ARCHAEOLOGICAL BORING PROGRAM

New York University

Law School Extension

by

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February, 1984

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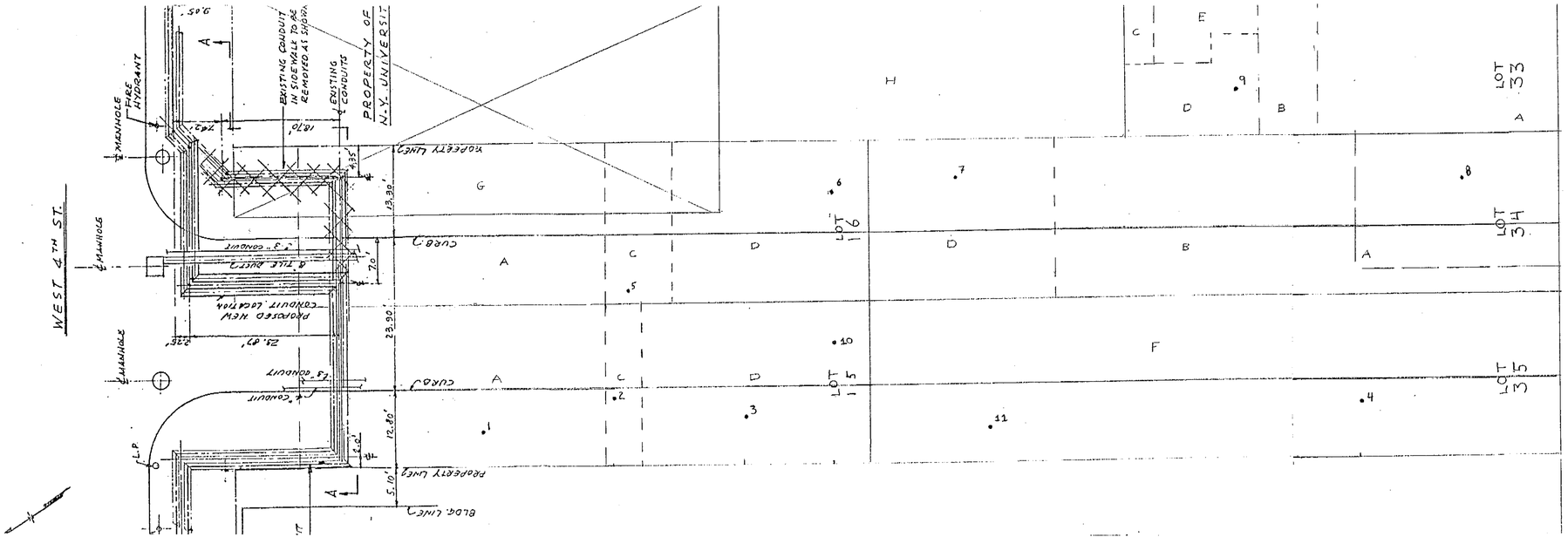
I INTRODUCTION

Background of the Project

This report presents the results of the analysis of a series of borings conducted on the site of a proposed construction project to be undertaken on Sullivan Street by New York University. The study was done as part of a preliminary assessment of the impact of the proposed construction on any cultural resources that might exist in the project area. This assessment of cultural resources is required under the New York State Environmental Quality Act review procedures, as overseen by the New York City Landmarks Preservation Commission, because the project area is part of an historic district.

The project area (see Figure 1) extends under the present sidewalk and roadway on Sullivan Street between Washington Square South and West 3rd Street (formerly Lots 15, 16, 34, and 35), and also includes the vacant lot at the northeast corner of Sullivan Street and West 3rd Street (on part of Lot 33) and the site of the present Moot Court Building (on parts of Lots 17 and 33). The university is planning to construct an extension to the Law School Library under Sullivan Street with a building on the site of the vacant lot and the Moot Court Building.

A preliminary historic background study of the project area was done for the University in the fall of 1983 (Harris and Pipes n.d.). This report stressed that the project area has the potential of containing important cultural resources dating to both the prehistoric and historic periods, and suggested that



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LAW SCHOOL SULLIVAN STREET EXTENSION
ARCHAEOLOGICAL BORING PROGRAM

Map Key

----- Boundaries of Former Buildings and Extensions

——— Curbs, Property Lines and Boundaries of Existing Buildings

. Approximate Boring Locations

A - Pre-1854 Buildings

B - 2nd Building Episode

C - 19th Century Building Extensions

D - 19th Century Back Yard Areas

E - 20th Century Building Extension

F - 19th Century Vacant Lot

G - Kevorkian Center Vault

H - Approximate Extent of Moot Court Building

Scale: 1"=c.10'

the series of borings be conducted to provide more information for evaluating the archaeological potential of the area.

As part of the present study, an additional examination of historic maps showing the project area was conducted at the Map Division and Research Annex of the New York Public Library. Based on the Harris and Pipes report and this additional research, we formulated a testing plan as discussed in this report. Eleven soil borings were taken in the project area from January 23rd through 31st, 1984. A boring rig and crew provided by Warren George, Inc., were used to take the borings, which were conducted under the supervision of the principal investigators.

We would like to thank Bert Salwen, of the Department of Anthropology, New York University, for donating his time as a consultant for this study. We would also like to thank Joseph Roberto, of the Old Merchant's House and New York University, for his kind advice and for providing copies of the photographs reproduced as Figures 5 and 14.

Summary of Conclusions and Recommendations

As a result of the archaeological boring program, we have determined that the ground surface which existed prior to the 19th century landfilling and construction is present in portions of the project area at depths ranging from approximately seven to 17 feet beneath the present ground surface. Deposits which we interpret as later backyard surfaces are also present.

As a result of our examination of these and other deposits

encountered, we have determined that:

1. There is no indication of prehistoric occupation within the project area.

2. None of the 19th century landfill deposits contain significant deposits of cultural materials.

3. No significant deposits of cultural materials are present within the foundations of the demolished structures.

4. The 19th century backyard surfaces have the potential of yielding significant archaeological data and should be examined further. For example, one deposit which may represent a midden accumulation was sampled in Lot 33.

5. Backyard features, such as privies, cisterns, and wells, would be present below the level of each of the 19th century backyard surfaces which have been identified in Lots 15, 16, 33, and 34. The archaeological boring program was not structured to detect the presence of such features and further examination is recommended.

In view of the above conclusions, we recommend that each of the backyard areas in Lots 15, 16, 33, and 34 be excavated by power equipment down to the level of each of the backyard surfaces. These surfaces should be examined for the presence of backyard features. Any archaeological deposits encountered within such features should be completely excavated by manual means. The backyard surfaces themselves should also be tested by the excavation of test squares in order to obtain a larger sample than

was possible with the boring program. If warranted by the results of the testing, a larger sample of these deposits should be excavated. The surface beneath the basement of the Moot Court Building should also be exposed and examined for the presence of truncated features.

The recommended program of archaeological examination and excavation might be best carried out immediately prior to construction. However, at least six weeks should be allowed for the archaeological work prior to construction.

II METHODOLOGY

Field Methods

The archaeological borings were conducted using a truck-mounted core drilling rig. The principal investigators were present during the entire drilling procedure.

Once the street or sidewalk had been penetrated by a rotary drill bit, the stratigraphy at each boring location was sampled using a three inch outer diameter split spoon sampler. The sampler was driven into the ground by means of blows from a 300 pound hammer. Continuous sampling was undertaken at each location, and each sample provided a two foot long portion of the stratigraphic column.

For each sample brought to the surface, we recorded the stratigraphy within the sampler. Most of the samples were then screened through one quarter inch mesh to detect the presence of cultural materials. Where possible, each stratum was screened separately, although some mixing of material was inevitable where there were a large number of thin strata in one sample. Soil samples were taken where appropriate. All of the soil from strata which were of particular interest, including most of those which may represent previously exposed ground surfaces, was retained and examined in the laboratory.

Several problems with the sampling procedure should be noted. First, the insertion of the split spoon sampler into the hole inevitably results in loose soil from the sides of the hole being dislodged and incorporated in the upper part of the new sample. Thus, the top part of many of the samples was

contaminated by material from overlying portions of the stratigraphic column. This problem can be reduced by casing the hole and a cased hole was used in some portions of our tests. With this procedure, the sampler is withdrawn and a four inch diameter casing is driven down around the hole made by the sampler. This procedure dislodges soil from the sides of the hole which must be cleaned out of the casing before the sampler is re-inserted to obtain samples from below the depth to which the casing has been driven. In the upper portion of the hole (to a depth of approximately eight to ten feet), the casing could be withdrawn and cleaned out mechanically. Below this depth, however, the procedure used to clean out the casing involves the injection of water into the casing which is then reamed out using a rotary drill. Because the use of water would disturb the soil immediately under the casing before the sampler could be re-inserted, in most cases we did not drive the casing down beneath the point where it could be mechanically cleaned out.

A second problem arose in some instances where large pieces of brick, building stone, or rock were present. In most cases, the split spoon sampler or the casing could be driven through such debris. However, in some instances, pieces of debris became lodged in the end of the sampler, or the sampler pushed the debris ahead of it through the softer soil. In these cases, portions of the stratigraphic columns were not recovered in the sampler.

A third problem occurred in sampling loosely packed soil. Occasionally, the sampled soil would simply fall out of the end

of the spoon as the latter was being withdrawn from the boring hole, resulting in the loss of the sample.

Laboratory Analysis

All artifacts obtained from the borings (except for small fragments of brick, mortar, coal, and cinder, which were discarded in the field), were washed and examined in the laboratory. Soil samples were examined to ascertain similarities and differences in color and texture. Those samples which were retained in their entirety in the field were subjected to one of two procedures. Some of these samples were screened through 2 mm mesh to detect the presence of small fragments of cultural materials. Where necessary, soil was washed through the screen. However, most of the samples which represented possible exposed ground surfaces were subjected to flotation. In some cases, water was used as the flotation medium. However, where the soil contained a high proportion of silt and/or clay, sodium carbonate was added as a deflocculant. The soil remaining in the flotation screen after the light fraction had been skimmed off was washed through a 500 micron screen to obtain the heavy fraction. We did not attempt to quantify the results of the flotation or to identify the seeds recovered. However, these samples are available at the Department of Anthropology, New York University, for future analysis.

