

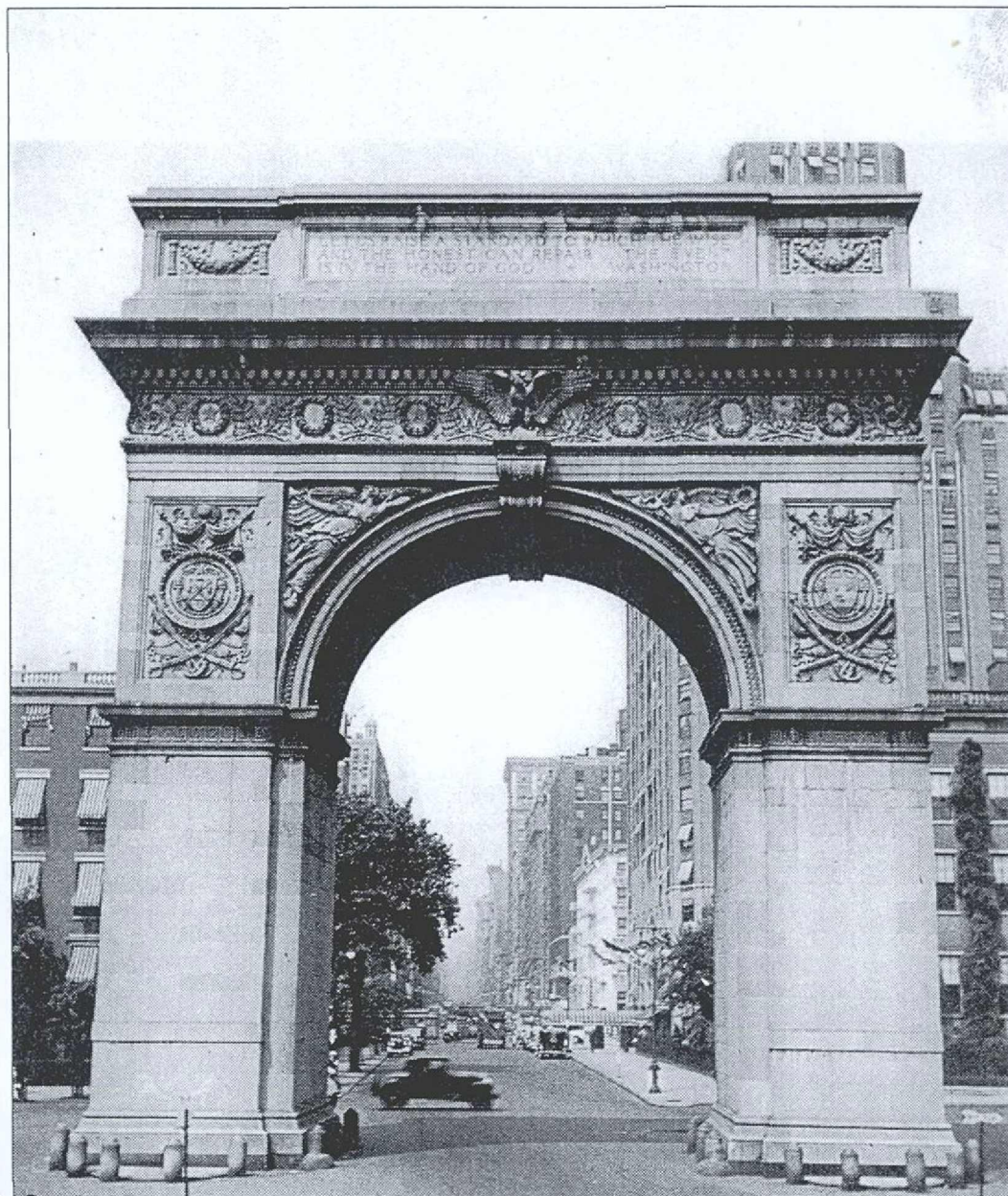
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Geismar 2004

# The Reconstruction of the Washington Square Arch and Adjacent Site Work

## Washington Square Park, Borough of Manhattan

### Archaeological Dry Well Monitoring



New York Parks Photo Archive 1935

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Prepared for the New York City Department of Park and Recreation  
Prepared by Joan H. Geismar, Ph.D., LLC  
April 2004

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## ABSTRACT

This report presents the findings of archaeological monitoring at Washington Square Park (Block 549), Fifth Avenue and Washington Square North, Borough of Manhattan. It also presents the findings of historical research conducted to provide context after fieldwork was completed. The monitoring and research were carried out for the New York City Department of Parks and Recreation (Parks) in consultation with the New York City Landmarks Preservation Commission (LPC). At issue was whether excavation of two 6-foot deep dry wells associated with the renovation and restoration of the park's Washington Arch would disturb archaeological resources. Construction of the arch in 1890 uncovered evidence of human burials. Found about 10 feet below the ground surface, the burials, undoubtedly from a Potter's Field once located on the site, were associated with a stratum of blue clay documented in pre-construction soil borings. Apparently as a result of the construction, the blue clay stratum is not found in 1966 soil borings from the same area. The recent dry well excavations, which were entirely in fill, did not encounter any significant cultural resources, nor did they reach the potential level of concern.

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## INTRODUCTION

This report presents the findings of archaeological monitoring at Washington Square Park (Block 549), Fifth Avenue and Washington Square North, Borough of Manhattan (Figure 1). It also presents the findings of historical research conducted to provide context for this undertaking. The work, which was carried out for the New York City Department of Parks and Recreation (Parks) in consultation with the New York City Landmarks Preservation Commission (LPC), related to the Washington Square Arch designed by Stanford White, erected in 1890, and dedicated in 1895. At issue was whether excavation of two dry wells associated with the monument's extensive renovation and restoration (Figure 2) would disturb archaeological resources.

The two dry wells are intended to receive water run-off from the approximately 6-story arch structure located within the park at the foot of Fifth Avenue. The dry wells are situated between the arch and the sidewalk on the south side of Washington Square North, a street that runs perpendicular to Fifth Avenue. The dry wells, or pits, were designed to be 6 feet deep, 8 feet wide, and 14 feet long, and were to be connected to shallow trenches on either side of each pier, designated the East Pier and the West Pier (Plan of Dry Wells 2004; Figure 3).

Construction plans and soil boring logs supplied by Parks helped determine the likelihood of encountering culture-bearing levels during the excavation. Soil profiles, which date from 1890 and 1966 (see below), indicate that the soil currently found in the area of concern is entirely a fill, and that this fill extends well below the area of potential effects (APE) of this undertaking, that is, below the level of dry well excavation. Based on this information, it appeared unlikely that the planned dry well excavations would disturb significant archaeological resources. However, given the history of Washington Square Park, it was deemed wise by both Parks and the LPC to monitor the dry well excavations as a precautionary measure. The disturbance caused by construction of the arch eliminated prehistoric resources as a concern in this undertaking.

## A BRIEF HISTORY OF WASHINGTON SQUARE PARK

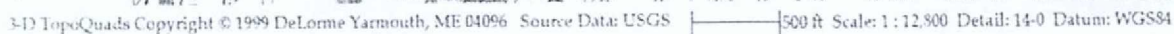
The history presented here is intended to provide a context for the dry well excavations undertaken in March 2004, and to identify potential archaeological issues. It was developed after the excavations ended but with full knowledge that approximately two thirds of Washington Square at one time was the city's Potter's Field and burials were a potential issue during monitoring.

According to a *New York Times* article from May 13, 1890, written soon after construction of the arch began, excavators encountered human bones, gravestones, coffins, and an intact burial purportedly more than 10 feet below the ground surface (see Appendix A). The architect of the arch, Stanford White of the firm of McKim, Mead and White, halted the excavation until the burial could be sketched.<sup>1</sup> This discovery highlights the park's development history. As shown on the 1767 Ratzer map reproduced in *Around Washington Square* (Harris 2003; Figure 4 this report), it was originally partially swamp associated with a small creek that ran through the future park site on a diagonal. This creek, known as Minetta Waters, Creek, or Stream, is also identified in the literature as Bestavaer's Killelje or Rivulet, among other variations (Stokes III 1918:966). This watercourse entered the approximately four-block rectangle that forms the "square"

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<sup>1</sup> While it is possible the sketch is in the McKim, Mead and White Archive at the New York Historical Society, ongoing renovation of the society's building made it impossible to research this issue.

