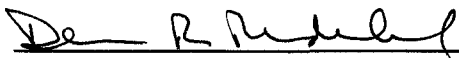


Report Certification

The archeological report Independence National Historical Park, Archeological Sensitivity Study, (Phase Ia Archeological Assessment), Independence Living History Center, North Lot prepared by John Milner Associates, Inc., has been reviewed against the criteria contained in 43 CFR Part 7.18(a)(1) and upon recommendation of the Jed Levin, Chief, History Branch, Independence National Historical Park, has been classified as "Available."



3/12/10

Regional Director

Date

Classification Key Words:

"Available" - Making the report available to the public meets the criteria of 43 CFR 7.18 (a)(1).

"Available (deletions)" - Making the report available with selected information on site locations and/or site characteristics deleted meets the criteria of 43 CFR (a) (1). A list of pages, maps, paragraphs, etc. that must be deleted from each report in this category is attached.

"Not Available" - Making the report available does not meet the criteria of 43 CFR (a) (1).



INDEPENDENCE NATIONAL HISTORICAL PARK,
ARCHEOLOGICAL SENSITIVITY STUDY
(PHASE IA ARCHEOLOGICAL ASSESSMENT),
INDEPENDENCE LIVING HISTORY CENTER, NORTH LOT

Prepared for
Independence National Historical Park
Philadelphia, Pennsylvania

Prepared by
John Milner Associates, Inc.
Philadelphia, Pennsylvania

2010

**INDEPENDENCE NATIONAL HISTORICAL PARK
ARCHEOLOGICAL SENSITIVITY STUDY
(PHASE IA ARCHEOLOGICAL ASSESSMENT)
INDEPENDENCE LIVING HISTORY CENTER, NORTH LOT**

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EXECUTIVE SUMMARY

JMA (John Milner Associates, Inc.) conducted a Phase IA archeological assessment for the Independence Living History Center North Lot in Independence National Historical Park, Philadelphia. The purpose of the study was to evaluate the nature, condition, extent, and potential significance of archeological resources on the portion of the Independence Living History Center North Lot that may be disturbed by the proposed construction of the American Revolution Center. The project area is in the heart of the earliest developed part of Philadelphia, and the study traced the development of the block from the late seventeenth century up to the end of the end of the nineteenth century.

The project area is bound by Chestnut Street on the north, Third Street on the west, the former American Street on the east, and a line running through the Independence Living History Center building on the south. By 1800 this area included 26 separate properties housing a variety of artisans (e.g., watchmakers, instrument makers, and tailors), gentlefolk, merchants, and clerks. Each lot is a potential historic site, and using city directories, tax records, and real estate transfer sheets, JMA's historian was able to identify many of the specific residents in the eighteenth and nineteenth centuries. These residents would have had privies, wells, and cisterns in their yards, and a major goal of the study was to determine if remnants of those features, which often serve as trash repositories, could be present in the project area.

The project area was also the site of the celebrated Jayne Building, thought by eminent architectural historian, Charles Peterson, to be the prototype skyscraper in the United States. The Jayne Building and other buildings on the Chestnut Street side of the project area had four or more stories and deep, sometimes double, basements. The basements of these buildings would have destroyed former yards associated with earlier houses, but experience elsewhere in Philadelphia and other cities has shown that the bottoms of deep shaft features, i.e., privies, wells, and cisterns, are often sealed beneath basement floors. Because the Independence Living History Center does not have a basement except for the mechanical room at the north end of the building, which architectural drawings show to be no more than 7 feet below present grade, it is expected that the basement floors of the former nineteenth-century buildings on the site will still be intact making it virtually certain that truncated historic features will be present.

In addition to evidence of historic occupation, JMA also researched the possibility of prehistoric occupation in the project area. In order to do that, two things were considered: the location and nature of known prehistoric sites within Philadelphia County, and changes in topography relating specifically to Dock Creek. A total of 19 prehistoric sites are known in the county, but for one reason or another, none has been subjected to thorough study. The topographic analysis concluded that the southeast corner of the project area is approximately 67-98 feet north to northwest of the probable location of the original Dock Creek channel while the northeast corner is approximately 295-344 feet from the channel. The ground originally sloped down to the creek and was subjected to more frequent filling at the southern end than in the north where it may not have been filled at all. This means that nineteenth-century basements would have done the least damage to buried ground surfaces and features in the south than in the north. It is also possible that Carter Street, which has been in place since the earliest development of the block, may seal evidence of prehistoric occupation if present. Although far from certain, such evidence could include intact or truncated ground surface, middens, pits, post holes, hearths, or other features. Even less likely to be found in the project area are prehistoric burials or Native American sacred or ceremonial sites.

The highest potential for early-period resources is at the southern end where several feet of eighteenth-century fill covers earlier land surfaces. Deep shaft features are expected to have survived across the entire study area, though those closer to Chestnut Street may have been truncated by nineteenth-century basements. Although some artifacts were found during the construction of the building now called the Independence Living History Center, and several artifact-rich shaft features were found just to the southeast of the building during construction of the Chiller Plant, it is impossible to know what may or may not be present on the site. Excavations under nineteenth-century basement floors on a nearby block, however, provide some idea of what might be expected. That block, referred to as Area F, was used to devise possible scenarios for the Independence Living History North Lot site. Possible prehistoric deposits and features were estimated based on the results at a site in Northampton, Pennsylvania, which shares environmental and cultural similarities with the project area. High, medium, and low estimates for conducting data recovery (full scale excavation) in the project area include the cost of curation, conservation, and specialized analyses as well as excavation, artifact processing, analysis, and report preparation: High: \$1,300,799.00; Medium: \$836,466.00; Low: \$590,210.00. Appendix II provides a full explanation for the three estimates.

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1.0 INTRODUCTION

1.1 Purpose and Goals of the Investigation

The purpose of the Archeological Sensitivity Study for the Independence Living History Center (ILHC) North Lot is to evaluate the nature, condition, extent, and potential significance of archeological resources on the portion of the ILHC North Lot that may be disturbed by the proposed construction of the American Revolution Center or by associated or subsequent development of the project area. The study will assist the National Park Service (NPS) in discharging agency responsibilities under the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470), the implementing regulations of the Advisory Council on Historic Preservation (936 CFR Part 800), and standing NPS policy. As noted in Section IV. of the Statement of Work, dated January 12, 2010, the level of investigation requested is generally referred to as a IA archeological assessment (NPS 2010).

The proposed construction is the result of an agreement between the NPS and the National Center for the American Revolution (ARC). As per the agreement, the NPS will transfer title of a portion of the ILHC and certain surrounding land currently within the boundaries of Independence National Historical Park (INDE) to the ARC in exchange for approximately 78 acres of land held by ARC within the established boundaries of Valley Forge National Historical Park (VAFO). The transfer of land title by a federal agency is considered a federal undertaking under terms of the NHPA, thus triggering the need for this investigation. Once agency responsibilities have been met and the exchange is complete, the ARC parcel will become a privately owned in-holding within the boundary of INDE.

1.2 Description of the Project Area

The project area, which encompasses a plot of approximately 38,000 square feet, is mostly covered by a standing structure within the boundaries of INDE in Philadelphia, Pennsylvania (Figure 1). Now known as the ILHC, it was originally built in 1975 as a Visitor Center for the Park in anticipation of the Bicentennial in 1976. Since 2006, the building has been used as an archeological laboratory and storage facility for the large collection of artifacts that was recovered on the National Constitution Center site at the northern end of Independence Mall. The ILHC is open to the public and provides educational outreach activities including volunteer

opportunities and public interpretation of on-going archeological laboratory analysis and study. No archeological investigations were conducted during the construction of the building although the construction manager collected a few artifacts (discussed in Section 1.3 below), which he turned over to INDE. Architectural plans consulted for this project (Cambridge Seven Associates, Inc., 1972) show that the building does not have a basement, although the two theaters and mechanical room at the north end reach depths below the current surface grade of approximately 3 feet (west theater), 6 feet (east theater), and 7 feet (mechanical room).

The project area is bound on the north by the Chestnut Street sidewalk, on the west by the South Third Street sidewalk, on the east by the former American Street alignment, and on the south by a line running through the ILHC (Figure 2). As will be discussed in Section 2.0 below, the area was covered with buildings that were demolished to build the Visitor Center.

1.3 Previous Archeological Studies in the Vicinity

As noted above, extraneous finds were made during the construction of the Visitor Center (now known as the ILHC). The finds are reported in a memorandum labeled Visitor Center Site Field Documentation 1973 (Accession No. 2746, INDE Library), originally attributed to Fred Spencer, the construction supervisor. The finds included green “Turben” shells found at the location of footing #26, reject buttons found in the location of footing #s 35, 43, and 44, and a mandible with three teeth, found at the location of footing #6. The shell, reject buttons, and additional waste products from the cutting of buttons apparently derived from the button factory that once stood at 237/239 Dock Street. Button waste products including conch and abalone shells were also found in what was described as a “tunnel or vault” beneath Bodine Street (previously Relief Alley) (Inashima n.d.:7.23). The entrance to the tunnel was located 30 feet north of the curb of Dock Street and extended 130 feet further north. It was 124 feet 11 inches from the intersection of Third and Dock Streets. Its walls and arched ceiling were made of brick. John Cotter, who examined the tunnel along with architect Lee Nelson, thought it had been built in the late nineteenth century and obviously related to the button factory located adjacent to the alley on the west. In addition to the manufacturing debris, a large stone grinding wheel was also found.

In 1957 Bruce Powell reported on an exploratory excavation he conducted in the basement of the John Wagner Building (Powell 1957). The building stood at 233 Dock Street, which was located on the north side of the street to the south of the present project area. Although Powell did not

consider his finds “spectacular,” he did uncover the remains of an earlier basement floor beneath the basement floor of the Wagner Building. He could not identify the nature or use of the earlier building although the presence of numerous bovine horn cores suggested a possible connection to animal slaughtering (Powell 1957:1) or perhaps to the tanning industry. What is most significant about the excavation is that it demonstrated the potential for stratified cultural remains below nineteenth-century building basement floors, in this case including the floor of a previous building overlaid by remains (horn cores) that had accumulated on top of it. The depths at which the finds were made are also indicative of the depths at which finds might be made in the project area, at least in its southern section. Powell identified the previous basement floor more than two feet below the basement floor of the Wagner Building and he continued the excavation into the sterile clay that lay over water rolled pebbles and cobblestones that appeared to represent the old channel of a water course, i.e., Dock Creek (Powell 1957:6).

More significant finds were made by NPS staff during excavations preceding construction of the Chiller Plant off the southeast corner of the Visitor Center (ILHC) building. Although these finds were never fully reported, preliminary artifact inventories and a faunal analysis completed by Susan Trevarthen Andrews (1999) indicate the richness of the artifact assemblages and the condition of the features in the immediate vicinity of the project area. Excavations in Area F on Second Street also demonstrate the archeological potential of the vicinity, even in locations where deep basements had truncated eighteenth-century features. The Chiller Plant and Area F are discussed in some detail below.

1.3.1 The Chiller Plant

Paul Inashima, who supervised the excavation for the Chiller Plant, describes it in Chapter 7, Block 600 of his “Archeological Overview and Assessment of Independence National Historical Park and Associated Administrated Properties” (Inashima n.d.). The site occupied the lots once addressed as 229-231 Dock Street and 120-122 American Street (Figure 2). Three shaft features were investigated. Feature 1 was a two-part dry laid brick privy shaft, the upper portion of which had been breached by a cast iron drainage pipe that entered from the east. The fill in the upper shaft was mainly ash and was not screened, but numerous late nineteenth- to early twentieth-century bottle parts were recovered. The lower shaft was less ashy and was screened. The artifacts in the lower part of the feature appeared to date to the third quarter of the eighteenth century. Another privy shaft was found slightly to the south and west of Feature 1. The matrix,

which appeared to be relatively uniform, was screened through ¼-inch mesh and excavated in arbitrary levels. The wet and clayey fill at the bottom was water screened. Extensive cross mending between levels indicated to Inashima that the fill represented one cultural event. The artifacts recovered appeared to date to the third quarter of the eighteenth century. A third shaft feature was found beneath a modern planter slightly to the north and east of Feature 1. The large wooden object at the top of this feature turned out to be a wooden pump pipe for a well that was set on a circular-shaped flat schist rock. A large artifact assemblage of bone, ceramic, glass, leather, metal, wood, and exotic materials was recovered from this feature, and a good deal of cross mending was noted in the laboratory. Two depositional contexts were identified, an upper zone of mixed eighteenth-century and later materials and a lower zone of artifacts dating to the third quarter of the eighteenth century. A preliminary inventory was made of the artifacts from Feature 3 (see Artifact Analysis Records for the Chiller Plant Site, Accession No. 4037, INDE Library), but no artifact inventory is on file for Features 1 and 2. The inventory for Feature 3 includes catalog number, feature number, strat number, level, and vessel form.

JMA (John Milner Associates, Inc.) washed, sorted, rebagged, and reboxed the assemblage from the Chiller Plant site for the NPS. According to the laboratory director's brief description of the collection, it included "pewter officer's buttons, a silver cipher of George II for a British cartridge box, an 18-pound cannonball, all probably associated with the British occupation of Philadelphia during the fall and winter of 1777-1778. The bulk of the artifacts recovered were from broken ceramic plates, bowls, tankards, and teapots and glass wine bottles and stemmed tableware. Preservation in the waterlogged contexts of the three features was extraordinary, yielding quantities of seeds, cherry pits, fish scales, bone, leather, and wood artifacts" (Juliette Gerhardt, personal communication, 2010).

Inashima also recorded a number of foundation walls that appeared to postdate the features. The site plan, provided by the NPS, shows a north-south trending foundation wall running along the west side of the shaft features (Inashima 1997). It connected to an east-west wall at its northern end. An irregularly configured enclosure is shown to the southeast, well to the south of the shafts. The drawing also shows how tightly clustered the features were, Features 1 and 2 just a few feet from one another, and Feature 3 about six feet to the northeast of Feature 1. Unfortunately Inashima's summary of the work does not mention whether or not the shafts were truncated. However, JMA personnel contributed some labor to this project, and if our memories are correct, Features 1 and 2, both privies, began close to the surface and were not truncated. The well was

truncated at the top by a modern planter but may have been as much as 20 feet deep beneath it. That feature was bisected for the purposes of excavation with one half of the brick shaft being removed as the digging reached greater depths. Because the analysis was not completed, the artifact assemblages were never matched to the people to whom they presumably belonged.

Susan Trevarthen Andrews's study of the faunal materials from the Chiller Plant and the Merchants' Exchange, however, added considerably to our understanding of the provisioning system that was available in Philadelphia in the eighteenth and early nineteenth centuries (Andrews 1999:28). She argues that by examining the age profiles and element distributions of domestic mammals, as well as evidence of butchery patterns, it is possible to see changes in the way Philadelphians bought and consumed meat. The excellent preservation of the bone from the Chiller Plant features made the data particularly valuable for her analysis.

1.3.2 Area F

The excavation of the Area F site was conducted in the mid-1970s under the direction of Daniel G. Crozier, who was then at Temple University. The site is bounded by Front and Second Streets on the east and west and by Ionic and Gatzmer Streets on the north and south. Analysis was not completed until 2006 under the direction of Juliette Gerhardt who worked on the processing of the artifacts recovered in the 1970s and is now JMA's laboratory director (Gerhardt 2006). The excavation uncovered 35 archeological features beneath the cellar floors of two buildings that were slated for destruction to make room for a parking garage for INDE. Nine of the eleven exposed shaft features and six architectural features dating to the eighteenth century were excavated. A total of 68,000 artifacts were cataloged and analyzed including a rich collection of Philadelphia redwares, and examples from two of Philadelphia's most well-known potteries, Bonnin and Morris and Anthony Duche.

The shaft features were associated with four historic lots, and the assemblages recovered from six of them could be tied to the historic lot residents. Those residents included the family of mariner William Annis and baker William Gray on Gray's Alley, the house and workshop of carver/graver Hercules Courtney on Front Street, the house of optician William Richardson on Second Street, and the house of silversmith and umbrella manufacturer Robert Swan, also on Second Street. Some of the artifacts recovered related to these artisans' work including optical lenses from Richardson's shop, fire extinguishers from Gray's bakehouse, and bone and antler

from Swan's manufacture of umbrellas and cutlery handles. There was also an assemblage including a monogrammed Chinese Export porcelain tea service that belonged to dry goods merchant Robert Smith. Smith built a large house/store on Front Street where Courtney had had his business and tavern before. The presence of Smith in what otherwise might have seemed to be an artisan neighborhood is typical of eighteenth-century Philadelphia where people of different economic means lived and worked side by side.

Although it is unusual, the features on the Area F site were excavated while the multi-story nineteenth-century buildings on the lots were still standing. Concrete basement floors were removed and trenches were dug beneath them to examine the underlying stratigraphy. Once privies, wells, and cisterns were located, those that were threatened with destruction by the proposed construction were excavated by hand. Other features were left in situ. It is more usual to conduct archeological investigations on urban sites after standing structures have been demolished although it is not unusual to find truncated shaft features below basement floors. Why Crozier chose to do the excavation before demolition is not known. A movie theater, parking garage, and bricked plaza now cover the site.

One of the points that Gerhardt makes in the conclusions to her report on Area F is that the kinds of trades that developed there related, not surprisingly, to activities in the nearby seaport. She also notes that some intuitive assumptions about occupants did not hold true. Larger houses and more expensive houses may have been built on Front Street in the late eighteenth century, but earlier in the century residents appeared to prefer the privacy and quiet of an inner alley. A sea captain and his wife, who lived on the alley, had a tiny house, but their possessions included fancy Chinese porcelain teawares and elegant wine glasses.

2.0 PREHISTORIC AND HISTORIC CONTEXTS

2.1 Philadelphia's Prehistoric Record

The state of prehistoric knowledge for the City of Philadelphia is limited, but growing. Due to the lack of excavated pre-contact sites and the high degree of development, the database from which to interpret prehistory is small. However, the general understanding of settlement patterns, technology, and sociocultural modes is thought to be very similar to other areas of the middle and lower Delaware River Valley, where the prehistory is better understood. It is undeniable that the geographical advantage of Philadelphia's location between two major rivers led to settlement types and adaptations that were not present elsewhere, but the larger systems in which these sites were incorporated are represented in regional archeological syntheses. Philadelphia is considered here in the context of what is known about the region (Kinsey 1972; Custer 1996; Wall et al. 1996; Stewart 2003; Wyatt 2003).

Nineteen pre-contact archeological sites have been documented, to varying degrees, within the limits of Philadelphia County. Of these sites, fifteen are recorded at the Pennsylvania Bureau for Historic Preservation and assigned trinomial identification numbers. Sites with assigned numbers will be referred to by their number rather than by the site name. The four pre-contact sites without trinomial identification numbers will be referred to by their common name. Undoubtedly, many more pre-contact artifacts and sites have been found within the city, but these have not been included in the available archeological literature.

The sites, shown on Figure 3 and listed on Table 1, are found across many parts of the County in a number of topographic settings. The amount and quality of information available for individual sites varies and they cover numerous time periods. Four general spatial clusters are evident on Figure 3: Center City along Dock Creek and Pegg Run, the northeast along Byberry and Pennypack Creek, the northwest along Wissahickon Creek and the Schuylkill River, and west Philadelphia along the Schuylkill River and Mill Creek. Within these geographical clusters, there is no apparent correlation to site age or technology. Each cluster, however, can be discussed as a coherent group.

The two sites in the northwestern section of the county, 36PH0023 and 36PH0025 (see Figure 3), are both located in the Piedmont Uplands physiographic section and are only known from Pennsylvania Archaeological Site Survey (PASS) forms. Site 36PH0023 is recorded as a rock shelter with features including a rock hearth or fire pit and numerous different lithic materials. Rock shelters are rather unique pre-contact site settings because of their general heightened preservation and their apparent status as equivalent to prehistoric “motels” (Stewart 1987:54). The intent of this description is to contextualize the findings within rock shelters, which generally include artifact types that represent short stays by groups from dispersed geographic areas. The multitude of lithic materials at 36PH0023 supports this assertion. It is likely that within the Wissahickon Creek Valley and the Schuylkill River Valley walls, many more examples of rock shelters exist.

The other site in northwestern Philadelphia is 36PH0025, an open prehistoric site of unknown age and function, located in the Wissahickon section of Fairmount Park. Very little is known about this site aside from the presence of quartz debitage. This minimal level of information is not unusual for sites recorded on PASS forms. Given the location of this site within a protected park, however, it is possible that much of the site remains undisturbed. Since the 1,800 acres of the Wissahickon Valley were incorporated into the park system in 1868, very little development of any kind has taken place. This has likely preserved multitudes of pre-contact sites throughout the park’s extent.

The second geographical cluster of sites is located in northeast Philadelphia County (see Figure 3): 36PH0023, 36PH0024, 36PH0026, 36PH0041, 36PH0054, 36PH0055, and 36PH0056. The first two sites (36PH0023 and 36PH0024) were documented through a compliance survey conducted by JMA in 1983 for the Philadelphia Industrial Development Corp (ER# 1983-0685-101-B). These sites are located in the Lowland and Intermediate Upland physiographic section. The stratigraphy at both of these open air sites was confined to the plow zone with no features or pre-contact surfaces encountered below the plow zone (Struthers and Hoffman 1983). No temporally diagnostic artifacts were found at 36PH0023, but fire cracked rock, a hammerstone, and debitage of jasper, argillite, quartz, and quartzite were present. At 36PH0024, debitage of argillite, quartz, and quartzite was recovered along with two argillite bifaces. The more complete of the two bifaces conforms to the general “broad spear” style of the Transitional Archaic period (ca. 2000 BC to 1000 BC) (Struthers and Hoffman 1983:19). The other biface, while broken at both ends, also suggests the Terminal Archaic.

Site 36PH0026 is located along the Delaware River in the Lowland and Intermediate Upland physiographic section. This site was investigated and recorded through a compliance survey conducted by Mid-Atlantic Archaeological Research in 1985 for the U.S. Department of Housing and Urban Development, Philadelphia (ER# 1984-0743-101-C). This is an open air site with both historic and pre-contact components. No features or intact living surfaces were discovered, but lithic debitage of argillite and quartz, as well as ground stone tools and steatite bowl fragments were present (Shiek and Brown 1985). Steatite bowl fragments are a hallmark of the Transitional Archaic time period (ca. 2000 BC to 1000 BC). While steatite quarries are located in Chester County, Pennsylvania, steatite bowl fragments are not commonly found on archeological sites in the region. Unfortunately, not much is known about this site except for the presence of these materials.

Site 36PH0041 is an open pre-contact and historic site of unknown function. This site is located near Paul's Run in the Piedmont Upland physiographic section. What is known from the PASS file form for this site is that it contained debitage of jasper, quartz, and quartzite with jasper being the primary material. A temporal affiliation of the Late Woodland is assigned to this site based on the presence of a quartz triangle point. While traditionally small triangular bifaces were seen as a hallmark of the Late Woodland period, a growing body of evidence indicates that morphologically identical bifaces occur in earlier Woodland and Archaic contexts. Assigning a site to the Late Woodland based on a small triangular biface with no associated Late Woodland pottery is therefore considered problematic.

Sites 36PH0054 and 36PH0055 are both open air pre-contact sites of unknown function. Recorded only through PASS forms, very little information exists. Located in the Piedmont Upland physiographic section, the only information for each of these sites is the type and relative percentage of lithic debitage. Site 36PH0054 lists quartz, jasper, chert, and chalcedony in descending order of relative quantity. Site 36PH0055 only lists two lithic materials, quartzite and chert, with quartzite being the dominant material. No temporal affiliations are recorded for these sites and nothing can be inferred from the information provided.

This final site in the northeast Philadelphia spatial cluster is 36PH0056. Located in the Lowland and Intermediate Upland physiographic section, this site is a historic and pre-contact open air site of unknown function. This site was investigated and recorded through a compliance survey

conducted by JMA in 1993 for the Northeast Philadelphia Airport (ER# 1993-0123-101-D). As with the previous sites, very little can be inferred from the information available about this site. Lithic material recovered included jasper and quartz, with jasper being the dominant material. No features or diagnostic artifacts were found at the site.

The spatial cluster of three pre-contact sites (36PH0014, 36PH0130, and The Woodlands) in western Philadelphia (see Figure 3) represent a likely continuous string of pre-contact sites along the high western banks of the Schuylkill River. While not much systematic archeology has been conducted on these three sites, what is known shows great potential for this area. All three of the sites contain intact pre-contact/early historic land surfaces. Site 36PH0014 is a very large site recorded on the grounds of Bartram's Garden as a single historic and pre-contact site. Historic American Landscapes Survey (HALS) documentation reports finds in multiple locations on the property (HALS 2001). Much of the pre-contact material recovered consisted of lithic debitage of jasper, argillite, quartz, quartzite, chert, and slate in unknown quantities, as well as small numbers of pre-contact ceramics. There are no diagnostic tools referenced in the report although the author of the report states that the finds likely represent an Archaic to Late Woodland time period. Also documented in this NPS report are pre-contact archeological finds at the former Woodlands estate, which is now a cemetery. Like Bartram's Garden, the Woodlands pre-contact material was discovered through numerous historic archeological investigations. The NPS report does not go into much detail beyond the presence of intact pre-contact lithic sites of an estimated age of Archaic to Early-Middle Woodland. While it is difficult to glean much information from this report, it is encouraging that intact pre-contact sites exist on these properties and will likely not be disturbed in the near future.

The archeological investigation of the final site in the western spatial cluster, 36PH0130, sheds light onto what may still exist at the Woodlands and 36PH0014. Site 36PH0130 is located within the former Blockley Almshouse cemetery. Located adjacent to the Woodlands property, the sections of intact ground surface at 36PH0130 are possibly representative of the archeology present at the Woodlands. Site 36PH0130 was excavated as part of a salvage excavation related to the historic period Blockley Almshouse cemetery. There was no official effort to excavate pre-contact material, but the archeologists documented the pre-contact presence as thoroughly as they could. A total of 130 lithic artifacts were recovered in the process of documentation, including a stemmed biface, cobble tools, late stage bifaces, and debitage. The lithic materials included jasper, quartz, quartzite, chert, and siltstone. The stemmed biface likely dates the site to the Late

Archaic to Early Woodland (4000 BC to AD 1). Aside from the importance of another example of an intact pre-contact ground surface in the city, the lithic assemblage provides some insight into the nature of the occupation on the site. The fact that jasper represents a majority of the debitage, but is not represented in tools, is an interesting observation. This suggests that the group occupying the site was mobile and focused their reduction on non-local materials while utilizing and discarding tools of local material. Perhaps this points to the direction of the group's movements. Additionally, the presence of cobble tools shows that the pre-contact occupants were procuring usable lithics from the cobble bed load of the Schuylkill River.

The final spatial cluster of pre-contact sites within Philadelphia is the largest grouping and provides the most information (Figure 4). The six sites in the Center City area (36PH0072, 36PH0091, 36PH0131, 36PH0137, Front and Dock, and The National Constitution Center [NCC]) range from isolated projectile point finds to large area excavations of intact pre-contact ground surface. Taken as a whole, these windows into Philadelphia's prehistory provide a glimpse of what once existed and may still exist under the streets of the city.

Beginning from the least informative to the most, site 36PH0072 is the First African Baptist Church Cemetery. The pre-contact component at this site is only recorded on the PASS form; no indications of pre-contact artifacts are documented in the published report (Parrington et al. 1987). It is unfortunate that no data exist, but it is likely that this excavation encountered pre-contact material in the same manner as at 36PH0130, the Blockley Almshouse, i.e., during excavation of historic burials. Unlike New York City, where early archeological efforts focused on prehistoric sites, the emphasis in Philadelphia has generally been on its history. This may explain the fact that the quantities of pre-contact artifacts that have been found throughout the decades of excavation in the State House Yard (now known as Independence Square) have received so little attention (Cotter et al. 1992:114).

Along the Delaware River front, excavations at Front and Dock Streets uncovered pre-contact artifacts in both intact and disturbed contexts. Reported by JMA, a total of 137 pre-contact artifacts were recovered from deposits below nineteenth-century basements (McCarthy and Roberts 1996:53). The stratigraphy described by the authors suggests a small area of intact marsh soil and a larger area of re-deposited sandy sediments overlaying the marsh soil. Pre-contact artifacts were found in each of these strata. The authors concluded that the artifacts in the intact soils were in situ, while the artifacts in the overlying sediments were re-deposited from a small

rise above Dock Creek a short distance away. The entire assemblage, from intact and re-deposited contexts, contained 19 pottery sherds, 18 stone tools, 89 pieces of debitage, and 11 pieces of fire cracked rock (McCarthy and Roberts 1996:53). An age range from the Transitional Archaic to the Late Woodland (2000 BC to AD 1600) was suggested by the presence of argillite Koens-Crispin bifaces, an argillite Rossville biface, and small triangle points along with ceramics including Overpeck incised. As noted by McCarthy and Roberts (1996:56), an outstanding feature of this site was the majority of jasper in the debitage assemblage (n=60, 56%).

Sites 36PH0091 and the NCC area are both in the proximity of Sixth and Seventh Streets and Arch Street. Excavations at both sites were intended to target historic deposits. At 36PH0091, the site of the Metropolitan Detention Center, an intact ground surface was encountered in an undeveloped rear yard during mitigation excavations in 1995. Recovered from this surface were a quartzite cobble, a quartz late stage biface, and a quartz triangle point (Dent et al. 1997:202). The NCC excavations, one block east of 36PH0091, encountered numerous patches of pre-contact land surface in a context similar to 36PH0091.

While the artifact analysis for the NCC site is on-going and a formal report has not yet been published, some information is provided by the Philadelphia Archaeological Forum (PAF) via their website (PAF n.d.). The extensive preservation of an intact landscape at the NCC area was facilitated by an originally low relief, early historic filling and leveling, and preservation by open yard lots, paved alleys, and shallow basements. The artifacts excavated from this surface appear to represent a wide range of occupations. A quartz projectile point may indicate an Archaic through Middle Woodland age (4000 BC to AD 200), while numerous non-lithic artifacts represent a much more recent occupation. A number of glass trade beads, Cowrie shells, trimmed ceramic disks, a perforated silver Spanish Cob coin, and a knapped sherd of a ceramic plate were also found on the site. Attribution of these artifacts remains tentative pending the completion of the analysis, but they could be associated with Contact period Native Americans, African Americans, or early colonial-period occupants, possibly dating to the late 17th century or before. While the context of these finds is yet to be published, their existence opens up a new door for the interpretation of the prehistoric and early historic periods in the city of Philadelphia.

The remaining two sites (36PH0131 and 36PH0137) represent the most significant pre-contact archeological excavations within Philadelphia. Site 36PH0131, the Old Original Bookbinder site, is significant for the demonstration of an intact pre-contact feature, numerous artifacts, and the

potential for similar sites within the highly developed core of Philadelphia. Excavated in 1995, 36PH0131 was discovered during archeological monitoring at the site of a new condominium building. Archeologists documented, but had very little time or authority to pursue, the exposed intact pre-contact ground surface. In total, 40 pre-contact artifacts were retrieved from the buried ground surface, and a conical shaped pre-contact pit feature was documented in profile. The lithic artifacts included an argillite contracting stem point, a quartzite scraper, and a single sherd of an unidentified pre-contact ceramic. Based on the biface type, this site likely dates to the Late Archaic to Early Woodland period (2000 BC to AD 1). It is not clear if the feature was excavated, but its presence and preservation gives hope that additional finds may still be made in Center City Philadelphia and even in the immediate vicinity of the ILHC project area.

The final site discussed here is the most recently discovered. Excavations conducted by A.D. Marble & Company at 36PH0137, the site of the proposed Sugarhouse Casino, recovered extensive prehistoric materials. The site is located on a Delaware River front property bounded on the west by North Delaware Avenue, on the south by Ellen Street, and on the north by Shackamaxon Street. This site was identified during a Phase I through III archeological mitigation that took place between 2007 and 2009. At this date, only the Phase II report has been published (Kratzer et al. 2008). It is likely that significant finds were made during the Phase III mitigation, but they are not included here.

