

D-147

Archeological Monitoring of A Structural Engineering Study

of the Retaining Walls at Independence Square

Independence National Historical Park, Philadelphia, Pennsylvania

by
Paul Y. Inashima

Department of the Interior
National Park Service
Denver Service Center
Resource Planning Group
Applied Archeology Center
12200-A Plum Orchard Drive
Silver Spring, Maryland 20904
1997

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FEB 11 1997

Memorandum

To: Superintendent, Independence National Historical Park

From: James B. Bucholtz, Project Manager, Denver Service Center

Reference: Independence National Historical Park, Package 412AD, Independence Square Cultural Landscape Report, Project Type 15

Subject: Transmittal of Archeological Monitoring Report

The subject report, "Archeological Monitoring of a Structural Engineering Study of the Retaining Walls at Independence Square," is herein transmitted for your files. This report documents the observations which were made during the archeological monitoring of the joint park/ Denver Service Center engineering study excavations along the Walnut Street and south Fifth Street walls. In addition, it includes a summary of the archeological and historical background data applicable to the study area. This report was prepared by Paul Y. Inashima of the Applied Archeology Center. The fieldwork was conducted by him, with the assistance of Edward Morin, also from the Center. The records produced by this project, along with the processed artifact collection will be forwarded under separate cover.

Technical questions pertaining to the subject report may be addressed to Paul Y. Inashima at the Applied Archeology Center (301-344-6260).

James M. Bucholtz

Attachment

cc:

Chesapeake SO-Cooper (w/o att.)

Doris Fanelli, Independence National Historical Park (w/att.)

bcc:

DSC-PM-Bucholtz (w/o att.)

DSC-RPA-Inashima (w/att.)

DSC-PGT (w/att.)

DSC-RPA-Files (3, 1 w/att.)

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Introduction

Structural investigations (Figure 1) of the drainage system behind the retaining wall around Independence Square were performed by engineers from the Denver Service Center on July 18, 1996. The purpose of the study was to determine the nature and condition of the drainage system, especially behind the yard entrances. This work was facilitated by the assistance of excavation personnel from the Independence National Historical Park Maintenance Division, and was archeologically monitored by Paul Y. Inashima and Edward Morin of the Applied Archeology Center.

Independence Square (Block 100) lies along the west boundary of the core historic district of Independence National Historical Park in Philadelphia, Pennsylvania. It is bounded on its north by Chestnut Street and on its south by Walnut Street. It is bordered on its east by Fifth Street and on its west by Sixth Street. Independence Hall occupies the north end of the square facing Chestnut Street, and is linked by open arcades to auxiliary wing buildings. Congress Hall occupies the northwest corner of the square. Old City Hall lies at the northeast corner, and the American Philosophical Society Hall lies just to the south of that structure. Independence Hall has been designated a World Heritage Site. The Independence Hall complex is included among the contributing elements to the park's listing on the National Register of Historic Places. The American Philosophical Society Hall is individually listed (Independence National Historical Park 1993:6).

Background Data

Several early eighteenth century dwellings, outbuildings, and related features (Independence National Historical Park 1956:Sheet 2; Browning 1916; Clarkson and Biddle 1762) once stood along Walnut Street (Figure 2). Among the former structures were two David Erwin houses and stable (c. 1756-1769) at the southwest corner of the square; two Charles Townsend houses (c. 1743-1769) to the immediate east of the Erwin property; the A. Morris-W. Allen tenement house (c. 1727-1760) at midblock; and the R. Tempest (c. 1746-1762), J. Bird (c. 1695-1767), and J. Redwood (c. 1695-1762) houses at the southeast corner of the square. Along Fifth Street, the structures included two messuages (c. 1719-1748) slightly north of midblock along Fifth Street. Archeological evidence for most of these structures is likely to remain beneath the yard surface as suggested by B. Bruce Powell's 1957 investigations. His work recovered evidence of one of the Erwin houses, one of the Townsend houses, the A. Morris-W. Allen house, and the Bird house.

Likewise, despite several episodes of yard improvement, archeological evidence (Powell 1959) for the original land surface, the 1784-1787 Samuel Vaughan landscaping, subsequent landscape efforts, and various other uses are recorded in the soil stratigraphy beneath the present yard surface. The relative intactness of the stratigraphic record was indicated by the program of systematic trench excavations which were conducted by Paul J.F. Schumacher (1956) and B. Bruce Powell (1957). At the time, however, Schumacher's and Powell's investigations were largely confined to the recovery of topographic and structural data. Today, by techniques and methods not readily available in the 1950s, the various strata which they encountered are apt to yield potentially significant artifactual and ethnobotanic data with import for more detailed chronological, land use, and land cover analyses. Further, archeological evidence for smaller "soft features" such as trash deposits, root molds, postmolds, etc. which would elucidate events such as the Revolutionary War British occupation of the yard, tree plantings prior to the elevation of the terrain, the c. 1708 fencing of the western lots by David Powell, etc. probably exist.