III RESULTS

Background

Harris and Pipes (n.d.:3) noted that Minetta Stream was filled and the terrain around it was "leveled" in the late 1790's. They also reported that the area was "leveled" again in 1825, and that fill had been deposited in the project area during at least one of these episodes (n.d.:3-4). In 1826, the project area, which had been part of the Herring Farm in the 18th century, was sub-divided into lots and sold (Harris and Pipes n.d.:5). At that time and throughout the rest of the 19th century, the project area consisted of two lots facing on Washington Square South (Lots 15 and 16), three lots facing West 3rd Street (Lots 33,34, and 35), and a portion of the backyard area of Lot 17 (part of the site of the present Moot Court building; see Figure 1). Lots 15, 16, 34, and 35 (on the site of the present Sullivan Street) continued in use until 1903, when Sullivan Street was extended from West 3rd Street to Washington Square South (Harris and Pipes n.d.:4).

Harris and Pipes (n.d.) indicated that the Sullivan Street project area has the potential of containing archaeological resources dating to both the prehistoric and historic periods. Therefore, the placement of the borings was designed to assess the presence or absence of both kinds of resources.

Prehistoric Potential

Harris and Pipes noted that as "Indian sites are found within a short distance of fresh water sources" (n.d.:4), the proximity of the project area to Minetta Stream, which was located just 200 to 300 feet to the west in the historic

period (Robinson and Pidgeon 1884), made it a promising location for prehistoric settlement. Such archaeological sites would be found on and/or below the ground surface which existed prior to the late 18th - early 19th century filling. In order to assess the possibility of prehistoric deposits being present in the project area, seven of the borings (Borings 1, 2, 3, 4, 6, 7, and 8) were excavated to depths of 20 feet or more, and three of them (Borings 4, 7, and 8) were extended down to glacial till.

Historic Potential

We anticipated that there could be five kinds of deposits dating from the historic period in the project area:

1) the landfill itself, which may have been deposited in the late 18th and/or at the end of the first quarter of the 19th century, and which might contain important cultural materials;

2) backyard deposits (such as middens), consisting of materials deposited on the backyard ground surface(s) in the 19th century;

3) basement deposits, consisting of materials deposited during the use of the buildings and left on the basement floors when the buildings were torn down;

4) less horizontally extensive features, such as privies, cisterns, and wells, which often contain important archaeological materials deposited either during or after the period of use of the features. These features tend to be located in backyards. However, we anticipated that it would be highly unlikely that the results of the series of borings would be able to document

the presence or absence of these features.

5) archaeological materials which may have been deposited on the ground surface existing prior to the filling of the area in the late 18th and/or early 19th century. Determination of the elevation of this ground surface would also provide information on the natural topography of the area prior to the deposition of the landfill.

The location of each of the borings was determined by where we expected to find these various kinds of historic resources on each of the lots. Wherever feasible, the borings were placed under the sidewalks so that traffic in the community would be disrupted as little as possible. In addition, parts of all of the lots had been subjected to modern sub-surface disturbance which we wanted to avoid. The disturbances include:

1) Utility lines. Gas, electrical, and telephone lines run the extent of Sullivan Street. With one exception, however, these lines are confined to the street itself, and were laid within a few feet of each of the curb lines. The exception consists of a feeder which runs from a manhole on the eastern side of Sullivan Street into the Moot Court building. In addition to these utilities, a sewer line runs through the vacant lot at the corner of West 3rd Street, connecting the facilities in the Moot Court building to the sewer under West 3rd Street. Finally, the loop of a steam conduit extends almost 20 feet into Lots 15 and 16 from Washington Square South.

2) The Kevorkian Center vault. A sub-surface vault, 77 feet long and 11 feet wide, is located on the eastern

sidewalk of Sullivan Street in Lot 16 (see Figure 1).

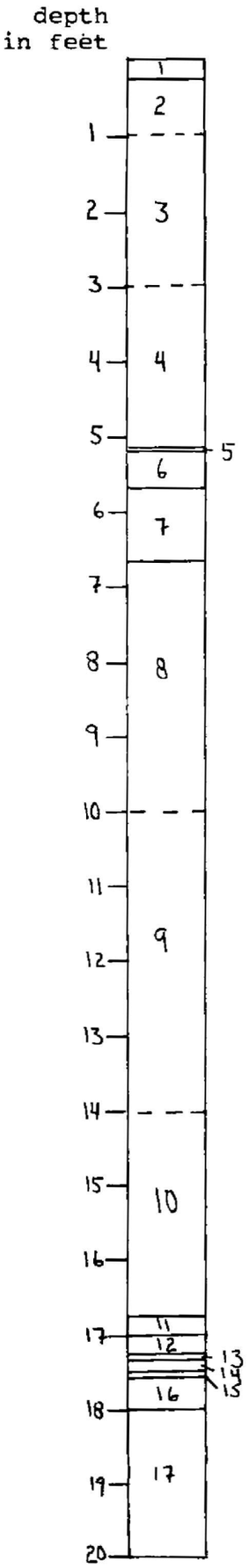
The documented history of each lot, the rationale behind the placement of each of the borings, and the results, will be discussed below on a lot-by-lot basis. The location of each boring and the locations of the documented structures in the project area are indicated on Figure 1.

Lot 15

The only documented structure on Lot 15 consisted of a brick building with a wood-frame extension in the backyard. This building was built prior to 1854 (Perris 1854 V:58) and continued to stand on the lot until 1902 (Bromley and Bromley 1899; corrected to 1902:31) to 1904 (Sanborn 1904 III:7). It was presumably demolished for the extension of Sullivan Street in 1903.

Four borings were placed in Lot 15. Borings 1 and 2 were located in the areas of the main structure and the frame backyard extension, respectively, in order to determine if there were any archaeological deposits on the floors of these structures. Boring 3 was placed in the backyard in order to see if any archaeological deposits remained intact. As debris was unexpectedly encountered in this boring to a depth of c. ten feet, indicating the possible disturbance of any potential backyard deposits in this particular area. Boring 10 was placed in the backyard area further to the southeast, under the street.

Boring 1 (see Figure 2). Approximately the uppermost foot of Boring 1 consisted of the sidewalk and its cinder bedding (strata 1 and 2). Below this bedding and extending to a depth of c. six and three-quarters feet were several strata



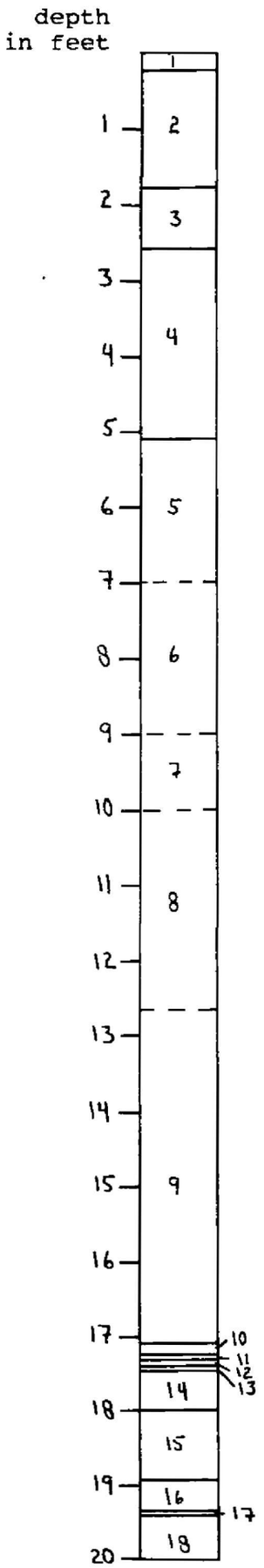
KEY
1. sidewalk
2. cinder bedding
3. brown sand with stones
4. brown mortary sand
5. plaster
6. pink mortary sand
7. brown silty sand
8. tan fine sand with brick fragments
9. tan fine sand with green gray mottling
10. tan fine sand with green gray and rust mottling
11. green and orange banded silt
12. gray black clayey silt
13. dark gray clay
14. green gray silty clay with orange mottling
15. green gray sandy silt
16. orange and green mottled sand
17. green gray fine sand

Figure 2. Profile of the stratigraphy of Boring 1, in Lot 15.

of building debris (strata 3-7). These layers consisted of a stratum of brown sand with stones, mortar, and brick fragments; a stratum of brown mortary sand; a thin layer of plaster; a layer of pink mortary sand (which contined a piece of a terracotta flowerpot, glass, and slate); and a layer of brown silty sand (which contained mortar, plaster, and brownstone and brick fragments,in addition to another piece of a flowerpot). This set of strata apparently represents the building debris deposited into the cellar hole of the main structure on Lot 15 after it was demolished in 1903. No evidence of significant archaeological deposits was encountered.

At the depth of c. six and three -quarters feet, a thick layer of tan fine sand was encountered (strata 8 and 9). This stratum, which contained brick fragments near the top and became mottled with green-gray sand with depth, extended to a depth of 16 and three-quarters feet. We have interpreted this stratum as representing the naturally deposited subsoil in the area, and it was encountered in most of the borings in the series. The brick fragments at the top of this stratum presumably originated in the overlying building debris.

Between 16 and three-quarters and 18 feet, a series of relatively thin strata of silt, clay, and sand were found (strata 10-15). They consisted of a layer of green and orange banded silt, gray-black clayey silt, dark gray clay, green-gray silty clay with orange mottling, green-gray sandy silt, and orange and green mottled sand. These bands were encountered in all of the deep borings. Between 18 and 20 feet, where the boring was terminated, a stratum of green-gray fine sand was encountered (stratum 16).



KEY

1. sidewalk
2. brick and cinder bedding
3. concrete
4. brick
5. tan fine sand with decomposed marble
6. tan fine sand with red mottling
7. tan fine sand
8. tan fine sand with lighter tan mottling
9. tan fine sand with rust, green, light brown, and gray mottling
10. rust fine sand
11. green silty sand
12. gray clayey silt
13. green silt
14. rust tan silt
15. medium brown fine sand
16. green gray fine sand
17. rust fine sand
18. gray medium brown fine sand

Figure 3. Profile of the stratigraphy of Boring 2, in Lot 15.

No evidence of the late 18th-early 19th century ground surface was found in Boring 1. Presumably, this surface was relatively high in this area, and was destroyed when the main structure on Lot 15 was built in the early 19th century. No cultural material was found in situ in this boring under the top part of the stratum of tan fine sand, below the depth of 10 feet.

Boring 2 (see Figure 3). Approximately the topmost two and a half feet of Boring 2 consisted of the sidewalk pavement, its brick and cinder bedding, and a layer of concrete (strata 1-3). From the depth of two and a half to five feet, a layer of brick was found (stratum 4). This brick appeared to be building rubble, rather than a laid floor. We have interpreted this stratum as representing the building debris associated with the demolition of the building and its extension in 1903. No significant archaeological deposits were encountered.