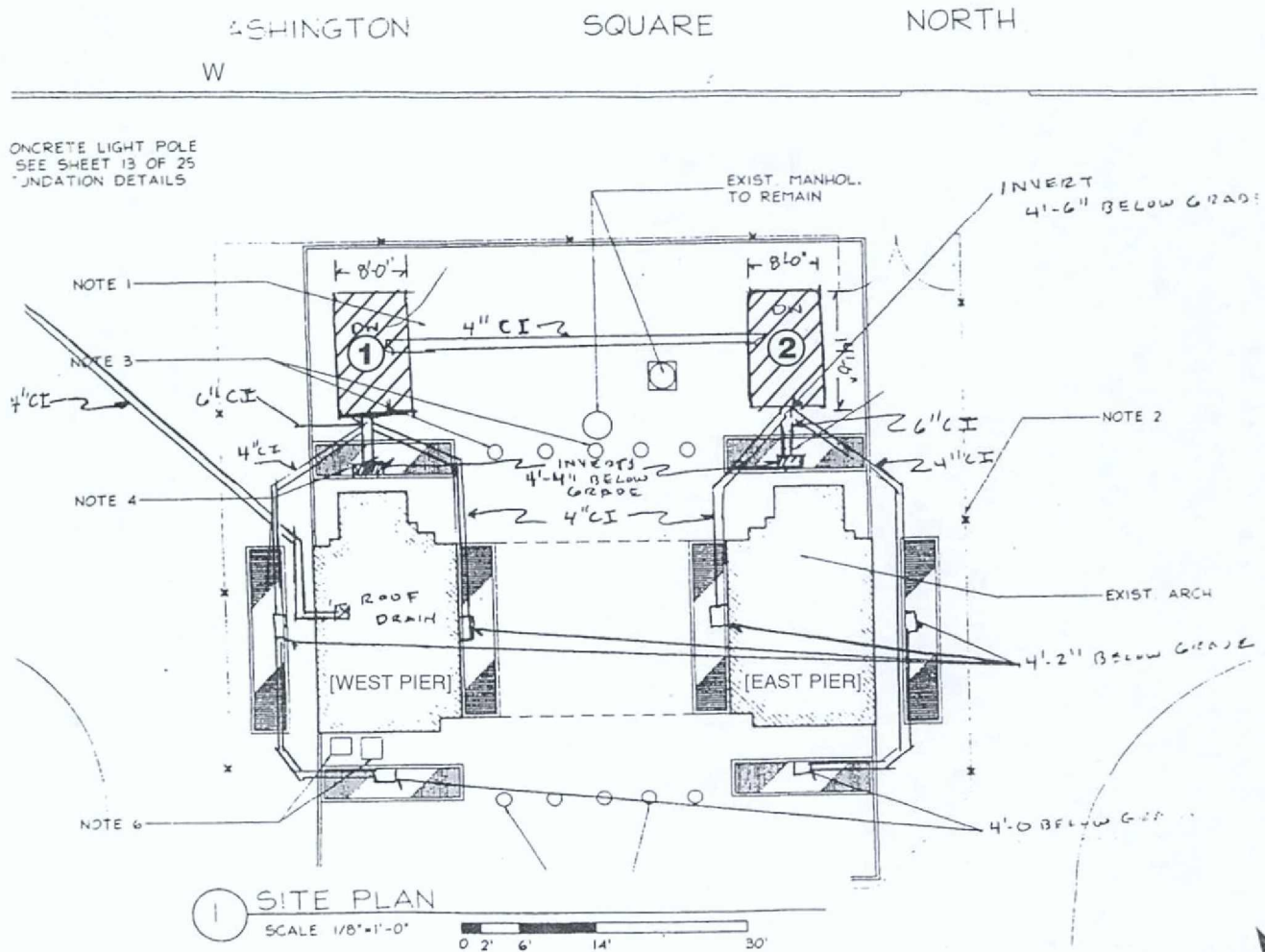




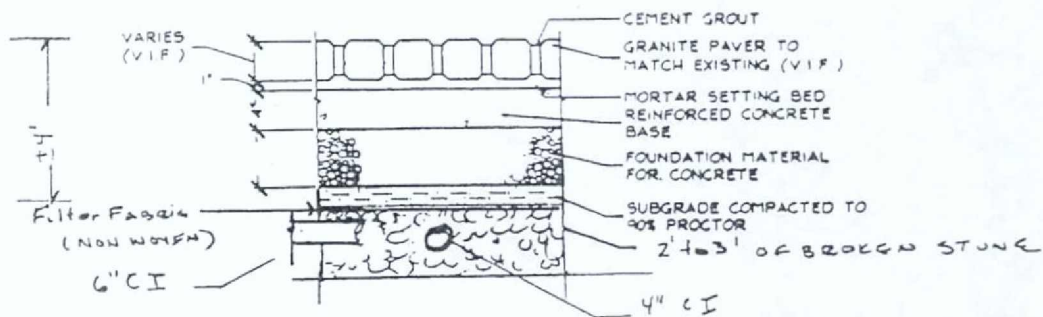




2 The Washington Arch under scaffolding during recent restoration activities undertaken by the New York City Department of Parks and Recreation. View is southwest. (Krawchuk March 2004)

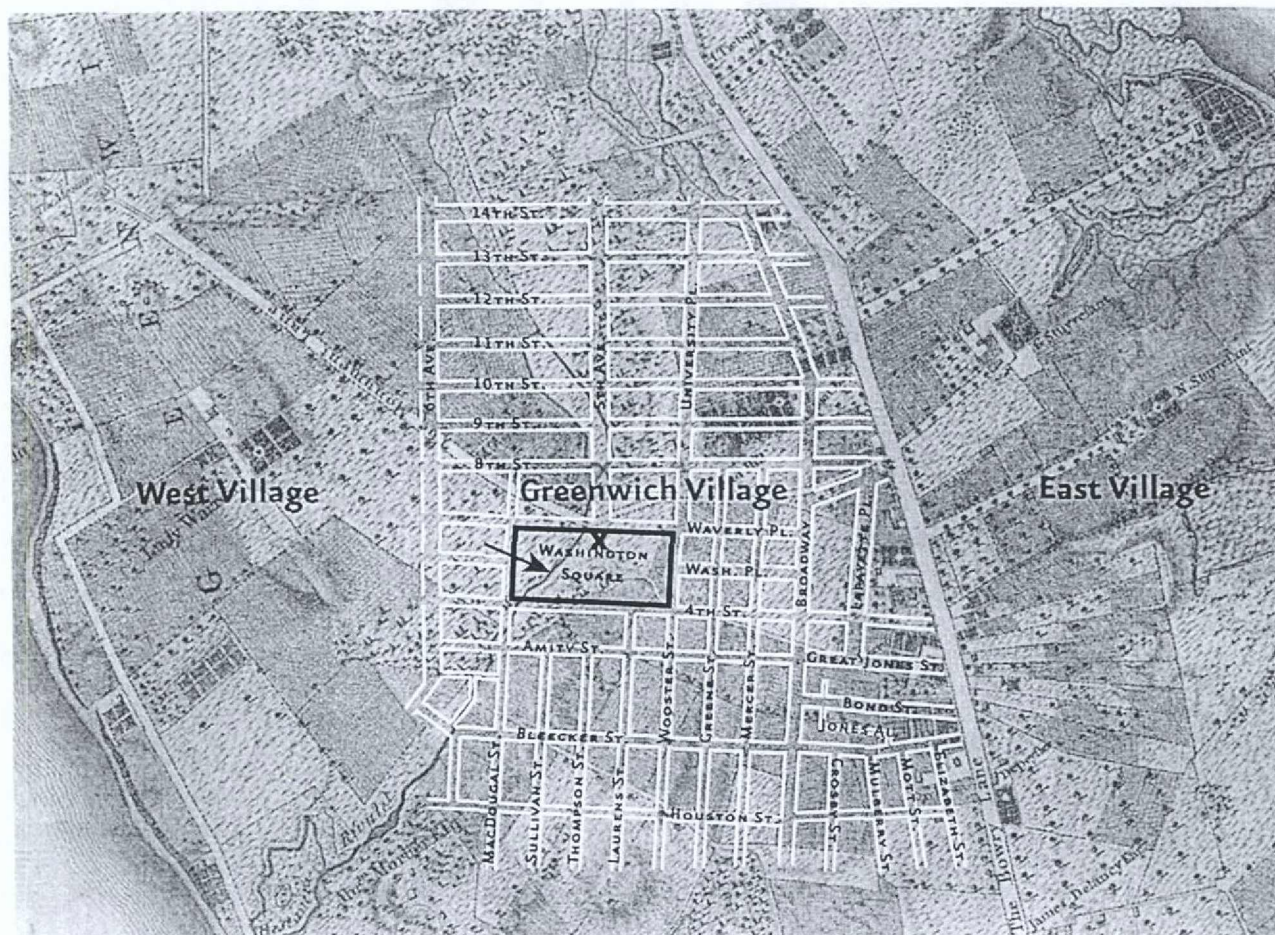


3a. Plan



3b. Profile





- Washington Square Park
- x area of concern (approx., not to scale)
- Minetta Waters





just west of the arch and exited at West 4th Street east of MacDougal Street (see Figure 4), a road laid out prior to 1799 (Stokes III 1918: 1005). Attempts to culvert and fill the creek, which rose in the West 20s and emptied into the Hudson at West Houston Street, date to the 19th century, but it persists underground, occasionally making its presence known (e.g., Janvier 1894:86).

When the City acquired land for a potter's field at auction on April 30, 1797 (Liber of Deeds [LD] 1797 274:218), it was owned by William Ward Burrowes and others, but for generations before that, it was part of the Herring Farm (Figure 5). This was a large, irregular tract with its northern limit defined on the west by the aforementioned Minetta Waters; to the east, it extended beyond Broadway. Even earlier, it had been included in the 100 acres known as Wooter Van Twiller's<sup>2</sup> Bouwery (Farm) that comprised two tracts of land separated by the creek. In the 1640s, a cluster of small farms was located here, well beyond the settled area. The owners were slaves manumitted but indentured by the Dutch West India Company, and the area was known as "the Negroes' Lots" (Stokes VI 1928:104-6; Harris 2004:personal communication). According to deed recitations, the future Washington Square was included in a 6-morgen 425-rod lot patented in 1645 to Anthony Portuguese, a freed slave. Its next owner was Susannah Anthony Roberts, possibly Portuguese's daughter. The name of the progenitor of the Herring (or Haring) family in America, Jan Pieterse Haring, became associated with the farm long after his death in 1683 (Stokes VI 1928:106). His grandson, Elbert Herring, apparently inherited the farm and owned it until his death in 1773 (Stokes VI 1928:106; TR 600 n.d.).

The Potter's Field on the former Herring land replaced an earlier one associated with the Alms House located in what is now City Hall Park.<sup>3</sup> Deeds and maps indicate the land for this new burying ground was acquired in increments, that it extended well east of the current park limits, and that its western boundary was Minetta Waters, the western limit of the Herring Farm in this area (see Figure 5). The first deed, dated April 30, 1797, was from James M. Hughes (Master-in-Chancery), Jacob Sebor, and William Ward Burrowes; it encompassed a parcel bounded by the Minetta Waters on the west and, with the exception of eight lots belonging to Lewis Pintard, extended east to Margaret Street (LD 274:218; see Figure 6).<sup>4</sup> The second, from Lewis Pintard on January 2, 1801, added the eight lots between Holland and Margaret Streets. Acquisition of an approximately 50-foot strip east of Margaret Street brought the city's holding to Wooster Street (LD 274:228; see Figure 6). While historical evidence indicates land was acquired over time to extend the burial ground even further east, well beyond the square's limits (see below), it has not been researched for this report.

It was not until the Potter's Field was about to be closed in the 1820s that the city acquired additional land on either side of Minetta Waters and to the west (Harris 2003:11)<sup>5</sup> to create a military parade ground. The earlier of the two acquisitions, from Guilian and Thomas W. Ludlow in June 1824 (LD 177:298), was a land trade that gave the city gores of land abutting the creek; the later one, from Alfred S. Pell and Thomas R. Mercein in November 1825 (LD 198:454), provided symmetry to the proposed parade ground site by extending it west to MacDougal Street

