

prepared for Konheim & Ketcham by Joan H. Geismar, Ph.D. July 23, 1984

1/0 - 57

AN EVALUATION OF THE ARCHAEOLOGICAL POTENTIAL OF THE COMMUNITY HOSPITAL SITE, NEW YORK, N.Y.

PREPARED FOR KONHEIM & KETCHAM BY JOAN H. GEISMAR, Ph.D. JULY 23, 1984

TABLE OF CONTENTS

SECTION 1.	INTRODUCTION AND SUMMARY OF RESULTS1
	Introductionl
	Summary of Results4
SECTION 2.	RECONSTRUCTIONS: GEOLOGY, LOCAL INDIANS, AND
	SITE HISTORY
	Geology and Topographic Reconstruction13
	Assessment of Indian Usage15
	Settlement and Site Development23
SECTION 3.	CORING DATA40
	Sampling Procedures and Analysis40
	Problems
	Results
SECTION 4.	SUMMARY AND RECOMMENDATIONS
	Summary
	Recommendations
APPENDIX A.	
BIBLIOGRAPH	¥
FIGURES	
	1. Approximate site location in Manhattan2
	2. Approximate site location in Upper Manhattan3
	3. Detail of map indicating location of Indian
	paths in the great metropolis
	4. 1904 topographic map of the Isaac Michael
	Dyckman estate10
	5. Geologic map of the northern part of Manhattan
	West Bronx, and Eastern Bergen County, New
	Jersey14
	6. Approximate location and description of eight
	local archaeological sites
-	7. Map of the Seaman Avenue Site, Inwood21
	8. Bolton's reconstruction of the project area29
	9. Map of proposed athletic fields at Baker
	Field, 1923
	10. The Baker Field Property (or Dyckman estate)
÷	prior to acquiring the building lots on the
	right side of the property

11.	Boring plan (B1-37) superimposed on 1904
	contour map
12.	Fill anomaly, western portion of the
	project area45
Table	e 1
l:	View of the Baker Field field house and new
	concrete stadium5
2.	Looking northeast across the present soccer
۶.	field and stands to proposed Community Hospital
	site6
3.	Restored Dyckman house at 204 Street and
	Broadway24
4.	The Isaac Michael Dyckman mansion(engraving)25
5.	Undated photo of Isaac Michael Dyckman
	house25
6.	1857 photo of marble-cutting mill built by
	Bolton brothers in 1817, north of site where
	U. S. Ship Canal now runs28
7.	1845 Ensign map31
8.	Unpublished 1860 Frederick Law Olmstead map31
9.	Detail of Revolutionary War map, Valentine's
	Manual, 1861
10.	View looking southeast to site from Marble
	Hill, before March, 1922
11.	The Isaac Michael Dyckman property, 1916,35
12.	Demolition of Isaac Michael Dyckman mansion,
	1949 or 1950
13.	Truck-mounted drill rig, Baker Field41
14.	300-pound hammer41
15.	Rock core samples from B2541

Note: all photographs by the author

TABLE

.

۲

PLATES

•

Section 1. INTRODUCTION AND SUMMARY OF RESULTS

This report represents the first phase of an investigation and evaluation of the archaeological sensitivity of the Community Hospital site located on Baker Field in upper Manhattan (Fig. 1). The purpose of the evaluation is to locate, and if necessary, excavate any archaeological deposits of prehistoric or historic origin prior to their destruction. The investigation is part of an Environmental Impact Study undertaken in compliance with the State Environmental Quality Review (SQER); the report was prepared for Konheim & Ketcham, the firm conducting the study. Of concern are cultural resources that may be preserved in the northeast corner of the Baker Field tract (Fig. 2).

In the mid-19th century this land was part of the Isaac Michael Dyckman estate; now incorporated into the 28 acre Columbia University athletic facility, it is the proposed site of a 300-bed community hospital. Just under five acres of the grounds are slated for construction.

Historically, the property was undeveloped until it was inherited by Isaac Michael Dyckman in 1868. After Dyckman's death in 1899, unrealized plans for his estate included a public park or the creation of a private amusement park on a par with Coney Island or Rockaway Beach. For a time the 17-room manor house apparently did become a Catholic boys' school. In December, 1921, Columbia University acquired 26 acres of the property when George Fisher Baker, then chairman of the board of the First National Bank of the City of New York, donated the money for its purchase. His gift paved the way for the creation of the athletic





(detail based on 1982 Sectional Maps of N.Y.C., Department of City Planning)



0

1000 ft.

COMMUNITY HOSPITAL SITE: Fig. 2.

field for the University's main campus located five miles to the south.

With the acquisition of two additional acres--also funded by Mr. Baker and documented in an undated, hand written letter in the Columbia University archives--the outdoor facility reached its present size, and has been bounded to the east by Broadway, to the south by 218 Street, and to the west and north by the man-made U.S. Ship Canal, considered by most New Yorkers to be a segment of the Harlem River. Over the years, playing and practice fields, a cinder running track, and a timber stadium were constructed on three plateaus, two of them created artificially. Recently, the old stadium was torn down and a concrete replacement is currently under 'construction (Plates 1, 2).

Several analyses were undertaken to evaluate the archaeological sensitivity of the proposed hospital site which not only defines the northeast corner of Baker Field, but of Manhattan Island as well. A major task has been to recreate the site's long history. This includes its original topography and its use by <u>prehistoric</u> or historic Indians as well as European colonists; it also considers its post-colonial history. Of great import is the assessment of alterations to the land which may have affected the archaeological record of this history.

Summary of Results

Unlike other Manhattan sites, urban development has not been a factor in preservation of the archaeological record at the Community Hospital site. Instead, land alterations have defined the site and determined the preservation of its resources. For example, two small, apparently nameless spring-fed streams once



Plate 1. View of the Baker Field field house (left background) and new concrete stadium (right background) currently under construction. View is looking south from the proposed Community Hospital site. The field house stands where the Isaac Michael Dyckman manor house was located. Note the pipe (arrow) marking the location of a boring (B27).

I



1

Plate 2. Looking northeast across the present soccer field and stands to the proposed Community Hospital site. The Broadway bridge that crosses the Harlem River (or U. S. Ship Canal) looms above the site. For an indication of how the site has been altered over the years, compare the flat soccer field with the terrain recorded in an engraving of the Dyckman mansion (see Plate 4).

ran in a deep ravine just north of the site area. In 1817, these streams were incorporated into a narrow east-west canal that was dug as a mill stream for a marble-cutting mill. This minor alteration dramatically changed the configuration of Manhattan Island, cutting off Marble Hill to the north. Later in the century, this alteration in turn was changed to become a large ship canal, the tidal waterway that now joins the Hudson and Harlem Rivers.

Obviously, since it abuts the canal's channel, blasting and dredging for the ship canal must have affected the hospital site. Then too, so did other alterations, among them possible quarrying activities and the levelling and filling that created the playing and practice fields of Baker Field. Some of these latter changes occurred as recently as the 1960s, and a new stadium has been under construction since 1983. But while potential archaeological resources may have been destroyed during these activities, conceivably others have been protected under fill.

The questions are: what archaeological resources are located on the site, and, given the site's history, what may be preserved? To answer these questions, the archaeological literature was intensively researched as was the settlement history of the site.