Below this layer of demolition debris, a thick layer of tan fine sand (the natural subsoil in the area) extended to a depth of 17 feet (strata 5-9). The top two feet of this layer contained inclusions of decomposed and fragmented marble (which may have been used as trim on the main structure on the lot). In this boring, this stratum was mottled with red sand from seven to nine feet, with lighter tan sand from ten to 12 feet, and with rust, green, and light brown sand from 13 to 17 feet.

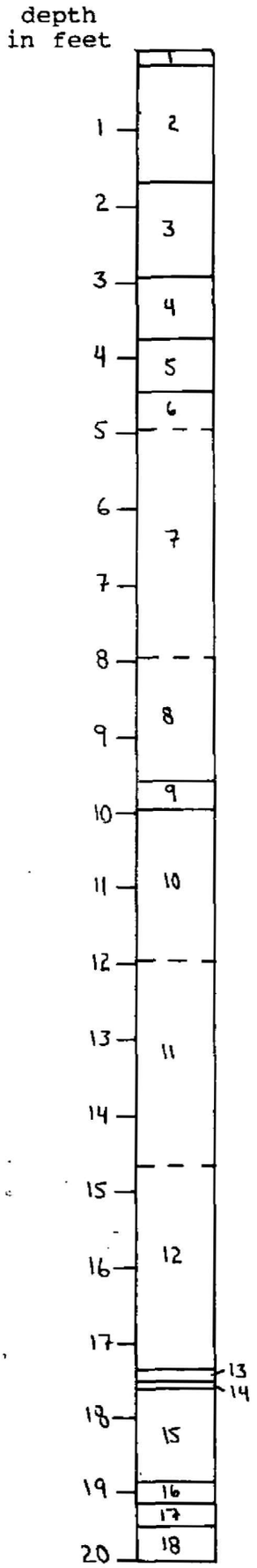
From the depth of 17 to 19 and a quarter feet, thin bands of sand and silt were found (strata 10-17). Similar to those found in the other deep borings, these bands consisted of layers of rust fine sand, green silty sand, gray clayey

silt, green silt, rust tan silt, medium brown fine sand, green-gray fine sand, and rust fine sand. Below these bands, a stratum of gray medium brown fine sand extended to a depth of 20 feet, where this boring was terminated.

No evidence of the late 18th - early 19th century ground surface was found in this core, suggesting that this surface was destroyed when the frame extension was built. No cultural material was found in situ under the topmost portion of the tan fine sand, below the depth of seven feet.

Boring 3 (see Figure 4). The uppermost 21 inches of Boring 3 consisted of the sidewalk pavement and its cinder and concrete bedding (strata 1 and 2). Below this deposit and extending to a depth of three feet was a stratum of medium brown sandy silt (stratum 3), which contained coal, brick fragments, a piece of clear glass and two pieces of white ironstone. Under this layer was an eight inch thick stratum of tan fine sand with gray coarse sand or decomposed marble (stratum 4). This layer contained three pieces of colored glass, one piece of white ironstone and a piece of coal. These two strata are interpreted as representing fill deposited after the demolition of the structure on Lot 15 in 1903.

Between the depths of three and two-thirds and eight and two-thirds feet, a deposit of building debris was encountered (strata 5-8). The uppermost part of this deposit consisted of ten inches of alternating layers of brick and mortar, which might represent either a laid brick surface or brick rubble. Below this stratum was a layer of tan fine sand with dressed stone and marble. No sample was obtained from the depths of six to eight feet, although the large number



KEY
1. sidewalk
2. cinder and concrete bedding
3. medium brown sandy silt
4. tan fine sand
5. brick and mortar
6. tan fine sand with dressed stone
7. no recovery
8. pink mortary sand
9. medium gray brown silty sand with charcoal
10. tan fine sand
11. tan fine sand with green gray mottling
12. tan fine sand with rust and medium brown mottling
13. red brown coarse sand
14. red brown silty clay
15. green gray fine sand with mottling
16. rust fine sand with mottling
17. green gray fine sand
18. green gray silt

Figure 4. Profile of the stratigraphy in Boring 3, in Lot 15.

of blows required to penetrate this section of the boring suggests that the spoon was going through a hard, compacted surface, such as a floor. From eight to nine and two-thirds feet, a stratum of pink mortary sand was encountered.

This deposit might represent the remains of either a backyard feature, such as a cistern, or a backyard outbuilding. If, in fact, the brick and mortar encountered at the top of the deposit were part of a laid surface, it could be the cap of a cistern, while the lower part of the deposit, where we had no recovery, could be the cistern floor. However, the data from boring 3 are not adequate to identify this structure. In any case, much of the associated building debris was probably deposited after the demolition of the main structure on Lot 15, as the marble retrieved throughout this deposit could have originated as trim on the main structure on the lot. This type of trim is documented as having been used on other early 19th century buildings located near the project area (see Figure 5).

Immediately below the debris deposit, a stratum of medium gray brown silty sand (stratum 9) was encountered. This four inch thick layer extended to a depth of ten feet. This stratum, which was also encountered in five additional borings, is interpreted as the late 18th - early 19th century exposed ground surface. This sample of this stratum, which was screened in the field, contained one piece of marble, two pieces of metal, three pieces of brick and five pieces of cinder. Some of this material may have originated in the overlying debris.

Under this stratum, a thick layer of tan fine sand

Figure 5. Photograph of c. 1830s buildings on Washington Sqaure South between LaGuardia Place and Thompson Street, now the site of the Loeb Student Center. The building in the center, with the dormer windows, probably resembles those on Lots 15 and 16 in the 19th century. Those on each side of it have been altered. (Photograph courtesy of Joseph Roberto.)

(strata 10-12), the natural subsoil in the area, was encountered. This layer extended to a depth of 14 feet eight inches, and was mottled both with green gray fine sand from 12 to 14 feet and with rust and medium brown fine sand from 14 to 17 and a half feet.

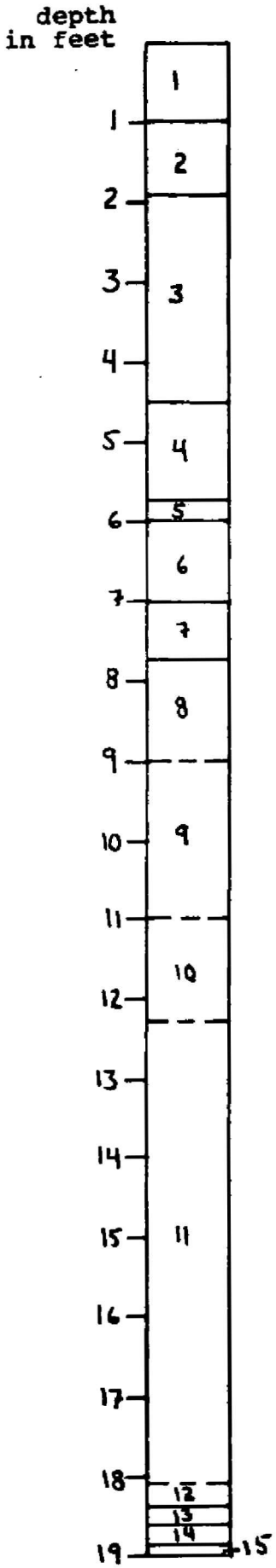
Immediately below this layer, thin bands of sand, silt and clay were encountered (strata 13-18). Similar to those found in the other deep borings, these bands consisted of a red brown coarse sand, red brown silty clay, green gray fine sand with mottling, rust fine sand with mottling, green gray fine sand, and green gray silt. These bands extended from 17 and a half to 20 feet, where the boring was terminated.

No cultural material was found in situ in the samples from Boring 3 below the stratum representing the pre-filling ground surface, which ended at a depth of ten feet.

Boring 10 (see Figure 6). The topmost two feet of Boring 10 consisted of a layer of asphalt pavement laid on a slab of concrete, which in turn was laid on a bedding of medium brown sand and silt which contained pieces of gravel and coal (strata 1 and 2).

Below this bedding, several layers of fill were encountered (strata 3-6), which extended from three to seven feet. They consisted of: orange brown fine sand with pockets of orange silt and tan fine sand; pink red very coarse sand; pinker red medium sand; and tan fine sand. No cultural material was found in any of these strata.

Below these layers of fill, an eight inch thick stratum of medium brown silty sand was encountered (stratum 7). This layer, which was subjected to flotation in the laboratory, contained seeds, charcoal, mortar, coal, slate and glass.



KEY

1. street pavement and underlying concrete
2. medium brown sand and silt
3. orange brown fine sand with pockets of orange silt and tan fine sand
4. pink red very coarse sand
5. pinker red medium sand
6. tan fine sand
7. medium brown silty sand
8. tan fine sand with medium brown silty sand mottling at top
9. tan fine sand with brown mottling
10. tan fine sand
11. tan fine sand with rust and green fine sand mottling
12. darker tan fine sand with red sand mottling
13. banded rust, orange, green, and orange green fine sand
14. red brown silty clay with green mottling
15. gray green fine sand

Figure 6. Profile of the stratigraphy in Boring 10, in Lot 15.

This stratum has been interpreted as the exposed ground surface dating to the early 19th century.

Underlying this stratum was a thick layer of tan fine sand (the natural subsoil in the area; strata 8-12), which extended from the depth of seven and two-thirds to 18 and a third feet. The upper 18 inches of this stratum contained a piece of charcoal and was mottled with the overlying medium brown silty sand found above it. This layer also exhibited rust and green fine sand mottling below the depth of c. 12 feet, and became darker and mottled with red fine sand below the depth of c. 18 feet.

Beneath this stratum, we agin encountered the bands of sand and clay (strata 13-15) found in all of the other deep borings. Here, these bands extended down to 19 feet, where the boring was terminated, and consisted of: banded rust, orange, green, and orange green fine sand; red brown silty clay with green mottling, and gray green fine sand.

No cultural material was found in situ in Boring 10 below the early 19th century ground surface, which ended at a depth of seven and two-thirds feet.

An Interpretation of the Borings in Lot 15. The early 19th century ground surface was not encountered in Borings 1 and 2, and thus must have been located above the depth to which the ground was disturbed by 19th century construction activities (five feet in Boring 2). This early ground surface was encountered at depths of seven and nine and a half feet in Borings 10 and 3, respectively.

This ground surface may have also served as the backyard surface during at least a portion of the period of occupation of the structure on Lot 15. However, if the debris encountered in Boring 3 did, in fact, represent a cistern, outbuilding foundation, or similar subsurface feature, this would indicate that the level of the backyard surface had been raised at some point. If this was the case, the new backyard surface would have been present at a higher level than the backyard surfaces detected in Lots 16 or 34, since no such surface was encountered in Boring 10. This surface would have been destroyed during the construction of Sullivan Street in the early 20th century.