As to the present, 1915-1916 era brick wall (Table 1), former park archeologist, Paul J.F. Schumacher's archeological profiles, indicate that the space behind that wall was occupied by a c. 1 foot (0.30 meter) wide cinder fill (Independence National Historical Park 1956:Sheets 3, 4, and 9). The cinder fill,

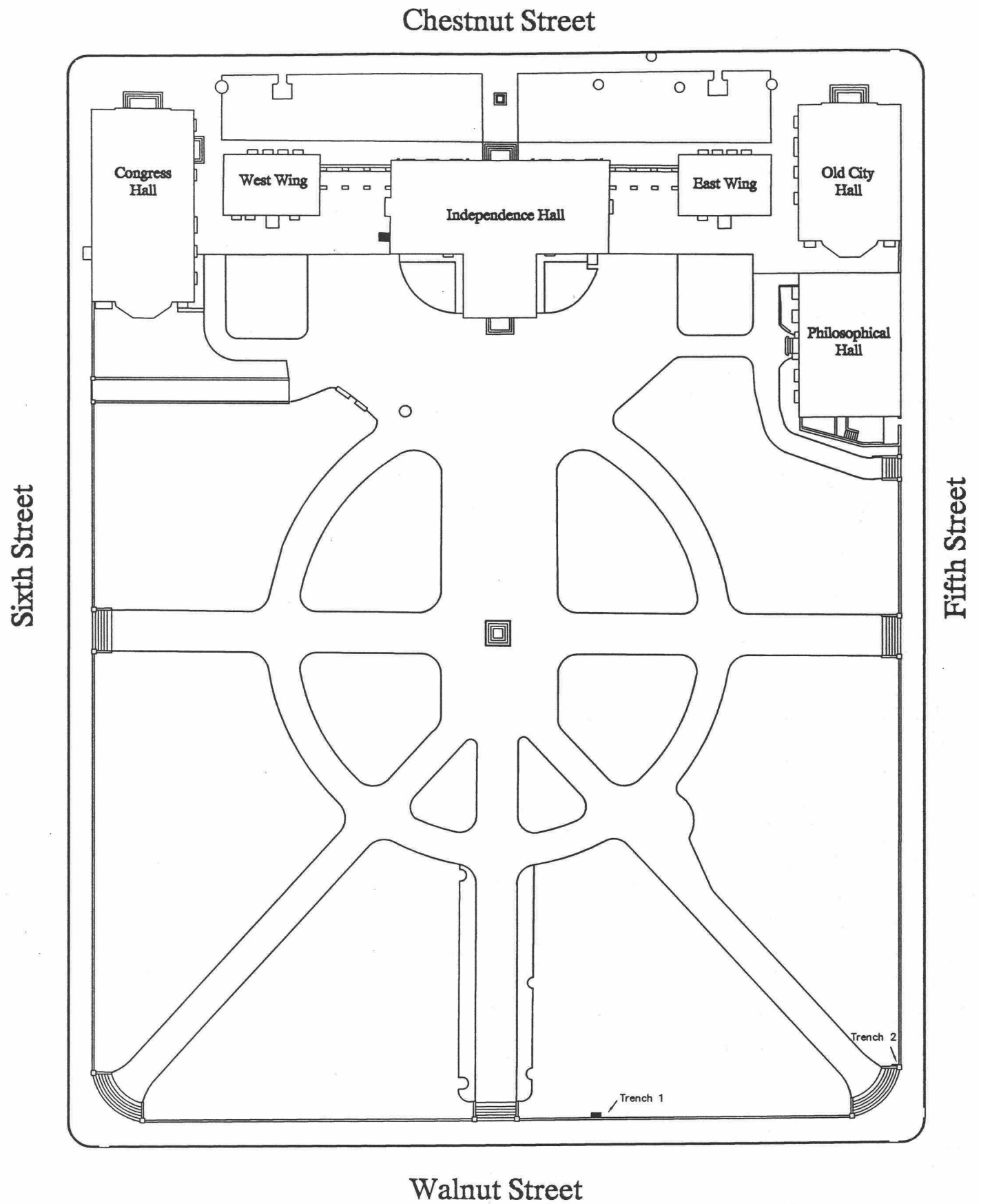
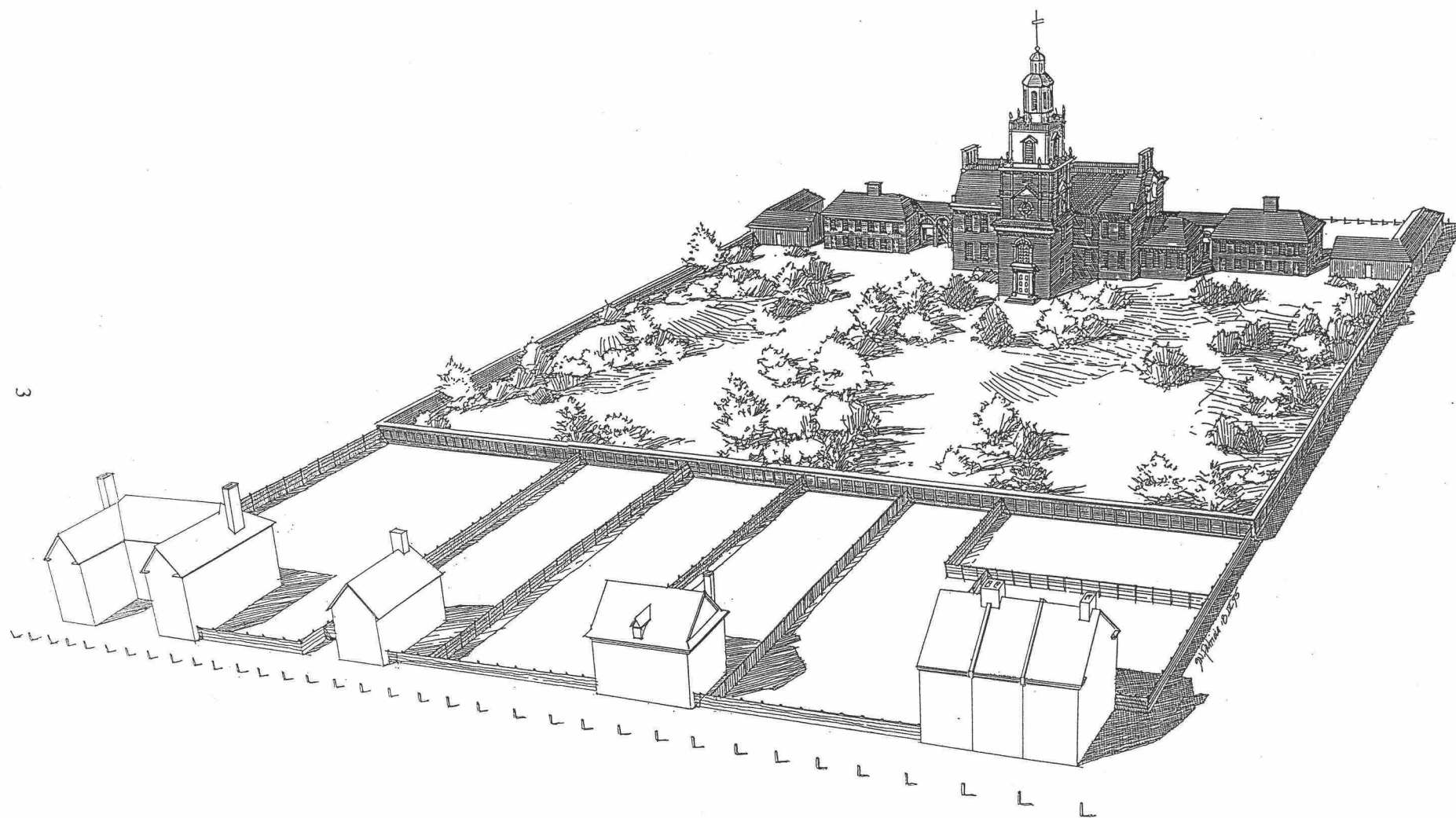


Figure 1. Project location map.



• The STATE HOUSE & YARD • 1732 - 1769 •

Figure 2. Preliminary archeological reconstruction of the State House Yard, c. 1732-1769. (Comments and errata: 1. The south walls of the arcades should have been depicted as closed. 2. Outbuildings have not been depicted due to their uncertain locations.)

ostensibly, was intended to channel moisture from the back of the wall to weep holes which were placed along the base of the exterior of the brick wall.