This research revealed that use of the land by prehistoric or early historic Indians is virtually a given. An Indian path apparently once crossed the tract (Fig. 3) and several sites were noted and excavated in the immediate vicinity late in the 19th century and early in the 20th. However, contrary to some





COMMUNITY HOSPITAL SITE: Detail of Map Indicating Location of Indian Paths in the Great Metropolis. Note Indian camp (circle) believed to have been located on the proposed Community Hospital Site. interpretations of the literature, while there is evidence for long-term and repeated occupation in nearby Inwood Park, and for more extensive sites south of the project area, there is none for a village or permanent settlement on the site or in its immediate proximity. It appears that any Indian occupation would be limited to more ephemeral camp sites and their associated features.

Historic documentation indicates that occupation might not only include early Indian sites and those of the later historic period, but also camps or sites associated with Revolutionary War activities. This is in addition to any development that followed the war. And finally, as mentioned above, a manorial holding after 1868 is clearly documented. Sometime after 1879 but before 1885, three unidentified, two-story frame dwellings were built along what is now Broadway, one of them in the site area.

To determine the extent of preservation of any cultural deposits possibly remaining from these occupations and activities, maps and atlases were consulted to reconstruct land alterations, as were written accounts or histories. In addition, borings obtained for engineering purposes were evaluated from preliminary log data and examination of samples. (These data were generously made available by Woodward-Clyde Consultants, Inc., the project's consulting engineers). Thirty-seven borings comprising 133 available samples were examined in Woodward-Clyde's Clifton, New Jersey, laboratory. The findings were compared with a detailed 1904 contour map located at the Office of the Borough President, Borough of Manhattan Topographic Bureau (Fig. 4).



Comparison of these data suggests that a segment of the site (minimally involving five borings) may have been filled or altered prior to 1904, but just what this alteration represents remains to be determined. Further, three borings produced what appears to be cultural material in the form of shell, charcoal, bone, and ashy sand.

All_this_information_suggests_an_archaeologically_sensitive area, its resources_not fully intact, but perhaps not totally destroyed. It also suggests an anomalous situation beneath the ground surface, one which occurred or was created sometime prior to 1904. This anomaly should be explored for any archaeological significance.

Based on the results of this research, a testing strategy is suggested to determine the site's resource potential. In addition, conversations with Dr. John Horvath of Woodward-Clyde indicate that this information would also be valuable to the consulting engineers:

1. Eight large diameter $(2^1/2-in.)$ rather than standard $(1^3/8-in.)$ cores minimally obtained at 2-ft. rather that 5-ft. increments should be drilled at selected locations. These include two in the vicinity of previous cores B5 and B6, one near B18, and another near B27 (B5 contained shell and charcoal possibly either of an historic or prehistoric date; this and B6, which produced an unidentified bone fragment, are part of the above mentioned anomaly. B18 documented a shallow deposit with ashy sand that may again represent cultural material, and B27 is located near but apparently just south of a late-19th century structure [see Section 3 for a detailed discussion of core analysis and relevant

data]). Based on the information from these four cores, four additional cores would be located while in the field. All eight cores should be archaeologically monitored with the samples screened in the field for recovery of any cultural material. Cores taken 5 ft. into bedrock would assure that bedrock rather than a boulder was reached.

2. Based on these additional borings, testing in the form of excavation may be recommended. This would be the case should the larger, contiguous samples indicate further evidence of cultural deposition. Should it be necessary, a field strategy for this phase, which undoubtedly would entail the use of a backhoe or gradall in addition to hand excavation by archaeologists, would then be devised. Monitoring of foundation excavations on the west side of the building may be recommended, but whether it is instead of, or in addition to, archaeological investigation depends on the results of testing.

The recommendations made here are based on the detailed information found in the following sections. This includes a brief geologic history of the area, a summary of Indian occupation in the site vicinity, an historical reconstruction of the site area and location, the procedure used to analyze core samples and the findings of this analysis, and the summary and conclusions of this report. A comparison of the coring data with information from the 1904 contour map is summarized in Appendix A. It should be noted that throughout the outlined archaeological component to the project, consultations at various decision points will be made with the Office of Parks and Recreation and Historic Preservation (OPRHP).

Section 2. <u>RECONSTRUCTIONS: GEOLOGY, LOCAL INDIANS AND</u> SITE HISTORY

The purpose of investigating the geology and tracing the topography, history, and development of the Community Hospital site, as well as the possible Indian occupation of the land, is twofold: First, to determine what cultural material could be found, and second, to evaluate what might actually be preserved. This determination entails synthesizing information found in the literature about local Indian and historic sites as well as reconstructing the specific development of the project area.

Geology and Topographic Reconstruction

Prior to the creation of the Columbia University athletic facility, the natural terrain of the project area reflected the rock foundation set down eons ago and the subsequent deposition and erosion that occurred over the millenia. In 1922, an article published in the <u>Columbia Alumni News</u> described the newly acquired Baker Field site as a hilly, open field dotted with rock outcrops and pine trees (Klapp 1922:333). This terrain, which has now been altered considerably, was probably not very different from what existed soon after the retreat of the most recent glacier about 15,000 years ago.

Geologically, it is an area where bedrock is the easilyweathered Inwood marble rather than the more resistent Manhattan schist found just to the west, or the Fordham gneiss found to the east (Schuberth 1968:85-86). The erosional properties of this bedrock have created what is called the "Inwood Lowland"; all of Baker Field is located in this geologic zone (see Fig. 5).



Over a period of hundreds of thousands of years, the New York City area has been subjected to the advance and retreat of four glacial episodes, but it is the last of these that scoured the landscape, causing the erosion and deposition that shaped the site. It also created the channels for the surrounding waterways, including the Hudson River and Spuyten Duyvil Creek to the west, and the Harlem River to the east (Schuberth 1968:200).

Although considered either rivers or creeks, all but the northern stretch of the Harlem River are really tidal estuaries created during this last glacial episode (even the Hudson does not become a true river until it reaches Troy 130 miles to the north). And, as noted in the introduction, the segment of the Harlem River that flows north of the site is not a river at all, but a man-made canal. As such, it is affected by the varying tides that govern the Hudson, Harlem, and East Rivers.

Assessment of Indian Usage

In 1909 the archaeologist Alanson Skinner stated that the only Indian remains left on Manhattan Island apparently were located at the extreme northern end at Inwood (the location of the Community Hospital Site) and Cold Spring (just to the west) (Skinner 1909:51). This was partially because it was an area amenable to the Indian lifeway, and partially because it was the last area of Manhattan to be intensively developed.

Undoubtedly, its geologic and topographic setting has played an important role in the site's utilization, and understanding the former landscape is important in assessing the site's archaeological potential. For example, once two freshwater streams that would have provided drinking water to both animals and humans ran in a ravine just north of the site (see Fig. 3). One flowed east to the salt marshes associated with the Harlem River, the other ran west to Spuyten Duyvil Creek and ultimately also joined the Harlem (Tieck 1968:127; Kelley 1909:169).

In 1817, a 30-ft. wide and 1500-ft. long canal was dug that harnessed these streams to power a marble-cutting mill (Tieck 1968:127). Then, in 1888, blasting and dredging for the deeper, wider, longer Ship Canal was begun along this same course. Now, the beds of the two original streams are located under the centerline of this man-made waterway. Consequently, where fresh water was once available there is now a saline, tidally-fed canal. But it must be remembered that this was once an area where the local Indian or early settler could have gotten fresh water or stalked his prey at the water below from the cover of the wooded ravine or the vantage of the higher ravine ledge.