Lot 35

There were no structures documented on Lot 35 (Perris 1854 V: 58; 1859 IV:50; Bromley 1879:9; Robinson and Pidgeon 1884 IV: 18; Bromley and Bromley 1891:11; Sanborn 1895 III:50; Bromley and Bromley 1899, corrected to 1902:31; Sanborn 1904 III:7). It apparently continued to be a vacant lot from the time the project area was developed in the 1820s until Sullivan Street was extended in 1903.

Two borings were placed in Lot 35. Boring 4 was placed in the front of the lot, near West 3rd Street, in order to determine if any refuse deposits which might have accumulated on the ground surface(s) in the 19th century vacant lot had remained intact. Boring 11 was placed towards the rear of the lot for the same purpose. Presumably, refuse deposits encountered near the front of the lot could have originated from passersby in the street, while those in the rear of the lot might have originated in the surrounding structures.

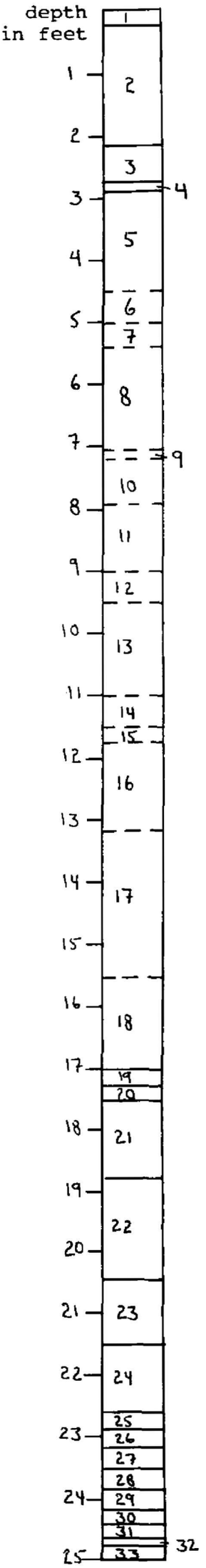
Boring 4 (see Figure 7). The uppermost two feet of Boring 4 consisted of the sidewalk pavement and its cinder and concrete bedding (strata 1 and 2). Below this level, we encountered a layer of brown silty sand (stratum 3), with wood chips, which extended to a depth of 33 inches. This layer was presumably added as part of the bedding for either this or an earlier pavement.

Underlying this layer were several strata of fill (strata 4-18), which extended down to the depth of 17 feet. These layers consisted of a stratum of tan sand and several layers of red sand. Most of this fill was culturally sterile, although pieces of brick, glass, and coal were found in a stratum of red sand ranging in depth from five and a half to seven feet, and mortar lumps and slag were found in another deposit of red sand at the depth of eight to nine feet.

Below these layers of fill, a two and a half inch thick stratum of dark brown silt (stratum 19) was encountered at the depth of 17 feet. This stratum, which was subjected to flotation, contained charcoal, seeds, uncarbonized wood fibers, and a fish scale. We have interpreted this stratum as representing the early 19th century ground surface in this part of the project area.

Underlying this stratum, three layers of natural subsoil (strata 20-22) were encountered. They consisted of tan/mustard silt, mottled with the overlying dark brown silt near the top; green gray and orange mottled sandy silt; and gray sandy silt, extending to a depth of 20 and a half feet.

Below these layers, we encountered ten bands of silt and sand (strata 23-33), somewhat similar to those found in the other



KEY

1. sidewalk
2. cinder and concrete bedding
3. brown silty sand
4. tan sand
5. red sand with pebbles
6. no recovery
7. red sand
8. red coarse sand with black grains and pebbles
9. red fine sand
10. red sand with light density of black grains
11. red sand with heavy density of black grains
12. no recovery
13. red sand with black grains
14. red sand with pebbles and red silt
15. red sand with pebbles
16. red sand with black grains and cobbles
17. red sand with pebbles
18. red sand with pebbles and cobbles
19. dark brown silt
20. tan/mustard silt
21. green gray and orange mottled sandy silt
22. gray sandy silt
23. gray clayey silt
24. gray silty sand with red mottling
25. rust and orange sand
26. brown rust medium coarse sand
27. pink and orange coarse sand with pebbles
28. tan fine sand
29. brown red coarse sand
30. pink red medium coarse sand
31. red medium fine sand
32. gray sand with rust mottling
33. pink red fine sandy silt

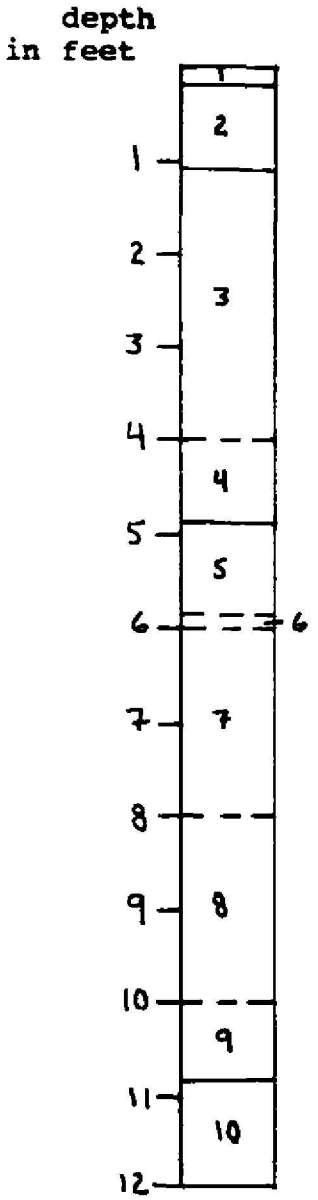
Figure 7. Profile of the stratigraphy in Boring 4, in Lot 35.

deep borings. Here, these layers extended from 20 and a half to 25 feet, where the boring was terminated, and consisted of: gray clayey silt; gray silty sand with red mottling; rust and orange sand; brown rust medium coarse sand; pink and orange coarse sand with pebbles; tan fine sand; brown red coarse sand; pink red medium coarse sand; red medium fine sand; gray sand with rust mottling; and pink red fine sandy silt. At the bottom of the last-mentioned stratum, we encountered a hard material that the sampling spoon could not penetrate. We have interpreted this underlying stratum as glacial till.

No cultural material was found in Boring 4 below the early 19th century ground surface, at 17 feet two and a half inches.

Boring 11 (see Figure 8). The uppermost foot of Boring 11 consisted of the sidewalk pavement and its underlying cinder bedding (strata 1 and 2). Below these layers, various strata of fill (strata 3-9), consisting of tan fine sand and red sand and silt, continued to the depth of ten feet. The stratum of tan fine sand found at the top of the fill was either deposited later or disturbed, as it contained brick fragments as well as pieces of marble similar to those found in the demolition debris encountered in Borings 2 and 3, which were interpreted as possibly having originated from the demolition of the main structure on Lot 15.

The tan fine sand found lower in the column (stratum 10), extending from almost 11 to 12 feet where the boring was terminated, was probably also a stratum of fill, rather than subsoil. While the top of the early 19th century exposed ground surface in Boring 3 in Lot 15 was at a depth of nine and two-thirds feet, the same stratum in Boring 7, located in Lot 34 just across the



KEY
1. sidewalk
2. cinder bedding
3. tan fine sand with red brown sandy silt
4. tan fine sand with red sand mottling
5. coarse red sand
6. pink red clayey silt
7. coarse red sand with cobbles and schist
8. no recovery
9. coarse red sand
10. tan fine sand

Figure 8. Profile of the stratigraphy in Boring 11, in Lot 35.

street from Boring 11, was at c. 13 feet, and that found in Boring 4, to the south of Boring 11, was at 17 feet. These data suggest that given the slope of this ground surface, it should have been located in the area of Boring 11 at the depth of c. 13 feet or lower, below where the boring was terminated.

No cultural material was found in Boring 11 below the bottom of the uppermost layer of fine tan sand fill, at four feet.

An Interpretation of the Borings in Lot 35. The results of the borings taken in Lot 35 suggest that the early 19th century ground surface in the lot ranged from below 12 feet (in the area of Boring 11) to 17 feet (in the area of Boring 4), sloping down to the south. The results of these borings do not indicate the presence of a dense accumulation of trash prior to the filling of the lot. As in Lot 15, any 19th century post-filling ground surfaces were apparently destroyed by the construction of Sullivan Street.

Lot 16

There has been one building documented for Lot 16, a brick building erected before 1854 (Perris 1854 V:58). This structure had a wood-frame extension in the early 1850s (Perris 1854 V: 58) which had been replaced by a larger brick extension by 1859 (Perris 1859 V:50). This structure continued to stand on the lot until 1902 (Bromley and Bromley 1899, corrected to 1902: 31) to 1904 (Sanborn 1904 III:7). It was presumably torn down for the extension of Sullivan Street in 1903.

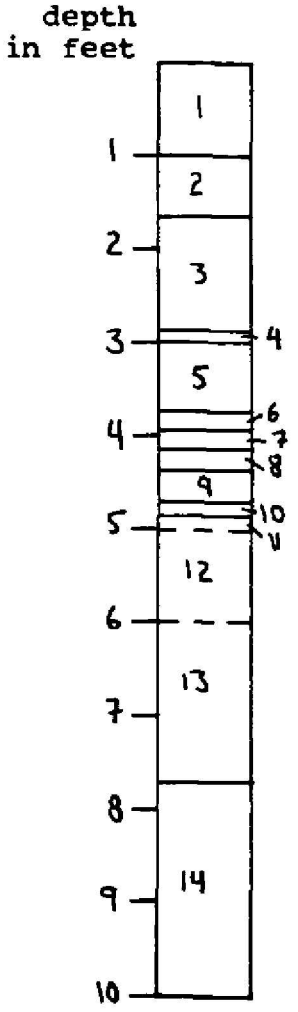
In addition, the subsurface Kevorkian Center vault, which was built in the mid-20th century, is located under the eastern

sidewalk of Sullivan Street in Lot 16.

Two borings were placed in Lot 16. Boring 5 was located in the area of the frame and brick backyard extensions in order to determine whether there were archaeological deposits on the floors of either of these structures. This boring was placed in Sullivan Street, to the west of the Kevorkian Center vault. Boring 6 was placed in the backyard area of the lot, in order to see if backyard deposits had survived intact in this area.