The identification of an area of intact pre-contact ground surface was somewhat of a surprise on this heavily industrialized plot. Shovel test pits and 1 m x 1 m excavation units, however, documented the presence of an intact soil containing pre-contact artifacts and possible pre-contact features. Four 1 m x 1 m test units targeting the buried ground surface yielded 182 pre-contact artifacts. Forty-four percent of the artifacts were recovered from the buried A-horizon, while the remaining fifty-six percent were recovered from the subsoil below. This clearly suggests the potential for vertical cultural stratigraphy. Artifact types included debitage, bifaces, flaked cobbles, fire cracked rock, a core fragment, and a drill. Diagnostic artifacts were an argillite Lackawaxen-like stemmed point and a Koens-Crispin stemmed point. Based on these two artifacts, a Late Archaic to Early Woodland (4000 BC to AD 1) time frame is suggested. The lithic debitage included 127 flakes and flake fragments of quartz, jasper, quartzite, argillite, chalcedony, and chert in order of frequency (Kratzer et al. 2008:126). Within the excavation units, three subsoil features were recorded, but none could be confidently assigned to pre-contact origins.

The Phase II results give a tantalizing look at what may exist in the intact pre-contact ground surface at 36PH0137. The buried pre-contact surface at 36PH0137 and others that exist or recently existed—at 36PH0014 (Bartram’s Garden), 36PH0091 (Metropolitan Detention Center), 36PH0130 (Blockley Almshouse), 36PH0131 (Old Original Bookbinder site), the NCC, Front and Dock, and the Woodlands—demonstrate the great potential for finding intact pre-contact archeology within Philadelphia. Focusing on and planning for contexts where intact pre-contact surfaces may exist, such as capped under old roads, beneath structures in deeply filled or low lying areas, and in undeveloped historic yards, will greatly advance our state of knowledge for pre-contact archeology.

2.2 Early Historic Development

The initial platting of present Center City Philadelphia was undertaken by William Penn’s Irish-born surveyor general, Thomas Holme. After an initial plan was rejected, Holme drew up a second plan incorporating guidance from William Penn. This plan was published in the 1680s as “A Portraiture of the City of Philadelphia in the Province of Pennsylvania in America” (Figure 5) (Roach 1968:25-33).

Holme’s plan ignored Dock Creek, which extended diagonally through the block containing the project area, and instead divided the entirety of the block into eight lots, each of which extended half the north-south distance of the block. The proposed project location includes all of lots 92 and 93 and the northern portion of lots 95 and 96. According to a list that accompanies Holme’s plan, the following were the owners of the lots: John Turner (92), Joseph Potter (93), Thomas Y. Worth (95), and Edward Carter (96).

These names may not have represented the initial developers of the lots, however, as indicated by Nicholas B. Wainwright in quoting nineteenth-century historian Thompson Westcott:

These allotments, it must be understood, do not give the names of the patentees of the lots in every instance. There were considerable land speculations and purchases and sales of lots in the early days of the city, and the rights of the persons named under the allotments were frequently parted with, so that when surveys were made for the lots and patents granted they were frequently made

out to different persons than those named [on the list accompanying the Holme's map]. (Wainwright 1956:169)

Wainwright and other scholars have cited several other sources that they believe more accurately reflect the first purchasers of the lots. He cites a volume of maps in the Cadwalader Collection of the Historical Society of Pennsylvania that was believed to have been drawn between 1741 and 1748 by William Parsons, a later surveyor general of the province. Parsons's map for the block in question is reproduced as Figure 6.

This map indicates that the project area was divided into four lots whose southern end adjoined the northern side of Dock Street. From west to east, the lots were recorded as owned by Cornelius Boom, Henry Wood, John King, and William Carter. A second early source was the 1690 list of property owners and tenants by street compiled by Receiver General John Blackwell (Wainwright 1956:169, 190). Blackwell indicated the following property patentees and receivers within the current project area: Cornelius Boone, 50 foot frontage (patentee), Henry Wood to Thomas Willard, 49 foot frontage (receiver), John King, 48 foot frontage (receiver), and William Buckman, 47 foot frontage (patentee) (as cited in Roach 1969:80).

The indicated William Buckman appears to have been a native of Billingshurst, Sussex, England, who traveled to North America onboard the ship "Welcome" with William Penn in 1682. Buckman apparently never lived on his city lot, instead taking up 500 acres in Bucks County that his father had acquired later from Penn. A carpenter, Buckman died in 1716 in Makefield Township, Bucks County (Basten 1999).

Cornelius Bom (his surname is given various spellings) emigrated to North America from Holland. A baker, he was among the founders of Germantown. He is quoted at length in Pennypacker's study of the settlement of Germantown. In a letter, he described himself as "in all respects very well-to-do" and indicated that he had a shop with many kinds of goods and edibles (Pennypacker 1899:156-157).

Only a few years after he purchased the property, Anthony Morris, executor of the estate of Cornelius Bom, sold it to William Hudson, his brother-in-law and a tanner, who later served as mayor of Philadelphia, for 500 pounds. The lot already contained a house built by Bom that was

later used as the intelligence office and night school by John H. Baker. The dimensions of the property were listed in an 1858 article:

A lot of ground at the southeast corner of Third and Chestnut, extending southwardly on said Third Street two hundred and sixty feet to the swamp, now Dock Street, and thence southeasterly along the swamp to Henry Wood's lot, thence northwardly to Chestnut Street, and westerly along said Chestnut Street fifty feet to the place of beginning. (Souder 1858: August 29, p. 1)

The property passed by will through several generations of the Hudson family and was eventually owned by Samuel Hudson, Jr., great-grandson of William. The house or mansion and grounds were described in several sources. Casper Souder wrote:

[It] was a fine old building, with a portico before the door on Third Street, and a courtyard and two large buttonwood trees upon the last named street. There was an outlet from the Hudson mansion onto Chestnut Street. (Souder 1858: August 8, p. 1)

Thomas Allen Glenn, in his account of the life of William Hudson, provided additional details:

It was built of red and black-glazed brick, and was three stories high, having a sloping roof....The house was surrounded by a paved courtyard, shut in from the street by a high wall, there being a coach-way on Third street and another entrance-gate on Chestnut Street. The place was shaded by several old trees, and a charming view of the Delaware could be obtained from the garden sloping away on the southeast towards Dock Creek. The stables and servants' quarters were built in the rear of the court-yard. This typical colonial dwelling contained on the first floor the hall-room, "dining-room, Great Kitchen, and Outer Kitchen." On the second floor the "great chamber" and two other large rooms, besides smaller ones. The third floor is described simply as "the Garrett," and probably consisted of but one apartment. (Glenn 1891:341)

Henry Wood was a son of William Wood of Altercliffe, Sheffield, Yorkshire, England. He initially came to Rhode Island but later came to the Delaware Valley, where he eventually settled

at Hopewell, Gloucester County, New Jersey. His will was probated in 1691. One of his daughters, Judith, had married the aforesaid Thomas Willard of Barbadoes in 1689 (McReedon n.d.).

According to a 1925 article in the *Public Ledger*, the oldest house in Philadelphia, documented by a plaque with the date 1692, was then located at the southwest corner of Ionic Street (former Carter Street) and Exchange Street (former Goforth Alley) (*Public Ledger* 1925) (Figure 7). This may have been the house insured in 1755 by goldsmith Nathaniel Goforth, a two story, brick main block, 18½ feet wide by 14 feet deep, with a two-story kitchen of 10 x 11 foot footprint (Philadelphia Contributionship Policy S00329). It was apparently owned in the late eighteenth century by Elizabeth Oliphant, a “gentlewoman” and daughter of William Oliphant, a wealthy Philadelphia landowner. Miss Oliphant was honored with a portrait miniature by James Peale now in the collection of the Smithsonian Museum of American Art.

2.3 Eighteenth-Century Streetscape

As mentioned, the block was crossed from southeast to northwest by Dock Creek, a marshy stream that extended to the Delaware River, a short distance away. In the early years of settlement, it was channeled by brickwork and was used to carry off waste and sewage. As the city expanded west, it was also used to convey flat-bottomed cargo barges. Soon, it became thoroughly noxious. In 1763 inhabitants alleged that the creek has become “in a great measure useless” being used as “a Receptacle for the Carcasses of dead Dog, and other Carrion, and Filth of various kinds, which laying exposed to the Sun and Air putrify and become extremely offensive and injurious to the Health of the Inhabitants” (as cited in Olton 1974:92).

Beginning in the mid-eighteenth century, the creek was filled in to eliminate the nuisance. The west branch was filled in by 1757, and by 1769 it had been filled as far as Second Street. By 1784 the filling had reached the study area block. Dock Street was laid over the former creekbed (Cotter et al. 1992:235).

Based upon available documentation, it appears that the initial development of much or all the project area was residential, with, in some cases, shops or workshops on the ground floor. For instance, the 1754 tax list for the south side of Chestnut Street between Second and Third Streets included the following properties: John Guest, Widow House, Joseph Nolan, Caleb Cash,

Jonathan Bears, John Bolitho, George Sharswood, and Christopher Marshall. Among the residents, Caleb Cash served as coroner of Philadelphia County from 1764 to 1772, John Bolitho was a sea captain, and George Sharswood was a progenitor of a nineteenth-century Pennsylvania Chief Justice (Duane 1877; Biddle 1883; Westcott 1894:173; Lydon 2008). Christopher Marshall, a native of Ireland, was noted as a pharmacist, patriot, and diarist. As a pharmacist, he was selected to serve as the first president of the College of Pharmacy. In the Revolutionary War period he served as a delegate to the Provincial Conference in 1776, as a member of the Philadelphia Committee of Inspection and Observation, and as member of the Committee of Safety. His diaries, the manuscripts of which are in the Historical Society of Pennsylvania, are among the most vivid first-person recollections of the Revolutionary War period in Philadelphia and Lancaster (Peeling 1937:XII, 306-307).

As indicated in a 1766 Philadelphia Contributionship insurance policy, Caleb Case owned a two-story brick dwelling, 14 feet wide, 26 feet deep, and two stories high, while a rear block measured 15 feet wide, 10 feet deep and one story high (Philadelphia Contributionship).

The first depiction of the project area and vicinity showing building locations was issued in 1762 based upon surveys by Nicholas Scull, the late surveyor general of the Province of Pennsylvania (Figure 8). That map depicts the entirety of the Chestnut Street frontage of the block developed with the exception of two alleys. The east alley was probably Goforth, later Exchange Street and American Street, while the west alley provided access to the rear of properties along the east side of Third Street. Third Street was less heavily developed than was Chestnut Street with gaps between buildings, while Carter's Alley did not extend west of Goforth Alley.

Goforth Alley was popularly known as "Gothrough Alley" because of a passageway to Chestnut Street under an arch formed by the abutting buildings and the structure above (*Philadelphia Bulletin* 1932b). The arch was used as a storage site for hooks and ladders used in firefighting.

Twentieth-century historical accounts characterize the early development of Chestnut Street as "small houses with overhanging eaves and pent-roofs and front porches." Those between Second and Third Streets consisted of a row of three-story brick dwellings inhabited by prominent early residents of the city (*Philadelphia Bulletin* 1932a, 1932b).

The appearance of the southern portion of the study area was dramatically altered by a fire that swept through the Dock Street area in May 1791, described in the *Gazette of the United States*:

Monday night (the 9th) between the hours of 10 and 11, the city was again alarmed with the cry of fire, which broke out in a stable near Dock-street: the building was instantly enveloped in flames, which were rapidly communicated to those adjacent; and a great destruction of property was the consequence of this disastrous event; 10 or 15 houses, shops, and other buildings fell a sacrifice to the flames. (cited on Genealogytrails.com n.d.)

Among the buildings seriously damaged or destroyed were two brick buildings at the corner of Goforth Alley and Carter's Alley; three wood-framed houses on the east side of Relief Alley extending northward to Carter's Alley and occupied by A. Ramage, printer; four houses on Third Street opposite the Bank of the United States; two brick houses on the south side of Carter's Alley occupied by Joseph Burr and John Payne; a three-story brick house on the north side of Carter's Alley occupied by John Bioren as a printing office; a small brick stable, property of J. Wills; and a brick house on Carter's Alley opposite Relief Alley (Genealogytrails.com n.d.).

2.4 Nineteenth-Century Streetscape

In the early nineteenth century, the block of Chestnut Street between Second and Third Streets was lined with brick row houses with small first story show windows and lodgings above. The character of the block is shown in a later rendering with the archway to Goforth Alley shown at the left (Figure 9). Beginning in the first quarter of the nineteenth century, some of the houses were demolished and replaced with four-story brick commercial buildings. In 1832 the first all-granite building in Philadelphia was erected in the row. Before the middle of the nineteenth century, five-story, iron-framed commercial buildings began to be erected (*Philadelphia Bulletin* 1932b).

In 1805 the house that stood on Third Street west of Carter's Alley was demolished, and the alley was extended west to Third Street. In the early portion of the nineteenth century, Carter's Alley was a narrow lane with a legislated cartway of 6 feet 6 inches at Second Street and 10 feet at Third Street according to a digest of city ordinances. Coincidentally, the company that printed the volume, S.C. Atkinson, was then located at 34 Carter's Alley (City of Philadelphia 1834:230). It,

too, changed from residential to commercial in the nineteenth century. Atkinson is best known in the history of printing in the United States as the publisher of the *Saturday Evening Post*. The *Philadelphia Inquirer* was published for a time in a building at the southeast corner of Third Street and Carter's Alley. These print shops were among a number in the alley, which, in the first half of the nineteenth century emerged as the printing and publishing center of the city (Wilkinson n.d.; Smyth 1892).

Goforth Alley was also enlarged in the nineteenth century. When the Merchants' Exchange was completed in 1833, city fathers decided that a more imposing northern approach to the landmark building was needed than the existing narrow alley. To do so, it was necessary to demolish the building that marked the Chestnut Street end of the alley. After the building was demolished and the roadway widened, a narrow strip of land remained on the east side of 80 Chestnut Street.

The owner of the property, purportedly in protest for the taking of the value of his land, erected what was, for seventy years, the narrowest building in Philadelphia, a mere four-and-one-half feet wide. It was referred to by Casper Souder as an apology for a building, and by others as "Squeezegut Row." Souder described the tenants and character of the building as follows:

The first floor is generally occupied by small mechanics and smaller shopkeepers. The depth of the shops is scarcely four feet, and we have not infrequently seen customers standing in the street chaffering with the shopkeepers, while the ladder stood inside the door. Talk about slinging a cat around by the tail in these shops. Why, there is not room in them to indulge in a respectable yawn. The upper apartments have frequently been used for very disreputable purposes. The Chestnut street end of the row is at present occupied by F.T. Lesperance, dealer in cigars and tobacco. (Souder 1858)

Reference to city directories identified some other tenants of the unusual building. In 1838 tenants of the building included three shoemakers and a broker, while in 1881 they included two shoe shops (M'Elroy 1839; Gopsill 1881).

A common way to both document the urban scene and to advertise businesses in the mid-nineteenth century was through the panorama in which an artist depicted the appearance of all or part of a city block. Philadelphia is fortunate to have a wealth of surviving historic panoramas.

The watercolor artist Benjamin Ridgeway Evans was less interested in modern development than he was in older buildings endangered by urban expansion. Some of his watercolors captured historic views, while others pictured the remnants of early Philadelphia remaining in the booming mid-nineteenth-century city. A portion of the 200 block of Chestnut Street was captured, an example of the latter approach, and is in the collection of the Historical Society of Pennsylvania (Figure 10).

At the left of the rendering are the buildings flanking Exchange Place including the notorious narrow four-story building on the west side of the street. The following four buildings are all typical eighteenth-century Philadelphia building types, three-and-one-half stories, side-gabled row buildings with a central gabled dormer. Typically these buildings would have a first story storefront while the upper stories were used as living quarters for the shop owner or a tenant. It may be that G.P. McLean was somewhat self-conscious of his then “old-fashioned” building and had a parapet wall installed at the front eaves to screen the dormer from view. In Evans’s image, the future looms at the right side of the painting where he shows the edge of the Jayne Building constructed only two years earlier.

While Evans appears to have been nostalgic for an earlier Philadelphia, Julio Rae was a booster of the modern city. He drew advertising panoramas of most of the downtown streets of the older portions of the city that were accompanied (and probably paid for) by advertising cards and advertisements for some of the businesses housed in the buildings.

His panorama of the 200 block of Chestnut Street was drawn in three parts. The central and right portion depicts portions of the study area. In Figure 11, the Exchange Place intersection is shown in a fashion very similar to that of Evans, suggesting that one may have drawn on the other’s work. However, the right panel differs substantially from Evans in spirit. Instead of hiding the Jayne Building at the edge of the rendering, Rae places the building front and center with a fold-up flap used to incorporate the tower of the building (Figure 12). The panorama indicates that, at the time, only the Jayne Building and the corner Van Dyke Building (Figure 13) were modern commercial blocks. The remaining buildings were residential scale buildings of the late eighteenth or early nineteenth centuries.

Third Street and Carter’s Alley were characterized by smaller scale buildings during the first half of the nineteenth century. Numerous buildings along Carter’s Alley included both businesses and

residences. A few examples from McElroy's 1839 directory included N. Gavitt, a machinist, who lived at 29; A. Liberman, a boot and shoemaker who lived and worked at 28; and Henry Segin who also lived at 28 Carter's Alley. Based upon the 1839 city directory, the portion of Third Street in the project area appears to have been exclusively commercial, with residences relegated to the portions of the street further south.

2.5 Mid- to Late-Nineteenth Century

The 200 block of Chestnut Street, as much of the rest of the older portions of the city, were ripe for development as Philadelphia's economy, underpinned by heavy manufacturing, grew rapidly. The change is shown in an 1857 lithograph (Figure 14). The Jayne Building was then flanked by six-story wings to either side. These wings, though owned by the Jayne interests, were leased out to other businesses, some of which are depicted in the illustration with signboards. These wings took the place of two pairs of eighteenth-century masonry houses.

As the nineteenth century progressed, the Chestnut Street frontage of the block increasingly changed from residential to commercial as the city grew in population and economic importance. A symbol of the transformation of the area was the Jayne Building, which was erected near the west end of the block beginning in 1848 for David Jayne (Figure 15). Jayne, a native of the Pocono region of Pennsylvania, studied medicine at the University of Pennsylvania and entered into business selling proprietary (patent) medicines. A bottle collector website indicates that few patent medicine companies could claim to have been as successful and long-lived as the line of Dr. Jayne's Family Medicines (Figure 16) (Digger Odell Publications 2002).

The Jayne Building symbolized the success of his business. At eight stories, it was the tallest building in the city at the time and was characterized by "elegance and solidity" and was "far superior to any theretofore attempted in the business architecture of Philadelphia." Eminent architectural historian Charles Peterson cited the 129-foot tall building as the prototype of skyscraper design in the United States (Gilchrist 1957:3).

To design it, Jayne initially hired William Johnson, a Philadelphia architect who died in 1849 at the age of 38. His earlier works had included the Mercantile Building and the Bank of Commerce. The building was completed under the supervision of Thomas U. Walter, architect of Girard College and the Capitol Dome (Gilchrist 1957:1). The building changed the character of both

Chestnut Street and Carter's Alley. It boasted a 42-foot frontage on Chestnut Street (the width of two previous buildings) and extended back 140 feet to Carter's Alley. Its façade featured Quincy granite cladding and a Gothic Revival design.

Hexamer and Locher's 1858-1860 atlas illustrates the character of the project area in the era immediately preceding the Civil War (Figure 17). Most of the Chestnut Street side of the project area had been developed with masonry commercial buildings except for the building at the corner of Chestnut and Third Street, while Third Street at the west end of the study area was lined by masonry residences with stores on the first floor, as was Exchange Place at the east end.

In 1872 the interior of the Jayne Building was largely gutted in a spectacular fire that began at the rear of the building on Carter Street (Figure 18) (*New York Times* 1872a). The interior was rebuilt, but the tower, which also succumbed to the fire, was never reconstructed. The footprint of the building and its surroundings was recorded by Ernest Hexamer in an industrial survey after the fire (Figure 19).

At the time, the Chestnut Street frontage of the project area was lined with a solid block of masonry commercial buildings, most five and six stories in height, except for a three- and two-story wholesale dry goods business at the east end of the row. To its west was a six-story, granite and brick, six-story, wholesale dry goods store; the Jayne Building; a six- and two-story granite and brick wholesale dry goods store; and a five- and six- story stone and brick wholesale dry goods store. At the corner of Chestnut and Third Streets was the American Telegraph Company's building and offices, five stories, built of stone and brick. The solid wall of masonry buildings continued along the Third and Carter Street sides of the project area. The height along South Third Street was scaled back from Chestnut Street with the buildings from 109 to 115 South Third Street each two or two-and-one-half stories in height. The northern of the three buildings was a marble and brick bankers' office, the central building was the two-story marble and brick Tradesman Bank, while the southern building was a two-and-one-half-story brick block used as a retail grocery store. The north side of Carter Street was lined with the rear blocks of buildings that faced Chestnut Street, while the south side of Carter Street at the corner of South Third was occupied by a six-story restaurant, barber shop, and book and job printing building. To its east was the five-story rear block of the Jayne Building, then under construction. Further east at 232-234 Carter's Alley was a four-and-one-half story building containing a paper and rag store, a

patent lock factory, and a silver plating shop, while 230 Carter's Alley was the sole remaining historical residence in the project area.

A second fire, little more than two months later, destroyed a building on Dock Street built by Dr. Jayne and occupied by Leizenring's printing company. The Jayne Building had been used for some years as the Philadelphia Post Office. A five-story brownstone building, adjacent, occupied by the Commercial List newspaper, was also destroyed (*New York Times* 1872b).

The dominance of the Jayne family interests in the project area is graphically depicted in Hopkins's 1875 atlas of Philadelphia (Figure 20). A slightly exaggerated label depicts nearly all of the project area north of Carter's Alley as owned by the Jayne estate. The sole exceptions were the telegraph office at the northwest corner of the block and the Tradesman's National Bank at the southwest corner. The south side of Carter's Alley had a central alley labeled as Stapleton Street, and the central buildings were recessed from the plane of the outer buildings, possibly to facilitate loading. The one area that seems relatively untouched by nineteenth-century commercial development was the southeast corner of Exchange Place and Carter's Alley where a brick, colonial-era residence remained.

The appearance of the Chestnut Street portion of the project area in 1880 is depicted in a Baxter commercial panorama (Figure 21). At the east end of the row is the quirky narrow building erected along the west side of Exchange Place. The front portion of the building adjoins a three-story brick row house, whose former dormer was removed, possibly to make it seem less old-fashioned. The remainder of the west end of the block was marked by a solid row of stone and brick, Italianate and Gothic Revival commercial buildings. Dominating the row was the Jayne Building, which lacked its original tower, destroyed by the fire. The cornice heights of the buildings were coordinated with belt courses and gave a sense of unity to the west portion of the row.

A year later, Baxter published a similar panorama of Third Street. The buildings were all two- to six-story stone or stone and iron front commercial block ornamented with elaborate Victorian-era detailing (Figure 22). All but one of these buildings stood until the row was demolished in the 1950s. The one exception, 105-107 South Third Street, was demolished in the early twentieth century and replaced with an American Legion hall.

By the end of the nineteenth century, most of the project area had been fully developed. Baist's 1895 atlas (Figure 23) depicts the row of attached masonry buildings flanking the south sidewalk of Chestnut Street, representing the continuation of a row that begins at South Second Street and is interrupted by Exchange Place. Much of the north side of Carter's Alley consists of the rear of buildings whose façades face Chestnut Street, while recessed areas on the south side of the block may have been commercial buildings with loading docks.

2.6 Twentieth-Century Development

With few exceptions, the buildings on Chestnut Street, Ionic Street, and South Third Street within the project area that were demolished in the 1950s were standing at the beginning of the century. The appearance of the block is depicted in the 1901 Bromley Atlas (Figure 24). The Chestnut Street frontage was lined with a series of masonry office buildings, two of which had light wells. Commercial buildings, also of masonry construction, but generally smaller in footprint, extended along the east side of Third Street. Carter's Alley, renamed Ionic Street, was largely lined on the north side by the rears of Chestnut Street commercial buildings, while a series of masonry commercial buildings lined most of the south side of the street. The only named building in the project area was the Pennsylvania Safe Deposit Company, on the east side of South Third Street (#113).

Bromley's 1922 atlas (Figure 25) indicates the number of stories of the buildings in the study area, providing a better perspective on the density of the area. The Chestnut Street frontage ranges from five to eight stories in height, except for the westernmost building which is two-and-one-half stories in height. The height of the attached buildings on the east side of South Third Street ranged from two to three stories. Ionic Street was lined by buildings five or more stories tall except for the southwest corner of the South American and Ionic Street intersection, where two small brick houses, remnants of the city's early history, remained. The corner building was that purported to have been built in 1692.

A 1934 Dallin aerial photograph taken of the Custom House construction in the collection of the Hagley Library indicates that most or all the older buildings in the project area remained standing. By the 1950s, however, the decision had been made to demolish later buildings in the vicinity of Independence Hall to provide a better setting for the historic core of buildings (Figures 26 and 27). The entire project area was razed by the end of 1957. It sat vacant until the 1970s when the

Visitors Center was erected to a design by Cambridge Seven Architects, Inc. In 2001 the Visitor Center was relocated from this building to a new structure on Independence Mall. In June 2009 the NPS and the ARC reached agreement on a plan that would have ownership of the northern portion of the building and surrounding land transferred to the ARC, with the expectation that the ARC will construct a Museum of the American Revolution on the site.

3.0 TOPOGRAPHIC DEVELOPMENT

3.1 History of Dock Creek

The landscape in the area of Third and Chestnut Streets has undergone considerable alteration from the period of the late seventeenth century through the nineteenth century. The basis of this change was Philadelphia's development westward across the natural rolling hills and tidal streams of the native landscape. Alterations to the natural landscape in the vicinity of the project area relate, in great part, to the Dock Creek. Called Cooconocon or "Place of Pines" by the Lenape inhabitants, the original character of this waterway was likely a wide tidal estuary containing a diverse biota of plants and animals. The channel, more accurately channels, of Cooconocon ran from the sandy shore at the base of the bluffs along the Delaware River inland to the west dividing into two main branches, one to the southwest and one northwest. The channels likely widened to open water swamps in the low-lying parts of the interior and drained steeper sided valleys and springs from the surrounding hills. Ponds would likely have existed all along the creek in dammed areas, in low spots, and at impounded springheads. At high tide, much of the lower reaches would become wide brackish marshes, while at low tide the marsh would have given way to muddy flats and numerous anastomosing channels. Flanking these flats were a series of sandy and gravelly knolls and rolling loamy hills. Deep valleys containing the branches of the Cooconocon incised these hills and dissected the landscape.

At the time of Penn's landing at the Blue Anchor Inn, near what is now Front and Dock Streets, the landscape of Philadelphia was relatively close to its natural form. The original collection of houses, businesses, road network, and small wharves were tied very closely to the natural landscape. Development in the late seventeenth century extended along the bluffs and shore of the Delaware River along Front Street, and along the Dock Creek, which reached as far inland as Fourth Street. Often referred to as "the Swamp," the water course of Dock Creek was immediately identified as a route of commerce (Watson 1870:338). Attempts to control the creek began almost as early as its identification as a possible source of revenue. The first bridges over the Dock Creek were located at the intersection of Hudson's Alley and Chestnut Street (across from what is now the National Liberty Museum), Second Street over the Dock, and at the drawbridge at Front Street (Watson 1870). These crossings fostered economic development for the young city. By 1691 the public resolve to keep the landing and Dock Creek "swamp" open to

the use of public enterprise was evident in a petition occasioned by Jeremiah Elfreth (Watson 1870:336).

What started in the late seventeenth century as a means of transportation for goods and people had by the first quarter of the eighteenth century begun to turn into a source of pollution. At this time, the tanneries on Dock Creek around Third Street had choked and polluted the mismanaged watercourse, and sewage fouled its sluggish waters. While the tanneries were some of the earliest and most successful industries on Dock Creek, citizens of Philadelphia petitioned for their removal in 1739. Similar complaints were leveled in 1747 regarding a section of the swamp north of Spruce Street (Watson 1870:340). The swamp to the north of Spruce Street had become full of sediment and even above low tide was an exposed mud flat. Fears of disease and the stench of sun-dried sewage drove the city to appoint a committee, headed by Benjamin Franklin, to explore methods to clean and freshen the swamp. In response the committee proposed to create a convenient dock 60 feet wide at the western extent of the swamp and two docks of 30 feet and 40 feet wide on the southwest branch and northwest branches respectively (Watson 1870:340). The committee also called for completing the covering of the open sewer of the southwest branch, Little Dock Creek, to the point of the dock, at Spruce Street. Finally, the committee proposed to enclose the dock with stone walls and dig out the remaining portions so that water would flow even at low tide (Watson 1870:340-341). The committee, and Franklin's proposal, were fought, and little had been done to moderate the foul conditions until the southwestern swamp of the creek was closed in 1757. In the decades that followed, much of the remainder of the Dock Creek and wharf were enclosed in large culverts. In the 1760s, the section between Third and Second Streets was closed and paved, and by 1784, the section between Second Street and the wharf to the west of Front Street was closed and paved (Cotter et al. 1992:164). The resulting paved course became known as Dock Street. Finally, in the beginning of the nineteenth century, the wharf extending from the Delaware River west to just past Front Street had begun to be filled. After 1821, the completion of Delaware Avenue along the Philadelphia waterfront paved over the final section of the once venerable Cooconocon.

3.2 Modifications to Dock Creek Hydrology and Topography

Evidence for the 150 years of change to the Dock Creek's stream bed and valley have been documented in the histories and archeological investigations of Philadelphia. Watson's *Annals* (1870) makes numerous references to the landscapes and artifacts that were encountered at

considerable depths below the early nineteenth-century ground surface. Examples include diggers encountering “pure Irish turf” at a depth of 12-13 feet near the intersection of Second and Dock Streets, as well as Samuel Richards encountering a stump and 10-pound cannonball at a depth of 10 feet at his house on Front Street near Dock Street. In addition, Watson (1870:342) mentions that the yards of the early tanyards south of Girard’s bank sat a full 3 feet below the level of Third Street. Numerous city projects also encountered former infrastructure below ground. Examples of discoveries while trenching for pipes include the unearthing of a paved surface 6 feet below Walnut Street west of Second (Watson 1870:234) and, in 1823, the discovery of an abutment for the original Chestnut Street bridge over Dock Creek, 6 feet below the surface. Examples of early archeology are demonstrated by Watson’s (1870:372) recounting of whale bones being found 5 feet below ground at the southwest corner of Hudson’s Alley and Chestnut Street, the site of a former whale oriented business on Dock Creek.

Modern archeology has also encountered evidence for the intense and prolonged alteration of the original Philadelphia landscape. Excavations detailed in McCarthy and Roberts (1996) and summarized in Cotter et al. (1992:234-238) show an original seventeenth-century ground surface preserved under the basements of nineteenth-century structures along Front and Dock Streets. Portions of intact marsh surface, some containing pre-contact and early historic artifacts, were covered by subsequent episodes of filling. Sediments, pre-contact, and early historic artifacts were deposited as fill under these basements in early attempts to level yards that originally sloped downward to meet Dock Creek. At the Chiller Plant excavations on the south side of the ILHC, mostly intact shaft features dating to the latter third of the eighteenth century were encountered within a few feet below the modern ground surface. Analysis of deep cores by Geoarchaeologist Dr. Daniel Wagner, however, indicated that the original ground surface (pre-contact to late seventeenth century) was likely between 14 feet and 20 feet below grade (Wagner 1996). Additional evidence of eighteenth-century artifacts was encountered in 1954 at 5-8 feet below the current surface near the northeast corner of the Merchant’s Exchange while trenching for a steam pipe (Inashima n.d.:7.19). Within the same excavation, a brick sewer tunnel was encountered at a depth of 5.4 feet below the surface. These eighteenth-century fill and sewer features are located very near to Dock Street and may relate to the mid- to late-eighteenth-century filling and enclosing of the section of Dock Creek from Third Street to Second Street. Intact pre-contact surfaces have also been found close to the modern grade. At the Old Original Bookbinder Site, at the corner of Second and Walnut Streets, an intact pre-contact land surface was found directly below a part of Moravian Street. This surface contained pre-contact artifacts and features dating

to approximately 1000 BC (PAF n.d.). Taken together, these examples demonstrate a complex series of fills relating to an undulating natural landscape modified by 300 years of urban development. While the finer points of these fills are unimaginably complex, a general model may be proposed.

