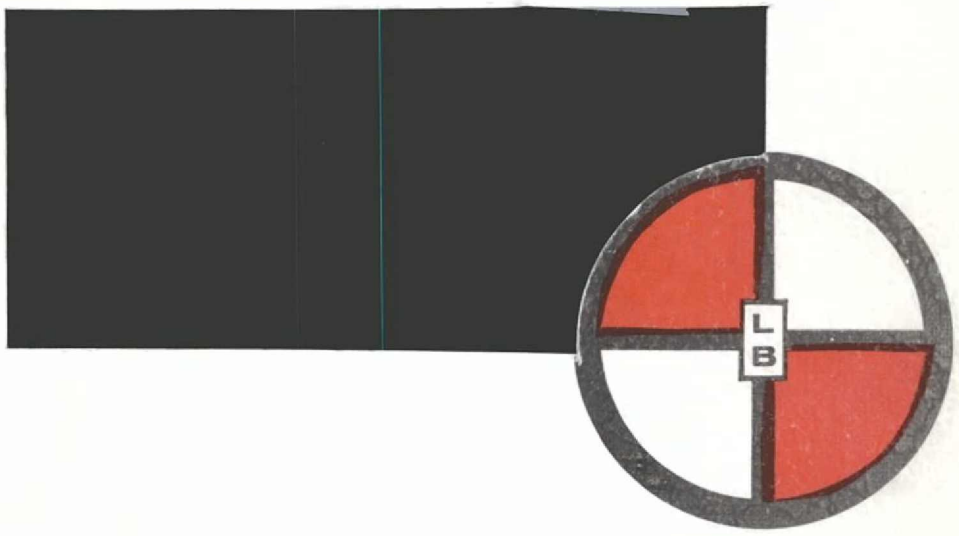

LOUIS BERGER & ASSOCIATES, INC.

100 Halsted Street
East Orange, New Jersey 07019

THE BARCLAYS BANK SITE ARCHAEOLOGICAL TESTING PROGRAM INTERIM REPORT AND PROPOSED DATA RETRIEVAL PROGRAM

FINAL

1984

PREPARED FOR:

LONDON AND LEEDS CORPORATION

PREPARED BY:

THE CULTURAL RESOURCE GROUP
LOUIS BERGER & ASSOCIATES, INC.

April, 1984

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

I. INTRODUCTION

An archaeological testing program took place within the area bounded by Pearl, Water, Wall Streets and the north lot line of Lot 11, Block 31, in lower Manhattan. The project area is known as the Barclays Bank Site, 100 Water Street. Field work began on January 3, 1984 and was concluded on February 6, 1984.

The project was conducted according to criteria set forth by the New York City Landmarks Preservation Commission (LPC), pursuant to stipulations outlined in the Conditional Negative Declaration, CEQR Q83-140M, issued by the New York City Environmental Quality Review, as a result of the potential for archaeological resources. This potential was demonstrated by an archaeological and historical assessment program conducted by the Cultural Resource Group of Louis Berger and Associates, Inc. (LBA) in November 1983. This program was accepted as the first phase of work required in the stipulations of the above-referenced Conditional Negative Declaration. Upon acceptance of the documentary report, a proposal for archaeological testing was submitted to the LPC by LBA on behalf of London and Leeds, the property developer. This proposal was subsequently accepted and became the basis for the ensuing field work.

Based on a preliminary consideration of the history of the site, areas of archaeological sensitivity were identified. Three questions were posed as the basis for assessing the significance of subsurface resources:

1. Can the materials, deposits, and features within the lots be associated with the historical residents of the block?

2. Do different land uses result in different uses of urban spaces? For example, were structures used differently when a lot was employed for domestic purposes as opposed to commercial enterprises? Was the landscape of the lots altered (e.g., filled, leveled) when the character of the lots changed from residential to commercial? Were there changes in the size, orientation, and locations of structures, through time, within lots?

3. Do artifactual materials reflect the change in the character of the block from mixed commercial and residential in the eighteenth century to commercial in the early nineteenth century? Is the transition from merchant/specialist middleman to large-scale warehouse--wholesalers in the 1820s also reflected in recovered materials? Do artifactual assemblages reflect changes in the block's socioeconomic character from upper/middle economic levels in the eighteenth century to a decline in the economic status of the block's inhabitants in the nineteenth century?

In addition, the technology and chronology of the landfill (c. 1694-1702) and the reconstruction of the original configuration of the shore line were considered significant factors. In order to assess the significance of landfill, a fourth question was formulated:

4. What is the depth of the landfill? How does this vary within the site? What is the nature of the cribbing structures present in the fill? To what extent do these reflect re-use of shore-front structures (e.g., wharves) as cribbing and to what extent do these appear to have been constructed for the express purpose of stabilizing the landfill.

It was found that the historic lot lines, as early as 1884, conform to modern lot boundaries shown in twentieth century real estate atlases. The Phase I study correlated boundary descriptions from the seventeenth to the twentieth centuries. No evidence has been obtained to indicate that this correlation (or conclusion) is incorrect. Since modern street addresses could be correlated to both historic and modern maps of the area, these were an ideal means of designating lot locations.

Results of the testing program, as summarized in Table 1, indicate that LBA successfully related resources identified within the project area to those that were predicted on the basis of the documentary research (Research Question #1). These included landfill deposits and possible fill-retaining features and wharving, yard deposits dating prior to 1820, and structural remains of the same time period. It is felt that the results of testing are sufficient to obviate the need for further work into issues associated with Research Question #1.

Although questions relating to landfill have motivated archaeological projects in lower Manhattan, the results of testing at this site are such that the site's potential to contribute to this research topic appears limited. The deep walls in the 140 Pearl Street lot, the wharving in 138 Pearl Street, and landfill deposits containing aboriginal material in the northeast corner of the project area (116 Water Street and 87-89 Wall Street) are the only potentially significant resources.

The testing program has established that <u>there is potential</u> for subsurface resources in several locations within the project area through which Questions #2 and #3 may be addressed. These include yard deposits, yard middens, and structural remains. Although test procedures were implemented in areas believed to contain remnants of architectural features that faced Pearl and Water Streets, these areas were generally too heavily disturbed to provide significant information. Therefore, further investigations will be confined generally to the yard areas of these lots located at 140, 144, 146, 148 Pearl Streets; 110 Water Street, and 116 Water/87-89 Wall Street. In addition front portions of

TABLE 1

SUMMARY OF TESTING RESULTS AND RECOMMENDATIONS

Lot	Method of Investigation	Nature of Subsurface Resources	Approximate Date Range	Significance in Terms of Testing Research Questions	Recommendation for Mitigation
102 Water St.	Backhoe trench	Demolition debris and landfill	Late 19th and 20th century, late 17th century	Limited	Not recommended
104 Water St.	Backhoe trench	Demolition debris and possible wharving	Late 19th and 20th and possibly 17th century	#4	Recommended for machine excavation of possible wharving only
106 Water St.	Backhoe trench	Demolition debris and landfill	Late 19th and 20th century, late 17th century	Limited	Not recommended
108 Water St.	Backhoe trench	Demolition debris and landfill	Late 19th and 20th century, late 17th century	Limited	Not recommended
110 Water St.	Test unit and backhoe trench	Yard deposits; structural remains; landfill	18th century	#1, #2, #3, #4	Recommended for yard deposits and structural remains only.
112 Water St.	Backhoe trench	Demolition debris and landfill	Late 19th and 20th century, and late 17th century	#1, #2	Recommended for machine excavation for defining linkage between early structures in 110 Water St. and 146 Pearl Street

Lot	Method of Investigation	Nature of Subsurface Resources	Approximate Date Range	Significance in Terms of Testing Research Questions	Recommendation for Mitigation
114 Water St.	Backhoe trench and test unit	Yard and general lot deposits, landfill	Late 17th century, late 18th century	#2, #3	Recommended for alleyway strip only
116 Water St.	Test unit, backhoe trench and deep test	Possible yard deposits; trash filled feature; landfill with aboriginal material	Late 17th century to early 19th century	#1, #2, #3, #4	Recommended for possible yard deposits, trash filled feature, and landfill for the recovery of aboriginal material
138 Pearl St.	Backhoe trench	Demolition debris and possible wharving	Possibly 17th century	#4	Recommended for machine excavation of possible wharving only
140/142 Pearl St.	Deep test and backhoe trenches	Landfill and possible fill retaining stone walls or slip or channel, identification not available; possible yard deposits	Walls' date unknown; land fill c. 17th century; yards deposit 18th century	#4	Recommended for landfill and associated structures and yard area only.
144 Pearl St.	Test unit	Yard deposits; midden deposits; structural remains	Late 17th century, early to middle 18th century	#1, #2, #3	Recommended for yard only.

Lot	Method of Investigation	Nature of Subsurface Resources	Approximate Date Range	Significance in Terms of Testing Research Questions	Recommendation for Mitigation
148 Pearl St.	Backhoe trench, test unit	Possible outbuilding; other structural remains; trash retaining feature	Early to middle 18th century; late 18th/early 19th century	#1, #2, #3	Recommended for further work in the yard only.
150 Pearl St.	Backhoe trench	Rubble deposits, demolition debris and landfill	Late 18th Century to middle 19th century, and 17th century	Limited	Not recommended
152 Pearl St.	Backhoe trench, test unit	Rubble deposits, demolition debris and landfill	18th and 19th century, and 17th century	Limited	Not recommended

lots at 110 and 116 Water Street will be examined, as will deposits under a modern alleyway in the lot at 114 Water Street.

Three historic periods of documented occupation of the project area will be investigated. These periods correspond to the late seventeenth-early eighteenth century, hereinafter designated the Early English Colonial (c. 1664-1760); the period of the Revolutionary War (c. 1760-1783); and the early National Period, which extends from approximately 1783 to 1820. The date ranges exhibited by the temporally diagnostic artifacts from the project area correspond to these periods. Documentation of these periods in the historical and archaeological literature, facilitates the use of relevant contextual studies and appropriate interpretation of this site; and ensures that results of this work will be complementary to studies that have already been completed elsewhere in lower Manhattan.

Archaeological resources associated with the Early National Period have been investigated at the 175 Water Street location. However, these investigations addressed issues relating to a primarily commercial occupation. Preliminary assessment of the historical sources indicates that the occupation at the Barclay Bank Site included domestic and mixed land use.

II. MITIGATION PLAN

RESEARCH DESIGN

A systematic program of fieldwork, historical research, laboratory analysis and interpretation is required in order to mitigate adverse impacts to the resources described above (see Chapter I, Table 1). The research questions that will focus this effort are described in this section. Subsequent sections address procedures for historical research, laboratory analysis, fieldwork and preparation of the final report.

The testing program has permitted LBA to refine the research questions posed as a result of the Phase I investigation. The testing program has also shown that the potential exists for addressing these revised research issues, which were originally posed as elements of Questions #2, #3, and #4. Specific research questions are necessary in order to determine field methods, guide field investigations and ascertain when a sufficient level of effort has been expended.

Research Question #2 originally addressed the entire length of occupation of the project area. However, the testing program has demonstrated that artifactual materials associated with only the Early English Colonial, Revolutionary, and Early National periods occur within the block. Direct correlations of material remains to specific occupancies in these three periods is yet to be accomplished. However, given the potential for such correlations, the archaeological resources in the Barclay Bank Site can provide data on the nature of specific land use categories (residential, commercial, mixed residential-commercial), both sychronically and diachronically.

Most studies in Manhattan have been site specific, with few attempts at inter-site comparisons. This may have been due to the lack of a comparative data base. Today, however, some archaeological studies in the east have been published, or are accessable by other means. It is now possible to conduct important comparitive investigations. For, it is in such regional studies that overall patterns of urban behavior may be identified. In turn, these pattern can be studied in terms of cultural processes that form and change our American urban centers.

Research Question #2 has been broadened to follow this regional scope. As noted above, it is now possible to conduct inter-site studies. Also, the project area has been shown to contain intact, and often rich deposits and structural remains which can be used in a comparitive study. Research Question #2 has been refined as follows:

Research Question #2

What are the synchronic and diachronic configurations of residential, commercial, and mixed residential and commercial land uses in three eastern urban centers?

These three land use types were selected as they are present in the project area, and have been studied on other urban sites in the region. Configuration refers to the manner in which a land use category is physically manifested in terms of (a) spatial distribution of artifactual materials, (b) internal structure of artifact assemblages, and (c) the spatial distribution and structure of architectual features. Each land use category is to be compared to properties of the same land use type in a given time period, and also through time. For example, what is the artifact patterning within residences in the period 1700 to 1783 (i.e. British occupation) in Manhattan as compared to other urban centers; and does this pattern in residential properties differ from those dating to the 1783-1820 period? The purpose of this and related questions is to identify whether urban artifact patterns, and in turn urban behavioral patterns, differ in temporal or areal contexts. If differences are found in the spatial distribution of these patterns (e.g. differences among different cities), then studies of area-specific processes would be warranted. It is possible that the economic base of one area (e.g. merchantile) produced one pattern and the economic base of another (industrial) produced a totally different pattern. If patterns exist synchronically across space, but change through time, then more large scale processes such as industrialization, may be at work.

The study of the Barclays Bank Site will not examine these processes, in detail. However, this project will provide a data base that will undoubtedly suggest what processes might be studied archaeologically and historically to understand the observed similarities and differences in urban material, and thus behavioral patterning. This data base will hopefully be used by students and professionals studying urban behavior and adaptations.

To conduct this comparitive study, data developed from other archaeological projects in Manhattan will be used. Reports have been published on the Telco Block and the 175 Water Street Site. These sites yielded materials and features that are comparable to those contained within the Barclay Bank Site (i.e. mixed commercial and residential properties from the mid-eighteenth century and into the nineteenth century on the Telco Block; and commercial properties dating to the late eighteenth century and into the nineteenth century on the 175 Water Street Site). The Principal Investigator for the Barclays Bank Site mitigation program had worked on the 175 Water Street Site, and is very familiar with the data base produced by this project. Unfortunately,

these two sites are the only archaeological investigations available in print from the five archaeological studies conducted in Manhattan.

There are, however, other cities which have been investigated through archaeological studies. Wilmington, Delaware is one. A draft report is available on a study of seven blocks in downtown Wilmington. Material remains from these blocks dated to the late eighteenth through mid-nineteenth centuries. These materials were recovered from commercial, residential, and mixed commercial and residential properties. This study was selected because the Co-Principal Investigator for the Barclays Bank Site mitigation program directed the analysis and report preparation for the Wilmington project. The Wilmington draft report, in addition to the final reports on the two sites in Manhattan, provide a data base suitable for quantitative comparisons. Also, by using data from Wilmington, it is possible to compare these three land use categories in an urban industrial context (Wilmington) with an urban trans-shipment and financial context (Manhattan).

The Co-Principal Investigator is also familiar with work conducted in Alexandria, Virginia, another historic urban center. Though no volume on the results of the Alexandria archaeological program has been published, data on the various investigations conducted in the city are available though personal communications and published articles. The rationale for selecting Alexandria are two-fold. First, the archaeological sites studied in the city (i.e. the King Street Site) are contemporaneous with some of the occupations of the Barclays Bank Site (e.g. commercial, residential, and mixed commercial and residential dating to the late eighteenth to late nineteenth centuries). Second, both New York and Alexandria functioned as major trans-shipment centers, and were not industrial like Wilmington. It should be noted that Alexandria's geographical position is unique, being at the interface of the Middle Atlantic and the Upper South. This position, in itself, is interesting, as is the concept of regional urban centers. For example, are there patterns of urban behavior, reflected in material culture, that transcend regional affiliation? Is residential patterning found in Alexandria during the late eighteenth and early nineteenth century the same as found in residences in the Barclays Bank Site, dating to the same time period?

Archaeological and historical data necessary to address Research Question #2 include: (a) identification of property land use from documentary and archaeological evidence; (b) artifact patterning, both spatially and in terms of frequency within artifact groups, classes, types, and varieties; and (c) location and orientation of foundation walls, internal structural divisions, and locations and types of outbuildings and features. These data will be obtained from data retrieval efforts within the rear yard areas of the block and in those front sections of a lot containing

intact structural remains. Additional documentary research is also needed to define specific date ranges of lot occupancy and use, on the Barclay Bank Site.

As originally posted, Research Question #3 hypothesized variations in artifactual materials from mixed commercial and residential in the eighteenth century to commercial in the nineteenth century; a transition from the merchant/specialist middleman of the late eighteenth century to the warehouse-wholesalers in the 1820s; and changes in the socioeconomic character from the eighteenth to the nineteenth centuries. Insufficient data has been obtained from the project area to address changes in artifactual assemblages that might be associated with the second and third decades of the nineteenth century. However, the testing program shows that there is potential for addressing artifactual correlates associated with Early English Colonial occupations and with Early National occupations. This comparison will examine any transition in lot functions, that may have occurred during this period. The Early English Colonial occupation of Manhattan is not well understood from an archaeological perspective. Therefore, the purpose of Research Question #3 is to delineate the nature of this occupation as it is reflected in artifactual assemblages.

Research Question #3:

What were the characteristics of the occupation, (including function and socioeconomic status identified with that occupation) in the Early English Colonial Period?

Archaeological and historical data necessary to address this research question include: contents of artifactual assemblages, their distribution horizontally and vertically within a property, occupational descriptions of inhabitants and their relative position in the context of the society of New York City.

Sources for these data include excavation of yard deposits and features, deposits within structural elements, tax records, imperial customs records; personal papers, and the current scholarly literature.

Research Question #4, as articulated above in Chapter I, addressed landfill. An anomolous feature has been discovered at 140-142 Pearl Street, possibly in association with wharving in the lot at 138 Pearl Street. In addition, landfill deposits containing aboriginal materials were recovered at 116 Water/87-89 Wall, 110 Water, and 144 Pearl Streets. The presence of these features and materials led to a refinement in this research question. There are two possible explanations for the presence of the aboriginal material. First, it can be outwash from another nearby location. Second, it may be redeposition associated with the movements of large units of land from another location on the island, possibly from a single source that contained a pre-

sistent with the rapidity with which the landfill was accomplished, suggesting that individuals utilized a single source, which was the late seventeenth century equivalent of a borrow pit. The purpose of further investigation of the contents of the landfill (as distinct from fill retaining structures) will be to ascertain whether the aboriginal remains were the result of outwash or whether they reflect the historical process by which land was made. These concerns can be summarized in two research questions:

Research Question #4:

How is the anomolous stone structure related to the possible wharving; and is the stone structure related to the landfill episode?

Research Question #5:

How can landfill known to have been accomplished over a short period of time be distinguished from landfill sites known to have been accomplished in a series of fill episodes? Are rapidly filled sites distinguished by greater homogeniety which would be consistent with obtaining fill material from a single source?

Data necessary to address these questions may be obtained through samples of landfill, exposure of the structure and its periphery, and documentary investigation of the adjacent area on the west side of Pearl Street. This will determine whether circumstances existed prior to 1694 that might have necessitated extraordinarily deep fill retaining structures within the project area. The data recovery program will include exposure of large portions of the structure, excavation of units into landfill deposits in the vicinity of the aboriginal material recovered during testing, and examination of maps and deeds associated with the area west of Pearl Street.