Boring 5 (see Figure 9). The uppermost two feet of Boring 5 consisted of the asphalt and concrete Sullivan Street pavement underlain by approximately seven inches of medium brown sand containing pieces of asphalt (strata 1 and 2). Between two and three feet, the boring encountered deposits of pink mortary sand with brick (strata 3 and 4) and pieces of marble slabs. While the sample taken between three and five feet contained alternate layers of pink mortary sand and marble (strata 5-11), we do not believe that this represents an *in situ* wall or floor. Rather, we interpret this deposit as representing demolition debris in the lower portion of the building extension.

No sample was recovered between five and six feet because of the difficulty which was encountered in driving the sampler through what appeared to be additional layers of marble. However, additional pinkish mortary sand with marble fragments (stratum 13) was encountered between six and c. eight feet. Beneath this depth the boring encountered tan fine sand (stratum 14) to a depth of ten feet. This soil type was encountered in this series of borings as the naturally deposited subsoil, and it was also



KEY

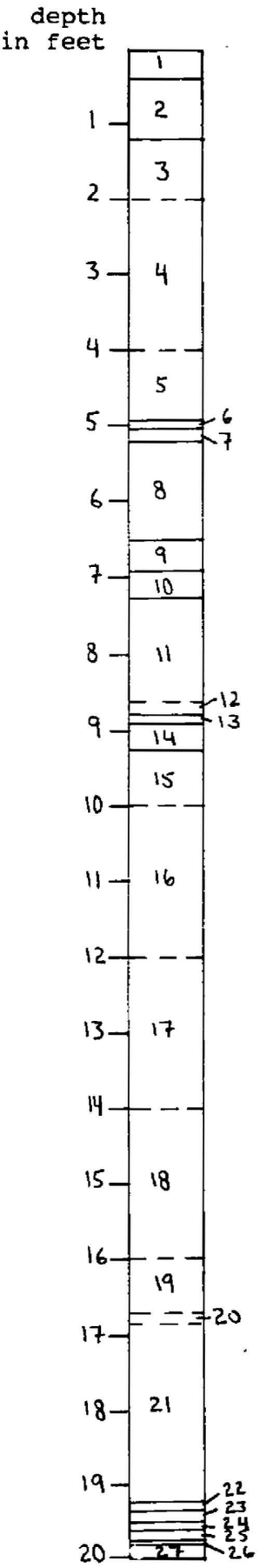
1. street pavement and underlying concrete
2. medium brown sand and silt
3. coarse mortary sand
4. brick
5. pink mortary sand
6. marble
7. pink mortary sand
8. marble
9. pink mortary sand
10. marble
11. pink mortary sand
12. no recovery
13. pink mortary sand with marble
14. tan fine sand

Figure 9. Profile of the stratigraphy in Boring 5, in Lot 16.

present in the fill deposits.

As we were attempting to sample between ten and 12 feet, the loose rubble collapsed into the hole. Rather than case the hole, the boring was terminated. This boring did not detect the presence of a former ground surface. However, the slope of the ground surface which existed prior to the 19th century filling and construction in this area, as indicated by the depths at which it was encountered in the other borings, suggests that the ground surface at the location of Boring 5 would probably have been excavated for the construction of the building extension. This also implies that the tan fine sand encountered in this boring represents the natural subsoil.

Boring 6 (see Figure 10). The topmost two feet of this boring represents the concrete sidewalk, its cinder bedding, and a deposit of red brown sand (strata 1-3) containing brick fragments. No sample was recovered between two and four feet, probably because of the loose nature of the soil. However, the casing was driven to four feet and the material inside the casing suggests that the soil between three and four feet consisted of dark brown sand and tan fine sand. The next sample indicated that the tan fine sand (stratum 5) continued to a depth of five feet. At this depth we encountered a two inch thick stratum of red brown medium sand (stratum 6), and another two inch thick stratum of brown and orange mottled sandy silt (stratum 7). This silt deposit may represent an exposed ground surface in the Lot 16 backyard. This soil was screened through 2 mm mesh in the laboratory. In addition to traces of charcoal and brick chips, it



KEY

1. sidewalk
2. cinder bedding
3. red brown sand
4. no recovery
5. tan fine sand
6. red brown medium sand
7. brown and orange mottled sandy silt
8. red brown coarse sand with pebbles
9. dark red fine silty sand
10. red brown coarse sand with pebbles
11. tan fine sand
12. lighter tan fine sand
13. orange and brown mottled silty sand
14. dark brown sandy silt
15. orange brown silty sand mottled with dark brown sandy silt
16. orange silty sand becoming greener and siltier with depth
17. green tan silty sand
18. tan fine sand with brown and orange mottling
19. tan fine sand with brown mottling
20. coarse red sand
21. tan fine sand with green, gray, and brown mottling
22. dark brown fine sand
23. orange fine sand
24. green orange fine sand
25. green silty sand
26. red brown clay
27. light gray fine silty sand

Figure 10. Profile of the stratigraphy in Boring 6, in Lot 16.

contained one creamware sherd and one sherd of blue-on-white porcelain. These ceramic types are consistent with a deposition of this stratum during the 19th century. It should be noted that this stratum is at approximately the same elevation and consists of a soil type similar to a stratum in the adjoining Lot 34, which was also interpreted as an exposed backyard surface (see Boring 7).

Below this stratum and extending to a depth of c. nine feet, the boring contained additional fill (strata 8-13). The soil types were coarse red brown sands, fine dark red silty sand, and tan fine sand. At the top of the tan fine sand deposit, at c. seven and a half feet, a number of bone and tooth fragments were recovered. The tooth fragments have been tentatively identified as sheep. The bone may have been incorporated in this fill prior to deposition. However, it should be noted that tooth fragments were also recovered from a lower deposit of tan fine sand at c. 16 feet, which represents naturally deposited subsoil. These latter tooth fragments probably originated in one of the upper strata. It is also possible that the bone and tooth fragments in the upper fill deposit were also intrusive from an overlying layer.

At a depth of eight feet 11 inches, we encountered a three and a half inch thick stratum of medium dark brown sandy silt (stratum 14), underlain by nine and a half inches of orange brown sandy silt (stratum 15) mottled with the overlying darker soil near the top. We have interpreted the darker silty soil as an

exposed ground surface with the underlying soil as the naturally occurring subsoil. Thus, this soil represents the ground surface which existed prior to the filling and building construction on Lot 16. Flotation of the dark brown sandy silt indicated the presence of glass and coal as well as charcoal and seeds. The presence of the glass and coal suggests that this surface may have been exposed during a portion of the occupation of the house which stood on Lot 16. At some later time, the ground surface was raised and the brown orange mottled silt mentioned above became the new backyard ground surface.

Below the lower ground surface, the orange subsoil (strata 15-21) became sandier and tanner with depth. At a depth of c. 19 feet three and a half inches to 20 feet, we noted the presence of the "banding" (strata 22-27) which was also present in the other borings at a similar depth. The bands included a half inch of red brown clay at 19 feet nine inches.

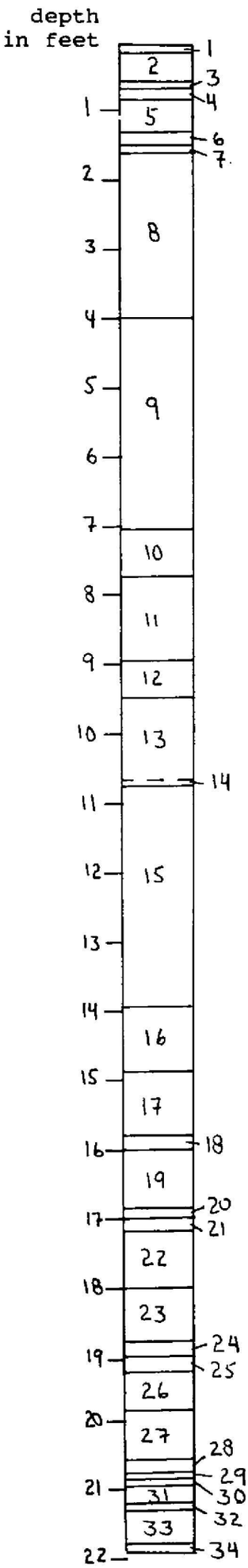
Interpretation of the Borings in Lot 16. The results of the borings in Lot 16 indicate that there were possibly two exposed ground surfaces in the backyard during the 19th century. The lower of these surfaces also represents the pre-filling ground surface. No in situ cultural materials were encountered below this stratum, at a depth of nine feet two and a half inches. The presence of marble slabs in the demolition debris encountered in Boring 5 as well as in the Lot 15 borings suggests that the main structures on both of these lots may have been designed and constructed in a similar manner.

Lot 34

There were two documented structures on Lot 34, both of which were built in the 19th century. The first, erected prior to 1854, was a brick structure with no backyard extensions. This building did not cover the east-west extent of the lot, as a small alley existed between the building line and the property line on the western side of the lot (Perris 1854 V:58). Although the function of this building is not known, it is coded in the mid-19th century insurance atlases as being "hazardous" because of the nature of its use (Perris 1854 V:58; 1859 IV:50).

Between 1879 (Bromley 1879:9) and 1884 (Robinson and Pidgeon 1884 IV:18), this building was replaced by a larger brick structure that extended further into the back of the lot. This building continued to stand until 1902 (Bromley and Bronley 1899, corrected to 1902:31) to 1904 (Sanborn 1904 III:7), and was presumably demolished for the extension of Sullivan Street in 1903.

Two borings were placed in Lot 34. Boring 7 was placed in the backyard area, in order to determine if any backyard deposits remained intact in the area. Boring 8 was located in the area of the first documented structure on the lot, in order to see if any basement deposits from this structure had survived intact. Boring 8 (see Figure 11). The uppermost 20 inches of this boring consisted of the sidewalk and bedding (strata 1 and 2) followed by bands of orange brown and red brown sands and medium brown sandy loam (strata 3-7). This was followed by a stratum of orange brown fine sand (stratum 8) between two and four feet. Between four feet and 10 feet nine inches, we encountered sand and building debris (strata 9-13). This material presumably



KEY

1. sidewalk
2. bedding
3. orange brown sand
4. red brown fine sand
5. red brown compacted sand
6. red brown fine sand
7. medium brown sandy loam
8. orange brown fine sand with mustard and gray sand mottling
9. yellow brown loose-packed silty sand
10. yellow brown and dark brown silty sand
11. red yellow brown silty sand
12. rust and brown mottled very coarse sand
13. light brown medium sand
14. brick
15. red brown coarse sand with pebbles and pocket of gray and red mottled sand
16. medium brown silt
17. orange fine sand with mineral inclusions
18. orange and tan mottled fine sand
19. tan fine sand mottled with gray
20. tan orange sandy silt
21. tanner orange silty sand with mineral inclusions
22. mottled red brown, tan, and gray fine sand with rust mottling
23. orange brown silty sand
24. light orange brown medium sand with rust mottling
25. gray brown sandy silt
26. brown and rust coarse sand becoming lighter and finer with depth
27. yellow brown silty sand with cobbles and pebbles
28. tan brown medium sand
29. red very coarse sand
30. orange tan fine sand
31. coarse red brown sand
32. banded dark brown fine sand in red brown sand
33. red brown coarse sand
34. dark brown fine sand with pebbles

Figure 11. Profile of the stratigraphy in Boring 8, in Lot 34.

was deposited within the basement of the later of the two buildings built on the lot. At the bottom of this deposit we encountered a large brick fragment (stratum 14) which may have represented a basement floor. It did not appear that there were accumulations of cultural materials above this floor, nor did we encounter the remains of a floor from the earlier building episode. Apparently, the construction of the second building c. 1880 involved the removal of the floor from the earlier structure.