In 1962, joint architectural and archeological excavations by Lee Nelson and John Cotter (National Park Service 1962) along the exterior of the west, middle, and east entrances along the Walnut Street wall revealed the remains of the foundation for the "old" or "original foundation." At the intersection of Walnut and Sixth streets, the earlier wall foundation was found to extend about 1 foot (0.30 meter) further west than the present wall, and to come to a right angled corner south of the base of the present steps. The artifacts identified in the fill soils include a probable late 18th-early 20th century porcelain vessel ornament, a green c. 18th century bottle fragment, a possible iron pin for masonry, a large wood screw, and a glazed brick header fragment (8-1/4" by 3-7/8" by 2"). The older foundation lies approximately 3'2-3/4" below a relative elevation of c. 20.78 feet (6.33 meters), as measured from a project datum of 21.96 feet (6.69 meters) taken on the step directly south of the southwest brick pier.

At the middle entrance, the "original foundation" was uncovered just to the south of the current steps. Found in the excavated soils were a glazed header brick fragment, a cut nail, and a copper wire of likely recent origin.

At the intersection of Walnut and Fifth streets, the "old foundation" was discovered to extend slightly further east past the line of the present east wall and to turn northward at a right angle at that point. No artifacts were recorded as being recovered on the evidence drawings.

Archeological Monitoring

The current operation consisted of the archeological monitoring of two small excavations (Figures 3 and 4) which were placed behind the yard's retaining wall to investigate the existing drainage system. These units were situated according to the instructions of Denver Service Center engineers and were opened by park maintenance personnel using a combination of mechanical augering and hand digging. For archeological purposes, the units were arbitrarily designated Trench 1 and Trench 2, from west to east.

Trench 1 (Figures 3 and 5) was located behind the south wall, between the middle and east entrances along Walnut Street. The west end of this unit was approximately 35.3 feet (10.76 meters) east of the interior corner of the east pier of the middle entrance. Just outside the west wall of this unit was a sprinkler head, assumed to have been installed in c. 1974 (National Park Service 1974). The opening was about 4.8 foot (1.46 meter) long and roughly 2.4 foot (0.73 meter) wide. At a depth of 3.6 feet (1.1 meters) below the top of the coping stone, the base of the unit was stepped downward along the wall. Along that portion of the trench, the base of the unit was extended to a depth of 4.6 feet (1.4 meters). The surface of the adjoining ground stood approximately 0.3 foot (0.09 meter) below the top of the coping stone.

At Trench 1, both the top surface of the wall beneath the coping stone and the interior surface were covered with a cementitious parging. Three strata were noted. The uppermost layer consisted of a very dark brown silty loam, about 0.8 foot (0.24 meter) thick. Immediately beneath that was a dark yellowish brown silty loam mottled with brown/dark brown soil. Along the north half of the test trench, this stratum extended to the depth of the excavation. Along the south half, it continued for about 0.4 foot (0.12 meter) before shifting to a cinder fill which continued below the base of the retaining wall. The cinder fill varied in width from about 0.9 foot (0.27 meter) to 1.2 feet (0.37 meter). The position of the cinder fill relative to the north or interior side of the retaining wall suggests that the cinder fill was associated with the c. 1915-1916 construction. The soils to the north of the cinder fill appear to have been only peripherally disturbed during that work.

Eleven artifacts (Table 3) were recovered from the soils which had been excavated from Trench 1. These items included a single oval eyeglass lens, nine ceramic sherds, and a single fragment of burnt slate.

