.

Table 5. WSP APPENDIX B Dental Inventory/Pathology Chart WSP-SK2-09 (continued)

T#	Tooth Score	Path	Caries	Calculus	Hypoplasia	Wear	Other	PMD	Count	Tooth Notes
10	1	Yes	Yes	Yes	No	Yes	Yes	No	1	Tooth is in good condition showing minimal wear. A thin line of dentine is exposed on the incisal surface. A carious lesion occupies most of the tooth's mesial surface.
11	1	Yes	No	Yes	No	Yes	No	No	1	Tooth is in good condition showing minimal wear with a small patch of dentine exposed on the crown surface. Minimal calculus on the distal surface.
12	1	Yes	Yes	N/A	N/A	N/A	No	No	1	Crown almost completely destroyed due to a cavity. There is a small amount of enamel on the buccal side. Due to the nature of the tooth (cavity) and the loss of the entire crown hypoplasia, wear and calculus were not scored.
13	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Tooth socket is partially resorbed suggesting that this tooth might have been lost ante-mortem.
14	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Tooth was lost ante-mortem. Alveolar socket has been resorbed.
15	1	No	No	No	No	No	No	No	1	Tooth is in good condition showing minimal wear.
16	1	No	No	No	No	No	No	No	1	Tooth is in good condition showing minimal wear.

Scoring System: 1=Tooth is present and in occlusion; 4=Tooth has been lost ante-mortem with resorption of the alveoli; 5=Tooth is missing post-mortem

Table 6. WSP APPENDIX B Age Determination Based on Cranial Suture Closure³³ WSP-SK2-09

External Cranial Vault (Sutures)	Score	Lateral Anterior (Sutures)	Score
Mid-Lambdoid	2	Mid-Coronal	3
Lambda	2	Pterion	2
Obelion	3	Sphenio-Frontal	3
Anterior Sagittal	3	Inferior Sphenio-Frontal	2
Bregma	3	Superior Sphenio-Frontal	2
Vault Composite Score	13	Lateral Anterior Composite Score	12
Vault Composite Age Range	24 – 75 years	Lateral Anterior Composite Age Range	34 – 68 years
Vault Mean Age	45.2 years	Lateral Anterior Mean Age	56.2 years

Table 7. WSP APPENDIX B Sex Determination Based on Cranial Landmarks³⁴ WSP-SK2-09

Cranial Region	Score		Notes
Nuchal Crest (Occipital Bone)	1		Female
Mental Eminence (Mandible)	N/A		Mandible was not removed
Glabella (Frontal Bone)	1		Female
Supra Orbital Margin (Frontal Bone)	1(L)	1(R)	Female
Mastoid Process (Temporal Bone)	1(L)	1(R)	Female

Key: L=Left; R=Right; N/A=Not Applicable

³³ For a full description and location of the regions see Meindl and Lovejoy, 1985.

³⁴ See Buikstra and Ubelaker (1994) for diagrams used for this report for sex determination

*BMD is 1.75 above the ground surface at time of excavation

WSP-SK3-09

(Articulated Foot Bones)

Contextual/General Information

On 11-17-2009, a fragmented burial (SK3) was partially exposed in JJ TP (Cat. No. 312) in quadrant 9c at a depth of 11.5 feet Below the Manhattan Datum [BMD], or 9.75 BGS.* It comprised articulated right and left tarsals, metatarsals, and phalanges (foot bones). There was no indication of any additional bones from this individual in the vicinity.

Orientation/Relationship to Other Burials

SK3 was located approximately 2.3 feet (70 cm) and 2.1 feet (95 cm) southwest of SK1 and SK2 respectively. At a depth of 11.5 feet BMD, SK3 is approximately 1.5 feet above SK1 and .5 feet above SK2. The depth of SK3, its distance from the other two burials, and the general orientations of all three burials suggest that SK3 is a unique individual and is not associated with SK1 or SK2. Based solely on these intact and articulated foot bones (assuming extended burial), the head would have been oriented to the north and the feet to the south. There is, however, no evidence of any skeletal material extending to the north or below the foot bones. This suggests that the entire cranial and post-cranial skeleton (except for the feet) was disturbed at some point.

Preservation

The foot bones, based only on partial exposure, were in good condition and did not show evidence of post-mortem damage (PMD).

Age Determination

Only general age could be calculated. Complete fusion of the epiphyses of the metatarsals suggests that the individual was more than 18 years old (Fusion rates are based on Scheuer and Black 2000). No other age related information was determined.

Determination of Sex

Not Applicable

Pathology Assessment

There was no evidence of any pathological conditions affecting the exposed foot bones of this individual. Full assessment was not possible as additional excavation would have been required.

*BGS=Below Ground Surface at time of excavation

WSP-SK4-09

(Fetal – Neonate Human Femur)

Contextual/General Information

These remains (SK4) consist of a single non-adult right femur recovered from the back dirt from Drop Inlet 8 (D8) (Cat. No. 203) on 11-05-2009 from between 3.0 to 5.0 feet (91.4 to 154.2 cm) below the ground surface (BGS). Initial assessment suggested that the femur was from a non-adult human. The femur was transported to the Brooklyn College Zooarchaeology Laboratory at Brooklyn College where the comparative human skeletal collection was used to confirm the initial identification. Other bones associated with the femur were determined to be non-human (animal).

Relationship to other burials

Unknown

Preservation

The femur was in fair to good condition (see Figure 23 in text) but with some evidence of post-mortem damage in the form of erosion (post-burial/non-pathological) on the proximal distal ends. The damage, however, did not significantly alter the maximum length (MxL) measurement.

Measurement and Age Assessment:

Age determination was based solely on the maximum length (MxL) of the bone according to methods suggested in Buikstra and Ubelaker (1994). Measurements were taken using a digital caliper and given in both millimeters and inches (see table below). Age determination based on the MxL utilized the linear regression formula found in Scheuer and Black (2000) using only millimeters. The minimal amount of post-mortem damage to the proximal and distal ends did not significantly affect the age assessment that was based on comparison to femora of individuals of similar age and measurement.

Linear Regression based on a MxL of 79.55 mm gave an age of 39.83367 weeks with a maximum age of 41.91367 weeks and a minimum age of 37.75367 weeks (these ages are inclusive of gestation). This suggests that the individual was full-term (≥ 37 weeks) and was probably between two weeks pre-natal to two weeks post-natal.

Determination of Sex

Not Applicable

Pathology Assessment:

There was no evidence of pathology affecting the external surface of the bone. A low power microscope (Max=40X) was utilized in the final pathological determination.

Table 8. WSP APPENDIX B Bone Inventory Chart WSP-SK4-09 (Neonatal Human Femur)

ID #	Bone	Side	Measurement -Type	Mm	Inches	Lin-Reg* (Age in Weeks)	+	-
WSP-SK4-9	Femur	Right	MxL	79.55	3.12189	39.83367	41.91367	37.75367

*Age (weeks) = (.3303 X femur) + 13.5583 \pm 2.08 (Scheuer and Black, 2000:394)

WSP-SK5-10

(Female Partial Cranium)

Contextual/General Information

These remains (SK5) comprise the complete splanchnocranium of a young adult female between the age of 18 and 25 (closer to 25) excavated between 4/19/2010 and 4/20/2010. The facial skeleton is in good condition (see Figure 20 in text) with only minor post-mortem damage (PMD). The skeletal material was recovered from fill within WSP-TP GT-1 at a depth of 16.0 feet (487.7 cm) below ground surface (BGS) [6.0 feet or 182.9 cm below the basement floor] (Cat. No. 320). There were no artifacts associated with these remains and no evidence of a grave cut to indicate an *in situ* burial. SK5 was recovered from the same fill as SK6-A-C.