Below the construction debris, we encountered red brown medium coarse sandy fill to 13 feet 11 inches (stratum 15). At this depth, we encountered a stratum of medium brown silt and an additional six inches of mottled dark brown and orange silt, becoming more orange with depth (strata 16 and 17). This stratum apparently represents the ground surface prior to the 19th century filling and construction of this lot. The dark brown silt was subjected to flotation, and the presence of coal, mortar, and bone as well as charcoal and seeds was noted. The presence of coal and mortar suggests that construction may have occurred in the area prior to the construction of the 19th century buildings on this lot. However, these cultural materials could also have been deposited with the overlying fill which raised the ground surface prior to construction on Lot 34.

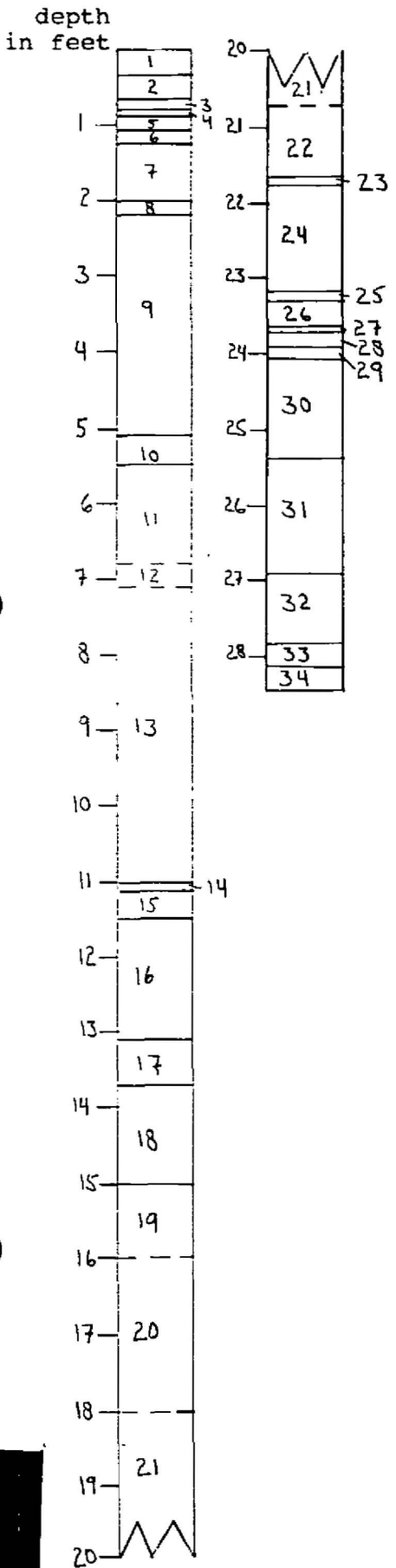
As with similar deposits in other borings, the subsoil underlying the pre-filling ground surface became sandier and tanner with depth (strata 18-21). Bands of sand (strata 24-34) were present at c. 19 to almost 22 feet, with a one half inch

band of gray brown sandy silt at 19 feet. This sand was sampled to a depth of 21 feet 11 inches, at which point the sampler could not be driven further. The sand immediately above this depth contained pebbles, and the underlying material may have contained large rocks or boulders, possibly representing the glacial till at this location.

Boring 7 (see Figure 12). The uppermost 15 inches of this boring consisted of the sidewalk concrete and bedding (strata 1 and 2) followed by four bands of medium brown, tan, red, and red brown sand (strata 3-6). The deposit from 15 to 24 inches consisted of dark brown loam (stratum 7) containing brick, charcoal, and miscellaneous artifacts, including pieces of coal, cinder, and slag; three rusted fragments; one piece of clear plate glass; one piece of bone; one piece of one-eighth inch diameter hexagonal glass tubing; and two sherds of unglazed red earthenware. This deposit may represent additional fill and/or may also have been an exposed ground surface subsequent to the demolition of the buildings on this lot c. 1903. It should be noted that a thinner deposit of sandy loam was also present at 18 inches in Boring 8 on this lot.

A fragment of bluestone (stratum 8) was present in Boring 7 immediately below the dark brown loam. This may have represented an earlier pavement, but examination of the boring hole suggested that the bluestone may have beem rubble, rather than a laid pavement.

Below the bluestone, a deposit of red brown sand fill (stratum 9) containing brick, mortar, and cinder fragments was encountered



KEY

1. 2 layers of concrete
2. cinder bedding
3. medium brown sand
4. tan sand
5. red fine sand
6. red brown sand
7. dark brown loam
8. bluestone
9. red brown medium sand with dark brown mottling and pebbles
10. orange dark brown silt mottled with red sand
11. red brown coarse sand with red fine sand mottling and pebbles
12. red brown coarse sand with red fine and coarse pink sand mottling and pebbles
13. red brown coarse sand with red fine sand mottling and pebbles
14. orange brown silty sand
15. medium brown fine silty sand
16. tan silty sand with brown fine sand mottling at top
17. dark medium brown silty sand
18. orange brown sandy silt with dark medium brown silty sand at top
19. tan fine sand with rust mottling
20. tan fine sand with orange mottling
21. no recovery
22. medium gray medium fine sand
23. gray, rust, and brown banded fine sand
24. gray green fine sand becoming darker with depth
25. rust sand
26. dark gray sandy silt
27. light gray clayey silt
28. medium gray clayey silt
29. light medium gray fine sand
30. light gray fine sand with bands of brown sand
31. banded light and dark gray silt
32. light gray fine sand
33. pink brown medium sand
34. pink brown medium sand with cobbles

Figure 12. Profile of the stratigraphy in Boring 7, in Lot 34.

to a depth of five feet one inch. At this depth, we found a five inch thick deposit of orange and dark brown silt (stratum 10). This may represent an exposed backyard ground surface. This deposit was subjected to flotation in the laboratory and yielded charred and uncharred bone fragments, mortar fragments, and charcoal, seeds, and uncarbonized wood fibers. Below this deposit, we encountered additional red and orange brown coarse sand fill (strata 11-14) containing mortar and brick.

At 11 feet one inch, we encountered a five inch thick deposit of medium brown fine silty sand (stratum 15), which may represent an earlier exposed backyard surface on Lot 34. Flotation of this deposit yielded coal, cinder, and burnt bone, as well as charcoal and seeds. Additional fill was encountered beneath this backyard surface. It consisted of tan silty sand mottled with medium brown fine silty sand (stratum 16).

At 13 feet one inch, we encountered an eight inch thick stratum of dark medium brown silty sand followed by orange brown sandy silt (strata 17 and 18) mottled with the darker soil at the top. We interpret this deposit as representing the pre-filling and pre-construction ground surface at this location. Unlike the upper ground surfaces, flotation of this deposit yielded only charcoal and seeds, with no other cultural materials. Fill was apparently deposited on this lot prior to construction, and the backyard surface was thus some two feet higher than the pre-filling surface. It is possible that the ground level was raised again when the second building on this lot was con-

structed c. 1880, with the new backyard surface being some six feet higher than the earlier surface.

In common with the other borings in which the pre-filling ground surface was encountered, the subsoil beneath this surface became tanner and more sandy with depth (strata 19 and 20). In Boring 7, the sample between 18 and c. 20 feet was lost. It was at this depth that the varied colored sand and silt bands were encountered in the other borings. This boring was extended to a depth of 28 and a third feet, encountering bands and strata of mostly gray sand, silt, and clayey silt to 28 feet (strata 22 - 33), with a trace of organic fibers (or peat) at 25 and a half to 27 feet. At the base of the column, from 28 to 28 and a third feet, we encountered pink brown sand with cobbles (stratum 34), which probably represents the glacial till at this location.

Interpretation of the Borings in Lot 34. The results of the borings in Lot 34 suggest that some fill had been deposited before construction occurred on the lot. We encountered two possible backyard surfaces above the level of the original ground surface in Boring 7. As in the other lots, no cultural material was found in situ below the level of the pre-filling ground surface.

Lot 33

Three structures were documented for Lot 33. The 19th century building consisted of a brick structure with one brick and two frame backyard extensions, which were erected prior to 1854 (Perris 1854 V:58). One of the frame extensions stood parallel to the rear wall of the main structure on the western side of the lot, while the brick extension with its frame addition

projected further into the backyard on the eastern side of the lot. By 1902, the frame extension parallel to the back of the main structure had been removed, while the other frame addition had been extended further into the backyard (Bromley and Bromley 1899, corrected to 1902:31).

This structure and its extensions were replaced between 1904 (Sanborn 1904 III:7) and 1934 (Bromley 1934:31). This new structure (see Figure 14) extended further into the lot than the 19th century structure had done, and also had a brick extension on the eastern side of the lot (Bromley 1934:31; 1959:31). This building had been demolished by 1960 (Joseph Roberto, pers. comm.)

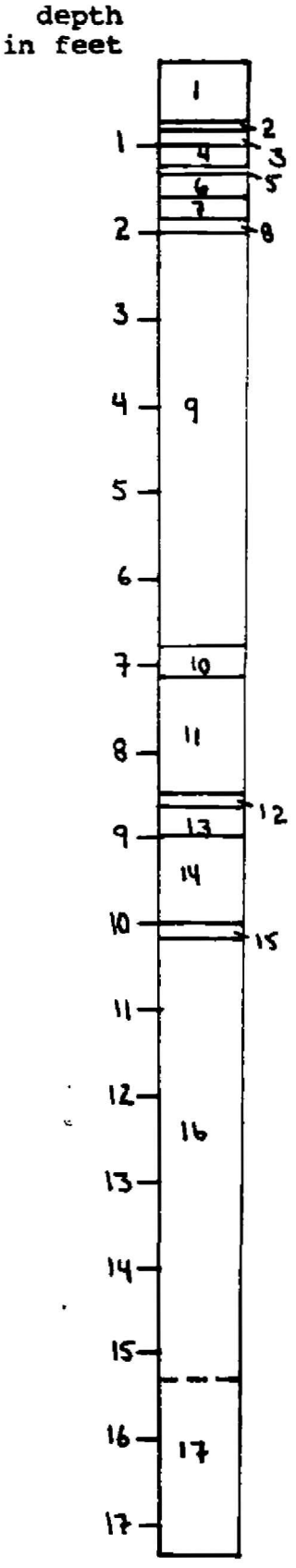
The third documented structure on this lot consists of a two story brick building built in the rear of the backyard area prior to 1934 (Bromley 1934:31). This structure is part of the present Moot Court Building.