In addition, archaeology at rockshelters and caves preserved in Inwood Park to the west may have been a place of recurrent use if not long term occupation by Indians, and it can perhaps be assumed that what became the "Dyckman Meadow", now the Baker Field property, was once part of the hunting grounds for the Indians using the shelters. At the Baker Field property itself, however, it appears that the shallow soils and open terrain would have been even less amenable to long-term occupations than the caves and rock overhangs found in the park to west. On the other hand, similar rock shelters in the immediate project area may have been destroyed during the creation of the

Ship Canal.

However, an Indian path, a branch of the long trail that ran from lower Manhattan to the "wading place" north of Marble Hill is thought to have run across the Baker Field tract, perhaps directly in the project area (Bolton 1922: Map V; see Fig. 3). Unfortunately, the map reconstructing these paths has no scale, and Bolton does not discuss the trail or the camp indicated attits end (Bolton 1922:81-86). This branch-path may have led to a shell-midden documented in 1886 but not fully excavated (Skinner 1909:54-55; see below). Since there is no way to locate it exactly, it is conceivable that this path was destroyed, as was the midden, during the construction of the Ship Canal, but this is an unknown.

Given the general shallowness of the soil and the openness of the terrain, the kind of Indian finds that might be made on the site would be the isolated artifact, the camp, the hearth or storage pit, the shell pocket, and the burial that have been recorded locally in archaeological excavations and surveys.

The soil depths of Dyckman's Meadow documented on a 1904 contour map and compared with calculated depths to bedrock (see Appendix A) suggest an average of about 5-6 ft., but with a range of no soil at all above rock outcrops to places with 20 ft. of covering soil. This latter depth was found where an unexplained sub-surface anomaly exists, and is therefore an area that needs to be explored archaeologically through testing (see Sections 3 and 4).

Beginning late in the 19th century and continuing early into the 20th, many archaeological investigations local to the site area were conducted mainly by Reginald Bolton, W.E. Calver, and Alanson Skinner. Sites were located on the northern part of_the_Dyckman property and extended south to near Dyckman Street. In_all, eight major finds are relevant to this evaluation.

At no site was there any evidence for Indian-built dwellings or structures. Instead, here as in other parts of Manhattan (Baugher-Perlin et al 1982:11), oyster shell pockets or heaps were the most visible form these sites took. Many refuse and burial pits (sometimes the former used as the latter), and hearths were also excavated. In addition, as mentioned above, three excavated rockshelters or caves, one of them occupied the others storage areas, are preserved in Inwood Park (see Fig. 6 for the location and description of sites).

Of the eight sites, the most immediate to the project area was described as being located at 220 Street west of Kingsbridge Road (now Broadway), and, therefore, theoretically located on the Community Hospital site. In fact, this find, which was among the first recorded in Manhattan (Skinner 1909:49), was probably located just north of the site along what became the south bank of the Ship Canal. Described in 1886, the densely packed shell heap and associated pottery fragments and an arrow point were apparently destroyed during the construction of the canal sometime between 1888 and 1895.

Most of the archaeological deposits located in the project area were discovered during road grading or other construction activities. The most extensive site was known as early as 1890 but-not-actually_exposed-until-1904 when Seaman Avenue was being improved (Skinner 1909:50-51, 57-61). Here, excavation that

- 1 <u>Ship Canal Site</u>. Located at about 220 Street, west of Broadway, (probably north of this), just north of the Community Hospital site. Investigated 1886, but not fully excavated. Densely packed shells, Indian pottery fragments and an arrowpoint; probably destroyed during building of the canal, 1888-1895.
- 2 <u>Seaman Avenue Site</u>. From Seaman Avenue to Cooper Street, off Academy Street. Extensive site; Indian and dog burials, Indian hearths and shell pockets, Revolutionary War hearth sites and huts. First known in 1890s; exposed during street grading in 1904.
- 3 <u>Cold Spring Rockshelters</u>. Northwest end of Manhattan Island on south shore of Spuyten Duyvil Creek. Three excavated rockshelters (one an occupation site, two storage) and three refuse heaps.
- 4 <u>Inwood Station (Tubby Hook)</u>. Dyckman Street and the Hudson River. Shell midden with associated arrow points, Indian pottery, Revolutionary War material.
- 5 <u>Harlem River Deposit</u>. 209-211 Streets, in a line with Ninth Avenue. Red oyster shell (?), hammerstones, sinkers, animal bones, but mixed with glass. Either a post-contact deposit or an earlier deposit disturbed in historic times.
- 6,7 Isham Park.
 - 6 South side of Park, on a line with Isham Street and Seaman Avenue. Shell fragments, arrow points, flint chips, hammerstones, sinkers, and pottery fragments. Indian and dog burials.
 - 7 Shell heaps with stone chips and pottery fragments and shell pockets. Disturbed during grading of 218th Street on the north side of the park.
- 8 <u>210-211 Street (and Tenth Avenue)</u>. Slave burial ground with shell pockets under graves (originally thought to be Indian burial ground. Discovered during grading of Tenth Avenue in 1903. Dog burial, snake skeletons, turtle shell, a pottery vessel. Small shell pockets about 3 ft. in diameter with charcoal scattered among the shells.

Sources: Skinner 1909:53-61; Smith 1950:172-173; Bolton 1922:81-86

COMMUNITY HOSPITAL SITE: Key to Fig. 6



(detail based on 1982 Sectional Maps of N.Y.C., Department of City Planning)

approximate location of the Community Hospital Site

Community Hospital Site

Fig. 6. COMMUNITY HOSPITAL SITE:

Approximate Location and Descriptions of Eight Local Archaeological Sites

0

1000 ft.

continued on and off for over thirty years not only produced shell pits and pockets, the graves of male and female Indians, and dog burials, but also Revolutionary War refuse, hearths, and huts (Fig. 7) (for example see Skinner 1909:50-51; Smith 1950:172-173; see also Bolton 1916 for a discussion of local Revolutionary War activities).

The early interpretation of the Indian component of this site was that it represented an example of a village occupation (Bolton 1922:81-86); yet, there is no evidence for the permanent structures usually associated with this kind of settlement. This brings us to a brief discussion of the theoretical framework for the current interpretation of the sites that have been or may be found in upper Manhattan.

Contrary to some early analyses (for example, see Bolton 1924:2-3), the Indians who created the cultural deposits discussed here are in fact unidentifiable. Moreover, rather than indicating long-term occupations, their sites suggest that they were quite transient. $\frac{\omega k_{\mu}}{2}$?

Early historians and archaeologists often attempted classifications on the basis of historic information, but today many anthropologists and historians agree that the social organization recorded by early observers--the tribes, the chieftancies-actually reflect the mind set of the recorder rather than the recorded. There are many who feel there were neither formal tibes nor ruling chiefs until the European system of king and subject was imposed, or imposed itself, on the aboriginal lifeway (see for example Fried 1975). Moreover, the permanent villages or but there are other. Scholaro who feel the evact opporte. This doesn't fit pre-contact Missingerplan cultures or Troquois or Huson.



LOCATION OF BURALS, PITS AND SHELL-BEDS NEAR INWOOD.

1. Human remains. 2. Shell pit. deer antler. 3. Shell pit. 4. Shell pit. pottery. 5. Shell pits. 6. Shell pit, sturgeon below, 7. Shell pit, sturgeon scales. S. 9. Shell pits. 10. Human remains. 11. Fire pit. 12. Shell pit. 13. Dog burial. puppy. 14. Shell pit. 15. Part of a jar. 16. Shell pit. fish and meat bones. 17. Shell pits. 18. Two dogs in shell pit. 19. Human skeleton. 1907. 19a. Female skeleton. 1908. 20. Human remains when house was built. 21. Small fire pits. Revolutionary. 22. Large shell pit. 23. Large shell pit. 24. Shell pit. 25. Dog burial. 26. 27. 28. Shell pits. 31. Skeleton and infant. female. 30. Revolutionary fireplace "Royal Marines" and "17th." 31. Skeleton and infant. female. 32. Skeleton Chenoweth. 1908. 33. Revolutionary fireplaces. R3. Revolutionary shell.