3.3 Model for Preservation Potential in Dock Creek

The original structure of the Dock Creek below Chestnut Street was likely a wide tidal flat with steep banks ascending to rolling uplands. The initial modifications to this landscape in the late seventeenth century would have entailed the immediate filling of shallower depressions and channelizing of ephemeral streams. Early land clearing for fields and livestock would have changed the natural dynamic of the watershed and increased the rate of floods and amount of silt transported and deposited by the creek. This, in conjunction with the use of the creek as a sewer and site of the tanning industry, would have rapidly turned it into a foul mire, as evident in the early eighteenth-century complaints about the “swamp.” The filling of the low spots near the creek, the building of roads and foot paths, leveling of terrain, and development of the city would have led to rapid accretion of sediment, both natural and artificial, throughout the stretches of Dock Creek, especially west of Second Street. By the last quarter of the eighteenth century, much of the Dock Creek was already filled, and the landscape had taken on much of its modern character.

In this model, the areas closest to Dock Creek between Chestnut and Second Streets would have received large amounts of fill in the eighteenth century. Moving upslope from the creek, the fill would become dramatically thinner to the point where it would equal the current ground surface. Such was the case at the Old Original Bookbinder site. This example demonstrates how old paved alleys and roads, as well as exceptional areas that have eluded development, can preserve an original land surface close to the present surface. However, areas higher on the original landscape, further from Dock Creek, were likely truncated early on and continually modified with cutting and filling. In these areas, the preservation of original ground surfaces is less likely and confined to rare areas of cobbled alleys or undeveloped yards. This model could be applied for the sections of Dock Creek from Second and Dock up to the Chestnut Street crossing at Hudson’s Alley. To the southeast of this stretch, the Dock stayed open into the nineteenth century and its banks were likely reworked considerably. To the northwest of Hudson’s Alley, the Dock Creek and its banks would have likely been less considerable, but the waterway was likely filled rather

early in history. In this area, the preservation of land surfaces would be confined to low lying areas such as ponds and within the deeper ravines that extended to the creek's headwater springs. Watson's (1870:38, 495) references to Hudson's Pond at the northwest corner of Fifth and Market Streets, to "Beek's Hollow" at Fourth and Walnut, and "a deep valley" at Fourth and Market are examples of such landforms.

3.4 Topographic Analysis of ca. 1810 Map

An analysis of Philadelphia's topographic condition in ca. 1810, based on a survey published by Lehman & Duval Lithographers (Graff n.d. in Levine n.d.), concludes that much of the filling of the Dock Creek basin and the cutting of surrounding hills (Pear Street and Society Hills) had been accomplished by this date. Value from this analysis lies in the ability to visualize the early nineteenth-century topography and infer what existed in the seventeenth century and how it had changed. Additionally, comparing this topography to the modern elevations of the city provides a very important tool for anticipating areas of cut and fill since the early nineteenth century. From each of these approaches, this analysis can aid in interpreting preservation potential and feature sensitivity.

The basis of this analysis is a ca. 1810 elevation survey conducted for and likely used by Frederick Graff for the development of the Fairmont Waterworks (Levine n.d.). The result of this survey is the recordation of the elevation in feet, presumably above sea level, for 317 locations from the Delaware to the Schuylkill River and from South Street to Vine Street. The survey was conducted by completing nine east to west transects across the city's major streets and recording elevations at numerous intersections. On each transect, elevations were recorded at an average of forty intersections. The original map of this survey records each of the 317 points and draws the elevation profile across each of the nine transects. With modern computer techniques utilizing Geographic Information Systems (GIS), these survey points can be interpreted into a complete elevation surface for the limits of the survey (Figure 28).

The method of developing a continuous elevation surface from known elevation points is referred to as interpolation. When conducting an interpolation, there are a number of standard mathematical approaches, each with a series of variables, and each with different strengths and weaknesses based on the type and quality of the input data. The utility of a particular interpolation model and adjustments of its associated variables can be measured by testing the

accuracy of the new elevation surface to the original elevation points. Further, the differences between the original points and elevation surface can be quantified and assessed. For this purpose, the most appropriate method to use was a Spline interpolation. The parameters of this method were a spline type of “tension,” a point weight of 0.2, a neighborhood of 22 points, and a cell size of 5. This method created a continuous “rubber sheet” elevation surface that minimizes the error at each point by minimizing the curvature between points. The result is a conservative elevation estimate that is very true to the input data points and is most effective at estimating slope and gradient while sacrificing estimated curvature. This goodness of fit is assessed via a scatter plot of the original elevation points with the points interpolated at those areas. There is a R^2 value of 0.9999 for the fit of a linear trend line to these data. The qualities of the distribution of differences between the original and interpolated show the qualities of the fit. The maximum difference between any one point and the interpolated surface is 0.25 feet to the positive and -0.36 feet to the negative, the mean error is 0.000618 feet, the sum of all errors is -0.196 feet, and the standard deviation is 0.074 feet. Based on these findings, it is proven that the elevation surface fits the original data exceptionally well. This elevation surface can be considered the best interpretation of Philadelphia’s early nineteenth-century elevation as current data will permit.

Comparing the 1810 elevation surface to our understanding of the original surface topography of Philadelphia, based on Watson (1870) and comparable geomorphic environments, suggests that substantial changes were undertaken in the city’s first 150 years. It is likely that the early landscape contained numerous deep ravines, steep creek banks, and broad estuarine flats. The 1810 elevation surface continues to show the impression of Dock Creek’s small and dendritic drainage basin, but it is clearly filled and, by this point in time, mostly developed. Additionally, the peaks of Pear Street and Society Hill appear more subdued than their original heights. Another major topographic change, perhaps the most substantial, is the scalping of the Delaware River terrace along Front Street in conjunction with the filling of the shore and extension of the wharf. Understanding the differences in the proposed seventeenth century topography versus the 1810 topography is instructive in interpreting historical deposition and preservation potential.

The 1810 elevation surface can also be compared to the modern elevation in order to understand nineteenth- and twentieth-century land modification (Figure 29). For this analysis, a modern elevation surface was created from topographic contours from 2007 available for the entire city of Philadelphia. According to this analysis, it appears that the changes prior to 1810 were much more dramatic than after 1810. According to these data, the average elevation of the Center City

area has increased one foot since 1810; from a mean of 26 feet to 27 feet. However, this figure is a bit deceiving because the elevation range of the modern topography is much greater than in the early nineteenth century. This is due to the elevated and subterranean roadways, such as the Vine Street Expressway. A cut-and-fill analysis shows that since 1810, 12,108,088 cubic meters have been filled in Center City, while 5,151,665 cubic meters were cut. This is a fill-to-cut ratio of 2.3:1. Of course, this is only looking at 2007 as a snapshot in time; numerous episodes of cut-and-fill likely happened to each square meter of Center City over this 150-year period. In the vicinity of the project area, cut-and-fill occur at roughly the same ratio as the rest of the city. However, along the Delaware River, the I-95 corridor and east to the Delaware River are mostly cut. The understanding gained from this analysis is that the city had achieved a relatively modern topographic profile by the early nineteenth century. Additionally, the visualization of the cut-and-fill analysis shows which areas have been altered since 1810 and to what degree. Each of these findings must be tempered with the understanding that the 1810 elevation surface is an approximation and that throughout the nineteenth and twentieth centuries a nearly endless sequence of development has altered the subsurface stratigraphy, which the cut-and-fill analysis does not account for.

3.5 Topographic Changes to the Study Area

While the general model for the stratigraphic and topographic development of the Dock Creek area is informative, it is difficult to derive from it precise findings for the 3,525 m² project area at the corner of Third and Chestnut Streets. This difficulty arises from the scale of the original elevation data and the lack of accurate measures for topography prior to ca. 1810. However, based on the model for Dock Creek infilling, topography, and the cut-and-fill analysis of the ca. 1810 data, some conclusions can be drawn.

The southwest corner of the project area is approximately 67-98 feet north to northwest of the probable location of the original Dock Creek channel, while the northeast corner of the project area is approximately 295-344 feet. The modern elevation of the project area ranges from approximately 14 feet AMSL at the southwest corner to 20 feet AMSL at the northeast corner. The project area's original elevation above the Dock Creek channel, assuming a sigmoid shaped profile, may have ranged from roughly 2-5 feet in the southwest to 15 feet or more in the northeast. This range of elevation and distances from the creek within the project area have great potential for a range of preservation conditions. Following the model for the filling of Dock

Creek proposed earlier, the southwest portion of the project area has the greatest potential for gross preservation of earlier landscapes, while expected preservation decreases as you move to the northeast. It is critical to note that this is interpreted from a geomorphic perspective and does not incorporate disturbance from basements and other deep excavations. In the southwest, it is possible the early eighteenth-century fill capped pre-contact landscapes and buried them deeply beneath the reach of most modern disturbances. The buildup of this part of the landscape relative to Dock Creek would have occurred rapidly in the first 50 years of the city's growth. Moving towards the northeast, the slope and elevation would have increased and, consequently, the thickness of any fill strata would be expected to decrease and the depth at which one could expect to encounter original ground surface would also decrease. It is possible the soil from the northeast part of the project area was incorporated early on to fill in the low-lying area. There is likely a continuum of cutting to filling in the area between the northeast and southwest corners of the project area. By the mid-eighteenth century, the low-lying areas in the southwest would have been filled and the higher ground to the northeast cut to create a relatively level landscape. Therefore, fill deposits of the mid- to late eighteenth century would be shallow and subject to intrusion and destruction, increasingly so from southwest to northeast. By the early nineteenth century, the landscape was at a nearly modern elevation, and features of this period would be equally susceptible to disturbance across the entirety of the project area.

Using data from the Old Original Bookbinder site and the 1810 topographic surface as a proxy, we can gain some insight into the nature of the hill slope rising from the creek. The location of the discovery of an intact ground surface and pre-contact feature lies approximately 295-328 feet north-northeast of the presumed Dock Creek channel (now Dock Street) at a current elevation of 15.5-17.5 feet AMSL. These figures can help indicate the potential for an intact ground surface within the project area by using the elevations of the ca. 1810 surface. Assumptions built into this model include the curve of the original land surface and the lack of major cutting and filling along the course of the alley that capped the deposit. The ca. 1810 elevation surface demonstrates that the finds at the Old Original Bookbinder site were at an elevation of 13-14.5 feet, relative to a 9.5-10 foot elevation for Dock Street. Within the project area, the ca. 1810 interpolated elevation is 15-18 feet, with the elevation of Dock Street at 14.5-15 feet. If it is assumed that the depth to the previous surface of Dock Creek and the profile of the hill slope was consistent across the 200 m between project areas, then it is likely that the preservation of landscapes in the current project area is greater than that at the Old Original Bookbinder site. This is for two main reasons, as follows: 1) much of the current project area is closer and therefore lower on the hill slope

profile than the Old Original Bookbinder site and 2) if the Old Original Bookbinder pre-contact land surface is viewed as being on a slope shoulder, somewhere between cutting and filling, then potential for an intact land surface at the same hillslope position exists in the new project area at a ca. 1810 elevation of 19-20 feet. Since the current project area is located below the ca. 1810 elevation of 19 feet, then according to the finds at the Old Bookbinder site, the entire project area has the potential to be on the portion of the hill slope where the ground surface was preserved. However, this potential for the original ground surface is only theoretical and does not incorporate the depths of basements or other deep features.

While the above landscape analysis compares cutting and filling from the pre-settlement landscape to the elevations of ca. 1810, comparing the ca. 1810 topography to present day elevations sheds additional light on the potential for cultural resources preservation. This analysis shows that since the early twentieth century, the general topography of the project area has been filled more than cut. Accordingly, 2,650 m² (66%) of the project area have received fill while 900 m² (34%) have been cut. The line between the two areas runs generally north to south along the western third of the project area, generally along the present day 16-foot contour. The magnitude of the elevation change is minus 1.5 feet in the southeast and positive 2.5 feet in the northwest. Given the proposed depths to potential pre-contact ground surfaces or early eighteenth-century features, it is unlikely that the 1.5 feet of cutting would have a major impact. Later eighteenth-, nineteenth-, and twentieth-century features may be affected by this cut.

The forgoing analysis demonstrates that before taking into account the presence of deep basements (a factor that greatly affects the survival of historic resources, and which will be considered in the section that follows), the potential for the preservation of buried historic and pre-contact landscapes within the project area is high. The elevation above and distance from Dock Creek combined with a model for the historic infilling of the creek suggest that the most sensitive and most deeply buried portions of the project area are in the southwest corner. This sensitivity decreases to the northeast, but is still high throughout. An analysis of the elevation of a pre-contact ground surface at the Old Original Bookbinder site in conjunction with ca. 1810 topography support the assessment of high sensitivity. Finally, the cut-and-fill analysis suggests that gross landscape changes (i.e., gross elevation change minus the impact of basements) since the early nineteenth century have done little to lessen the potential for landscape preservation.

4.0 ARCHEOLOGICAL SENSITIVITY

4.1 Methods

Archeological sensitivity is a function of both survival and historical significance. That is, areas identified as having archeological sensitivity are places where resources are likely to have survived that are deemed potentially eligible for inclusion on the National Register of Historic Places (National Register). For this project, sensitivity was determined by combining an understanding of the changing topography of the study area with the history of human occupation there, and mapping the extent of known sub-surface disturbances set against the archeological record of neighboring blocks. Where possible, relevant information from each of these endeavors was digitized and overlaid in a GIS format to establish those areas with the greatest archeological sensitivity for both prehistoric and historic-period resources. Survival of archeological resources was partly addressed by establishing the areas of the block that are known to have had deep sub-surface disturbances (Figure 30), though, as discussed below, even deep basements do not preclude the presence of some types of potentially significant archeological resources. As seen in a Historic American Buildings Survey (HABS) drawing of the Jayne Building prepared prior to its demolition in 1957, basements may be expected to be approximately 9 feet deep, while sub-basements may have extended another 6-1/2 feet, to full depths of approximately 17-1/2 feet below the present ground surface when the intervening floor space is added (Figure 31). The construction of the Visitor Center in 1975 does not appear to have had any further impact on deeply buried archeological resources. The deepest part of the building—the theaters and mechanical room at the north end of the building—extends up to 7 feet below the modern surface grade, which is well within the zone of disturbance from the substantially deeper nineteenth-century basements. Unfortunately, the foundation plans for the Visitor Center are not included in the available building drawings on file at the INDE library (Cambridge Seven Associates, Inc., 1972), but it is likely that foundation piers or footings extend beyond the depth of the theaters and mechanical room floors. The disturbance associated with these, however, would be localized, and may not be deeper than the nineteenth-century basements.

Sensitivity was assessed within the study area for the following five categories of archeological resources:

1. Buried prehistoric, Contact period, or historic-period ground surfaces or A-horizon deposits.

2. Intact or truncated historic-period shaft features or pit features (including wells, privy pits, cisterns, and other similar features).
3. Intact or truncated prehistoric-period midden, pit, post hole, or other features or deposits.
4. Prehistoric-period burials or Native American sacred or ceremonial sites.
5. Foundations and other structural remains.

The sensitivity for each of these resource categories was quantified, expressed as a range.

4.2 Potential Archeological Resources

4.2.1 Prehistoric Resources

The database of 19 pre-contact archaeological sites in Philadelphia is instructive in starting to formulate theories on settlement systems, technology, trade/exchange, and change in these systems over time. However, of the 19 sites, only 2 have been excavated in a controlled and purposeful manner. Of these 2, only one has a substantial report to reference. At this point, it is difficult to confidently hypothesize about pre-contact systems based on the known data. By incorporating these findings into the pre-contact systems hypothesized for the greater Delaware Valley, the pre-contact archaeology of Philadelphia begins to take shape.

The temporal components in the current database for Philadelphia are heavily biased towards Late Archaic/Transitional Archaic to Early Woodland sites. The second most frequent temporal affiliation is the Late Woodland. This pattern matches the frequency of temporal components observed across southeastern Pennsylvania (Fiedel 2001). It has been argued that this pattern is biased by the placement of stemmed and triangular projectile points into discrete time periods, the Late Archaic and Late Woodland respectively, when they actually represent a broad range of time periods (Hummer 1994; Stewart 1995; Siegel et al 2001; Wyatt 2003). The fact that various notched and stemmed bifaces, traditionally thought of as Late Archaic, appear in Late Archaic through Early Woodland contexts led Custer (1989) to define the 3000 BC to AD 1000 time period as a singular component termed the Woodland I. Kingsley et al. (1990) followed this logic and defined an Archaic to Woodland transgressive period, termed the Blackrock Phase, for the Lower Schuylkill River Valley based on typological and radiocarbon data from Chester and Montgomery Counties. A similar case is applied to the traditional assignment of triangular bifaces

to the Late Woodland. Katz (2002) has shown conclusive data that morphologically similar triangular bifaces have been found in dated Archaic as well as Late Woodland contexts. Therefore, the catch-all assignment of most stemmed bifaces to the Late Archaic and all triangular bifaces to the Late Woodland leads to a bifurcated temporal distribution biased towards these time periods. It is likely that the triangular bifaces associated with Late Woodland ceramics, such as at Front and Dock Streets, are truly associated with the Late Woodland, but without its associated ceramics, confidence is decreased. Further, stemmed broadspears and stemmed points associated with steatite bowl fragments, such as at 36PH0026, can be more confidently assigned to the Late or Terminal Archaic. Based on these findings, it is almost certain that the sites in the Philadelphia database represent a wide range of occupations spanning a period of 4000 BC to AD 1600 and European contact.

Archaeology sites of all temporal periods, from Paleoindian to the Contact period, can be expected to have existed in Philadelphia. The lack of earlier sites from the 12,000 BC to 4000 BC period does not preclude the possibility of their presence. Estuarine wetlands, such as those present in the original Philadelphia landscape, are a part of the settlement systems for all time periods in southeast Pennsylvania (Custer 1996). The lack of early pre-contact artifacts likely has more to do with the non-preservation of early pre-contact landscapes than it does with settlement systems of those times. If land surfaces dating earlier than Late Archaic are found, it is highly possible that Middle Archaic to Paleoindian artifacts could be found. Deeply buried areas along the Delaware River and the edges of low lying sections of original streams and estuaries are sensitive locations for the early pre-contact preservation.

As evident in the pre-contact background discussion and Table 1 in Section 2.1 of this report, Late Archaic through Early Woodland resources are common on pre-contact archaeological sites within Philadelphia. It is safe to anticipate that any intact pre-contact ground surfaces encountered will likely have some evidence for Late Archaic through Early Woodland settlement. The size of sites of this period will likely be more intensely occupied than sites associated with earlier time periods. All areas of the original Philadelphia landscape are sensitive to Late Archaic through Early Woodland sites.

The lack of Middle Woodland sites in Philadelphia runs somewhat counter to other areas along the Delaware Valley. At the Hendrick Island site in Bucks County, just opposite Stockton New Jersey, the Middle Woodland is represented along with all time periods from the Late Archaic

through the Late Woodland (Stewart 2005). Further north along the Delaware River, numerous sites with Middle Woodland components were excavated near Trenton, New Jersey (Wall et al. 1996). Additionally, along the Schuylkill River, a large densely occupied Middle Woodland site was present near Phoenixville (Harris 2007). These local Middle Woodland sites, along with inferred settlement patterns for the period, suggest that a large Middle Woodland site is likely within Philadelphia. The same areas sensitive for other Woodland sites remain sensitive for the Middle Woodland.

The Late Woodland was the second most represented time period in the pre-contact sites of Philadelphia. As mentioned earlier, the diagnostic biface type of the Late Woodland does not hold as much confidence as it once did. Therefore, the number of Late Woodland sites should be taken with some degree of skepticism. However, definite Late Woodland sites are known within the city and they are likely to be found on any area of intact original ground surface. Site types from ephemeral to seasonal habitation, or “villages,” can be inferred for the environs of Philadelphia. All topographic features such as hill tops, bluff, terraces, fords, and the edges of upland and lowland marshes are sensitive for Late Woodland occupation.

The final time period of concern is the Contact period. This is the window of time when Native Americans first encountered European goods and European people. The term Proto-Historic describes the point when Native Americans first saw metal, blankets, beads, and other European goods in the process of trade with other Native American groups. For populations in the Philadelphia area, the Proto-Historic was likely only a very short time before face-to-face contact with early European explorers, sometime after 1524 (Cotter et al. 1992:17). There is no definitive end to the Contact period, but Lenape and related groups had largely abandoned or been driven out of the Delaware Valley by the 1730s (Cotter et al. 1992:22). However, during the 200 years of interaction with Europeans in and around Philadelphia, the Lenape certainly left traces of their occupation. The detailed study of historic and colonial evidence has pointed to the potential location of numerous Contact period villages within Philadelphia (Cotter et al. 1992:18; Becker 1993). A large sample of potential Contact period finds at the NCC further underscores the likelihood of discovering Contact period settlements within the city. Areas of sensitivity include those that are naturally attractive, as in previous pre-contact times, but also places of political and economic importance. Sites of early European trading and governance have the likelihood of assemblages pertaining to both European and Native American lifeways.

With an understanding of the likelihood for different time periods and their associated settlement types, an assessment of the potential for different feature types can also be made. For the early pre-Contact periods from the Paleoindian to the Middle Archaic, the likely presence of features is rather low. As with the settlement of these time periods, the low likelihood has more to do with preservation than the way these people utilized their environments. While few intact early sites are known in the Delaware Valley, one example is very useful in developing expectations. At the Shawnee-Minisink (36MR0043) along the Delaware River in Monroe County, Pennsylvania, Gingerich (2007) reports on the deeply buried Paleoindian component of this site. Gingerich (2007:72) discusses four Paleoindian features found in an intact land surface. Of the features discussed, two are lithic knapping clusters and two are shallow hearths. Expectations for potential Paleoindian to Middle Archaic features in Philadelphia follow these two feature types.

Late Archaic thru Middle Woodland features are much more common in the Delaware Valley. Kinsey's (1972) excavations in the Upper Delaware Valley, Hummer's (1994) excavations at the Early Woodland Williamson site in Hunterdon County, New Jersey, and Wall et al.'s (1996) excavations in the Trenton area detail what features can be expected for this time period. Feature types include deep and shallow storage pits, basins, burned earth features, fire cracked rock hearths, fire cracked rock platforms, fire cracked rock dumps, lithic knapping clusters, post molds, and potentially pit houses. Any Late Archaic through Middle Woodland site encountered in the Philadelphia area can anticipate these types of features.

Features on large Late Woodland sites can be very numerous, but there are few documented Late Woodland sites in southeastern Pennsylvania to reference. One standout example of a large late Woodland site in the Delaware Valley is the Overpeck site (36BU0005) along the Delaware River in Bucks County, near Upper Blacks Eddy (Forks of the Delaware Chapter 14 1980). While the documentation for the excavations at the Overpeck site are not extensive, the 1980 publication does give insight into the type and potential quantities of features on a Delaware Valley Late Woodland site. Feature types include post molds, pits, hearths, lithic concentrations, burials, and possible house patterns. At the Overpeck site, 14 human burials and 1 dog burial were excavated in an area of approximately 1,200 square feet by the Society for Pennsylvania Archaeology (SPA) Chapter 14 in 1962-1963. Previous investigators noted additional burials, but the quantity is unknown. The number of post molds is unknown, but the arrangement suggested at least one, if not two, structures were associated with this village. The number of total pits found at the site is also unknown, but the SPA Chapter 14 report (1980:6) indicates they excavated 29 pits in the

1,000 square-foot “Village Area.” The presence of sites of this type is very possible within Philadelphia. Floodplains, as well as hilltops above springs and marshes are possible locations for sites of this type.

The expectation for Contact period deposits within Philadelphia is exceptionally high. Historical documentation confirms that Native Americans and early Philadelphians interacted within the city. Identifying these sites, however, is more difficult than identifying those of previous periods. Artifacts and features may retain some evidence of Native American technology, such as the knapped ceramic at the NCC site. However, other artifact and feature assemblages may be indistinguishable from seventeenth- and early eighteenth-century European assemblages. Any evidence such as trade beads, cut metal, metal scraps, shells, round ceramic sherds, worked tin, kettles, scissors, knives, coarse earthenware, and lithic debitage should be considered potential evidence for a Contact period site. Certainly, other artifacts may be present on sites of this era, but these represent the most common types. Features may include pits, post molds, or structures, however many sites would leave no trace of features. Contact period graves have been found in southeastern Pennsylvania at the Montgomery site (36CH0060) in Chester County (Cotter et al. 1992:25). At this site, Becker (1982) excavated 22 burials with a terminus post quem of 1720 to 1740. Contact period burials within the city of Philadelphia would likely be earlier, dating to the seventeenth to early eighteenth centuries.

4.2.2. Historic-Period Resources

The potential for historic-period archeological resources has been well documented by numerous projects within INDE and elsewhere in the city, but none seems more relevant to the ILHC project area than Area F, which was located on the next block to the east along the south side of Ionic Street between Second and Front Streets. Table 1 from Gerhardt’s report summarizes the features that were found beneath the basement floors of the Yoh building (included here as Table 2), and Table 10 (included here as Table 3) summarizes the features found beneath basement floors at 114 and 116 South Front Street. Of the 20 features identified at the Yoh building, 6 were privies. Two of the six included deposits dating to the eighteenth century that could be connected to lot residents. The others were filled in the nineteenth century and they, too, could be connected to specific people. Other features ranged from possible builders’ trenches to the eighteenth-century southwest corner foundation of Robert Smith’s carriage house and stable. Of the 15

Table 2. Summary of Yoh Building Features

LOCATION	RM	FEA	DIA (ft)	ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	%	FUNCTIONAL INTERPRETATION	TPQ	ASSOC
119 (75) S. 2 nd St	A	1	4.80	9.56	-1.20	Brick lined shaft	50	Privy	AS II 1860 AS I 1825	William Richardson, optician
119 (75) S. 2 nd St	A	2	3.40-3.70	9.55	6.60	Unlined shaft	50	Base of Privy	1800	
119 (75) S. 2 nd St	A	3	-	-	-	Linear stain along south wall	0	Builder's Trench	?	
117 (73) S. 2 nd St ?	A	4	7 x 7	-	-	Mortar floor	Exposed	Cellar Floor of Kitchen	c.1761	James James' brick house
117-123 S. 2 nd St	B	1	2.60	10.28	-	Brick-lined shaft w/ metal cover	0	Associated w/ Fea 3 Rm C	Early 20 th c.	Warehouse?
117-123 S. 2 nd St	B	2	-	9.80	9.60	Rectangular brick/concrete feature	0	Furnace foundation	Early 20 th c	Warehouse?
113 (13) Gatzmer St	C	1	5.20	9.77	-1.02	Brick lined shaft	50	Privy	AS II 1940 AS I 1750	Wm & Patience Annis – 1753; George Kelso for James McClellan's estate (1790?); Robert Swan, Silversmith 1815-1829
113 (13) Gatzmer St	C	2	6.60	9.59	5.80	Brick-lined shaft	100	Privy	AS II 1865 AS I 1830	
117-123 S. 2 nd St	C	3	?	9.60	?	Brick vaulted	0	Drainage conduit	20 th c.	
117-123 S. 2 nd St	C	4	-	-	-	Linear stain along north wall		Builder's Trench	c. 1908	
1-3 Gray's Alley	F	1	4.80-5.80	14.81	-1.07	Wood-lined shaft mentioned in 1750 deed	100	Privy	AS III 1825 AS II 1783 AS I 1760	AS I: bake house & granary (Wm Gray 1738-1750; Mary Weyman 1750-1783); poss. assoc. w/ Hercules Courtney's tavern on adj lot AS II: John Elliott's tenants
1-3 Gray's Alley	F	2	2.80	15.00	0.75	Unlined pit	100	Northern edge of Privy (Fea 1)	**	**
103 Gatzmer St.	F	3/3A	.50	15.02	.32	Circular stone/mortar & brick rubble	Tested	Post Support	c.1895	
Taylor's Alley	F	4	6.23	15.50	?	Brick concentration	Exposed	Demolished Foundation, poss. related to Fea 10	mid 19 th c.	Warehouse
103 Gatzmer St.	F	5		15.10	.50	Patch of lime mortar	Sampled	?	19 th -20 th c.	
114 (58) S. Front St	F	6	-	15.06	13.65	Mortared stone & brick walls	Exposed	SW corner/foundation of stable	c.1791	Robert Smith, Merchant 1791-1826
103 Gatzmer St.	F	7	-	14.93	12.82	Brick footing w/ wooden beam	Exposed	Trough-like brick footing w/ possible drain, possible seating for coal furnace	19 th -20 th c.	
103 Gatzmer St.	F	8	1.80	14.60	?	Brick-lined shaft w/ pipes draining into it & concrete manhole cover	Exposed	Cistern/cesspool	19 th	
103 Gatzmer St.	F	9	-	14.93	?	Solid brick (6 courses) platform	Exposed	Machinery support platform, SW corner Rm F	19 th	
Taylor's Alley (Taylor's Alley)	F	10		15.02	13.20	North-South brick & stone wall in Tr. 1	Exposed in Tr. 1	Foundation	Pre 1847	Unidentified

Table 3. Summary of Features at 114 and 118 S. Front Street

LOCATION	RM	FEA	DIA (ft)	ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	%	FUNCTIONAL INTERPRETATION	TPQ	ASSOC
114 (58) S. Front St	A	1	-	15.65	?	Mortar, stone & wooden beams	Tested	Floor Support	c. 1856	Hugh Catherwood
114 (58) S. Front St	A	2	-	15.45	?	Brick paving	Exposed	Foundation of brick furnace	Post 1847	Associated w/ building erected by Joseph Solms
114 (58) S. Front St	A	3	-	15.32	?	Mortared stone wall segment	Exposed	Piazza foundation	1792	Robert Smith, Merchant 1791-1826
114 (58) S. Front St	A	4								
114 (58) S. Front St	B	1	4.56	14.65	16.00	Brick-lined shaft	100	Well	1792?	Robert Smith, Merchant ?
114 (58) S. Front St	B	2	4.50	15.12	3.77	Brick-lined shaft w/ domed brick cap	Probed	Cesspool/privy	19th c.	
114 (58) S. Front St	B	3	-	15.87		Parallel mortared stone walls	Exposed	Original water closet foundation over Fea 2	Pre 1892	
114 (58) S. Front St	C	1	4.20	15.00	0.80	Circular brick-lined feature	100	Ice pit assoc w/ Fea 4/4A	1792?	Robert Smith, Merchant ?
114 (58) S. Front St	C	2	7.30	15.05	9.83	Brick-lined shaft	100	Double shaft privy (half salvaged by MICA 1979)	AS II 1870 AS I 1823	Robert Smith, Merchant 1791-1826
114 (58) S. Front St	C	2A	3.00	5.22	4.02	Brick-lined shaft	100			
114 (58) S. Front St	C	3	5.00	14.87	12.27	Brick & stone-lined shaft	50	Privy	AS II 1870 AS I 1783	AS I: Tavernkeepers Hercules Courtney 1769-1783 or Samuel Green 1783-1791
114 (58) S. Front St	C	4	6.20 x 3.40	15.30	3.50	Brick & marble tank	100	Cold cellar?	1792?	Robert Smith, Merchant ?
114 (58) S. Front St	C	4A	3.20	11.25	9.40	Brick-lined shaft below Fea 4	Exposed	Cistern below from Fea 4?	1792?	Robert Smith, Merchant ?
114 (58) S. Front St	C	5		15.4		Mortared brick & stone walls	100	SW corner of brick wash house	1792	Robert Smith, Merchant
118 (62) S. Front St	B	1	7.10 x 7.30	12.32	10.32	Unlined shaft	50	Well		Anthony Morris

features identified beneath the basement floors at 114 and 116 South Front Street, 2 were privies and 1 was a well. The well had belonged to the well-to-do merchant, Robert Smith, who lived on Front Street in the late eighteenth century and there was also a midden, a cold storage sub-cellar, an ice pit, a brick-lined drainage shaft, portions of a brick wash house foundation, and piazza foundation on Smith's property (Figure 32). The other privy included two deposits, one dating to the eighteenth century and another to the nineteenth century. Other features in this area included a cesspool/privy and a mid nineteenth-century water closet.