AREAL COVERAGE

In order to address the problems defined above, a data retrieval strategy has been developed. All areas to be investigated - Lot 15 (138 Pearl St/104 Water St); Lot 17 (140 and 142 Pearl St/106 and 108 Water St); Lot 18 (144 Pearl St); Lot 19 (146 Pearl St); Lot 20 (148 Pearl St); Lot 23 (116 Water/89 Wall St); Lot 24 (114 Water St); Lot 25 (112 Water St) and Lot 26 (110 Water St) will be stripped of the overburden present in order to define more completely the areas to be investigated (Figure 1). The areas will then be further excavated either by backhoe or by hand. Table 2 outlines and justifies the hand excavated yard areas that will be minimally sampled in order to define the cultural deposits and features. The percentages reflect that part of the yard

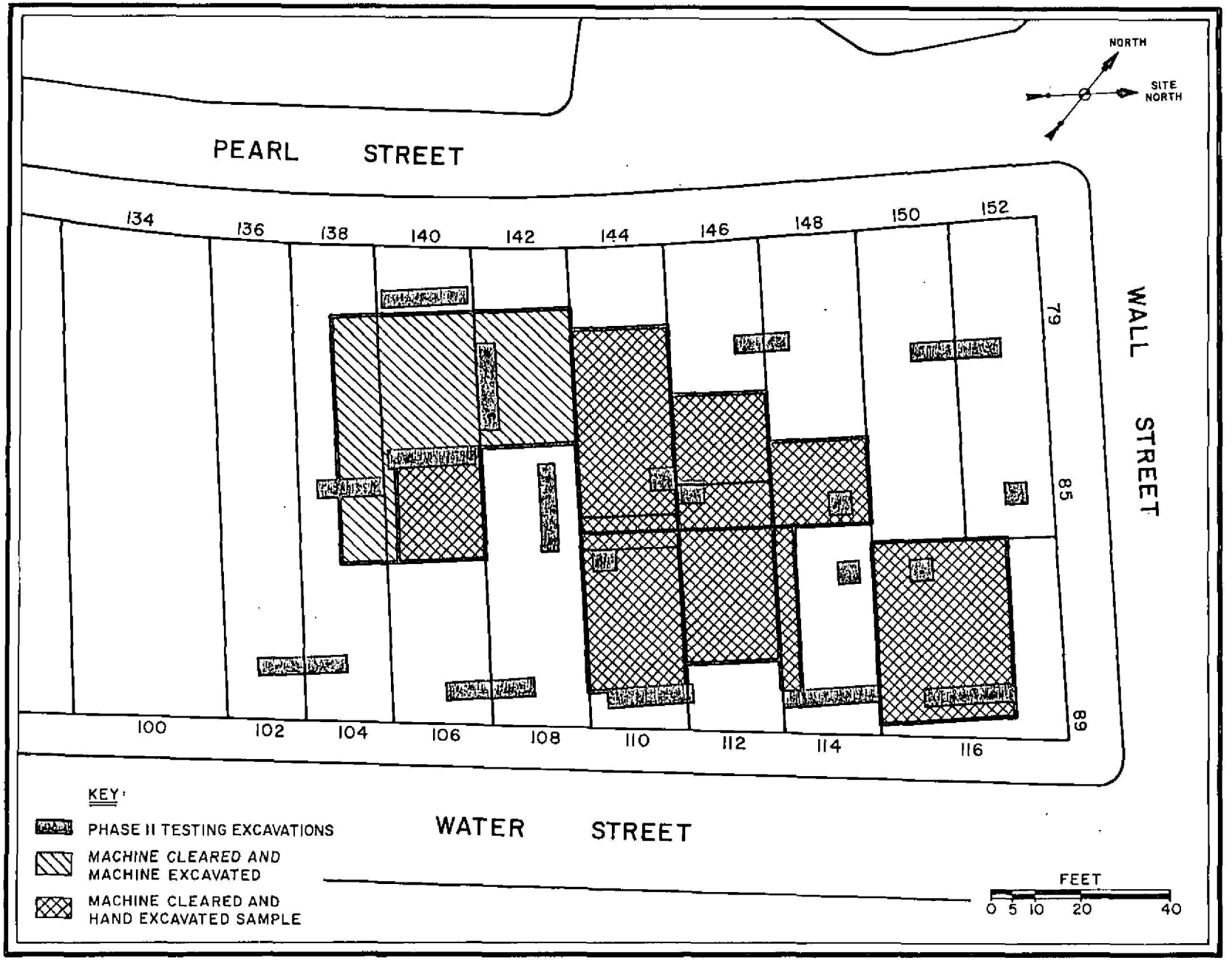

Figure 1. Planview of Project Area Illustrating Phase II Results and Proposed Data Retrieval Investigations.

TABLE 2

AREAS TO BE SAMPLED WITH HAND EXCAVATION
DURING DATA RETRIEVAL

LOT/ADDRESS	AREA CLEARED FOR INVESTIGATION IN SQ. FT (LOT DIMENSIONS)	AREA SAMPLED WITHIN AREA CLEARED IN SQ. FT (%)	AREAL EQUIVALENCE IN 5' x 5' UNITS	RECOMMENDATIONS
20/148 Pearl Street	304(19 x 16)	150 (49)	6	5 excavation units around Feature #1; 1 excavation unit at Feature #3. Potential to provide data on 18th century property configuration and lot-use areas (Research Questions #2 and #3.
23/116 Water Street, 89 Wall Street	1,000(25 x 40)	150 (15)	6	3 excavation units to explore landfill containing aboriginal material; 6 excavation units around Feature #8. Potential to provide data on landfill activities and source materials (Research Question #4) and data on possible 18th century yards (Research Questions #2 and #3.

TABLE 2 (Continued)

AREAS TO BE SAMPLED WITH HAND EXCAVATION

LOT/ADDRESS	AREA CLEARED FOR INVESTIGATION IN SQ.FT/ (LOT DIMENSIONS)	AREA SAMPLED WITHIN AREA CLEARED IN SQ. FT (%)	AREAL EQUIVALENCE IN 5' x 5' UNITS	RECOMMENDATIONS
18/144 Pearl Street	570(19 x 30)	175 (31)	7	1 excavation unit around Feature #6; 6 excavation units to sample yard. Potential to provide data on lot configuration and lot use from late 17th century and early 18th century (Research Questions #2 and #3).
19/146 Pearl Street	570(19 x 30)	175 (31)	7	7 excavation units placed systematically within lot to identify internal structural use and related external activity locations. (Research Question #2 and #3).
26/110 Water Street	700(35 x 20)	225 (32)	9	9 excavation units placed systematically within lot to identify structural remains, potential internal structural use areas, and possible yard midden. Data potential similar to Lot 18/144 Pearl Street

TABLE 2 (Continued)

AREAS TO BE SAMPLED WITH HAND EXCAVATION

LOT/ADDRESS	AREA CLEARED FOR INVESTIGATION IN SQ.FT/ (LOT DIMENSIONS)	AREA SAMPLED WITHIN AREA CLEARED IN SQ. FT (%)	AREAL EQUIVALENCE IN 5' x 5' UNITS	RECOMMENDATIONS
17/140 Pearl Street	625(25 x 25)	100 (16)	4	4 excavation units placed systematically to identify yard deposits and activity areas within lot (Research Questions #2 and #3).
24/114 Water Street	180(5 x 36)	75 (42)	3	3 excavation units placed along length of alleyway to identify yard deposits and activity areas within lot, and especially those fronting on Water Street (Research Questions #2 and #3).
			42	Total Units

area being sampled. The areal coverage of the sample in each yard and its equivalence in 5' x 5' excavation units is also highlighted.

In addition to the investigation of the yards, an area within the lots at 138 and 140 Pearl Street will be examined through the use of machine excavation and minimal hand work. The area to be cleared by machine within 138 Pearl Street (as indicated in Figure 1) contains the remains of a possible wharf. The remains of the wharf will be cleared by machinery and then exposed and cleaned, by hand, for recording purposes. The area to be cleared by machine within the western portion of the lot at 140 Pearl Street contains two deep walls, possibly for retaining fill. As with the wharf area within the 138 Pearl Street lot, the area around these walls will be cleared by machine, and then exposed and cleaned, by hand, for recording. The purpose of these tasks is to determine the nature of the deep wall feature, the date and construction methods of the wharving, and the role they played in the landfill episode of the block's history.

It is expected that this sampling strategy will adequately address the research questions. In the event that further work is necessary, it is felt that ten (5' x 5') excavation units be held in reserve to be used as needed to define or more fully examine any anamolies, cultural deposits or features still not understood after the sample strategy has been exhausted. These reserve units will be used solely on the basis of need, and after consultation with London and Leeds and the New York City Landmarks Preservation Commission.

Several areas are not included within the data retrieval program. These include the majority of the lot fronts along Pearl Street (i.e. 138, 140, 142, 144, 146, 148, 150 and 152 Pearl Street) and the lot fronts along Water Street (i.e. 104, 106, 108, and 112). These areas were excluded from further consideration because the cultural deposits (not including landfill) lacked stratigraphic integrity, or were completely destroyed by basement and foundation wall construction. Some of these areas also exhibited deposits that contained a wide mixture of eighteenth to nineteenth century artifacts. Such deposits were within a displaced refuse context, and thus of limited analytical value. All of 102 Water Street, and 136, 150 and 152 Pearl Street, were also excluded for these same reasons.

HISTORICAL RESEARCH

The purpose of the historical research to be undertaken during Phase III is two-fold. First, additional information is required on lots selected for mitigation. Second, the historical context of the project area during the Early English Colonial Period; must be determined so that Research Question #3 may be fully addressed.

Historical research conducted during Phase I sampled key document groups as a baseline from which to assess the potential of the block. Significant data were, however, omitted during that investigation. Among these were the imperial port records, which list the names of the investors and the items imported; and the extensive manuscript sources housed at the New York Historical Society and the New York Public Library, which are indexed by individual names. In addition, the tax records, which provide detailed information on owners, occupants and structures, covering approximately the first quarter of the eighteenth century, were only sampled at four interals (1702, 1709, 1718, 1730). Research tasks must obtain greater precision during Phase III in order to develop the most accurate possible set of historical data to which individual archaeological features and deposits will be assigned. The purpose of the Phase I investigation was to obtain sufficient information to characterize the range of possible subsurface resources; one purpose of Phase III investigations is to obtain the most complete historical data set for this site in order to facilitate appropriate correlations between resources identified in this site and the available historical records.

The second purpose of the historical investigation is to relate the results of this phase of work to the current literature in urban history especially for the colonial era. This literature is also relevant to this project for purposes of developing explanations of the context. Investigation of early eighteenth century urban life in the colonies is still in the rudimentary stages. Some information is available for New York, which describes the city and its inhabitants from the 1730s up to the Revolutionary period. Additional comparative data is available for Boston and Philadelphia. These data will be used to develop framework for comparison, and be used to address Research Question #3.

The objectives of the historical research component for each lot are presented in Table 3, together with the sources needed to accomplish each objective. Table 4 presents priorities for research. These priorities reflect the order in which data will be examined and not the relative importance. The priorities have been established by consideration of the following:

(1) What information is necessary in order to obtain access to other data?

(2) How many objectives can be met by a single data source?

It is clear that examination of the early tax records is relevant to all study lots. Individual manuscript collections will be important for individual lot studies.

TABLE 3

OBJECTIVES OF HISTORICAL RESEARCH

Lot	Objective	Data Source
110 Water St.	Identification of Structures Identification of Function Socioeconomic status of occupant	Tax records (1699-1730) Customs records Manuscript collections
112 Water St.	Identification of Structures Identification of Function Socioeconomic status of inhabitants	Tax records Customs records Manuscript collections
116 Water St.	Identification of Structures Identification of Function Socioeconomic status of inhabitants	Tax records Customs records Manuscript collections
140-142 Pearl St.	Investigation of adjacent property, west of Pearl St.	Deeds Maps Early records of the corporation of New York, 1650-1695
144 Pearl St.	Identification of Structures Identification of Function Socioeconomic status of inhabitants	Tax records Customs records Manuscript collections
146 Pearl St.	Identification of Structures Identification of Function Socioeconomic status of inhabitants	Tax records Customs records Manuscript collections
148 Pearl St.	Identification of Structures Identification of Function Socioeconomic status of inhabitants	Tax records Customs records Manuscript collections
Project Area	Development of comparative framework within which to assess the relative status of the inhabitants of the block	Secondary literature

TABLE 4

HISTORICAL RESEARCH PRIORITIES

Repository	Available Materials	Priority
New York Historical Society, New York, New York	Maps	II
	Manuscripts indexed and cross-indexed by individual name	II
	Secondary literature including all volumes of New York History	III
	Customs records (microfilm)	I
	Records (in translation) of the early New York records (1650-1695)	II
New York Public Library, New York, New York	Maps	II
	Secondary sources	III
	Manuscripts indexed and cross-indexed by individual name	II
Municipal Archives	Tax records, 1699-1730	I
Surrogate Court New York, New York	Deeds	I

FIELD METHODS

The first step in the data retrieval program will be the removal of modern building debris in the areas to be sampled by the hand-dug excavation units. These areas have been detailed earlier. In addition, rubble will be removed in the area of the deep fill structures and wharving in the lots at 138 and 140 Pearl Street. Spoil removal in this area will be extended to the top of the walls exposed in Deep Test #2 during the testing phase.

Once demolition rubble is removed, crew members will establish a grid system within each of the lots to be investigated, and will demarcate the quadrants within lots that are to be excavated in 5' X 5' units. Each lot grid will be tied to the lot datum, and in turn, the overall site datum, both of which were established during the testing program. The site datums relationship to mean sea level has been established, thus all site depths will be noted in terms of mean sea level.

Excavation of the 5' X 5' units will proceed as follows. Deposits will be excavated in natural strata. Natural strata greater than 0.3 feet will be subdivided into 0.3 foot arbitrary levels. All artifacts will be water screened through quarter-inch mesh hardware cloth. Artifacts will be bagged by strata and level. Flotation and soil samples will be taken of each cultural and/or natural stratum. In the event features are encountered within a unit, a detailed planview will be drawn and the remainder of the unit excavated. The feature will be bisected and profiled, after which the remainder of the feature will be excavated. Feature excavation will be by natural, and if necessary, arbitrary levels. Soil and flotation samples will be taken of each stratum within features.

Features located outside an excavation unit, such as the bell-shaped feature in the lot at 144 Pearl Street, will be excavated in a similar manner. All features, and excavation units, will be profiled (minimally two walls or sides). These profiles will be supplemented by black and white prints and color slide photography.

The investigation of the fill retaining features and wharving in the lots at 138 and 140 Pearl Street, will predominantly involve the use of heavy machinery. The walls and associated features of these structures will be exposed by the machines and cleaned by hand. The exposed structures will be photographed, drawn, and mapped. A consultant on seventeenth century maritine architecture and structures will be brought in to examine these features and provide a supplemental opinion on their function and construction.

At all times, first consideration will be given to crew safety. If units, or the area around the deep fill retaining features

become unstable during excavation or profiling, they will be abandoned. The ending depth of units will be based on this safety factor. If no danger is present, some units will be advanced to the base of original landfill deposits. All deep units and excavated areas will be shored. Units and the area around the fill features will, at some point, be dewatered during excavation. Several pumps will be employed for this purpose. If any outstanding fill features, such as a ship, are located during this phase of study, excavation in the area of the feature will be stopped, and both London and Leeds and the Landmarks Preservation Commission will be contacted immediately.

LABORATORY METHODS AND ANALYTICAL PROCEDURES

All recovered artifacts will be washed; diagnostic materials, such as ceramics and glass, will be labeled. Artifacts that are subject to deterioration will be stabilized. Not all items may be suitable for conservation. These would include extensively deteriorated metal pieces that cannot be identified in terms of form or function, wood scraps that are nondiagnostic, and unidentifiable leather items. If large amounts of diagnostic materials require conservation, such as ceramics and glass, only a representative sample will be set aside for conservation. This will be done after the entire assemblage has been analyzed.

Several different analytical techniques will be used to recover artifactual information necessary for addressing the data retrieval program's research questions. All artifacts will be catalogued according to established typologies (cf. Noel Hume 1969, South 1977). These typologies will use the class, type, and variety approach (for example, class = glass, type = bottle, variety = case). In order to conduct a pattern analysis, following South's methods (1977), artifacts will also be catalogued by his artifact groups and classes (e.g., kitchen and bottle).

Also, all attempts will be made to date materials. South's Mean Ceramic Dating Formula (1977) will be used, along with the various dating techniques available for glass, buttons, pipes, pins, and other items. Makers marks will be used whenever possible.

Cross mends of ceramics and glass will be attempted in order to develop minimum vessel counts within and among deposits, and to indicate associations among strata. These data, along with the distribution of artifact groups, classes, types, and varieties, will provide information on the configuration of lot use (Research Question #2, and #3), temporal affiliation (Research Question #2 and #3) and aid in characterization of the lots occupants through time (Research Question #3).

Another critical data set will include floral and faunal remains. Once these materials are processed, they will be analyzed in terms of genus, species and elements. Attempts will be made to identify minimal number of individuals, and to determine the types of butchering practices exhibited by the faunal materials. Floral items will be identified by species, and if possible, genus. These remains will provide important information on the dietary patterns of the lots inhabitants (Research Question #3).

These artifactual data will also provide information on the nature and origin of landfill within the project area (Research Question #4). With specialized soil analyses, it may be possible to determine the level of landfill homogeniety, and thus the duration of landfilling (e.g. individually by water lot or all areas of the block simultaneously). Data on fill origins can be obtained by the soil analyses, and by the class, type and temporal affiliation of materials within the landfill.

Urban archaeological investigations often produce huge quantities of brick, metal, and other bulk items. All of these materials will be weighted, counted and analyzed. However, only a representative sample of each material type will be retained for storage. The remainder will be discarded.

All analysis will be conducted at LBA's laboratory facilities in East Orange, New Jersey. Given the close proximity of East Orange to Manhattan (i.e. half-hour-one way), it is more cost efficient to transport artifacts to East Orange for processing, on a daily basis, than to set up laboratory space in Manhattan.

REPORTING

As the field phase of data recovery nears completion, LBA will meet with the New York City Landmarks Commission to discuss an outline for the draft report on the overall project. This report will detail the results of the testing and mitigation phases in terms of the historical research, field and laboratory methods used; rationale for these methods; and the results of these studies in relation to the project's research goals.

Ten months after the completion of fieldwork, five copies of a draft report will be submitted to London and Leeds, and the LPC. Landmarks will review the draft report and submit comments to LBA. Within two months, LBA will submit 25 copies of the final report, taking into account all comments made on the draft. This final report will be submitted to London and Leeds and LPC.