Orientation and Relationship to Other Burials

There is no evidence of a direct connection with other human bone material from this pit. Some bone fragments were found in the vicinity of SK5, but post-burial disturbance made it impossible to establish a clear connection. No orientation of the original burial could be determined.

Preservation

SK5 is in very good condition with only slight PMD. There is a small area of damage above the right orbit as well as to the medial-anterior edge of the right zygomatic bone and to the adjacent section of the right maxilla. The right inferior nasal concha is missing post-mortem. The right maxilla is separate from the rest of the splanchnocranium (temporarily fitted into place for photographs). A total of 11 of 16 maxillary teeth are present, the rest were lost post-mortem.

Cranial Bone Inventory

There are a total of nine cranial bones present. All except for the left inferior nasal concha are complete and in good condition (see Cranial Bone Inventory Chart).

Dental Inventory

Dentition consists only of the maxillary teeth (the mandible was not recovered). A total of 11 teeth is present and in good condition. Some show minimal evidence of cracking and splitting (PMD). The five missing teeth, tooth numbers 1, 7, 8, 9, and 16, were all lost post-mortem (there was no evidence of any resorption of the alveolar sockets).

Age Determination

Age determination was based on the completion of dental eruption and suture closure. The lack of a complete cranium does not allow for a composite vault and or lateral anterior sutural age estimate. An age estimate based on the coronal suture follows Meindl and Lovejoy (1985). The coronal suture is usually sealed by 40 years of age. Since, SK5 shows no evidence of significant closure of the coronal suture, an age less than 40 years is suggested. Of the three maxillary sutures used in age assessment, only the incisive suture was completely sealed, suggesting an age greater than 18 years (Bass, 2005).

Dental eruption was used to determine a minimum age as all teeth were erupted and in occlusion. The maxillary left and right third molars were missing post-mortem, and, therefore, in order to assess whether or not they had fully erupted, the distal interproximal facets of left and right second molars were identified. The presence and position of these facets make it clear that both the left and right third molars had erupted and were in occlusion at the time of death. This suggests that SK5 was at least 18 years old. It should, however, be noted that the third molars are

the most variable when it comes to eruption patterns, and their association with chronological age is sometimes difficult to correlate. SK5 teeth exhibit very little wear. The general blunting of the cusps with little to no dentine exposure suggests that SK5 was older than 17 but younger than 26. The completion of dental eruption with the fusion of the incisive suture and the minimal amount of dental attrition suggests that SK5 was a young adult somewhere between 18 and 25 years old.

Sex Determination

Determination of biological sex was based on Buikstra and Ubelaker (1994) for the skull. Of the five cranial regions commonly used to determine Male/Female, only two were present for SK5. The glabella and the supra-orbital margin were both given a score of 2, suggesting a female type cranium. The more vertical angled forehead region again suggests that SK5 was female.

Bone Pathology Assessment

All cranial bones were assessed for pathological conditions. The left and right orbital surfaces of the frontal bone show evidence of porosity. Scoring for cribra orbitalia (CO) is based on Buikstra and Ubelaker (1994). The left orbit, scored as a 2, exhibits slight pitting located centrally on the anterior surface of the orbit. Similarly, the pitting affecting the right orbit, is minimal, but located on the anterior lateral surface. The pores are isolated and small and in both instances there is no evidence of active lesions, expansion of the inner table of bone, or other pathological conditions (i.e., bone growth) associated with the porosity. Cribra orbitalia is often linked to an individual suffering from childhood iron deficiency anemia. More recent work (Ornter 2003, Walker et al 2009), however, points to a variety of potential etiologies including scurvy, infection, and megablastic anemias. No other pathological conditions affecting bone were identified.

Dental Pathology Assessment

SK5 displayed a variety of dental pathologies. Of the teeth present, a total of 11 displayed some amount of calculus, while three exhibited caries and seven showed evidence of hypoplastic defects. Dental wear, while not necessarily pathological, was present on all teeth.

Calculus

Dental calculus (mineralized plaque) was present on all 11 teeth (100%) in various quantities (See Figure **WSP-SK5-10.3**). Calculus was scored based on standards developed by Brothwell (1981), and slightly revised by Persuad (2010) for scoring of teeth that displayed only specks of identifiable calculus (See Calculus Chart). Deposits ranged in quantity from specks (scored as a 1) to minimal (scored as a 2), and were found on all regions of the tooth surfaces (excluding the occlusal surface). Of the 11 teeth, seven (64%) exhibited some calculus below the cemento-enamel junction (CEJ). The distal and mesial surfaces were affected most, with the buccal/labial surface showing deposits on three teeth and the occlusal surface not affected at all. Calculus below the CEJ is likely to be involved in the beginning stages of periodontitis, especially when associated with a reduction of the alveolar bone.

The mesial and distal surfaces of the anterior teeth and the mesial surface of tooth numbers 5 and 12 exhibit cultural interproximal reduction (see below), and while there is some evidence of calculus on these surfaces, removal of the enamel surface would also have eliminated portions of calculus. The altered surfaces show no evidence of calculus deposits, but in some cases calculus is evident on surfaces directly adjacent to the worn areas.

Caries

SK5 exhibited a total of five lesions that were considered the result of caries activity (See Caries Chart). A total of 4 of 11 (36.36%) teeth were affected. Tooth number 3 exhibited a small lesion on the mesial surface with an adjacent dark stain on the distal surface of tooth number 4. A moderate size lesion was found on the mesial surface of tooth number 11 with no evidence of dark stains on the distal surface of tooth 10. The distal surface of tooth number 6 displayed a single lesion of moderate size, and the occlusal surface of tooth number 14 displayed two small lesions. Dark stains were found on 4 of the 11 teeth (36.36%), and in two of the four cases they were located at the interproximal surface (one distal and one mesial) with the remaining stains being located on the crown surface also affecting the mesial and distal surfaces. The lesion on the distal surface of tooth number 6 had been modified by the mechanical removal of some of the enamel surface. This could have reduced the size of the original carie through the removal of the edges of the lesion. It is difficult to confirm this, however, as there is the possibility that the surface had been removed before the lesion was formed.

Hypoplasia

Enamel hypoplasias defects resulting from reduced production of enamel during tooth development, are often depicted as horizontal lines on the enamel surface of the tooth. Enamel hypoplasias were found on seven of the 11 teeth (64%) of SK5 and of these teeth, six (86%) displayed linear enamel hypoplasias (LEH), and one (14%) showed evidence of hypoplastic pits (an alternate form of enamel hypoplasia). Tooth number 5, 6, and 12 all exhibited two LEHs each with tooth number 12 presenting a possible third defect.

Some of the LEHs were more clearly defined on the same tooth compared to other affected teeth. In addition, there was also variation in the thickness of the hypoplastic lines. It has been suggested that the width of the defect represents the duration of the stress event (Hilson 2005). Spacing between the perikymata normally differs in various regions of the crown, so simple measurement of the thickness of the linear defect, without counting individual perikymata, could over or under estimate the length of stress suffered by the individual. While no measurements of the width of the defect were taken, measurements recording the distance from the LEH to the CEJ were obtained. This was done to identify a relationship between LEH on different teeth. A sliding digital caliper was used to measure distance (to .01mm) from the hypoplastic line to the CEJ on the labial (anterior) surface of the tooth. Hilson (1995, 2005) has suggested counting individual perikymata using an electron microscope, as it is possible to have a LEH that has affected a single perikymata, however, time and resources would not permit such an analysis.

