# Phase I Archaeological Survey for the Minos Conaway Road Grade Separated Interchange Project

## Sussex County, Delaware

DelDOT Project T201612501


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Final

July 16, 2019

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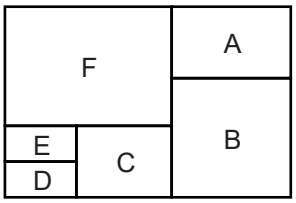


A) Beers 1868
B) Evans 1749
C) Kee 2007
D) Kee 2007
E) Lab Photo
F) Field Photo

# Phase I Archaeological Survey for the Minos Conaway Road Grade Separated Interchange Project

Sussex County, Delaware

DelDOT Project T201612501

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July 16, 2019

# *Abstract*

On behalf of the Delaware Department of Transportation (DelDOT), Louis Berger U.S., Inc., a WSP company (Louis Berger), completed a Phase I Archaeological Survey for the Minos Conaway Grade Separated Intersection project near Lewes in Sussex County, Delaware. The work was conducted for further compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) (36 CFR Part 800).

The proposed intersection improvement project involves creating a grade separated intersection at Minos Conaway Road and State Route 1 (SR 1, also called the Coastal Highway) utilizing the existing bridge structures of SR 1 over the Junction and Breakwater Railroad. Additional elements of the design include the creation of new ramps and service roads on either side of SR 1 as well as a multi-use path along the western service road that will integrate with the Georgetown-Lewes Rail-with-Trail system. Other proposed project activities include the repaving of existing road surfaces, widening and realigning portions of SR 1, and reorganizing intersections.

The purpose of the Phase I investigation was to determine the presence or absence of archaeological resources in the area of potential effect (APE) and to provide a context for assessing the importance or significance of any archaeological remains that are present. DelDOT has defined the APE for this project as four non-contiguous areas along SR 1 extending from Red Mill Pond in the northwest to the intersection with Nassau Road (SR 266B) in the southeast. The four areas of the APE (or project area) cover an area measuring approximately 5.1 hectares (12.5 acres).

The investigation included background research and field investigations. The initial field investigation was conducted January 28-February 1, 2019, and supplemental testing was conducted March 5-March 7, 2019. The field investigations included the excavation of systematic shovel tests on a 15-meter grid as well as non-systematic (opportunistic) inspection of artifacts exposed on the ground surface. A total of 219 shovel tests were excavated.

The archaeological survey identified two sites in the APE: the Cool Spring Site (7S-D-099; CRS No. S13128) and Locus D-1 (7S-D-100; CRS No. S13129). The former is a small scatter of historic ceramics dated to about 1800 that may represent a modest homestead. The latter is a domestic site from the mid-twentieth century. Locus D-1 also has evidence of refuse dumping from nearby residential properties and roadways. Louis Berger believes that the Cool Spring Site has potential to be a significant resource and recommends further investigation (Phase II). Locus D-1 is of recent age and has no research potential; the site is recommended as not eligible for listing in the National Register of Historic Places.

All records from the survey are currently on file at Louis Berger's office in Albany, New York, and artifacts from the survey at Louis Berger's laboratory in Kansas City, Missouri. Records and artifacts will be permanently curated with Delaware State Museum in Dover.

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# I. Introduction

On behalf of the Delaware Department of Transportation (DelDOT), Louis Berger U.S., Inc., a WSP company (Louis Berger), completed a Phase I Archaeological Survey for the Minos Conaway Grade Separated Intersection near Lewes, Sussex County, Delaware (Figure 1). The proposed undertaking will create a grade separated intersection at Minos Conaway Road and State Route (SR) 1 (also called the Coastal Highway), utilizing the existing bridge structures of SR 1 over the Junction and Breakwater Railroad. Local access will be maintained via ramps and service roads on either side of SR 1. On the western side of SR 1, the southbound off-ramp will connect to Minos Conaway Road, creating a service road that joins Janice Road at its southern terminus and links SR 1 to New Road at Nassau Road. This service road will pass under SR 1 via the path of the decommissioned Junction and Breakwater Railroad. The eastern service road will connect Nassau Road to northbound SR 1 near Greystone Drive, providing service to local businesses and a northbound onramp to SR 1. The project also consists of a multi-use path along the western service road, which will integrate with the Georgetown-Lewes Rail-with-Trail system. Other proposed project activities include the repaving of existing road surfaces, widening and realigning portions of SR 1, and reorganizing intersections. Figure 2 shows a plan of the proposed improvements.

DelDOT has defined the APE for this project as four non-contiguous areas (A-D) along SR 1 extending from Red Mill Pond in the northwest to the intersection with New Road (SR 266B) in the southeast (Figure 3). The four areas of the APE (or project area) cover an area measuring approximately 5.1 hectares (12.5 acres).

The purpose of the Phase I survey was to determine the presence or absence of archaeological resources in the APE and to provide a context for assessing the importance or significance of any archaeological remains that are present. The survey included background research and field investigation. Gregory Katz (Registered Professional Archaeologist [RPA] 15888), served as Project Manager and Principal Investigator, and co-authored this report. Kevin Sheridan, PhD (RPA 33420836) directed the field investigation and co-authored the report. Mr. Katz and Dr. Sheridan were assisted by Meredith McCulley, who conducted background research and assisted with the historic context. Field staff who assisted with the project include Thomas Wambach, Gene Virgilio, Jaqueline Poveromo, and Kelsey Klipfel. The cultural resource specialists who performed this work satisfy the Secretary of the Interior's Professional Qualifications standards as specified in 36 CFR 66.3(6)(2). The qualifications of the investigators are presented in Appendix A.

All cultural resource services were performed using the professional guidelines and standards set forth in the *Procedures for the Protection of Historic and Cultural Properties* (36 CFR 800) and the *Procedures for Determining Site Eligibility for the National Register of Historic Places* (36 CFR 60 and 63). This investigation also conformed to Delaware's archaeology guidelines (Delaware Division of Historical and Cultural Affairs 2019). Historic contexts follow Delaware Division of Historical and Cultural Affairs (DCHA) standards and the 1989 *Delaware Comprehensive Historic Preservation Plan* (Ames et al. 1989).

This report has been organized into six chapters. Chapter II describes the project area's environmental setting and cultural context, briefly outlining the 11,000-year history of the region and summarizing previous archaeological investigations in the vicinity. Chapter III discusses the research design. Chapter IV presents the results of the field investigation. Chapter V provides conclusions and recommendations. References cited follow in Chapter VI. Appendix A contains the qualifications of researchers, Appendix B provides a log of all shovel tests, and Appendix C contains the methods of artifact analysis and cataloging and an inventory of the recovered artifacts.