SCHEDULE AND BUDGET

Table 5 details the budgeted hours by personnel to be involved in the data retrieval program. The hours presented in the table are actual person hours, not calendar time. Actual calendar time is

TABLE 5

DATA RETRIEVAL BUDGET AND SCHEDULE

Planning and Project Logistics

	Hours
Project Manager	8
Principal Investigator	32
Co-Principal Investigator	16
Field Director	32
Senior Historian	16
Field Technicians	64

Field

Project Manager	24
Principal Investigator	160
Co-Principal Investigator	80
Field Director	160
Crew Chiefs (3)	480
Field Technicians (28)	4,480
Senior Historian	160
Assistant Historian	160
Photographer	120
Cartographer	160
Logistician	160

Analysis

Laboratory Director	40
Project Laboratory Supervisor	400
Laboratory Assistant	400
Laboratory Technicians (4)	1,600
Floral/Fauna Specialist	400
Conservator	80

Report Preparation

Project Manager	40
Principal Investigator	720
Co-Principal Investigator	320
Field Director	320
Crew Chiefs (3)	120
Senior Historian	160
Project Laboratory Supervisor	320
Cartographer	40
Drafting Director	120
Drafting Assistant	240
Flora/Fauna Specialist	120
Word Processing Operator	240
Report Coordinator	80
Photographer	160

as follows. Planning will take approximately one week (5 days), and will overlap with the beginning of fieldwork. Fieldwork will be completed in four weeks. Laboratory analyses will begin on the first day of the second week of fieldwork, and will be completed in ten to twelve weeks. Report preparation will begin upon the completion of the analyses, and will be completed in ten months At that time, a draft report will be submitted to London and Leeds, and the New York City Landmarks Preservation Commission.

III. SUMMARY OF PHASE II TESTING PROGRAM

The following section details the results of the Phase I and II investigations of each of the lots within the project area. Each lot discussion begins with a historical overview based on Phase I research, followed by sections on the archaeological testing results, significance of results in terms of research domains posed during the testing phase, and a proposal for specific data retrieval efforts to be employed within the lot.

Lot 14 and 15 at 136, 138 Pearl St. and 102, 104 Water St.

Historic Overview

Lots 14 and 15 were originally contained within Water Lot Grant 5, granted to merchant Miles Foster on October 12, 1694. Two years later he sold the entire property to Christina Veenvos. Lot 14 corresponds to properties at 136 Pearl Street and 102 Water Street, and Lot 15 corresponds to properties at 138 Pearl Street and 104 Water Street. Both Lot 14 and Lot 15 had been developed by 1702, although development at Lot 15 appears to have differed from that generally evident elsewhere in the project area. Where many of the long strips running from Pearl to Water Street appear to have been developed along both frontages by the mid-eighteenth century, development in 1762 of Lot 15 was still confined to the Pearl Street frontage (138 Pearl Street).

Review of early eighteenth-century tax records for both properties indicates that 138 Pearl Street, 136 Pearl Street and 102 Water Street were occupied by 1702. Occupancy of these properties in the early eighteenth century appears to have consisted of both owners and tenants. Between 1762 and 1788, Joseph Hallet, who owned the property corresponding to Lot 15, subdivided it and developed the Water Street frontage (102 Water Street). In the late eighteenth century, the area consisted of a mix of dwellings, shops and warehouses. The properties were owned by several absentee owners, and all occupants, whether residential or commercial, were tenants. This pattern of mixed use continued through the turn of the century. By 1820, however, the area had been converted to warehousing.

In the eighteenth and early nineteenth centuries, one and possibly two buildings stood on Lot 15 (and 14), probably with rear yard areas. By the 1820's and definitely by 1852, the lot was filled with two four story structures. The lot retained this configuration up to the time the structures were demolished in 1982. Post 1920 building records indicate that the Fitch building, a consolidation of mid-nineteenth century buildings, had a 10, 11 or 16 foot basement. The actual depth of the basement is not clear, as the building record indicating basement depths was not legible. However, given the depth of basements for similar buildings of similar age found in other sites excavated in lower Manhattan, the basement depth of the Fitch building was probably 10 or 11 feet below street level.

Soil borings taken in the 1960s, along the northern boundary of Lot 11 (100 Water Street), document landfill deposits 12 to 18 feet below grade. This fill depth is consistent with the depths of fill documented in similar archaeological sites in the area. Therefore the 10 or 11 foot basement of the Fitch building would not have impacted all the fill deposits or any associated fill retaining features. Second, the lower portions of deep yard

features, as well as early structural foundations associated with the eighteenth or early nineteenth occupations would still remain. Therefore, based on the above evidence, Lots 15 and 14 have a moderate potential for recovering archaeological resources. Also of note, building records from 1919 mention a possible wood floor or "grillage" underlying the concrete basement of the extant building at 136-138 Pearl St.

Testing Results

The backhoe test trench within 138 Pearl Street was located 50 feet east of Pearl St and oriented north/south. The trench originated at the 138/140 lot line and extended 15 feet south. Stratum I, described as a reddish brown sand consisted primarily of modern demolition debris, and extended to a depth of 4.0' below surface (+5.39' mean sea level (MSL)). Materials indicating a modern association include; safety glass, metal electrical outlet, aluminum, wire nails and plastic. The major component of the matrix was brick and mortar.

Stratum II, which underlies Stratum I, was a dark brown gray sandy ash fill, approximately 4.0' thick and extended to 8.4' below surface (+0.99' MSL), overlying a concrete floor. Based on the material recovered, the deposit also appears to be a modern demolition level. Artifactual material recovered from this deposit consisted of glass, square cut and wire nails, wood, roofing tar paper, plastic and various building materials. The concrete floor (Stratum III) underlying Stratum II was approximately .5' thick. The stone wall which bounds the trench to the north continues to a depth of 9.2' below surface (+0.19' MSL), approximately the same elevation as the bottom of the concrete floor.

Stratum IV, underlying the concrete floor was a very dark brown sandy silt, interspersed and abutting a crumbly and unmortared stone wall. The deposit was approximately 1.0' thick and extended to a depth of 9.9' below surface (-0.51' MSL). Based on the depth of the deposit, and the unconsolidated state of the overlying fill deposits, only soil and flotation samples were recovered. Thus no artifactual material was collected in order to date the deposit.

Stratum V, which underlies Stratum IV, was a strong brown sand. This sand stratum represents the uppermost landfill deposit recorded on other areas of the block. Within Stratum V, a series of vertical notched wood pilings, oriented north/south were documented, extending the length of the trench. The vertical pilings measured approximately .5' in diameter and were spaced between 1 and 2 feet apart. Artifactual material recovered from Stratum V consisted of kaolin pipe fragments, glass, hand wrought nails, bone, oyster shell, wood fragments, peach pits as well as various types of building materials. No diagnostic artifacts were recovered from this stratum. It is hypothesized that the wood pilings

may represent the remains of a wharf, possibly dating to the pre-landfilling episodes of the block's history.

The surface of the next landfill deposit beneath Stratum V was exposed by the backhoe at 20.0 feet below surface (-10.61' MSL). This deposit was a very dark gray clayey silt. This stratum was not sampled because the depth of the deposit exceeded the length of the backhoe boom.

The eastern portion of Lots 14 and 15 was examined through the placement of a second backhoe trench. This trench cross-cut 102/104, and was located 10 feet west of the Water Street sidewalk and 7 feet north of the existing Barclays Bank building. The trench was oriented north/south. Two modern demolition deposits were uncovered upon opening the test trench. Stratum I, ran from the north wall of the trench, 12.5 feet south, where it met with Stratum II. Stratum II continued across the remainder of the trench, 7.5 feet to its southern extent. Stratum I was reddish brown sand with large quantities of brick and mortar. It contained materials suggesting a modern association, such as linoleum, plastic, threaded metal pipe, electrical wires, and wire nails. The deposit was excavated to a depth of 6.5' below surface (+1.8' MSL) ending at a poured concrete floor. Two modern demolition deposits, Stratum II and III overlaid a concrete footing stone, and abutted the concrete floor present in the north section of the trench. These two deposits extended to a depth of 8.5' below surface (-0.2'MSL), and contained artifactual material such as safety glass, wire nails, aluminum cans, plastic and masonite, suggesting a modern association. Stratum IV, underlying the footing stone and Stratum III on the south end of the trench, was a strong brown coarse sand. Artifactual material associated with this deposit is consistant with the uppermost sand landfill deposits documented on other areas of the block (i.e. bottle glass, bone, shell, kaolin pipe fragments, brick and mortar). Excavation was terminated in this deposit, at 12.0' below surface (-3.7' MSL). Although this trench cross-cut 102 and 104 Water Street, no structural walls were observed separating Strata II and III (in 102 Water Street), from Stratum I (in Lot at 104 Water Street). There is also no evidence of a lot wall at the south end of the concrete floor present in the north end of the trench.

Significance and Recommendations

Given the above factors, Strata I through III in the trench within 102/104 Water Street lots are modern demolition deposits, overlying the uppermost level of landfill. The landfill deposits appear to be the only intact cultural deposit within the test trench. Landfill will be investigated on other areas of the block, (i.e. Deep Tests #1 and #2, as well as the possible wharving area around test trench in the lot at 138 Pearl Street). Therefore, investigating the landfill in the area of the trench cross-cutting the

front of 102/104 Water Street would provide redundant data. No additional work is recommended for this area along Water Street.

The significance of the cultural material in the trench within the lot at 136/138 Pearl Street is associated with a possible wharf. The wood pilings in the trench may be part of the "grillage" noted in the 1919 building records. The date of construction for the wharf is unknown at this time, as an insufficient sample of associated deposits was obtained during the testing phase. Also, the nature of construction is undetermined, as a wide area was not exposed.

Other important questions include how this possible wharf relates to the deep stone walls documented in Deep Test # 1 (see Lot 16, 140 Water St. discussion), and how it relates, in general, to the landfilling processes taking place over the entire block, (Research Question #4). Data retrieval is thus recommended for the area of this test trench.

The goals of the data retrieval consist of mechanically stripping and excavating an area east and west of backhoe test trench in the lot at 138 Pearl Street, as well as removing the concrete floor overlying the wharf. The dimensions of the area to be exposed will be 10 feet north/south by 55 feet east/west. This will uncover a large portion of the wharving feature, which runs east/west, and will expose enough area to identify how this wharving relates to the deep walls located within the lot at 140 Pearl Street (Deep Test #1).

No soil or artifact samples will be taken during this mechanical excavation. Large soil and artifact samples have been recovered from this area of the block during the testing phase. However, if there are stratigraphic deposits and artifact clusters that have not been previously observed in the testing program, samples will be taken from these new deposits. This will be done only after consultation between the Principal Investigators and the Landmarks Preservation Commission.

After machine excavation is completed, the wharving will be exposed further by hand, and then prepared for recording and photography. No hand dug excavation units will be used to investigate this possible wharving feature. A supplemental consultant specializing in marine related architectural structures will be used in interpreting the possible wharving.

Lots 16 and 17 at 140 and 142 Pearl Street/106 and 108 Water Streets

Historic Overview

Lots 16 and 17 were contained within the bounds of Water Lot Grant 4, granted to Christina Veenvos on October 7, 1696. Within two months, she subdivided the property and sold the area corresponding to Lot 16 to John Abeel, a merchant, and the area corresponding to Lot 17 to Barent Reyndersen. Lot 16 corresponds to 140 Pearl Street and 106 Water Street, and Lot 17 corresponds to 142 Pearl Street and 108 Water Street.

Lot 16 contained a house in 1702, which was rented to Elias Neau. This appears to have been located at the Pearl Street frontage. By 1745, development of the property was still confined to the Pearl Street frontage, although by 1789, there were structures along both Pearl and Water Streets. The owner, Cornelius Clopper, owned and occupied the house along Pearl Street, and his tenant, bookseller and bookbinder John Reed lived and worked along Water Street. This pattern persisted through 1808. By 1813, 140 Pearl Street had been converted to a "store" or warehouse, although the Water Street property was owned and occupied by a craftsman. By 1845, however, the ownership of both properties had been consolidated and the entire lot was used as a warehouse.

The history of development on Lot 17 is similar. There was a "house" on the lot in 1702, which was apparently located along the Pearl Street side. A deed in 1704, describes this as a "large brick house". This was leased by a series of absentee owners from 1709 for apparently the greater part of the eighteenth century. In 1767, the complex included a dwelling house and a storehouse, although whether this extended the full distance to Water Street is unclear. By 1789, however, the original, long, narrow lot had been formally subdivided into two separate tracts, owned by the same individual, Moses Gomez, but rented separately. In the late eighteenth century, both the Pearl and Water Street properties were used by craftsmen for both commercial and residential purposes. In 1813, the Pearl Street property was used as a warehouse, but the Water Street property appears to have been used for both residential and commercial purposes by owner-occupant Charles McCarthy, a grocer. By 1820, ownership of both properties had been consolidated, and both converted to warehouses.

Documentation indicated that no open yard areas existed within these lots. However, building department records showed that the buildings that last occupied the lots at 140/142 Pearl Street and 106/108 Water Streets had a basement approximately nine feet below street grade. Given the relative shallowness of this basement depth, the lots were assigned a moderate rating for archaeological potential. There would be a moderate probability that deep yard features and structural remains were extant below the base-

ment. As there was no indication of open yard areas, as found on other lots in the project area, testing of the lots at 140/142 Pearl Street and 106/108 Water Streets was to consist only of test trenches, and no hand dug test units. A total of three trenches and one deep test were placed within these properties.

Testing Results

A backhoe trench was excavated in the front portion of the lots at 106 and 108 Water Streets approximately 10 feet east of and parallel to Water Street. The trench was bisected by the 106/108 Water Street lot wall. Six strata were defined within each lot.

South of the lot wall, within 106 Water Street, recent demolition rubble, which comprised Stratum I, extended from ground surface (grade) to 6.00 below grade (+ 2.20 feet MSL). A brick and mortar floor extended from 6.00 feet to 6.60 feet below grade (+ 1.60 feet MSL). Immediately below the floor was a mottled grey and brown clayey silt, designated Stratum II. This deposit extended to a maximum depth of 7.50 feet below grade (+ 0.70 feet MSL). The predominate artifact types recovered from Stratum II were bottle glass, flat glass, and bone. Two datable ceramic artifacts were recovered, a piece of undecorated tin enameled earthenware and a piece of undecorated creamware. Kaolin pipe fragments and redware were also present.

Underlying Stratum II was a very dark grey clayey silt, designated Stratum III, which extended to a maximum depth of 10.60 feet below grade (- 2.40 feet MSL). As with Stratum II, flat glass, bottle glass, and bone comprise a majority of the artifact sample. A sherd of tin enameled earthenware was the only diagnostic artifact recovered. Other items from this stratum include redware, burned earthenware, a clay marble, and kaolin pipe fragments. Within this stratum, at the southwest end of the trench, was a deposit of white sand and lime, designated Stratum IV, associated with three pieces of wood planking. Stratum IV began 8.00 feet below grade (+ .20 feet MSL) and extended to 10.00 feet below grade (- 1.80 feet MSL), with a maximum width of 2.70 feet. Only one artifact, a dark green kick-up bottle base post-dating 1840, was recovered in direct association with Stratum IV.

Beneath Stratum III was a mottled brown, red, and green clayey silt, designated Stratum V, which reached a maximum depth of 13.60 feet below grade (- 4.80 feet MSL). The artifact sample from this stratum was composed primarily of bone and oxidized metal. A sherd of undecorated pearlware was the only temporally diagnostic artifact recovered. Other items from this stratum include slipped redware, porcelain, peach pits and nut shells. Based on the sediment structure and artifactual content, Stratum V probably represents the upper most level of landfill in the lot at 106 Water Street. The pearlware sherd may be due to mixture during machine excavation.

Beneath Stratum V, extending to the limit of excavation in this trench, 13.60 feet below grade (- 5.40 feet MSL), was a fine reddish brown micaceous sand, designated Stratum VI. An assortment of ceramic materials, including tin enameled earthenware, slipware, stoneware and a variety of redwares, were recovered in the Stratum VI sample, but most or all of this material may be intrusive, since the upper walls of the trench were unstable.

North of the lot wall, within the lot at 108 Water Street, Stratum I extended to 7.00 feet below grade (+ 1.20 feet MSL), at which point a one foot thick brick floor was encountered. Directly below the floor was a dark brown silty sand, designated Stratum VII, which extended to a maximum depth of 10.00 feet below grade (-1.80 feet MSL). The predominate artifactual materials within this stratum were bottle glass and metal objects, including wire nails and cut nails. One kaolin pipe stem fragment was recovered. Ceramics consisted of creamware redware, and buff earthenware.

Beneath Stratum VII was a dark brown and olive grey mottled clayey silt, designated Stratum VIII, which reached a maximum depth of 11.30 feet below grade (- 3.10 feet MSL). Artifactual materials were scarce within this stratum. Two datable ceramic items were recovered: three sherds of undecorated creamware and two sherds of edged creamware. Redware and procelain were also present. One aboriginal pottery sherd, and a possible aboriginal hammerstone were also recovered.

Stratum VIII was underlain by an olive colored silty clay, designated Stratum IX, which extended to a maximum depth of 13.50 feet below grade (- 5.30 feet MSL). Bone fragments were the predominate artifacts from this stratum. Peach pits, nut shells, aboriginal lithic flakes, and coral were also present, all of which are indicative of landfill. One kaolin pipe stem fragment, and one sherd each of buff earthenware and redware were also recovered.

Underlying Stratum IX was an extremely thin lens of black clayey silt that was rich in charcoal and ash, designated Stratum X. Becasue this stratum was only about .10 foot thick, only a small sample could be recovered for screening. The screened sample yielded bone, wood, and leather fragments, one kaolin pipe stem fragment, and an aboriginal shell bead.

Beneath Stratum X was a thin lens of grey/black sand, designated Stratum XI. This reached a maximum thickness of approximately .30 feet, extending to 14.00 below grade (- 5.80 feet MSL). As with Stratum X, only a small amount of Stratum XI was available for screening. The recovered artifacts consisted of 2 bone fragments, one sherd of bottle glass, one peach pit, and leather fragments. Five pieces of redware and one kaolin pipe stem fragment were also recovered.

Stratum XI was underlain by a red/brown sandy silt, Stratum XII, which was excavated to a maximum depth of 15.00 feet below grade (- 6.80 feet MSL). Although a full sample (six buckets) of Stratum XII was screened, the recovered artifact assemblage is quite small, consisting of one sherd of stoneware, one sherd of redware, and a few wood fragments. The ceramics are probably intrusive in this stratum since upper trench walls were unstable. Excavation of test trench 106/108 Water Street was terminated at this point, so the actual depth of Stratum XII is undermined at this time.

A deep test trench was excavated in the front portion of lot 140 Pearl Street, approximately 10 feet east of and parelleling Pearl Street. Recent demolition rubble, designated Stratum I, extended to 2.95 feet below grade (+ 5.12 feet MSL). Beneath this stratum was a weak red sand intermixed with brick and mortar, designated Stratum II, which extended to a maximum depth of 4.95 feet below grade (+ 3.12 feet MSL). The artifact assemblage from Stratum II consists primarily of oxidized nails and other metal objects. Diagnostic ceramics from this stratum include hand-painted underglaze tin enameled earthenware, and undecorated whiteware.

Underlying Stratum II is a red sand matrix, designated Stratum III, which extends to a maximum depth of 5.95 feet below grade (+ 2.12 feet MSL). A slight decrease in the overall artifact frequency was noted within this stratum. Diagnostic ceramic materials consisted of tin glazed hand-painted underglaze earthenware and undecorated creamware. Redware and kaolin pipe fragments were also present.