Both canines and the left and right third premolars show some similarities in the distance between the LEH and CEJ for at least two of the LEHs (See Dental Hypoplasia Chart). This would suggest systemic physiological disruption rather than an acute event (i.e., trauma) lead to the formation of these particular LEHs. A correlation of distances was not represented in all cases, which points to possible trauma or other non-systemic events as the foundation of non-mirrored LEHs. A stronger relationship between the locations of LEHs on different types of teeth (i.e., canines vs incisors) can be calculated if it is known at which point the specific areas of the crowns that show LEH were formed. The lack of unworn teeth and comparative material from this cemetery prevented such calculations. It is important to note that although it is not possible to clearly identify the age at which these stress events took place, and thereby possibly relate them to cultural and behavioral changes (i.e., weaning), it is clear that this individual survived multiple periods of physiological stress.

Dental Wear/Attrition

Dental wear was minimal on all teeth (See Molar/Non Molar Wear Charts). Recording of attrition followed Buikstra and Ubelaker (1994) for both molars and non-molars. The greatest amount of attrition was found on the right canine that seems at odds with the fact that in general the first molars erupt and are in occlusion up to five years prior to the eruption of the canines. Both first molars of SK5 show very little attrition (see Figure 22 in text) for teeth that had been in occlusion since the individual was seven years old. The lack of attrition could be the result of diet, genetics, or loss of mandibular teeth.

Cultural Modification

The anterior and some of the cheek teeth of SK5 show clear evidence of ante-mortem alteration in the form of interproximal or aproximal reduction. Modification of the medial and distal surfaces was found to affect five teeth (Figure 22 in text). Alteration was found on both the mesial and distal surfaces of tooth numbers 6, 10, and 11 but only on the mesial surface of tooth numbers 5 and 12. In all cases, modification of the mesial, distal or sometimes both surfaces significantly changed the morphology of the tooth in question. Dentine exposure, as a direct result of interproximal reduction, was found on three of the five teeth. Of the three teeth with dentine exposure, all were found to have dentine exposed on both the distal and mesial surfaces. Tooth numbers 5 and 12 showed no evidence of any dentine exposure on their affected surfaces. Under low power magnification (up to 40X), clear evidence of abnormal grooves was observed and was likely to have been caused by an abrasive material repeatedly drawn across the enamel surfaces. These striations run perpendicular to the orientation of the crown. The three anterior teeth exhibit small ledges where the removal of enamel was great enough to create small platforms of enamel.

According to Forrai (2003), mechanical filing of dental enamel was a practice used during the 18th century to modify the shape, size, and orientation of teeth to allow them to sit correctly within the dental arcade. In addition, Hargreaves (2003) notes that 18th Century dentists removed the beginning stages of caries by abrasive filing of the affected enamel surface. Currently, interproximal reduction is a practice used to remove some of the enamel surface in order to make room for orthodontic procedures.

Well into the 18th century, treatment for syphilis involved consumption of mercury. This erroneous and potentially deadly treatment had the potential to stain an individual's teeth black. In some cases this consequence was remedied by physically filing away the enamel stains. Some of the enamel of SK5 shows evidence of black stains. These darkened areas are located primarily on molars and in small patches. It is not clear, however, if these stains are the result of mercury ingestion or of some pathological condition or post-burial taphonomic process. SK5 does not show any bone evidence of syphilis.

Table 9. WSP APPENDIX B Cranial Bone/Pathology Inventory WSP-SK5-10

Bone	Side	Complete	Path	Count	Notes
FRONTAL	L&R	1	Yes	1	The frontal is complete and in good condition with minimal PMD (post-mortem damage). The left and right orbital surfaces exhibit small amounts of porosity. There is however, no clear evidence of any marrow hyperplasia.
ORBIT	L	1	Yes	1	The left orbit is complete and in good condition. There is evidence of slight pitting located centrally on the anterior surface of the orbit. The pores are small and do not display any associated pathological condition (ABG). The right orbit shows a similar condition.
ORBIT	R	1	Yes	1	The right orbit is complete and in good condition. There is some evidence of slight pitting located on the anterior lateral surface. The pores are isolated and small. Similar finding associated with the left orbit. Again, there is no evidence, from surface examination that there expansion of the inner table.

Table 9. WSP APPENDIX B Cranial Bone/Pathology Inventory WSP-SK5-10 (continued)

Bone	Side	Complete	Path	Count	Notes
ZYGOMATIC	L	1	No	1	The left zygomatic is complete and in good condition. There is no evidence of any abnormality.
ZYGOMATIC	R	1	No	1	The right zygomatic bone is complete and in good condition. There is no evidence of any abnormalities.
MAXILLA	L&R	1	Yes	1	The maxilla is complete and in good condition. There is evidence of bone atrophy inferior to the maxillary facial foramina on both sides. The recession of bone clearly exposes the outlines of left and right maxillary canines.
PALATINE	L	1	No	1	The left palatine bone is complete and in good condition. There is no evidence of any abnormalities.
PALATINE	R	1	No	1	The right palatine bone is complete and in good condition. There is no evidence of any pathological conditions.
NASAL	L	1	No	1	The left nasal bone is complete and in good condition. There is no evidence of any pathological condition affecting this bone.
NASAL	R	1	No	1	The right nasal bone is complete and in good condition with no evidence of any pathological condition.
NASAL CONCHAE	L	2	No	1	The left inferior nasal conche in fair condition with some post-mortem damage
NASAL CONCHAE	R	3	No	1	The right inferior nasal conche is in poor condition having suffered post-mortem damage (in fragments).

Key: L=Left; R=Right; Path=Pathology; 1=75%-100% complete; 2=50%-75% complete; 3=25%-50% complete

Table 10. WSP APPENDIX B Dental Inventory/Pathology WSP-SK5-10

T#	SCR	Path	Caries	Calculus	Hypoplasia	Wear	Other	PMD	Count	Tooth Notes
1	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Missing post-mortem.
2	1	Yes	No	Yes	No	Yes	No	No	1	Tooth in good condition with evidence of calculus and minimal wear.
3	1	Yes	Yes	Yes	No	Yes	No	No	1	Tooth in good condition with evidence of caries, calculus and minimal dental wear.
4	1	Yes	?	Yes	Yes	Yes	No	No	1	Tooth in good condition showing evidence of calculus, hypoplasia and minimal wear. There is evidence of a dark stain but it is not counted as a cavity.
5	1	Yes	No	Yes	Yes	Yes	Yes	No	1	Tooth in good condition with evidence of calculus, hypoplasia and dental wear (minimal). Cultural Modification (see description below)
6	1	Yes	Yes	Yes	Yes	Yes	Yes	No	1	Tooth in good condition showing evidence of calculus, hypoplasia, caries and dental wear. Cultural Modification. (see description below)
7	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Tooth missing post-mortem.
8	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Tooth missing post-mortem.
9	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Tooth missing post-mortem.
10	1	Yes	No	Yes	Yes	Yes	Yes	No	1	Tooth in good condition showing evidence of calculus, hypoplasia and dental wear.. Cultural Modification (see description below)
11	1	Yes	Yes	Yes	Yes	Yes	Yes	No	1	Tooth in good condition showing evidence of calculus, caries, hypoplasia and dental wear. Cultural Modification (see description below)
12	1	Yes	No	Yes	Yes	Yes	Yes	No	1	Tooth in good condition showing evidence of calculus, dental wear and hypoplasia. Cultural Modification (see description below)
13	1	Yes	No	Yes	Yes	Yes	No	No	1	Tooth in good condition showing evidence of dental wear, calculus and hypoplasia. There is no evidence of cultural modification.
14	1	Yes	Yes	Yes	No	Yes	No	Yes	1	Tooth in fair condition with some evidence of post-mortem cracking of the buccal enamel surface. There is evidence of caries on the mesial surface, calculus and minimal dental wear.
15	1	Yes	No	Yes	No	Yes	No	No	1	Tooth in good condition showing evidence of calculus and dental wear.