The proximity of the three shaft features (to each other and to the project area) that were investigated on the Chiller Plant site suggest the density that might be anticipated on the ILHC site. As already mentioned, the plan drawing of the features prepared by Inashima shows them located within six feet of each other (Inashima 1997).

The sections below present narrative discussions of sensitivity for each of the five archeological resource categories.

4.3 Expected Prehistoric Resources

Expectations for pre-contact features within the project area are derived from a number of archaeological sites within Philadelphia and beyond. The location of the project area relative to the original channel and topography of the Dock Creek makes it an ideal place for pre-contact activity and therefore, archaeological remains. If intact ground surfaces are found in the study area, it is likely that pre-contact features will be present. The controlled excavation of any pre-contact features will be amongst the first of its kind within the Center City area and undoubtedly significant. However, even the presence of a pre-contact, artifact-bearing land surface without features is considered a significant resource. Kratzer et al. (2008:128) argued this point for 36PH0137, citing that the exceedingly low number of archaeology sites within Philadelphia makes any pre-contact site with integrity significant under Criterion D.

Expected pre-contact feature types include storage pits, fire cracked rock hearths, fire cracked rock dumps, burned earth features, and post molds. Burials and house pattern features have some potential within the project area, but are much less likely. Contact period features such as sheet midden and pits have the potential to exist within the project area. The spatial distribution of pre-contact and Contact period features cannot be assigned to specific locations within the block.

However, areas with the integrity necessary for the preservation of intact pre-contact ground surfaces are anticipated to be any location that has not had a basement as well as areas at the southern end of the project area (closer to Dock Creek) that had single basements.

Features and sites of ceremonial significance, including burials, are not likely to be found within the project area. However, if resources of this type were found, they would be highly significant. While very little archaeological documentation exists for features and sites identified as ceremonial in the region, some authors have begun a dialog on the subject (Clark and Custer 2003; Egghart 2003; Custer 2005). Consultation with federally recognized tribes should be undertaken prior to ground disturbing activities in areas where there is a likelihood of encountering Contact period or pre-contact ground surfaces.

The expected number of pre-contact features per area is calculated following the distribution and density of features observed at the Bachman site (36NM0080) in Northampton, Pennsylvania (Anthony and Roberts 1987). The Bachman site data are used because the site location is an analog for judging what may be present within the ILHC environmental setting. While the topography and hydrology of the Bachman site is undoubtedly different from Center City, the location has environmental and cultural similarities that make the comparison appropriate. The Bachman site is located on a T1 alluvial terrace near the confluence of the Lehigh and Delaware Rivers. The Lehigh River is the Delaware's second largest tributary, and the Schuylkill River is the largest. Temporally, the main component at the Bachman site is the Late to Terminal Archaic, matching the greatest frequency of temporal components documented in Philadelphia. The interpreted function of the Bachman site is a "generalized logistic camp" or "microband base camp" that focuses on the procurement of nuts and fish. This site type and function match what is expected for Late Archaic sites in Philadelphia. The Bachman site serves as a good analog for Philadelphia based on site age, proximity to riparian resources, social type, and function. The Pennsylvania State Historic Preservation Office, the Pennsylvania Department of Transportation, and JMA determined the Bachman site eligible on October 26, 1983 (Anthony and Roberts 1987:3).

Based mostly on data from the Bachman site, but taking into consideration known sites within Philadelphia, the density of pre-contact features within the ILHC project area is expected to be approximately 1 per 32 m². While pre-contact finds in this density have not been documented in the modern archeological literature of Philadelphia, there is no reason to believe that the potential

does not exist for these site types if exceptional preservation environments are found, such as those found at the Old Original Bookbinder site (36PH0131), NCC, the Sugarhouse site (36PH0137), and Bartram's Garden (36PH0014). The high estimate for the area of potential pre-contact integrity is calculated to be 868 m². Given this area, 27 pre-contact features may be expected. The medium estimate for the area of potential pre-contact integrity is calculated to be 489 m². Given this area, 15 pre-contact features may be expected. The low estimate for the area of potential pre-contact integrity is calculated to be 88 m². Given this area, 3 pre-contact features may be expected.

Within the project area, the high estimate for pre-contact burials is seven. The medium estimate for potential pre-contact burials is three. The low estimate for potential pre-contact burials is zero. Based on available data from southeastern Pennsylvania, it is very difficult to confidently estimate the number of potential human interments. Given the variety of ways in which pre-contact people interred their dead, as well as the lack of well documented pre-contact burial sites, these estimates represent a wide range. A low estimate of zero represents the fact that the vast majority of known archaeological sites in southeastern Pennsylvania have no demonstrable burial component. However, sites that do have burials often have multiple burials or multiple interments within a single burial feature. Sites such as the Montgomery site (36CH0060) and Northbrook site (36CH0061) in Chester County and the Overpeck site (36BU0005) in Bucks County give us a suggestion of how many interments are possible, if a cemetery area is encountered. At Montgomery and Northbrook, only the number of interments is known, 22 and 38 graves respectively, but not the areal extent of the burial grounds (Cotter et al 1992:25; Pietak 1995:381-382). From the Overpeck site, a spatial density of one interment for every 8 m² can be calculated given the 14 human burials within approximately 111 m² of the investigation. At this spatial density, the number of interments that could physically fit in the high estimate for intact ground surface within the ILHC project area would be extremely high and well outside the realm of reasonable expectations, but it does demonstrate that pre-contact cemeteries in the area can have a high spatial density. For the ILHC project area, a lower density is assumed, roughly one interment per 90 m², which represents an amalgamation of known number of interments at Overpeck as well as other regional sites. The likelihood of impacting a pre-contact or Contact period cemetery is low, but the possibility exists.

4.4 Expected Historic-Period Resources

Archeological resources from the historic period can be grouped into three main types, ground surfaces (or A-horizons), artifact-filled hollow features, and structural remains. Historic-period ground surfaces are potentially significant if they contain sheet midden or evidence of yard layout in the form of fencelines, outbuilding distribution, or use-areas. The surfaces that are expected to survive and have the greatest potential for historic significance are those associated with the earliest occupation of the block in the seventeenth century, beneath eighteenth-century fills (see Section 3.5). Preservation potential for early ground surfaces mirrors that for pre-contact surfaces, that is, locations where there were no basements, or, areas under shallower, single basements closer to the southern end of the project area where deep eighteenth-century fills are anticipated.

Artifact-filled hollow features include abandoned trash pits, root cellars, cisterns, and shafts such as privies and wells that are most commonly associated with domestic properties. These types of features are potentially significant for both their spatial distribution and the artifact deposits within them. The distribution of features has the potential to tell us something about how city dwellers organized and used the open space available to them behind their street-front dwellings and businesses, and how approaches to the use of open space may have changed through time. As has been demonstrated in Philadelphia and elsewhere, the artifact-rich deposits found within these features may also be historically significant for the information they possess concerning the choices people made about household items, personal care, and food (e.g., Yamin 2002, 2004, 2008; Gerhardt 2006). The significance of these types of features is greatly enhanced if they can be tied to specific households, which has been possible in Philadelphia because of the rich documentary record and is likely in the project area.

Potentially significant artifact-filled hollow features are expected to date from as early as the late seventeenth century, when the Bom and Hudson families built houses along the South Third Street frontage and when a house (called the city's "oldest" by the *Public Ledger* in 1925) was built at the corner of Carter and American Streets, until the mid-nineteenth century. By then, most of the smaller, at least partially residential buildings had been replaced by commercial/industrial structures that are not likely to have such features associated with them.

Virtually all of the buildings that were demolished to build the Visitor Center in 1975 had deep basements (see Figure 30), but truncated artifact-filled hollow features are expected to be found

beneath basement floors as they have been found elsewhere, including beneath basement floors in Area F. As discussed above, the original ground surface on the study block is known to have sloped from a high in the northeast to a low in the southwest, down toward Dock Creek, but that by 1810, the block was largely leveled. It is likely that the deep, nineteenth-century basements of the large commercial buildings that dominated the block by 1860 were at least partially excavated into fill above these earlier ground surfaces, leaving some features intact, though most were probably truncated. The highest rate of survival for these features will be toward the southwest corner of the study area, or in places where basements were never built. Deep shaft features are more likely to have survived than shallower pit, cistern, or cellar features. Artifact-filled hollow features are most likely to be encountered toward the rear of historic lots, behind the main dwelling.

Structural remains are less likely to possess historic significance unless they are very old. Construction techniques used for nineteenth-century masonry commercial buildings are well documented in construction drawings and detailed recordation of standing buildings, and it is unlikely that the remains of their foundations will add anything new to our understanding. The foundations of residences may offer some information regarding organization of domestic space and construction techniques, but standing structures offer a much more complete record, and since there are still a substantial number of nineteenth-century buildings extant in the city of Philadelphia, it is unlikely that structural remains from that century would be considered historically significant. Earlier building foundations, however, may be significant for their information potential, since there are very few extant domestic buildings in Philadelphia from the eighteenth century, and none from the seventeenth century.

Structural remains did not extend as deeply into the ground as did shaft features, so their survival is less certain, particularly as you move to the northeast portion of the study area or beneath deep basements. Building techniques such as earthfast construction or foundation-on-ground are unlikely to have penetrated the ground very far, and identifying them may only be possible in areas where the original ground surface has been preserved. Footing walls or basements will have left a deeper signature, and may be preserved in much the same pattern as the shallower artifact-filled hollow features, grading in likelihood from lower in the northeast to greater in the southwest. Significant structural remains with the highest survival potential are seventeenth-century buildings constructed toward the south of the study area before the block was filled. For

the most part, structural remains are most likely at the front of historic properties, though there may be outbuilding remains in the back.

Figure 33 shows the configuration of developed lots within the study area as represented in the 1799 Direct Tax. Occupant and use information from the 1800 City Directory is also indicated. Figure 34 shows the configuration of developed lots in 1860, as represented in Hexamer and Locher's atlas of the city, showing the remaining residential properties.

4.4.1 Chestnut Street Properties

There is no clear record of seventeenth-century structures along Chestnut Street in the study area, but according to the 1799 Direct Tax there were 9 lots with improvements built in the eighteenth century (see Figure 33). The buildings were most likely residential with stores on the first story; occupants recorded in the 1800 City Directory included two tailors, a currier, a grocer, a tavern keeper, a merchant, a broker, a shoemaker, and a gentleman. All but one of the Chestnut Street lots had been re-developed with large commercial/industrial buildings by 1860 (see Figure 34).

Estimates for the likely number of features surviving along Chestnut Street were based on findings behind the Robert Smith house on Front Street, in neighboring Area F. It is estimated that from 1.5 to 3 features may be preserved in each of the nine eighteenth-century lots in addition to 1.5-3 features in the one remaining nineteenth-century lot. The range for artifact-filled hollow features along Chestnut Street, then, is 15-20.

Structural remains, which were closer to Chestnut Street than the hollow features and were probably not as deep, are unlikely to have survived the construction of deep basements in the nineteenth century. Three small areas where there were light wells for the later buildings have the potential to contain fragments of outbuildings associated with eighteenth-century residential occupation of the street. These each measure approximately 5-7 feet wide and 30-42 feet long, and are all located within the rear portions of lots that had improvements on them according to the 1799 Direct Tax. Although the footprint of the ILHC building covers these three areas, the depth of disturbance associated with its construction is expected to be relatively shallow, and structural remains, though probably truncated, could have survived beneath it. It is estimated that from 1 to 3 outbuildings associated with eighteenth-century properties survive within these areas.

4.4.2 South Third Street Properties

According to Souder (1858), Cornelius Bom and subsequently William Hudson owned a 50-foot-deep lot along the South Third Street frontage between Chestnut Street and Dock Street in the seventeenth century. The property contained a “mansion” house that faced South Third Street, but could also be accessed from Chestnut Street. The Hudson property included other outbuildings, but precisely where they were located is unknown. By 1799 the South Third Street frontage had 10 lots with improvements (see Figure 33), all of which presumably had a residential component. People living in these buildings included two watchmakers, an instrument maker, two clerks, an upholsterer, a tailor, a widow, and a gentlewoman. Most of the lots were still residential in 1860, but by that time they had been somewhat reconfigured and there were only 7 (see Figure 34).

The likely number of features on each lot was estimated using the findings from Second Street on neighboring Area F. It is estimated that between 1 and 2 artifact-filled hollow features may be preserved within each of the 10 eighteenth-century residential lots along South Third Street. An additional 1-2 features may be preserved within each of the 7 nineteenth-century residential lots. The preservation of seventeenth-century features within the 50-foot strip that was the mansion lot is expected to be greater since they predate the filling of the block. The estimate for this area is between 2 and 4 features. The range for artifact-filled hollow features along South Third Street, then, is 19-38.

Potentially significant structural remains along South Third Street include buildings associated with the 50-foot deep seventeenth-century “mansion” lot as well as two of the improved eighteenth-century lots that fall within the nineteenth-century alignment of Carter Street, where no basements were built. It is estimated that between 1 and 2 seventeenth-century, and between 1 and 2 eighteenth-century building remains have been preserved, for a combined range of 2-4.

4.4.3 Carter Street

The lot at the southwest corner of Carter Street and American Street was the site of a house built in 1692, the “oldest building” left in the city in 1925 (*Public Ledger* 1925), and possibly the residence of Nathaniel Goforth, goldsmith, in 1755 and Elizabeth Oliphant, gentlewoman, in the late eighteenth century. By 1799, according to the Direct Tax, there were 7 lots on both sides of the alley that had improvements on them, presumably residences, some of which had shops below

(see Figure 33). Three printers, a washer, a tailor, a teacher, and widow lived along Carter Street in 1800. Only one residential building—the Goforth/Oliphant house—remained by 1860; the remainder of the Carter Street properties were commercial or industrial with no domestic component (see Figure 34).

Estimates for resources on Carter Street are based on the numbers and kinds of features identified along Grey’s Alley on neighboring Area F, combined with the finds recorded for the Chiller Plant excavation at the ILHC. It is estimated that between 1 and 2.5 artifact-filled hollow features may be preserved within each eighteenth-century residential lot along Carter Street. An additional 2-3 features are estimated for the Goforth/Oliphant lot, which had seventeenth-, eighteenth-, and nineteenth-century components. The range of expected artifact-filled hollow features, then, is 9-19 along Carter Street.

Potentially significant structural remains on Carter Street include the seventeenth-century Goforth/Oliphant house and buildings associated with three other lots with improvements recorded on the 1799 Direct Tax. The only areas where the shallow structural remains are likely to have survived are where there were no nineteenth-century basements. It is estimated that the remains of between 1 and 4 buildings have survived in these areas along Carter Street.

5.0 CONCLUDING REMARKS

5.1 Summary of Historical Development

The site of the Independence Living History Center lies in the heart of the earliest developed part of William Penn's "Greene Country Town." The historical research conducted for the project determined that at least two houses had been built within the bounds of the project area by the end of the seventeenth century and one of them may have survived well into the twentieth. The entire Chestnut Street frontage had been developed by 1762 with private residences, a few of them with shops or workshops on the ground floor. Beginning in the first quarter of the nineteenth century, some of the Chestnut Street residences were replaced with four-story commercial buildings and by the middle of the century, large multi-story commercial buildings, including the celebrated Jayne Building (what Charles Peterson called the country's first skyscraper), filled the streetfront. Third Street was mainly residential in the eighteenth century, but many of the houses also served as small artisan shops and businesses. There were also a few residences along Carter's Alley, but fire in the Dock Street area in 1791 did a good deal of destruction in the southern portion of the project area. After the fire, Carter Street became Philadelphia's center for printing and publishing. By the turn of the twentieth century the entire project area was covered with multi-story masonry buildings, the very buildings that were taken down during the creation of INDE in the mid 1950s.

5.2 Summary of Archeological Potential

The buildings covering the project area before the Visitor Center was built in 1975 had deep basements, but basements do not preclude the possibility of finding archeological features beneath their floors. It is anticipated that truncated shaft features dating to both the eighteenth and nineteenth centuries will be present and that it will be possible to tie the features to the residents who lived on the lots when the features were filled. It is also possible that an intact ground surface and prehistoric features may be found beneath the alignment of Ionic Street and to its south, where there were not deep sub-basements. Possible prehistoric features include storage pits, hearths, lithic knapping clusters, basins, post molds, and even pit houses. Although unlikely, burials could also be present. A street dating back to the earliest settlement was present in this location until the Visitor Center was built and it could have prevented the ground beneath it from being disturbed. The topographic study conducted for this project provides a basis for estimating the elevations of the original ground surfaces within the project area. The depth of fill was

greatest at the southwest corner of the project area and shallower at the northeast corner. In order to level the ground the fill would have been deeper at the southern end of the project area and thus less disturbed by various construction episodes. It is anticipated that shaft features will be less truncated at the southern end and that some intact ground surface may even be present.

5.3 Quantification of Potential Archeological Resources

Sensitivity maps for the five categories of archeological resources discussed in Section 4.0 above are presented in Figures 35, 36, and 37. The quantitative analysis is presented in Table 4, in which the numbers discussed in Sections 4.3 and 4.4 are summarized for each resource category and presented as a range representing approximately an 80% chance that the actual quantity of each resource category will fall within the predicted range.

Table 4. Quantification of Archeological Sensitivity

	Prehistoric, Contact Period, & Historic- Period A-Horizons (square meters)	Historic- Period Hollow Features (number)	Prehistoric Features (number)	Prehistoric Burials (number)	Historic- Period Structural Remains (number)
High	868	77	27	7	10
Medium	489	60	15	3	7
Low	88	43	3	0	4
Range, Adjusted	97-781	47-70	3.5-24	1-6	4.5-9

The quantities shown in the table represent the density of resources that might conceivably be present in the project area. A realistic mitigation scenario, however, would involve the execution of a sampling strategy designed to maximize the recovery of data that will advance our understanding of the past while minimizing the recovery of redundant and non-significant data. Such a scenario would likely involve excavation of something less than all the features and deposits on the site. As an example of such an approach, we outline here a lot-based sampling strategy that takes into account the variety of residents and occupations represented in the neighborhood, especially in 1800, for which we have specific information (see Figure 33). Several other factors were taken into account when choosing lots for targeted investigation. One is the possibility of finding either structural remains or shaft features dating to the seventeenth century. As discussed in Section 4.4 above, the lot at 28 Carter Street was the location of a seventeenth-century house that supposedly stood into the twentieth century, and the South Third

Street frontage was the site of a domestic complex that may have stood on the Bom/Hudson lot in the seventeenth century. Also taken into account was the fact that the original ground surface would have been lower in the southern portion of the project area than in the northern portion, making the likelihood of finding structural remains and preserved early period A-horizons greater in that area. Shaft features in the southern portion of the area are also likely to be less truncated even when they are found below basement floors. Lastly, the three narrow pieces of ground that were not covered with deep basements are included in the sample.

The lots included in the sample include No. 28 Carter Street for seventeenth-, eighteenth, and nineteenth-century features, and Nos. 30, 32, and 34 for eighteenth-century features. Table 5 below shows the high, medium, and low estimates for each lot. In the eighteenth century there was a business and a teacher at No. 28, a widow at No. 30, and printers at both Nos. 32, and 34. The lots included in the sample on Third Street include the rear of the Bom/Hudson property for the seventeenth century, Nos. 55, 53, 51, and 49 for the eighteenth century, and Nos. 55, 53, 51, and 49 for the nineteenth century. In the eighteenth century there was a tailor at No. 55, a widow at No. 53, an upholsterer at No. 51, and an instrument maker at No. 49. The lots were at least partially residential in the nineteenth century although specific residents have not been identified. The lots included in the sample on Chestnut Street include No. 88, 80, and 74 (all with open ground not covered by later buildings), and No. 86. In the eighteenth century there was a currier at No. 88, a tavern at No. 86, a merchant at No. 80, and a ladies shoemaker at No. 74. Only one lot, No. 74, included residents in the nineteenth century. The total number of lots in the sample constitutes 53 percent of the total number of lots in 1800. Table 5 below shows high, medium, and low estimates of features within the sample lots. As requested, cost estimates for each scenario are presented in Appendix II.

The sampling strategy presented above is a hypothetical construct designed to allow the generation of the cost estimates presented in Appendix II. An operational mitigation plan with an appropriate sampling strategy can only be developed based on the known impacts of a real project.

Table 5. Proposed Sample for Targeted Archeological Investigation, High, Medium, and Low Estimates.

Resource Type	High Estimate	Medium Estimate	Low Estimate
Prehistoric, Contact-Period, & Historic-Period A-Horizons (square meters)	868	489	88
Historic-Period Hollow Features (number)			
<i>Carter Street</i>			
17th century	4	3	2
18th century	4	3	2
19th century	4	3	2
<i>Total, Carter Street</i>	12	9	6
<i>South Third Street</i>			
17th century	4	3	2
18th century	12	9	6
19th century	10	7	5
<i>Total, South Third Street</i>	26	19	13
<i>Chestnut Street</i>			
18th century	12	9	6
19th century	1	0	0
<i>Total, Chestnut Street</i>	13	9	6
TOTAL FEATURES	51	37	25
Prehistoric Features (number)	27	15	3
Prehistoric Burials (number)	7	3	0
Historic-Period Structural Remains (number)	10	7	4

5.4 Significance

It is likely that some of the historic features, and certainly any intact ground surface associated with prehistoric occupation, would be potentially eligible for listing on the National Register of Historic Places. While many truncated archeological features have already been excavated within Philadelphia, each artifact assemblage adds to our understanding of what life was like in the city's past. These analyses allow us to look into the lives of people from the past, who are otherwise unknown. The project block has the potential to go back even further than the founding of Philadelphia, to see how Native peoples used the land before Penn had set foot on it.

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FIGURES

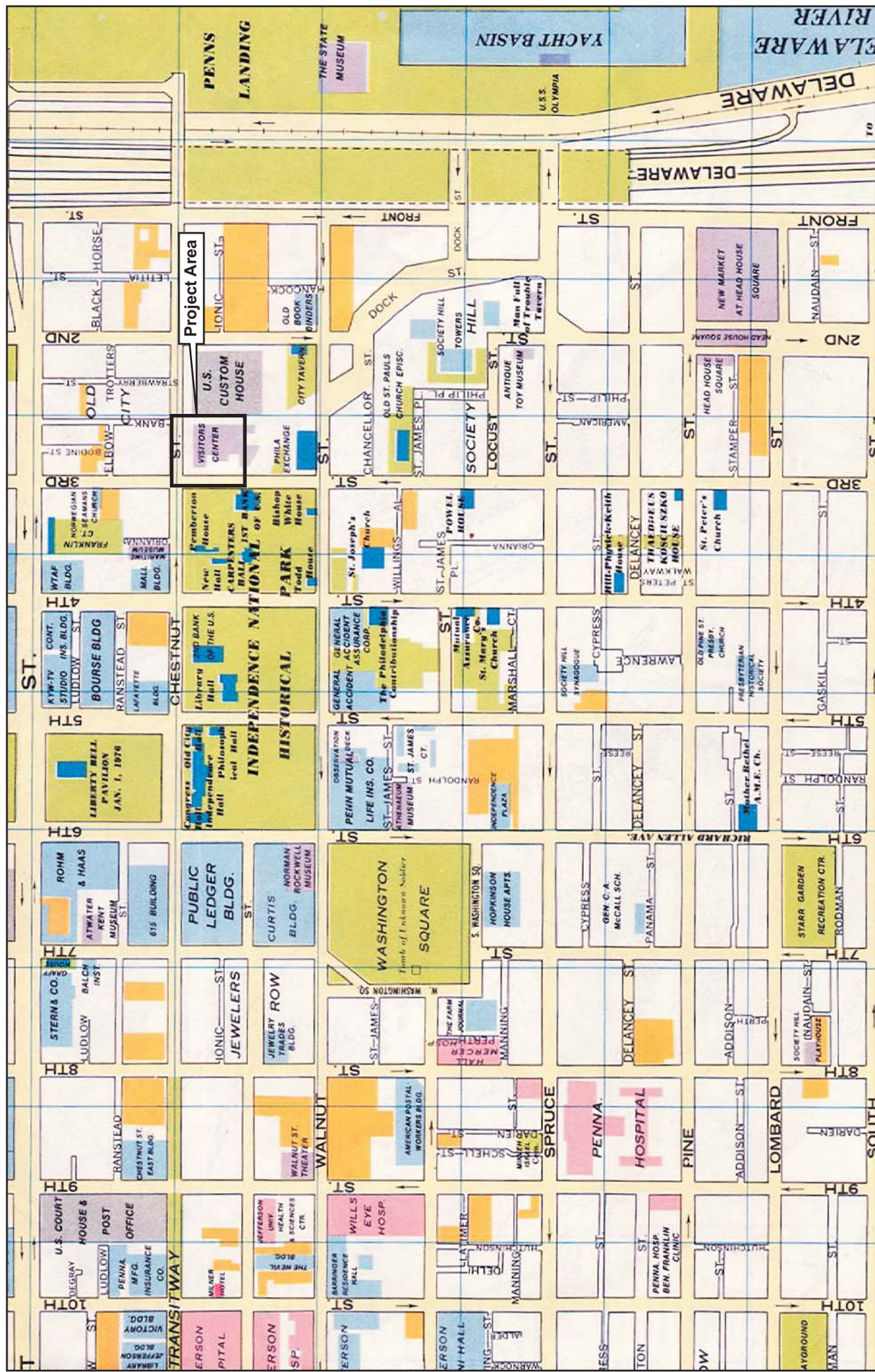


Figure 1. Project area in Philadelphia, Pennsylvania (detail from Anonymous n.d.).

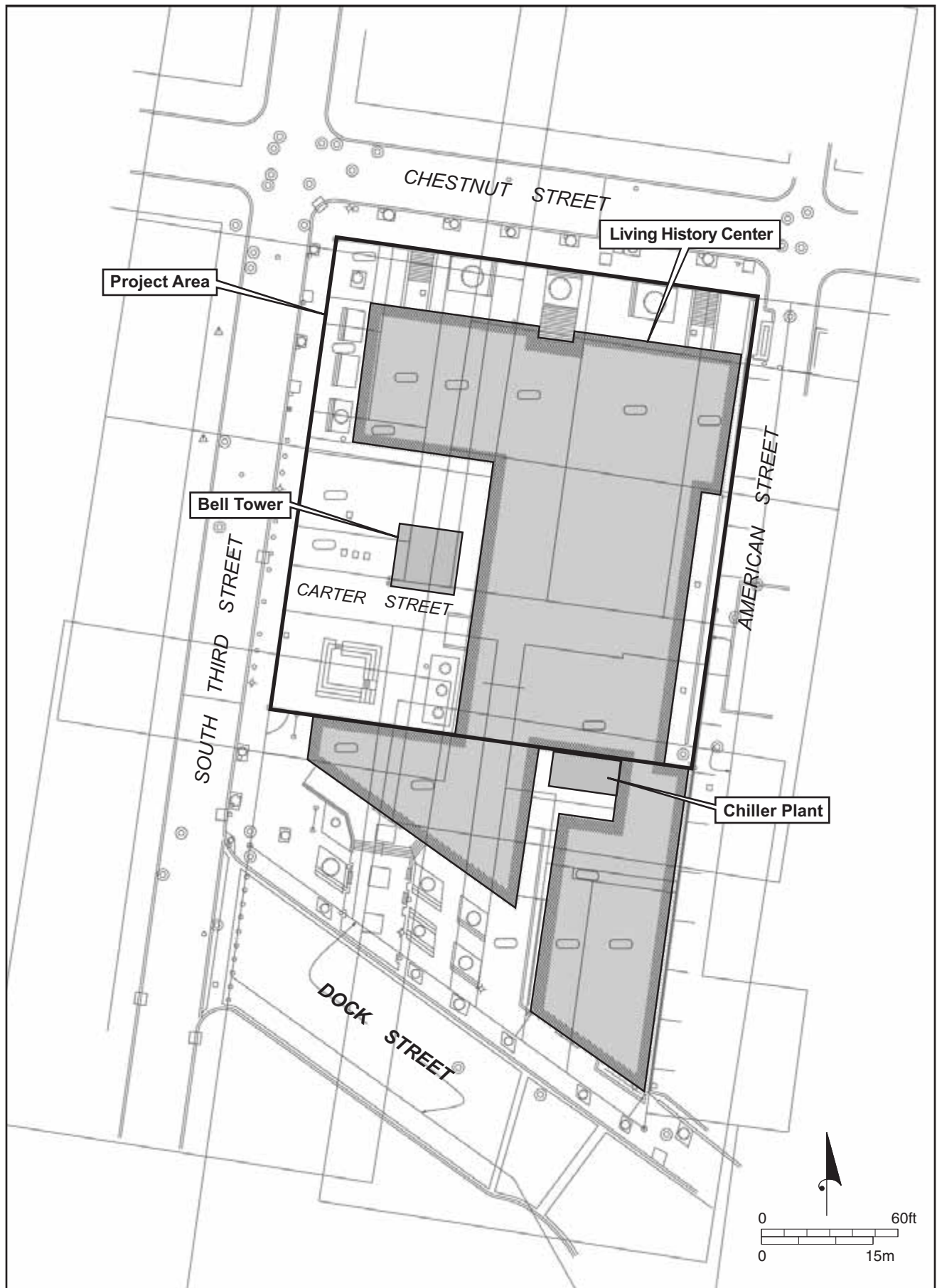


Figure 2. Drawing of current conditions within the project area (detail from NPS 2009).