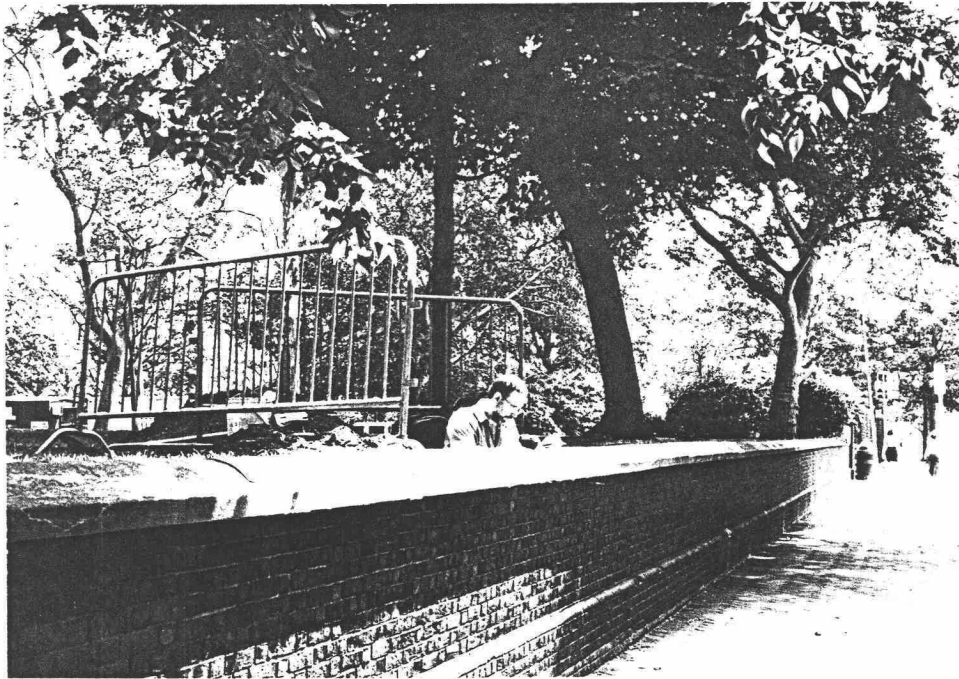


Figure 3. Trench 1 location, facing east towards Fifth Street.

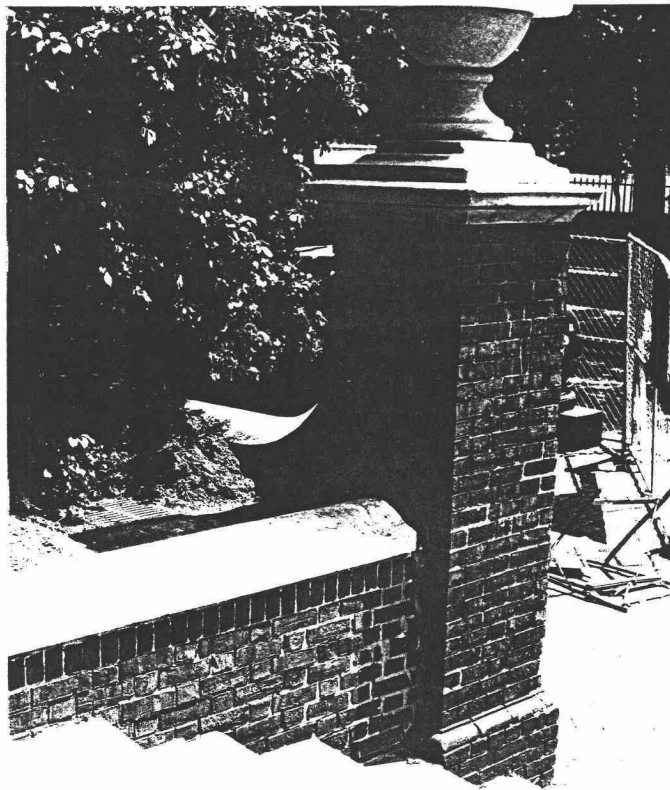


Figure 4. Trench 2 location, facing northeast towards Fifth Street.

Among the ceramic sherds was a fragment of interior and exterior glazed redware from a hollowware vessel; a fragment of a gray, salt-glazed stoneware handle; a body fragment from a gray, salt-glazed hollowware vessel; a gray, salt-glazed basal fragment from a medium-to-large sized hollowware vessel; four fragments from a porcelain bowl; and a pearlware basal fragment. The stoneware basal sherd exhibited a series of three raised ridges above the corner of the base; the lower two bordered a cobalt blue band. The single category typically ascribed a date is represented by the pearlware sherd, c. 1780 to 1830 (South 1977:212). The other artifact categories are consistent with this date range, although they do not confirm it due to the longer periods over which similar items were manufactured.

Trench 2 (Figures 4 and 6), the second unit, was located inside the corner formed by the north wall of the east Walnut Street entrance and the east yard wall along Fifth Street. This unit was a narrow trench which was squeezed between the two walls and a concrete drain inlet which lay just to the northwest of the corner. This trench measured approximately 3.5 feet (1.07 meters) in an east-to-west direction and 0.8 foot (0.24 meter) in a north-to-south direction. The base of the trench was 3.3 feet (1.01 meters) below the top of the coping stone atop the entrance wall. The ground surface lay at about 0.55 foot (0.17 meter) below the top of that coping stone.

At Trench 2, the uppermost soil layer consisted of a very dark brown silty loam. This layer was about 0.7 foot (0.21 meter) thick. The underlying layer was a dark yellowish brown silty loam which extended to the base of the excavation. As at Trench 1, the top surface of the walls beneath the coping stones and the interior surfaces had been parged with a cementitious material. No cinder fill materials were noted. Along the north side of the trench was a concrete and brick drain inlet. The occurrence of an irregular pattern of cementitious material on the face of the brick segment of the inlet suggests that this component had been repaired at least once after its initial installation.