Key: Tooth Score 1= Tooth is present and in occlusion; Tooth Score 5=Tooth is missing post-mortem; PMD=Post-Mortem Damage

Tooth 5:

This tooth exhibits modification to the entire mesial surface of the crown. There is clear alternation of the surface but no dentin exposure.

Tooth 6:

This tooth exhibits modification on the mesial surface. The tooth seems to have been filed leaving entire the surface completely flat with the dentine exposed. There is a ledge located on the mesial surface just above the CEJ on the meiso-labial surface, which is a direct result of the abrasive loss of the enamel.

Tooth 10:

This tooth exhibits modification on the mesial surface in which approximately ¼ of the surface has been removed through abrasive filing. There is an artificial flat surface along with dentine exposure on the mesial surface related to this practice. The distal surface shows some evidence of alteration but minimal and might be a consequence of the alteration that is present on the mesial surface of the left canine. There does seem to be a small ledge on the distal surface (similar but smaller to that found on tooth 6).

Tooth 11:

This tooth displays modification on the mesial surface. Abrasive action has removed significant portions of this surface and has exposed a patch of dentine. In profile it can be seen that there is a small ledge present approximately 3 mm from the crown surface on the mesial side. Under low power magnification (40X Max) both thin and thick 1mm-1.5mm thick ledges are observable on the mesial surface. There is no clear evidence of any modification on the distal surface.

Tooth 12:

There is small amount of modification on the mesial surface of tooth 12 with no evidence of dentine exposure. These marks are likely the consequence of abrasive changes on the distal surface of tooth 11.

Table 11a WSP APPENDIX B Dental Pathology – Calculus

Tooth#	OCCL	DIST	MES	LING	BUC/LAB	SUR-A	SUR-OBS	Total
2	0	1	2	2	2	4	5	7
3	0	2	2	0	0	2	5	4
4	0	2	1	0	0	2	5	5
5	0	2	?	0	0	1	5	2
6	0	0	2	2	0	2	5	4
10	0	2	2	2	0	3	5	6
11	0	1	2	2	0	3	5	4
12	0	1	2	2	0	3	5	4
13	0	2	1	2	1	4	5	4
14	0	2	2	2	0	3	5	6
15	0	1	2	1	1	4	5	2

Key: 0=No Calculus; 1=Specks; 2=Minimal; 3=Moderate; 4=Extreme; Occ=Occlusal; Dist=Distal; Mes=Mesial; Ling=Lingual; Buc/Lab=Buccal/Labial; SUR-A=Surfaces Affected; SUR-OBS=Surfaces Observed

Table 11b. WSP APPENDIX B Dental Pathology – Caries

Tooth Number	Caries	Dark Stains	1-Sur-Aff	1-Pos	1-Sco	2-Sur-Aff	2-Pos	2-Sco	CARCNT	DARCNT
3	Yes	No	M	M-IPRX	2				1	0
4	No	Yes	D	D-IPRX	1				0	1
6	Yes	Yes	D	CR	3	M	CR	1	1	1
11	Yes	Yes	M	CR	3	D	CR	1	1	1
14	Yes	Yes	O		2	M	M-IPRX	1	2	1

Key: M=DS=Dark Stain; T=Tooth; X-Sur-Aff=Surface Affected; M=Mesial; D=Distal; CR=Crown only; X-Pos=Position; M-IPRX=Mesial Interproximal Facet; D-IPRX=Distal Interproximal Facet; CARCNT=Caries Count; DARCNT=Dark Stain Count.

Table 11c. WSP APPENDIX B Dental Pathology – Hypoplasia

T#	Hypoplasia	Hypo T1	Hypo T1 Quant	Hypo T1 Meas 1	Hypo T1 Meas 2	Hypo T4	Hypo T5	Hypo T5 Quant
3	Yes	No	0			No	Yes	2
4	Yes	Yes	1	2.39		No	No	
5	Yes	Yes	2	5.4	3.67	No	No	
6	Yes	Yes	2	3.38	4.08	No	No	
10	Yes	Yes	1	3.7		No	No	
11	Yes	Yes	1	3.51		No	No	
12	Yes	Yes	2	3.72	1.9	No	No	
14	?	No	0			No	?	1

Key: T=Tooth; Hypo T1= Hypoplasia Type 1 or Linear Grooves; Hypo T1 Meas 1= Measurement of Linear Hypoplasia to the CEJ; Hypo T5= Hypoplasia Type 5 or single pits.

Table 12a. WSP APPENDIX B Dental Wear – Molars

T#	Disto-Buccal	Disto-Lingual	Medio-Buccal	Medio-Lingual	Total	Total Observable (Score)
2	1	1	1	1	4	40
3	2	1	2	1	6	40
14	1	1	1	1	4	40
15	1	1	1	1	4	40

Table 12b. WSP APPENDIX B Dental Wear – Non Molars

T#	Score
4	1
5	1
6	3
10	1
11	2
12	1
13	1

Table 13. WSP APPENDIX B Dental Modification (Cultural Modification)

T#	M-Red	D-Red	M-Dent-Exp	D-Dent-Exp
5	Yes	No	No	N/A
6	Yes	Yes	Yes	Yes
10	Yes	Yes	Yes	Yes
11	Yes	Yes	Yes	Yes
12	Yes	No	No	N/A

Key: M-Red=Medial Reduction; D-Red=Distal Reduction; M-Dent-Exp=Medial Dentine Exposure; D-Dent-Exp=Distal Dentine Exposure
See above for description of the affected surfaces.

WSP-SK6A-C-10

(Human Hand Bones)

Contextual/General Information

These remains represent a mix of fragmented human and animal bones excavated from TP GT-1 (Cat No. 320) at a depth of 3.0 – 4.0 feet (91.4 – 121.9 cm) below the basement floor (BBF). The bone remains were recovered from fill on 4/19/2010. There is no evidence of a grave cut signifying a proper burial. Although these remains were recovered from the same pit as WSP-SK5-10, there is no direct relationship to SK5 and no way to determine whether or not the bones of SK6 are from the same individual as SK5.

Orientation and Relationship to Other Burials

There is no orientation and any relationship to SK5 is not clear since these remains were recovered from fill.

Preservation

SK6 comprises three bones. SK6-A (R-HAM) is complete and in good condition. SK6-B (L-CUB) is mostly complete but missing some fragments through post mortem damage (PMD). SK6-C (L-PUB), which is in poor condition, is missing more than 50% of the bone, including the pubic symphysis and most of the acetabular articular surface.

Bone Inventory

A total of three human bones is associated with SK6 (See Bone Inventory). The bones are in good to poor condition and, based on size and fusion, represent skeletal material from non-children.

Age Determination

All epiphyseal surfaces are complete and fused. The overall size suggests an individual or individuals older than the age of 12.

Sex Determination

No attempt was made to determine the biological sex.

Bone Pathology

There is no evidence of any bone pathology.

Table 14. WSP APPENDIX B Bone Inventory/Pathology Chart WSP-SK6A-C-10

SP#	Bone	Side	Complete	Path	Count	Notes
WSP-SK6-A-10	HAM	R	1	No	1	This right hamate is complete and in good condition. No pathology
WSP-SK6-B-10	CUB	L	1	No	1	This left cuboid is almost complete (missing small fragments). No pathology.
WSP-SK6-C-10	PUB	L	3	No	1	This bone represents the small section of the left pubic bone. It is in poor condition missing over 50% including the pubic symphysis. No pathology

Key: CUB=Cuboid; HAM=Hamate; PUB=Pubic; Path=Pathology; 1=75%-100% complete; 2=50%-75% complete; 3=25%-50% complete

WSP-SK7A-B-10

(Young Adult or Female Humerus and Vertebra)

Contextual/General Information

These remains represent a partial right humerus and a very fragmented thoracic vertebra (Cat No. 316) excavated from Pit 1 (P1) Quadrant 9c at a depth of 2.0 feet (61.0 cm) below ground surface (BGS). They were recovered on 3/19/2010. There is no evidence of a grave cut or other evidence of a proper burial.