Stratum III was underlain by a dark yellowish brown sand, Stratum IV, which reached a maximum depth of 14.76 feet below grade (- 6.69 feet MSL). A marked decrease in artifact frequency occurred within this stratum. The recovered artifact sample consists of one redware sherd, bone fragments, and tile fragments.

Beneath Stratum IV was a dark greyish brown sandy silt, designated Stratum V. This stratum reached a maximum depth of 18 feet below grade (- 9.93 feet MSL), and contained significantly more artifactual material than the overlying stratum. Undecorated creamware, redware, and kaolin pipe fragments were recoverd in addition to bottle glass, flat glass, and oxidized metal objects. Within this stratum, at 7.50 feet below grade (+ 0.57 feet MSL), two east/west oriented dressed stone walls were encountered. The southern most of these walls abutted the lot wall dividing lots 138 and 140 Pearl Street. The other wall, which lay at the same depth, was located 7.0 feet south of the lot wall between lots 140 and 142 Pearl Street. Both walls extended to the bottom of excavation in this trench.

Stratum V was underlain by a dark brown sandy/clayey silt, designated Stratum VI, which extended to a maximum depth of 22.00

feet below grade (- 13.93 feet MSL). The Stratum VI artifact assemblage consists primarily of bone and kaolin pipe fragments. The only ceramics from this stratum are hand-painted underglaze tin enameled earthenware and redware. Other items include coal, peach pits, and charcoal, which are suggestive of landfill.

Stratum VI is underlain by a dark greyish brown clay, designated Stratum VII, which extends to a maximum depth of approximately 25 feet below grade. Artifacts were sparse within this stratum. The recovered sample consists of bottle glass and oxidized metal, buff earthenware, slip-decorated redware, and kaolin pipe fragments.

Beneath Stratum VII was a grey and red marbled silty clay, designated Stratum VIII. Kaolin pipe stems, leather, and oxidized metal objects comprised the artifact assemblage from this stratum. Since excavation of the deep test was halted at this point, the actual closing depth of Stratum VIII is unknown.

In addition to the deep test and trench discussed above, a north/south oriented backhoe trench was excavated in the center of Lot 16 at 140 Pearl Street approximately midway betwen Pearl Street and Water Street. Stratum I, a reddish brown sand with intermixed demolition rubble, extended to a maximum depth of 3.70 feet below grade (+ 6.55 feet MSL). Although Stratum I consisted primarily of twentieth century demolition rubble, two sherds of grey slipped stoneware, and three of undecorated whiteware, were recovered from this stratum.

Stratum I was underlain by a light grey sand, designated Stratum II, which extended to a maximum depth of 4.90 feet below grade (+ 5.35 feet MSL). The majority of artifacts from this stratum were metal and glass fragments. Two intact late nineteenth to early twentieth century water bottles were recovered. Diagnostic ceramics from this stratum were undecorated tin enameled earthenware, undecorated porcelain, and overglaze decorated porcelain. Nine kaolin pipe fragments were also recovered.

Beneath Stratum II is a dark reddish brown sand, designated Stratum III. This extends to a maximum depth of 6.00 feet below (+ 4.25 feet MSL). Several datable ceramics were recovered from this stratum, including slipware, clearglaze buff earthenware, pearlware, creamware, and tin enameled earthenware. Analysis of the temporally diagnostic ceramics produced a Mean Ceramic Date (MCD) of 1777.

Stratum III is underlain by a compact fill of brick and mortar, which was excavated to a maximum depth of 6.30 feet below grade (+ 3.95 feet MSL). Two north/south oriented walls were encountered near the bottom of level 1 of this stratum. The artifact assemblage from Stratum IV consisted of undecorated pearlware, porcelain, bone and glass fragments, and a Britannia halfpenny

dated 1731. Excavation of the test trench was terminated at this point, so the maximum depth of Stratum IV is unknown at this time. It is hypothesized that Strata II and III represent yard deposits.

Finally, an east/west oriented backhoe trench was excavated within the lot at 142 Pearl Street, approximately mid-way between Pearl Street and Water Street. From ground surface (grade) to 8.00 feet below grade (+ 2.22 feet MSL) was a deposit of modern demolition rubble. This was underlain by a thick floor of bricks over concrete blocks.

Immediately beneath the floor was a fine dark reddish brown sand, designated Stratum II, which extended to a maximum depth of 12.00 feet below grade (- 1.78 feet MSL). Only one datable ceramic artifact was recovered from this stratum, a piece of hand-painted tin enameled earthenware. Buff earthenware and kaolin pipes were also present.

Stratum II was underlain by a dark olive clayey silt, designated Stratum III. This extended to a maximum depth of 14.00 feet below grade (- 3.75 feet MSL). This stratum yielded hand-painted tin enameled earthenware, buff earthenware, redware, and kaolin pipe fragments. Also recovered were peach pits, wood, and leather fragments, all of which are indicative of landfill.

Beneath Stratum III was a reddish grey and reddish brown marbled clayey silt, which probably represents natural riverbed deposits. This was designated Stratum IV, and extended to the limit of excavation within the test trench. One sherd of buff earthenware and one pipe stem fragment were recovered, along with oxidized metal objects, fish scales, peach pits and wood fragments, in small quantities.

Significance and Recommendations

The deep test exposed two deep walls that may have functioned as fill retaining structures or as a slip water channel. These walls extend to a greater depth than all other walls exposed in the project area during testing. The fill between the walls is hypothesized as demolition debris overlaying landfill. The depth of the landfill appears to be greater here than elsewhere in the project area. Given the depth of the fill, the slip function seems appropriate. The depth of the fill would have resulted from filling a dredged area within the slip. Documents on these two lots indicate that only the Pearl Street side was developed from the late seventeenth to the mid-eighteenth century, suggesting that the area of the walls may have been open, and contained standing water. This open water area may have extended to the area of what is now Water Street. In fact, the trench cross-cutting 106 and 108 Water Streets suggest that this area may have contained standing water. Unlike other trenches which exhibited

thick homogeneous deposits of landfill, this trench contained thin lenses of soil with high refuse contexts, underneath much larger deposits of landfill. These later deposits are similar to those found on other parts of the block. These lenses may be trash or fill from the area, thrown into the water. It should be noted that such thin lens were absent in other landfill deposits within the project area. This factor suggests that further work is required in the area of these deep walls.

Of the remaining two trenches placed within these two lots, only the north/south trench directly east of the deep test produce important archaeological materials. The east/west trench, located in the center of the 142 Pearl/108 Water Street lot, yielded only demolition debris and landfill deposits. As landfill will be addressed more fully in other areas of the block including around the deep test just discussed, no further work is necessary within this lot (see Figure 1). The north/south trench, however, produced what appears to be intact yard deposits in an area where none were expected to occur. These deposits date to the middle to late eighteenth century. Their investigation would provide data on the nature of the occupants of this lot (i.e. the lot at 140 Pearl/106 Water Street, see Figure 1) in the middle to late eighteenth century (Research Question #3), and provide an excellent comparative base for other yard areas present within the block.

The goals of data retrieval efforts within these lots at 142/140 Pearl and 106/108 Water Streets consist of determining the function of the deep walls, their association with landfilling activities on the block, and their relationship to the possible wharving located in the lot at 138 Pearl Street. A second goal is to determine the nature of the deposits exposed in the north/south trench directly east of the deep test, and how these deposits relate to the various occupations (mid to late eighteenth century) of the lots.

These goals will be accomplished by the removal of all demolition rubble from the area of the deep test and the possible yard. The area of the yard to be cleared, and around the deep test, are shown in Figure 1. The yard area selected follows the configuration of other yards on the block exposed during testing. By addressing the area shown on Figure 1, it will be possible to examine the rear of properties fronting on both Water and Pearl Street. Once the yard area is cleared, it will be divided into quadrants, with one 5 x 5 foot unit placed within each. A total of four units will be used. This will provide a sixteen percent (16%) sample of the area indicated in Figure 1.

These four units will be advanced to the top of the landfill. All soil will be processed as discussed above (see Field Methods). A two person team will be assigned to each unit. Excavation of one unit will take approximately 10 person days. Thus the tasks to be

accomplished within this yard area will take a total of 40 person days to complete.

The investigation of the deep walls, once the overlaying demolition debris is removed, will consist of machine excavation to fully expose the walls. As indicated in Figure 1, the area to be excavated is approximately 40 feet north/south by 55 feet east/west. This area will be adequate to uncover both sides of the walls and large areas around them, to locate any related support features. This areal exposure will also aid in relating these deep walls to the possible wharving located in the lot at 138 Pearl Street.

No soil or artifact samples will be taken during this mechanical excavation. Large soil and artifact samples have been recovered from this area of the block during the testing phase. However, if there are stratigraphic deposits or artifact clusters that have not been previously observed in the testing program, samples will be taken from these new deposits. This will be done only after consultation between the Principal Investigators and Landmarks Preservation Commission.

After machine excavation is completed, the area of deep walls, and any associated structural features, will be exposed further by hand, and then prepared for recording and photography. No hand dug excavation units will be used to investigate these deep walls. A supplemental consultant specializing in marine related architectual structures will be used in interpreting the function and age of this anomoulous structural feature.

Lot 18 at 144 Pearl Street

Historic Overview

Number 144 Pearl Street was originally contained within the bounds of Water Lot Grant 4, granted on December 7, 1696, to Christina Veenos, widow of Daniel Veenvos. The property was sub-divided almost immediately, and the area corresponding to Lots 18 (144 Pearl Street) and Lot 26 at 110 Water Street) came into the posession of Dr. Henricus Selwyns in May of 1699. At that time, there was a house on Pearl Street and a wharf on Water Street.

In 1702, Christina Veenvos reported two houses on the property, which extended the full length of the block. Both were occupied by tenants at this time. Both Lots (18 and 26) were held as a single ownership unit until 1732 and at least one was occupied by a tenant.

By 1789, ownership of the properties on Pearl and Water Street had been divided. A tenant, Richard Kep, occupied 27 Hanover Square (now 144 Pearl Street). Kep, an upholster, and Cooper, a hatter, leased the property in 1791. Three years later, Jothan Post, a physician, lived at 144 Pearl Street, which was also occupied by Joel and Jothan Post, a firm of druggists. In 1808, David Dunham, an auctioneer, was headquartered at 144 Pearl Street, and 1813, he kept a store, possibly a warehouse, at this location. The property was used for warehousing purposes thereafter.

The rear area of the lot at 144 Pearl Street, based on documentary evidence, was open at one point during the nineteenth century. Subsequently, the lot was entirely covered by a building with a basement. The depth of the basement was not known. However, given the nature of the building that occupied the lot (i.e. 4-stories), a deep basement (i.e. more than ten feet) would not be present. Therefore, the lot was given a ranking of moderate archaeological potential; and given the occurrance of an open yard area, was proposed for testing. This was to consist of placing a test unit within the rear of the lot.

Testing Results

The testing of this lot began with the clearing of rubble and demolition debris by backhoe, exposing the north lot wall. The lot was then cleared with shovels, additionally exposing flat grey slate stones in the southeast corner of the lot, overlying what was to be identified later as Feature #6. The east wall of the lot was also uncovered. A 5' x 5' excavation unit (Excavation Unit #5) was placed abutting the north lot wall. The unit measured between 7.3 feet and 12.3 feet from the northeast lot corner.

Within the unit, the initial stratum identified was a mixed dark yellow brown and a very dark greyish brown sand to a depth of +4.69 MSL (Stratum I). This stratum consisted of brick, mortar, shell, schist, glass, metal, ceramics and floor tile. Underlying Stratum I, along the southeast part of the unit and stretching north, is a builders trench associated with eastern lot wall. The trench is defined by the following strata - Strata II, VII, X, XI and XII to a depth of +2.29 MSL. Stratum II is defined as dark brown sandy silt; Stratum VII is a dark yellow brown sandy silt; Stratum X is a greyish brown clayey silt; Stratum XI is a dark greyish brown sand; and Stratum XII is a greyish brown sandy silt. Strata II, VII and X are datable to the eighteenth to early nineteenth century as exhibited by tin enameled earthenwares and creamwares. The MCDs for these deposits were 1801 and 1770 for Stratum II; 1795 for Stratum VII, and 1767 for Stratum X. Sample sizes for the other Strata were too small for calculating MCDs. Underlying Stratum I in the remainder of the unit are two strata (Strata III and IV). The matrix is a sandy silt. The color descriptions include reddish brown and very dark greyish brown. The depth of these deposits extend to +4.19 MSL. Also, the deposit produced ceramics that date to the late eighteenth and middle nineteenth centuries (MCDs of 1786 and 1813) as demonstrated by pearlwares, creamwares and whitewares. Stratum V, underlying the above strata, extends across the entire unit and eventually disappears into the northwest corner at a depth of +2.39 MSL. The stratum is a dark brown sand and consisted of brick, mortar, bone, glass and ceramics. The chronological context of this stratum suggests a late eighteenth century and early nineteenth century affiliation. (MCDs of 1819 and 1830) as demonstrated by the existence of creamwares and pearlwares. Underlying Stratum V, is Stratum VI, a mortar and brick layer that stretches along the north part of the unit. Underneath Stratum VI, along the north part of the unit and stretching to the west half of the unit, is Stratum VIII.

Stratum VIII is described as a black clayey silt that extends across the north part of the unit. It extends to the west part of the unit and is dominated by an intrusion defined as Feature #2. The feature consisting of charred wood, ends at +3.39 MSL. There was insufficient artifactual recovery in order to postulate a date for the feature but it may be a floor remnant that was associated with a fire that levelled this area of Manhattan.

Underlying this stratum is a dark greyish brown clayey silt that defines Stratum IX. It ends at a depth of +2.04 MSL and consists of brick, mortar, bone ceramics and glass. The deepest level of this stratum (level 3) produced a large concentration of tin enameled earthenware (110 pieces) establishing a Mean Ceramic Date of 1735 for this deposit.

Strata XIII and XIV, underlying Stratum IX, are described as sand deposits varying in color from a dark greyish brown to reddish

brown. The depth of these deposits are at +1.24 MSL and consists of coral, beads, leather, wood and aboriginal ceramics that suggest a landfill context. Even though there are insufficient artifacts to produce a Mean Date Range or MCDs, the datable ceramics suggests a middle eighteenth century context that does not agree with other material in the matrix.

Underlying these deposits are Strata XV, XVI, XVII, XVIII, XIX, XX and XXI, which are described as a silt that varies from a clayey to a sandy texture. The color descriptions include a yellowish brown, reddish brown, very dark grey brown and greyish brown. The total depth of these deposits is +4.36 MSL, which consisted of leather, debitage, nut fragments, peach pits, fish scales, glass and ceramics. The matrix is what has been defined elsewhere on the block as landfill. There are insufficient datable artifacts to date the deposits with any precision.

Testing of Lot 18 also included investigation of Feature #6, located in the southeast part of the lot. The feature is a capped cistern. The cap is a piece of grey slate. The feature was taken down 1.3 feet (+3.09 MSL) where the excavation ceased upon engaging two large rocks that impeded further investigation. The feature was then probed and it appears that the feature does not continue below this depth. Of what was sampled (Stratum I), the description is that of a black silt with sand. This stratum consisted of glass, metal, ceramic (porcelain and redwares) bone fragments, egg shell, and a button. From the analysis there was no diagnostic material from which a date of the deposit could be postulated.

Significance and Recommendations

The significance of the lot at the 144 Pearl Street is associated with the possible cistern (Feature #6), the burnt flooring (Feature #2), and the rich deposition of artifacts (Stratum IX) below the burnt floor.

The wood flooring is probably associated with a structure probably dating to the late eighteenth century. Data on the internal configuration of this possible structure can be compared to earlier structural elements within the block. In turn this would provide data on the nature of structural and non-structural related activities within urban lots (Research Question #2).

The rich deposit of artifacts below the burnt floor offers the highest concentration of early eighteenth century ceramics on the block. These materials would provide data on the activities within lots, and in turn the lots' occupants (Research Question #2 and #3).

The goals of data retrieval in this lot include relating the two features (i.e. the cistern and the floor); defining the nature of

the structure exposed in the unit, as defined by the floor; and the extent and association of the rich early eighteenth century deposits. This will be accomplished through the removal by machine of all demolition rubble within the yard area (Figure 1). The yard area will be divided into quadrants and minimally two 5' x 5' excavation units will be placed in each quadrant. The sample size includes the existing test excavation from the Phase II investigations; thus, seven new units will be excavated in this lot. One unit will be placed over Feature #6 to include excavation of the feature and surrounding soils.

This will provide a thirty-one percent (31%) sample of the yard area, and should sufficiently expose the features and early artifactual deposits. All but two of these units will be advanced to the top of the landfill. In order to fully address Research Questions #4 and 5, landfill deposits must be sampled across the project area. As test Unit #5 was not advanced to river bottom, two of the proposed seven units in Lot 18 will be dug to the base of landfill in order to provide a sample of landfill deposits in this area of the block. All soil will be processed as discussed earlier (see Field Methods). A two-person team will be assigned to each unit. Excavation of one unit will take approximately 10 person days to complete. Thus, tasks to be accomplished within this lot will take a total of 70 person days to complete.

Lot 19 at 146 Pearl Street

Historic Overview

Number 146 Pearl Street was originally contained within the bounds of Water Lot Grant 3, granted to Peter Adolph on October 12, 1694. His widow reported a house on the property in 1709, and by 1721, Andrew Fresneau had developed both the Pearl and Water Street frontages of the property. Ownership of the two properties was apparently separated in the mid-eighteenth century. In 1709, 1721 and 1732 (the years for which samples have been selected), tenants occupied the property.

Little is known about No. 146 Pearl Street until 1789, when it was occupied by Oliver Hull, a druggist. Different druggists and/or apothecary firms occupied the address until 1820. By 1830, Smith and Wheeler, commission merchants, were assessed for a "store", i.e., a warehouse.

No basement data was available on the mid to late nineteenth century buildings that occupied this lot. The most recent map of the area (1982) indicates that this lot contained no basement. In addition, earlier maps indicate that the rear of this lot was open yard area, which was eventually covered with a one-story structure. Given the shallow depths of foundations for such structures, and the absence of a basement as shown in the late map on the property, this lot was assigned a moderate potential for containing intact archaeological remains. As the rear area of the lot was open for a long period of time, this rear area was proposed for testing. This testing was to include excavation of a 5' x 5' foot unit within this yard area. In addition to this test unit, a backhoe trench was proposed for the front of the lot, to identify any intact structural remains that would have fronted on Pearl Street. The results of the trench testing are presented within the Lot 20, 148 Pearl Street, discussion as the trench cross-cut the latter lot and 146 Pearl Street. The test unit within the lot at 146 Pearl Street is discussed below.

Testing Results

One 5' x 5' foot test unit was excavated within the lot at 146 Pearl Street. The unit was placed adjacent to the 146-148 Pearl Street lot wall in the back yard area. This area was initially cleared by backhoe and bulldozer to the surface of the lot walls, which were beneath several feet of demolition rubble. Mechanized clearing below the tops of the lot walls was halted when a pavement of dressed slabs was encountered in the lots at 144 and 146 Pearl Street, indicating an intact surface. The area of the slabs included a capped cistern (Feature #6) in the lot at 144 Pearl Street.