Three artifacts (Table 3) were retrieved from the soils excavated from Trench 2. These items include a fragment from one side of a horseshoe, a heavily corroded cut or wrought nail, and a handpainted porcelain cup rimsherd. The latter exhibits a gold lip band below which, along the exterior surface, is a decorative band with green, gold, and purple motif elements.

Summary

The current archeological observations complement those of former park archeologist, Paul J.F. Schumacher, and are consistent with his finding of a cinder fill behind the main sections of the 1915-1916 retaining wall. Moreover, although current soil definitions and standards of classification have changed, the silt loams encountered during the archeological monitoring are likely similar to the soil stratum described by Schumacher as "red and yellow clay fill." Finally, as the width of the exploratory trenches was limited, little exposure of soil matrices beyond the zone impacted by the 1915-1916 wall construction was noted.

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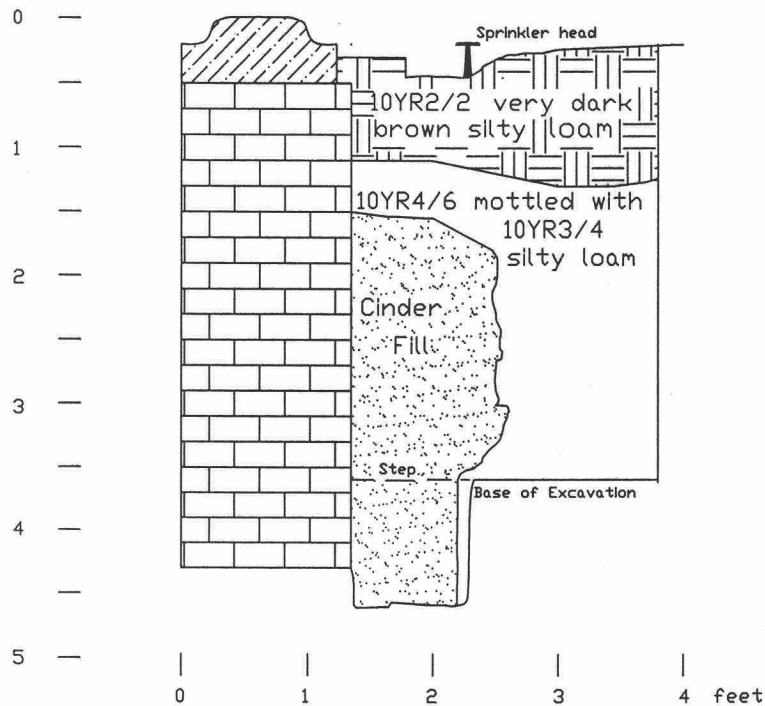
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Toogood, Anna Cox

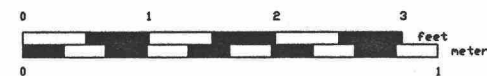
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Feet Below Top of
Coping Stone



West Wall Profile Trench 1



Note: Cement parging occurs on the interior and top wall surfaces.

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Figure 5. West wall profile of Trench 1.