Skinner 1909:59

Fig. 7. COMMUNITY HOSPITAL SITE: Map of the Seaman Avenue Site, Inwood

settlements.observed in the 17th century may have been the effect of a century or more of European trade in furs and wampum that occurred in Canada and affected the local Indian economy prior to actual European settlement in the New York City area (see Ceci 1977). In addition, there were many early scholars who believed, as do many current scholars, that Manhattan Island was never the location of truly permanent settlements, but merely of burial grounds and seasonally occupied camps (for example, *que of the eramples* see Skinner 1909:52). Unfortunately, accurate dating techniques were unknown when upper Manhattan sites were being excavated and therefore dates and lengths of occupation are only estimations based on the kind of artifacts recovered.

Consequently, for this analysis and assessment, it is assumed that the Indian occupations that are documented locally and may be preserved at the Community Hospital site were left by what would broadly be classified as Coastal AlgonKians: what obout hundrug & farming? Coastal for their lifeway of fish and shellfish/gathering, and Algonkian for their language group. Given the information gathered here, no permanent settlements are anticipated on the Community Hospital site.

Settlement and Site Development

Preservation of any archaeological deposits at the proposed Community Hospital site depends in part on the history of its settlement and development. Consequently, to aid in the assessment of the site's archaeological potential, the development of the Baker Field tract of the land and its ownership history have been reconstructed. Also considered were the effects of activities such as marble quarrying or the creation of the Baker Field

athletic facility.

For almost two centuries, beginning in 1677, the acreage that included the Community Hospital site was owned but undeveloped. Apparently it first belonged to a Johannes Vermilye and then to a Jan Nagel. By 1690, with marriage to the widow of his associate, Jan Nagel, it had become the property of Jan Dyckman (Bolton 1924:185). At the time of his death in 1715, Dyckman had acquired more than 300 acres in upper Manhattan (see Plate 3).

Although this and other property stayed in the Dyckman family for generations, it was not until Isaac Dyckman, Jan's great, great grandson, left the property to his nephew in 1868 that what was to become the Baker Field tract was finally developed. At this time, a 17-room mansion and associated outbuildings, including a stable, a greenhouse, sheds, barns, and a lodge were built by Isaac Michael Dyckman for his bride, and cousin, Fannie Brown (see Fig. 4, Plates 4,5). The history of this inheritance is interesting and explains how a sixth-generation Dyckman came to develop the land.

When Isaac Dyckman made his will in 1864, he left a major portion of his extensive property to his nephew, James T.H. [sic?] Smith (Liber of Wills, hereafter LW, 177:113). The son of Dyckman's sister Hannah, James (who is also recorded as James "F.D." and "F.H." Smith) had lived with his unmarried uncles, Isaac and Michael, since childhood (Tieck 1968:129). In order to inherit the principal part of his uncle's estate, James had to agree to change his name to Isaac Michael Dyckman within



I

Plate 3. Restored Dyckman house located on the northwest corner of Broadway and 204th Street, once part of a 300-acre Dyckman holding. Built around 1783 by William Dyckman, a third-generation member of the family, it is the oldest farmhouse still standing in Manhattan. (Photo taken July 5, 1984).



I

Plate 4. The Isaac Michael Dyckman mansion and estate seen from the south. This undated engraving appears to represent an idealized version of the house and grounds (for example, the greenhouse to the right was actually behind the house, and the grandeur of the approach seems exaggerated [compare with estate map shown in Fig. 4 and with the photo below]). The rendering is interesting for its view of the hill which leads to the proposed Community Hospital site (from Tieck 1968:130)



Plate 5. Undated photo of the Isaac Michael Dyckman house at 218th Street and Kingsbridge Road, now Broadway. The house was demolished in 1949 or 1950 to make way for the current Baker Field field house (see Plate 12). (from the Baker Field file, the Columbiana Collection, Low Library) one year of Isaac's death (LW 177:113 ff). This he apparently did and, in 1868, construction began on the manor house for his new bride (Tieck 1968:129).

Consequently, this part of the Dyckman property not only remained in the family for a sixth generation, but its owner perpetuated the names of both his uncles. Conceivably, had he a son, the family name also could have continued through his line; however, the Dyckmans had two daughters, and the Dyckman holding and name dissipated with Isaac Michael's death in 1899.

It appears that sometime before his death, Dyckman, who is listed in the 1889-1890 New York Directory as dealing in real estate in downtown Manhattan, divided his time between his Kingsbridge Road estate and a house on east 71st Street. Just before his death, his daughter Fannie and her husband James M. Welch, an architect, were living in the downtown house with her parents (New York Directory 1898-1899). Since Dyckman's widow is never listed in the directories, it appears that she continued to live with her daughter and son-in-law on East 71st Street until her own death in 1914. In 1904, she disposed of her husband's estate (Liber of Deeds, hereafter LD, 18:190). At this time, a newspaper article tells of plans for turning the entire uptown property into an amusement park called "Wonderland", a park to equal Coney Island or Rockaway Beach. Its attractiveness as a park site included the accessibility and water view acquired with the opening of the U.S. Ship Canal in 1895 (anon. 1904).

This canal which made the property attractive to developers, seems to have been either the cause or the effect of the family

dividing its time between the uptown and midtown properties. And in his lifetime, Dyckman apparently rented the government space on his property for a large rock spoil heap (see Fig. 4). It would appear that a commercial concern may once again have affected the development of the tract. It would also appear that the seven years of blasting and dredging for the canal, literally in the backyard of the manor house, would have made it difficult to live there (for a history of the construction of the canal, see Hermalyn 1983).

However, the first commercial venture involving this part of the Dyckman property predates Isaac Michael's ownership; it goes back to the beginning of the 18th century when, in 1817, John and Curtis Bolton acquired the property just north of the Dyckman holding. This included the ravine that ultimately formed the channel of the U.S. Ship Canal and the two spring-fed streams that originally ran there. These wealthy brothers, known for their entrepreneurial activities, built houses and a marblecutting mill in the ravine (Plate 6) and created a tidal canal to power the waterwheel for the mill (see previous seciton). They also appear to have begun or to have instigated local marble quarrying. From information found on old maps and in the literature, it appears that the Dyckman family participated in this activity, opening quarry pits on their then undeveloped property.

A map reconstructing the site area (Fig. 8) indicates that by 1819 a quarry was located in the northeast corner of the property, and, therefore, in the northeast corner of the proposed Community Hospital site. Other mid-19th century maps verify



Plate 6. This 1857 photo (original in the collection of the New York Historical Society) documents the marble-cutting mill built by the Bolton brothers in 1817. The ravine, which was located just north of what became Baker Field, and the mill were impacted when the U.S. Ship Canal was created between 1888 and 1895. The tidal mill stream created by the Boltons to power the waterwheel for the mill can be seen in the foreground of the picture (from Bolton 1924:between pages 188 and 189)



Area (compiled 1906/1912)

.

or imply this, and an 1845 map documents quarrying along the west side of Broadway, then Kingsbridge Road (see Plates 7, 8); an earlier map indicates that a quarry was also located in the southwest part of the property, out of the immediate project area (Colton 1841). Oddly enough, a map of the Baker Field property from 1923, which shows the quarry and the later rock-spoil pile in the southwest corner of the property (Fig. 9), as well as the proposed athletic fields, does not record the Broadway-quarry that was supposedly visible as late as the 1920s (Tieck 1968:129).