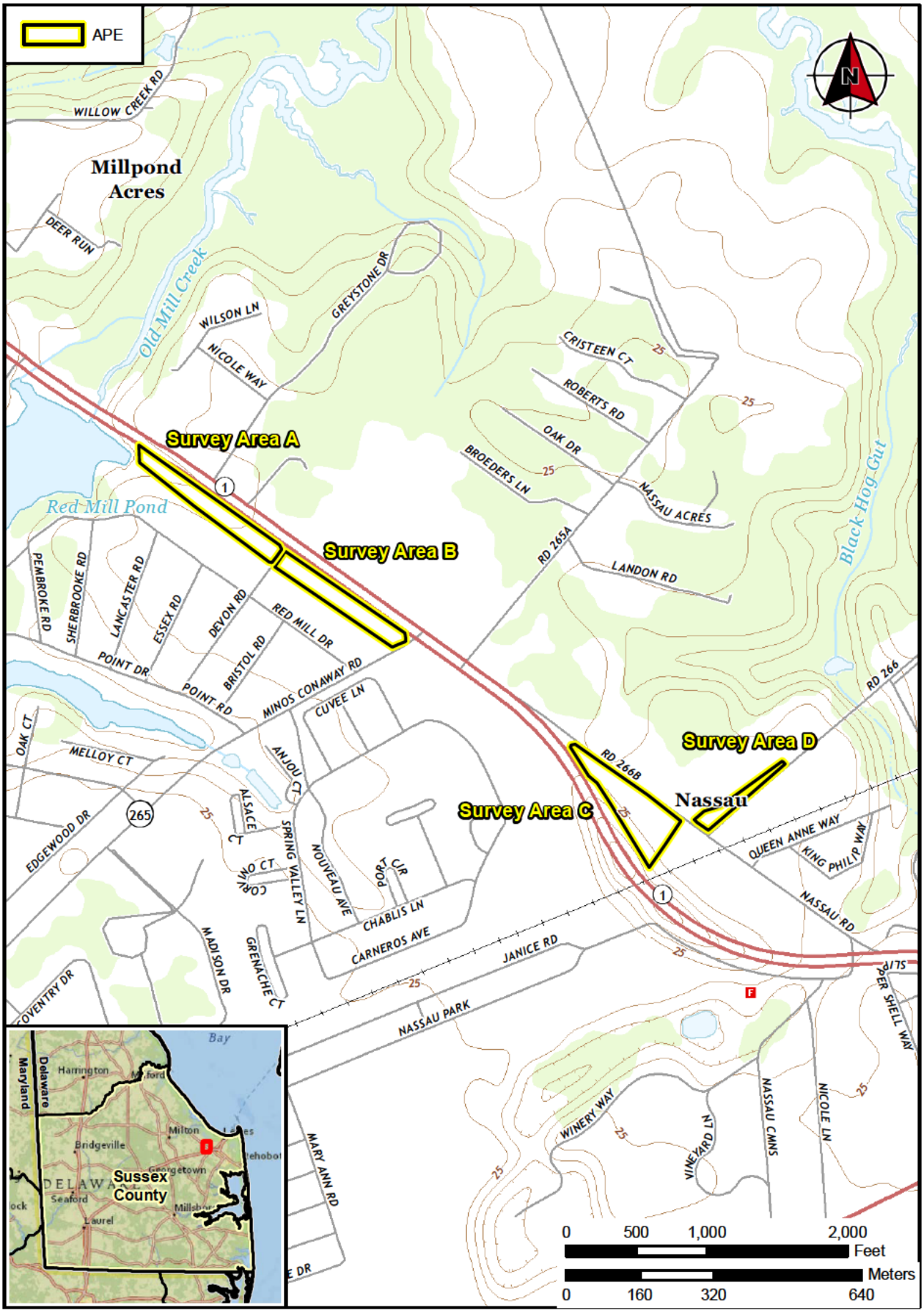



FIGURE 1: Project Location (USGS Fairmont 2017a, Lewes 2017b)

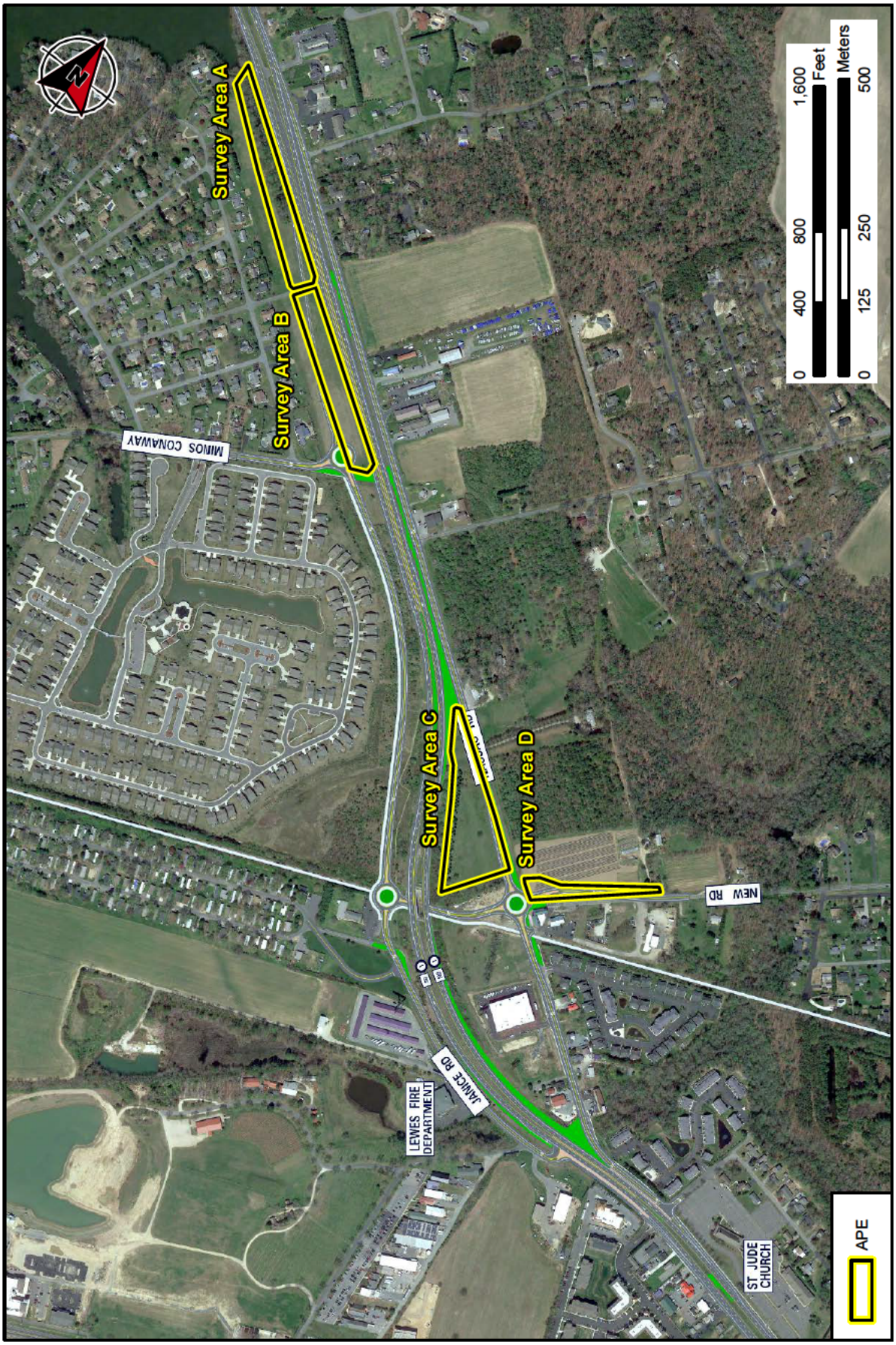



FIGURE 2: Plans for Grade Separated Intersection (DelDOT 2018)

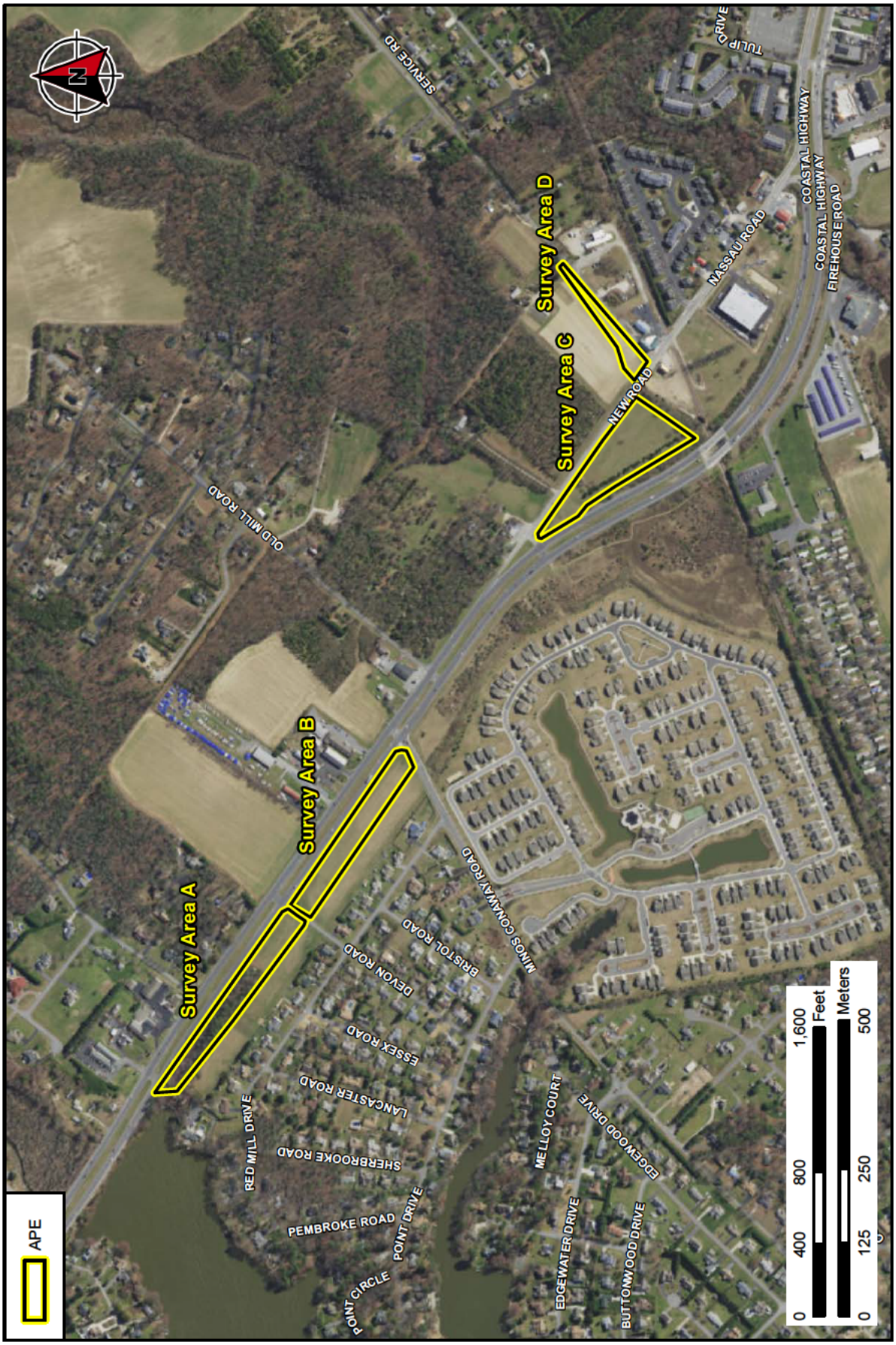



FIGURE 3: Phase I Survey Areas (ESRI 2018)

# *II. Background Research*

## A. Environmental Setting

The project is located in the Atlantic Coastal Plain physiographic province and straddles the Coastal and Lower Peninsula/Cypress Swamp geographic zones. The Coastal Plain is underlain by the sands of the Columbia Formation and is relatively flat and featureless (De Cunzo and Garcia 1993:12). This area is characterized by extremely low topographic relief (less than 30 feet) and consists of sedimentary deposits covered by a thin veneer of young sand and gravel that was deposited in Delaware by Pleistocene glacial outwash (De Cunzo and Garcia 1993:12; Eiswert et al. 2014). The climate of the region is fairly moderate, as it lies in a transition zone between humid subtropical conditions to the south and humid continental conditions to the north. Delaware typically experiences four distinct seasons, although annual precipitation can vary significantly from year to year (Office of the Delaware State Climatologist 2017).