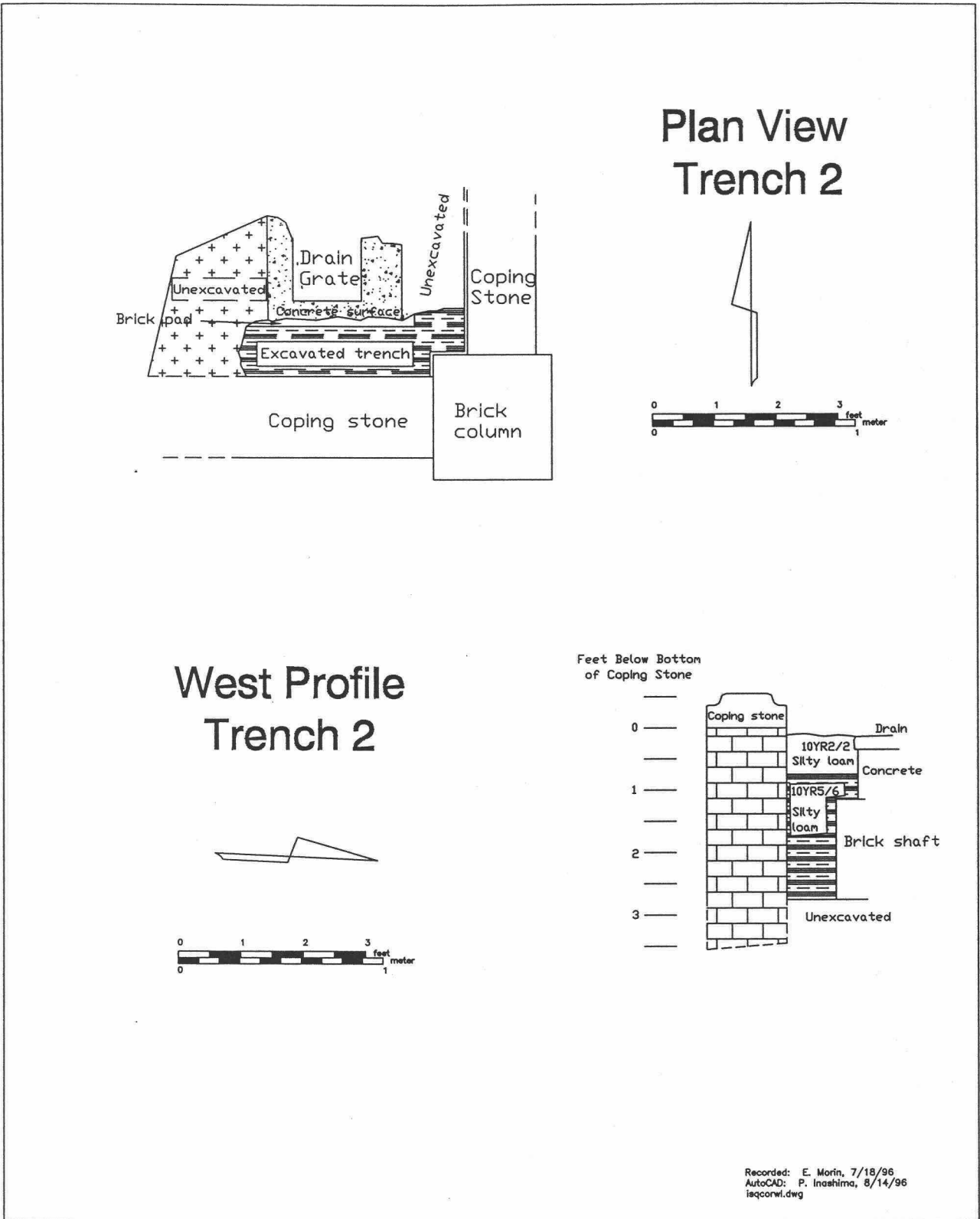


Figure 6. Plan view and west profile of Trench 2.

Table 1. Chronology of Walls Surrounding Independence Square (Snyder 1975; Sullivan 1959; Toogood 1996).

Date	Event	Comments
1740	A brick wall was constructed around the northern two thirds of the future square.	The wall was first depicted on the 1762 Matthew Clarkson and Mary Biddle, <i>Plan of the Improved Part of the City Surveyed and Laid Down by the Late Nicholas Scull, Esq., Surveyor General of the Province of Pennsylvania</i> .
1742-1770	During this period, various modifications and repairs were made to the 1740 wall.	
1770	After the completion of the purchase of the Walnut Street lots in 1769, a 7-foot high brick wall was erected which enclosed the entire yard.	Illustrations of the Sixth Street portion of this wall include the c. 1792 James Peller Malcom, <i>Statehouse and Congress Hall</i> , and the 1790 Charles Willson Peale, <i>View of Several Public Buildings, in Philadelphia</i> . The 1794 James Hardie, <i>Plan of the City of Philadelphia</i> , in his <i>The Philadelphia Directory and Register</i> , 2nd Edition, appears to be the first map to show the 1770 wall and the Walnut Street entry. The only entry through the wall was a tall gateway midway along Walnut Street. This entry was depicted in the 1789 James Peller Malcom, <i>The Jail, Philada.</i> (Walnut Street view), and the 1798 William Birch and Son, <i>State-House Garden, Philadelphia</i> (view from the yard).
1811	The east and west walls were lowered to within 3 feet of pavement and topped with iron palisades. Small gates were added midway along the block.	
1812	The south wall was lowered to within 3 feet of pavement and topped with iron palisades.	
c. post-1822	A gate was added midway along the Walnut Street wall.	

Table 1. (Cont.).