Orientation and Relationship to Other Burials

There is no orientation for these remains, nor is there evidence that SK7A and B are from the same individual.

Preservation

SK7 consists of two bones that represent a partial right humerus in poor condition missing the proximal 2/3 and the distal epiphysis. The thoracic vertebra (SK7-B) recovered from the same pit represents a partial neural arch, but is also in poor condition. The condition of both bones is the result of post-mortem damage.

Bone Inventory

A total of two human bones are associated with SK7 (See Bone Inventory).

Age and Sex Determination

The overall size and the state of fusion (for the thoracic vertebra) and the relative gracile morphology of the humerus (SK7-A) suggest the bones were that of either a young individual or a female. There is, however, not enough of the bone material to make any definitive statements regarding the age or sex of this individual or individuals.

Bone Pathology

There is no evidence of pathology.

Table 15a. WSP APPENDIX B Bone Inventory (Long Bones)/Pathology Chart WSP-SK7A

SP#	Bone	Side	Complete	P-EPIP	P1/3	M1/3	D1/3	D-EPIP	ASUR	PATH	CNT	Notes
WSP-SK7-A-10	HUM	R	No	0	0	3	1	0	NONE	No	1	Humerus in poor condition, missing the proximal 2/3 and the distal epiphysis.

Key: HUM=Humerus; P-EPIP=Proximal Epiphysis; P 1/3=Proximal 1/3 shaft; M 1/3=Middle 1/3 shaft; D1/3=Distal 1/3 shaft; DEPIP=Distal Epiphysis; A SUR=Articular Surface; 1=75%-100% complete; 2=50%-75% complete; 3=25%-50% complete

Table 15b. WSP APPENDIX B Bone Inventory (Vertebra)/Pathology Chart WSP-SK7B

SP#	Thoracic	Complete	Body	Arch	Path	Art Pres	Art Poss	Count	Notes
WSP-SK7-B-10	T-UI	No	0	3	No	2	12	1	Numerically unidentified thoracic vertebral in poor condition and missing the entire body and most of the neural arch and articular surfaces. No pathology.

Key: T-UI=Thoracic Unidentified Numerically; Art Pres=Articular surfaces present; Art Poss=Articular surfaces possible; 1=75%-100% complete; 2=50%-75% complete; 3=25%-50% complete

WSP-SK8-A-B-10 (Partial Young Adult Radius and Femur)

Contextual/General Information

These remains (CAT No.304) represent a partial right radius (WSP-SK8-A-10) and left femur (WSP-SK8-B-10) excavated from CB15 in Quadrant 9c. The bones were recovered 2.0 feet (61 cm) below ground surface (BGS). There is no evidence of a grave. It is not clear if these remains are from the same or separate individuals.

Orientation and Relationship to Other Burials

There is no orientation for these remains. There is no clear relationship between SK8A and SK8B that would indicate they are from the same individual.

Preservation

SK8 comprises two long bones. SK8-A (R-RAD) represents the distal 2/3 of a right radius in fair condition with the proximal 1/3 missing post-mortem. The left femur (SK8-B) is missing the proximal 2/3 and the distal end, again the result of post-mortem damage.

Bone Inventory

A total of two human bones is associated with SK8 (See Bone Inventory).

Age Determination

Based on the general size of SK8-A and SK8-B, it is likely that both bones are from an individual or individuals older than 12 years of age. Further, the complete fusion of the distal end of the radius suggests that this bone was likely from an individual more than 17 years old (Scheuer and Black 2000).

Sex Determination

No attempt was made to determine-sex.

Bone Pathology

There is no evidence of pathology.

Table 16. WSP APPENDIX B Bone Inventory (Long Bones)/Pathology Chart WSP-SK8A & B-10

SP#	Bone	Side	Complete	P-EPIP	P1/3	M1/3	D1/3	D-EPIP	A SUR	PATH	CNT	Notes
WSP-SK8-A-10	RAD	R	No	0	3	1	1	1	DIST	No	1	Radius in fair condition missing the proximal 1/3.
WSP-SK8-B-10	FEM	L	No	0	0	0	2	0	NONE	No	1	Partial right femur in poor condition, missing the proximal 2/3 and distal epiphysis.

Key: RAD=Radius; FEM=Femur; R=Right; L=Left; P-EPIP=Proximal Epiphysis; P 1/3=Proximal 1/3 shaft; M 1/3=Middle 1/3 shaft; 1/3=Distal 1/3 shaft; DEPIP=Distal Epiphysis; A SUR=Articular Surface; 1=75%-100% complete; 2=50%-75% complete; 3=25%-50% complete

WSP 2009 – 2011 Human Skeletal Remains Summary

Human Skeletal material was encountered during the Phase 2 construction of WSP between 2009 and 2011. The excavations exposed 93 bones and 22 teeth representing a minimum of seven individuals that were recovered or identified in the field. With the exception of WSP-SK2 -09 and WSP-SK3-09, the material was largely disturbed, fragmented, and not in proper burials. Four of the seven were identifications made on bones recovered from a disturbed context. These “isolated” bones were removed from WSP for analysis. The other three were burials recorded in place, which limited the amount of information recoverable. Due to the fragmented, incomplete and small sample size, broad statements regarding population statistics/demographics are neither advisable nor valid.

Identification of biological sex was obtainable for three of the seven individuals using morphological characteristics (see Table 1 Below). Of these, two exhibited female and one showed male characteristics. The remaining four individuals were not assessed for sex identification due to the lack of key bones used for sex identification. In the case of WSP-SK4-09, sex determination was not possible due to the immaturity of the individual.

Age, based on a number of different parameters, identified the majority of individuals as belonging to a post child age group, with the exception of WSP-SK4-09 that was determined to be between 38 and 42 weeks old at the time of death. More precise age or age ranges were obtained for four of the seven individuals.

Pathological conditions affecting bone was restricted to porous lesions on the orbital roofs (CO) of WSP-SK5-10. No other bone pathology was identified. Dental pathology was identified in both individuals that retained dental material. Of the 21 teeth present from WSP9-SK2-09 and WSP-SK5-10, six teeth exhibited a total of seven small to moderate sized carious lesions. Minimal deposits of calculus were observed on dental material from WSP-SK2-09 and WSP-SK5-10. Hypoplastic defects were observed on seven of the 11 teeth of WSP-SK5-10. WSP-SK2-09 did not show hypoplasias.

Of interest is the probable cultural modification of some of the teeth from WSP-SK5-10. Abrasive removal of part of the enamel surface of five of the 11 teeth present was found and could be attributed to a number of reasons, including, but not limited to, blackening of the teeth as the result of mercury ingestion (related to syphilis treatment), removal of caries, or repositioning of the teeth.