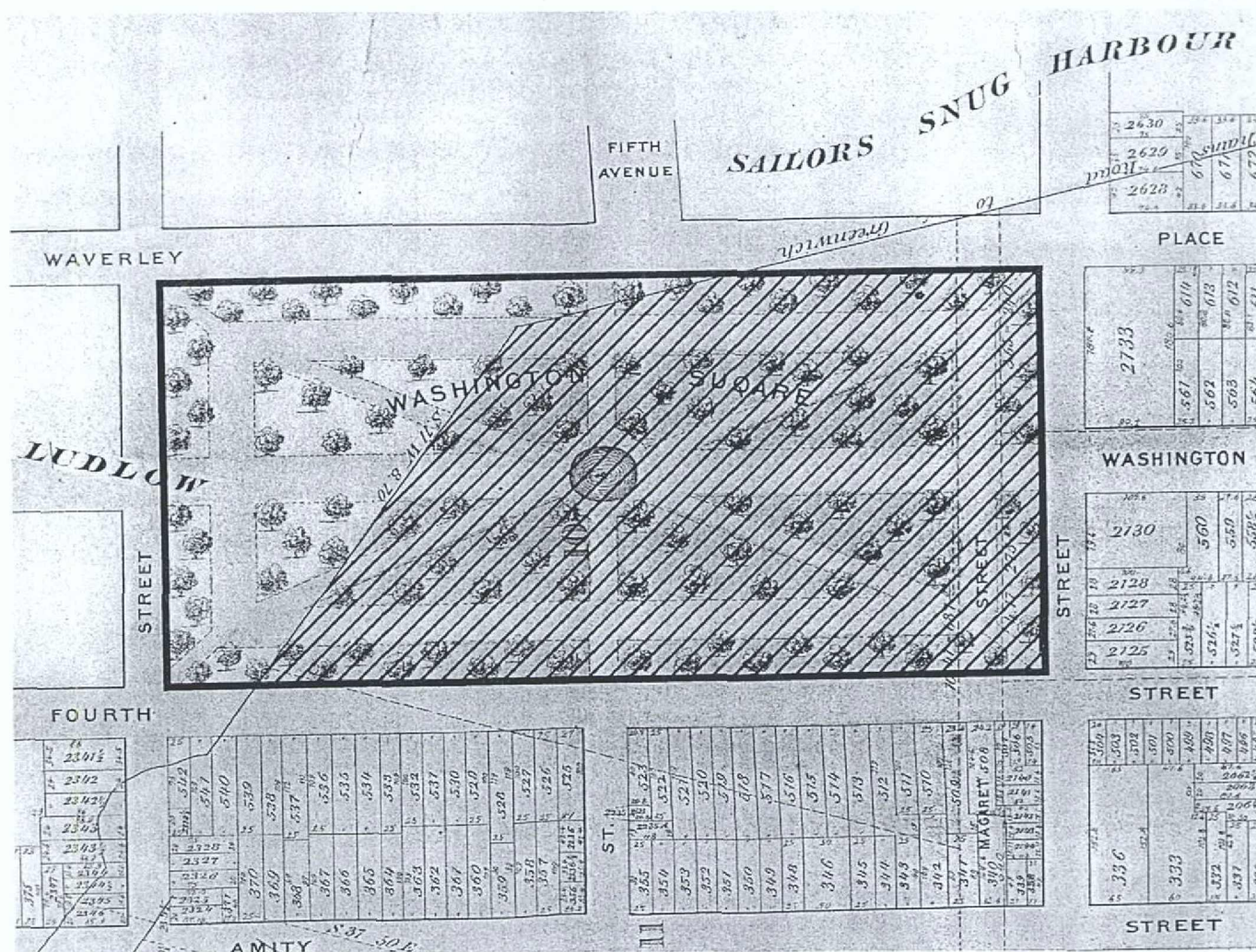
<sup>2</sup> Van Twiller was the second Dutch Governor.

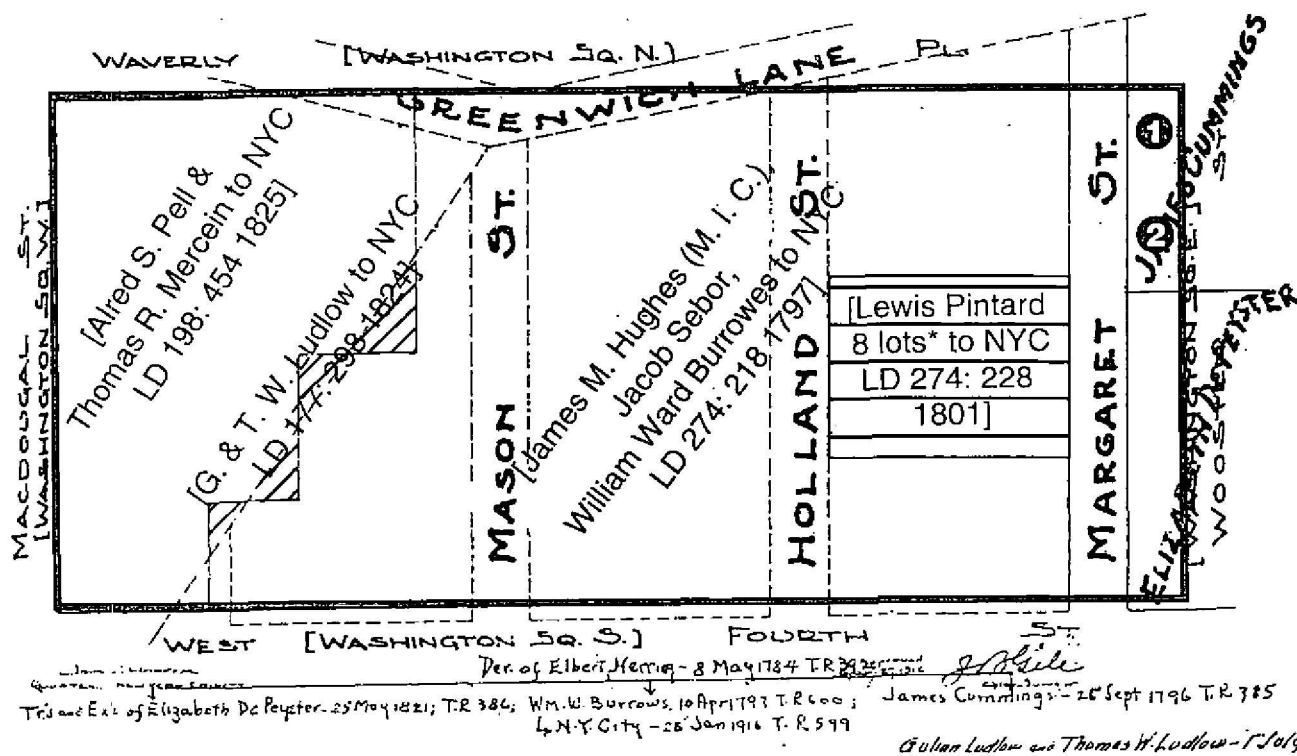
<sup>3</sup> Because a second potter's field was briefly established on a portion of what is now Union Square (Janvier 1894: 120), it was actually the city's third Potter's Field.

<sup>4</sup> Margaret Street, and Holland Street to the west, were laid out through the Herring Farm before the cemetery was established but never adopted by the city as highways (e.g., TR 600:Sheet 2).

<sup>5</sup> Burials officially ceased on January 31, 1825 (Stokes V 1926:1645).







Washington Square Park

gores



Pearl Street Church plot - date unknown (after 1804)



Cedar Street Church plot - date unknown

\*

exact location unidentified



(see Figure 6 for a Summary Plan of City Land Acquisitions 1797-1825).

From the beginning, both the Potter's Field and the new Washington Parade Ground were fenced, the former in 1799 with boards, posts, and rails (Minutes of the Common Council [MCC] II:512), the latter in 1827 with "a neat pale [wood] fence" (Stokes V 1926:1670). In addition, in 1797, a small building for the superintendent was erected with materials taken from the old Alms House (MCC II: 374), but its location at or near the Potter's Field is unknown.

Mass burials are postulated in the Potter's Field during successive late-18th and early-19th century yellow fever epidemics (e.g., Harris 2003:5), and it remained a city burial ground until 1825. In that year a new, larger site, was chosen as a replacement. This was the expanded block that now houses the New York Public Library and Bryant Park (Harris 2003:6).

While the "Potter's Field" phase of the park's development is well documented, few know that within its limits were several small, church-related burial grounds. Among them was a 50-foot square plot the city gave to the Zion African Methodist Episcopal Church. Prohibited from continuing to use its overcrowded and noxious subterranean church vault for burials<sup>6</sup> (MCC IV: 525), this black congregation successfully petitioned the Common Council for a burial plot within the Potter's Field in 1807 (Stokes V 1926:1466). A subsequent Common Council entry documents the church's request to be excused from an assessment for running a street that bordered its Potter's Field plot (MCC V:59).<sup>7</sup> The request confirms that the Potter's Field extended beyond Washington Square since available information identifies the street in question as modern Mercer Street located two blocks to the east (Post 1882:59; Stokes III 1918:1005). It also indicates that the burial plot of the black congregation was situated beyond the park's limits.

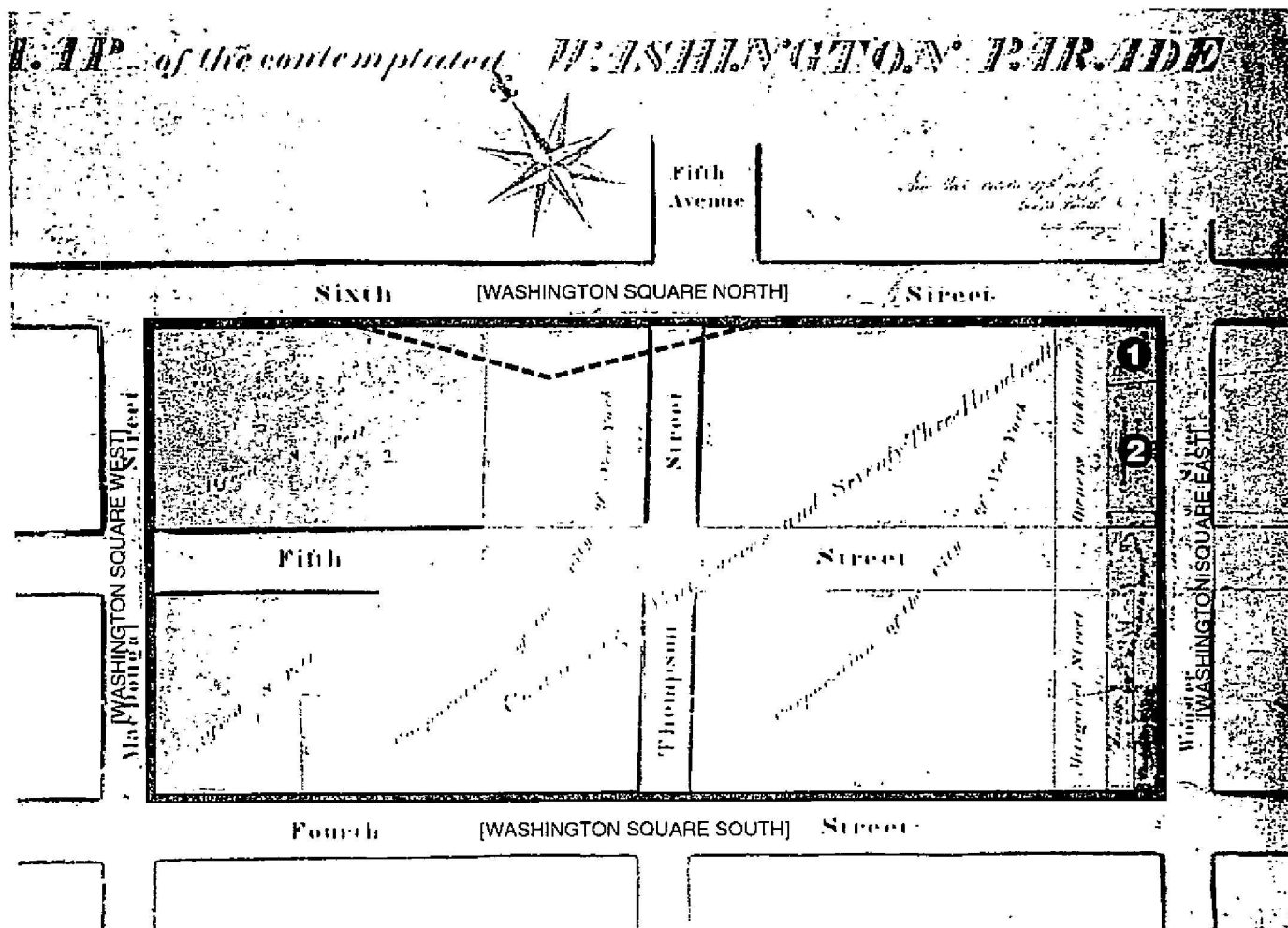
An 1826 survey documents two small church burial plots on the west side of Wooster Street (Smith 1826; Figure 7). The larger of the two, which was approximately 128 feet long by 50 feet wide, is identified as belonging to the Cedar Street Church. Next to it, at the corner of what is now Washington Square North and Washington Square East (then Sixth and Wooster Streets), is the burial ground of the Pearl Street Church. This plot was only about 51 by 57 feet (Smith 1826; see Figure 7).<sup>8</sup> The Cedar Street Church was another name for the Scotch Presbyterian or Secession Church dating to 1756; the Pearl Street Church, established in 1797, was for a time associated with the Cedar Street Church, but separated in 1804 (Greenleaf 1846:206). Just when the two churches acquired their plots in the Potter's Field is unknown. It is possible their acquisition was related to a mid-1820s movement to provide replacement burial plots in the City Cemetery to all religious denominations with private burial vaults built prior to 1823 (MCC XI:570); if so, they were active for a very short time before this Potter's Field was closed.