Less devastating then the quarrying and canal building that were to come in the 19th century, but nonetheless potentially destructive to early and ephemeral deposits, would be any Revolutionary War activities that occurred on the property. In addition, these activities themselves would have created archaeologically sensitive resources.

Reconstructed maps suggest that wartime activites may have taken place on or near this part of the Dyckman property. Since these activities are not well documented, nor perhaps are they as extensive as the British hut-camp located on other Dyckman land to the south (Bolton 1916:143-185), just what form these activities may have taken remains an unknown. However, it is conceivable that a British or Hessian camp was located on the property (see Plate 9), again perhaps taking advantage of the high ground and fresh water that were then available.

It is apparent from the information presented here that, over time, the Dyckman property was subjected to increasingly intensive land-altering activities. Beginning with possible



3023

Plate 7. 1845 Ensign map documents marble quarries (arrow) along the western side of what is now Broadway, extending through the project area (from the Map Room of the N.Y.P.L) (detail)

N

Plate 8. detail of an unpublished map created in 1860 by Frederick Law Olmstead. It depicts a deep gully or ravine in the northeast corner of the Dyckman property south of the early canal(arrow). It is possible that this unidentified depression is the location of a quarry (from the Map Room of the N.Y.P.L.)



from the Baker Field file, the Columbiana Collection, Low Library

Fig. 9. COMMUNITY HOSPITAL SITE: Map of Proposed Athletic Fields at Baker Field, 1923 (note topographic features such as quarry, ravine, and rock spoil heap) another quarry, beleived to have been located in the northeast corner of the field, is not indicated on this map.)



Plate 9. This detail from a map in the 1861 Valentine's Manual indicates that a British or Hessian camp was in the site area; probably, it is Cock's Hill (now Inwood Hill) to the west of the project area that is shown here (arrow), but it is conceivable that more ephemeral Revolutionary War camps may have been located on the site, taking advantage of the good view and fresh water in the area (from the Map Room, N.Y.P.L.) Indian occupation or use and continuing through the Revolutionary War, these activities may have left evidence of the cultural resources of interest in this evaluation. However, by the 19th century, economic considerations apparently governed the use of the land, with canal-building and quarrying disturbing many sections of the property. In 1868, these commercial activities temporarily gave way to the creation of a manorial estate, but three two-story frame houses built along Broadway between 1879 and 1885 may again represent economic considerations.

During construction of the U. S. Ship Canal, Dyckman rented the government space along the western side of his property for storage of the rock spoil created by blasting. This pile must have been quite unsightly since it ultimately measured about 30 ft. in height and 360 ft. in length (see Fig. 4 and Plate 10). Either in anticipation of all this activity, or because of it, as mentioned earlier, the Dyckmans began to live downtown for at least part of the time.

However, although canal-building affected the property's periphery, what never occurred here was the intensive development that took place in the Inwood area during the first three decades of the 20th century (Konheim & Ketcham 1984:53-54). Except for the creation of 218th Street, proposed road-grading, which would have severely disturbed and altered the property, never happened (see Plate 11). The 1921 purchase of what had been the Dyckman property, excluding the house lots of the dwellings along Broadway (Fig. 10), assured that the property would remain relatively intact.



Plate 10. Looking southeast from Marble Hill across the U.S. Ship Canal to the Baker Field site (photo taken sometime before March, 1922). Note the old Broadway Bridge (the second span over the Ship Canal) which was replaced in 1960 by the current bridge (Tieck 1968:139 ; see also Plate 2). The large rock pile on the western part of the Dyckman estate (right arrow) is noteworthy for its size and its proximity to the Dyckman manor house (left arrow) (from the Baker Field file, the Columbiana Collection, Low Library)



Plate 11. The Isaac Michael Dyckman property as it appeared in 1916. Note that planned streets were never cut (from the Surrogates Court, Manhattan)



map from the Baker Field File, the Columbiana Collection, Low Library



Lots not initially acquired with the Baker Field purchase

Fig. 10. COMMUNITY HOSPITAL SITE: The Baker Field Property (or Dyckman Estate), Prior to Acquiring the Building Lots on the Right Side of Property. Note Street Plan (no date, but probably predates 1921)



Plate 12. Demolition of the Dyckman Manor house sometime late in 1949 or early in 1950. The 17-room mansion was built in 1868 and for a time was apparently a Catholic boys' school (Wedge 1945) before becoming the field house for the Baker Field athletic facility in 1922. The demolition made way for the construction of a brick field house which stands on the site today (see Plate 1). (from the Baker Field file, the Columbiana Collection, Low Library)

I

I

As noted earlier, most of the archaeological sites discovered in upper Manhattan were exposed during road-grading. Consequently, while the fact that no roads were built would protect cultural resources, it would also keep those that existed from being discovered.

Almost immediately after George F. Baker, then the 81-year old chairman of the board of the First National Bank of the City of New York, provided the \$700,000 for Columbia University to purchase this land, work was begun to create the school's athletic facility named for its benefactor (see Klapp 1922). Playing and practice fields were planned (see Fig. 9), and soon work was started on a timber stadium that was completed in 1928.

Initially none of these activities involved intensive use of the northeast corner of the property. This was probably because a hill made grading in this area impractical and there was a segment of the property with three houses on it that did not yet belong to Columbia (see Fig. 10) (Bromley 1922:Vol 5 Plate 34). The property also included the Dyckman manor house which Columbia used for many years as its field house (see Plates 4, 5); in 1949 or 1950, this structure was demolished (Plate 12) to be replaced by the brick field house that now stands on the manor house site (see Plate 1).

In the 1960s, alterations occurred that undoutedly affected cultural resources that may be located on the proposed Community Hospital site. This included grading of the hill which may have entailed blasting as well as levelling and filling (Horvath 1984:personal communication). The former activity may

have destroyed cultural resources, while the latter would have protected them.

Recently, the protective nature of fill has been documented at many archaeological sites. (For example, at the Cooper chair factory site in Bergenfield, New Jersey, three to four feet of dense fill covered and protected the factory's foundation for over seventy years [Geismar 1984]). The depth of the fill in the project area appears to range from less than a foot to almost 40 ft. (this last depth was found in the area of the suspected quarry in the northeast corner of the site; see Appendix A). Conceivably, based on the information presented here, cultural resources throughout the site may be protected by this fill.

Field data from sub-surface testing that corroborates and expands this assessment will be found in the following section.

Section 3. CORING DATA

I am grateful to Dr. John S. Horvath of Woodward-Clyde Consultants, Inc., the project's consulting engineers, for making available core data from the proposed Community Hospital site. These data included preliminary log descriptions and information about current ground elevations and depth of bedrock. In addition, access was given to soil samples stored at Woodward-Clyde's Clifton, New Jersey, laboratory. These data provided information about sub-surface conditions that proved invaluable in assessing the archaeological potential of the project area. The data also suggest that additional coring would be a viable method for testing this potential.

Sampling Procedures and Analysis.

A truck-mounted drill rig was used to obtain soil samples and bedrock cores from thirty-seven locations west of Broadway (three additional cores from locations east of Broadway are not considered here). Sampling was done in two episodes: the first in November, 1982, comprised nineteen borings; the second in May, 1984, comprised eighteen.