Table 17. WSP APPENDIX B Human Bone Catalog

SK No.	Age Determination	Sex Determination	No. of Bones	No. of Teeth	MNI
WSP-SK1-09	A-45	Male	7	0	1
WSP-SK2-09	A-50	Female	17 ^a	10	1
WSP-SK3-09	NC-18+	Indeterminate	52	0	1
WSP-SK4-09	FET-NEO 38W-42W	Unknown	1	0	1
WSP-SK5-09	YA-18-25	Female	9	11	1
WSP-SK6A-C-10	NC-12+	Indeterminate	3	0	0 ^b
WSP-SK7A-B-10	NC	Indeterminate	2	0	1
WSP-SK8A-B-10	NC >12	Indeterminate	2	0	1
TOTAL			93	21	7

a: Mandible belonging to this individual was partially exposed but is not counted here

b. MNI is zero as these remains could belong with WSP-SK5-10

**WSP 2009 – 2011 Human Skeletal Remains
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WASHINGTON SQUARE PARK PHASE 2 - APPENDIX C
ARTIFACT CATALOG

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9b

Catch Basin 1 (CB 1) 10/20/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
103	1	c. 7-8 ft	Ceramic	1	Pe/WW Trans	Hollowware; small body frag; Old Blue TP, floral pattern with stippling interior & exterior	1807-1840	Retrieved from back fill MJ*

Catch Basin 2 (CB 2) 10/20/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
104a	1	c. 6ft	Ceramic	1	Pe/WW Trans	Hollowware; small body frag; Old Blue TP, floral pattern; stippling; blue cast	1807-1840	Slipware (?) MJ

Catch Basin 2 (CB 2) 10/20/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
104b	1	c. 8 ft	Ceramic	1	R	Hollowware, small body frag; clear lead glaze	----	Part of crock or jug (?)
	2	"		1	K	Smoking pipe bowl; small frag	----	

Catch Basin 4 (CB4) 11/06/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
107	1	C. 8 ft	Ceramic	1	Pe/WW	Bowl/cup rim frag; clear glaze with brown bands under rim	1815 -1840	Late cream colored ware MJ
	2	"		1	Pe	Tableware; Shell edged rim frag; green; spalled	1780 -1835	MJ
	3	"		1	CC	Tableware rim frag; faded brown band; edge of rim (?); spalled	1780 -1820	MJ
	4	"		1	Pe	Hollowware body frag; blue TP, Willowware (?); spalled	1815 -1835	
	5	"		1	CC	Hollowware (?); small body frag; undecorated; spalled	1762 -1820	
	6	"		1	K	Smoking pipe small stem & bowl frag; with pipe rest frag; undecorated	----	Scaring on bowl sides, from bad mold or possible illegible initials

Catch Basin 7 (CB7) 11/06/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
108a	1	c. 6 ft	Ceramic	1	Pe	Tableware; plate (?) Shell edged rim frag; Green	1800 -1835	MJ

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9b (continued)

Catch Basin 7 (CB7) 11/06/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
108b	1	Back Dirt Pile	Stone	1	White Marble	Gravestone frag (?); top edge curved; chiseled; stone degraded	1797 - 1825 (?)	Engraved; evidence of two letters; one possibly "P" or "B" the other "F" or "E"

Drop Inlet 4 (D4) 1/06/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
109	1	6.2. ft	Ceramic	1	Pe/WW	Plate body frag; light blue TP	1815 -1840	MJ
	2	"		1	Pe/WW Trans	Lid frag; with possible finial attachment	1815 -1860	Tea pot (?) MJ

Utility Trench 1b (UT1b) 12/1/09 (Catch Basin 1 to Catch Basin 2 – 15 ft E of Catch Basin 1)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
111	1	3.5 ft	Ceramic	1	P	Plate rim & body frag; blue Canton rim pattern; painted under glaze	1785 -1830	Chinese export
	2	"	Glass	1	DG	Alcoholic beverage or olive oil bottle base; high kick-up; white iron pontil (?)	1870-1880 (?)	No wear (Munsey 1970:48)

Utility Trench 1b (UT1b) 12/1/09 (Catch Basin 1 to Catch Basin 2)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
112	1	5-5.5 ft	Ceramic	1	Pe	Tableware rim frag; dark blue Shell edge	1800 -1835	Well made MJ
	2	"		1	Pe	Bowl base & body frag; orange TP; trace of scene; back printed over glaze; copper luster line; foot ring	1790 -1840	MJ
	3	"		1	P	Tableware, small base frag; painted blue; under glaze;	1785 -1830	Chinese export
	4	"		1	CC/Pe	Hollowware body frag; Dipt; Annular ware; buff with cream colored & brown stripes	1780 -1820	Slip decorated; possibly a mug or pitcher MJ
	5	"		1	R	Unidentified rim frag; exterior cream slip; glaze	----	Pan or plate (?); rare and unusual MJ
	6	"		1	R	Unidentified body frag; interior/exterior black glaze	----	Part of Crock (?)

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9b (continued)

Utility Trench 2 (UT2) 12/1/09 (D3 to CB3)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
113	1	4.25 ft	Ceramic	1	Pe	Dish (shallow) rim to base frag; Old Blue TP; floral pattern	1815 -1835	MJ
	2	“		1	K	Smoking pipe bowl rim frag	-----	Unused

Utility Trench 5 (UT5) 12/1/09 (Catch Basin 7 to Catch Basin 6)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
114	1	GF	Ceramic	1	P	Bowl/Saucer base frag; Interior painted blue TP	1785 -1830	Chinese export MJ
	2	“		1	Pe/WW	Tableware body frag; blue TP; spalled	1820 -1840	MJ

Utility Trench 3a (UT3a) 12/2/09 (Catch Basin 2 to Catch Basin 4 – Added to plan in field)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
115	1	8 ft	Ceramic	1	Pe/ WW	Plate base frag; interior light blue TP; scene; part of blue TP maker's mark	1815 -1840	Probably a British country scene MJ

Utility Trench 3 (UT3) 12/2/09 (Catch Basin 3 to Catch Basin 4)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
116a	1	3 ft	Ceramic	1	P	Saucer (?) base frag; trace orange painted band (?); unglazed foot ring	1785 -1835	Chinese export MJ

Utility Trench 3 (UT3) 12/2/09 (Catch Basin 3 to Catch Basin 4)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
116b	1	4.5 ft	Ceramic	1	P	Tableware rim frag; blue TP	1785-1835	Chinese export MJ

SECTION 9d

Catch Basin 9 (CB9) 11/05/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
202a	1	3ft	Ceramic	1	Pe/WW	Hollowware rim frag; blue TP, Willowware; geo-metric pattern	1815 - 1840	MJ

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9d (continued)

Catch Basin 9 (CB9) 11/05/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
202b	1	GF	Ceramic	1	Pe	Shell edged rim, small frag; green	1800 -1835	MJ
	2	"		1	Pe	Shell edged rim, small frag; green	1800 -1835	MJ

Utility Trench 12 (UT12) 12/3/09 (Drop Inlet 8 to Catch Basin 10)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
205	1	c. 3 -4 ft	Ceramic	1	Pe/WW	Dish base & body frag; interior blue TP; blue cast to base	1815 -1820	Associated with sawed animal bone MJ
	2	"		1	Pe/WW	Cup rim frag; interior blue TP; floral pattern	1807 - 1840	1807 for the stippling MJ
	3	"	Glass	1	DG	Alcoholic beverage bottle rim & neck; applied rim; hand blown	Late 18 th - Early 19 th C	Possibly same bottle as 206-1 below

Utility Trench 12 (UT12) 12/3/09 (Drop Inlet 8 to Catch Basin 10)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
206	1	4 ft; 5 ft W of CB10	Glass	1	DG	Alcoholic beverage bottle base; turned; high kick-up; bare iron pontil	Post 1845	Wear on base; possibly same bottle as 205-3 above; associated with bricks

Utility Trench 12 (UT12) 12/3/09 (Drop Inlet 8 to Catch Basin 10)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
207	1	4 ft; 10 ft W of CB10 S wall	Ceramic	3	Pe	(M) Saucer, base & body frags; blue TP; floral (?) pattern; spalled	1807-1830	MJ

Utility Trench 12a (UT12a) 12/3/09 (Catch Basin 10 to Drop Inlet 7 – Added to plan in field)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
208	1	3.5 ft	Ceramic	1	Pe/WW	Knob; painted (?) blue; rosette in center	1800 - 1875	Possibly terrine or tea pot knob from NW wall of trench MJ