Seven years before the Zion African Methodist Episcopal Church made its request to the Common Council in 1807, a representative from Shearith Israel, a Jewish congregation, also petitioned for a burial plot within the Potter's Field intended for those who died of "pestilence." Unlike the petition by the Zion African Methodist Episcopal Church, this one was unsuccessful

<sup>6</sup> The Zion African Methodist Episcopal Church, founded in New York City in 1796, had erected a new edifice at Church and Leonard Streets in 1800 with a burial vault under the structure (Stokes V 1926:1379).

<sup>7</sup> According to a subsequent MCC entry, this assessment was actually levied against another "African Society" with a nearby plot in the Potter's field (MCC V:74), but this remains a question.

<sup>8</sup> Luther S. Harris generously made a copy of this survey available.



-  proposed parade ground, now Washington Square Park
-  part of old road pattern (road to Greenwich, Sand Hills, Art Street. etc.)
-  Pearl Street Church burial plot
-  Cedar Street Church burial plot

(Pool 1952:120). The Common Council entry for the petition, dated June 30, 1800, as presented in Stokes, reads as follows:

30 Joshua Isaacs, president of the board of trustees of the Congregation of Shearith Israel, writes to the common council requesting that, inasmuch as a recent city ordinance deprives this congregation of the privilege of burying in their own cemetery the bodies of such of their dead as die of "pestilential disorders," and as the religious customs of the Jews "forbid them to bury their dead in the same cemeteries with those of other denominations," they ask that part of the potters-field "may be separated from the rest and granted to them, so that they may fence in and partition the Same as a burying ground for the exclusive use of their own Congregation."—From the original MS. in metal file No. 20, city clerk's record-room. In the common council the petition is "read & postponed."—*M. C. C. (1784-1811)*, II: 641. (Stokes V 1923:1378)

Based on the 1890 finding of gravestones, it seems not all the public burials within the Potter's Field were paupers or unknowns.<sup>9</sup> The aforementioned *New York Times* article raises the possibility of a German burial ground just north of the park as an explanation for the graves and human remains uncovered during excavation for the arch, but this has not been verified through research. The finding of gravestones suggests the Washington Square Arch is located where private burials occurred rather than where the burials of the indigent, or the mass burials of those felled by epidemics might be found, but this is speculation. What is not speculation is that at least one other cemetery—the plot given to the Zion African Methodist Episcopal Church—was located within the Potter's Field as early as 1807, although the church plot was beyond the limits of modern Washington Square. As discussed above, two other church cemeteries were located within the limits of the square, but they may have been established much later than the Zion African Methodist Episcopal Church cemetery. No mention of these Presbyterian cemeteries was found in either the Minutes of the Common Council or in Stokes's *Iconography*.

The yellow fever epidemics that periodically struck the city in the late 18th and early 19th centuries caused growing concern among health officials in regard to burial grounds in populated areas (MCC XIV:576-634; Duffy 1968:219). There was much debate and many protests by the city's churches. In 1822, after several proposals to limit these burials were ignored, the Common Council finally prohibited burials south of Canal Street on the west side and south of Grand Street on the east side (*New-York Evening Post* 1923; Duffy 1968:221). While the Potter's Field was located north of the affected area, health issues undoubtedly played a part in its abandonment; this was in addition to its crowded condition and the economic inducements to development that accompanied the city's northward expansion.

A gallows is said to have been located in the cemetery where a black woman, Rose Butler, a murderer, was hanged in 1822 (Janvier 1894:130). A somewhat dubious source for this information is an account by "an old gentleman" who, from his front stoop on Leroy Street, had observed the hanging from a considerable distance seventy years earlier (Janvier 1896:130).

<sup>9</sup> Luther Harris, author of *Around Washington Square*, believes many people of substance were buried in the Potter's Field rather than in church cemeteries (Harris 2004:personal communication).

More information comes from *Reminiscences of an Octogenarian*, where its author Charles H. Haswell notes that “Rose Butler, a Negro” was indeed hanged in the Potter’s Field, but for arson not murder (1896:102). While Janvier locates the gallows site near the arch, Luther Harris locates it in the vicinity of the modern fountain (Harris 2003:5; 2004:personal communication). Once again, neither the published Minutes of the Common Council nor Stokes’s *Iconography of Manhattan Island* document a gallows on the site, nor do they document the execution.<sup>10</sup>

Newspapers of the time were consulted to determine if a gallows actually existed on the site. Doing so highlighted several aspects of historical research: “facts” are often garbled by time and/or misinformation; these mistakes then are engrained in the literature. But even primary sources may not provide sought-after answers. Rose Butler’s execution is a case in point.

Three newspapers consulted on the issue—the *New-York Evening Post* (1819), the *New-York Gazette and Daily Advertiser* (1819), and the *New-York Commercial Advertiser* (1819a)—agree on several counts: Rose Butler was an arsonist, not a murderer.<sup>11</sup> She was young. She had no accomplices, or, if she did, she did not identify them. And the hanging took place on July 9, 1819. The shortest of the articles, six lines in the *New-York Evening Post*, says the hanging occurred near the Potter’s Field [emphasis added]; the longest, a touching, thirty-eight line story in the *New-York Gazette and Daily Advertiser* (1819), places the hanging “at Potter’s Field.” The article in the *New-York Commercial Advertiser*, published the day of the execution but before it occurred, does not mention the location. So, while primary sources verify the execution and identify the crime, they do not definitively locate the gallows.

On January 8, 1826, the city paid for “filling in and paving in front of” the former burial ground (MCC XV:141). During this process, the burials—or many of the remains that were said to number 20,000 (MCC XVI:50)—apparently were reinterred in ditches to clear the site (Harris 2004:personal communication).<sup>12</sup> Therefore, they were not removed, but merely rearranged. This was verified a half century later when human remains, gravestones, and a coffin were encountered during construction of the arch. It was confirmed again when Con Edison personnel working at University Place near the northeast corner of the square in 1964 discovered human remains (Patten 1974).

The historical record itself suggests burials were never removed from the site. For example, a petition to the Common Council on January 16, 1826 to use the former Potter’s Field as a military parade ground, notes “from the Circumstances of this plot...having been so lately used as a public burying ground on an extensive Scale, it is presumed ...it is not intended for private purposes...for some years to come” (MCC XV:234). Since burials were still present, it was not suitable for private development.

As a military parade ground, the former Potter’s Field was known officially as Washington Parade Ground (e.g., MCC 15:748); by 1878, it was a public park (Stokes III 1918:972). With the creation of the Greenwich Village Historic District in 1969, the first of Manhattan’s desig-

<sup>10</sup> It is believed by some that an ancient elm tree located in the northwest corner of the park was a hanging tree, but this has been proven untrue (Harris 2003:x, 16; Patten 1974).

<sup>11</sup> The three crimes punishable by death in 1819 were murder, treason, and arson (*New-York Commercial Advertiser* 1819b).

<sup>12</sup> The author is grateful to Luther S. Harris, the author of *Around Washington Square*, for generously sharing his wealth of information.



nated historic districts, the park was hailed as “an important focal point, both of Greenwich Village and of the City.” The arch, which, as noted earlier, was not built until 1890, is described in detail in the designation report (LP 0489 1969:105).

A year before the stone arch was constructed, a temporary one of wood and papier mache, also designed by Stanford White, was erected just north of the park on Fifth Avenue. Promoted by socialite William Rhinelanders Stewart, and financed by private subscription, it was intended to commemorate the centennial of Washington’s inauguration as the first president of the United States (Kouwenhoven 1953:410; Figure 8). Its popularity fostered the idea of a permanent arch and, in 1890, construction began on the structure in the park (Figures 9). Working on an accelerated schedule, and despite the discovery of human remains, including one entire burial, the foundation was completed within a month’s time (Anonymous 1896:18). In 1895, the dedication of the arch was a historic moment.

Until the late 1950s, Fifth Avenue traffic ran under the arch and through the park (Figure 10), but in the 1960s, it was closed to all but buses; it then became a parking lot rather than a thoroughfare (Figure 11). Parking was prohibited when the park was renovated in 1966 (see Figure 12 for the arch and its setting at this writing). At the time, Belgian block was introduced as a decorative element above the street asphalt around the arch. The asphalt-Belgian block sequence was documented during the recent monitoring activities (see Annotated Field Notes below).

## ORIGINAL TOPOGRAPHY AND SOIL BORING DATA

### Topography

A mid-19th century report on the city’s sanitary conditions recreates the pre-development topography in the vicinity of Washington Square. By the time the report was written, the Potter’s Field was long gone and the modern street configuration was established, and this area, like most of Manhattan, was by then devoid of original topographical features. However, the report describes the swamp that once spread across part of the future square, with elevations in the area ranging from a high of 45 feet 11 inches above sea level at Elizabeth and Houston Streets to only 14 feet 5 inches above sea level at West Washington Place and Sixth Avenue (Citizens’ Association 1865:127; Figure 13). Swamp is depicted on either side of “Minetta Creek,” but, further east and west of the creek, it was dry. A sand hill spread east from Fifth Avenue and Waverly Place and crossed the southeastern corner of the square (see Figure 13).