The cores were drilled by Warren George, Inc., using a 2-in. O.D. split spoon sampler (yielding a 1 3/8 in. diameter core) driven by a 300-pound hammer (see Plates 13, 14, 15). With only one exception, 2-ft. samples in fill were obtained at 5-ft. increments (the exception was at B27 where 2-ft. increments were used [see below]). Test borings were drilled to bedrock, and rock was cored for at least 10 ft. in each hole. Using core barrels of 5- and 10-ft. lengths, rock cores were obtained with diamond core bits and NX Double Tube core barrels



Plate 13. Truck-mounted drill rig (Warren George) at Baker Field, May 22, 1984. Location is at B25



Plate 14. 300-pound hammer used to drive the casing during the sampling process. Baker Field, May 22, 1984. Location is at B25



Plate 15. Rock core samples from B25. Twenty-five feet of bedrock (Inwood Marble) was cored and saved. Baker Field, May 23, 1984

(Woodward-Clyde 1983:4; Horvath 1984:personal communication). Although several tests were run on the retained soil and rock samples, for the purpose of this archaeological assessment it was mainly the soil description, the contents of the soil samples, and the recorded depth of bedrock that was considered.

One hundred and thirty-four samples obtained above bedrock were logged in the testing process; of these, 133 were retained in glass jars and available for examination. These samples were laid out on a glass surface in the laboratory and examined for artifactual material. In addition to the laboratory analysis, since the second testing episode occurred when the archaeological assessment was a consideration, several on-site visits were possible. At this time, one attempt was made to recover archaeological data through coring.

Information from 19th-century atlases revealed that sometime between 1879 and 1885 a two-story frame dwelling was built along Broadway, and calculations indicated that core B27, which was yet to be drilled, might be located on the site of this structure. Consequently, as noted above, samples from this core were obtained at 2-ft. rather than 5-ft. intervals, but no evidence for the building was found. (Subsequent information in the form of the detailed topographic map of the Dyckman estate (see Fig. 11) indicates that the building was probably located about 15 ft. north of B27.)

Laboratory examination of the retained soil samples suggested that three of them contained cultural material; this took the form of shell and charcoal, a bone fragment, and ashy sand. Moreover, fill and bedrock information from the cores



compared with ground elevations found on the 1904 topographic map indicate a sub-surface anomaly.

This anomaly, which was first called to my attention by Dr. John Horvath, appears to run along the west side of the project area, involving borings B2, B5, B6, B10, B11, B21, and B36 (Fig. 12). (Three cores from the east side of project area were also anomalous but are not considered here since this part of the site is known historically to have been altered extensively; however, the western anomaly cannot be explained by any known historic activity.)

Soil data from these cores reveal that fill was minimally 8 ft. deeper than expected in an area that was at least 240 ft. long, and conceivably longer (see Table 1 and Appendix A). Refining this assessment to include only the deepest anomalous fills narrows the width of the anomaly, concentrating it between the locations of B21, B10, B6, and B5 (Fig. 12); however, the length of the anomaly remained the same, implying that it continued south of the test area (the embankment for the U.S. Ship Canal is just to the north). The deepest fill in the anomalous area occurred at B6. Here an unidentified bone fragment, found under a boulder that apparently defined the ground elevation prior to recent land alterations on Baker Field, conceivably represents a cultural deposit. However, Mica schist fragments just above bedrock in this core suggest that a man-made fill (perhaps incorporating the bone fragment) may be involved (Horvath 1984:personal communication), but this remains to be tested.



60 ft.

0

Boring #	Boring Location	Expected Fill Depth	Actual Fill Depth	Discrepency of Fill Depth	Presence of Cultural Material
B2 [.] §	W	18.5	28.0	10.0	-
в5 ·†	W	10.5	24.0	13.5	1
B6 †	W	8.9	29.5	20.6	√
B10†	W	5,0	18.5	13.5	-
B11§	W	5.2	15.5	10.3	_
B14	Е	13.6	24.0	10.4	-
B19	E	2.9	12.0	9.1	-
B21†	W.	14.8	28.0	13.2	-
B28	Е	19.0	28.0	9.0	_
в 3 6 §	W	12.4	20.5	8.1	-

* W=west, E=east

all measurements in feet

data from Appendix A

§ anomalous filludepth; greater than 8 ft. (anomaly, west side of site)

t anomalous fill depth, greater than 10 ft. (anomaly, west side of site)

Table 1. COMMUNITY HOSPITAL SITE: Fill Data Relevant to Sub-Surface Anomaly A sample from B5, also in the anomalous area, produced fragments of shell and charcoal, again from what appears to be just under the original ground surface (the presence of shell was confirmed through testing with hydrochloric acid [HCl]). A few small fragments of what may be brick were also found in this sample. These could conceivably represent contamination from the recent fill above, or they could indicate that the shell deposit is historic, perhaps from the Revolutionary War period. On the other hand, they also could indicate a sample of modern fill, but the association with shell and charcoal makes this unlikely.

Problems

Although the information from cores has proved invaluable, there have been limitations to its usefulness. Primarily among these are the small diameter of the core and the fact that there are 5-ft. intervals where no sample is obtained.

The sampler's small diameter obviously limits the type and size of the sample that can be recovered. For example, when standard coring was used to test a known shell heap, or midden, on Long Island, large shells that could not fit in the sampler were found to be pushed aside in the process, giving no evidence of their presence (Johanaman 1984). Therefore, for the purposes of an archaeological evaluation, a larger diameter sampler would be more appropriate as would a more consecutive recovery.

Another problem, for which there is no easy solution, concerns sample contamination. A sample may contain material from a higher level that has been inadvertently introduced to a deeper sample. To avoid misinterpretation, the first several inches of a 2-ft. sample are not retained. However, at the Community Hospital site, where samples were often small, the contamination factor is an unknown. An example of the problem may be illustrated by the brick fragments in the sample from B5 that contained shell and charcoal (sample 5). Just what part of the sample the brick came from is unknown and, therefore, if it is contamination from a higher, modern fill is also unknown. Results

Despite the fact that core samples came from locations chosen solely for the engineering data they could provide, and despite some obvious interpretive limitations, the information from the samples proved invaluable in making an assessment of the site's cultural resource potential. Of the thirty-seven cores, three appear to have produced evidence of cultural resources. As noted previously, the form this evidence took was a shell and charcoal deposit, a bone fragment, and ashy sand. Based on the information from these cores, it is anticipated that additional sampling guided by archaeological considerations will provide data with which to better evaluate the site's archaeological potential.

In addition to the possible cultural material found in the cores, an important aspect of the decision to test further was based on the reconstruction of past soil depths, a reconstruction made possible by core-derived bedrock data compared with current elevations and those found on a 1904 contour map of the Dyckman estate. Calculations from these data indicate that soil depths in 1904 varied from none, at apparent rock outcrops, to 20 ft. in the western part of the site where an anomalous fill depth was suggested (see Appendix A).

Since the kind of archaeological deposit that might be found would be governed to a degree by the depth of soil (obviously there could be no deposit where there is no soil and a storage pit or shell heap could be found where there is), this information pinpointed areas of potential archaeological concern. It also indicated that the original ground surface is detectable and that underlying deposits that might offer information about cultural activities can be recovered. Moreover, it eliminated some locations from consideration by identifying the sole presence of modern fills.