The project area is underlain by the Lynch Heights Geologic Formation (Delaware Geological Survey 2018). This consists of a heterogeneous unit of light gray to light yellowish-brown medium to fine sand and organic-rich clayey silt to silty sand. The upper part generally consists of fine well-sorted sand. The sands are quartzose and slightly feldspathic and are typically micaceous where very fine to fine grained. Small scale cross-bedding within the sands is common. These Middle Pleistocene Quaternary deposits can be as much as 50 feet thick but thin to the west (Ramsey 2003).

The APE for archaeology is four non-contiguous areas along SR 1 and Nassau Road (Route 266B). Survey Areas A and B are northwest and southeast of Devon Road at the intersection with SR 1. Survey Areas A and B are south[1] of SR 1 and are linear. They are principally open fields and have an elevation of 20 to 25 feet above sea level (asl). The area between the edge of pavement and a drainage ditch was disturbed and not tested; testing focused south of the drainage ditch. The third area, Survey Area C, is north of SR 1 and south of Nassau Road, near the junction of Nassau Road and New Road (Route 266). Area C is currently a farm field and has an elevation of 20 to 25 feet asl. Survey Area D is located in the northwestern quadrant of the intersection of Nassau Road and New Road. Survey Area D is a farm field and the field's grassy buffer and has an elevation of 20 to 25 feet asl.

The survey areas lie close to several bodies of water. Red Mill Pond borders Area A to the west and is fed by a drainage ditch running through Areas A and B along SR 1. Red Mill Pond is drained to the northeast by Old Mill Creek. Black Hog Gut is located approximately 700 feet northeast of the northern terminus of Area D. The confluence of Old Mill Creek and Black Hog Gut is located approximately 2 kilometers (1.24 miles) north of the APE, and Old Mill Creek flows north into the Broadkill River and into Delaware Bay via Roosevelt Inlet.

Four major soil types have been mapped in the project APEs (United States Department of Agriculture-Natural Resources Conservation Service [USDA-NRCS] 2018) (Table 1). The majority of the APE consists of Evesboro loamy sand (0 to 5 percent slopes) and Fort Mott loamy sand (0 to 2 percent). Both series consist of very deep, well-drained to excessively drained soils present on Coastal Plain uplands. The western section of Area A included two additional soil types. Ingleside loamy sands consist of very deep, well-drained soils that form on broad uplands and slight depressions and adjacent to alluvial terraces. Zekiah sandy loams consist of very deep, poorly drained soils formed from loamy alluvium on floodplains.

[1] Although SR 1 is considered a north-south route, it follows a more east-west orientation through the project area. *South of SR 1* in this report means adjacent to the roadway's southbound lanes. *North of SR 1* in this report means adjacent to the roadway's northbound lanes.

TABLE 1: SOILS IN THE PROJECT AREA

| NAME | SOIL HORIZON | DEPTH | COLOR | TEXTURE, INCLUSIONS | SLOPE % | DRAINAGE | LANDFORM |
|---|---|---|---|---|---|---|---|
| Evesboro loamy sand (EvB) | Oe | 0 – 1 in | Blk | Mod. decomp. plant mat. | 0-5 | Excessively drained | Coastal Plain uplands |
| | A1 | 1 – 2 in | VDk Gry Brn | Sa, Fi Roots | | | |
| | A2 | 2 – 4 in | Dk Gry Brn | Sa, Fi Roots | | | |
| | B/E | 4 – 10 in | Dk Yw Brn/Lt Brn Gry | Sa, Fi Roots | | | |
| | BE1 | 10 – 36 in | Dk Yw Brn | Sa, Fi Roots | | | |
| | BE2 | 36 – 45 in | Yw Brn | Sa | | | |
| | BE3 | 45 – 62 in | Yw Brn | Sa | | | |
| | E and Bt1 | 62 – 76 in | Yw Brn/S Brn | Sa/Lo Sa | | | |
| | E and Bt2 | 76 – 96 in | Yw Brn/S Brn | Sa/Lo Sa | | | |
| Fort Mott loamy sand (FmA) | Ap | 0-8 in | Dk Gry Brn | Lo Sa | 0-2 | Well drained | Low hill, broad ridge, flat, knoll, fluviomarine terraces |
| | E | 8-30 in | Ple Br | Lo Sa | | | |
| | BE | 30-33 in | Yw Br | Sa Lo | | | |
| | Bt | 33-49 in | Yw Br | Sa Lo | | | |
| | C | 49-72 in | S Br | Lo Sa | | | |
| Ingleside loamy sand | AP | 0-10 in | Dk Br | Sa Lo | 2-5 | Well drained | Broad uplands, slight depressions, adjacent to alluvial terrances |
| | E | 10-15 in | Br | Sa Lo | | | |
| | Btl | 15-24 in | Dr Yw Br | Sa Lo | | | |
| | Bt2 | 24-33 in | S Br | Sa Lo | | | |
| | BC | 33-43 in | Yw Br | Sa Lo | | | |
| | C1 | 43-48 in | Yw Br | Lo Sa | | | |
| | C2 | 48-56 in | Lt Yw Br | Lo Fi Sa | | | |
| | C3 | 56-72 in | Ple Br | Si Lo | | | |
| Zekiah sandy loam | A | 0-3 in | Dk Br | Si Lo | 2-5 | Poorly drained | Floodplains |
| | CG | 3-20 in | Dk Br | Si Lo | | | |
| | Ab | 20-27 in | V Dk Gr | Si Lo | | | |
| | C'g1 | 27-37 in | Dk Gr Br | Sa Lo | | | |
| | C'g2 | 37-50 in | Blue Gr | Lo | | | |
| | C'g3 | 50-72 in | Gr Br | Sa to Lo Sa | | | |

KEY: *Shade* Lt – Light, Dk – Dark, V – Very, Ple – Pale, S – Strong, Du -- Dusky. *Color* Blk – Black, Brn – Brown, Gry – Gray, Grn – Green, Yw–-Yellowish, Ol – Olive, R – Red
*Soils* Cl – Clay, Lo – Loam, Si – Silt, Sa – Sand, BdRk -- Bedrock.
*Other* / – Mottled, Grl – Gravel, Fi – Fine, V – Very, M – Medium, Ex – Extremely, Fl – Flaggy, Ch – Channery, Co – Coarse, Fe - Iron
Source: USDA-NRCS 2017

Survey Areas B, C, and D are open fields with minimal vegetation beyond ground cover. Survey Area C has a line of trees near the western edge of the tract, close to SR 1. This row of trees may have been planted as a wind break for the agricultural fields that take up most of the survey area. Survey Area A has a forested portion that begins about 110 meters (361 feet) west of Devon Road and extends to the western limit of the survey area, by Red Mill Pond. The forested portion of Survey Area A is a stand of pines and shrub-scrub growth.

## B. Precontact Background

The precontact era of the state is commonly divided into four chronological periods: Paleoindian (circa 18,000 to 6500 BC), Archaic (6500 to 3000 BC), Woodland I (3000 to 1000 BC), and Woodland II (1000 BC to AD 1650). The periods mark cultural development from largely nomadic hunter-gatherers during the Paleoindian period to fairly sedentary villagers in the Woodland II period. A fifth time period, the Contact

period (1524 to 1750), can also be considered, as the history of native peoples during the time of initial European colonization.

Delaware prehistory has been detailed by Jay Custer (1984, 1989, 1996), and the summary below is largely abstracted from his work.