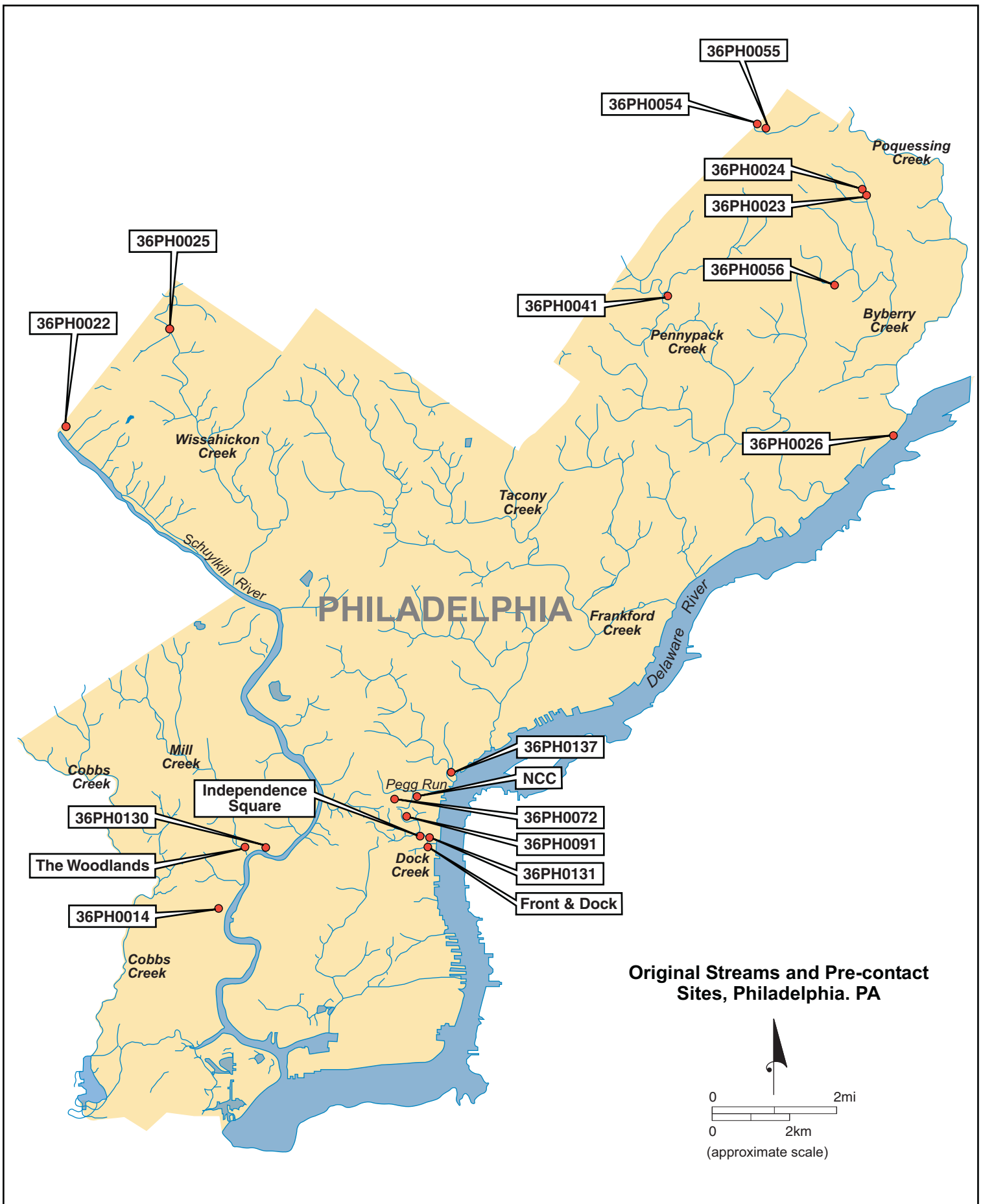


Figure 3. Identified locations of prehistoric archeological finds within Philadelphia County (source data: Cotter et al. 1992; Pennsylvania Historical and Museum Commission v.d.; Philadelphia Archaeological Forum n.d.; Levine n.d.).

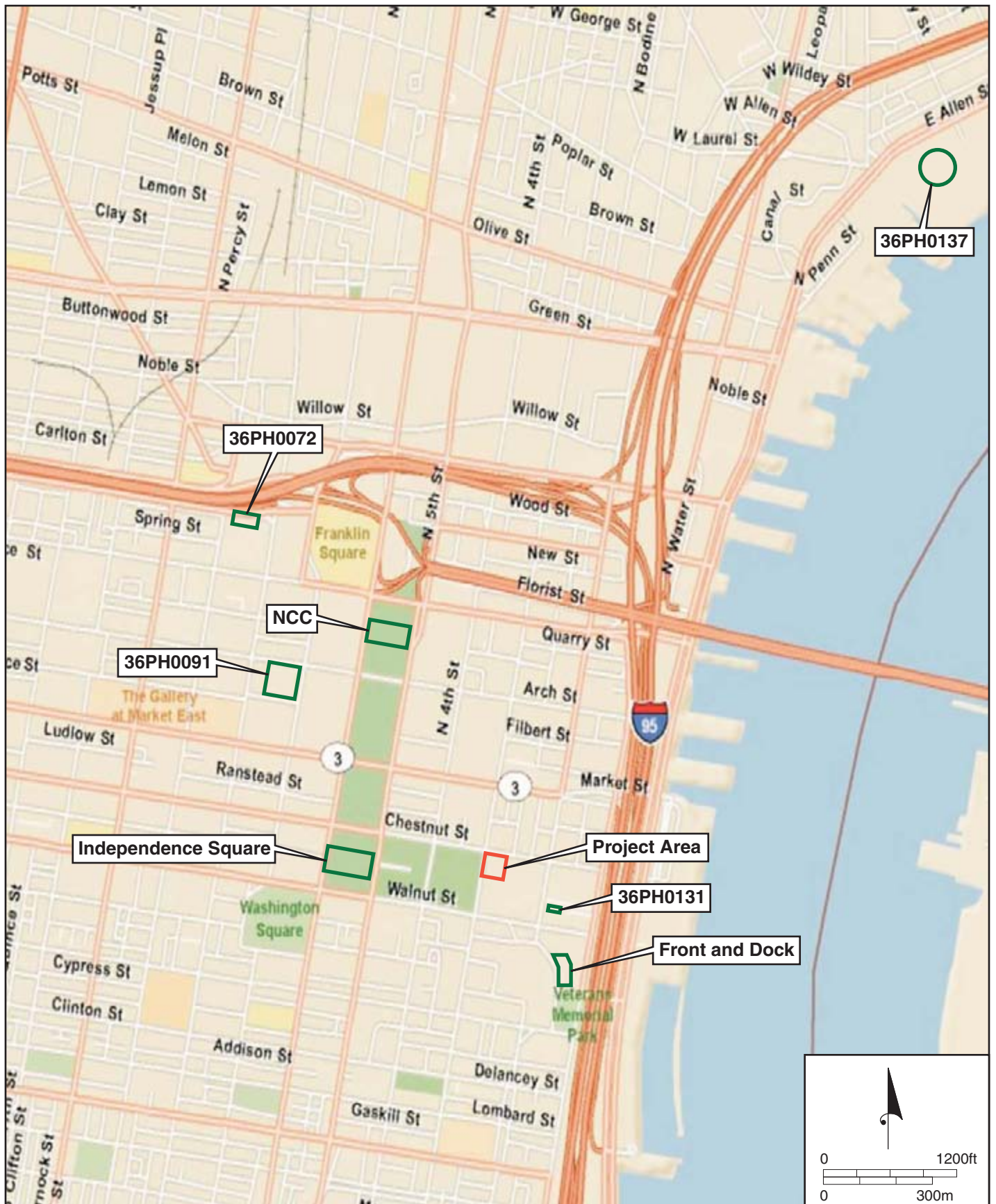


Figure 4. Identified locations of prehistoric archeological finds within Center City area of Philadelphia (base map, ESRI).

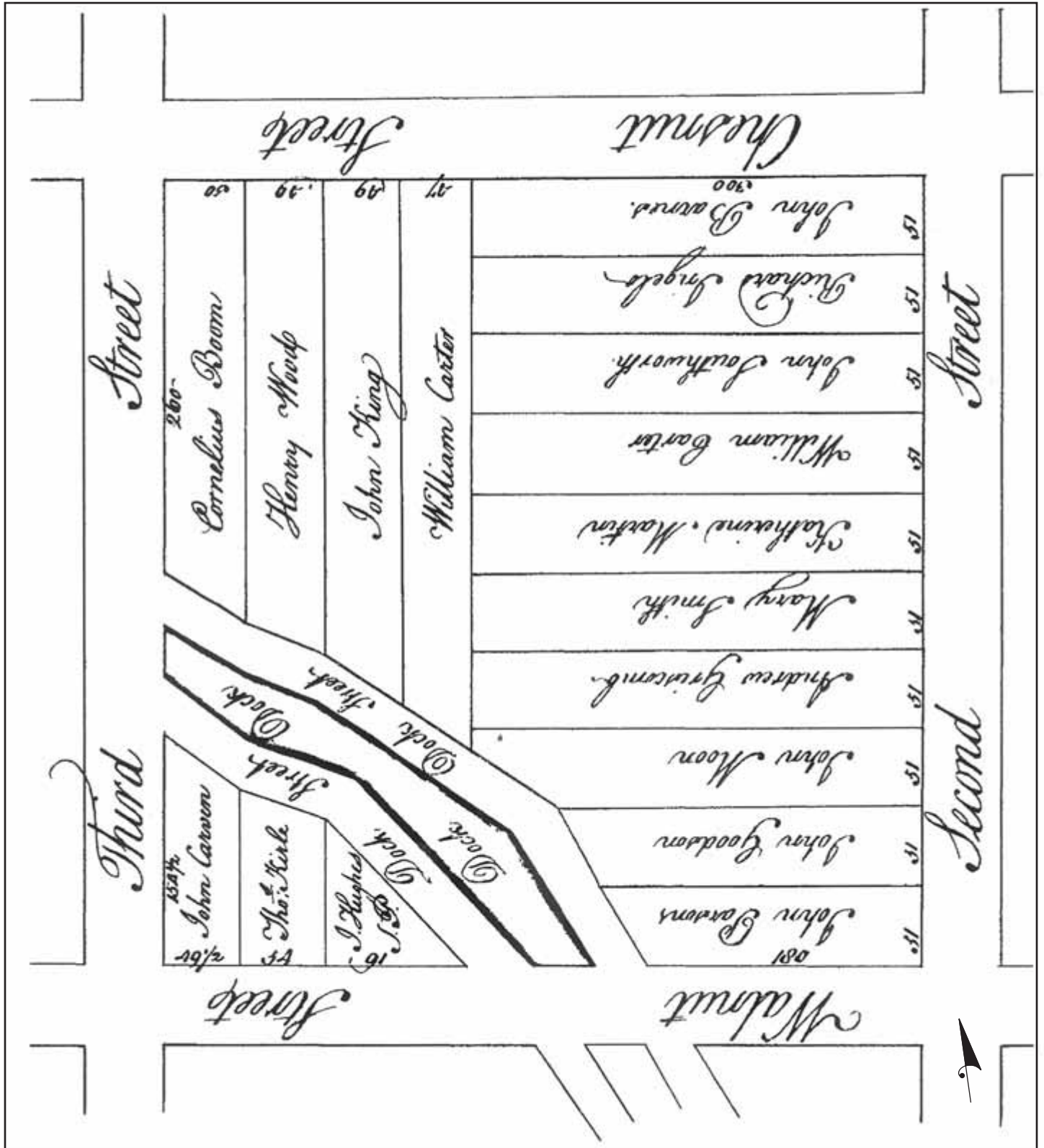


Figure 6. Map of the block bounded by Chestnut, Third, Second and Walnut streets, as drawn by William Parsons, c. 1741. Original in the Cadwalader Collection, Historical Society of Philadelphia (Wainwright 1956).

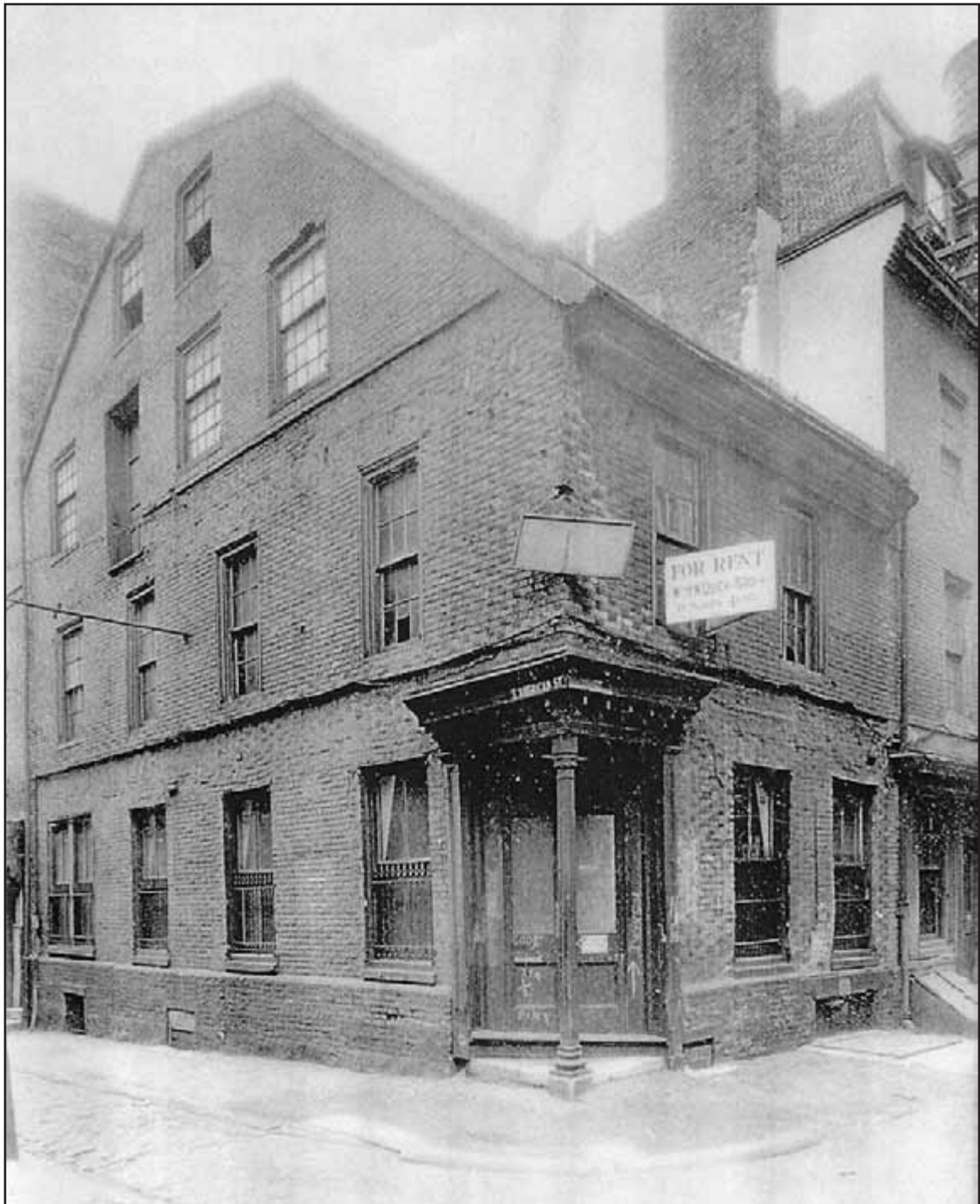


Figure 7. Photograph of the “oldest house in Philadelphia,” (c. 1692), which formerly stood on the southwest corner of Ionic and South American Streets (Philadelphia Historical Commission 1931).

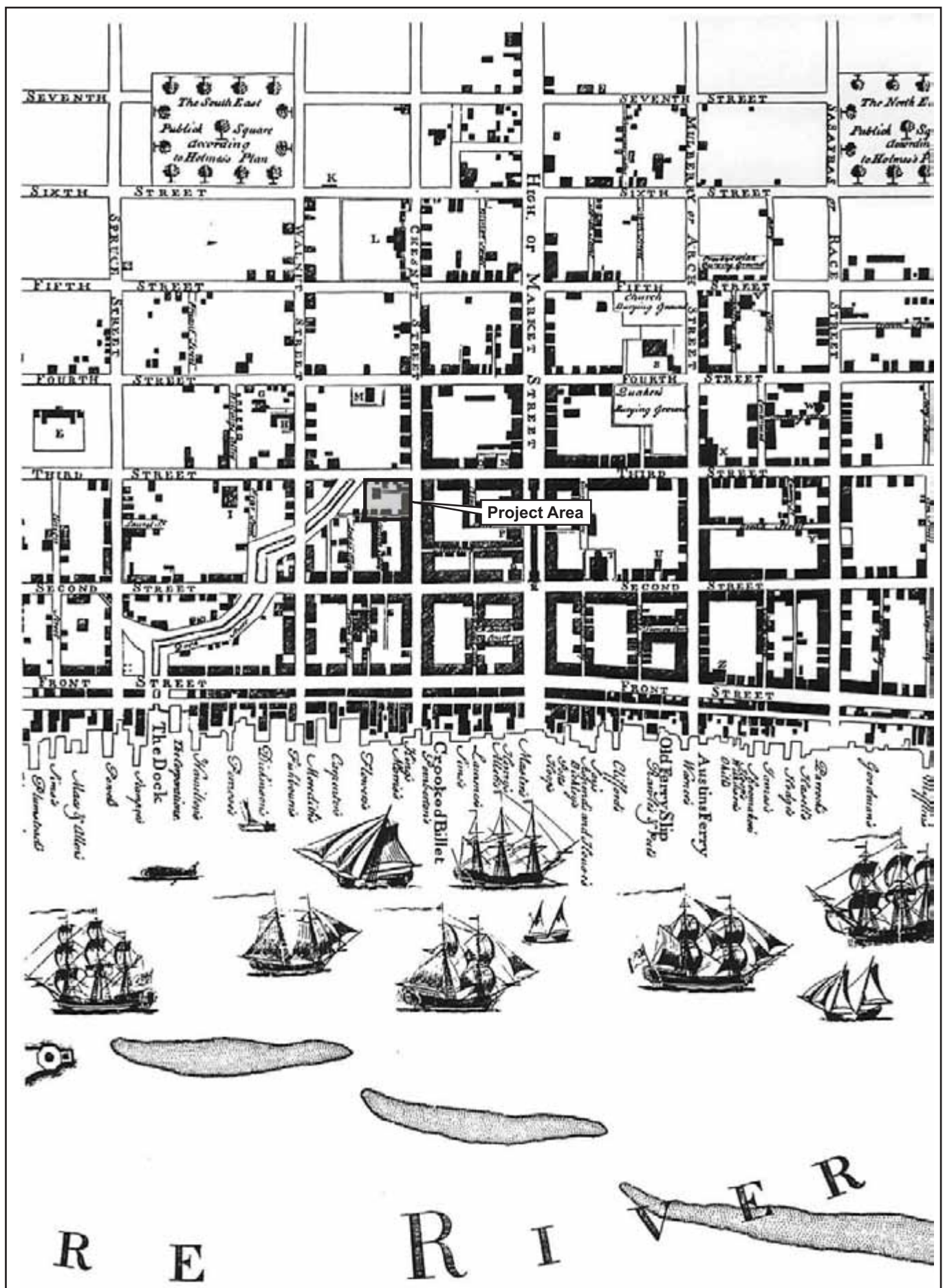


Figure 8. Detail, [Philadelphia], (Scull 1762), as reprinted by Historic Urban Plans, Ithaca, New York.



Figure 9. Historic rendering of dwellings that stood on the south side of Chestnut Street, old Lot Nos. 80 & 82, c.1800 (Free Library of Philadelphia).



Figure 10. Watercolor rendering of a portion of the south side of the 200 block of Chestnut Street (Evans 1851). From the collection of the Historical Society of Pennsylvania.

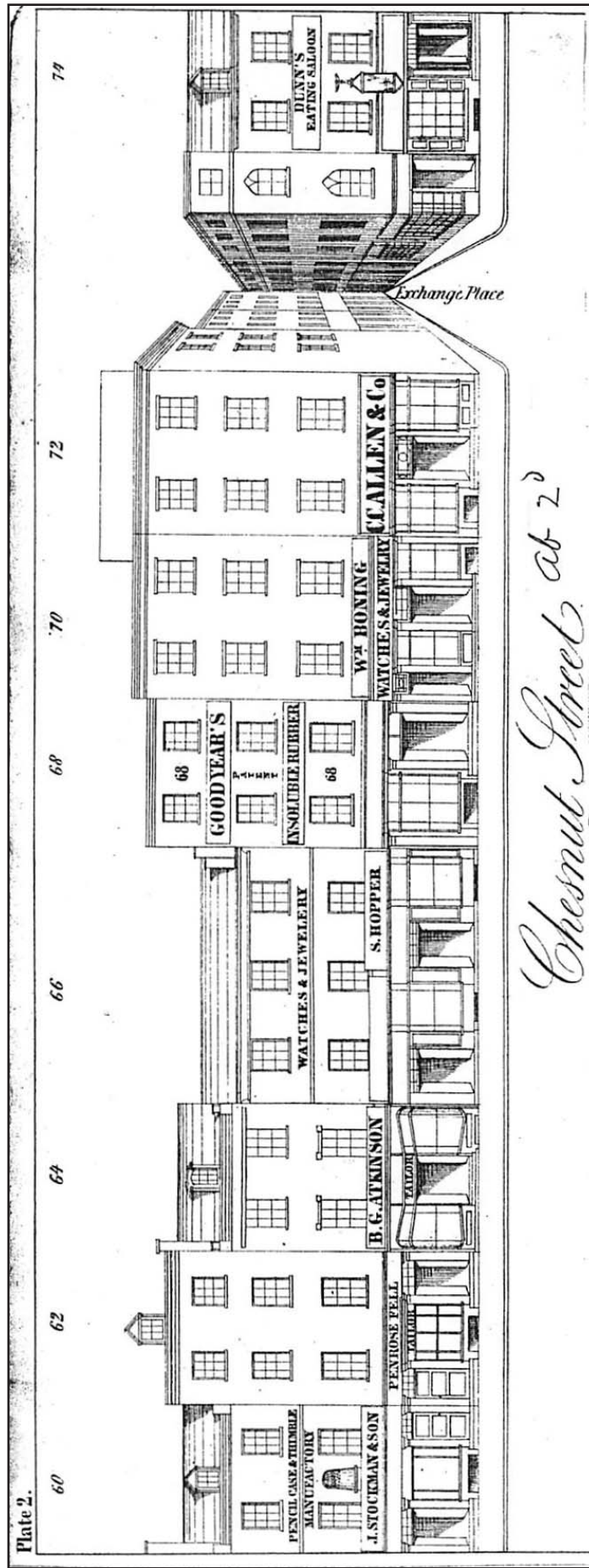


Figure 11. A panoramic line drawing of the south side of Chestnut Street, above 2nd Street (Rae 1851). Exchange Place and 74 Chestnut Street, on right end of rendering, are within the project area.

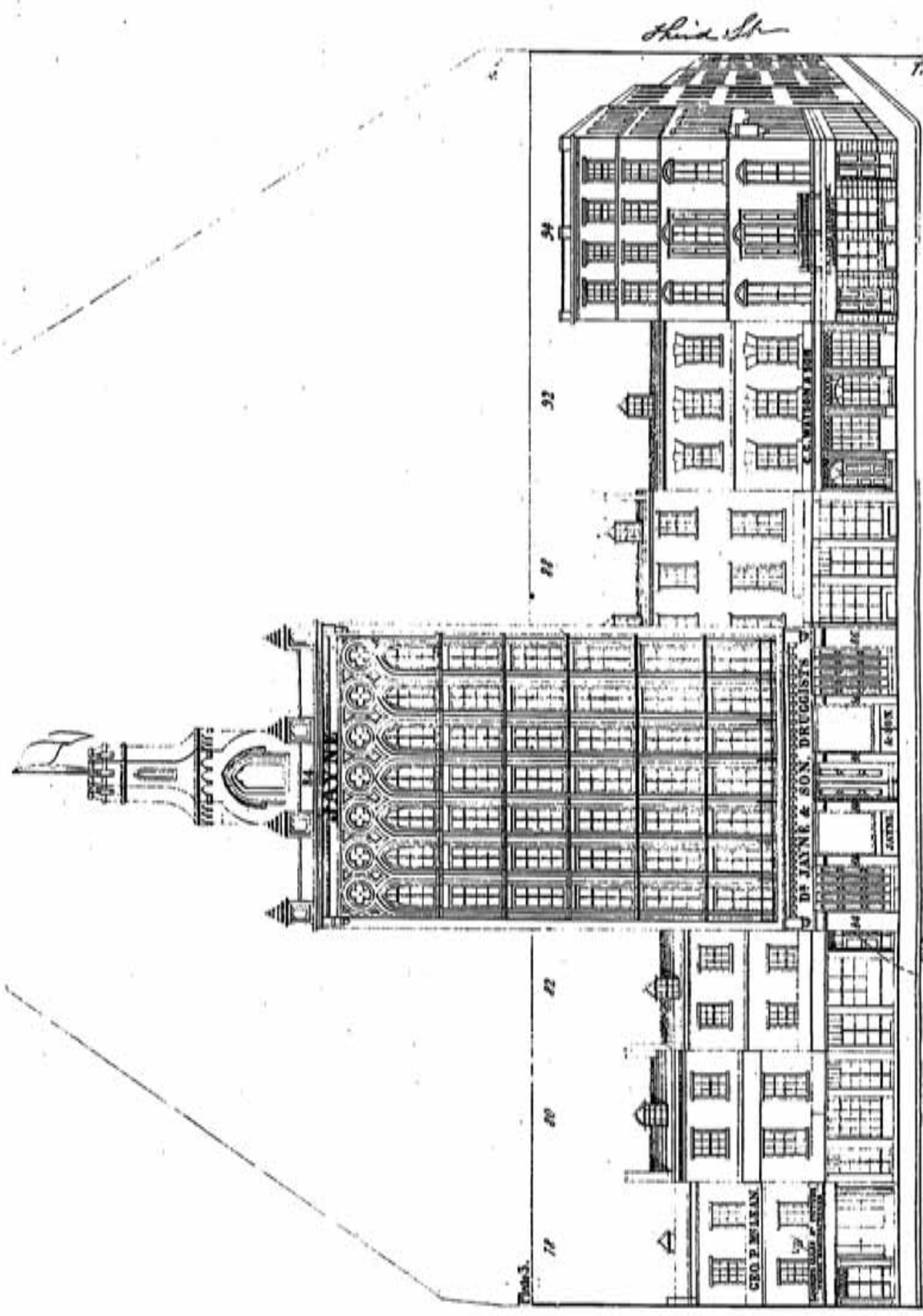


Figure 12. A panoramic line drawing of the south side of 78-94 Chestnut Street (Rae 1851)



Figure 13. Vandyke's Building, on the southeast corner of Third and Chestnut Streets, c.1850 (Free Library of Philadelphia).



Figure 14. Historic panorama of Chestnut Street, east of Third Street, Philadelphia, 1857 (Schnabel, Finkeldey, Demme). Copy of print available at the Philadelphia Historical Commission.

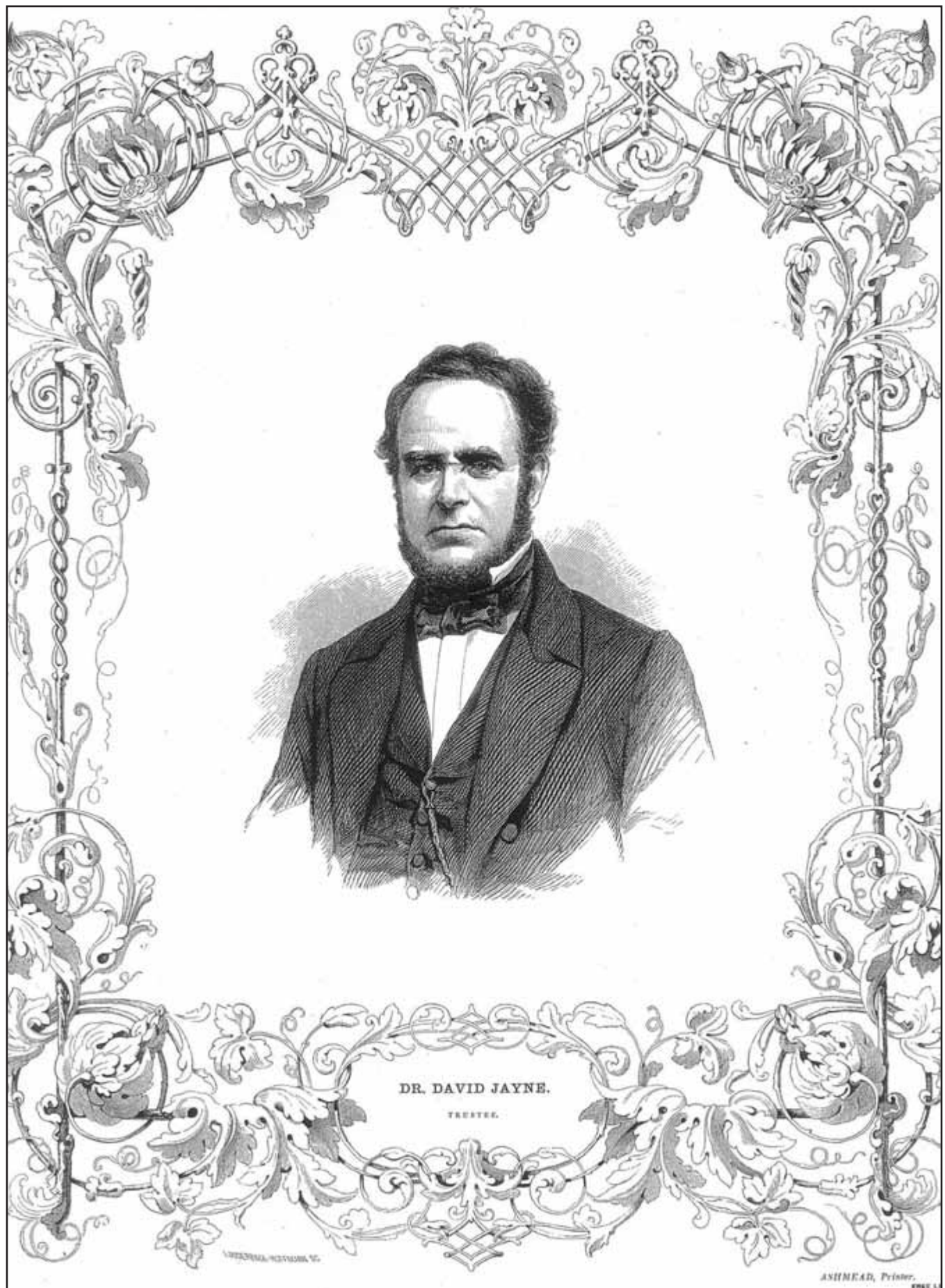


Figure 15. Dr. David Jayne (Ashmead). Original in the John Frederick Lewis Collection, Free Library of Philadelphia.



Figure 16. A color advertisement for a Dr. D. Jayne's patented medicine (Knapp & Co. Lithographers 1889).

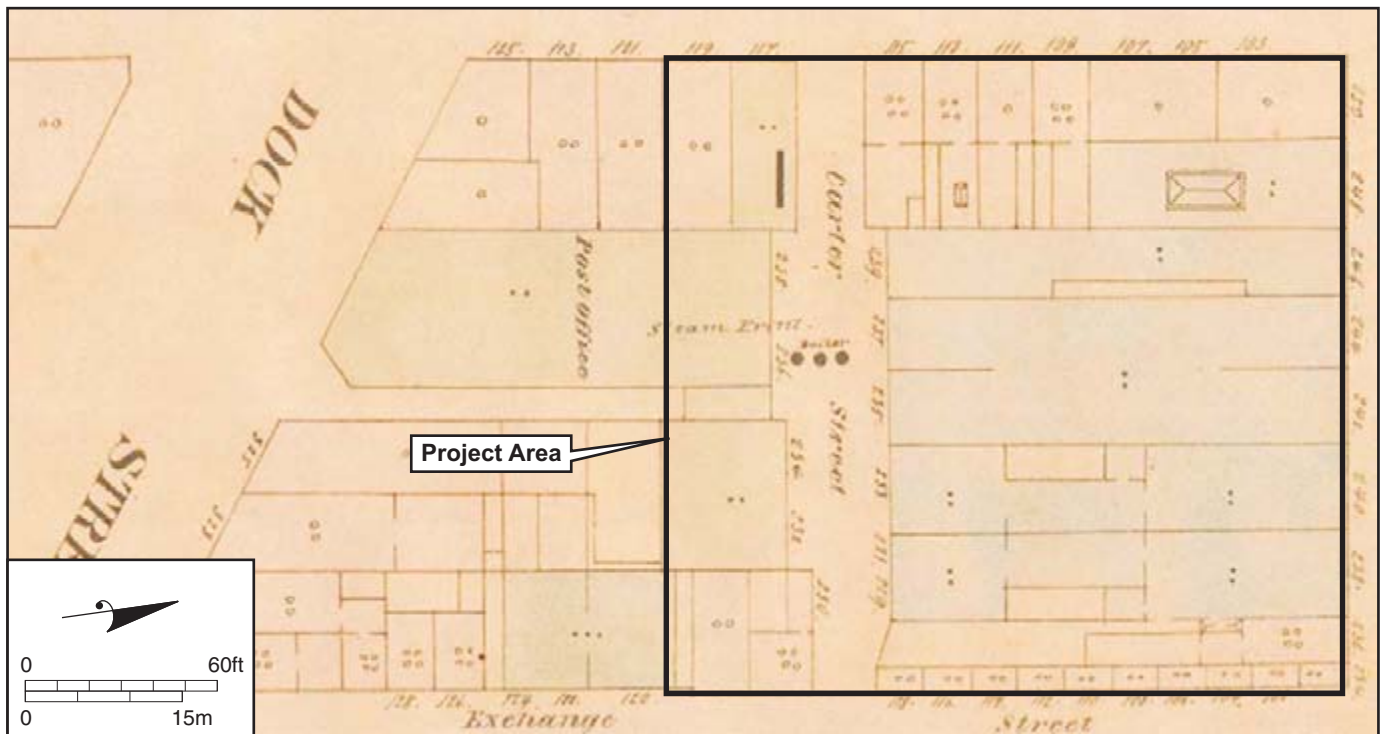


Figure 17. Detail, *Maps of the City of Philadelphia* (Hexamer and Locher 1860), showing project area.