Not only does the western portion of the site appear the most likely area for the location of cultural deposits based on the depth of soil, it also appears to be the area that was least drastically altered over time. Consequently, with the exception of an ashy sand deposit at B18 that was located on the northeastern side of a hill just under the original ground surface, and the area just north of B27 that was the site of a late-19th century structure (see Fig. 11), it appears that the western part of the site is where preservation of archaeological material is most likely to occur.

Given the information presented here, it is apparent that further testing at appropriate locations undertaken with appropriate procedures would prove invaluable in assessing the site's archaeological potential (see Section 4 for recommendations and procedures). In addition, it is a method that is minimally destructive to the functioning of Baker Field. Since

the data recovered from cores drilled for engineering purposes were found to be essential in evaluating the site's archaeological potential, it is anticipated that the recommended cores obtained specifically for archaeological testing will refine what is already known and will be even more useful.

Section 4. <u>SUMMARY AND RECOMMENDATIONS</u>

Summary

The information presented in this report indicates that the proposed Community Hospital site is potentially sensitive archaeologically. Its proximity to fresh water, its situation for stalking game, its location near a major Indian pathway to the east (with a branch-path possibly crossing the site itself), and rock shelters and caves to the west all suggest that it would have been actively used in prehistoric and early historic times. In addition, salt marshes east and west of the site, as well as the oyster beds of the Hudson and Harlem Rivers, would have made this area attractive to Manhattan's hunting and gathering Indians. However, just exactly how and to what degree it was used is currently unknown.

At least eight archaeological sites are documented in the vicinity of the project area, and the shell pits and pockets, the hearths, and the burials found at these sites attest to the utilization of the area by prehistoric and early historic Indians as well as soldiers of the Revolutionary War. Consequently, the potential for preservation of similar resources has been a major consideration in the evaluation of the archaeological potential of the Community Hospital site.

The 28 acres that were to become the Baker Field Athletic facility for Columbia University were virtually unaffected by urban development. Instead, in the 19th century, quarrying, the construction of the U.S. Ship Canal, development as a manorial estate, and the construction of three peripheral two-story dwellings, one of them in the site area, were the activities that would have affected the preservation of archaeological resources. In the 20th century, the creation of the Baker Field facility would have been the major factor.

Since roads were never cut or graded across the tract, and since development specific to the Community Hospital site was limited to a two-story frame house, archaeological deposits conceivably could be found intact on at least part of the site. However, an important consideration is the creation in the 1920s of playing and practice fields, a stadium, and, more recently, a plateau along Broadway. This construction would have adversely affected some of the cultural resources located in the site area, but it would have preserved others under fill.

Deep fills found in cores obtained from the Broadway, or east, side of the site attest to 19th-century quarrying activities that would have obliterated archaeological resources. The leveling of a hilltop, in the 1960s, apparently through blasting, that is documented in the core data (see Appendix A), also would have been destructive to these resources. However, evidence of shallower fills in the site's western section suggest that this area is more likely to have preserved archaeological deposits, an assessment based on the recovery of possible cultural material (a sample of shell and charcoal, and another containing a bone fragment) during initial coring. In addition, this is where an unexplained sub-surface rock and fill anomaly warranting investigation apparently exists.

Recommendations

Based on these data, testing designed to assess the presence and preservation of archaeological deposits is recommended as a second phase of the investigation. To obtain the most effective information in the least amount of time with minimal disruption to Baker Field's activities, coring is recommended for this phase of testing. In all, eight cores are suggested.

Initially, four cores will be located close to previous cores B5, B6, B18, and B27. In the field, the location of four additional cores will be selected based on the information recovered from the first four cores. Of particular interest in this testing phase is the area of the subsurface anomaly which appears to be a trough or crevice in the bedrock that, given the shell, charcoal, and bone found in previous core samples (B5, B6), was perhaps an area of cultural activity. It is expected that the four additional cores will be located in this area, but this remains to be seen.

Core samples will be obtained using the largest diameter sampler feasible, in this case a $3^{1}/_{2}$ -in O.D. split spoon sampler yielding a 2-in. core. To provide the most complete sample possible, sampling will be done in 2-ft. increments at 2-ft. intervals. All cores will be run 5 ft. into rock to assure that bedrock and not a boulder has been encountered.

Using quarter-inch. mesh, samples will be water-screened as they are recovered. This will determine the nature of the fill and of any cultural material that may be recovered in the

samples. Because of the screening, it is expected that no samples will be retained, but they will be described in the field. Any artifactual material will be bagged by sample and retained for analysis.

Should the testing described here indicate the presence of preserved cultural deposits, a field strategy entailing excavation by archaeologists will be recommended. Should this next phase of the investigation be necessary, every attempt will be made to have it completed by the time construction of the hospital is scheduled to begin (as of this writing, December, 1984). Again depending on the results of testing, should it be deemed appropriate or necessary; archaeological monitoring during the first phases of the deep construction excavation may be recommended instead of, or in addition to, the excavation mentioned above.

A report on the results of the recommended testing will be prepared upon completion of this phase.

	CHUIX								
Boring #	Present Elevation	Original Elevation (1904 Estate Map)	<pre># of Samples to Bedrock</pre>	Fill Depth (+/- Relative to Orig. Elev.)	Depth of Bed- Rock below Current Ground Surface	Current Bed- Rock Elevation	Depth of Bed- Rock Relative to Original Ground Elevation	General Location*	Remarks
<u> </u>	51.5	30.0	5	+21.5	23.0	28.5	1.5	W	old elevation almost at bedrock
/ 2	52.0	34.0	6	+18.0	28.0	24.0	10.0	W	
3	52.6	.46.0	1	+ 6.6	5.0	47.6	1.6	CE	old elevation almost at bedrock
4	52.5	36.0	4	+16.5	17.0	35.5	0.5	Е	•
√/ <u>5</u>	51.5	. 41.0	5	+10:5	24.0	27.5	13.5	W	west side of hill; shell & charcoal frags (and some tiny brick frags) just below apparent old surface
116	51 0	43.0	5	+ 8.9	29.5	22.4	20.6	W	bone frag under boulder at old surface
7	52.9	42 0	· 3	+10.2	15.0	37.2	4.0	CE	
ģ	52.2 52 A	42.0	2	+11.4	9.0	43.4	old surface	CE	location of old surface an estimation
G	51 5	30.0	5	+21.5	24.0	27.5	2.5	Е	
V/10	52.0	47.0	4	+ 5.0	18.5	33.5	13.5	W	
111	52.2	47.0	4	+ 5.2	15.5	36.7	10.3		
12	52.4	50.0	2	+ 2.4	8.5	43.9	6.1	С	
13	52.5	49.0	2	+ 3.5	5.5	47.0	2.0	С	
14	51.6	38.0	5λ	+13.6	24.0	27.6	10.4	E	,
15	52.0	55.0	1	- 3.0	5.0	47.0	8.0	W	<pre>1904 surface leveled; rock-blasting?</pre>
• 16	52.4	54.0	2	- 1.6	2.5	49.9	4.1	· C	1904 surface leveled; rock-blasting?
17	52.7	53.0	1	- 0.3	1.5	51.2	1.8	С	appears to be at 1904 surface
18	52.7	54.0	1	- 1.3	3.5	49,2	4.8	CE	ashy sand; leveledashy sand may be an old deposit
√ 19	51.9	49.0	3	+ 2.9	12.0	39.9	9.1	E	
20	51.7	36.0	5	+15.7	20.3	31.4	4.6	W	bottle glass noted just above bedrock
√⁄21	51.8	37.0	6	+14.8	28.0	23.8	13.2	W	what should be old surface included glass and anthracite
22	52.1	44.0	3	+ 8.1	14.0	38.1	5,9	, C	bedreath an ann an an '
23	52.9	43.0	2	+ 9.9	9.5	43.4	old surface		Dedrock at old surface
24	49.8	13.0	8	+36.8	35.0	14.8	old surface	6 E	approximate depth of old surface and bedrock
25	52.2	12.0	5	+40.2	40.0	12.2	old surface	e 12 12	approximate depth of old surface and bedrock
26	49.5	19.0	6	+30.5	31.3	18.2	old surface	5 E	approximate depth of old surface and bedrock
<u>27</u>	50.7	27.0	101	+23.7	29.5	21.2	5.8	E	vicinity of face face-century dwelling
28	44.0	25.0	6	+19.0	28.0	16.0	9.0	E P	
29	51.4	47.0	2	+ 4.4	5			CP	1904 gymfaco lovolodo robk blasting?
30	. 52.3	55.0	3	- 2.7	8.5	43.8	11.4		