## *1. Paleoindian Period (circa 18,000 to 6500 BC)*

Paleoindian groups were the earliest occupants of the eastern woodlands, and may have entered the region around 18,000 BC. The earliest occupation, known as Pre-Clovis, is not well known but has been documented at Meadowcroft Rockshelter in Pennsylvania (Adovasio et al. 1980; Adovasio et al. 1982) and in Maryland at the Miles Point Site and Parsons Island (Lothrop et al. 2016; Lowery 2007; Lowery et al. 2010; Stanford and Bradley 2012). Pre-Clovis occupations in the region have also been documented in Virginia, at the Cactus Hill Site (McAvoy and McAvoy 1997; Wagner and McAvoy 2004). No Pre-Clovis sites have yet been identified in Delaware. The body of evidence on Pre-Clovis sites suggests that the culture featured small group encampments and a diverse diet, with a toolkit featuring stone blades and nearly triangular lanceolate projectile points.

Later occupants of the region, known as the Clovis culture, date to circa 11,000 BC and are represented by numerous finds in Delaware. The Clovis culture arrived at a time of abrupt climate change toward the end of the last ice age. Clovis sites appear to have been focused on well-drained landforms near major streams and inland swamps. Other highly productive habitats were also exploited by Clovis groups; group movement may have centered on sources of high-quality stone for tool making. The Clovis diet included Pleistocene megafauna, such as mastodon and mammoth, but the hunting emphasis was likely on deer, elk, and perhaps caribou. Fish, berries, and other fruits were also parts of the Paleoindian diet. The diagnostic artifact of Clovis culture is the basally fluted lanceolate Clovis point; typically associated tools include scrapers and gravers for working hides and bones. Fluted points are concentrated in two areas of Delaware; between Newark and Elkton, and in the poorly drained mid-peninsula Drainage Divide (Custer 1984). A possible fluted point base, made of crystal quartz, was found at the Two Guys Site (7S-F-68). An unfluted lanceolate made of jasper may be a late Paleoindian artifact (LeeDecker et al. 1996).

Quite apart from his somewhat equivocal pre-Clovis finds, Lowery has reported a remarkable concentration of Clovis points and other lithic artifacts along the Eastern Shore of the Chesapeake in Maryland and Virginia (Lothrop et al. 2016; Lowery 1989). These points are typically small, and they were made from locally procured jasper pebbles.

With the onset of the Holocene, spruce-dominated boreal vegetation was replaced by the northward expansion of deciduous forests, and large mammals migrated to new ranges or were driven to extinction. An abrupt cold period, known as the Younger Dryas stadial, occurred between 10,800 and 9500 BC (Wah 2003), triggering a number of environmental changes. This rapid environmental change is coeval with the end of the Clovis culture.

After 9500 BC the lifeways of native people underwent minor changes. A hunting focus continued, but megafauna species either became extinct or migrated north, necessitating changes in hunting behaviors. Sites from 9500 to 6500 BC are more numerous than earlier sites and are more dispersed. Clovis points disappear from site assemblages and are replaced by a diverse set of corner-notched and side-notched point types. The Fall Zone and the Piedmont show particularly noticeable increases in site frequencies during the terminal portion of the Paleoindian period.

## *2. Archaic Period (6500 to 3000 BC)*

The beginning of the Archaic period roughly corresponds to the Hypsithermal, a climatic episode marked by rising temperatures, decreasing precipitation, and the development of more seasonally variable climate. An oak-hemlock-hickory forest dominated the region, and deer became the dominant large mammal.

The growing population changed its subsistence-settlement patterns. Sites are larger and more numerous, and a more diverse toolkit implies a broader range of subsistence activities than in the Paleoindian period. During the Archaic period sites begin to appear in locations that had been previously ignored, such as interior ridgetops; however, base camps were still located primarily in the floodplains of major drainages and around wetlands. The appearance of new tool types specifically designed for woodworking, seed grinding, and nut cracking (e.g., axes and adzes, mauls, grinding slabs, and nutting stones) and the location of sites in previously unused areas indicate an increasing reliance on gathered plants for food and other necessities.

On the Delmarva Peninsula, Early Archaic points are actually more often made on exotic lithics than Paleoindian points, which were mainly chipped from local jasper pebbles (Lowery, personal communication 2017).

## *3. Woodland I Period (3000 BC to AD 1000)*

During the Woodland I period indigenous groups continued to increase their use of gathered plants, particularly tree mast, for food and other needs. Fish and shellfish were also very important to subsistence during this period. Wetland resources were commonly exploited. The number of sites and settings for sites continued to expand, and on the floodplains of major waterways, villages and hamlets evolved to sites of nearly year-round occupation. At some sites in Delaware, there are signs of the emergence of stratified societies and engagement in extensive exchange networks.

Woodland I sites are marked by a suite of narrow-bladed projectile points that accompanied adaptations for exploiting hardwood trees and sylvan resources. Assemblages include a high frequency of grooved axes, adzes, celts, gouges, and grinding stones. Broad-bladed projectile points appeared during the period and are found most commonly on floodplain sites. Although broadspear points are sometimes found in ritual mortuary contexts, they were apparently utilitarian objects, as shown by occasional breakage and edge attrition (Custer 1991; Custer and Mellin 1986).

A noteworthy development during the period is the use of carved soapstone (steatite) bowls. Soapstone was quarried during this period in the Piedmont of Virginia, Maryland, and Pennsylvania. Vessels were apparently carved at the quarries and transported in finished form, probably by canoe (Dent 1995:182-184). Soapstone pots were clearly used for cooking, but it is not yet known what foods they were used to process (fish, meat, seeds, tubers, or nuts). Soapstone vessels are found on sites dating to circa 1700 to 800 BC (Sassaman 1999, 2006).

Production of ceramics began in the region beginning circa 1200 BC. The earliest vessels imitated the form of flat-bottomed soapstone pots and were tempered with bits of soapstone and other rock (Stewart 1998). These earliest ceramic ware types are known as Marcey Creek and Vinette I, and found throughout the Middle Atlantic region and into New York State. Jay Custer developed a series of precontact complexes, that is, associations of co-occurring artifact types and site characteristics (Custer 1984, 1989, 1996) in the vein of Gordon Childe and others (Childe 1925; Taylor 1948), and Marcey Creek wares are considered a marker of the Clyde Farm complex. Later, more refined wares developed, such as Wolfe Neck, which is part of the Wolfe Neck complex, and Coulbourn, Mockley and Hell Island wares, which are part of the Carey complex.

Exchange networks developed during this period, linking local tribes to groups to the north, south, and west. Tools made from non-local stone are found in many Woodland I assemblages. Elaborate burials have been found in Delaware dating from around 500 BC to AD 1, with mortuary objects showing links to the Adena and Hopewell cultures in the Ohio Valley. Lithic materials shifted to higher-quality stone and stone from non-local sources circa 500 BC (Stewart 1989, 1992). This shift in pattern of stone use is considered additional evidence of the development of regional trade networks.

### *4. Woodland II Period (AD 1000 to 1650)*

The Woodland II period began around AD 1000 as precontact groups began living in hamlets and villages and practicing agriculture. Maize horticulture was adopted by many people circa AD 1000, but reliance on maize varied from group to group. It has been speculated that wild rice, *chenopodium*, and other wild plants played a bigger role than maize in local diets. Diets continued to include fish, shellfish, deer, and turkey. Sites are typically located in floodplains of higher-order streams and adjacent to high-yield agricultural soils.

In some parts of Delaware, a dramatic increase in the number of sites coincides with the Woodland II period. Larger sites are commonly on tidal creeks that feed into the Delaware River, with smaller resource extraction sites in a wide variety of environmental settings. The Fall Zone and eastern Piedmont may have been used seasonally as part of the settlement round of groups based on the Coastal Plain (Stewart 1992).

Precontact pottery transitioned to a fine shell-tempered ware with fabric-impressed surfaced treatments, known as Townsend. A similar ware with cord markings and incised surface treatments is known as Minguannan. In Jay Custer's precontact framework Townsend and Minguannan are associated with the Slaughter Creek complex (Custer 1984, 1989, 1996).

During the Woodland II period regional exchange networks largely ended, and indigenous societies may have fragmented. Prior to AD 1200/1300, settlements were not stockaded (fortified), suggesting that there were minimal inter- and intra-group hostilities (Stewart 1993). At around AD 1200 to 1300, throughout the Middle Atlantic region, population density increased, nucleated settlements and stockaded villages were established, and there is evidence of population movement and displacement (Stewart 1993).

After AD 1200/1300, ranked societies emerged, which developed into the complex tribes and chiefdoms encountered by the Europeans in the late sixteenth and early seventeenth centuries.

### *5. Contact Period (AD 1524 to 1750)*

Indigenous communities were disrupted and frequently in flux throughout the Delaware River basin after European colonization began. Diseases brought by the Europeans ravaged Indian settlements. Warfare and eviction from lands destroyed many other Indian communities. The native-colonist relationship ebbed and flowed, with periods of intermittent conflict and warfare.