Date	Event	Comments
1875- 1876	The wall was lowered. Steps were added at the corners of Fifth and Walnut and Sixth and Walnut. A central flight of stairs along Walnut Street and steps intermediate between that set of stairs and the corner steps were added. Steps were placed along Fifth Street south of Philosophical Hall, opposite Library Street, and toward Walnut Street. Steps were placed along Sixth Street opposite Sansom Street and toward Walnut Street.	
1915- 1916	The wall was replaced with a new brick wall with coping. The steps flanking the central stairs along Walnut Street were removed, as were the Fifth and Sixth streets stairs north of Walnut Street. Grated catch basins were installed behind each of the entry piers.	
1915- 1916	The driveway south of Congress Hall was repaved with cobblestone, and its retaining walls were replaced.	Although the driveway may have been built during the 1867 construction of the new courthouse, no firm evidence on its origin occurs. The 1897, 1903, and 1915 Hexamer and Son maps fail to indicate this feature.
c. 1974	An irrigation system was installed in the yard which included a series of sprinkler heads along the wall.	Details of this irrigation system are recorded on NPS Drawing Nos. IP-1 and IP-2, dated 4/26/74.

Table 2. Summary of Previous Archeological Investigations Along the Independence Square Wall.

Location	Description	Reference
South APS Yard	A test unit was excavated at the interior quadrant of the intersection of the Fifth Street wall and the north wall of the step entry.	Schumacher 1956
Grass Plot 3	Two test trenches were extended to the Fifth Street wall.	Schumacher 1956
Grass Plot 3	A test unit was excavated at the interior quadrant of the intersection of the Fifth Street wall and the north wall of the middle step entry. This unit exposed the foundation remains of an 1876-1914 step entry.	Schumacher 1956
Grass Plot 7	Four test trenches were extended to the Fifth Street wall. One of the trenches was widened at the wall to expose the foundations of an 1876-1914 step entry.	Schumacher 1956
Grass Plot 8	One test trench was extended to the Fifth Street wall.	Powell 1957
Grass Plot 17	One test trench was extended to the Walnut Street wall.	Powell 1957
Grass Plot 16	One test trench was extended to the Walnut Street wall.	Powell 1957
Grass Plot 12	One test trench was extended to the Sixth Street wall.	Powell 1957
Grass Plot 11	Two test trenches were extended to the Sixth Street wall	Powell 1957
Southwest Step Entry at Walnut Street	Test excavations were conducted in the sidewalk along the exterior of the existing step entry to record foundation remains of earlier yard walls.	NPS 1962
Middle Step Entry at Walnut Street	Test excavations were conducted in the sidewalk along the exterior of the existing step entry to record foundation remains of earlier yard walls.	NPS 1962
Southeast Step Entry at Walnut Street	Test excavations were conducted in the sidewalk along the exterior of the existing step entry to record foundation remains of earlier yard walls.	NPS 1962

Table 3. Summary of Artifacts (Accession No. INDE 3839) Recovered from the Structural Study Trenches.

Field No. (Catalog No.)	Object Name	Count	Description
T1-1 (15744)	Lens, eyeglass	1	Clear ovate glass with single pin holes at either end of the long axis. Slightly biconvex cross section. Glass measures 39.65 mm by 34.06 mm by 2.37 mm.
T1-2 (15745)	Sherd	1	Interior and exterior glazed redware body sherd from hollowware vessel, c. 3.79 to c. 5.79 mm thick.
T1-3 (15746)	Sherd	1	Curved, gray, salt-glazed stoneware handle fragment with medial groove on dorsal surface, c. 6.23 mm thick by 5.55 mm thick in groove and c. 17.6 mm wide.
T1-4 (15747)	Sherd	1	Gray, salt-glazed stoneware body sherd from hollowware vessel. Mottled olive green splotches occur on exterior, c. 4.1 mm thick.
T1-5 (15748)	Sherd	1	Gray, salt-glazed stoneware basal sherd from hollowware vessel. Rounded basal corner to narrow groove, ridge, medium-width blue glazed band, ridge, narrow groove, and ridge. Interior surface is yellowed.
T1-6 (15749)	Sherd	1	Pearlware basal sherd, c. 4.1 $\pm$ mm
T1-7 (15750)	Sherd	4	Porcelain rim/shoulder (2) and shoulder/basal (2) sherds from bowl. Plain white surface with evidence of burning present, c. 5 $\pm$ mm thick.
T1-8 (15751)	Slate	1	Burnt slate fragment.
T2-1 (15752)	Horseshoe	1	Heavily corroded iron, posterior, one third end fragment.
T2-2 (15753)	Nail	1	Heavily corroded cut or wrought nail (indeterminate).
T2-3 (15754)	Sherd	1	Thin (2.8 $\pm$ mm), rim/body porcelain sherd from cup. Gold handpainted band along top of rim. Decorated green, gold, and purple motif elements below rim on exterior surface.