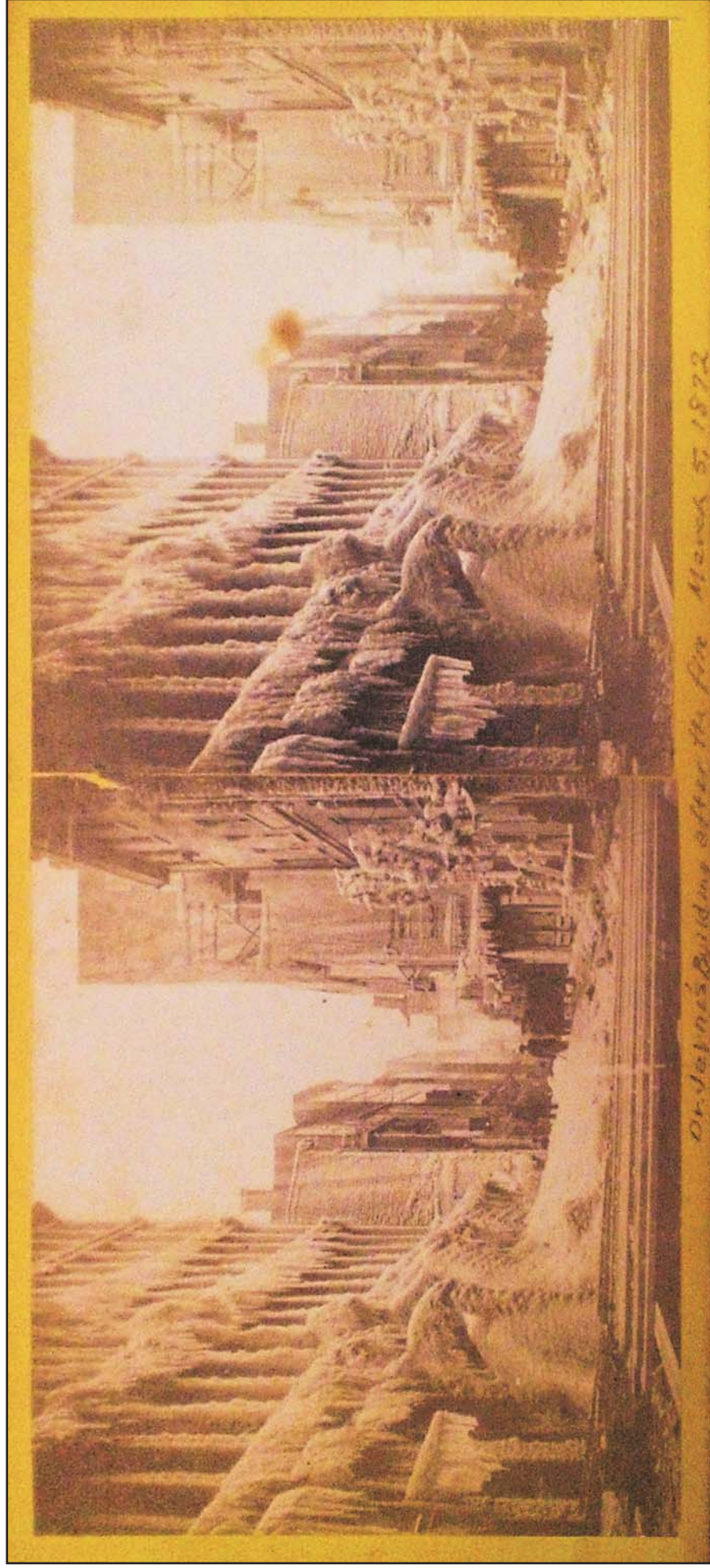


Figure 18. Historic stereoview of Dr. Jayne's Building after a devastating fire, March 1872 (R. Newell & Co.). Original available at the Free Library of Philadelphia.

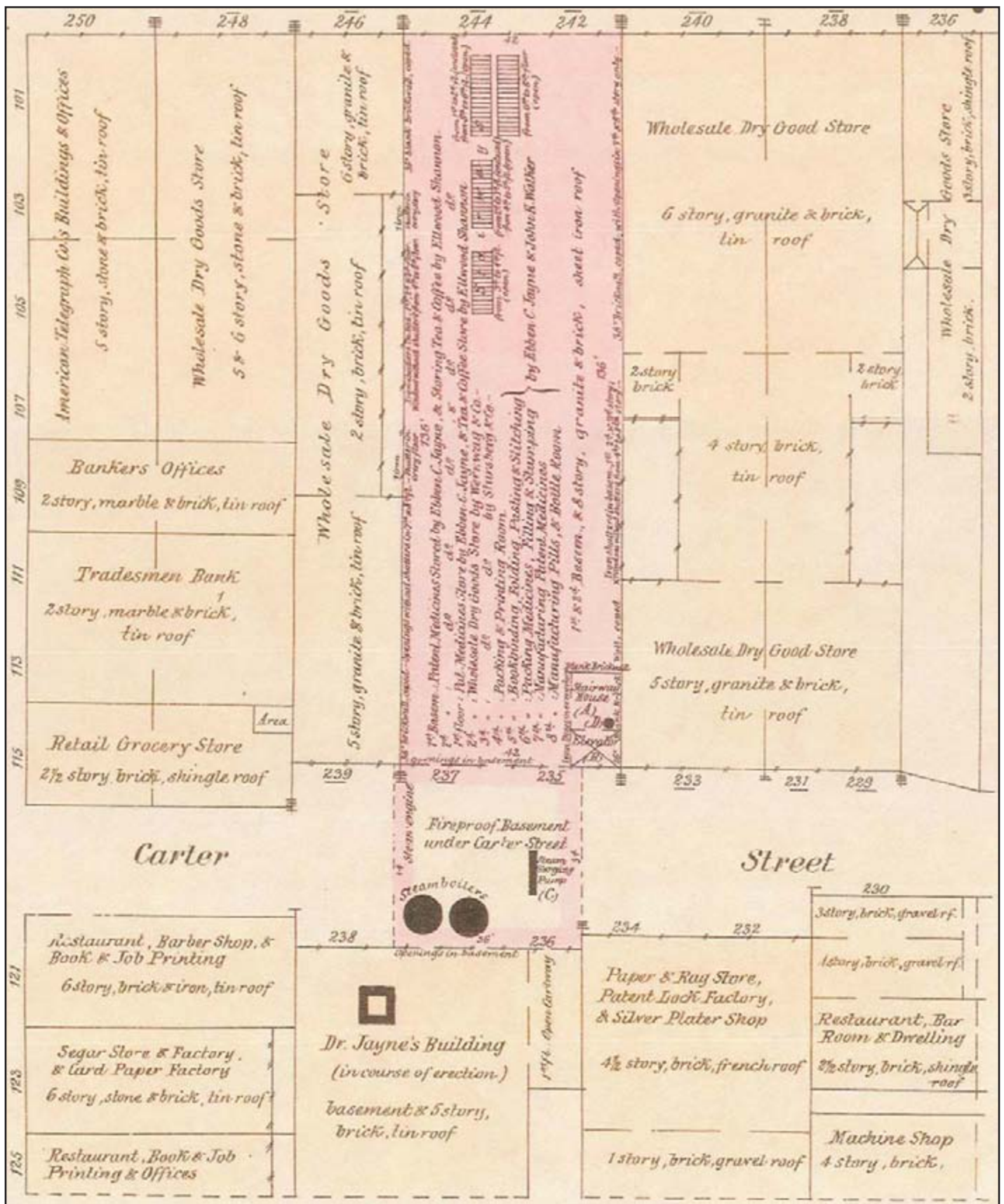


Figure 19. Jayne Building and surroundings (Hexamer General Surveys 1872). Original on file at the Free Library of Philadelphia.

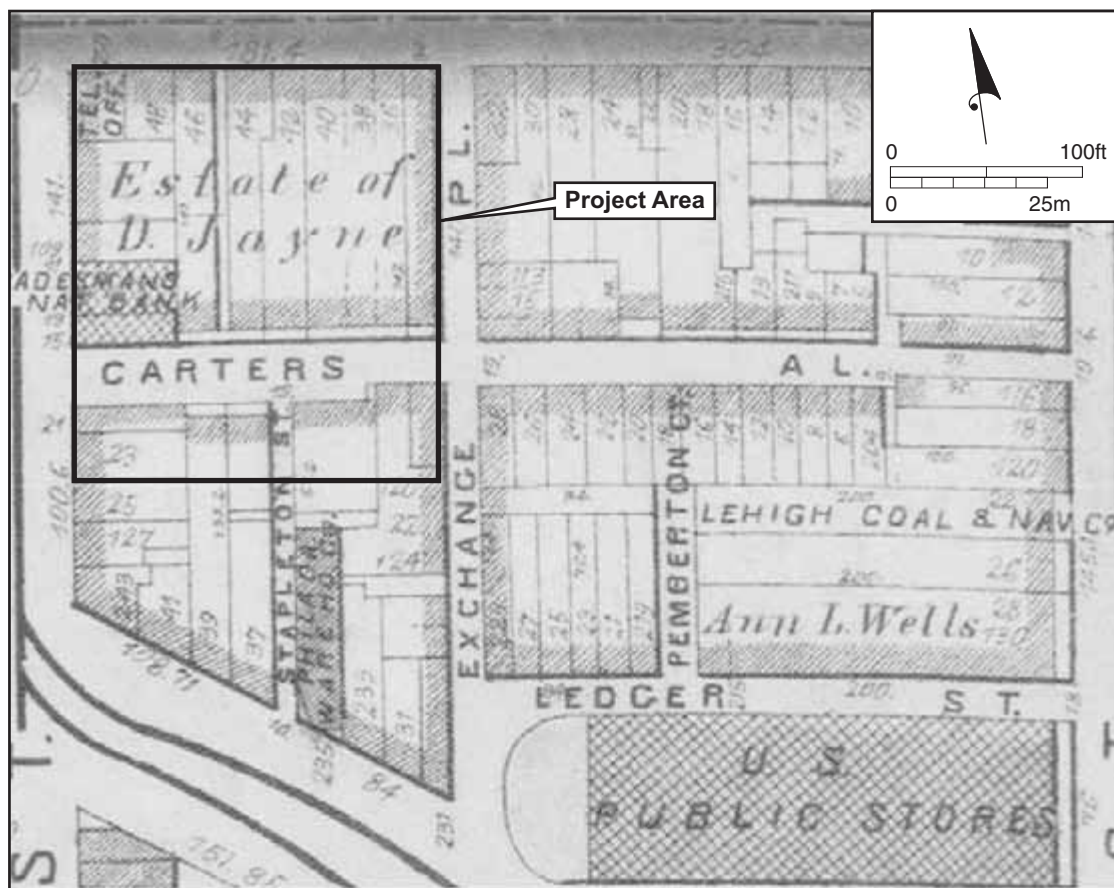


Figure 20. Detail, *City Atlas of Philadelphia*, Volume 6 (Hopkins 1875), showing project area and vicinity.



Figure 21. Commercial panorama of the west end of the south side of the 200 block of Chestnut Street (Baxter 1879).

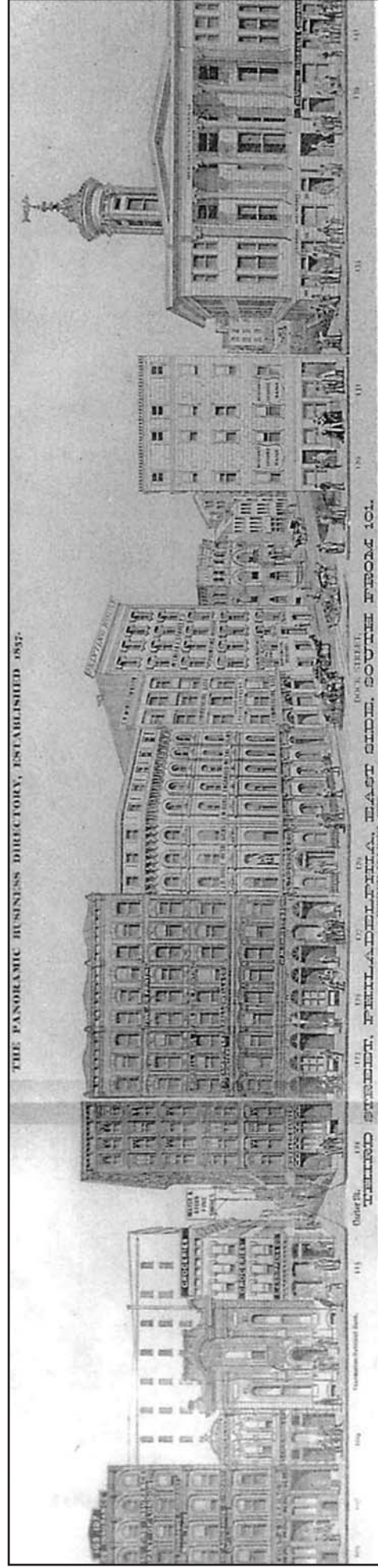


Figure 22. A panoramic rendering of businesses along the east side of Third Street, (Baxter 1880). The properties from the far left to No. 123, including Carter Street, are included within the project area.

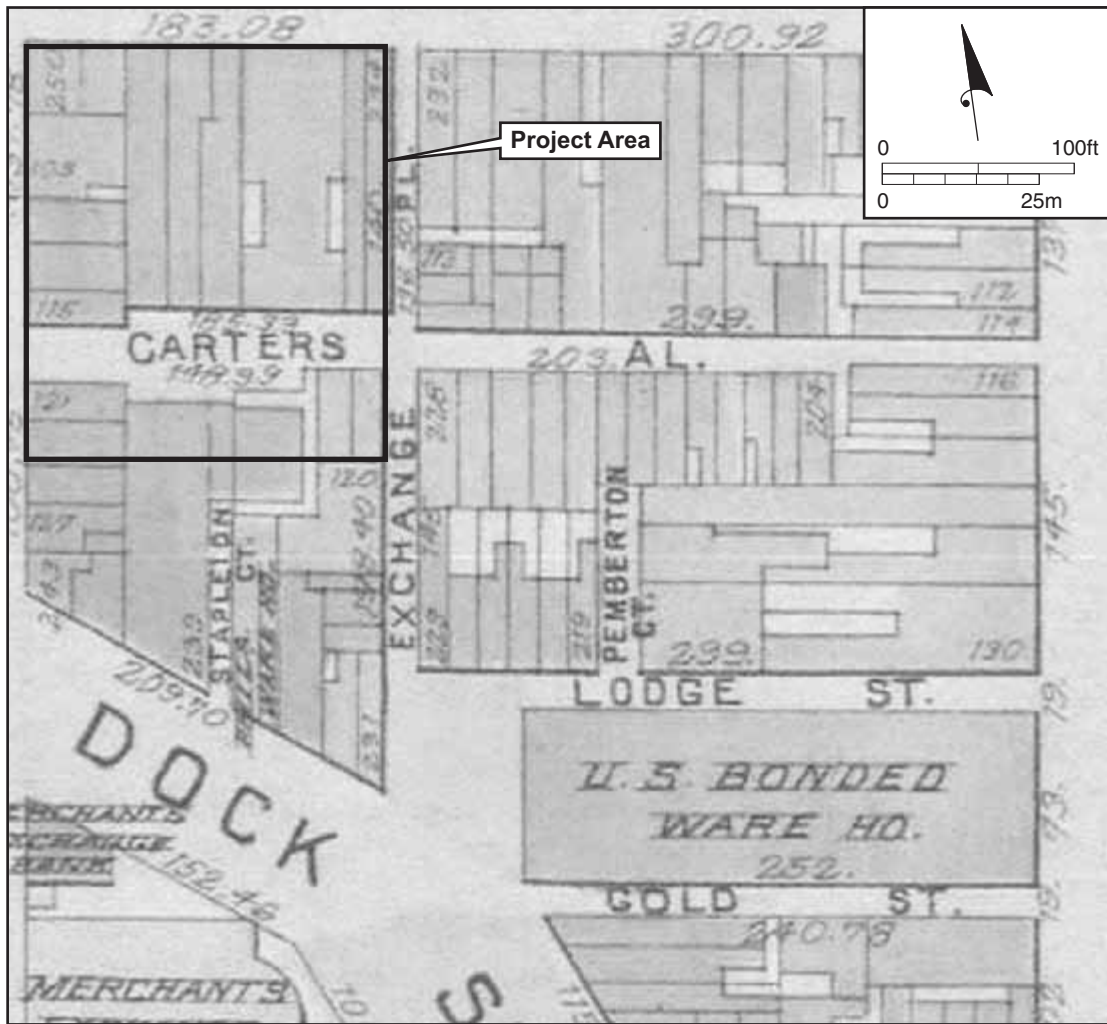


Figure 23. Detail, *Baist's Property Atlas of the City and County of Philadelphia, Pennsylvania* (Baist 1895), showing project area and vicinity.

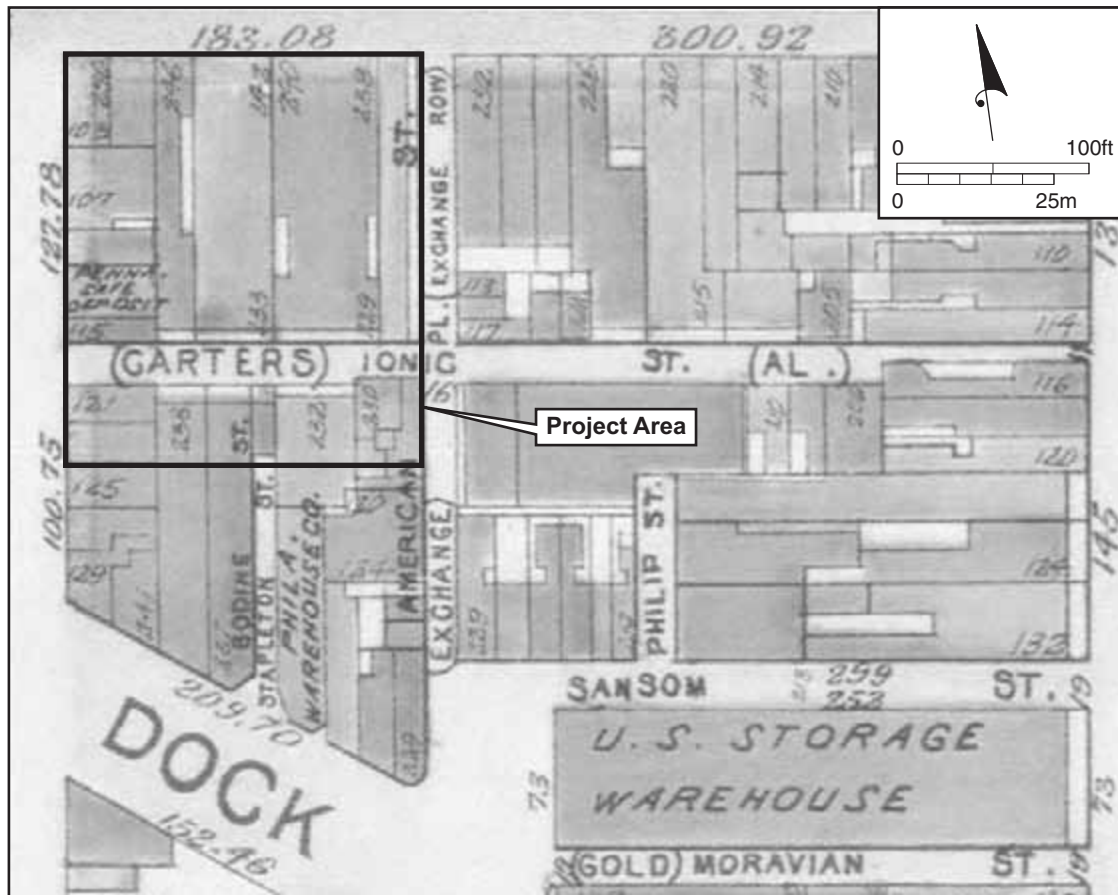


Figure 24. Detail, *Atlas of the City of Philadelphia* (Bromley and Bromley 1901), showing project area and vicinity.

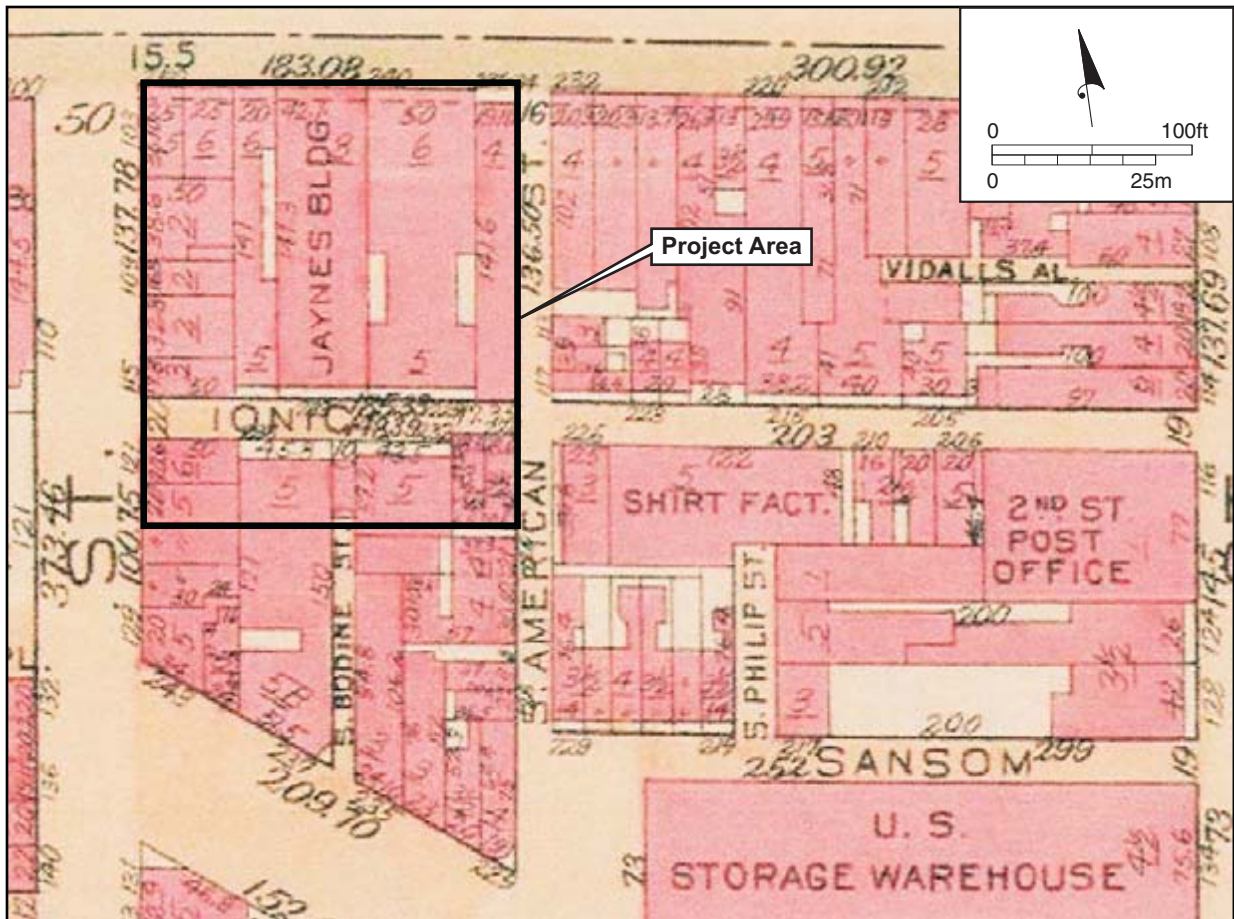


Figure 25. Detail, *Atlas of the City of Philadelphia (Central)* (Bromley and Bromley 1922), showing project area and vicinity.



Figure 26. View southeast of south side of west portion of the 200 block of Chestnut Street, 1951. Photograph by Leonard Overturf (HABS 1957).



Figure 27. View of rear of Jayne Building and adjoining buildings during demolition, 1957. Photograph by George A. Eisenman (HABS 1957).



Figure 28. Interpolated topography of Philadelphia, ca. 1810, based on Graff survey map (source data: Graff n.d.; Levine n.d.).

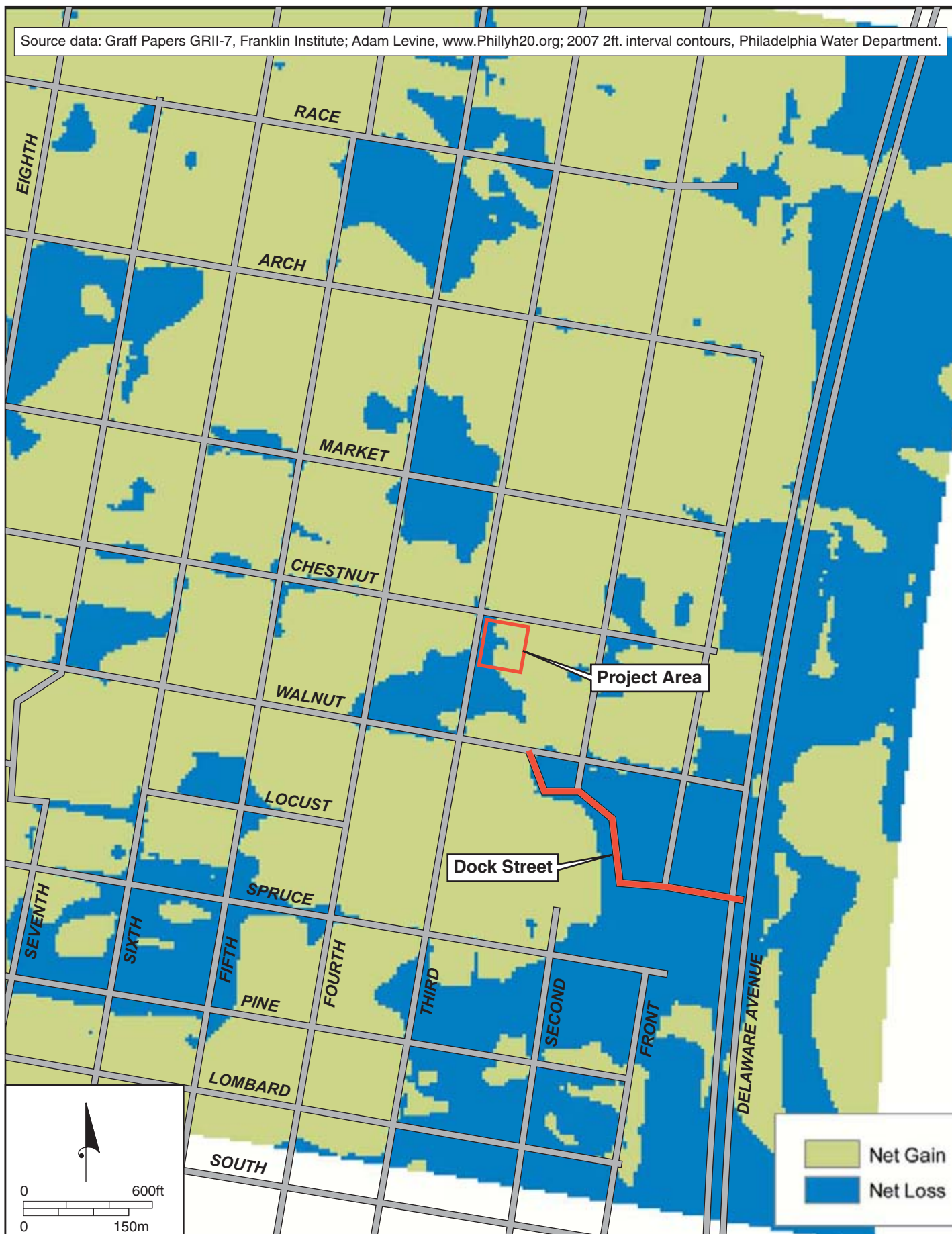


Figure 29. Cut-and-fill analysis from ca. 1810 to 2007 topography (source data: Graff n.d.; Levine n.d.).



Figure 30. Locations of deep basements within the study area (base map, NPS 2009).

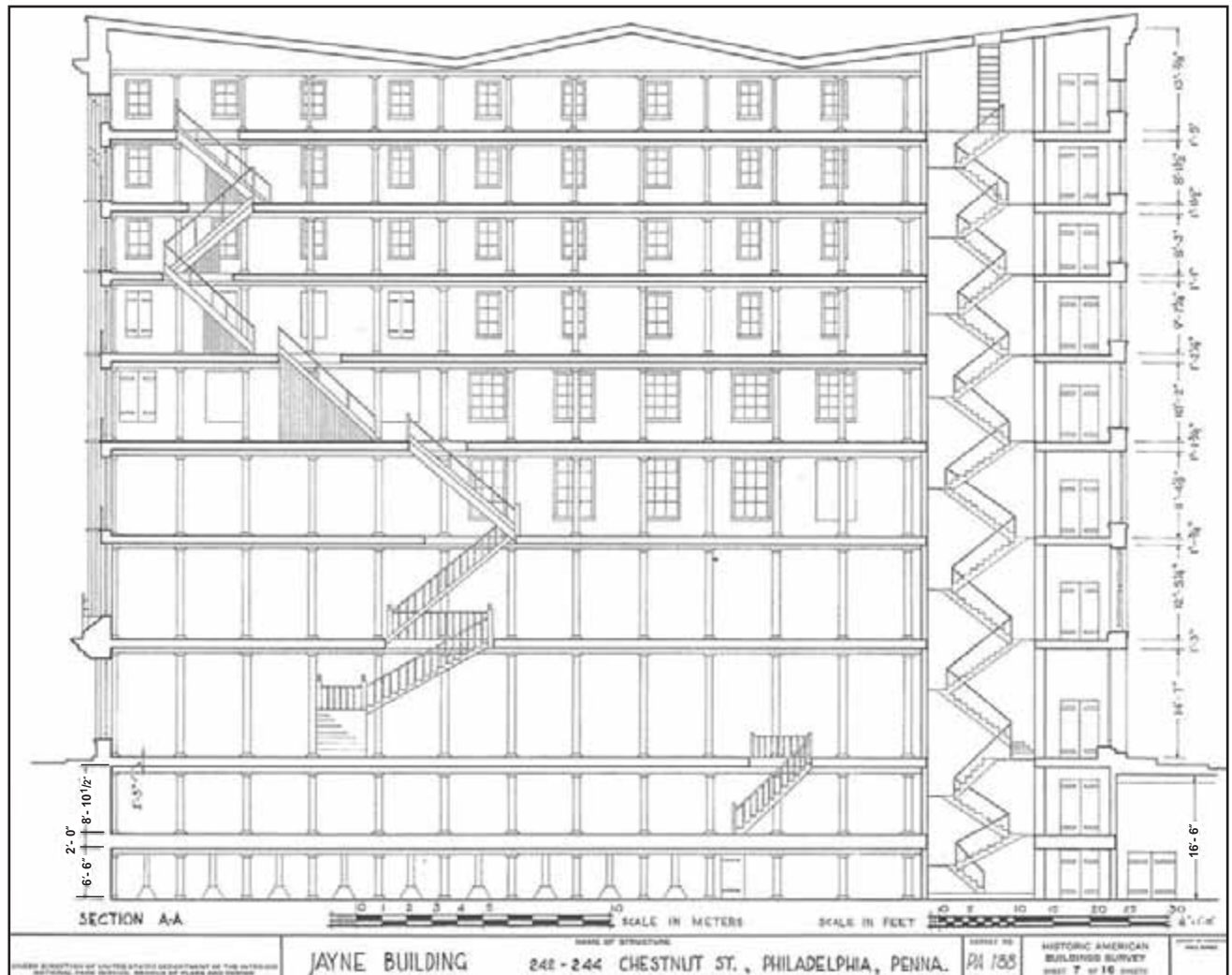


Figure 31. Historic American Buildings Survey elevation drawing of the Jayne Building at 242-244 Chestnut Street (HABS 1957).