The initial European exploration of the Delaware Bay may have taken place in 1524 by Giovanni da Verrazzano, although the account of his explorations (da Verrazzano 1524) is not universally accepted. More concerted exploration and settlement began in 1609 with Henry Hudson's exploration of the Delaware Bay and River (Scharf 1888). Hudson sailed for the Dutch, who were quite active in the area in the early seventeenth century. In 1631 the Dutch created an outpost in Lewes known as Zwaanendael or Swanendael, meaning Valley of the Swans (it was located near Lewes Creek, in a shallow valley) (Delaware DHCA 2019). In 1638 Fort Christina was built by the Swedes at the confluence of the Christina and Brandywine rivers, in what would later become Wilmington (Scharf 1888). Swedish settlement grew along both sides of the Delaware River in the middle of the seventeenth century. Samuel Argall, an Englishman, explored the Delaware in 1610, but most British settlement came in the middle of the seventeenth century.

The lower Delaware River and the Delaware Bay were home to several related native groups, known collectively to Europeans as "the Delaware Indians"; they called themselves the Leni-Lenape or the Lenape (Kraft 2001). The Lenape had three principal tribes: the Munsee, who lived in the middle and upper reaches of the Delaware River; the Unalachtigo, who may have lived in the Lehigh Valley of Pennsylvania; and the Unami, who lived on the lower section of the Delaware River and the Bay (Kraft 2001). The Lenape tribe inhabiting the Lewes area was the Siconese, known also as the Sickoneyns, Sikonessink, Siconesius, Cinconicins, or Great Siconese (Weslager 1991). The Lenape traded with Swedish and Dutch colonists and were on generally peaceful terms with both colonial powers.

As recorded by Europeans, Lenape settlement types included stockaded villages, open longhouse villages, and also smaller houses at hunting and fishing camps (Goddard 1978). Bands would congregate during the agricultural season and split into small family units during the winter. The Lenape may have never practiced much agriculture beyond cash cropping during the middle of the seventeenth century, and some Lenape tribes may not have had substantial villages during any period of their history (Becker 1989). Population estimates for the Lenape during the Contact period have been quite varied.

The Lenape's rivals were the Susquehannocks, who were located principally in south-central Pennsylvania along the Susquehanna River. The Susquehannocks also controlled the upper parts of the Brandywine drainage. The Susquehannocks waged war against the Lenape between 1630 and 1635, eventually defeating the Lenape and making them their subjects. The Brandywine Indians came to be on generally friendly terms with the Susquehannocks later in the seventeenth century, when they saw a mutual enemy in the British.

The Dutch and Swedes competed for control of the Delaware River basin during the first half of the seventeenth century (Scharf 1888). The Dutch tried to assert control of the area by erecting Fort Nassau on the eastern side of the Delaware River in 1623. The Swedish governor subsequently built a fort on the west bank of the river in the Philadelphia area in addition to Fort Christina in the Wilmington area. In 1651 the Dutch governor built Fort Casmir, located in what is today Newcastle. Violence erupted between the Dutch and Swedes in 1655, and the Dutch emerged in control of "New Netherlands." Dutch hegemony was short-lived, however, as the English took control of the colony in 1664. The lands eventually came under the control of William Penn and the Pennsylvania colonial government.

Many Lenape left the Delaware Valley starting in the 1660s, moving north to New York and eventually Ontario and west to Oklahoma (Kraft 2001). The Indian-colonial fur trade was on the wane in this period, and there was increasing tension between the Indians and colonists for land. In addition, the Lenape, who had been struck by a devastating outbreak of smallpox circa 1635, were struck by another smallpox outbreak in 1661, weakening their communities. There are accounts of Lenape emigrating from Delaware between approximately 1660 and 1750; some chose to remain in Delaware and become part of colonial society (Busby 2010; Kraft 2001).

The native history of Delaware's Atlantic shore is relatively unknown, and the native history of the southern interior is the history of the Nanticoke Indians, a state-recognized tribe today (Busby 2010). Early in the Colonial era, the Nanticoke Indians resided along the Nanticoke River, a tributary of the Chesapeake Bay. As European colonists disrupted native lifeways, the Nanticoke migrated into the Millsboro area in the early 1700s. A reservation was established in 1705, which dissolved in the 1740s (Slavins n.d.; Weslager 1983).

## C. Historical Overview

### *1. Early Exploration and Settlement (circa 1580s to 1770)*

Some of the earliest European explorers to visit present-day Delaware likely included the Spanish and Portuguese prior to the 1580s (Library of Congress 2010; Scharf 1888). The Dutch eventually laid claim to

the region following Henry Hudson's brief exploration of the Delaware Bay in 1609 before continuing up to the Hudson River in present-day New York.

As described above, in 1631 the Dutch established the short-lived settlement of Zwaanendael at Cape Henlopen, present-day Lewes. The Zwaanendael settlement consisted of 28 men, who proceeded to build a dormitory, cook house, and palisade (Delaware DHCA 2019). Broadly speaking, the Dutch developed a good relationship with native tribes; however, the Zwaanendael settlement was the exception. By the time a second detachment of settlers arrived in December 1632, the settlement had been destroyed by a group of native inhabitants. According to various accounts, the Zwaanendael settlers and Siconese tribesmen had a dispute over theft/removal of a piece of tin with the Dutch coat-of-arms. The dispute escalated, leading to the death of the Siconese chief and the subsequent death of the Zwaanendael settlers (Delaware DHCA 2019). A marker of the settlement site stands today in a park in Lewes.

Other early settlements in the Delaware region included the Swedish settlement of Fort Christina (present-day Wilmington) in 1638, and the Dutch settlement at Fort Casimir (present-day New Castle). By 1656 the Dutch were able to expel the Swedes and consolidate their claims over the region. The Dutch established a small settlement at (or near) Lewes known as Sekonnessinck. These claims were lost to the British in 1664 (Scharf 1888).

Meanwhile, English settlers from Maryland (established 1634) and Virginia (established in 1607) were also claiming portions of the Delmarva Peninsula. Relatively early on, settlers from Jamestown moved across the Chesapeake and established plantations on the lower Eastern Shore at Accomack, Virginia (Child et al. 2008:48; Truitt and LesCallette 1977:62-63). When Lord Baltimore established Maryland in 1634, he laid claim to all lands north of the Virginia line between the Chesapeake Bay and Atlantic Ocean. By 1665 nearly 80,000 acres of Maryland's Eastern Shore had been patented. In 1666 Somerset County was established; it included much of the land that would later become Sussex County, Delaware. Dorchester County was established in 1669, including much of present-day Caroline County (Maryland) and portions of Delaware (Child et al. 2008:48-49).

Maryland's claim to the land that became Delaware was short-lived. William Penn received a charter from King Charles II in 1681 for land west of the Delaware River, which was named Pennsylvania. The following year, in 1682, Penn received a second grant for the Delaware territory, which he organized into the "three lower counties" of New Castle, Kent, and Sussex (formerly part of Somerset County, Maryland) (Child et al. 2008; Eiswert et al. 2014; Klein and Hoogenboom 1986). These counties were further organized into a system of hundreds, which consisted of large land tracts roughly equivalent to townships elsewhere (Eiswert 2014:12; Siders et al. 1991:6). Ten years after their organization, owing to cultural and political differences among the largely non-Quaker population, the lower counties petitioned Penn for separate jurisdiction from the Quaker authorities in Philadelphia and were placed under separate authority (Bevan 1929; Child et al. 2008:49).

Despite the Pennsylvania charter and grants, Maryland attempted to maintain influence and control of the southwestern portions of Delaware, leaving the settlement claims and territorial borders of western Sussex County uncertain until the borders were finally settled by the Mason and Dixon survey of the 1770s (De Cunzo and Garcia 1993; Quinn and Herman 1986). The overall landscape of the Lower Peninsula/Cyprus Swamp Zone of Sussex County remained largely unaltered through most of the seventeenth and eighteenth centuries. Permanent settlement of the region, particularly in the western portions of the county, remained sparse, largely because of the political uncertainty (Quinn and Herman 1986:3). During the seventeenth century the few settlers in the interior portions of Sussex County were primarily trappers and foresters (Ames et al. 1989:46; Child et al. 2008:49; Pendleton 2000:3). Agriculture, particularly tobacco, sustained much of Delmarva's economy during this early period (Child et al. 2008:49). By 1700 only approximately

1,000 individuals resided in Sussex County (Eiswert et al. 2014:12), although this figure might not take into account those living in the disputed western territories.

Lewes was the commercial center of the county during the period, with settlements concentrated along the coastal bays and other accessible waterways. The coastal area of Lewes and Rehoboth Hundred was decidedly centered on sea trades and navigation (Turner 1909). Pilottown was a community on the western side of Lewes, by the mouth of the Broadkill River and Lewes Creek that was apparently the residence of a number of river-pilots. Boats traveling the Delaware Bay and Delaware River would commonly hire pilots at Pilottown to help with navigation. Records suggest the community was formed in the 1730s and that it largely disappeared as a place-name in the 1830s-1840s (Turner 1909).