The upper most stratum of the intact deposits in the lot at 146 Pearl Street was a dark yellowish brown sand, designated Stratum I. This stratum began .35 feet below lot datum (which was located 5.49 feet above mean sea level (MSL)), and extended to a maximum depth of 1.90 feet below datum (+ 3.59 feet MSL). Although a general surface collection of the cleared yard area recovered pearlware, whiteware, ironstone, and other nineteenth century and earlier artifacts, Stratum I yielded only modern debris. Bathroom tiles, clear bottle glass, safety glass, and mirror glass were the most common items comprising the Stratum I artifact assemblage.

Stratum I overlaid an irregular concrete floor which exhibited a minimum thickness of .30 feet and a maximum thickness of .90 feet. The floor was designated Stratum II. Immediately beneath the floor was a very dark greyish brown sand, Stratum III, which extended to a maximum depth of 2.62 feet below datum (+ 2.87 feet MSL). Both arbitrary levels that comprised Stratum III yielded large artifact samples containing datable ceramics. Diagnostic items from level 1 consisted predominately of transfer printed pearlware. Other datable materials included shell edge and hand painted polychrome over and under glaze pearlware, undecorated ironstone. The diagnostic ceramic assemblage from level 2 consisted primarily of undecorated whiteware and undecorated pearlware. Other temporally sensitive ceramics from this level included tin enameled earthenware; undecorated and hand painted under glaze pearlware; and ironstone. Both levels contained large quantities of bottle glass. Analysis of datable ceramics from Stratum III indicates that a Mean Ceramic Date of 1819 may be assigned to level 1, and a date of 1823 may be assigned to level 2.

Underlaying Stratum III, on a west-sloping surface, was a dark yellowish brown sandy/silty clay, designated Stratum IV, which extended to a maximum depth of 2.82 feet below datum (+ 2.97 feet MSL). The four arbitrary levels comprising this stratum displayed some divergency in both the overall frequencies and types of artifacts within the assemblages. Diagnostic ceramics include undecorated and hand painted tin enameled earthenware, hand-painted polychrome underglaze pearlware, salt glazed stoneware, and porcelain. Artifacts from level 1 are primarily bottle glass, unidentifiable metal objects, and bone. Bottle glass continued as the dominant artifact in level 2. The ceramic assemblage from this level is predominately by undecorated and hand painted underglaze tin enameled earthenware. Other diagnostic ceramic types were undecorated creamware, slip combed earthenware, undecorated whiteware, and salt glazed stoneware. Kaolin pipe fragments, unidentifiable metal objects, and bone fragments occurred frequently throughout this level.

Bottle glass is entirely absent from the level 3 assemblage, although other material types continue to occur with frequencies

undecorated tin enameled earthenware, undecorated pearlware, and undecorated creamware. Unidentifiable metal objects, kaolin pipe fragments, and bone remain ubiquitous within level 3.

Level 4 displays a marked decrease in overall artifact frequency in comparison with levels 2 and 3. Datable artifacts from this level are limited to two pieces of tin enameled earthenware and one piece of stoneware. Bottle glass, bone, and metal are present, but not in significant quantities.

Mean Ceramic Dates for Stratum IV are as follows: level 1, 1750; level 2, 1765; level 3, 1771; level 4 has too small a sample of ceramics to allow calculation of a reliable MCD.

In the east half of the unit, Stratum IV is underlain by a clayey/sandy silt, mottled with charcoal and coal, designated Stratum V; and in the west half of the unit by a yellowish brown silty sand, designated Stratum VI. Both of these strata reach a maximum depth of 3.02 feet below datum (+ 2.47 feet MSL).

Equal quantities of glass, bone, metal, ceramics, and pipe fragments were recovered from Stratum V. The ceramic artifacts are predominately tin enameled earthenware, both undecorated and hand-painted. Green and clear glaze redware and hand painted porcelain were also recovered.

The artifact assemblage from Stratum VI displays greater frequency and diversity of material types. Bottle glass, bone, and metal are the most common items. Diagnostic ceramics include undecorated creamware and salt glazed stoneware. Buff bodied stoneware and a variety of redwares were also present.

Stratum VI is underlain by a deposit of heavily decayed wood planking and associated organic staining, designated Stratum VII, within the east half of the unit. Stratum IX in the west half of the unit, is a dark greyish brown sandy/clayey silt. (The deposit that was originally designated Stratum VII was later found to be the same as Stratum X. Consequently, the Stratum VII designation was discarded). Stratum VII extended to a maximum depth of 3.40 feet below datum (+ 2.09 feet MSL). The Stratum VII artifact assemblage consisted primarily of bottle glass, flat glass, and oxidized metal. Three temporally diagnostic items were recovered: one sherd of undecorated tin enameled earthenware, one of hand-painted earthenware, and one of undecorated creamware.

Stratum IX extended to a maximum depth of 3.02 feet below datum(+ 2.47 feet MSL). This stratum contained a preponderence of bone (76 pieces) and undecorated tin enameled earthenware (25 sherds). Hand-painted tin enameled earthenware also occurred frequently. Other diagnostic ceramics were slipped combware and clouded tortoise shell earthenware.

Underlaying the above strata, on an irregular surface, was a dark yellowish brown sandy/clayey silt designated Stratum X, which extended to a maximum depth of 3.50 feet below datum (+ 1.99 feet MSL). This stratum yielded an abundance of bone, and metal objects, and fifty sherds of tin enameled earthenware. Other temporally diagnostic artifacts included creamware, slipware, buff earthenware, and white salt glazed stoneware. Analysis of the datable ceramic artifacts produced a MCD of 1751 for level 2 of this stratum (level 1, which was limited areally, contained too small a sample of diagnostic ceramics to allow calculation of a meaningful MCD).

Stratum X was underlain by a reddish brown clayey silt, designated Stratum XI, which reached a maximum depth of 3.68 feet below datum (+ 1.81 feet MSL). Both the frequency and diversity of artifactual materials decreased markedly within this stratum. The artifact assemblage consisted of unglazed and clear glazed redware, kaolin pipe fragments, and pieces of glass, metal and bone. No temporally diagnostic artifacts were recovered.

The above stratum was underlain by a dark greyish brown sandy silt, Stratum XII, which extended to a maximum depth of 4.00 feet below datum (+ 1.49 feet MSL). There was a slight increase in the overall frequency of all types of artifacts within this stratum. Bone fragments were the most common items in this deposit; unidentifiable metal objects and bottle glass increased in frequency over the previous stratum, as did diagnostic and nondiagnostic ceramics. Diagnostic-ceramics, in order of frequency, were undecorated tin glazed earthenware, hand-painted tin glazed earthenware, and slip combed earthenware. A variety of non-diagnostic earthenwares and redwares were also recovered, as were several kaolin pipe fragments.

Beneath the above stratum, in the east half of the unit, was a yellowish brown clayey silt, Stratum XIII, and in the west half of the unit, an olive brown sandy silt, Stratum XIV. Stratum XIII reaches a maximum depth of 4.30 feet below datum (+ 1.19 feet MSL); Stratum XIV, which encompasses two arbitrary levels, extends to a maximum depth of 4.68 feet below datum (+ 0.81 feet MSL). Stratum XIII yielded only five pieces of unidentifiable oxidized metal and approximately .01 kilogram of shell.

The artifact frequency within Stratum XIV was comparable to that of Stratum XII above. Oxidized metal fragments, bone, and both red and yellow brick fragments were the most common items. Only one diagnostic ceramic artifact was recovered, a piece of tin enameled earthenware from level 1. Nondiagnostic ceramics consisted of redware sherds exhibiting a variety of glazes. Kaolin pipe fragments were present within both levels of Stratum XIV.

Beneath Stratum XIV was the top of a dressed stone wall that abutted and lay parallel to the 144-146 Pearl Street lot wall,

which was the southern extent of test unit. The stone wall extended .80 foot into the south half of the test unit. Immediately north of the wall was a builder's trench, which was 1.40 feet at its widest point. North of the builder's trench was a compact deposit of brown sand, gravels, and cobbles, designated Stratum XV. This stratum followed an irregular contour, sloping steeply toward the builder's trench, and extended to a maximum depth of 5.80 feet below datum (- 0.31 feet MSL), encompassing four arbitrary levels. Artifactual materials were relatively sparse throughout Stratum XV. Only one diagnostic European artifact was recovered; two sherds of undecorated tin enameled earthenware, which cross mend from level 4. The nondiagnostic artifact assemblage from the entire stratum consisted of three redware sherds. One sherd of plain, grit-tempered aboriginal pottery, probably of the Middle to Late Woodland period, was recovered from level 1. Other recovered materials consisted of unidentifiable metal fragments, brick fragments, shell, and kaolin pipe fragments.

Beneath Stratum XV, conforming to a similar surface contour sloping into the builder's trench paralleling the stone wall, was a reddish brown sandy silt, Stratum XVIII. (The original Stratum XVI designation was eventually combined with Stratum XVIII and discarded). It became apparent during excavation that Stratum XVII represented the majority of fill within the builder's trench. Eight arbitrary levels comprised this stratum. The only artifact recovered from level 1 was a sherd of slipped redware, apparently the handle of a chamber pot. No materials were recovered from level 2. The frequency and diversity of artifactual materials increased markedly within level 3. Unidentifiable metal objects (heavily oxidized) were the most common material recovered. Ceramics consisted of tin enameled earthenware, redware, and porcelain. Kaolin pipe fragments, peach pits, and wood fragments were also present in small quantities. The types and frequency of diagnostic and nondiagnostic artifacts remained similar throughout Stratum XVIII among levels 3 to 8, except for the occurrence of 4 chert flakes, probably of aboriginal origin, in level 8.

Below the builder's trench, within the west half of the excavation unit, was a dark brown clayey silt mottled with grey clayey silt, designated Stratum XVIII, which extended to a maximum depth of 6.55 feet below datum (- 1.06 MSL). Level 7 of Stratum XVIII occupied the east half of the trench at this elevation. This stratum encompassed three arbitrary levels, throughout which bone and unidentifiable metal objects comprised the majority of the artifact assemblage. Undecorated tin enameled earthenware, buff earthenware, and redwares exhibiting a variety of glazes, comprise the ceramic assemblage from this stratum. Kaolin pipe fragments were present in all levels. Two gun flints were recovered from level 2.

Paralleling the lower portion of the stone wall within the southeast quadrant of the unit, was a deposit of dark yellowing brown sandy silt that was entirely devoid of artifacts. This was designated Stratum XIX, and extended to a maximum depth of 6.55 feet below datum (- 1.06 feet MSL).

Below Stratum XIX and the lowest levels of Strata XVII and XVIII, was a dark brown to black clayey/sandy silt fill, designated Stratum XX, which was excavated to a maximum depth of 8.50 feet below datum (- 3.00 feet MSL). This stratum yielded a variety of redwares, and one sherd each of slipware and stoneware. Kaolin pipe fragments, bottle glass, oxidized metal, brick, and bone were also present. Since excavation of Test Unit 4 was terminated at this point, the actual depth of Stratum XX is undetermined at this time.

Significance and Recommendations

The lot at 146 Pearl Street contains, within its rear yard area, several important artifactual deposits and structural features. Below a cement capping are several strata of refuse, dating to the late eighteenth and early nineteenth century. These strata are in turn overlaying a wood flooring. It is hypothesized that these deposits and wood floor may be a feature that was capped by the concrete. The deposits within this possible feature appear to pile up against the southeastern corner of the test unit. The function of this possible feature is not known. However, the ceramic materials within these "feature" deposits date to the occupation of the lot by several druggists. In fact, some of the ceramic artifacts (i.e., a tin enameled ointment jar) may directly relate to the occupation of an apothecary business.

Below the wood flooring, were several deposits with a low frequency of materials, which in turn were above a stone wall and associated builder's trench. This stone wall and trench were dug into the top layer of landfill. Given the depth of the stone wall, it is hypothesized as being associated with a very early occupation of the lot. Of special note is the existence of a similar stone wall, at the same depth, within the lot at 110 Water Street.

The above deposits, possible features, and structural remains, have the potential to provide data on the use of rear yard areas in the late eighteenth and early nineteenth century, and possibly during the occupation of a Colonial and Revolutionary War Period druggists (Research Questions #2 and #3). There is also the potential to provide data on the use of internal and external structure space within an early eighteenth century property (Research Question #2). What will be of great importance is the relationship between the walls in both the lot at 146 Pearl and 110 Water Streets. These walls may be either the remains of a single, very early structure, in existence before the final lot

lines on the block were established; or the remains of two, but contemporaneous buildings.

The goals of the data retrieval program for the lot at 146 Pearl Street will be to (1) identify the nature of the possible feature exposed in the test unit, (2) determine the nature of the deposits beneath the feature floor and above the landfill deposits, and (3) identify and clarify the nature of the lower stone wall within the test unit and its relationship to the similar wall in the lot at 110 Water Street. These goals will be accomplished through the removal of all demolition rubble within the rear of the lot (Figure 1). The yard will be divided into quadrants, and two 5 x 5 foot units will be systematically placed within each quadrant. One unit will expose more of the possible feature. A total of seven units will be dug during data retrieval. The unit excavated during testing will serve as the eighth unit in this sample.

This will provide a thirty-one percent (31%) sample of the yard area, and should sufficiently expose the stone wall, the feature, and cultural deposits. All but two of the units will be advanced to the top of the landfill. The remaining two will go to the base of landfill, if possible, in order to more fully sample the landfill in this area of the block. All soil will be processed as discussed above (see Field Methods). A two-person team will be assigned to each unit. Excavation of one unit will take approximately 10 person days to complete. Thus, tasks to be accomplished within this lot will take a total of 70 person days to complete.

Lot 20, at 148 Pearl Street

Historic Overview

The 148 Pearl Street lot appears to fall within Water Lot Grant 2, granted to Robert Sinclair in 1694. That year, he sold a portion of the property to Henry Kormer, who with Sinclair, built a wharf at the low water mark of the original water lot. By 1702, Kormer owned and leased two houses at 148 Pearl Street and 114 Water Street. Prior to 1772, the property changed hands several times and was leased to a series of tenants.

In 1772, Hugh Gaine, Printer, Stationer, and Bookseller, bought the property, which still included both the Pearl and Water Street frontages, although it was probably occupied as two units, one facing Pearl Street and the other facing Water Street. In 1759, Gaine had moved his printing office "to the House next Door to Doctor William Brownjohn's in Hanover Square, near the Meal Market" (Stokes 1898-1928:IV:690). Brownjohn owned the property at 150 Pearl Street, which also extended the width of the block to Water Street, According to Stokes, Gaine subsequently bought the property to which he had moved in 1759, which is consistent with what is known about the properties at 148 and 150 Pearl Street. He subsequently moved to Rotten Row (now Water Street), "next Door to that Corner opposite the Merchants Coffee House", which was situated at the southeast corner of Wall Street and Water Street, across from the project area (as quoted in Stokes 1898-1928:IV:995). The location of the print shop on Rotten Row is consistent with Gaine's occupation of the Water Street frontage of the property he had bought in 1772 (now known as 114 Water Street). Gaine had his print shop on Rotten Row, or Water Street, when he reported the Revolutionary cause in the summer of 1776. He evacuated to Newark in the fall but returned to New York by December 1776. At that time he opened a print shop on Pearl Street, presumably at No. 148.

In 1804, Gaine sold 148 Pearl to a merchant, Daniel Phoenix. It is not known if Phoenix occupied the property. In 1813, Calvin Baker, a merchant, owned and appears to have lived on this property. From 1820 to 1850, 148 Pearl Street contained a store. By 1860, the lot contained a four story building, with a possible rear yard area. This structure was probably demolished for the Orient Building, which occupied the northwest corner of the block (148, 150, 152 Pearl and 79, 85 Wall Streets).

City Directory information on this property indicates that between 1789 and 1794, the property contained a residence. In 1813, the directory notes a merchant/residence at this address. From 1820 to 1850, a store occupied the property.

The archaeological potential of this lot was unknown, as no information was available on the presence or absence of a base-

ment for the Orient Building, which stood over the lot until demolition in 1983. It was hypothesized that this 13-story steel-framed building would have an extensive basement and/or foundations, and thus would have impacted earlier archaeological deposits.

Testing Results

Testing of the 148 lot began with the removal of all modern demolition debris, by bulldozer and backhoe, from the rear of the lot. The east, south, and north lot walls were exposed, as was the rear wall of a structure facing on Pearl Street. The area encompassed by these walls was the rear yard of 148 Pearl Street. These walls probably date to at least the 1850s occupation of the lot. The walls fall at the exact location of the north/south lot lines and building walls as indicated on the earliest map of the block (i.e. 1852). The yard contained a top rubble layer overlaying a red brick pavement. Under this pavement was a second layer of demolition debris, also modern. Materials indicating a modern association included plastic, twentieth century machine-mold bottle glass, carbon rods, and other items. Beneath this second demolition layer was a third demolition deposit (Stratum I), which contained both modern and eighteenth to nineteenth century materials, such as creamware, pearlware, blue transfer printed whiteware, kaolin pipes, tin glazed enameled earthenware, etc. Upon encountering this third deposit, a 5 x 5 foot excavation unit was placed within the yard. Rubble deposits were found to continue down into the unit, but with an increase in the frequency of eighteenth century materials, including creamware, tin glazed enameled earthenware, salt glazed stoneware, and kaolin pipes, with an absence of pearlware. In fact, at about 3.00 feet below lot datum (+2.315' MSL), the rubble contained only eighteenth century materials (i.e. Stratum II with a MCD of 1761). At 4.80 feet below lot datum (+.515' MSL), the top of a small (3' x 3') wooden structure was encountered. Only a portion of the structure was present in the unit. Adjacent to this feature was a builder's trench. The wooden structure consisted of a base of tongue and groove timbers, with upright planks along the interior edge of the structure. The floor of the feature was also wood planking. The structure was filled with artifacts and brick and mortar rubble. This fill dates to the mid to late eighteenth century (MCDs of 1735 to 1750). This date range is based on the presence of tin enameled earthenware, combed slip ware, Whieldon ware, and scratch blue stoneware. The feature's builder's trench contained material suggesting a similar time range. The function of this structure is not totally clear. It is not a landfill retaining structure, given its high elevation within the project area, and the date of material within the feature and its builder's trench. These dates are too late for association with the landfill history of the block (i.e., 1694 to 1702). The structure appears to be the remains of an outbuilding dating to the eighteenth century.

The remainder of the unit, at the level of the wood feature and its builder's trench, consisted of pockets of soil, mostly in association with the mid-nineteenth century walls of the lot. However, along the south side of the unit, was an east/west running timber, with perpendicular spread footer timbers underneath. Such complexes, by definition, are for structural support. At present, what this complex supported is not evident.

The wood feature and its builder's trench overlay soil deposits of an undetermined date, that in turn overlay landfill deposits. The landfill deposits were exposed by augering just outside of the area of the wooden structure. These deposits appear to begin approximately 7.85 feet below lot datum (-2.535 MSL). Landfill is indicated by a matrix of silty clay with a high organic content; and containing high frequencies of wood chips, leather, seeds, bone, shell.