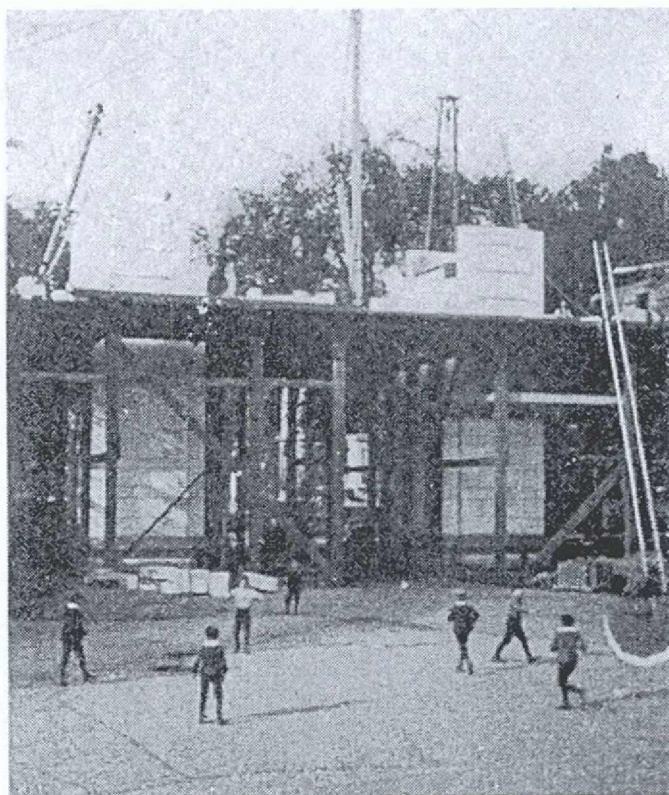
Undoubtedly to create the parade ground, and possibly even when it was a burial ground, filling was required. Based on soil borings (see below) this was the situation in the vicinity of the arch. It should also be noted that the configuration of the earliest street adjacent to the arch, the Road to Greenwich or to the Sand Hills, later Art Street, dipped to a “v” in the vicinity of the arch (e.g., Commissioners’ Map 1811; Figure 14<sup>13</sup>). This configuration was lost when Art Street was closed in 1825<sup>14</sup> (Stokes III 1918:992); 6th Street, now Waverly Place, a straight, typical, urban thoroughfare, was opened in its place in 1827 (Street Opening Map n.d.) and renamed Washington Square

<sup>13</sup> The location of the “v” varies even on maps considered quite accurate; e.g., compare Figures 14 and 7.

<sup>14</sup> Astor Place to the east is the surviving remnant of Art Street and the earlier road.

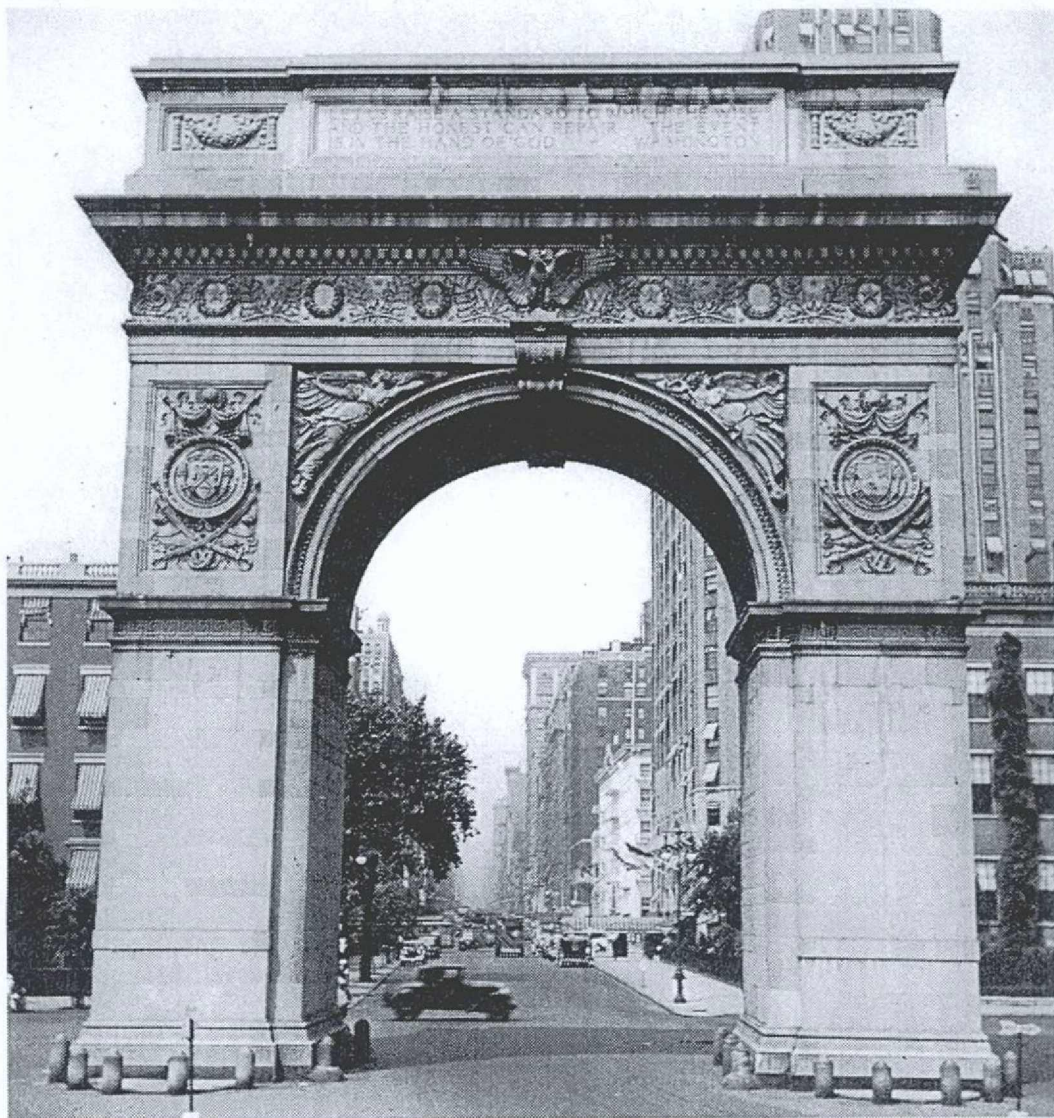


8 Temporary Memorial arch located on Fifth Avenue just north of Washington Square in 1889. (Kouwenhoven 1953:410)



9 Washington Arch under construction in 1890. (Alajos L. Schuszler, New York Parks Photo Archive)





10 Washington Arch in 1935 looking north up Fifth Avenue. (New York Parks Photo Archive)



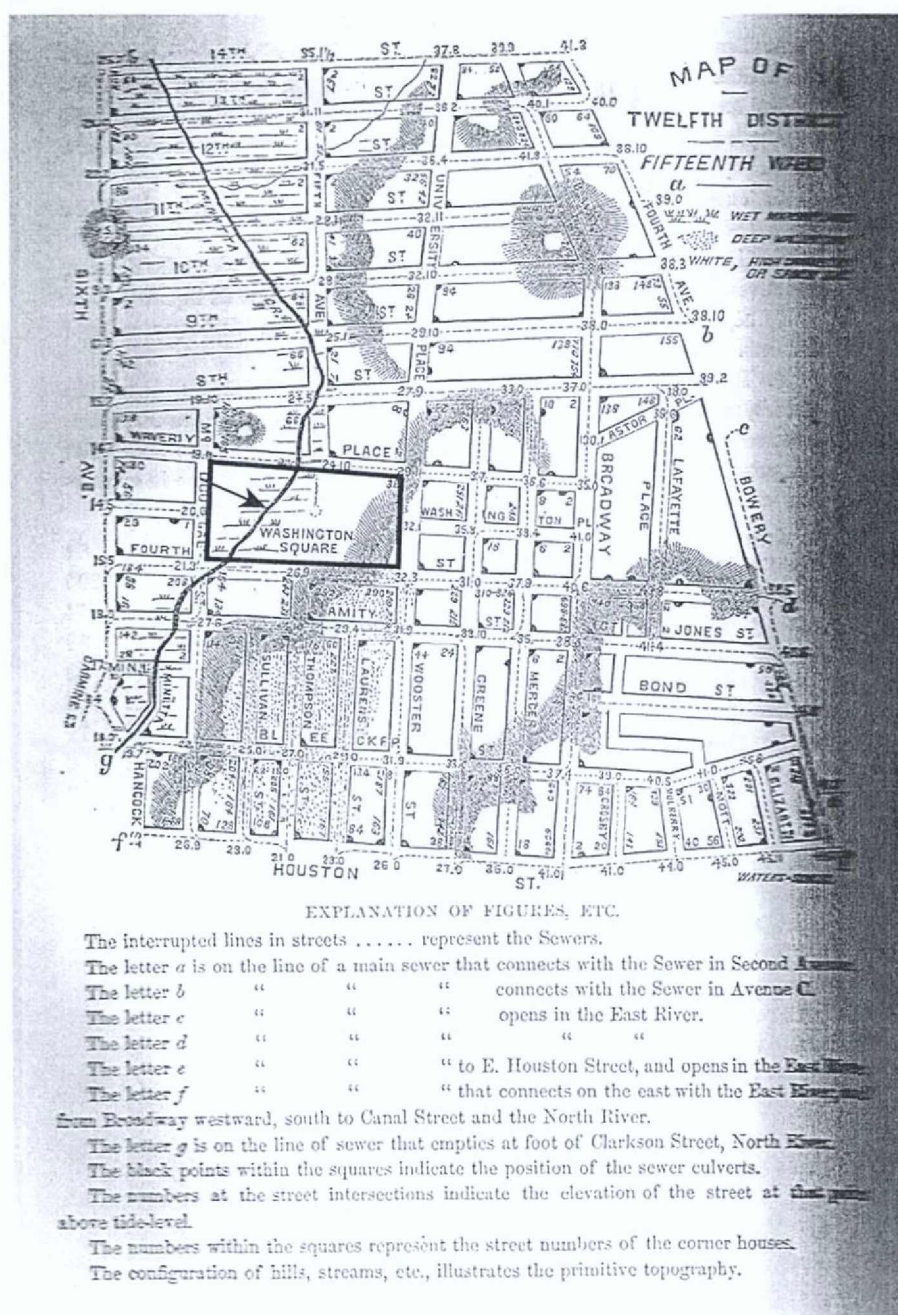


**11** Birds-eye view of Washington Arch in 1966 with parked cars around and behind the monument. (New York Parks Photo Archive)