Dutch settlement in the seventeenth century had some persistence into the later history of the area, and a number of Dutch place-names persisted. 'Kill' is a Dutch word for 'creek.' An early name for Lewes Creek was "Whorekill Creek" and the road from Lewes to Milford was known in this period as "Whorekill Road." The Broadkill River's name (in use today) also dates back to this early historical period and to Dutch settlers. The origin and meaning of "Whorekill" is a matter of historical debate but may relate to very early prostitution (Healey 2016; Slavins 2016).

Maps of the area in 1749 and 1778 are shown in Figures 4 (Evans 1749) and 5 (Churchman 1778). The maps show the historic Whorekill Road roughly following the alignment of today's SR 1.

Not indicated on the eighteenth-century maps is the small community of Cool Spring. The community was centered at the Whorekill Road crossing of Cool Spring Branch (also known as on Coolspring Creek, and later known as Red Mill Creek/Pond). According to Scharf (1888), a Presyterian church was established at Cool Spring by 1734, and possibly as early as 1700 (Scharf 1888:1220). The meeting house and cemetery were established on a 10-acre tract "located on the on the southeast side of Cool Spring, and on the west side of the country road, being nearly seven miles distant from the Town of Lewes" (Scharf 1888:1220). The location is a bit unclear, but it may have been quite near Survey Areas A and B.

### *2. Agriculture, Forestry, and Early Industry (ca. 1770 to 1830)*

Delaware's western boundary was finally settled in 1775, effectively ending the dispute with Maryland (Quinn and Herman 1986). As a result Sussex County became the largest in Delaware, covering roughly 940 square miles. Five new hundreds were created as a result of the border resolution: Baltimore, Little Creek, Dagsborough, Nanticoke, and Broad Creek hundreds joined the "Old" Sussex County hundreds of Lewes and Rehoboth (includes the APE), Indian River, Northwest Fork, Broadkill, and Cedar Creek (De Cunzo and Garcia 1993:21; Hancock 1976:25). This newfound stability resulted in significant changes in southwestern Sussex County as settlements, transportation networks, and other land-use patterns developed in ways consistent with regional cultural and geographical patterns (Quinn and Herman 1986:3).

The economy of the Lower Peninsula/Cyprus Zone, characteristic of non-coastal portions of Lewes and Rehoboth Hundred, centered on forestry and the timber industry during the later eighteenth century. Timber was cut and buried cypress mined from the swamps for the production of planks, shingles, barrel staves, naval stores, and more. Products were shipped to major markets in Philadelphia, Wilmington, and New York (Quinn and Herman 1986:3). Settlement patterns shifted and farming gradually moved into the western interior as forests were cut and arable land exposed (De Cunzo and Garcia 1993:22; Quinn and Herman 1986). A series of "Ditch Acts" passed between 1779 and 1812 aided in the reclamation of swampy ground for agriculture, which significantly altered the ecological and cultural landscape (De Cunzo and Garcia 1993:22). The soils in this region made the land marginal for agricultural production, and corn was soon favored over tobacco as the chief agricultural product of the zone. Farmsteads in Sussex County during this period averaged less than 200 acres but were largely structured according to the southern plantation system (De Cunzo and Garcia 1993:22; Quinn and Herman 1986:3).


FIGURE 4: Project Vicinity in 1749 (Evans 1749)


FIGURE 5: Project Vicinity in 1778 (Churchman 1778)

As the region developed during the late eighteenth and early nineteenth centuries, both the transportation networks and settlement patterns became tethered to the network of gristmills and sawmills that sprung up along the drainages to facilitate the processing of timber and grain (De Cunzo and Garcia 1993:23). The mill dams provided ready-made causeways across streams and creeks, and provided focal points for the surrounding population and communities. Taverns, shops, stores, and other services often sprang up to accompany the mill complexes. A number of these early mill seats and crossings expanded into larger towns, such as Laurel (est. 1802), Millsboro (est. 1792), Baltimore Mills (now Omar), and Dagsboro (circa 1780) (De Cunzo and Garcia 1993:23). In 1791 the county seat was moved to Georgetown, spurring transportation improvements toward the interior of the zone. By 1796 roads ran from Georgetown to Laurel, Milton, and Broadkill (De Cunzo and Garcia 1993:23). Other industries besides mills developed in the region: by 1814 Sussex County housed five iron forges and 20 distilleries (De Cunzo and Garcia 1993:22-23).

Transportation developments were not limited to expansion of the road network. Steamboats were commonplace on the Delaware Bay/River after about 1815 (Kee 2007). The Chesapeake and Ohio Canal was opened in 1829 and furthered the shipping industry.

Changes in settlement patterns and industry in Sussex County during the eighteenth and early nineteenth centuries also resulted in changing demographics. By 1790 Sussex County had 20,488 residents, which increased to 24,057 by 1820 (Manson et al. 2018). This accounted for roughly 30 percent of the state's population. Northwest Fork, Nanticoke, and Broadkill hundreds were the most populous in the county, accounting for roughly 40 percent of Sussex County's residents (De Cunzo and Garcia 1993:21).

Between 1790 and 1820, between 21 and 23 percent of the county's population was listed on the census as black or non-white (Manson et al. 2018). The majority of residents were of European descent. In 1800 roughly half of the African-American population was enslaved; however, this rapidly shifted so that by 1830 more than 80 percent were free (De Cunzo and Garcia 1993). This is indicative of the increasingly reduced profitability of an enslaved workforce in this zone prior to emancipation (De Cunzo and Garcia 1993:21; Quinn and Herman 1986:5). Throughout this period free African-American labor would play an increasingly significant role in Delaware farm production (De Cunzo and Garcia 1993:21).

Figure 6 shows a map of the area in 1814 (Carey 1814). The map shows "Lewistown" in the general vicinity of Nassau, and Pilottown ("Pilot T.") where Whorekill Road crosses Cool Spring Branch. The map is not precisely drawn, and it is likely that that the labels reference places closer to the shore of the Bay. According to Scharf, there continued to be a small but fairly vibrant Cool Spring community at the turn of the nineteenth century (Scharf 1888:1220).

### *3. Growth and Agricultural Diversification (ca. 1830 to 1880)*

The progression of the nineteenth century brought significant changes to the cultural landscape of the Lower Peninsula, largely attributed to rapid population growth, improved transportation routes, and developments in agricultural production (De Cunzo and Garcia 1993:23; Quinn and Herman 1986:5). Corn remained the principal crop, although farmers increasingly produced market crops for the growing urban centers of Philadelphia, Wilmington, and Baltimore. The development of the railroad and its extension into Sussex County between 1856 and 1878 was particularly significant, providing more direct access to these urban markets. This allowed Sussex County farmers to bring more perishable produce to market, such as peaches, blackberries, and strawberries (De Cunzo and Garcia 1993:24). Gristmills and sawmills remained the primary industry through most of the nineteenth century. Of the 141 manufacturers reported in Sussex County in 1860, 37 gristmills and 56 lumber mills are listed, along with 15 blacksmiths, six shipyards, and a handful of boot/shoe manufacturers, leather works, wagon and carriage shops, and others (De Cunzo and Garcia 1993:27).


FIGURE 6: Project Vicinity in 1814 (Carey 1814)

Delaware's population increased steadily throughout the nineteenth century at a rate of between 5 and 10 percent per decade. By the outbreak of the Civil War, the state's population had reached 112,216. Approximately 26 percent lived in Sussex County (De Cunzo and Garcia 1993:24).

Slavery decreased in the Lower Peninsula throughout the nineteenth century; prior to emancipation, Sussex County housed over half of the state's enslaved population. Most of these slaves worked as domestic servants or field hands on small farms. The majority of free African-Americans owned little land and worked as wage laborers or skilled artisans. The Civil War brought emancipation to all of Delaware's slaves, but in reality they rarely saw much improvement in their social or economic positions (De Cunzo and Garcia 1993:24).

As mentioned above, railroad infrastructure began to be developed in the area in the 1850s. The Delaware Railroad ran the length of the state and was completed in 1859 (Kee 2007). Orchard production blossomed across the state in the wake of the railroad (Kee 2007). The Junction & Breakwater Railroad (JBRR) was a separate enterprise that ran lines near the current project APE, southeast of Survey Areas C and D. The JBRR was built as a subsidiary of the Old Dominion Steamship Company, and was chartered in 1857 (TrailLink 2019; Troppauer and Alpert 2018). The owners wanted to build a connection from the coast at Lewes and Rehoboth to a junction with the Delaware Railroad at Harrington. It was envisioned that it would operate in conjunction with steamship service between the Delmarva Peninsula and New York. The railroad line had reached Milford by 1859, a distance of 8.3 miles, but the Civil War halted further construction. In 1867 work resumed, and two years later, the line to Lewes via Georgetown had been completed. Service to Rehoboth Beach opened in 1878. The length of the entire route, from Harrington to Rehoboth Beach, totaled 43.8 miles (TrailLink 2019; Troppauer and Alpert 2018).