During the removal of the upper demolition layers, and prior to placement of the test unit in the yard, two brick lined features were uncovered along the walls of the lot. One (Feature 4) is located along the east wall of the lot, the second (Feature 3) along the north wall of the lot, just northwest of the test unit. It was not possible to test the feature along the east wall, as it is filled with cement. However, the second brick feature was accessible for testing. Placement of an auger boring in the southeast corner of the feature revealed several intact cultural deposits, which tentatively date to the eighteenth century (MCD of 1769 for Stratum II within the feature). This date is based on the presence of undecorated creamware, Jackfield, green edged pearlware, transfer printed pearlware and Renish Stoneware ceramics. One stratum within this feature was very organic in appearance, possibly night soil material. The function of this second brick feature is unknown.

In addition to the 5' x 5' excavation unit in the yard of lot 148 Pearl Street, a backhoe test trench, oriented north/south was excavated, bisecting the 146/148 lot walls. The purpose of the trench was to establish the extent and integrity of intact cultural deposits underlying building foundations fronting on Pearl Street.

One stratum of modern demolition debris, containing brick, mortar, steel pipe, safety glass, plastic and bottle caps was excavated to a depth of 3.0' below surface (+4.9 MSL), overlying a concrete floor. Two walls were exposed on the 146/148 lot line. The northern constructed of brick, the southern of stone. South of the stone lot wall, the modern demolition rubble continues to a depth of 4.2' below surface (+3.7' MSL), overlying another concrete floor. Under the concrete floors and north of the brick wall, a second modern demolition deposit similar in composition and content to the overlying demolition rubble, was encountered. South of the stone wall, a third brick rubble level, 1.0' thick

was excavated. This deposit appears to be similar to the second demolition level cleared in the lot's yard area.

Underlying the third rubble level in the south section of the trench, a reddish brown silty sand lens (Stratum IV) approximately 1.0 foot thick was excavated. This sand deposit has consistently been recorded on other areas of the block as the uppermost deposit of landfill. Under the silty sand and south of the stone lot wall, land fill deposits were excavated. These deposits began approximately 7.8' below surface (+0.1' MSL) and extend to the bottom of the trench at a depth of approximately 15.0' below surface (-7.1' MSL).

The landfill matrix is indicated by a dark brown, sandy silt, grey and strong brown clayey coarse sand. The cultural material recovered from these landfill deposits consisted of hand-painted tin enameled earthenware, undecorated creamware, comb slip decorated buff body earthenware, redware, kaolin pipe fragments, glass, bone, fish scales, leather and peach pits. The lowest deposit, Stratum VIII, is a reddish brown silty clay that showed a marked reduction in the artifactual assemblage consisting of tin enameled earthenware, glass, wood, iron fragments and kaolin pipe fragments. This stratum also had waterworn pebbles suggesting that river bottom had been identified.

North of the brick wall and under Stratum I, the brick demolition rubble, another landfill deposit was excavated (Stratum III). This deposit, approximately 2.0' thick, extends to 11.6' below surface (-3.7' MSL), and contains pipe stem fragments, glass, oyster shells, brick, and mortar. Under Stratum III, another landfill deposit was encountered. The matrix was a very dark brown and grey mottled clayey coarse sand, containing hand-painted tin enameled earthenware, redware, pipe fragments, case bottle fragments, bone, shell, wood, brick, mortar, a water worn Jasper flake, and coral. This deposit extends to the bottom of the trench, 12.5' below surface (-4.6' MSL). Results of the 146/148 test trench seem to indicate that intact occupational deposits are not present beneath the building foundation at 146 or 148 Pearl St.

Significance and Recommendations

The significance of the lot at 148 Pearl Street is associated with the two intact features. One is a wooden structure at the probable center of the rear yard area of the lot. This appears to date to the eighteenth century, prior to Gaines ownership of the lot. The second is a brick-lined feature along the north wall of the lot, which may date to the late eighteenth century. The latter feature may contain artifacts used by the late eighteenth century occupants of this property, and thus provide information for addressing Research Question #2 and #3. The wooden structure is significant in terms of Research Question #2 - configurations

of urban land use in the colonial period. Specifically this feature will provide data on the spatial distribution and structure of architectural elements within an urban lot. Most architectural remains associated with lot occupation are constructed of stone or brick. This feature provides a rare opportunity to study a wooden architectural structure, in terms of function and construction technology.

The goals of the mitigation consist of (1) identifying the size, shape and function of these two features; and (2) clarifying the relationship of each feature with the configuration of structures within the lot. This will be accomplished through removal by machine of all demolition rubble overlying the eighteenth century rubble deposit (Stratum II). This latter rubble deposit will then be examined with six (6) 5' x 5' foot hand controlled excavation units. Hand excavation will proceed into the lower strata, including the wooden structure and its fill. All units will be advanced to the top of landfill. Forty-nine percent (49%) of the yard area will be sampled by these units. These units will be placed as follows: (a) one unit over Feature #3, the brick lined feature along the north lot wall. The feature will be totally excavated as will the area surrounding the feature; and (b) five units around Feature #1, the wooden structure. All soil will be processed as discussed earlier (See Field Methods). A two person team will be assigned to each unit. Excavation of one unit will take approximately 10 person days to complete. Therefore, data retrieval tasks within the lot at 148 Pearl Street will take a total of 60 person days to complete.

Lot 21 and 22 at 150 and 152 Pearl Street

Historic Overview

Lots 21 and 22, occupied by the Orient Building from 1911 until demolition in 1983, consists of properties formerly associated with 150-152 Pearl Street, and 79-85 Wall Street. Number 152 Pearl Street and all of the Wall Street properties were originally contained within Water Lot Grant 1, granted to John Theobald on October 12, 1694. Number 150 Pearl Street was contained within Water Lot Grant 2, granted to Robert Sinclair on October 12, 1694.

Theobald appears to have developed both the Pearl and Water Street frontages of his grant by 1702, and his widow reported three houses on the lot, which extended along Wall Street from Pearl to Water Street, in 1732. Theobald's heirs subsequently subdivided the property into three sections, which were sold in 1751. In 1761, the property at 152 Water Street contained a shop and dwelling, and by the end of the eighteenth century, it was owned by the firm of druggists, Wainwright and Caldwell. By 1820, the property had been converted to a warehouse.

Little is known of the property fronting Wall Street, bounded on the west by 152 Pearl Street and on the east by 116 Water Street/87 Wall Street. This property, known as 83-85 Wall Street, was occupied by two shops in 1789, which may also have been used as residences by their tenants. By 1794, at least one of these was used exclusively as a place of business for a series of auctioneers and commission merchants. In 1890, it was legally incorporated into 152 Pearl Street.

By 1702, the property at 150 Pearl Street had been developed and leased to a tenant. It was occupied by a series of tenants through 1732. It was sold to William Brownjohn, an apothecary, in 1746, who may have occupied the property. By 1789, it was rented to a firm of druggists. At the turn of the century, the property appears to have been occupied for both commercial and residential purposes only. In 1813, however, it was rented to four tenants, and by 1820, it had been converted to warehousing.

As with Lot 20, at 148 Pearl Street, the archaeological potential of the lots at 150 and 152 Pearl Street was unknown. No information was available on the presence or absence of a basement for the Orient Building, which stood over these lots. It was hypothesized, however, that this large steel frame building would have a deep basement or foundations which would have destroyed any archaeological deposits.

Testing Results

Testing of these two lots consisted of a backhoe trench along the front of the lots, bisecting their common wall. This trench is

detailed below. A test unit was planned for the rear of the lot at 150 Pearl Street, as this area appeared to have been open prior to the construction of the Orient Building. However, this area was found, during demolition debris removal, to be covered with large steel "I" beams, and concrete. It was not possible, during the testing phase, to get under these large beams and areas of concrete. However, during this rubble clearing, the southeast corner of the lot at 152 Pearl was exposed, and an possible intact cultural deposit was observed. The unit planned for the lot at 150 Pearl Street was then moved to 152 Pearl, to investigate what appeared to be an open yard area within this latter lot.

The rear portion of lot at 152 Pearl Street was initially cleared by bulldozer and backhoe. Below the modern demolition rubble was a steel reinforced concrete floor, the west half of which was removed mechanically. Beneath the floor was a deposit of sand and rubble, designed Stratum I, which extended from 1.09 feet below lot datum (+ 2.65 feet MSL) to 1.56 feet below datum (+ 2.18 feet MSL). A variety of diagnostic artifacts were recovered from the three arbitrary levels comprising this stratum. Predominant types included undecorated creamware, plain and shell edge pearlware, and kaolin pipe fragments. Analysis of the temporally diagnostic ceramics indicates that level 1 of this stratum has an MCD of 1800, level 2 was found to have a MCD of 1772, and level 3 exhibited a MCD of 1798.

Stratum I was underlain by a think lens of dark greyish brown clayey silt, designated Stratum II, which reached a maximum thickness of .20 foot, terminating at 1.62 feet below datum (+ 2.12 feet MSL). Because of this stratum's limited extent, only a small sample was available for screening. Two temporally diagnostic artifacts were recovered, one sherd of white tin enameled earthenware and one sherd of black transfer printed whiteware.

Beneath Stratum II within the north half of Test Unit 7 is a dark yellowish brown silty sand with inclusions of grey clay, designated Stratum III. In the south half of Test Unit 7, Stratum III is replaced by a reddish brown and yellow mottled micaceous sand, designated Stratum IV. Stratum III, which reaches a maximum depth of 2.25 feet below datum (+ 1.45 feet MSL) yielded a variety of diagnostic ceramic types, primarily undecorated creamware. Also recoverd from this stratum were hand-painted tin enameled earthenware and black, red, and blue transfer printed whitewares. These artifacts yielded a MCD of 1816 for level 1 and 1825 for level 2.

Stratum IV extended to a maximum depth of 2.85 feet below datum (+ .89 feet MSL). The overall artifact frequency within Stratum IV is similar to that of Stratum III, although fewer diagnostic items were recovered. The datable ceramics from Stratum IV are:

white salt glazed stoneware, undecorated creamware, and undecorated tin enameled earthenware. The frequency of ceramics from this stratum were too low for calculating a MCD.

Underlaying Strata III and IV was a dark yellow brown clayey silt, designated Stratum V, which extended to a maximum depth of 3.05 feet below datum (+ .68 feet MSL). This stratum yielded only one datable ceramic, a sherd of Jackfield ware, which suggests a middle to late eighteenth century affiliation. Also recovered were several kaolin pipe fragments, slipped redware, nondiagnostic glass, wood and metal, and one aboriginal lithic flake.

Beneath Stratum V in the north half of the unit was a compact dark brown sand, designated Stratum VI, which extended to a maximum depth of 3.25 feet below datum (+ .48 feet MSL). In the south half of the unit was a loosely compacted sand and silt deposit, designated Stratum VII. This extended to a maximum depth of 4.20 feet below datum (- .47 feet MSL), eventually replacing Stratum VI in the north half of the unit. Stratum VI yielded relatively few artifacts; among them were a piece of English flint, nondiagnostic glass and metal objects, and one kaolin pipe stem fragment.

Stratum VII yielded a slightly larger artifact assemblage and contained several diagnostic items, including tin enameled earthenware, blue shell-edge pearlware, salt glazed and lead glazed stoneware, and kaolin pipe stem and bowl fragments. However, the ceramic frequencies were too small to calculate a MCD. Auger probing revealed that Stratum VII extended at least to 7.25 feet below datum (- 6.32 feet MSL) with no discernable change in artifact content or frequency. Excavation of Test Unit VII was terminated after augering.

As noted above, a backhoe-excavated test trench was placed in the front of lots at 150 and 152 Pearl Street, approximately 15 feet east of and parallel to the street. The trench was bisected by the 150-152 lot wall. The southern portion of the trench, within 150 Pearl Street, consisted entirely of modern construction rubble to a depth of 7.80 feet below grade (+ .325 feet MSL). Beneath this rubble was a massive, reinforced concrete floor with two stairwells, one metal, one concrete, leading upward from its surface. The reinforced concrete, which could not be penetrated by the trenching equipment, apparently served as both a basement floor and foundation for the Orient Building.

In the northern portion of the trench, within the lot at 152 Pearl Street, four strata were delineated, all of which contained datable artifacts. These were overlain by a layer of recent demolition debris, which was approximately .70 foot thick. Stratum I, which began at .70 feet below grade and extended to a maximum depth of 2.20 feet below grade (+ 5.925 feet MSL), as composed of brick and mortar rubble within a grey/brown sandy matrix. This

stratum yielded a variety of twentieth century materials such as ceramic floor tiles, electrical wiring, and safety glass.

Stratum I was underlain by a dark greyish brown sand, designated Stratum II, which extended to a maximum depth of 3.70 feet below grade (+ 4.425 feet MSL). With one exception, the artifacts recovered from Stratum II indicate a twentieth century affiliation. One piece of undecorated creamware was retrieved from the stratum's screened sample.

Stratum II was underlain by a dark yellowish brown silty sand, designated Stratum III, which extended to a maximum depth of 4.40 feet below grade (- 3.725 feet MSL). Although this stratum was relatively thin (.70 feet), a marked increase in the number of diagnostic ceramic artifacts was noted. Undecorated creamware and pearlware sherds were most frequent. Also recovered were undecorated whiteware, hand-painted overglaze porcelain, ironstone, and stoneware ceramics. Analysis of the diagnostic ceramic materials indicated a MCD of 1822.

Stratum IV, which extended form 4.40 feet below grade to 7.80 feet below grade (+ .325 feet MSL), consisted of a dark brown clayey sand with brick rubble. Although the Stratum IV artifact sample was fairly large, it included only one datable ceramic item, a creamware sherd. Also recovered were several kaolin pipe stem and bowl fragments, buff earthenware, and manganese glazed redware. A concrete grade beam was encountered at 7.80 feet below grade, which forced excavation of this trench to be terminated.

Significance and Recommendations

The test unit in the lot at 152 Pearl Street, failed to expose important archaeological remains. The upper three strata within the test unit yielded MCDs in the late eighteenth and early nineteenth centuries. Lower strata yielded ceramic assemblages too small for dating purposes. The upper three strata, may have been yard deposits. However, given the extensive investigations elsewhere in Manhattan (e.g. 175 Water Street) of deposits dating to the same time period and possible land use (i.e., mixed commercial and residential and strictly commerical) represented by these three upper strata, additional work in the area of the test unit is unwarranted. Such work would yield redundant data.

The backhoe trench cross-cutting both 150 and 152 Pearl Street likewise failed to produce important cultural deposits. Those that were exposed in the trench were within basements, and thus in a displaced refuse (cellar fill) context. Since these deposits lack stratigraphic integrity in order to produce results that would either define activity areas or the function of loci and since other archaeological investigations in lower Manhattan (Telco and 175 Water St. for example) have produced similarly aged deposits (early nineteenth century) in a stratigraphically

intact context, then further work at 152 Pearl Street is not warranted. In short, there is other information and better information for the time period of the early nineteenth century from other archaeological sites in lower Manhattan than could be potentially (albeit remotely) produced from a displaced cellar fill refuse context at 152 Pearl Street. Therefore, no additional work is necessary within the front of the lots at 150 and 152 Pearl Street.

One important result of the testing of these two lots is the exposure of lot walls underneath what would have been the location of the 12 story, steel framed Orient Building. It was hypothesized that this type of building would have destroyed all remains beneath it (i.e., pre-dating 1911). This was not the case. Lot walls and basements dating to the nineteenth century were still extant.

Lot 23 at 116 Water Street

Historic Overview

The property at 116 Water Street was originally contained in Water Lot Grant 2, granted to Robert Sinclair in 1649. In 1709, his widow reported property on both the Pearl (150 Pearl) and Water Street (116 Water) frontages of the property. She rented out the property to David and Charles Crommelin. Charles Crommelin was taxed for both houses in 1721. Crommelin may have occupied one of these and rented out the second. Which property was owner-occupied and which tenant-occupied is unclear.

In 1746, the entire property was sold to William Brownjohn, an apothecary, who probably occupied the Pearl Street (150) property and rented out the Water Street (116) property. A tenant occupied 116 Water Street in 1789, 1791 and 1794. The tenant in 1794, after Hugh Gaine had acquired the Water Street parcel from Brownjohn's estate, was a merchant tailor. Gaine sold the parcel to merchant Daniel Phoenix in 1804. In 1808, another tailor, John Forsyth, occupied it. The following year, the property was sold to the merchant firm that also bought the corner lot at Wall and Water Streets. In 1813, both a house and a store were enumerated at 116 Water Street, and from 1820 (in the decennial sample taken) onward, the property was included in the enumeration of 87 Wall Street.

The archaeological potential of this lot is high, as the rear of the lot was open from 1852 (and possibly much earlier) to around 1930. This open area was covered by a one-story structure in 1932. Deed information indicated that from 1860 to 1900, the lot contained a four, then five-story building. However, the 1982 Sanborn map indicates that prior to demolition in 1983, the lot contained only a one-story structure with no basement, thus the reasoning for high potential of recovering intact cultural deposits.

Testing Results

Testing of the lot at 116 Water Street began with the removal of all modern demolition debris by backhoe and bulldozer, from the rear of the lot, (the proposed yard area). The demolition debris consisted of massive quantities of brick, safety glass, formica, asphalt and plastic. Removal of the demolition debris to a depth of 5.5' below surface (+ 5.5l MSL), exposed the west and south stone lot walls, as well as a concrete wall oriented north/south. The concrete wall probably represents the west wall of a structure fronting on Wall or Water Street. The north extent of the yard area was opened to a point equal to the 148/150 lot line fronting on Pearl Street. The east/west and north/south stone walls, probably date to at least the 1850s occupation of the lot. The walls fall at the exact location of the building walls as indicated on the 1852 William Perris map.

A 5' x 5' foot excavation unit (#2) was laid out five feet east of the north/south oriented stone wall (west wall of 116 Water Street) and eight feet north of the east/west stone wall (south wall of lot 23). The test unit exposed the following deposits.

The above mentioned demolition debris overlies another rubble layer, approximately 1.3' thick, extending to a depth of 2.8' below datum (+2.4' MSL) and exposed a stone wall, oriented north/south. This stone wall probably represents the rear lot wall of an earlier structure on the lot. This second rubble level appears to be mixed eighteenth to twentieth century deposit containing brick, mortar, glass, creamware, hand-painted pearlware, transfer printed pearlware, tin enameled earthenware, and slip decorated redware. Under this second rubble level (Stratum I) four small localized deposits of fill were observed. The easternmost, Stratum IV, contained cultural material from the mid to late eighteenth century. Underlying Stratum IV was a sand and rubble fill, and three large shist stones, the nature of which are undetermined at this time. North and east of the large stones, six additional rubble and fill deposits were excavated to a depth of 3.5' below datum (+3.5' MSL). No diagnostic artifacts were recoverd from the fill deposits. Under these fill deposits were several levels of coarse sands and silty sands with mica, containing very sparse cultural material, (i.e., two tin enameled earthenware sherds and two prehistoric pottery sherds). From 3.9' below datum (+3.1' MSL) to 5.1' below datum (+1.9' MSL) the sand deposits were sterile. At 5.1' below datum another prehistoric ceramic sherd and five possible pre-historic flakes were recovered from the coarse sand deposit. At this point the unit was terminated because of water.

The coarse sand deposits observed at 3.5' below datum appear to represent the upper most deposit of landfill, as documented in other test units and trenches on the block. However, this fill occurred at a higher elevation than in most locations within the area.