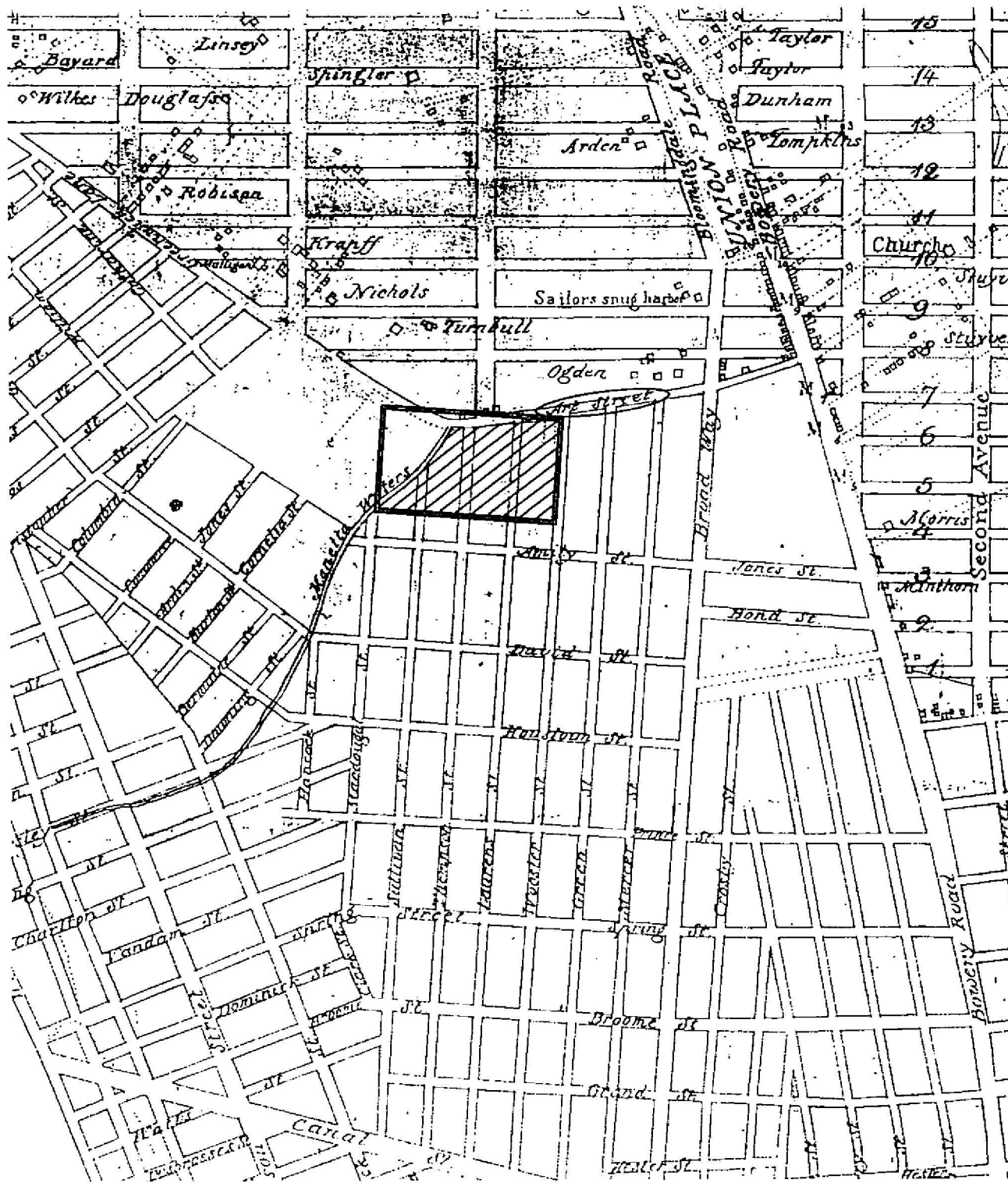
**12** Birds-eye view of Washington Arch on March 22, 2004, after dry wells were installed and the scaffolding erected for renovation of the arch was removed. (Geismar March 22, 2004)



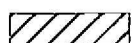




Washington Square Park

Minetta Waters (western limit of Potter's Field)



-  Washington Square Park
-  Art Street
-  burial ground within square

0 c.600  
Ft.



North in 1858<sup>15</sup> (Stokes III 1918:1009). It is noteworthy that the 1864/1865 elevation of Washington Square North in the vicinity of the arch (24.10 feet above sea level; see Figure 13) was only slightly lower than in 1966 (25.0 to 25.2 feet above sea level; see Figure 16).

### Soil Boring Logs

Logs from borings drilled in the vicinity of the arch offer a record of subsurface conditions prior to its construction in 1890 that can be compared with conditions documented in 1966. The earlier of the two soil boring episodes occurred in March 1890, about a month before arch construction began; the more recent one was related to a 1966 restoration effort. While both document the presence of a deep layer of sand, a blue clay stratum below the sand in three borings within the APE that suggest marsh conditions is missing from the more recent logs (see Figure 15, Nos. 6, 7, and 8).

In 1890, a uniform, 1-foot thick stratum of this blue clay was documented 10 to 11 feet below the surface on what would become the north side of the arch (Boring Nos. 6, 7, and 8; Figure 15). According to the 1890 newspaper article, the human remains, gravestones, and a coffin were found at this depth, as was water indicating that burials were once located immediately above the clay; the 1966 soil boring logs indicate conditions had changed. While both soil boring episodes document sand, the absence of the blue clay stratum in the more recent samples (Borings B-11, B-12; Figure 16) indicates that the sand documented in the 1966 borings is a replacement. In other words, great and deep disturbance has occurred in the vicinity of the arch, a disturbance undoubtedly related to construction of the monument.

### ANNOTATED FIELD NOTES

At issue were identical pits for two dry wells excavated on the north side of the East and West Piers of the arch (see Figure 3). Dimensions of each pit were 14 feet north-south, 8 feet east-west, by 6 feet deep. A John Deere 240 backhoe with an 18-inch bucket was employed for most of the excavation. Shelly Spritzer was on site to monitor.

#### Pit 1

Tuesday 3/9/04: First day of excavation. Cloudy, raw, cold, windy day. Pit about 3 feet north of the base of the West Pier, adjacent to a 4-foot deep by approximately 3-foot wide by 8-foot long trench previously excavated to create a concrete light trench to house utilities (more specifically, lamps and electrical components to light the arch). A portion of the pier's buried base was exposed in this trench (see Figure 3 for the location of this and other light trenches).

The monitored backhoe excavation began about 12:45 P.M. While the backhoe was employed for most of the excavation, the sides and bottom of the pit were finished by hand. Just under the surface, partially covered by thin paving, was a layer of Belgian block; a 6-inch thick layer of asphalt was exposed in the pit 18 inches below the current ground surface (BGS; see Figure 17). Between the Belgian block and the asphalt was a layer of rubble and stone fill, and below the asphalt a red brown sand mixed with light brown fine sand. This graded into a mostly light brown fine sand that extended to the bottom of the pit. Chunks of asphalt were noted in the pit's

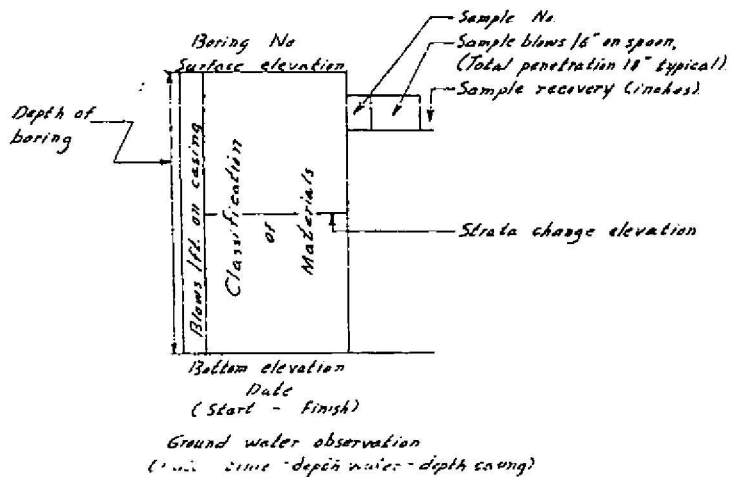
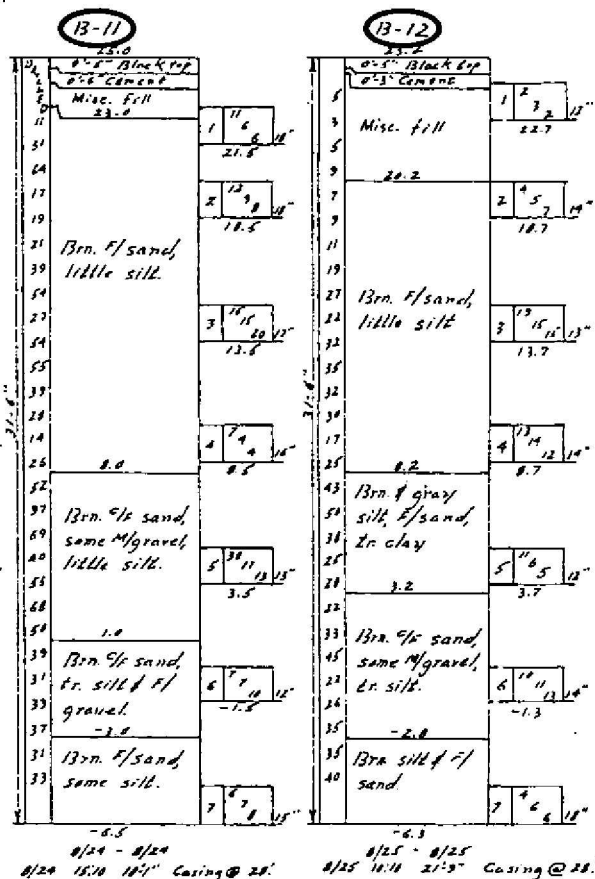
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<sup>15</sup>The street is still called Waverly Place on the 1890 soil boring location plan.





blue clay stratum in soil boring logs in vicinity of dry wells



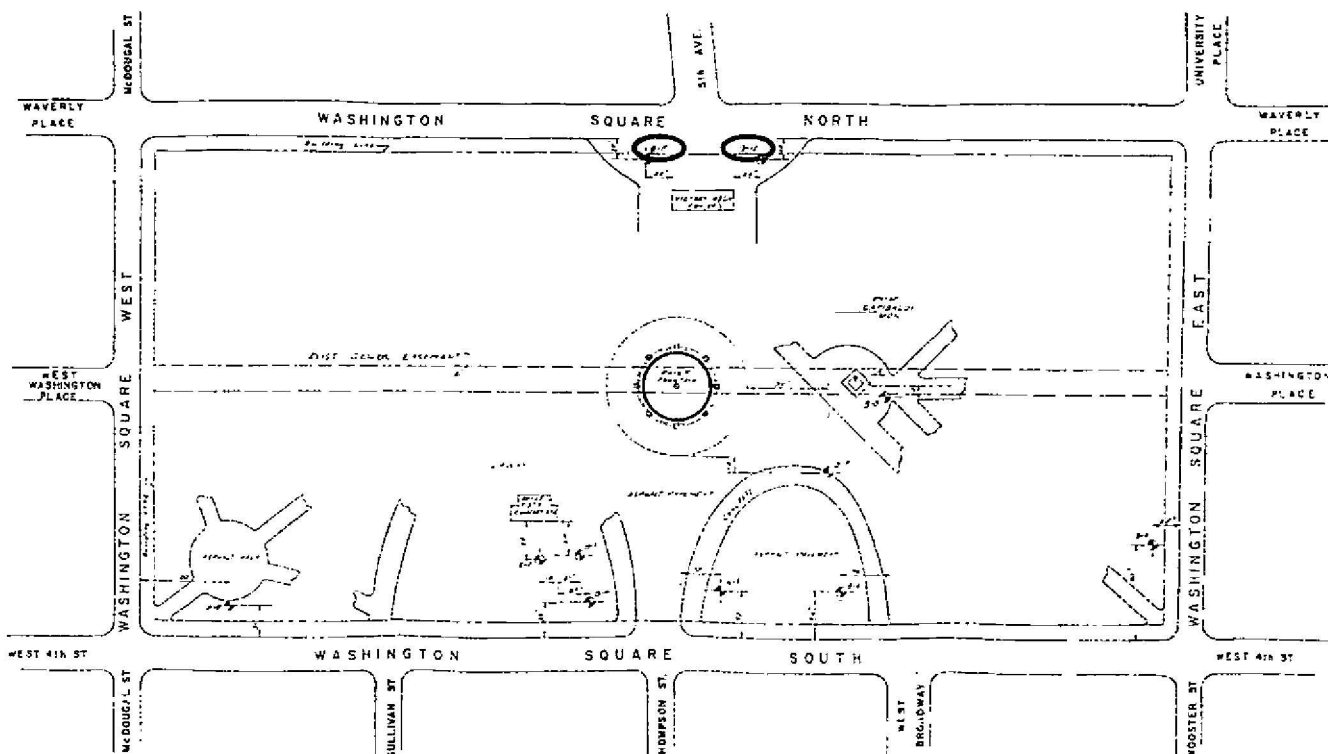
Casing size - 2 1/2"  
 Spoon size - 1 3/8"  
 Casing hammer - 300 lb., 24" fall  
 Spoon hammer - 140 lb., 30" fall

**Abbreviations**  
 Misc. - Miscellaneous C - Coarse  
 Brn. - Brown M - Medium  
 F - Fine O.E. - Blows of a 300 lb hammer falling 24"  
 Tr. - Trace on an open and red

Driller - L. Crockett  
 Helper - J. Kozjawa  
 Material classification by visual inspection.