Figure 7 shows the area in 1865 (Martenet 1865). Road and stream networks are shown near the project vicinity, with the historic predecessor to SR 1 (Whorekill Road) present within the APE. The Beers (1868) map (Figure 8) shows minimal development of the APE, with "E. Wooten" owning a farm near the eastern portion of the APE, the P.S. Parker Estate with a house near the western end of the APE, and a gristmill noted on Cool Spring Creek (later Red Mill Creek/Pond). Although the Beers map notes one mill, a gristmill at the road crossing of Cool Spring Branch, a plat map from 1853 notes both a gristmill and a sawmill at this location, with separate mill races (Kellogg et al. 1999:59).

The Paynter and Parker families owned cosiderable land along Whorekill Road during the nineteenth century. A residence of the Paynter family stood east of the APE near the railroad line (see Figure 8), along with a family cemetery (Site 7S-D-086). Additional Paynter family property was found along Cool Spring Branch, west of the APE. The drawbridge over Cool Spring Branch was known as Paynter's Bridge (see Figure 7), the Red Mill on Cool Spring Branch (probably the gristmill) was known as Paynter's Red Mill (Kellogg et al. 1999:41), and another Paynter cemetery site has been identified in the same area (Site 7S-D-085). The Parker family had land in the APE, with a residence north of Survey Area A, on the northern side of Whorekill Road, and farmland on the southern side of the road (see Figure 8). A plat from 1853 indicates that the Parker tract was owned by Hettie Parker (Kellogg et al. 1999:59). The Beers (1868) map notes the Parker property as "P.S. Parker Estate." This was Peter S. Parker. A plat of Peter Parker's property in 1870 (Figure 9) notes that the land has been assigned to Theodore W. Parker (Kellogg et al. 1999:41).

### *4. Modernization (ca. 1880 to 1940)*

During the late nineteenth and early twentieth centuries, significant changes took place in the Lower Peninsula as lumber industries declined as a result of deforestation (Quinn and Herman 1986:8). Trade and manufacturing occupations rose in prominence in much of the state; even so, agriculture and related businesses continued as the primary economic driver in the region (De Cunzo and Garcia 1993:30; Quinn and Herman 1986:8). The advent of the automobile and improved overland highways and other routes

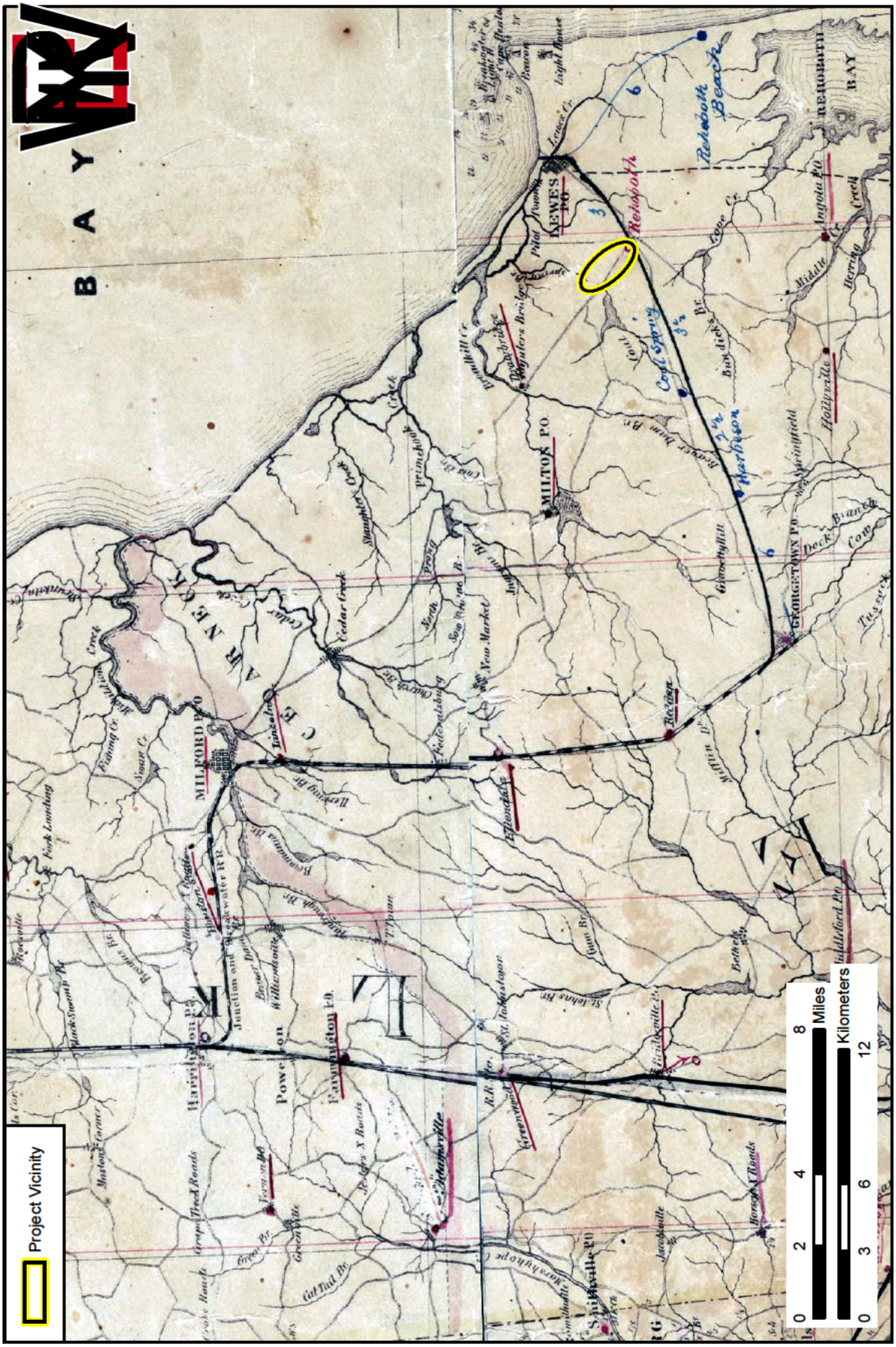



FIGURE 7: Project Vicinity in 1865 (Martenet 1865)

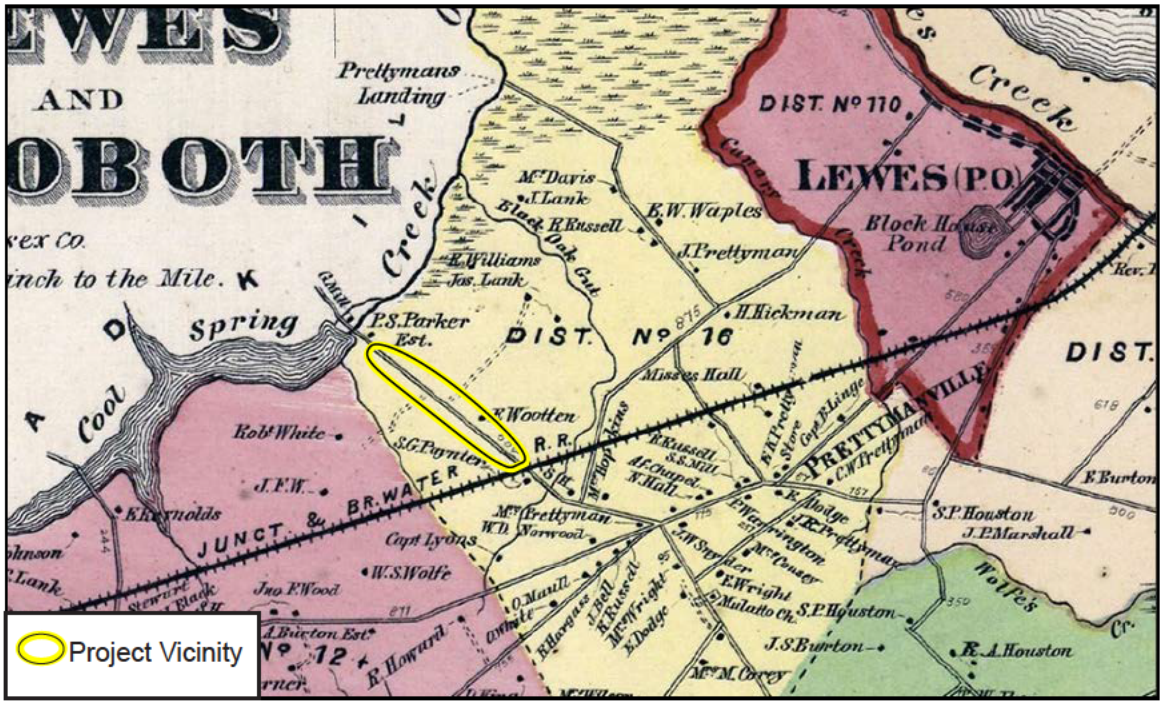


FIGURE 8: Project Vicinity in 1868 (Beers 1868)