Deep test # 2 was located within the east end of the lot at 116 Water Street. The trench paralleled Water Street approximately ten feet west of the sidewalk. Ten strata were delineated, all of which yielded cultural materials. One feature was located along the east trench wall, near the north end of the trench.

The upper 1.10 feet of deposits consisted of recent demolition rubble, which was not sampled. This was underlain by a dark brown sand, designated Stratum I, which extended to a maximum depth of 3.80 feet below grade (+ 3.20 feet MSL). This stratum yielded a variety of diagnostic artifacts including white tin enameled earthenware, undecorated creamware and pearlware, and white salt glazed molded stoneware. However, since a tile floor was encountered four feet below grade (+ 3.00 feet MSL), these artifacts could not have been in their original context.

Between Stratum I and the surface of the tile floor was a thin lens of clayey sand designated Stratum II. This stratum was present only within the north half of the trench. Because of its limited areal extent, only a small sample of Stratum II was recovered for screening. Artifacts retrieved included an ironstone mug base and a kaolin pipe stem fragment. As with Stratum I, these artifacts are thought to have been in a disturbed context.

Immediately beneath the tile floor is a mottled brown sand, designated Stratum III, which extends to a maximum depth of 7.30 feet below grade (- .30 feet MSL). Artifacts recovered from the screened sample of this stratum include plain tin enameled earthenware, undecorated and incised creamware, transfer printed pearlware, white salt glazed stoneware, kaolin pipe stem and bowl fragments and a variety of nondiagnostic items. Analysis of temporally diagnostic artifacts indicates that a fairly wide range of potential dates may be assigned, ranging from the early eighteenth to early nineteenth century. Within this stratum, an east/west oriented brick wall was encountered at about the center of the trench. Stratum III terminated at 6.50' below grade (+ .50 feet MSL) north of the wall, and at 7.30 feet below grade (-.30 feet MSL) south of the wall.

Beneath Stratum III north of the brick wall, was a strong brown fine sand, designated Stratum IV; and a dark brown sandy silt, designated Stratum V, south of the brick wall. Stratum IV extends from 6.50 feet to 7.30 feet below grade (.50 to -.30 feet MSL); Stratum V extends from 7.30 feet to 9.00 feet below grade (-.30 to -2.00 feet MSL).

Stratum IV yielded a variety of diagnostic artifacts, predominately undecorated creamware and royal pattern creamware. Also recovered were edge creamware, undecorated pearlware, tin enameled earthenware (hand-painted, underglaze), kaolin pipe stems and bowls, and a variety of nondiagnostic items. Analysis of ceramic produced a MCD of 1784.

Stratum V yielded a similar artifact assemblage, including tin enameled earthenware (hand-painted underglaze), undecorated creamware and pearlware, blue and polychrome hand-painted pearlware (underglaze), kaolin pipe stem and bowl fragments, one of which exhibited a maker's mark with the Greek symbol omega, and a variety of nondiagnostic items. This deposit yielded a MCD of 1798.

On the north side of the brick wall Stratum IV is underlain by a dark reddish brown clayey silt, designated Stratum VI, which extends to a maximum depth of 10.00 feet below grade (-3.00 feet MSL). The recovered artifact sample from this stratum includes plain and hand-painted underglaze tin enameled earthenware, undecorated creamware and pearlware, and Jackfield ware. Nondiagnostic items included modern tile, windowglass, coral, and

unidentifiable metal fragments. Analysis of ceramics produced a MCD of 1765. The presence of modern tile may be due to some mixing during machine excavation.

Underlying Stratum V, south of the wall, is a dark brown silty sand, designated Stratum VII, which extends to a maximum depth of 9.80 feet below grade (-2.80 feet MSL). This stratum yielded fewer artifacts than the overlying strata. Among the diagnostic materials were plain tin enameled earthenware and creamware, hand painted porcelain and kaolin pipe stem and bowl fragments. Analyses of the ceramics produced a Mean Ceramic Date of 1759.

Underlying Stratum VII north of the wall and Stratum V south of the wall, is a dark brown silty sand which extends on both sides of the wall from 10.00 feet below grade (-3.00 feet MSL) to 10.80 feet below grade (-3.80 feet MSL). The artifact frequency continued to decrease within Stratum VIII. Only two temporally diagnostic artifacts were recovered, a kaolin pipe stem fragment and a sherd of undecorated creamware.

Stratum VIII is underlain by a grey sandy silt, designated Stratum IX, which extends to a maximum depth of 12.00 feet below grade (-5.00 feet MSL). Artifact frequency decreased sharply within this stratum. Two diagnostic items were recovered, a sherd of hand-painted underglaze pearlware and a kaolin pipe stem fragment, both of which indicate the same temporal range as Stratum VIII above.

Strata VI, VII and VIII may be landfill, but the eighteenth century dates for ceramics in these deposits suggest a non-landfill context. Further work is needed to address this discrepancy.

Stratum IX is underlain by a dark clayey silt, rich in organic matter, designated Stratum X, which is thought to represent natural riverine deposits. This stratum was excavated to a maximum depth of 15.00 feet below grade (-8.00 feet MSL). Although a few artifacts were recovered from this stratum (none of which were diagnostic), these are believed to have fallen from overlying strata. The recovery of several twentieth century items such as plastic and modern tile, from the Stratum X sample, would seem to verify this assumption.

Feature 8, a large barrel containing fill, was uncovered in the east trench wall, 2 feet north of the east/west oriented brick wall. The feature originated at the Stratum IV/V interface approximately 7.30 feet below grade (-.30 feet MSL) and extended into the upper level of Stratum VI at approximately 9.20 feet below grade (-2.20 feet MSL). The feature consists of the lower half of a wooden barrel containing two fill strata. The upper most stratum within the barrel is an apparently sterile deposit of dark grey coal, coal ash, and slag. This is underlain by a dark brown deposit of coal, sand, and slag, with some organic

matter and an undetermined number of bottles and bottle fragments. The feature is 1.90 feet at the widest point and contracts to a width of 1.40 feet at the base.

It is apparent that only the westernmost extent of the feature was disturbed by trenching activities. A majority of the feature deposits remain intact east of the present trench wall. The feature's function and temporal affiliation remain to be determined.

Significance and Recommendations

The significance of the lots at 116 Water Street is associated with horizontal cultural deposits containing eighteenth century artifacts, a barrel feature associated with some of these deposits, and the landfill deposits which yielded aboriginal materials. The date of these deposits and features suggests associations with middle to late eighteenth century tenants who occupied these lots (see Figure 2).

The occurrance of the artifact deposits, possibly associated with a yard, and the barrel feature, which may have a similar association, were unexpected in this area of the Deep Test #2 (see Figure 2). It was assumed that an area so close to the street would contain only structural remains. Given the presence of these deposits, it is hypothesized that a yard area existed in the Wall/Water Street corner of the block. This yard may have been associated with a structure fronting on Pearl Street. It is also possible that this yard may be part of a property fronting on Wall Street. This can only be determined by additional work in this area. What is significant in the existence of such a yard area, is (a) its possible association with a corner property, a spatial context not represented anywhere else on the block, or (b) its linkage with a very early house that faced Pearl Street, and extended for a great distance toward the river. Investigations of this newly discoverd yard area, thus, have the potential to provide data for addressing Research Question #2. This area may be part of a unique type of property (i.e., located at a corner), which can be compared to other corner properties of the same function. It should be noted that corner properties were also examined in Wilmington, Delaware. A comparative base is thus available.

As discussed earlier, there are two possible explanations for the presence of aboriginal material within the landfill deposits. First, it may be due to outwash. Second, it may be redeposition resulting from the movement of large amounts of land from another location on the island. The resolution of this question will provide data on the nature of the land filling process within the block, and variability in landfilling activities among the water lot grants within the project area (Research Questions #4 and #5).

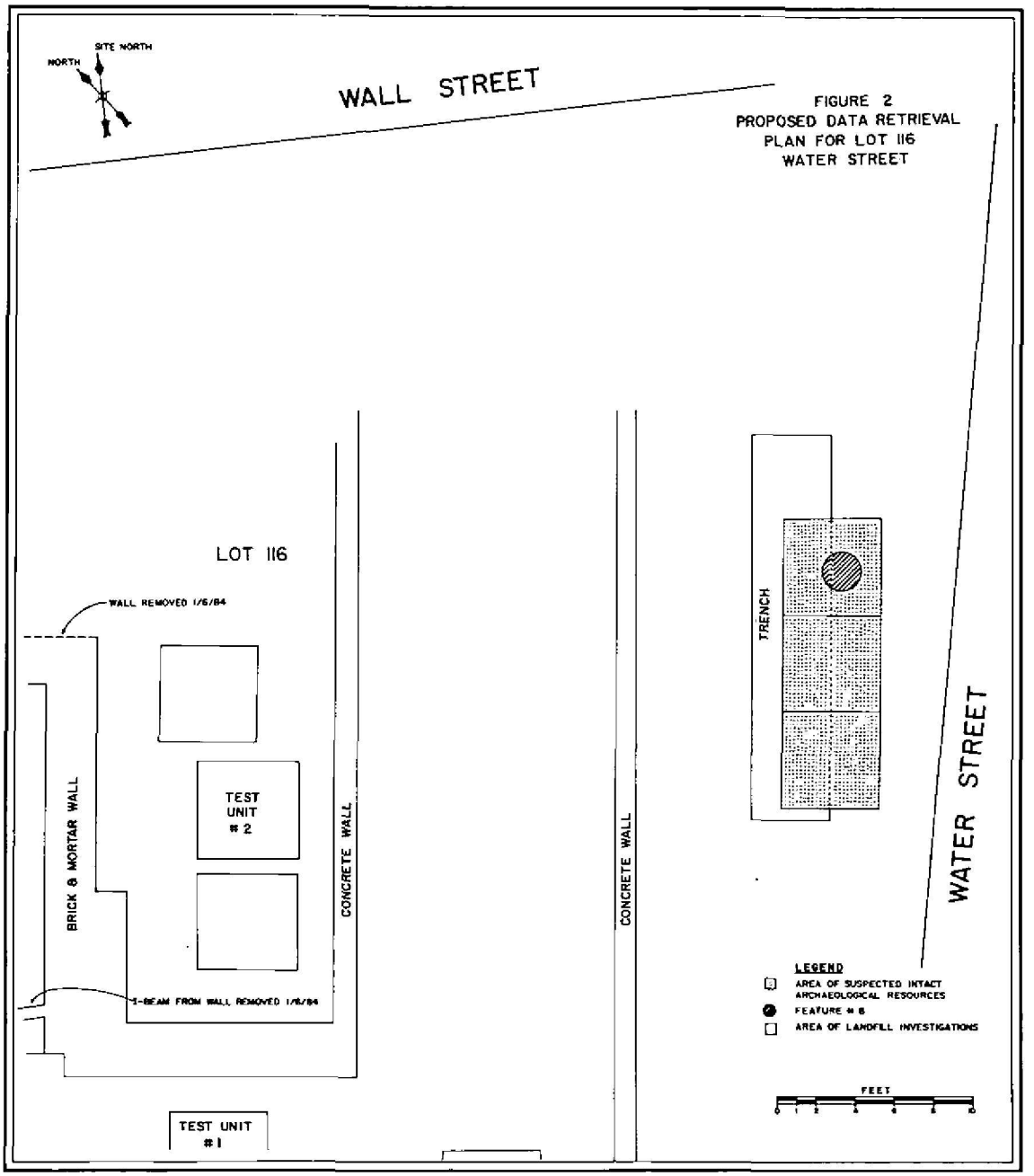

FIGURE 2
PROPOSED DATA RETRIEVAL
PLAN FOR LOT 116
WATER STREET

On a very general level, these aboriginal materials can also provide information on the temporal affiliation of aboriginal occupations on the island, and possibly the presence of specific archaeological and ethnographically defined social groups.

The goals for data retrieval within the lots at 116 Water Street consist of (a) defining the function of barrel features and the nature of its association with the cultural deposits exposed in the deep test, (b) defining the nature of the eighteenth century deposits in the area of the deep test, and (c), providing additional data on the origin of the landfill within the block and the manner in which it was deposited within the water lot grants. These goals will be accomplished through the removal, by machine, of all demolition rubble overlying the lot, and removing the extant basement floors. A total of three 5' x 5' units will be placed in the area of Feature 8, for excavation of the feature and the surrounding cultural deposits. These units will be restricted to the area east and north of the deep test. The area to the west and south has been disturbed by concrete foundations to a depth of + 1.09 MSL (see Figure 2). The depth of these foundations are below the depth of Feature 8 and the possible horizontal yard deposits in association with it. This area will probably produce material in a landfill context only. The area west of the deep test, i.e., within the major portion of 116 Water Street, will be examined through the placement of three excavation units. The area to be sampled (Figure 2) will be divided into quadrants, with minimally one unit placed within the center of each quadrant). (Note: the test unit in 116 Water Street will serve as a sample from one quadrant). These units will be advanced to the base of the landfill. As discussed above, the purpose of these units is to provide a sample of prehistoric artifact-bearing landfill deposits. Given the presence of the concrete foundation walls on the west side of the deep test, and east of the test unit at the rear of the lot, no horizontal yard deposits are anticipated in the area to be sampled by these units. It should be noted that no yard deposits were encountered in the test unit within 116 Water Street.

A two person team will be assigned to each unit and to the barrel feature. Excavation of one unit (or the feature) will take a maximum of 10 person days. Therefore, data retrieval within the lots at 116 Water Street will take 60 person days to complete.

Lot 24 at 114 Water Street

Historic Overview

Number 114 Water Street was originally contained within the bounds of Water Lot Grant 2, granted to Robert Sinclair on October 12, 1694 and subsequently sold to Henry Carmer (or Kormer). Kormer developed the long, thin strip, which originally extended from Pearl to Water Streets, in two parcels by 1702. He may have leased the property to a tenant in the early eighteenth century.

Not much is known of the occupation of the property until 1772, when it was sold to Hugh Gaine, Printer, Stationer and Bookseller. Gaine apparently occupied the property until evacuating to Newark in the late summer of 1775. Gaine returned to New York City in the winter, and by 1789, he had leased the property at 114 Water Street to Adolph Yates, a grocer. After 1789, the property was occupied by a series of tenants. Grocers occupied it in 1820 and 1830. By 1840, it housed a "store," i.e. a warehouse.

Open areas appear to have existed in the rear of the lot at 114 Water Street from 1852 (and probably earlier) to around 1930. In 1932 a one story structure appears to have covered the rear yard area. By 1983 the building at 114, and the one-story structure, were demolished. Given the height of the rear structure and the potential for very shallow foundations, this lot has a high potential for containing intact archaeological resources.

Testing Results

Testing of lot at 114 Water Street began with the removal of all modern demolition debris, by bulldozer and backhoe, in the rear of the lot. The west, north and south lot walls were exposed, as was a concrete wall with steel reinforcement oriented east/west, approximately three feet north of the south lot wall. Removal of the modern demolition debris south of the concrete wall exposed a partially intact brick floor (a possible alleyway), disturbed by what appeared to be the concrete wall's builders trench, extending 2.2 feet north of the concrete wall. North of the concrete wall, modern demolition debris, consisting of brick, mortar, safety glass, asphalt, formica, wood and plastic was removed. A concrete floor, of similar construction to the east/west concrete wall was uncovered in this area of the lot. Removal of modern rubble continued to the east in hope of uncovering the rear structural wall of the building fronting on Water St., thus fully establishing the extent of the yard area. Rubble was excavated approximately 30 feet east from the 114 rear lot line, but no rear structural wall was found. Clearing the concrete floor with the backhoe exposed Stratum I, a strong brown sand. A 5' x 5' excavation unit was laid out within the cleared

yard area. Diagnostic artifacts recovered from this 1.0' thick deposit consisted of tin enameled earthenware, slip decorated earthenware and Westerwald stoneware, yielding a Mean Ceramic Date of 1739. Beneath this stratum was a strong brown clayey sand, Stratum II, which contained little cultural material.

Artifacts recovered from this .6' thick deposit consisted of a single hand-decorated tin enameled earthenware sherd, oyster shell, brick, kaolin pipe fragments, bone and decayed wood. Stratum III, under Stratum II was described as a very dark greyish brown silty clay. This deposit was excavated to a depth of 4.5' below unit datum, and probably represents landfill, as do the two overlying sand strata. This classification is based on the soil matricies. There was a noticeable increase in artifacts recovered from this deposit over the two previous strata. Material recovered consisted of tin enamel earthenware, slip decorated buff body earthenwares, various redware's, stoneware-possibly British brown, kaolin pipe fragments, peach pits, bone and oyster shell. Unit excavation was terminated in this deposit.

In addition to the 5' x 5' excavation unit in the yard area of the lot a backhoe test trench, oriented north/south was excavated along the lot's front. This was located 10 feet west of the Water Street sidewalk. The purpose of the test trench was to establish the extent and integrity of intact cultural deposits underlying building foundations fronting on Water Street, and to expose early building foundations. Two modern demolition deposits were excavated, exposing a series of concrete walls and a partially intact brick floor (same alleyway as noted above). The northern most concrete wall, oriented east/west was located on the 114/116 Water Street lot line. A second, bonded wall then continued south 6.0' where it was bonded to a third wall running west. This concrete wall lines up precisely with the east/west concrete wall uncovered earlier during the clearing of the rear yard area.

Of the two modern demolition deposits excavated overlying the brick floor, the first consisted of primarily of brick and mortar with a soil matrix of dark brown sand. This deposit extended to a depth of 1.8' below surface (+5.82' MSL). The second, containing fewer artifacts, consisted of a dark brown silty sand overlying a brick floor and a builders trench associated with the north/south concrete wall. This second deposit was 4.8' below surface (+2.82' MSL). The builders trench, Stratum III, extended to a depth of 6.9' below surface (+0.72' MSL) and followed the orientation of the concrete walls. Stratum III yielded a mix of artifacts, consisting of hand-painted tin enameled earthenware, buff body earthenware with clearglaze, kaolin pipe stem fragments, window and safety glass, metal wire, brick, mortar, and slate. Based on the above mixed deposit, and its juxtaposition with the concrete walls, the deposit and walls post date the brick floor. The brick floor, bisected by the builders trench (Stratum III) was two

coarses thick overlying .2' of cut stone, then another layer of concrete. This in turn was overlaid Stratum IV. Stratum IV was a dark brown yellowish brown silty sand, extending to a depth of 7.6' below surface (+0.02' MSL). A decayed wood beam was exposed on the surface of Stratum IV, in the center of the test trench. The wood was oriented north/south. The bottom of the concrete wall on the west side of the trench, ended at 6.0' below surface (+1.62' MSL), and is set on a concrete slab. Diagnostic artifacts associated with Stratum IV include hand-painted tin enameled earthenware, undecorated creamware, slip decorated redware, yellow glazed buff body earthenwares, white and grey salt glazed stonewares, and kaolin pipe stem fragments, several with spurs, one of which bore the makers' mark "GI". Several of the artifacts recovered from Stratum IV appear to have been burned, suggesting a possible association with one of the fires that leveled this area of the Manhattan. Analysis of the diagnostic ceramic artifacts produced a MCD of 1799. It should be noted that Stratum IV occurred only under the possible brick alley.