Appendix A COMMUNITY HOSPITAL SITE Surface Elevations and Bedrock Depths, Comparison of 1904 and Current Data

4

(continues)

Appendix A COMMUNITY HOSPITAL SITE (continued)

Boring #	Present Elevation	Original Elevation (1904 Estate Map)	# of Samples to Bedwork	Fill Depth (+/- Relative	to Orig. Elev. Depth of Bed- Rock below Current Ground	Surface Current Bed- Rock Elevation	Depth of Bed- Rock Relative to Original Ground Elevation	General Location*	Remarks
31	53.1	59.0	2	- 5.9	5.0	48.1	10.9	- <u>c</u>	
32	53.4	61.0	1	- 7.6	4.5	48.9	12.1	С	
33	53.1	63.00	1	- 9.9	5.0	48.1	14.9	CW	
34	52.9	59.0	1	- 6.1	2.3	50.6	8.4	CW	
35	51.8	49.0	3	+ 1.9	10.2 (7) 41.6	8.3	W	
√36	51.4	39.0	5	+12.4	20.5	30.9	8.1	W	
37	52.9	50.0	1	- 2.9	2.3	50.6	old surface	С	bedrock at old surface

¹ Modern elevations and bedrock depths were determined from preliminary boring logs generously provided by Woodward-Clyde Consultants, Inc. (1983-1984 boring information); early data were taken from a 1904 map of the Isaac Michael Dyckman Estate located at the Office of the President, Borough of Manhattan, Topographic Bureau. I am grateful to Dr. John S. Horvath for the former information and to Mr. Harry Kleiderman for the latter.

 \checkmark anomalous depth (8 ft. or more) \checkmark anomalous depth (13 ft. or more)

* Location: E=east; W=west; C=center; CE=center east; CW=center west

 λ i sample not available \dagger samples taken at 2 rather than 5 ft. increments $\frac{5}{2}$ no rock data available

Note: elevations and depths given in feet and tenths of feet; underlined (--) boring numbers indicate sensitive areas requiring additional investigation or testing.

BIBLIOGRAPHY

Abbreviations

LD	Liber of Deeds	Surrogates Court, 32 Chambers Street, New York, N	N. Y.
LW	Liber of Wills	Surrogates Court, 32 Chambers Street, New York, N	N. TY.

References Cited

anon.

1904 To build a wonderland on the upper Harlem. <u>New York Times</u>. November, 1904. Baker Field file, Columbiana Collection, Low Library, Columbia University.

anon.

- 1923 Map of proposed athletic fields at Baker Field. Baker Field file, Columbiana Collection, Low Library, Columbia University.
- Baugher-Perlin, Sherene, Meta Janowitz, Marc Kodack, and Kate Morgan. 1982 Towards an archaeological predictive model for Manhattan: a pilot study. Ms. New York City Landmarks Preservation Commission.

Bolton, Reginald Pelham

- 1916 <u>Relics of the Revolution</u>: the story of the discovery of the buried remains of military life in forts and camps on Manhattan island. Privately published, N. Y.
 - 1922 Indian paths in the great metropolis . Indian Notes and Monographs. The Museum of the American Indian, Heye Foundation, N. Y.
 - 1924 Washington Heights, Manhattan, its eventful past. Dyckman Institute, N. Y.

Bromley, G.W. 1922

1

Atlas of the City of New York, Borough of Manhattan, Vol. 5. Map Room, New York Public Library.

Ceci, Lynn 1977

The effect of European contact and trade on the settlement pattern of Indians in coastal New York. Ph.D. thesis. University Microfilms, Ann Arbor.

Colton, J. H.

- 1841 <u>Topographical map of the City and County of New York and the adjacent country</u>. (Dated 1836, but I. N. P. Stokes notes that it was revised in 1840 and published in 1841). Map Room, New York Public Library.
- Ensign, T. and E. H. 1845 <u>City of New York</u>. Map Room, New York Public Library.

- Fried, Morton H. 1975 The notion of tribe. Cummings Publishing Co., Menlo Park.
- Geismar, Joan H.

1983 Archaeological mitigation of the T. R. Cooper chair factory, Bergenfield, New Jersey. Report prepared for the Community Development Program, Bergen County, N. J.

- Hermalyn, Gary
 - 1983 The Harlem River Ship Canal. <u>The Bronx County Historical</u> Society Journal 20 (1):1-23.
- Horvath, John
 - 1984 Personal communication. Woodward-Clyde, Consultants, Inc., 1250 Broadway, New York, N. Y. 10001.
- Johanaman, Edward

1984 Report on the Cedar Creek site. Talk delivered at the Workshop on Deeply Buried or Inundated Cultural Resources in the New York Metropolitan Area. Organized by Edward Rutsch, P.A.N.Y.C. Sponsered, New York City Landmarks Preservation Commission, May 23, 1984.

- Kelley, Frank Bergen
 - 1909 <u>Historical Guide to the City of New York</u>. Frederick Stokes, N. Y.
- Klapp, Eugene
 - 1922 An athletic center for Columbia University. <u>Columbia Alumni</u> News 13 (24):335-343.
- Konheim & Ketcham

1984 Draft environmental impact statement, Community Hospital, Manhattan, New York. Prepared in behalf of the Presbyterian Hospital in the City of New York.

New York Directories

1868- New York Historical Society, N. Y. 1900

- Olmstead, Frederick Law 1860 Inwood, New York City. Ms. Map Room, New York Public Library.
- Schuberth, Christopher J. 1968 The geology of New York City and its environs. Natural History Press, Garden City.

Skinner, Alanson B. 1909 The Indians of Manhattan island and wicinity. 1961 reprint, I. J. Friedman, Port Washington, N. Y.

Smith, Carlyle S.

1950 The archaeology of coastal New York. <u>Anthropological</u> Papers of the Museum of Natural History 43 (2). Tieck, William A.

1968 Riverdale, Kingsbridge, Spuyten Duyvil, New York City. Fleming H. Revell Co., Old Tappan, N. J.

Valentine, David

1861 <u>November 16, 1776</u>. Reconstruction of attack of Fort Washington by His Majesty's forces under the command of Sir William Howe. Map Room, New York Public Library.

Wedge, Will

1945 Is the manor house haunted? <u>New York Sun</u>, October 31. From the Baker Field file, the Columbiana Collection, Low Library, Columbia University.

Woodward-Clyde, Consultants, Inc.

1983 Initial subsurface investigations for a proposed Community Hospital, New York, New York. Report prepared for the Presbyterian Hospital in the City of New York.