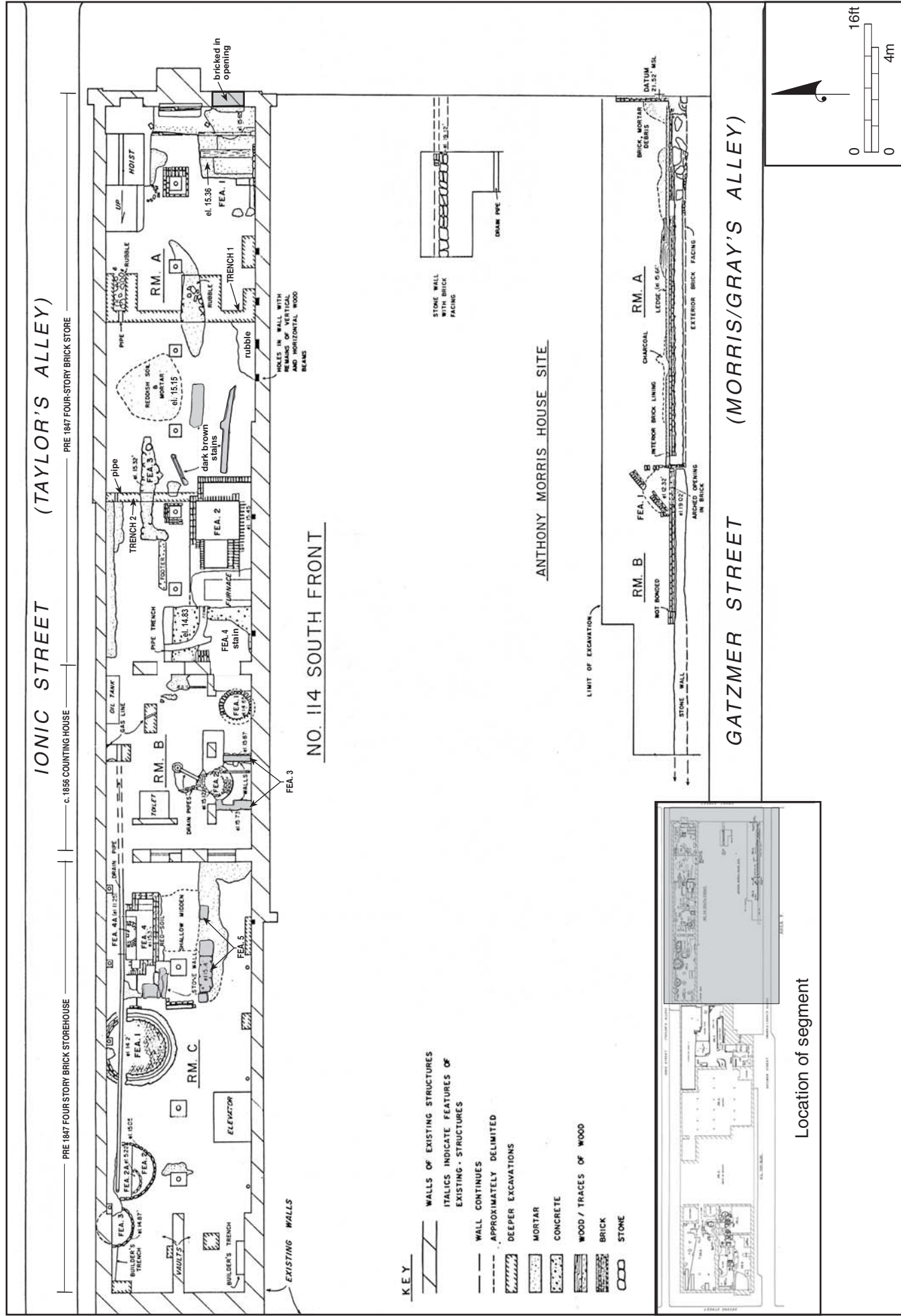


Figure 32. Site map from Area F showing features identified at 114 and 116 S. Front Street (from Gerhardt 2006).

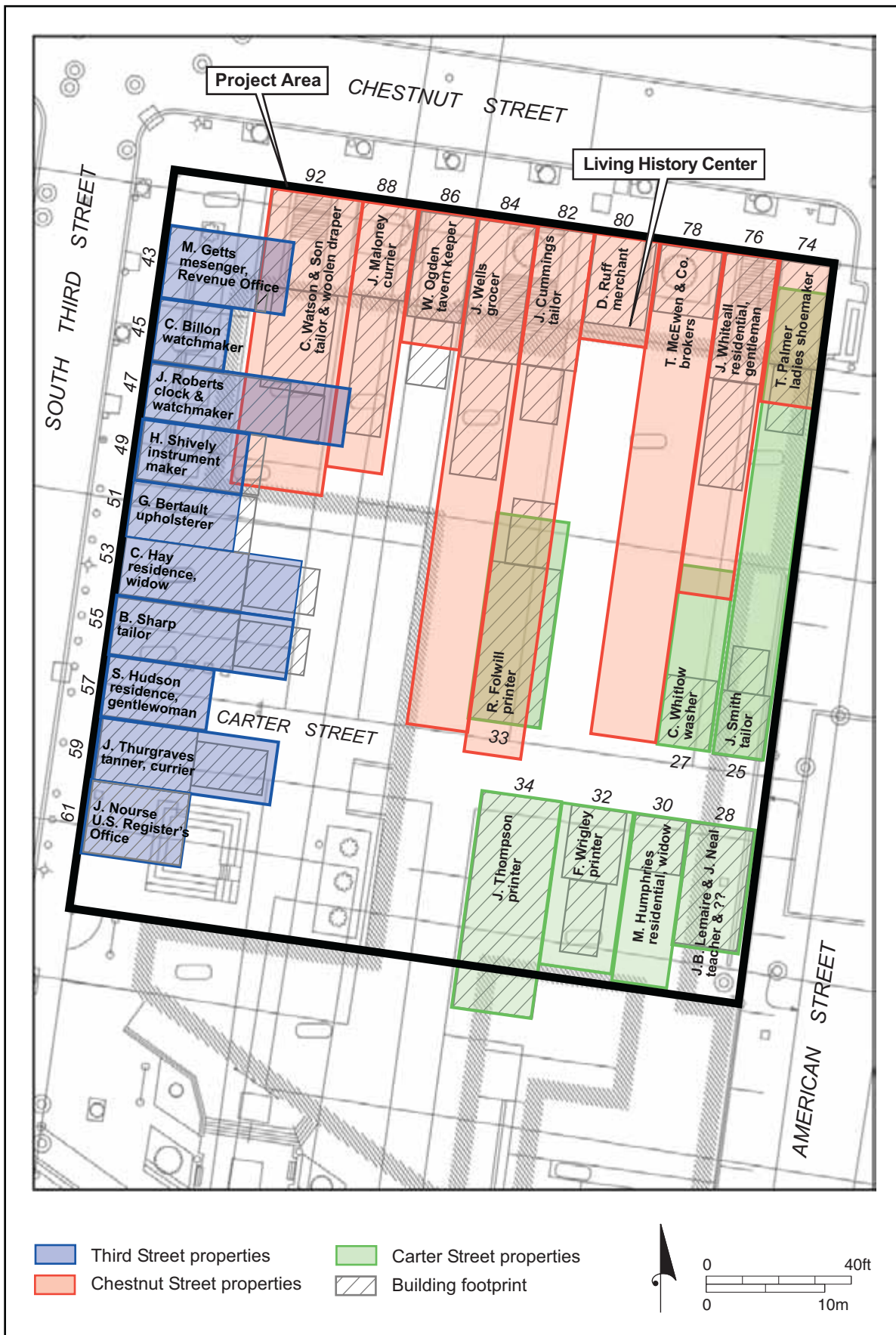


Figure 33. Study area lots, buildings, and occupants, reconstructed from the 1799 Direct Tax and 1800 City Directory (base map, NPS 2009).



Figure 34. Study area lots and buildings from the 1860 Hexamer and Locher city atlas (base map, NPS 2009).

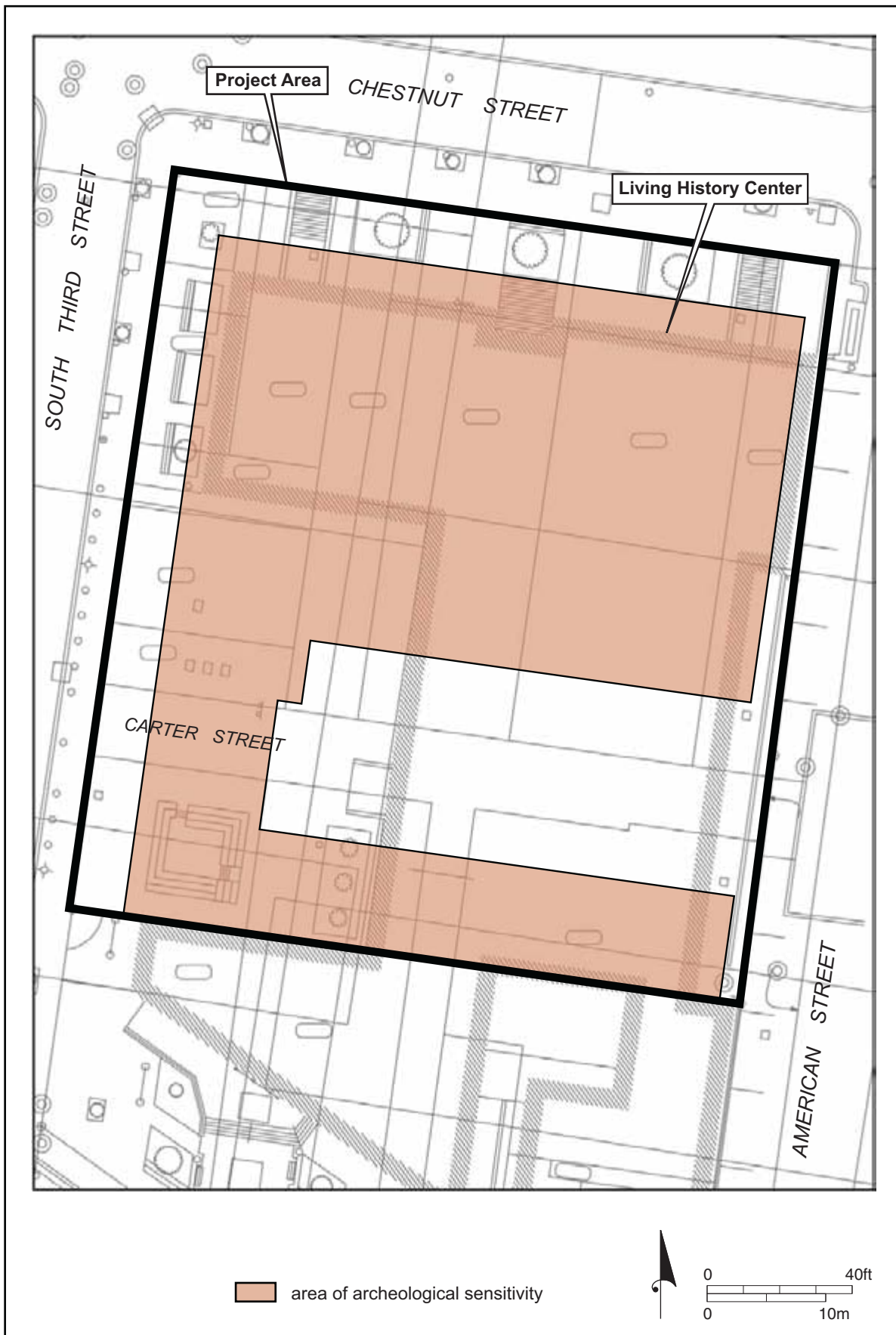


Figure 35. Archeological sensitivity map for historic-period artifact-filled hollow features. The street frontages are excluded from the sensitive zone because deep features such as privies and wells were typically located behind buildings, at the rear of historic lots (base map, NPS 2009).



Figure 36. Archeological sensitivity map for historic-period structural remains (base map, NPS 2009).

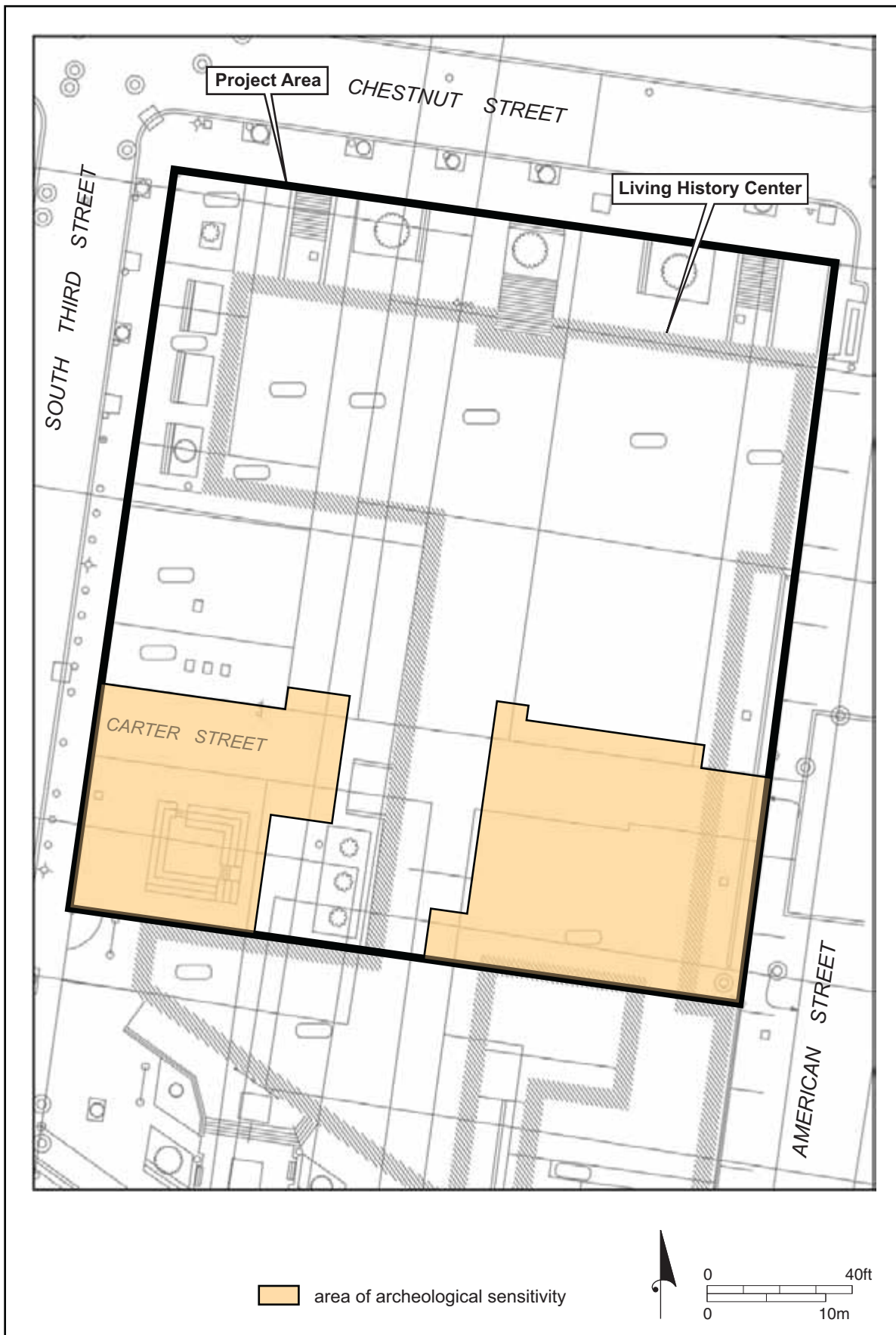


Figure 37. Archeological sensitivity map for buried ground surfaces, prehistoric features, and Native American burials (base map, NPS 2009).

APPENDIX I

INDIVIDUAL PROPERTY HISTORIES

PROPERTY HISTORIES

To compile the historic overview and the individual property histories, research was conducted at the Historical Society of Pennsylvania, the Library Company of Philadelphia, the Philadelphia Free Library, Urban Archives of Temple University, the City of Philadelphia Department of Records, the Independence National Historical Park Archives, and a variety of Internet sites. Among the latter were ancestry.com, www.philageohistory.org, the Athenaeum of Philadelphia's Philadelphia Contributionship digital archives, and the Places in Time site of Bryn Mawr College. Information gathered included real estate transfer sheets and deeds, property insurance policies, secondary and primary source histories, newspaper articles and journals, historic maps and photographs, U.S. Census information, and city directory entries. A particularly notable source was a series of articles on the history of Chestnut Street written by Casper Souder that was published in the *Sunday Dispatch* in 1858-1859 and are available on microfilm at the Historical Society of Pennsylvania. In searching city directories, JMA personnel consulted the 1785 and 1791 directories transcribed by Matt Ainslie of the University of Delaware, 1880s and 1890s Gopsill's directories available on www.ancestry.com, and a partially indexed 1861 McElroy directory available on www.philageohistory.org. In addition, JMA employed OCR software on two public domain directories, the 1839 and 1859 McElroy directories to produce searchable files.

The following tables summarize partial property histories. They are intended as a starting point for future intensive historical investigations of properties within the project area. Sources employed to compile these histories included city directories (MacPherson, Biddle, McElroy, and Gopsill), the 1799 Direct tax transcribed by researchers at Independence National Historical Park (Direct Tax), digitized Philadelphia Contributionship property insurance policies (Philadelphia Contributionship), historic maps (cited by name), Philadelphia Department of Records real estate transfer sheets, commercial panoramas (Rae and Baxter), U.S. Census records, newspaper articles (most notably the series of articles on Chestnut Street compiled in 1858 by Casper Souder), and property appraisals in the Archives of INDE.

Further property-specific investigations might include additional Census research and preparation of chains of titles.

PROPERTY HISTORY

2-20 Exchange Place (old)

102-120 Exchange Place (new)

Date	Information	Source
c. 1833	Following the widening of Goforth Alley to provide a more imposing approach to the Merchants' Exchange building and the renaming of the thoroughfare as "Exchange Street," a 4 ½ foot deep building was constructed on excess land on the west side of Exchange Street between Chestnut and Carter's Alley	Souder 1858
1839	William Rohde, shoemaker (home: Carter Alley) Jacob Apley, boots and shoes (4) James Campbell, stock and exchange broker (4) Jacob Eple, shoemaker (4)	A. M'Elroy Directory
1859	Dau, August, cabinetmaker (10)	McElroy Directory
1861	Among the occupants of the building were Jacob Cook, segar maker (102), Louis Gross, shoemaker (106), Charles Haines, newspapers (112), Philip W. Hamilton, looking glass and picture frames (120), Louis Heinerwald, hairdresser (120), and Francis Krauss, cabinetmaker (120).	McElroy Directory
1876	Sept. 22: C.M. Leslie to Roland Seeger (by sheriff)	Real Estate Transfer Sheet
1881	August Kopp, shoes (120) F. Hochrath, shoes (102)	Gopsill's Directory
1904	This building and the Chestnut Street building to its west demolished for new construction.	

PROPERTY HISTORY

23 Carter's Alley (old)

223 Carter Street (new)? [1880+ based upon this address]

Date	Information	Sources
1755	James Parker, owner. 18.5 foot frontage by 14 foot deep/2 story; kitchen: 10 feet by 11 feet, 2 stories	Philadelphia Contributionship Insurance Policy
1791	Robert Potter	Biddle Directory
1799	16 x 23 foot, 2 story, brick dwelling; 9 x 10 foot, 1 story, wood-framed shed	Direct Tax (as transcribed by INHP)
1799	Owner and occupant: Elizabeth Jones, widow	Directory (as transcribed by INHP)
1880	Hochrath, Fredk. (45), shoemaker, Germany; Lizzie, 32, wife, Germany; Fred and Lizzie (8), Pennsylvania; Charles, 4, Pennsylvania; Mamie, 2, Pennsylvania; George Denson, 38,, shoemaker, lodger, Germany; Fred Gibford, 60, laborer, lodger, Germany; Annie Gibford, 56, keeping house, Germany	U.S. Census Roll T9_1169 Enumeration District 93 Images 556 and 557
1889	Hochrath, Frederick K., residence (shoe business: 102 Exchange Place) Souders, John, shirtmaker (residence)	Gopsill's Directory
1891	Frederick K. Hochrach Sautters, John, hatter (residence)	Gopsill's Directory
1895	Lesko, James, shoes (residence) Lesko, Theresa, restaurant	Gopsill's Directory

PROPERTY HISTORY

24 Carter's Alley

224 Carter Street (new)?

Date	Information	Sources
1791	Robert Webb	Biddle directory
1797	Jacob Bazen, owner; Guerrin Lacondre, M.D., occupant (residence)	Directory (as transcribed by INHP)
1799	15 x 18 2 story brick house; 15 x 40 lot	Direct Tax (as transcribed by INHP)
1887	Hagedorn and Newman, shirts Electro Dynamic Company, electrical supplies	Gopsill's Directory
1889	Electro Dynamic Company, electrical supplies	Gopsill's Directory
1891	Electro Dynamic Company, electrical supplies	Gopsill's Directory

PROPERTY HISTORY

25 Carter's Alley (old)

227 Carter's Alley (new)

Date	Information	Sources
1791	Mrs. Baley, boardinghouse	Biddle Directory
1799	2 story brick building, 15 by 18 feet with a 10 by 12 foot, 2 story brick kitchen on 15 by 130 foot lot	Direct Tax (as transcribed by INHP)
1800	Owner: Thomas Palmer, occupant: John Smith (taylor)	Directory (as transcribed by INHP)
By 1860	Property absorbed into rear ell at 236 Chestnut Street	Hexamer and Locher map

PROPERTY HISTORY

26 Carter's Alley (old)

Date	Information	Source
1797	Owner, William Clifton, occupant James Porter, saddler	Directory
1799	16 by 24, 2 stories, brick construction; 12 foot by 18 foot, 2 story brick kitchen; 16 by 46 foot lot.	Direct Tax (as transcribed by INHP)
1828	Grocery store owned by Christopher Condit, 16 foot frontage, 30 feet deep; back building 20 foot by 16 foot, both two stories	Philadelphia Contributionship
1839	Rowland Beatty, tavern	McElroy Directory
1842	Policy by James McCann, 16 feet frontage, 40 feet deep	Philadelphia Contributionship

PROPERTY HISTORY

27 Carter's Alley (old)

Date	Information	Source
1791	Alexander Milne, blacksmith	Biddle Directory
1799	Catherine Whitlow, washer	Directory (as transcribed by INHP)
1799	15 x 20 foot, 2 story brick house on 15 x 50 foot lot	Direct Tax (as transcribed by INHP)
1839	B. Liberman, boot maker	M'Elroy Directory

PROPERTY HISTORY

28 Carter's Alley (old)

228 Carter Street (new)

Date	Information	Sources
1791	Elizabeth Oliphant, gentlewoman	Biddle directory
	Elizabeth Oliphant was the sister of Robert Oliphant and a daughter of William Oliphant, a wealthy Philadelphia landowner. In 1796, she married William Flintham.	Luce Foundation Center for American Art (http://americanart.si.edu/luce)
1799	18 by 34 foot, 3 story brick dwelling on an 18 by 34 foot lot	Direct Tax (as transcribed by INHP)
1800	Owner: George B. Dawson, occupants Jean Baptiste Lemaire (teacher of French) and James A. Neal	Directory (as transcribed by INHP)
1887	Samuel Given, boxes	Gopsill's Directory
1889	William H. Harrison, Samuel Given, packing boxes	Gopsill's Directory
1891	George Wardell, salesman (residence) Noble Given, packing boxes	Gopsill's Directory
1895	Noble Given, packing boxes	Gopsill's Directory

PROPERTY HISTORY

30 Carter's Alley (old)

230 Carter Street (new)

Date	Information	Source
1785	Hugh Ross	MacPherson Directory
1799	Dwelling, 15 feet by 15 feet, 2 story brick; 15 foot by 48 foot lot	Direct Tax (as transcribed by INHP)
1800	Mary Humphries, widow	Directory (as transcribed by INHP)
1848	Owned by James Molony. Brick house, 18 foot frontage, 23 feet deep, 3 stories	Philadelphia Contributionship
1873	September 20: C.M. Leslie to Marie E. Segars, by sheriff	Real Estate Transfer Sheet
1880	Louis Ewers, saloonkeeper (42), native of Germany; wife, Annie M, 36, keeping house, native of Germany; Louisa Wagner, 22, servant, native of Germany; Stephen W. Mooring, 4, nephew, native of PA	U.S. Census (roll T9:1169) Enumeration District 93, Image 554
1881	Annie M. Ewers (home) Louis Ewers, lager	Gopsill's Directory
1887	Gottlieb Hausse, liquors	Gopsill's Directory
1889	Gottlieb Hausser, liquors	Gopsill's Directory
1891	Gottlieb Hausser, liquors	Gopsill's Directory
1895	Catherine Hausser (widow of Louis), lager	Gopsill's Direcrory
1924	June 4: Marie E. Segars to Jack C. Boriff	Real Estate Transfer Sheet
1928	October 1: Jack C. Boriff to William Ropf	Real Estate Transfer Sheet
1930	February 10: William Ropf to Argonne and Jack Couff	Real Estate Transfer Sheet
1933	April 10: Argonne and Jack Couff to Providence Trust Company by Sheriff	Real Estate Transfer Sheet
1941	October 15: Providence Trust Company to Francis C. Warner	Real Estate Transfer Sheet
1946	December 6: Francis C. Warner to Otto and Estelle Haas	Real Estate Transfer Sheet

PROPERTY HISTORY

32 Carter's Alley (old)

232 Carter Street (new)

Date	Information	Source
1791	Sarah Merrick, gentlewoman	Biddle Directory
1797	Owner: Francis Bayley, agent for Capt. McCall; occupant: Francis Wrigley	Directory (as transcribed by INHP)
1799	Dwelling: 15 by 20 foot, 2 story brick; 10 by 20 foot 2 story brick kitchen; lot: 21 by 45 feet	Direct Tax (as transcribed by INHP)
1859	William Hanning & Company, beer house	McElroy Directory
1873	September 15: Charles M.S. Leslie (real estate developer) to Marie E. Segars, by sheriff	Real Estate Transfer Sheet
1887	Massa and Company, locks (Elizabeth Massa and Henry Zimmerman) Frederick E. Okie, inks	Gopsill's Directory
1889	Frederick E. Okie, inks	Gopsill's Directory
1891	Okie and Lippincott, inks (Frederick E. Okie and J. Lawrence Lippincott)	Gopsill's Directory
1898	January 14: Marion Gruber, et al. to John Blackwell November 18: John Blackwell to William R. Albrecht	Real Estate Transfer Sheet
1899	October 20: William R. Albrecht to Elizabeth M. Connell, wife of John J. November 17: Elizabeth M. Connell to Walter S. Ritter	Real Estate Transfer Sheet
1900	February 19: Walter S. Ritter to George W. Tobber	Real Estate Transfer Sheet
1904	July 12: George W. Tobber to Annie E. Elliott July 12: Annie E. Elliott to William Alexander Brown	Real Estate Transfer Sheet
19__	May 18: William Alexander Brown to Benjamin Goodrich	Real Estate Transfer Sheet

PROPERTY HISTORY

33 Carter's Alley (old)

235 Carter Street (new)

Date	Information	Source
1799	Owner, Elisha Gordon; occupant Richard Folwell, printer of legal documents and other books	Directory (as transcribed by INHP)
1799	20 by 44 foot, 3 story brick building; 12 by 18 2-story brick kitchen	Direct Tax (as transcribed by INHP)
1839-1844	John Belrose, store and print office; 16 foot frontage, 40 feet deep, 4 stories high	Philadelphia Contributionship
1849	Incorporated into the Jayne Building (then under construction)	

PROPERTY HISTORY

34 Carter's Alley (old)

236 Ionic Street (new)

Date	Description	Source
1785	Kline and Reynolds	McPherson Directory
1796	James Thompson and Abraham Small advertised a bible they published at their press	Pennsylvania Gazette
1797	Owner: William Lewis; tenant, James Thompson, printer	Directory (transcribed by INHP)
1799	22 foot by 60 foot two-story brick building; 22 x 60 foot lot	Direct Tax (as transcribed by INHP)
1852	30 June: Joseph Howell to estate of David Jayne (23.6 foot frontage)	Real Estate Transfer Sheet
1859	Jones, John H., printer	McElroy Directory
1860	Part of 236-238 Carter Street (Post Office)	Hexamer and Locher Atlas
1897	Extension of Jayne Building	Baist Atlas
1916	Pearl button factory	Bromley Atlas
1926	29 March: Henry Paxton, et al., substitute trustees to George A. Lippincott	Real Estate Transfer Sheet
1939	G.A. Lippincott buttons	Franklin Atlas

PROPERTY HISTORY

74 Chestnut Street (old)

234 Chestnut Street (new)

Date	Information	Sources
1785	Isaac Wayne	MacPherson Directory
1791	Thomas Palmer, stuff shoemaker	Biddle Directory
1799	15 x 30 foot, three-story brick house with 10 by 18 foot 2 story, brick kitchen; 15 by 41 door lot	Direct Tax (as transcribed by INHP)
1800	Thomas Palmer, ladies' shoemaker	Directory
1809	Robinson & Hallowell, carvers and gilders	Souder 1858
1816	Samuel Palmer, druggist and note broker	Souder 1858
1825	George H. Burgin, wholesale druggist	Souder 1858
c. 1833	Original building demolished to permit widening of Goforth Alley to form Exchange Street	
1851	Dunn's Eating House	B.R. Evans watercolor. Rae
1858	F.T. Lesperance, tobacco and cigars	Chestnut Street Business Directory
1876	June 26: Hannah C. Thipner to J.B. Pennington	Real Estate Transfer Sheet
1887	J. Pennington Jenks, segars	Directory
1891	J. Pennington Jenks, segars William D. Lawson, laborer	Directory
1895	J. Pennington Jenks, segars	Directory
1897	October 21: J.B. Pennington to John K. McFedridge October 21: John K. McFedridge to Franklin H. Thompson	Real Estate Transfer Sheet
1901	October 11: Franklin H. Thomson to Samuel Shepley	Real Estate Transfer Sheet
1903	June 3: Samuel Shepley to William Lichtena	Real Estate Transfer Sheet
1904	May 31: William Lichtena to Haig H. Pakradosni	Real Estate Transfer Sheet
1904	New building constructed. In later years, a portion of the first floor was used as a ship store while the remainder was used as a large____, Four stories tall with basement.	Property Appraisal (in files of INHP)
1938	September 15: Haig H. Pakradosni to S. Pakradosni, et al.	Real Estate Transfer Sheet
1950	Slop Chest Company, sea stores	Telephone Directory
1957	Demolished	