Stratum IV is underlain by a relatively sterile strong brown sand, designated Stratum V. It was excavated to a depth of 10.5' below surface (-2.88 MSL), approximately 3.0' thick. This sand deposit has consistently been recorded in other areas of the block as being the uppermost deposit of landfill. Artifacts recovered from Stratum IV included undecorated creamware, saltglazed stoneware, kaolin pipe stem fragments, glass, brick and mortar. Calculation of a MCD was not possible given the small ceramic sample from the Stratum.

Stratum VI, underlying Stratum V, was a very dark grayish brown clayey silt. Probably representing a landfill matrix. It was excavated to a depth of 16.0' below surface (-8.38' MSL), at which point the farthest extent of the backhoe boom was reached, terminating trench excavation. Two hand-painted tin enamel earthenware sherds were the only diagnostic artifacts recovered from Stratum VI. Non-diagnostic cultural material included; glass, a gold straight pin, mammilian (non-human) teeth, fish scales, oyster and snail shells, peach pits, nut hull fragments, as well as small brick and mortar fragments.

Significance and Recommendations

The test unit within this lot yielded very sparse horizontal deposits, overlaying landfill. Except for beneath the brick alleyway, all cultural deposits within this lot appear to have been destroyed by middle to late nineteenth century construction. Further work is recommended on these intact deposits. The alleyway itself may or may not be historically significant. Further documentary evidence is needed. However, Phase II investigations of deposits above and adjacent to the brick alley indicate that no intact cultural deposits are in direct association with the alleyway.

The investigation of the deposits beneath the alley has the potential to provide data on the nature of rear versus front lot activities in a late eighteenth century property (Research Question #2). These data can then be compared to other lots to be investigated on the block. In addition, this adds another Water Street property to the overall block sample, producing an equal number of lot areas to be studied on both the Pearl Street and Water Street sides.

The goals of data retrieval efforts in the alleyway consist of identifying the nature of the alleyway itself, and the deposits under the alleyway, and to determine if difference in artifact type and frequencies occur in those deposits near Water Street as opposed to those near the rear of the property. This will be accomplished through the removal by machine of all demolition rubble and paving within the alleyway. The alleyway strip will then be inspected through the excavation of three 5 x 5 foot units placed along its length, set at approximately 12 foot intervals. This will provide a forty-two percent (42%) sample of the deposits beneath the alleyway. These units will be advanced to the top of the landfill. Given that landfill deposits were already sampled in the lot at 114 Water Street, and will be sampled elsewhere, in the lots at 110 and 116 Water Street, there is no need to advance the units in the area of the alleyway into these landfill deposits.

All soil from these units will be processed as discussed above (see Field Methods). A two person team will be assigned to each unit. Excavation of one unit will take approximately 10 person days to complete. Thus, tasks to be accomplished within this lot will take a total of 30 person days to complete.

Lot 25 at 112 Water Street

Historic Overview

Number 112 Water Street is contained within the bounds of Water Lot Grant 3, granted to Peter Adolph, a merchant, on October 12, 1694. The property does not appear to have been developed until 1709, when Adolph's widow reported a "house". It is not clear whether this house fronted Pearl or Water Street, since the original grant extended the width of the block. By 1721, however, Andrew Fresneau had developed both frontages, since that year he reported "2 houses and Estate."

Little is known of the occupancy of the proprty until 1789. At that time, Amos Underhill rented it to tobacconist Benjamin Miller, who also occupied the property in 1791. The property was rented to another tenant, Joseph Juhne, in 1794, and by 1808, it had been leased to still another tenant, who may have had a "tobacco manufactory" at this location. By 1813, George Miller, who kept a tobacco shop, owned and occupied the property, although he resided at 109 Water Street. By 1820, 112 Water Street had been sold and converted to a warehouse, or "store."

Historical documentation on this lot suggested that the property had a moderate potential for containing intact archaeological deposits. Given that a basement of 6 to 10 feet existed within the property, no testing within the rear of the lot was proposed. Other rear lot areas on the block had a higher potential for intact deposits and features. However, excavation of a test backhoe trench in the front of the lot was proposed to examine any intact structural remains fronting on Water Street. This trench was to bisect the 112/114 party wall. The discussion below addresses only that portion of the trench within the lot at 112 Water Street.

Testing Results

The backhoe-excavated test trench was placed within the front of the lot, approximately ten feet west of and parallel to Water Street. The upper six feet of the trench, consisted of recent demolition rubble underlain by a thin concrete floor.

Beneath the floor, beginning at 6.30 feet below grade (+2.00 feet MSL), and extending to a maximum depth of 9.30 feet below grade (-1.00 foot MSL), was a dark yellow brown sandy silt with red mottling, designated Stratum II. Although a large sample of artifactual materials was recovered from Stratum II, it contained only one temporally diagnostic item, a piece of tin enameled earthenware. Other materials comprising the sample included wood, bone, unidentifiable metal objects, redware with a variety of glazes, and kaolin pipe fragments.

Stratum II was underlain by a reddish brown micaceous sand, designated Stratum III, which extended to a maximum depth of 10.30 feet below grade (-2.00 feet MSL). Stratum III yielded markedly fewer artifacts than the overlying deposit and contained no temporally diagnostic objects. Modern floor tiles and coarse redware were the most common items from this level, as well as wood, bone, and unidentifiable metal objects. The matrix of this strata, and the one below it, suggests landfill. The presence of the modern tile is probably due to mixing during machine excavation.

Beneath Stratum III was a dark brown sand, designated Stratum IV, which extended to a maximum depth of 14.00 feet below grade (-5.69 feet MSL). Excavation of Test Trench 110 was terminated at that point, so the actual extent of the Stratum IV is determined at this time. Artifactual materials retrieved from the Stratum IV sample included wood, bone, metal, a preponderance of coarse redware; kaolin pipe fragments; and one sherd of undecorated creamware.

Significance and Recommendations

The backhoe trench within the front of the lot failed to expose intact structural remains fronting on Water Street, nor cultural deposits of any importance. The only intact deposit exposed in the trench was landfill. Landfill will be sampled in other areas of the block (e.g. 110 and 116 Water Street) during data retrieval. Sampling of this fill within 112 Water would be redundant. In terms of other cultural deposits (i.e. non-landfill), when the deposits exposed in the trench are compared to those within other lots, those in 112 Water Street lack significance in terms of temporal range and quantity of artifactual materials. Therefore, no hand excavation is proposed for the lot at 112 Water Street. However, the lot is to be cleared by machine. This will be necessary in order to identify the relationship between very early structural walls located in test units excavated in 146 Pearl and 110 Water Streets. Given the orientation of these walls, they may join within the lot at 112 Water Street. If any intact yard deposits or portions of the wall within both units are found in the cleared area of 112 Water (i.e. beneath the concrete floor as found in the test trench), reserve excavation units may be placed within the lot at 112 Water Street, to examine these deposits and features. The use and number of these reserve units will be the result of consultation among the Principal Investigators, and the archaeologist from the Landmarks Preservation Commission, and London and Leeds.

Lot 26 at 110 Water Street

Historic Overview

Number 144 Pearl Street was originally contained within the bounds of Water Lot Grant 4, granted on December 7, 1696, to Christina Veenvos, widow of Daniel Veenvos. The property was subdivided almost immediately, and the area corresponding to Lots 18 (144 Pearl Street) and Lot 26 at (110 Water Street) came into the possesison of Dr. Henricus Selwyns in May of 1699. At that time, there was a house on Pearl Street and a wharf on Water Street (i.e., at 110 Water Street).

In 1702, Christina Veenvos reported two houses on the property; they extended the full length of the block. Both were occupied by tenants at this time. Both Lots (18 and 26) were held as a single unit until at least 1732, and at least one was occupied by a tenant.

Little is known about the property until 1789 when it was leased to a tenant. A series of tenants occupied the property in 1791 and 1794, including the firm of merchants, Saidler and Wheeler. George Miller, a tobacconist, occupied the property in 1808 and 1813. There was a warehouse at the property in 1820 and store at this location after 1830. It is possible that this was a tobacco "store" or warehouse in 1840.

From 1860 until 1982, when demolition occurred, the lot contained a five-story building which apparently did not contain a basement. The rear of the lot remained open at least from 1852 to 1982. In addition, the eighteenth and nineteenth century houses on this lot probably contained backyards.

Given the above factors, the lot was thought to have a high potential for containing intact archaeological deposits. Testing was undertaken to locate features and deposits that may have been present in the open area, and to locate early building foundations on the portion of the lot fronting Water Street.

Testing Results

Testing of the lot began with the mechanized removal of all modern demolition rubble from the rear of the lot. The east, south, and west lot walls were exposed. The walls enclosed a red brick pavement, five coarses thick, which began 4.50 feet below the top of the lot wall (+2.70 feet MSL). Beneath the brick pavement was a dark brown clayey silt comprising an apparently intact yard deposit (Stratum I). The surface of this stratum was hand-cleared of all remaining brick and mortar rubble within the exposed portion of the lot. This superficial troweling recovered pearlware, creamware, stoneware, and tin enameled ceramics as well as shell, bone, tile, glass, and yellow and red brick. This

troweling also revealed the top of a north/south oriented stone wall near the center of the cleared area.

One 5' x 5' excavation unit was laid out within the cleared area. The unit was placed so that the east unit wall abutted the north/south oriented stone wall located during preliminary troweling.

Stratum I, which extended to a maximum depth of 2.20 feet below unit datum (+ .50 feet above MSL), yielded a variety of ceramic types, predominately undecorated whiteware and undecorated creamware, in addition to kaolin pipe stems, bowl fragments and modern tiles. Analysis of the recovered artifacts produces a MCD of 1802. Beneath this Stratum was a very dark brown clayey silt that extended to a maximum depth of 2.55 feet below unit datum (+ .25 feet MSL). A single layer of horizontal planking, transecting the west half of the unit, was encountered in this stratum. This planking was removed from the southwest quarter of the unit only, the remainder being left intact for more detailed investigation. Diagnostic artifacts recovered from this stratum, and in association with the wooden planks, include tin enameled earthenware (hand-painted underglaze), undecorated creamware, and kaolin pipe stem and bowl fragments, one of which bore a marker's mark "KW". The frequency of ceramics from Stratum II were too small for calculating a MCD.

Below the deposit, discussed above, were two strata: a dark yellowish brown clayey silt with black mottling and, confined to the south-east quarter of the unit, the same matrix with a dark reddish brown mottling. This mottled deposit in the southeast quarter of the unit was designated Stratum III, and the other was designated Stratum IV. Stratum III extended to a maximum depth of 2.20 feet below datum (+ .50 feet MSL), while Stratum IV extended to a maximum depth of 3.55 feet below datum (- .85 feet MSL).

Stratum III yielded hand-painted overglaze and underglaze tin-glazed earthenware and kaolin pipe stem and bowl fragments. Stratum IV yielded very similar artifactual materials from all five arbitrary levels comprising the stratum. Diagnositc materials included tin enameled earthenware, both plain and hand-painted; redware with a variety of glazes, salt glazed stoneware; and kaolin pipe stem and bowl fragments, one of which was rouletted. However, the small ceramic sample size was not condusive to calculating a MCD.

Stratum IV was underlain by a dark reddish brown sandy silt, designated Stratum V, that extended to a maximum depth of 4.9 feet below datum (- 2.20 feet MSL). This stratum yielded plain and hand-painted tin enameled earthenware, undecorated creamware, kaolin pipe bowl and stem fragments as well as leather fragments, a possible lithic flake, and one sherd of aboriginal pottery. Analysis of temporally diagnostic artifacts suggests a possible

date range from early to late eighteenth century for this deposit. However, the nature of sediments comprising this stratum, as well as the presence of aboriginal material, suggests that Stratum V is the upper most level of landfill in this lot. This discrepency required clarification through additional work.

The remaining strata (VI, VII, and VIII) overlay Stratum V in the southern half of the unit and did not extend into the north half of the unit. Stratum VI, which is confined to the south half of the unit, is a dark gray silt extending to a maximum depth of 4.20 feet below datum (+ 1.50 feet MSL). This stratum contained very little cultural material, none of which was temporally diagnostic.

Between Strata VI and VIII in the east half of the unit, and overlying Stratum VIII in the northeast quarter of the unit, was a mottled dark gray clayey silt designated Stratum VII, which extended to a maximum depth of 4.00 feet below datum (- 1.30 MSL). Few artifacts were recovered from this stratum, among them were a piece of tin enameled earthenware, a peach pit, and red and yellow brick fragments. The recovered artifact sample is too small to allow calculation of a MCD.

Stratum VIII, a dark greyish brown clayey silt with brownish yellow mottling, extended to a maximum depth of 3.60 feet below datum (- .90 feet MSL). This stratum yielded a paucity of artifacts, which included only one diagnostic piece, a sherd of tin enameled earthenware. One aboriginal lithic flake was also recovered from this stratum.

Stratum VIII is underlain by a greyish brown clayey silt with darker mottling, designated Stratum IX. This was excavated to a maximum depth of 4.50 feet below datum (- 1.80 feet MSL) at which point excavation was terminated on this unit. The actual depth of this stratum is undetermined at this time. Unlike the overlying strata, a variety of artifactual materials were recovered from Stratum IX, several of which were temporally diagnostic. Among the recovered artifacts were Westerwald, stoneware, undecorated and hand-painted tin enameled earthenware, kaolin pipe stem and bowl fragments, bottle glass, and coral. Calculation of a MCD was not possible for Stratum IX, given the small number of ceramics recovered.

In addition to this test unit a backhoe-excavated test trench was placed in the front of the lot approximately 10 feet west of and parallel to Water Street. The 110-112 lot wall bisected the test trench. The upper six feet of deposits on both sides of the lot wall consisted entirely of recent demolition rubble, which was underlain in the lot at 110 Water Street by a brick and mortar floor. Strata II through IV were identified within the north half of the trench in 112 Water Street. In the 110 Water Street half, the brick and mortar floor was underlain by a dark brown clayey

silt, designated Stratum V, which extended to a maximum depth of 10.60 feet below grade (- 2.30 feet MSL). A large sample of temporally diagnostic artifacts were recovered which included several sherds of tin enameled earthenware; pearlware; creamware; saltglazed and Rhenish stoneware; and refined earthenware. Bottle glass and flat glass, oxidized metal, and kaolin pipe fragments were also abundant. Based on an analysis of datable ceramics, Stratum V produced a MCD of 1771.

Beneath Stratum V was a very dark grey clayey silt, designated Stratum VI, which extended to 13.70 feet below grade (- 5.40 feet MSL). The overall artifact count remained high within the Stratum VI sample. Diagnostic items included tin enameled earthenware; undecorated and decorated creamware; and slipwares. Leather fragments, bone, wood and kaolin pipe fragments were also common. The datable ceramics from this sample yielded a MCD of 1764.

Stratum VI was underlain by a greyish brown clayey silt, designated Stratum VII, which extended to a maximum depth of 15.00 feet below grade (- 6.70 feet MSL). The Stratum VII artifact sample shows a marked decrease in overall artifact frequency, with no datable items recovered. Leather, wood, and bone were the most common items; ceramics consisted of undiagnostic buff bodied material and coarse redware ceramics.

Beneath Stratum VII was a dark greyish brown sand, designated Stratum VIII, which extended to a maximum known depth of 16.00 feet below grade (- 7.70 feet MSL). The recovered artifact sample was small, with no temporally diagnostic items included. Leather, wood, and bone were the most common items; ceramic artifacts consisted of stoneware, porcelain, and redware. One kaolin pipe stem fragment was recovered. Excavation of test trench in 110 Water Street was terminated at that point, so the actual depth of Stratum VIII is unknown at this time. However, given the artifacts and matrices of both Strata VII and VIII, the lower portions of the trench are in landfill deposits.

Significance and Recommendations

The important cultural deposits and features within the lot at 110 Water Street are within the rear yard area and near the front of the lot. Within the rear of the lot are possible yard deposits, which appear to date to the eighteenth century; burnt wood beams; a wall possibly associated with one of the earliest occupations on the block; and aboriginal material in the landfill. The wall in 110 Water Street is similar in construction and equal in elevation to the wall exposed in Lot 19 at 146 Pearl Street. It is highly probable that these walls are remnants of one or more structures dating to the earliest occupations on the block. This association with an early occupation is based on the stratigraphic position of these walls, particularly in relation to the one identified at 146 Pearl Street.

The burnt wood beams exposed in the test unit in 110 Water may be a floor or other feature related to the early wall. The presence of these architectural features, and associated cultural deposits have the potential to provide data on the spatial distribution of artifactual materials and structural features within a possible early eighteenth century property. Of special note is the potential to examine the nature of internal (i.e., within a building) activities as compared to external activities. These data are part of the data base necessary to address Research Question #2.

The front of the lot, transversed by the backhoe trench, exposed rich deposits of eighteenth century materials (i.e., Strata V and VI), overlaying landfill. The nature of these deposits is currently unclear. These deposits may be part of a yard trash midden; but, given the depth and matrix of the deposits, they may be landfill. The argument for a yard midden context, however, is supported by the mid-eighteenth century MCDs obtained from these deposits. The presence of these rich depsoits near the front of the lot was unexpected. All lots examined, with the notable exception of the lot at 116 Water Street, lacked such deposits along their fronts. This may be due to preservation or to differences in the historic activities conducted within the lots. To determine why only these two lots contain such deposits would be difficult to answer using lots from the project area. However, comparisons with other properties (i.e., in Manhattan or in Wilmington and Alexandria) dating to the same time period and exhibiting the same function, would assist in clarifying this issue. This in turn would provide data on similarities and differences in the use of urban space within a land use type, through time and within a single time period (Research Question #2).

Data from these deposits in the front of the lot, along with information obtained from deposits in the rear of the lot, will also aid in addressing Research Question #3. That is, the quantity of material contained within these deposits would be conducive to various socioeconomic and function related studies of the lots occupants.

The goals of data retrieval within the lot at 110 Water Street consist of (1) identifying the nature of the structural elements and artifactual deposits; and (2) clarifying the relationship of these elements and deposits to those in the lot at 146 Pearl Street. This will be accomplished through the removal by machine of all demolition rubble within the lot. The area of the lot will be gridded off into 5 x 5 foot units. A total of nine units will be selected for excavation. Their selection will be systematic, producing a checker-board pattern within the lot. The unit excavated during testing will serve as the tenth unit in the overall lot sample.

Samples to be drawn from other lots containing both architectural remains and possible yard deposits were minimally thirty percent

(30%) of the yard area to be studied. The lot at 110 Water Street is the largest of such lots on the block, thus containing more area to sample. In addition, the lot contained the richest artifactual deposit exposed within a backhoe trench along a lot front. This required the expansion of the lot study toward Water Street. For these reasons, a total of nine new excavation units are warranted for this lot.

This work will provide a thirty-two percent (32%) sample of the yard area, and should sufficiently expose the structures and early artifactual deposits. All but two of these units will be advanced to the top of the landfill. The remaining two will go through the landfill, to river bottom or shoreline, in order to obtain a larger sample size of aboriginal material (cf. Lot 116 description). All soil will be processed as discussed earlier (see Field Methods). A two-person team will be assigned to each unit. Excavation of one unit will take approximately 10 person days to complete. Thus, tasks to be accomplished within this lot will take a total of 90 person days to complete.