16a. Soil Boring Logs

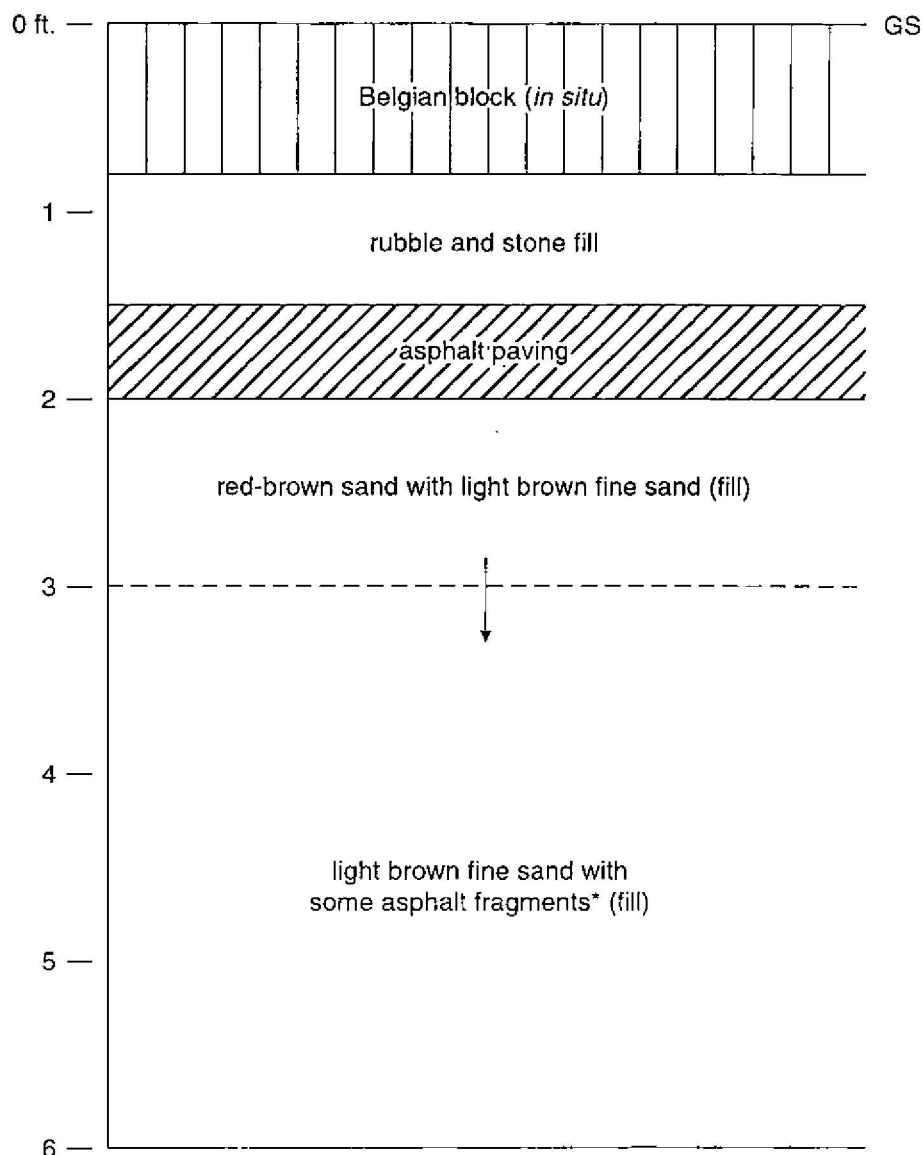
16b. Soil Boring Legend



16c. Soil Boring Location Plan

○ relevant soil borings and logs





\* Pit 2 fill contained 2 ceramic fragments and an animal bone fragment (horse mandible fragment with canine tooth) in addition to fragments of red sandstone.

walls to at least 5 feet BGS. Some small, waterworn cobbles were also noted, but no artifactual material was encountered during the excavation. Shoring was not required.

## **Pit 2**

Wednesday 3/10/04: Second day of excavation. Sunny, cold, windy day. Pit located north of the East Pier, about 3 feet north of the arch base. A 3-foot wide wooden form had been placed between the pier base and the pit in a trench similar to the one noted on the north side of the West Pier. Again, this was intended to create a concrete light trench to hold lamps and electrical elements.

Hand excavation of shallow, 1-foot wide trenches was in progress on the east and west side of the East Pier during the monitoring; at the time, the length of these shallow trenches had not been defined. Drainage pipes later ran from the trenches to the dry well (see Figure 3).

Although the layer of Belgian block had been removed from this location, it was noted in the pit walls; the rubble layer, the buried asphalt, and the soil in Pit 2 were similar to that found in Pit 1. The only difference was several large fragments of red sandstone boulders (approximately 1 foot square) noted in the Pit 2 fill. Half of an unmarked brick was noted just under the asphalt layer on the east side of the pit. Two ceramic fragments were found *in situ* in the pit's east wall 40 inches BGS and 4 feet from the southern end of the pit. One was a blue shell-edge pearlware (tableware) rim fragment, the other a mocha ware body fragment, possibly from a jar, pitcher, or bowl (Figure 18). While both could be of early-19<sup>th</sup> century manufacture, they were fragmentary and appear to be redeposited material characteristic of fill, albeit a basically clean fill. Soil from near the center of the pit, at a depth of approximately 4 feet BGS, collapsed during backhoe trenching; this exposed a bone fragment with a single, large tooth with wear (Figure 19); this proved to be a fragment of a horse mandible (*Equus caballus*), or lower jaw, with a canine tooth later identified by Sophia Perdikaris, the project's faunal expert. More specifically, its identification as an equid canine indicates it was from a male horse (Perdikaris 2004:personal communication). The pit was about one-third open when a hydraulic line on the backhoe broke and work was halted.

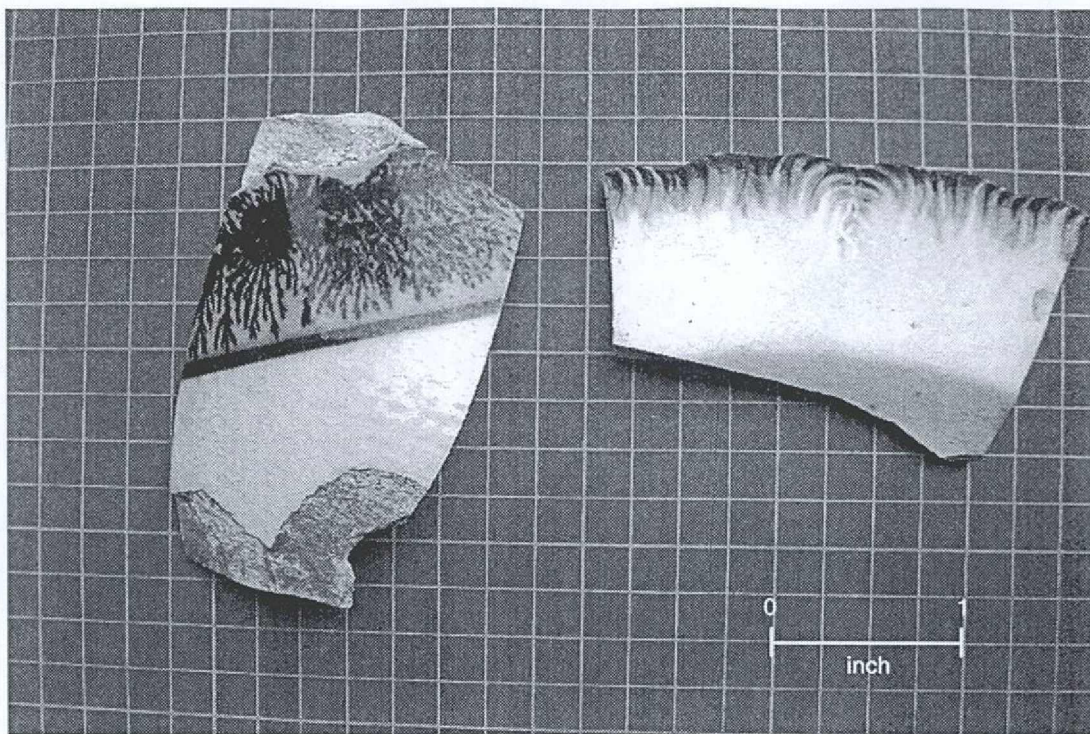
Thursday 3/11/04: Third day of excavation. Sunny, windy, cold day.

(Pit 2 continued). Work began at 7:50 AM. Workmen had left a modern drinking glass found the day before during shallow trench excavations on the east side of the pier. In the glass was a fragment of paper with an illustration of a hand-operated coffee mill printed on both sides that said "COFFEE DISTRIBUTING..." under the illustration.