PROPERTY HISTORY

76 Chestnut Street (old)

236 Chestnut Street (new)

Date	Information	Sources
1785	John Sheeman	MacPherson Directory
1791	James Whitehill, stuff shoemaker	Biddle Directory
1799	15 by 36 foot, 3 story brick house, 11.5 x 30 foot 2 story brick piazza and and kitchen. 15 x 96 foot lot	Direct Tax (as transcribed by INHP)
1800	James Whiteall, gentleman	Directory (as transcribed by INHP)
1801	James Cummings, tailor	Souder (1858)
1809	Edward Lowber, M.D.	Souder (1858)
1816	Thomas J. Natt, carver and gilder	Souder (1858)
1824	John McCurdy, Sr., bootmaker	Souder (1858)
1831	Curdy and Preston, silversmiths	Souder (1858)
1832	F. Barbe, tobacconist. Mr. Barbe also occupied the building	Souder (1858)
1835	John Curry, silversmith	Souder (1858)
1839	John Curry, silversmith	M'Elroy Directory
1845	Mrs. Brown, confectioner and restaurant	Souder (1858)
1846	Insurance policy for Alexander Elmslie, trustee for Eliza Harland under will of John Harland. Brick house and back building. 15 feet wide, 32 feet deep, 3 stories high. 8 foot by 8 foot piazza, three stories high. Kitchen- 12 feet by 34 feet 3 stories high. Two story brick building to south (bake oven).	Philadelphia Contributionship Policy #S006552
1850	15 foot square, 1 story piazza addition	Philadelphia Contributionship
1852	Dunn's Eating Saloon	Souder (1858)
1858	John Serney, seed store	Chestnut Street Business Directory
1873	Alexander Elmslie (trustee for Eliza Harland): 60 foot deep building, width of lot added. Extended to Carter's Street	Philadelphia Contributionship
1876	Fisler & Meredith, dry goods	McElroy Directory
1881	C.E. Riley and Company, textile machinery James Anderson, dry goods	Gopsill's Directory
1887	Dumee, Son and Company (Edward J. and Edward S. Dumee), cotton Robert Henry, yarns Mesier R. Snyder, manager J. Emory Byram, vinegar	Gopsill's Directory
1889	George H. Henry, manufacturers' agent J. Emory Byram, vinegar	Gopsill's Directory

PROPERTY HISTORY

76 Chestnut Street (old)

236 Chestnut Street (new)

Date	Information	Sources
	Robert Henry, yarns Kibbee, Chaffee and Company, hosier	
1891	J. Emory Byram & Co., vinegar Robert Henry, yarns Dumee, Son and Company (cotton)	Gopsill's Directory
1895	William H. Whitney, clerk Byram Malt Vinegar Company George H. Henry, oils Robert Henry, yarns Charles R. Brown, janitor Morris G. Condon, accountant Alfred H. mason, yarn	Gopsill's Directory
1950	Keystone Binding Company	Philadelphia Telephone Directory
1957	Demolished	

PROPERTY HISTORY

78 Chestnut Street (old)

238 Chestnut Street (new)

Date	Information	Source
1791	Jonathan Dawes, merchant (dwelling)	Directory
1793	Thomas McEwan, broker	Souder (1858)
1799	18 by 20 foot 3 story brick house on a 18 by 138 foot lot	Direct Tax (as recorded by INHP)
1800	Owner and occupant: Thomas McEwan and Company	Directory (as recorded by INHP)
1806	Thomas Hurley, paperhanger	Souder (1858)
1822	Three story brick residence of Philip S. Physick. Front 17 feet depth 34 feet. Back building 10 feet six inches by 48 feet 3 stories high.	Mutual Assurance Policy #4217 (HSP)
	Philip Syng Physick has been called the father of American surgery. According to ___ he moved to the Physick House on South 4 th Street in 1815.	
1839	Spencer Nolen, looking glasses	M'Elroy Directory
1840	Spencer Nolen, picture framer and looking glasses	Souder (1858)
1851	Indicated on B.R. Evans's watercolor as occupied by George P. McLean, looking glass, picture frame manufacturers	Evans watercolors (HSP)
1861	Henry B. Benners, salesman Clifton Bolton, salesman	McElroy Directory
1881	Lewis Brothers, dry goods	Gopsill's Directory
1891	Henry and Walter H. Lewis, dry goods	Gopsill's Directory
1895	John B. Orne Company (in liquidation) Henry and Walter H. Lewis, dry goods Thomas Ball, yarns	Gopsill's Directory

PROPERTY HISTORY

80 Chestnut Street (old)

238 Chestnut Street (new)

Date	Information	Source
1785	John Todd	MacPherson Directory
1791	James Gentle, bookbinder	Biddle Directory
1793	Zachariah Poulson, printer	Souder (1858)
1796	Daniel Ruff, shoemaker	Souder (1858)
1799	3 story brick building, 18 by 26 feet; 18 foot by 30 foot lot	Direct Tax (as transcribed by INHP)
1800	Owner, William Laws; occupant, Daniel Ruff, merchant	Directory (as transcribed by INHP)
1803	James Moloney, currier	Souder (1858)
1816	Eldridge, Brick & Kintsing, curriers	Souder (1858)
1828	George Robinson, currier	Souder (1858)
1830	Rodrigue, American Coffee-house. The old building was converted to the coffee house with a barroom done up in "gorgeous style" and a reading room	Souder (1858)
1833	R.G. Herring, American Coffee-house	Souder (1858)
1837	Howell & Brothers, paperhangers	Souder (1858)
1839	Howell & Brothers, paper hanging	M'Elroy Directory
1850	Adams and Company, express	Souder (1858)
1856	Lewis Brothers & Company, silks	McElroy Directory
1857	Lewis Brothers & Company and Senat, Perot & Company. Six-story masonry building	1857 panorama
1858	Lewis Brothers and Company, importers of silks	Chestnut Street Business Directory
1881	Lewis Brothers and Company (Henry and Joseph W. Lewis, Henry Lewis, Jr., and George W. Wharton), dry goods and commission merchants Raymond Damon	Gopsill's Directory
1887	Raymond Damon, cashier	Gopsill's Directory
1889	Archibald E. Dobbs, clerk	Gopsill's Directory
1891	H. and W. H. Lewis, dry goods (includes George Wharton) Thomas Helm, bookkeeper	Gopsill's Directory
1895	H. and W. H. Lewis Thomas H. Ball Charles C. Chase, manufacturers' agent Ambrose L. Cram, superintendent	Gopsill's Directory
1957	Formerly two properties; previous owner made holes in party wall; both buildings six stories in front and five in rear. All floors occupied by owners: importers and processors of hair, wool, and bristles for paint brushes. Building approximately 80 years old.	Appraisal on file at INHP
1957	Demolished.	

PROPERTY HISTORY

82 Chestnut Street (old)

240 Chestnut Street (new)

Date	Information	Sources
1791	Samuel Coutty, gunsmith	Biddle Directory
1793	James Cummings, tailor	Souder 1858
1799	16 feet 6 inch by 40 foot, 2 story brick building; 10 foot by 15 foot, 2 story brick kitchen; 16 x 148 foot lot	Direct Tax (as transcribed by INHP)
1800	Owner, Zachariah Paulson; tenant, James Cummings, taylor	Directory (as transcribed by INHP)
1800	Zalegman Phillips, attorney at law Matthew McConnel, broker, and for a number of years later	Souder 1858
1823	Isaac Elliott, conveyance	Souder 1858
1831	John Belrose, paper hangings	Souder 1858
1839	Bellrose & Sons, paper hangings (Louis and John)	M'Elroy Directorhy
1848	W.M. Christy, stationer	Souder 1858
1856	Cottringer, Boyd & Gibbons, silks	McElroy 1856
1858	Cottinger, Boyd and Gibbons, importers of silk goods	Walnut Street Business Directory
1861	Walter Bain, clerk	McElroy's Directory
1887	Lewis Brothers and Company, dry goods	Gopsill's Directory
1889	Lewis Brother and Company, dry goods	Gopsill's Directory
1891	Dewitt C. Ellis, cotton goods T.A. Harris and Company, dyers	Gopsill's Directory
1895	William H. Thompson, yarn Stephenson and Company, yarn Bibb Manufacturing Company, yarn Textile Manufacturing World, newspaper George W. Emlen, dry goods T.A. Harris and Company, dyers	Gopsill's Directory

PROPERTY HISTORY

84-86 Chestnut Street (old)

242-244 Chestnut Street (now)

84 Chestnut Street:

Date	Information	Source
1785	Andrew Caldwell, merchant	MacPherson Directory
1791	James Wills, grocer	Biddle Directory
1799	16.5 x 40, 2 story brick building; 13 by 32.5 foot, 3 story brick kitchen. 16.5 x 142 foot lot	Direct Tax (as transcribed by INHP)
1800	James Wills and Son, grocer. The son, also named James, was the original donor to Wills Eye Hospital.	Souder (1858)
1828	William Diehl, grocer	Souder (1858)
1837	Samuel McGrath, tailor	Souder (1858)
1839	Samuel McGrath, tailor	McElroy Directory
1881	Joseph A. Chattin, clerk William H. Hart, Jr., manufacture of neckware supplies Hibbert P. Johns, druggist Horace M. Sharp, clerk Dr. D. Jayne and Company, patent medicines William P. Wernwag (Wernwag and Dawson)	Gopsill's Directory
1889	Dr. D. Jayne and Company, patent medicines Hibbert P. Johns, druggist	Gopsill's Directory
1891	Dr. D. Jayne and Company, patent medicines Hibbert P. Johns, druggist	Gopsill's Directory
1895	Dr. D. Jayne and Company, patent medicines Hibbert P. Johns, druggist	Gopsill's Directory

86 Chestnut Street:

Date	Information	Source
1791	Peter le Barbier Du Plessis, notary public, conveyance, scrivener, and sworn interpreter of foreign languages. A Mason, he was an acquaintance of George Washington	Biddle Directory
1794	Martha Levi, widow	Souder (1858)
1798	William Ogden, tavern keeper	Souder (1858)
1799	16.5 x 31 foot, 2 story brick building with 11 foot by 18.5 foot, 1 story brick kitchen	Direct Tax (as transcribed by INHP)

PROPERTY HISTORY

84-86 Chestnut Street (old)

242-244 Chestnut Street (now)

Date	Information	Source
1800	Owner, William Ogden, tavernkeeper	Directory (as transcribed by INHP)
1809	John Burge, confectioner	Souder (1858)
1816	Burge & Bioren, confectioners and bottlers	Souder (1858)
1825-c	C.N. Robinson, gilder and print seller	Souder (1858)
?	Wood-framed building demolished by James Wills (namesake of Wills Eye Hospital) and a three-story brick building erected	Souder (1858)
1849	April 17: Orphans' Society of Philadelphia to Est. David Jayne	Real Estate Transfer Sheet
1881	Elwood Shannon and Son, tea Wernwag Company, bankers (Theodore Wernwag)	Gopsill's Directory
1887	Wernwag Company Wernwag and Dawson	Gopsill's Directory
1889	Elwood Shannon and Son, tea William H. Hart, Jr., neckwear manufacturing supplies Wernwag Company Wernwag and Dawson	Gopsill's Directory
1891	Wernwag Company Wernwag and Dawson Harkness and Derry, tea (successors to Shannon)	Gopsill's Directory
1895	Wernwag Company Villeroy R. Harkness, tea D.W. C. Ellis Company, cotton goods	Gopsill's Directory

242-244 Chestnut Street:

Date	Information	Source
1851	David Jayne & Son, importers and wholesale dealers in drugs, chemical, paints, oils, varnishes, dyes, instruments, perfumery, fancy goods, white and green glass-ware, window glass, &c, &c. At the new eight story granite building,,,, David Jayne, David w. Jayne, Eben C, Jayne	Rae 1851
1856	Brick and stone, eight story buildings, 42	Philadelphia Contributionship

PROPERTY HISTORY

84-86 Chestnut Street (old)

242-244 Chestnut Street (now)

Date	Information	Source
	feet in width, 137 feet in depth, to Carter's Alley, wood-framed corner tower. Occupied by Dr. Jayne's Medicine and engraving and printing office	Policy #9696
1872	March 4 th . Building heavily damaged by a fire that started at the rear of the building	New York Times Archives
1926	December 1: Henry D. Paxton, et al., trustees to Maurice G. and Samuel L. Cohn December 1: Maurice G. and Samuel L. Cohn to Specialty Furniture Company	Real Estate Transfer Sheet
1939	December 26: Specialty Furniture Company to Arthur Bullock, et al.	Real Estate Transfer Sheet
1944	October 4: Arthur Bullock, et al. to Joseph Seltzer October 10: Joseph Seltzer to Philip and Beatrice Spiers October 23: Philip and Beatrice Spiers to Maurice G. and Rebekah Cohn	Real Estate Transfer Sheet
1950s	Specialty Furniture Company occupied the center portion of the building as offices	Appraisal report
1957	Building demolished in spite of preservationists' protests.	

PROPERTY HISTORY

88 Chestnut Street (old)

246 Chestnut Street (new)

Date	Information	Source
1791	James Gardett[e], dentist. A native of France, Gardett[e] was one of the first dentists in the United States	Biddle Directory
1794	William Jones, saddler and harness maker	Souder (1858)
1798	James Molony, currier	Souder (1858)
1799	Contained a 15 x 27 foot two-story brick residence, with a 10 foot by 38 foot, two story wood-framed kitchen on a 15 by 75 foot lot	Direct Tax (as transcribed by INHP)
1800	Owner, Elisha Gordon, occupant James Bioren, Currier	Directory (as transcribed by INHP)
1801	John Bioren, bookseller. Bioren was the publisher of an almanac.	Souder (1858)
1819	E. Littell, bookseller	Souder (1858)
1824	Robert M. Acrison and E. Littell & Company	Souder (1858)
1825	E. Littell & Company	Souder (1858)
1833	Joseph Howell & Company, curriers (Howell occupied the building until its demolition and replacement with a larger building)	Souder (1858)
1839	R. Howell, merchant	McElroy Directory
1849	December 21: Joseph Howell to Est. David Jayne	Real Estate Transfer Sheet
1857	First floor: Samuel Robinson, broker, upper floor Oberteuffer and Freytag, importer	Director and Panoramic view
1858	William Rafael, commission merchant	Chestnut Street Business Directory
1859	Robinson, Samuel, linens Oberteuffer & Freytag, dry goods	McElroy Directory
1881	E.R. Mudge, Sawyer and Company Leonard, Son and Company, dry goods Mordecai Stokes and Company, printers	Gopsill's Directory
1887	Pennsylvania Woolen Company (manufacturer of fine coatings and suitings, office) Augustus W. Steffan, secretary-treasurer George Campbell Company, yard James B. Leonard, manager N. Park Shortridge Campbell Brothers, yarn Frank Snowden, manager Nevins and Company, dry goods C. Dewitt Company, cotton goods	Gopsill's Directory
1895	Newlin N. Stokes, manufacturers' agents	Gopsill's Directory

PROPERTY HISTORY

88 Chestnut Street (old)

246 Chestnut Street (new)

Date	Information	Source
	William H. Hart, Jr., neckties Charles B. Hart, manager	
1946	Fire destroyed the rear portion of the building.	Appraiser's report
1950	I Seidman, neckwear	Philadelphia telephone directory
1957	First floor: importer and distributor of German goods; second floor: shirt manufacturer	Appraiser's report
1957	Demolished	

PROPERTY HISTORY

90 Chestnut Street (old address)

248 Chestnut Street (new address)

Date	Information	Source
Late eighteenth century	Narrow, three-story brick building on site. Owner: Elizabeth Carey shopkeeper	Souder (1858)
1799	25 foot wide and 28 foot deep, 3 story brick building; 18 by 28 foot 2 story wood-framed ell; 25 by 83 lot	Direct Tax (as recorded by INHP)
1800	Owner: Elisha Gordon; occupants, Charles Watson, tailor, and Charles Watson, Jr., woolen draper	Directory (as recorded by INHP)
1806	Casper Souder, bootmaker	Souder (1858)
c. 1808	The old building was absorbed in 88 Chestnut Street	Souder (1858)

PROPERTY HISTORY

92 Chestnut Street (old number)

250 Chestnut Street (new number)

Date	Information	Sources
1791	Elisha Gordon, shoe manufacturer and hide merchant	Directory
1792	Occupied by Hazard and Addoms. Advertisement of that year: The Universal Tontine is opened this day at the office of Messrs. Hazard & Addoms at the corner of Third and Chestnut streets, for the purpose of forming a society, by a subscription on lives, to continue associated for the period of twenty-one years. Its principal object is to effect a union of public and private interests, and the terms of admission are easy, being calculated to favor the less opulent citizens.... The firm was composed of Ebenezer Hazard and Jonas Addoms and the partnership was dissolved in 1792.	Souder 1858
1798	Davidson & Cheyney, shoe and hide merchants	Souder 1858
1799	3 story brick dwelling, 23 feet wide by 28 feet deep; 18 x 28 feet, 2 story, wood-framed. 25 foot by 83 foot lot.	Direct Tax (transcribed by INHP)
1800	Owner: Elisha Gordon; occupant: Charles Watson, Jr., tailor and woolen drapes	Directory (transcribed by INHP)
1806	Benjamin Sharpe, tailor	Souder 1858
1808	Augustus Regnaud, broker	Souder 1858
1810	William Blair, bootmaker Charles Wilcocks, lottery and exchange office	Souder 1858
1818	James Musgrave, broker. For many years, John H. Baker taught evening school and operated an intelligence office out of the second floor of the building	Souder 1858
	Van Dyke Building, "a very handsome five story brown stone edifice" erected on the site of "one building and an apology for another." At the corner was a one-storied shanty once occupied by Hugh Burns, watchmaker; then by James Latimer, also a watchmaker; George W. Taylor, jeweler.	Souder 1858
1839	Edward A. Watson, coach maker	McElroy Directory

PROPERTY HISTORY

92 Chestnut Street (old number)

250 Chestnut Street (new number)

Date	Information	Sources
1847	Owner and occupant, Charles C. Watson. Brick house with a piazza: 25 feet frontage, 29 feet deep, 3 stories in height. Piazza: 12 feet by 14 feet, 3 stories. Sitting room, 19 feet by 22 feet, 4 stories	Philadelphia Contributionship Policy
1851	Charles C. Watson, Tailors. Always on hand <i>The best quality and newest style of Goods</i> , which they make up in the best manner according to the London and Paris fashion, Army and Navy clothing made in a superior manner. The United States Life Insurance, Annuity & Trust Company, Charter Perpetual-Cash System. Capital \$250,000. Office: S.E. corner Third and Chestnut Street.	Rae 1851
1854-1855	Owner and occupant: Nicholas E. Thouren. Store: 6 stories high on Chestnut Street, five stories high on Third Street. Chestnut Street front, 25 feet 6 inches, 75 feet deep, 39 foot frontage on Third Street, 35 feet deep. A utility vault was constructed beneath Chestnut Street.	Philadelphia Contributionship Policy
1858	United States Life Insurance, Annuity and Trust Company	Chestnut Street Business Directory
1859	Slevin, James, merchant	McElroy's Directory
1863	First National Bank of Philadelphia; 25 foot frontage on Chestnut Street, 37 on Third Street, five stories high	Philadelphia Contributionship
1887	Andre P. Sell, manager	Gopsill's Directory
1889	Stephen W. Bowen, cashier	Gopsill's Directory
1891	Stephen W. Bowen, cashier David A. Curl, manager	Gopsill's Directory
1895	Patrick H. Nunan, manager Andrew P. Sell, manager	Gopsill's Directory
1950	Fire damaged basement, first and second stories. Measured 25 feet wide on Chestnut Street and 36 feet 10 inches on Third	Appraiser's Report
1957	Demolished as part of INHP construction	

PROPERTY HISTORY

57 Third Street (old)

Date	Subject	Sources
1785	Frederick Workley	Mac Directory
1791	Mary Hudson, gentlewomen	Biddle Directory
1799	17 foot frontage, 30 feet deep, 3-story, brick house on 17 x 30 foot lot	Direct Tax (transcribed by INHP)
1799	Occupant: Susan Hudson, gentlewoman	Directory (transcribed by INHP)
c. 1810	Demolished for the extension of Carter's Alley to Third Street	

PROPERTY HISTORY

59 Third Street (old)

121 South Third Street (new)

Date	Information	Source
1791	Rapier Hoskins, tanner, currier	Biddle directory
1799	18 by 28 foot, three-story brick house with 12 by 20 foot three-story brick kitchen	Direct Tax (transcribed by InHP)
1800	Owner: Rapier Hoskins, occupant, Joseph Nourse (U.S. Register's Office)	1800 Directory
1839	Swift, Edwin, president, Lit. Sch. Nav. R.R. and Coal Company Philadelphia and Reading RR office	McElroy Directory
1859	John T. Brooks, bookbinder Samuel W. Ayres, tobacconist R.L. Dickson, teacher of writing	McElroy Directory

PROPERTY HISTORY

43-45 Third Street (old)

101-103 South Third Street (new address)

Date	Description	Source
1785	43: Gillid Lutremaine	MacPherson Directory
1785	45: George Meyder	MacPherson Directory
1791	43: Elisha Gordon, cordwainer	Biddle Directory
1791	45: Dean Timmons, tavernkeeper and tallowchandler	Biddle Directory
1799	43: One-story, wood-framed building, 20 by 30 feet; lot measured 20 by 35 feet	Direct Tax (as transcribed by INHP)
1799	45: Three-story brick house, 18 by 21 feet on 18 by 21 foot lot.	Direct Tax (as transcribed by INHP)
1800	43: Owner: U.S. Revenue Office; occupant: Michael Gitts, messenger, Revenue Office.	1800 Directory (transcribed by INHP)
1800	45: Owner: Caleb Davis; occupant: Charles Billon. Occupation: watchmaker	1800 Directory (transcribed by INHP)
1859	45: Joseph Severns & Company, publishers of <i>Daily Argus</i> 45 and 47: H. Doolittle & Company, bankers	
1863	First National Bank of Philadelphia. Five story brownstone building, 25 feet frontage on Chestnut Street, 37 feet on Third Street.	Philadelphia Contributionship
1880	Western Union Telegraph Office-five story building. Also 250 Chestnut Street	Baxter 1880

PROPERTY HISTORY

51 Third Street (old address)

109 South Third Street (new address)

Date	Description	Sources
1785	John Fries`	MacPherson Directory
1799	16 foot wide, 35 foot deep, 3 story brick house on 17 by 30 foot lot	Direct Tax (as transcribed by INHP)
1800	Owner: Henry Shively; occupant: George Bertault, upholsterer	Directory (as transcribed by INHP)
1839	Laurel Hill Coal Company, office	McElroy Directory
1870	December 24: William Elliott to Joseph H. Dunn and Frederick Collins	Real Estate Transfer Sheet
1876	January 3: Joseph H. Dunn and Frederick Collins to William Elliott and Frederick Collins	Real Estate Transfer Sheet
1880	Elliott Sons and Company. Two story masonry building. Quotations for United States bonds	Baxter
18__	April 28: sons of William S. and G. Elliott to National Bank of _____	Real Estate Transfer Sheet
1887	Elliott, Sons and Company, bankers	Gopsill's Directory
1891	Elliott, Sons and Company, bankers	Gopsill's Directory
1895	April 6: Sheriff as of Joseph Dunn and William Elliott, et al.	Real Estate Transfer Sheet
1900	July 31: to Nickolas Brice	Real Estate Transfer Sheet
1906	November 13: Nickolas Brice to Henry H. Barton, Jr.	Real Estate Transfer Sheet
	To Margaret R. Barton by will	Real Estate Transfer Sheet
1957	Two-story, red brick and	

PROPERTY HISTORY

53-55 Third Street (old)

111-113 South Third Street (new)

Date	Description	Source
1785	53: Peter Kraft	MacPherson Directory
1799	Dwelling: 16 foot frontage, 35 feet deep, 3 story, brick; 12 foot by 20 foot, 3 story brick kitchen; 16 by 50 foot lot	Direct Tax (as transcribed by INHP)
1836	111 South Third Street. 15 feet front, 30 feet deep, four stories high, back building 5 stories high. Owned by Ann Schiveley.	
1839	53: L. Hollingsworth, attorney and counsel	McElroy Directory
1859	53: Peddie, John C., gold pins (residence?) Riddell, John, architect	McElroy Directory
1859	55: Maddock, William L. & Company, grocers Cripin, E.J., grocer	McElroy Directory
1880	Tradesmen's National Bank. C.H. Rogers, President; C.R. Rogers, vice-president; Chartered 1846; Capital: \$200,000; Surplus: \$500,000	Baxter
1889	August 24: Executors of Charles H. Rogers to Enna Warehousing	Real Estate Transfer Sheet
1945	October 11: acquired by Thomas A. Wood	Real Estate Transfer Sheet

PROPERTY HISTORY

57 Third Street (old)

115 South Third Street (new)

Date	Information	Source
1785	Frederick Workely	Directory
1791	Mary Hudson, gentlewoman	Biddle Directory
1827	Oct. 29: Sold to the Girard Estate	Real Estate Transfer Sheet
1839	William G. Cochran, wine merchant	McElroy Directory
1859	Telfer, Robert, engineer C. & A. Peguignot, watches and jewelry Burke, Jacob, accountant Crane & Stivers, advertising agency David Scattergood, engineer Publisher, Pennsylvania Inquirer	McElroy Directory
1870	April 1: William L. Maddolf to Edward J. Griffon (17.8 feet frontage)	Real Estate Transfer Sheet
1880	E.J. Crippen and Company, groceries. Three story masonry Italianate commercial building. Dealers and importers of groceries	Baxter
1920	May 8: to William G. and H. Hopper Benjamin	Real Estate Transfer Sheet
1921	April 13: to H. Boardman Hopper	Real Estate Transfer Sheet
1924	July 1: H. Boardman Hopper et ux to David S. Soleday (1/2 interest)	Real Estate Transfer Sheet
1954	August 19: to the United States of America	Real Estate Transfer Sheet

APPENDIX II

THREE SCENARIOS FOR DATA RECOVERY

APPENDIX II

ARCHEOLOGICAL RESOURCE MITIGATION SCENARIOS

The high, medium, and low scenarios presented below are based on the sampling of lots described in Section 5.3 in the main body of the report. Table 5 is repeated here for easy reference. Built into the costs for each scenario is the recording of extant structural remains, the sampling of intact ground surfaces, and the possible excavation of burials. To calculate the probable expenditure of time, it is assumed that all historic features will be artifact-filled truncated shafts. Such features in Area F generally yielded about 5,000 artifacts, a number that is used here to estimate processing, cataloging, and analysis costs.

Table 5. Proposed Sample for Targeted Archeological Investigation, High, Medium, and Low Estimates

Resource Type	High Estimate	Medium Estimate	Low Estimate
Prehistoric, Contact-Period, & Historic-Period A-Horizons (square meters)	868	489	88
Historic-Period Hollow Features (number)			
<i>Carter Street</i>			
17th century	4	3	2
18th century	4	3	2
19th century	4	3	2
<i>Total, Carter Street</i>	12	9	6
<i>South Third Street</i>			
17th century	4	3	2
18th century	12	9	6
19th century	10	7	5
<i>Total, South Third Street</i>	26	19	13
<i>Chestnut Street</i>			
18th century	12	9	6
19th century	1	0	0
<i>Total, Chestnut Street</i>	13	9	6
TOTAL FEATURES	51	37	25
Prehistoric Features (number)	27	15	3
Prehistoric Burials (number)	7	3	0
Historic-Period Structural Remains (number)	10	7	4

Scenario 1. High

For the high estimate, a total of 27 prehistoric features and 51 historic features are anticipated. Of the 51, 8 may date to the seventeenth century, 28 to the eighteenth century, and 15 to the nineteenth century. The anticipated effort for the high scenario includes the following tasks. Hours are combined for supervisors and technicians.

Task 1.	Exploratory trenching and the cleaning and initial recording of exposed features	328 hours
Task 2.	Excavation of prehistoric features (27)	432 hours
	Excavation of historic features (51)	2,864 hours
Task 3.	Laboratory processing and cataloging of artifacts to PA standards	10,287 hours
Task 4.	Analysis of artifacts including vesselization where appropriate (Concurrent stratigraphic and historical analysis)	1,400 hours
Task 5.	Report preparation—writing	1,120 hours
	Report preparation—graphics	160 hours
	Start-up, management, and meetings	168 hours
	Total hours	16,759 hours
	Total labor	\$1,045,117.00
	Consultants (floral analysis and conservation).	\$50,000.00
	Tests (paleobotanical and C-14).	\$8,700.00
	Other direct expenses	\$4,482.00
	Curation	\$192,500.00*
	TOTAL COST	\$1,300,799.00**

* Curation costs were calculated at the PHMC standard rate of \$350 per box. Boxes are assumed to hold about 463 artifacts, the number observed in ongoing packing at the Independence Living History Center.

**This estimate does not include the cost of securing the site or the hiring of contractors to remove overlying fill and assist during excavation.

Scenario 2. Medium

The median estimate is based on the excavation of 15 prehistoric features and 37 historic features. Task 1, exploratory trenching and the initial recording of features remains the same for all scenarios.

Task 1. Exploratory trenching and the cleaning and initial recording of exposed features.	328 hours
Task 2. Excavation of prehistoric features (15)	240 hours
Excavation of historic features (37)	2,100 hours
Task 3. Laboratory processing and cataloging of artifacts to PA standards	6,614 hours
Task 4. Analysis of artifacts including vesselization where appropriate (Concurrent stratigraphic and historical analysis)	1,140 hours
Task 5. Report preparation—writing	912 hours
Report preparation—graphics	160 hours
Start-up, management, and meetings	168 hours
Total hours	11,662 hours
Total labor	\$650,184.00
Consultants (floral analysis and conservation)	\$40,000.00
Tests (paleobotanical and C-14)	\$4,350.00
Other direct expenses	\$2,282.00
Curation	\$139,650.00*
TOTAL COST	836,466.00**

*Curation costs were calculated at the PHMC standard rate of \$350 per box. Boxes are assumed to hold about 463 artifacts, the number observed in ongoing packing at the Independence Living History Center.

**This estimate does not include the cost of securing the site or the hiring of contractors to remove overlying fill and assist during excavation.

Scenario 3. Low

The low estimate is based on the excavation of 3 prehistoric features and 25 historic features. This scenario is probably the most realistic since only the areas within the site that will be disturbed by demolition of the old building and construction of the new one will require archeological investigation.

Task 1. Exploratory trenching and the cleaning and initial recording of exposed features	328 hours
Task 2. Excavation of prehistoric features (3) Excavation of historic features (25)	48 hours 1,696 hours
Task 3. Laboratory processing and cataloging of artifacts to PA standards	4,270 hours
Task 4. Analysis of artifacts including vesselization where appropriate (Concurrent stratigraphic and historical analysis)	1,020 hours
Task 5. Report preparation—writing Report preparation—graphics	864 hours 140 hours
Start-up, management, and meetings	80 hours
Total hours	8,446 hours
Total labor	\$463,388.00
Consultants (floral analysis and conservation)	\$30,000.00
Tests (paleobotanical and C-14)	\$1,740.00
Other direct expenses	932.00
Curation	\$94,150.00*
TOTAL COST	\$590,210.00**

*Curation costs were calculated at the PHMC standard rate of \$350 per box. Boxes are assumed to hold about 463 artifacts, the number observed during ongoing packing at the Independence Living History Center.

**This estimate does not include the cost of securing the site or the hiring of contractors to remove overlying fill and assist during excavation.