One boring was placed in Lot 33. As the basement of the 20th century building fronting on West 3rd Street was c. 11 feet deep, the construction of this building presumably destroyed any basement deposits which may have existed on the floor of the 19th century building. In addition, the presence of a sewer line in the eastern part of the vacant lot precluded the testing of the backyard extensions in this area. Finally, the presence of the still-standing Moot Court Building in the rear of the lot prevented our testing in this area. Boring 9 was placed in an area that had been documented consistently as a backyard, in order to see if any archaeological deposits remained intact in this area.

Boring 9 (see Figure 13). The area in which the boring was placed is at present a small "park" area with an earthen surface. This dark brown sandy loam (stratum 1) was encountered in Boring 9 to a depth of nine and a half inches. This soil was followed by bands of black and tan, rust, gray, brown, and medium brown sand and a band of black cinder (strata 2-7) to a depth of 22 inches. Beneath this depth, we encountered a deposit of building demolition debris consisting of brick, concrete, and stone slabe in a matrix of red orange pebbly sand (strata 8 and 9) to a depth of six feet ten inches. The stone slabs may have been foundation stones from the demolished structure.

Between six feet ten inches and seven feet two inches, the boring encountered brick with slate beneath it (stratum 10). This may represent a laid floor.

Below this floor, we encountered a dense deposit of cultural materials between seven feet 2 inches and eight feet three inches. The upper portion of this deposit was in a matrix of medium brown silty sand and the lower portion in a matrix of cinder and ash (stratum 11). This deposit was screened through 2 mm wire mesh, and contained two whiteware sherds; 12 pieces of flat glass (ten clear and two amber); ten pieces of bottle glass (three clear and seven dark green); and three fragments of a rectangular, one-sixteenth inch diameter piece of slate, possiby a portion of a slate pencil. Also recovered were large pieces of tar paper; fragments of brick, slate, mortar, coal, cinder; and metal fragments. Faunal material included a fish scale, one piece of bird bone, and numerous fragments of mammal bone and several mammal teeth. The latter have been identified as



KEY

1. dark brown sandy loam
2. brown and orange mottled sandy loam
3. black and tan mottled coarse sand
4. rust medium fine sand
5. gray and brown mottled mortary sand
6. medium brown silty sand
7. black cinder
8. concrete with plaster
9. red orange sand
10. brick on slate
11. medium gray brown silty sand with rust, cinders, and ash
12. cement on mortar
13. brick on mortar
14. dark brown loam
15. red and black sand
16. coarse red brown sand with mottling and pebbles
17. no recovery

Figure 13. Profile of the stratigraphy in Boring 9, in Lot 33.

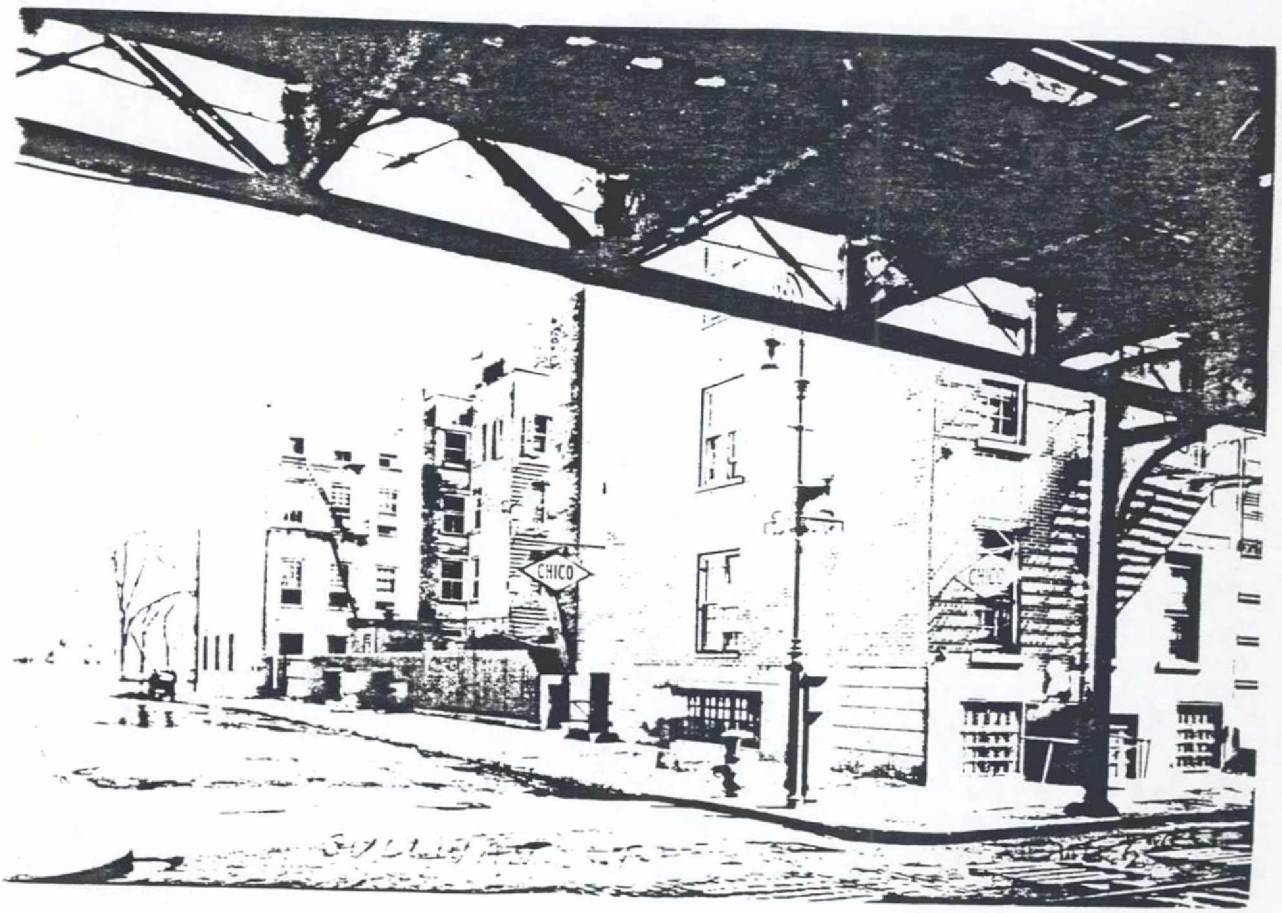


Figure 14. Photograph of the 20th century structure on Lot 33, at the northeast corner of Sullivan and West 3rd Streets. This picture was taken prior to 1934, as the Moot Court Building has not yet been built in the back-yards of Lots 33 and 17. (Photograph courtesy of Joseph Roberto.)

domestic pig and examination of the bone fragments together with field observations indicate that the bone represented a part of a pig's jaw, which crumbled upon removal from the soil.

At the base of the cultural deposit, we encountered what appeared to be a second floor, consisting of a layer of cement or mortar, brick, and another layer of mortar (strata 12 and 13). This floor extended from eight feet seven inches to nine feet, and was underlain by 11 and a half inches of dark brown loam (stratum 14) containing brick fragments and two inches of red and black sand (stratum 15), containing brick chips. Beneath this soil, at ten feet two inches, we encountered coarse red brown sand (stratum 16) with pebbles and pockets of silt and finer sand to a depth of 15 feet four inches. At this point, the sampler began to push some object, perhaps a piece of brick or stone that had fallen into the hole, and further progress in this hole was not possible.

Interpretation of the Boring in Lot 33. The slope of the pre-filling, pre-construction ground surface encountered in the other borings suggests that at the location of Boring 9, this surface would have probably been encountered below the elevation at which we were able to obtain samples. It is possible that the brown loam with brick fragments represents the surface of the backyard of the first building to be constructed on this lot. Fill deposited prior to or during construction of this building would have raised the land surface to this level. However, the brown loam may also represent a portion of this fill deposit.

At some time after the construction of the first building on this lot, the backyard was covered by the lower brick and mortar pavement. The deposit above this floor may represent either trash from the building occupation which accumulated in this area or material purposely deposited here to raise the surface prior to the deposition of the overlying brick and slate pavement. The deposit itself contains both domestic debris and building materials. The presence of whiteware and the overall nature of the deposit suggests deposition during the latter part of the 19th or early part of the 20th centuries.

It should be noted that at the present time there is a narrow "shaftway" between the northern portion of Lot 33 and the 19th century building that still stands adjoining this lot to the east. The base of this "shaftway" is approximately seven feet below the present surface of Lot 33. It is likely that this was the approximate elevation of the 19th century backyards in this area, and the brick floors encountered in Boring 9 are at this approximate elevation.

It is probable that debris from the demolition of one of the structures which stood on this lot was used to raise the level of this backyard area. This may have taken place when the most recent structure, built between 1904 and 1934, was demolished in 1959-60. However, a comparison of the debris encountered in our boring (which included red brick and fieldstone from a foundation wall) with the construction of the building shown in the photograph included here as Figure 14 suggests that

the debris was deposited when the previous 19th century structure was demolished. This supports the inference that the uppermost floor and its underlying cultural deposit date to the late 19th or early 20th centuries.

The Backyard of Lot 17

The backyard of Lot 17 was used consistently as a backyard area throughout the 19th and early 20th centuries. Prior to 1934 (Bromley 1934:31), a 2-story brick structure was built in this area, which is now part of the Moot Court Building.

No borings were placed in this area because of the standing structure.

IV CONCLUSIONS AND RECOMMENDATIONS

As stated in Chapter III, there are five types of archaeological resources which could be present within the area to be disturbed by the planned construction. The results of the archaeological test boring series have allowed us to assess whether or not four of these resource types are likely to be present and to set forth procedures for determining whether the fifth type is present.