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9d (continued)

Utility Trench 11 (UT11) 12/3/09 (Catch Basin 9 To Catch Basin 10) From redigging of trench

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
209	1	GF	Ceramic	1	Pe	Muffin plate, small, rim & body frag; blue TP; geometric rim pattern; Willowware	1807 - 1840	Probably an 8 inch plate MJ
	2	"		1	Pe/WW	Plate rim frag; blue TP; Willowware	1815 - 1900	MJ
	3	"		1	Pe/WW	Plate rim frag; blue TP; Willowware	1815 - 1900	MJ
	4	"		1	Pe/WW	Plate rim frag; Old Blue TP; floral pattern	1818 - 1835	MJ
	5	"		1	Pe	Plate rim frag; Shell edged; blue; scalloped rim	1800 - 1835	Impression on base of another plate, possibly made during stacking MJ
	6	"		1	Pe/WW	Plate body frag; Old Blue TP	1818 - 1835	MJ
	7	"		1	Pe	Small plate/saucer base frag; blue TP; landscape scene with stippling	1807 - 1840	MJ
	8	"		1	R	Dish rim frag; slipware; yellow painted circle	1800 - 1850	Well used; possibly Huntington Long Island design MJ
	9	"		1	R	Dish body frag; slipware; green & yellow painted circle	1800 - 1850	Possibly Huntington Long Island design MJ
	10	"	Shell	1		Oyster shell; c. 6 inches long	----	Hacked not shucked MJ

Catch Basin 13 (CB13) 3/19/10

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
211	1	4-5 ft	Ceramic	1	Pe/WW	Bowl/dish rim frag; hand painted blue floral pattern		Possibly same object or set as 211-2 below
	2	"		1	Pe/WW	Base frag; hand painted blue floral pattern		Possibly same object or set as 211-1 above

SECTION 9c (Vicinity of James Jackson Headstone - South of Mounds)

Catch Basin 17 (CB 17) 10/23/09 (5.5 to 6.1 feet BGS)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
301	1	c. 5.5 - 6.1 ft	Ceramic	1	Pe/WW	Cup, small rim frag; Old Blue TP, floral pattern interior & exterior;	1818 - 1835	Probably a London shaped cup MJ
	2	"		1	Y	Mug (?), small rim (?) frag; buff edge, dark brown & blue floral pattern slips	1811 - 1860	Common Cable slip decorated; British (?) MJ
	3	"		1	CC	Plate base frag; undecorated	1780-1820	Very heavy wear; cut marks on both sides; provided a good cutting surface MJ

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9c (South of Mounds continued)

Catch Basin 17 (CB 17) 10/26/09 (5 to 5.5 feet BGS) (James Jackson)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
302a	1	c. 5- .5.5 ft	Ceramic	1	Pe	Tableware, small body frag; Old Blue TP, exterior; poss- ibly part of makers mark	1807 -1840	MJ
	2	“		1	Pe	Cup (?), small body frag; Old Blue TP; floral pattern on exterior	1818- 1835	MJ
	3	“		1	Pe	Tableware, small body frag; blue TP; floral pattern on exterior	1807 -1840	MJ
	4	“		1	Pe	Hollowware, small body frag; hand painted blue floral pattern	1790 -1840	MJ
	5	“		1	Pe/WW	Plate frag; undecorated	----	Part of Shell edged plate (?) MJ
	6	c. 5 ft	Glass	1	A	Small frag	----	Window glass (?)

Catch Basin 17 (CB 17) 10/26/09 (6.7 feet BGS) (James Jackson)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
302b	1	c. 6.7 ft	Ceramic	8	Pe	(M) Plate frags; blue cast; blue star on interior; small, round, shallow indentation on exterior; hand painted	1790- 1840	Very odd indentation on base MJ

Catch Basin 16 (CB16) 11/02/09

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
303	1	c. 3-4 ft	Ceramic	1	Pe	Hollowware base edge frag; dark blue TP; floral pattern	1815 - 1840	Bowl (?) blue cast to base; heavy wear; foot ring; possibly same as 303-2 below MJ
	2	“		1	Pe/WW	Hollowware body frag; blue TP	1815 - 1840	Possibly same as 303-1 above MJ
	3	“		1	Pe/WW	Hollowware, tiny body frag; Old Blue TP	1818 - 1835	MJ
	4	“		1	Red E	Pan (?) slipware; yellow band	Pre 1850	MJ

Catch Basin 15 (CB15) 11/10/09 (3-4.5 feet BGS)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
304	1	3 ft		1	Pe/WW	Hollowware body frag; painted blue floral pattern	1790 – 1840	MJ
	2	4.5 ft	Ceramic	2	Pe/WW	(M) Plate rim, body & part of base frag; blue TP; floral pattern	1814 – 1860	MJ

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9c (South of Mounds continued)

Catch Basin 17 (CB17) 11/12/09 (James Jackson)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
305	1	Ground Scatter	Ceramic	1	Pe/WW	Tableware, small rim frag; interior embossed floral pattern; painted blue at edge of rim	1820-1835	Shell edged MJ
	2	“		1	Pe/WW	Tableware small body frag; Old Blue TP; floral pattern	1818 -1835	Part of plate (?); heavy wear on base MJ
	3	“		1	Pe/WW	Tableware body frag; blue TP; stippled floral pattern	1815 -1840	MJ

JJ Stone/JJ TP 11/16/09 – Found during James Jackson Headstone Removal, North side of headstone

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
306	1	GF	Ceramic	1	Pe/WW	Hollowware rim frag; Old Blue TP	1818 -1835	MJ
	2	“		1	Pe/WW	Unidentified body frag; blue stripe	1825 -1840	MJ
	3	“		1	Pe/WW	Unidentified body frag; undecorated	1815 -1840	MJ

JJ Stone/JJTP 11/16/09 South of James Jackson Headstone – during headstone removal

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
307	1	c. 6.7ft	Ceramic	1	Pe/WW	Tableware body frag; exterior Old Blue TP (?); star flower pattern	1818 -1835	MJ

JJ Stone/JJ TP 11/16/09 South of James Jackson Headstone – during headstone removal (9 to 9.25 feet BGS)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
308	1	c. 9 ft		1	S	Crock (?) lid; gray & brown; hand turned	Post 1805	Albany slip; Salt glaze; cut - out in rim “very odd “ MJ
	2	9.25 ft	Metal	5		Nails; some with wood attached; heavily corroded	----	Probably coffin nails (unnumbered)

JJ Stone/JJ TP 11/16/09 Excavation after James Jackson headstone – South side of stone (10.5 to 11.5 BGS)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
309	1	10.5-11.5 ft	Metal	4		Nails; some with wood attached; heavily corroded	----	Probably coffin nails (unnumbered)

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9c (South of Mounds continued)

JJ Stone/JJ TP 11/17/09 General Fill in vicinity of James Jackson headstone after removal

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
310	1	GF	Ceramic	1	Pe/WW	Cup/ bowl rim frag; Old Blue TP interior & exterior; floral & stippled pattern	1818- 1835	MJ

JJ Stone/JJTP 11/17/09 Excavation after James Jackson headstone removed – South side of stone

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
311	1	9.5 ft	Glass	1	O/G	Unidentified glass frag	----	Thin body, curved

JJ Stone/JJTP 11/17/09 Excavation after James Jackson headstone removed – South of stone; in vicinity of Skull #2 (human remains)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
312	1	12.1 ft	Metal	12		Nails; some with wood attached; heavily corroded	----	Probably coffin nails (unnumbered)