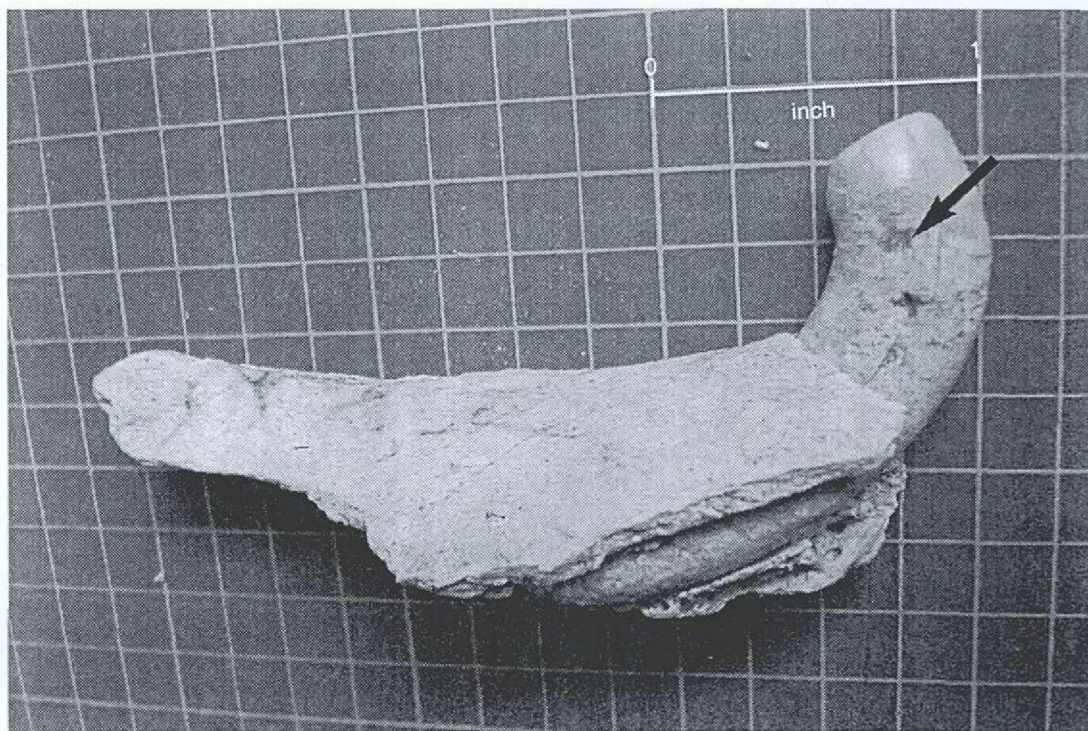
While Pits 1 and 2 both contained cobbles and asphalt fragments, in addition to the three above-mentioned artifacts, sandstone boulder fragments were noted in Pit 2. Despite the presence of some isolated artifactual material, the Pit 2 fill was basically clean. Pit excavation ended at about 9:15 AM. Gravel, which had been introduced into Pit 1 on Tuesday after the excavation was completed, was then also introduced into Pit 2.

Neither pit extended below fill. See Figure 20 for a photo of Pit 1 just prior to introduction of the gravel.



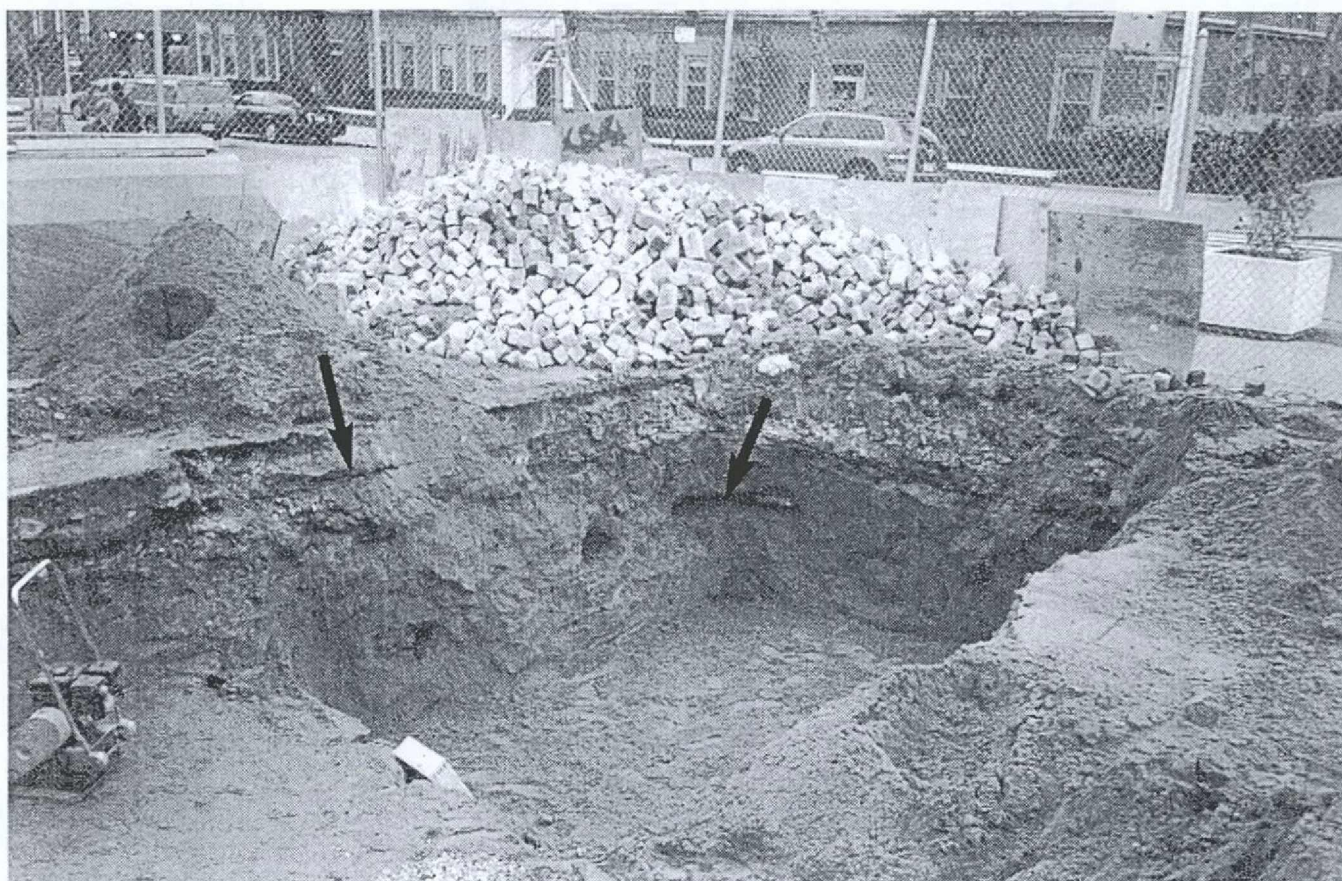


**18** Mocha ware (left) and blue shell-edge pearlware (right) fragments from Pit 2. Both are early 19th century ceramics. (Geismar March 2004)



**19** Horse (*Equus caballus*) mandible fragment with canine tooth (arrow) from Pit 2. (Geismar March 2004)





**20** Pit 1 (north of West Pier) at end of excavation looking northwest. Note Belgian block removed from pit and rubble above a buried asphalt layer (left arrow). Also, chunks of asphalt (right arrow) in fill. (Spritzer March 9, 2004)



## CONCLUSIONS

Monitored excavation of two dry wells located on the north side of the Washington Square Arch in Washington Square Park documented a virtually clean sand fill and no evidence of burials potentially located in the project APE. Historical research, which followed excavation, confirmed that Washington Square was the site of the Potter's Field from 1797 to 1825, and that burials were a potential issue in the vicinity of the arch. However, the configuration of a road that once crossed this part of the site—the Road to Greenwich or the Road to Sand Hills, later Art Street—may have precluded burials in the immediate vicinity of at least one of the dry wells. In addition, construction of the arch in 1890, when human remains, gravestones, and a coffin were discovered at an unspecified location, caused great disturbance to this potential archaeological resource.

Research also indicated the Potter's Field was fenced with boards and rails, and excavation prior to disturbance in 1890 might have provided evidence of this fence beneath initial episodes of sand fill. Since the dry well excavations were entirely within the limits of both original and subsequent fill episodes, the chance of finding such evidence was undoubtedly lost. A "pale" fence from the parade ground era, located on fill, might have been a more viable resource, but again, only prior to construction of the arch.

A gallows may have been located at the Potter's Field, or, it may have been located nearby, perhaps on land west of the Minetta Waters that was not incorporated into the square until the Potter's Field became inactive in 1825. If so, it would have been beyond the APE. However, some researchers and historians think this gallows was near, but not at, the arch; unfortunately, historical records do not provide an exact location.

Deeds and other city records document Minetta Waters as the western boundary of the Potter's Field. Therefore, the burial ground did not extend into the western part of Washington Square. These same resources indicate the Potter's Field also extended east at least to Mercer Street, well beyond park limits, and that some of this area was used for church interments rather than for public burials. This was also true within the square where two relatively small church burial plots are documented at the park's eastern limit but beyond the project APE.

The major research finding is that any burials that might have been located on the north side of the arch (within the project APE) would have been eliminated during the 1890 foundation excavations. While this excavation encountered evidence of burials, the discovery was made about 10 feet below grade, and it is not known exactly where it was found in relation to the arch.

Excavation for the dry wells documented a virtually clean sand fill in both pits (the exceptions being two ceramic sherds and a fragment of a horse mandible in Pit 2 associated with the East Pier) that contained some stones and asphalt debris indicative of fill. The extensive disturbance caused by construction of the arch is highlighted by the absence of a 1-foot thick blue clay stratum in 1966 documented in soil borings prior to construction of the arch in 1890 at a depth of about 10 feet BGS. It was at or near this blue clay level that human bones, a burial, a coffin, and gravestones were discovered in 1890. However, not only was this cultural level undoubtedly destroyed in the APE during construction of the arch, but also the recent 6-foot deep dry well excavations did not reach the potential level of concern.

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## APPENDIX A: New York Times Article, May 13, 1890 (Page 9)

### SKELETONS IN THE WAY.

New York Times 1890, *Correspondence*, May 13, 1890; Reprinted National Newspapers The New York Times

#### **SKELETONS IN THE WAY. BONES AND COFFINS UNEARTHED IN WASHINGTON SQUARE.**

The laborers at work digging for a foundation for the Washington Memorial Arch in Washington Square, opposite the lower terminus of Fifth Avenue, found themselves in an old graveyard yesterday, and had an uncanny time of it spading out parts of skeletons and decayed coffins. This ghastly discovery began Saturday at about ten feet below the surface, when some headstones were discovered and a few bones, of which the only evidence that they were human was that they happened to be near the headstones.

Yesterday, when the digging got several feet deeper, the spades brought up bones at nearly every turn. For the first time, also, remnants of coffins were unearthed. Water was found at about this level. The workmen came across one coffin submerged at the upper end of the excavation. As they dug at it the lid came off, showing a skeleton within. Water and dirt had done their work so thoroughly, however, that scarcely more than the outline of the skeleton could be made out.

The workmen put the loose bones they found in a barrel and piled the pieces of coffin beside them. They did not remove the submerged find of yesterday, Architect White desiring to have it left as it is until a sketch can be made of the scene. It is probable that the bones now in the barrel will be buried again in a new grave at the same spot.

As soon as it was known yesterday that the workmen were digging out human bones the inclosure where the excavation is going on was besieged by crowds of curious people. All sorts of old memories were brushed up to account for the discovery. It was recalled that part of Washington Square was once the Potter's Field, and this explanation would have been enough if only bones had been found. It did not explain the headstones to the satisfaction of the crowd, however. Then it was recalled that the spot was used during the cholera epidemic of 1832 for the burial of cholera patients. Two of the stones, bearing date 1803, disposed in large part of this explanation.

An owner of one of the houses in Washington Square, north, who was among the day's visitors, said that in making some improvements a few years ago in his yard he came across headstones and bones, and upon making inquiries he had learned that a German cemetery occupied the spot early in the century, Potter's Field never having been just there, but in another part of Washington Square. In the present excavation earth lines are distinctly marked showing that the ground in the neighborhood had at some time been filled up to the present grade, a height of about eight feet above the old level. The spot was evidently used as a burial ground before the grade was raised.