Prehistoric Archaeological Sites

Evidence for the presence of prehistoric archaeological sites would be present on or below the ground surface which existed before the 19th century land filling and construction. Our analysis indicates that a soil stratum representing this surface was encountered in six of the 11 borings (Borings 3, 4, 6, 7, 8, and 10). This surface is situated between seven and 17 feet below the present elevation of the Sullivan Street sidewalk and pavement. The higher elevations are located at the northern end of the block and the lower elevations at the southern end. The data suggest that the ground sloped down more steeply at the northern end of the block, with a maximum slope of perhaps 20%. There was only a gradual slope of some 2-7% on the southern portion of the block. There may have also been a gradual slope of approximately 7% from east to west on the southern portion of the block.

Indications of human occupation dating to the late prehistoric period would be present in the dark silty soil representing the ground surface itself and in the orange silty soil and tan fine sand immediately underlying this

surface. No evidence of such occupations was detected. The stratigraphic location of possible material representing earlier prehistoric deposits would depend on the depositional history of the sandy soil underlying the ground surface. This soil could have been either glacially or alluvially deposited.

If this sand was deposited by glacial outwash, then earlier occupations would also be found above these outwash deposits, near the pre-filling ground surface. No indication of such occupations was found.

However, the possiblity exists that some of the sandy soil underlying the ground surface may have been alluvially deposited by Minetta Stream which was located approximately one block west of the project area in the historic period. In this case, early prehistoric occupation could be found at any point between the pre-landfilling surface and the glacial till. It is possible that the bands of sand, silt and clay noted in Borings 1, 2, 3, 4, 6, 7, 8, and 10 represent the surfaces of a former marsh. Prehistoric peoples often utilized the edges of marshy areas, since they provided an attractive habitat or feeding area for waterfowl, game, etc., and prehistoric midden deposits have been found at the edges of such marshy areas. If the overlying sand was alluvially deposited, such prehistoric deposits could have been present in the project area. As noted above, this former marsh was sampled by eight of the borings and three borings (Borings 4, 7, and 8) were extended until glacial till was encountered. No indications of prehistoric occupation were found.

Historic Period Landfill

In cases where landfill deposits contain substantial concentrations of cultural materials, such deposits can be considered to be signifcant archaeological resources. Landfill was deposited in the project area prior to the construction of the buildings in the early 19th century and/or during the occupation of these structures. These deposits were sampled above the level at which the pre-filling ground surface was encountered in Borings 4, 6, 7, 8, and 10 and were also partially sampled in Borings 9 and 11 which were not extended to the level of the early 19th century ground surface. None of the landfill contained archaeologically significant deposits.

It appears that two basic types of soil were used for the landfill. One of these was the tan fine sand which also consitituted the upper portion of the naturally occurring subsoil in this area. This fill may have been obtained, in some cases, from the foundation excavations for the structures built in or adjacent to the project area. The other type of fill was a coarse red sand which was apparently brought in from outside the project area.

Lesser amounts of fill were also deposited between the time of the demolition of the project area structures c. 1903 and the time that Sullivan Street was paved. This fill may have constituted the uppermost one and a half to five feet of the material sampled in many of the borings. Although some cultural materials were recovered from these deposits, particularly in Borings 3 and 7, the samples obtained do not indicate these deposits to be archaeologically significant.

Deposits Within Structures

At some archaeological sites dating to the historic period, significant deposits of artifacts have been found immediately above the basement floors of demolished structures. Two of the borings, Borings 1 and 8, were placed within the main portion of the 19th century structures on Lots 15 and 34, respectively. Borings 2 and 5 were placed within the extensions to the 19th century buildings which stood on lots 15 and 16, respectively, and Boring 3 was placed in an area which may have been within an outbuilding to the rear of the 19th century structure which stood on Lot 15. There was no evidence of any archaeologically significant deposits within these structures. The building materials encountered probably represent debris from the demolition of these structures.

Backyard Deposits

In many cases significant deposits of artifacts have been found in backyard areas. These deposits can accumulate either through the loss and casual disposal of artifacts or through the systematic use of these areas for trash disposal. Our interpretation of the results of the archaeological borings indicates that at least a portion of the backyard surfaces which were exposed during the occupation of the 19th century structures are intact in four of the five lots tested (Lots 15, 16, 33 and 34). In at least three of these lots, the land surface in the backyard area was apparently raised at least once during the occupation of the structure, and therefore there is more than one surface in these lots on which backyard deposits could have accumulated.

In Lot 15, the backyard surface was apparantly the same as the"natural" pre-filling ground surface at approximately seven to nine and a half feet below the present grade. It is possible that the ground surface was raised and a higher backyard surface created during the occupation of the house. If so, this surface would have been destroyed during or subsequent to the demolition of the house.

In Lot 16, the first backyard surface was probably the same as the "natural" pre-filling ground surface, at approximately nine feet below the present grade. A second, later backyard surface may have been located at a depth of five feet. On Lot 34, in which the pre-filling ground surface was lower than on Lot 16, some fill was apparently deposited before the construction and occupation of the house, and the first backyard surface was probably at approximately 11 feet, some two feet above the "natural" surface. As in Lot 16, the uppermost backyard surface in this lot is at approximately five feet below the present grade.

In Lot 33, there were apparently two paved backyard surfaces at approximately seven and eight and a half feet, respectively.

A dense deposit of cultural materials was recovered from one of these backyard surfaces, the lower paved floor in Lot 33. In addition, the upper backyard surface in Lot 16 yielded two ceramic sherds of types in use during the 19th century. It should be noted that these sherds were recovered from a three inch core. Since this deposit was two inches thick, the two sherds derive from a total sample of approximately .008 cubic feet. If this density

is representative of the deposit, it would contain 244 ceramic sherds per cubic foot.

While no artifacts were recovered from the small samples of the other backyard surfaces, bone fragments were recovered from flotation of both of the backyard surfaces sampled on Lot 34 and a fragment of glass was obtained from the flotation of a sample of the surface in Lot 15. All of these surfaces apparently have the potential of yielding some information about the occupation of the area during the 19th century.

Historic Period Archaeological Features

Archaeological features, including cisterns, privies and wells, were probably associated with the 19th century occupation of the project area. As noted in Chapter III, the testing method used is not sufficient to determine the location of such features, and their detection was not an objective of the archaeological boring series. The top of these features would be located at the level of the backyard ground surfaces. The results of the borings, therefore, indicate the depths at which the features would begin. In those instances where backyard surfaces were raised, features may have been rebuilt or extended so that their topmost part was at the level of the new ground surface. Alternatively, old features may have been abandoned and new ones dug in another location. Thus, to determine whether such features are present, it would be necessary to examine each of the successive backyard ground surfaces.

The Moot Court Building. Becuase this structure was still standing at the time the archaeological borings were conducted,

it was not possible to examine the stratigraphy underlying this building.

The northernmost portion of the backyard area of Lot 33 is now occupied by the Moot Court building. Similarly, a large portion of the backyard area of Lot 17, which was not examined by the borings, is also within the area now occupied by this building.

The borings indicate that the backyard surfaces of Lot 33 are at approximately seven and eight and a half feet, and those of Lots 34 and 16, immediately west of the Moot Court building are at five, nine and 11 feet below the present surface. Visual examination of the Moot Court building indicates that its basement extends to a depth of approximately six feet beneath the present grade of the Sullivan Street sidewalk. This was confirmed by Ralph Pacifico of New York University (personal communication, February, 1984). Even if the construction of the Moot Court building has disturbed the former backyard ground surfaces, large portions of any features which may have been present in the Lot 17 and 33 backyard areas could remain undisturbed beneath the basement of this building.

Recommendations

As a result of the archaeological boring program we have determined that:

1. These is no indication of prehistoric occupation within the project area.
2. None of the 19th century landfill deposits contain significant deposits of cultural materials.
3. No significant deposits of cultural materials are present

within the foundations of the demolished structures.

4. The 19th century backyard surfaces have the potential of yielding significant archaeological data and should be examined further.

5. Backyard features, such as privies, cisterns, and wells, could be present below the level of each of the 19th century backyard surfaces which have been identified in Lots 15, 16, 33, and 34. The archaeological boring program was not structured to detect the presence of such features and further examination is recommended.

6. Backyard features could remain at least partially intact beneath the Moot Court building. This area should be examined for the presence of such features after the building is demolished.

To determine whether or not archaeological features are present, the portions of the project area which represent 19th and early 20th century backyards should be excavated by power equipment down to the elevations of each of the backyard surfaces as discussed above. These surfaces should be examined for the presence of backyard features. The backyard surfaces themselves should also be tested by the excavation of test squares in order to obtain a larger sample than was possible with the boring program. If warranted by the results of the testing, a larger sample of these deposits should be excavated.

If features are located, any archaeological deposits within them should be totally excavated by hand.

Where the boring data indicate that more than one backyard surface is present, the area should be excavated to the

level of the lower surface once the upper surface has been tested. Manual excavation of any features present on the upper surface could continue while the lower surface is examined for additional features and sampled.

The approximate depths at which the surfaces to be examined are located are as follows:

Lot 16 - five feet and nine feet below the present ground surface.

Lot 34 - five feet and 11 feet beneath the present ground surface.

Lot 33 - seven feet and nine feet beneath the present ground surface. In this case the upper brick floor would be removed and the deposits between and below the floors sampled.

Lot 15 - seven feet beneath the present ground surface. It may also be advisable to first expose the soil at approximtely two to three feet below the present ground surface in the event that truncated features are present from a later backyard surface which has been removed.

The areas to be examined are those indicated by the letter D on Figure 1 (with the exception of Lot 35 and the portion of Lot 16 where the Kevorkian vault is located). In addition, subsequent to the demolition of the Moot Court building, the basement floor should be removed and the underlying surface examined for the presence of archaeological features.

It may be simplest to carry out the recommended testing and excavation program immediately prior to construction. In this event, the excavation for archaeological purposes should begin no less than six weeks prior to construction

activities. This time period should be sufficient to conduct the recommended examination and excavation of any deposits encountered. If consistent with construction schedules, the demolition of the Moot Court building should also be scheduled so that examination of this area could be carried out in conjunction with the other archaeological activities.

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Note 1: The uppermost portions of the stratigraphic columns relate to the construction and/or reconstruction of the Sullivan Street roadbed and sidewalks. We do not believe that further archaeological investigation of these layers will contribute significantly to the understanding of these 20th century phenomena.

Note 2: This report has been limited to assessment of archaeological resources. No attempt has been made to evaluate the historical or architectural values of the Moot Court building.

Note 3: The six-week excavation period noted above should be regarded as an outside limit. The actual time involved is dependent on the amount and type of the resources encountered, the size of the field crew, and the time of year.

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