Catch Basin 14 (CB14) 11/18/09 (Associated with iron pipes)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
313	1	c. 2.5 – 3 ft	Ceramic	1	Pe	Tableware, small rim frag; blue shell edged	1800 -1835	MJ
	2	“		1	Pe	Tableware, small rim, frag; blue shell edged	1800 -1835	MJ
	3	“		1	Pe	Hollowware; rim & body frag; exterior incised blue band with embossing; “Shell edge” on body not at edge	----	Fancy rim; appears to be a gouge perhaps done in error MJ
	4	“		1	Pe/WW	Tableware, small body frag; Dipt, orange & brown slip decoration	1815 – 1860	Possibly mug or pitcher MJ
	5	“	Glass	1	S	Bottle base frag; (buff); clear glaze interior & exterior; undecorated	----	Thick lead glaze; probably British or Scottish MJ

Pit 1 (P1) 3/19/10 (North of Comfort Station)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
316	1	1.5 ft	Ceramic	1	Pe/WW	Dish base frag; undecorated	1900-1948	Part of printed (green) maker’s mark on base: “EDWIN M.../CHIN[A]/ 15-2...” (Edwin M. Knowles) (Gates & Ormerod 1982:99)

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9c (continued)

Pit 2 (P2) 3/19/10 (North & West of Comfort Station) (3.2 to 3.5 ft BGS)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
317	1	3.45 ft	Ceramic	1	Pe	Unidentified body frag; light blue	1785 -1830	Possibly Chinese export
	2	3.5		1	Pe/WW	Plate base frag; undecorated	-----	
	3			1	Y	Unidentified, small frag	-----	
	4	3.2-3.45	Metal	6		Heavily corroded nails	-----	

Pit 3(P3) 3/19/10 (West of Comfort Station)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
318a	1	1.5	Metal	1		Coin; French; 1 3/16 inches (30mm) diameter	1855	On face "DIX CENTIMES/ EMPIRE/FRANCAIS"; eagle; on obverse "NAPOLEON III/ EMPEREUR/1855"; portrait (no number on artifact)

Pit 3(P3) 3/19/10 (West of Comfort Station) (BGS)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
318b	1	2-2.5 ft	Ceramic	2	CC	(M) Chamber pot (?) rim frag; undecorated; spalled	-----	
	2	"		1	Pe	Hollowware, small body frag; painted blue TP floral pattern		
	3	"		1	Pe	Hollowware, small, body frag; blue TP (?)		
	4	2-2.5 ft	Ceramic	1	Pe	Unidentified, small base/ rim frag; blue Canton (?) pattern	1785 -1830	Possibly Chinese export
	5	"		1	P	Unidentified, small body frag; blue Canton (?) pattern	1785 -1830	Possibly Chinese export
	6	"		1	Pe	Unidentified, small base frag; blue cast; undecorated	-----	
	7	"		1		Unidentified, small base (?) frag; blue cast; undecorated	-----	
	8	"	Glass	1	C	Bottle body frag; curved	Modern	Thick glass
	9	"		1	C	Bottle (?) body frag; slightly curved	-----	
	10	"		1	Amb	Bottle body frag; small	-----	Neck frag (?)
	11	2 ft	Metal	1		Coin; USA dime	1925	On face "LIBERTY"; liberty head with date; on obverse "UNITED STATES OF AMERICA/ONE DIME/E PLURIBUS UNUM"; torch and garlands (no number on artifact)

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9c (continued)

Pit 3(P3) 3/19/10 South and West sides of pit (In vicinity of Comfort Station)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
318c	1	2.9- 3 ft	Ceramic	1	P	Dish/bowl base frag; blue Canton pattern	1785 -1830	Chinese export
	2	"		1	Pe	Unidentified body frag; exterior Old Blue TP pattern	1818- 1835	
	3	"		1	Pe	Unidentified body frag; interior Old Blue TP pattern	1818- 1835	
	4	"		1	Pe	Unidentified body frag; interior Old Blue TP floral pattern	1818- 1835	
	5	"		1	Pe	Unidentified body frag; blur Canton pattern	1785 -1830	Chinese export
	6	"		1	Pe	Shell edged, green, small rim frag	1780 -1835	
	7	"		1	Y	Baking dish rim frag	Post 1840	
	8	"		1	R	Unidentified body frag; exterior glazed	----	
	9	"		1	R	Unidentified body frag	----	Spalled
	10	"		1	R	Unidentified body frag	----	
	11	"	Metal	2		Heavily corroded nails	----	Possibly coffin nails

Pit 3(P3) 3/19/10 (Northwest of Comfort Station)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
318d	1	3.5 ft	Ceramic	1	CC/Pe	Chamber pot rim frag; undecorated	1820+	
	2	"		1	P	Cup/ small bowl base frag; thick paste porcelain undecorated	----	
	3	"		1	Pe	Unidentified, small, base frag; blue TP; floral pattern; stippled	1815 -1840	
	4	"		1	P	Unidentified body frag; blue Canton pattern	1785 -1830	Possibly Chinese export
	5	"		1	S	Crock (?) rim frag; buff exterior & rim; interior Albany slip	----	
	6	"		1	R	Crock (?) body frag; brown Albany slip interior & exterior;; hand turned	----	
	7	"	Metal	1		Heavily corroded nail	----	

**WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF) PHASE 2 CONSTRUCTION
(NYS SITE NO: USN A06101.016915) ARTIFACTS (GRAB SAMPLES)**

SECTION 9c (continued)

Pit 4 (P4) 4/19/10 (West of Comfort Station (paved area))

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
319a	1	c. 3 -3.5 ft	Ceramic	1	Pe/WW	Unidentified body frag; light blue TP (?)	----	

Pit 4 (P4) 3/19/10 (West of Comfort Station) (paved area)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
319c	1	c. 3.5 ft	Foil	1		Wrapper frag (?); white & yellow print	Modern	Crinkled; no number on artifact
	2	“	Metal	6		Nails; heavily corroded	----	Possibly coffin nails

Geo Thermal Test Pit -1 (TP GT-1) 4/19- 4/20/10 (in basement of Comfort Station)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
320	1	c. 3 ft	Glass	1	Aqua	(W) Soda bottle; crown closure; side seam to top of lip. 8 oz	mid 1950s	Applied white label on sides “COCA COLA” (script)/COKE” (block letters) embossed around base “PRESQUE ISLE – MAINE -/BOTTLE TRADE MARK/ “L” (over dot)/“R” in circle; 67-26 on side; worn around middle and above base; reused (DeMerchant 2011:p.c.)
	2	3-4 ft	Leather	1	Brown	Unidentified leather strip		No numbers on artifact
	3	“	Metal	1		Nail; heavily corroded		Possibly coffin nail

Soil Boring Test Pit SB2 5/25/10 (TPSB)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
322	1	c.13 ft	Glass	1	Aqua	(W) Soda bottle; crown closure; lip and part of crown top broken away, side seam to crown top.	1939-1951	Applied white label on sides “COCA COLA” (script)/COKE” (block letters) embossed around base “BRIDGETON/NJ/ BOTTLE TRADE MARK/ “1” (over dot); 5 ½ FL. OZ.; wear on and above base, reused

* All depths are Below Ground Surface (BGS) except for Cat. No 320 where measurements are below basement floor (BBF).

** Dr. Meta Janowitz (MJ) identified ceramics as noted.

Abbreviations: (W) = whole; Amb = Amber; BD = back dirt; C= Clear; CC = cream colored ware; DG = dark green; G = green; E = earthenware; GF = general fill; I = Ironstone; K= kaolin; (M) = Mend; MW = mocha ware; O = olive; P=porcelain; Pe = pearlware; R= redware; S=Stoneware; TP = transfer print; Trans = Transitional Pearlware/Whiteware; WW = whiteware; Y= yellowware