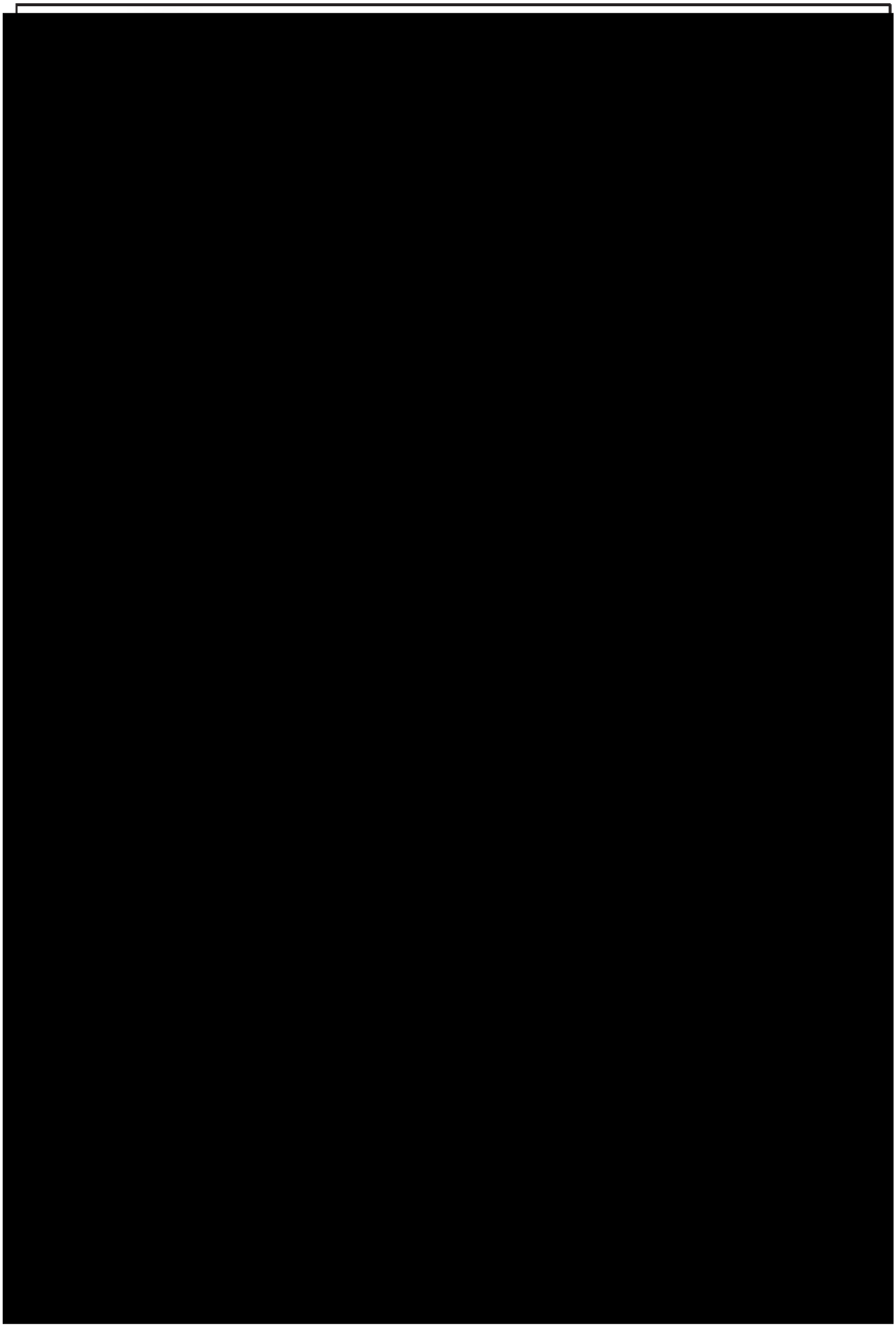


FIGURE 9: Plat of Peter Parker's Property in 1870 (Kellogg 1999)

sparked growth in the cultivation of more perishable, seasonal crops, such as peppers, melons, tomatoes, peaches, and berries. Canneries also sprang up to process some of these crops locally (Quinn and Herman 1986:8). Dairying was a big business for local farmers in the first quarter of the twentieth century.

Sussex County also developed a significant poultry industry during this period. One family, the Steele family, had a farm in Ocean View (Sussex County), and is credited with creating the broiler chicken industry in 1923 (Williams 1998). The Steeles had an order go awry and were delivered 500 chicks rather than 50. They had success selling the surplus chickens as meat, and the broiler industry was born. By 1944 Sussex County farmers were raising roughly 60 million broiler chickens annually, with most of this industry concentrated in the southeastern portion of the county (De Cunzo and Garcia 1993:31). The number has grown threefold in recent years, with about 188 million birds currently raised annually in Sussex County; the County is the largest producer of broilers in the United States per square mile (Cartanza 2017).

Although new lands were being brought under cultivation during this era, farm size and the total acreage in farmland declined. This signals a period of farm abandonment and reorganization that coincided with suburbanization of the northern counties. By 1920 the majority of Sussex County farms were 100 acres or less. Tenant farming increased, and around the turn of the twentieth century, more than 50 percent of farmers were tenants or sharecroppers (De Cunzo and Garcia 1993:31).

Significant growth in Sussex County has continued throughout the twentieth century. Between 1940 and 2000, Sussex County increased from 52,502 residents to over 156,000 (Manson et al. 2018). Much of this growth has concentrated along the coast, where significant residential and commercial development has expanded to support the thriving beach vacation economy.

During this period most of the towns in the interior of the county reached their present size and general appearance. Towns expanded rapidly as new commercial buildings and manufacturing facilities were constructed. The beach vacation economy also expanded greatly in the second half of the twentieth century. Despite these changes, non-coastal portions of the county remained overwhelmingly rural and agricultural in character. Changes in the landscape that occurred during the early twentieth century are still recognizable today, including "large fields mechanically cultivated, natural forestation restricted to preserves or along watercourses and fields, and an intricate network of paved roads collapsing the distances between back country and town centers with great efficiency" (Quinn and Herman 1986:8).

Transportation improvements included a dramatic expansion of the road network as well as expansion and then decline of the railroad network. As previously reviewed, the JBRR had rail lines that ran from Georgetown to Lewes and Rehoboth, running in proximity to the project APE. In 1883 the JBRR was merged with other lines, forming the Delaware, Maryland & Virginia Railroad (DM&V) (Troppauer and Alpert 2018). Two years later, it was acquired by the Philadelphia, Wilmington & Baltimore (PW&B) Railroad, part of the Pennsylvania Railroad (PRR) holdings. The railroad line eventually became known as part of the PRR Delmarva Division.

The community of Nassau developed in and adjacent to the APE in the late nineteenth century and early twentieth century. The community was a crossroads community, centered on the intersection of Nassau Road and the JBRR railroad line. The JBRR had a passenger depot and freight station at the intersection that are no longer extant (Kuncio 2008a); it is unclear when the depot and station structures were constructed. Nassau Orchards was a large orchard in the area, founded in 1916 by Leslie Knapp with other investors (Kee 2007). The orchard continued in operation into the late twentieth century. The orchard opened a roadside market in the 1950s that catered to beachgoers (Figure 10). The orchard complex was surveyed architecturally in 2008 (Kuncio 2008b). The orchard's roadside market was located along Nassau Road, north of Survey Area C and northwest of Survey area D. In the 1920s a packinghouse stood near the rail passenger depot, in the northeastern quadrant of the intersection of Nassau Road and New Road. New Road was a railroad siding at that time, connecting to the JBRR.


FIGURE 10: Nassau Orchard Market in the 1950s (Kee 2007)

Several dairy farms operated in the Nassau area in the early twentieth century. The Supplee-Willis-Jones Milk Company, of Philadelphia, had contracts with local dairy farmers, and constructed a milk station (shipping depot) at Nassau. The milk station stood by the Nassau Orchards packing plant and the Nassau passenger depot (Figure 11). A railroad siding ran on the western side of the building complex, and was replaced by New Road in the late twentieth century. The freight complex at Nassau was just east of Survey Area D.

By 1950 railroad service across much of PRR Delmarva Division was ended as a result of the increase in automobile use and the improvement of highways. Freight service continued, but the railroad slowly decreased operations as freight traffic progressively dried up. In 1968 the PRR merged with New York Central Railroad to form Penn Central. Penn Central declared bankruptcy two years later (Troppauer and Alpert 2018; TrailLink 2019). Penn Central abandoned the 5.5 miles between Lewes and Rehoboth Beach, now the Junction & Breakwater Rail Trail, a few years after they entered receivership. The remainder of the line from Lewes to Georgetown survived until Conrail formed in 1976. Conrail did not retain this section, but the short line Delaware Coast Line Railroad used it until very recently (TrailLink 2019).

## D. Review of Twentieth-Century Maps and Aerial Photographs

A number of United States Geological Survey (USGS) topographic quandrangle maps were reviewed to aid in understanding the developmental history of the APE; the reviewed maps include those prepared in 1918, 1937, 1944, 1954, and 1997. Aerial photography was reviewed for the years 1937, 1954, 1961, 1968 and 1992 (Delaware Environmental Monitoring and Analysis Center [DEMAC] var.).

In 1937 the project area can be seen as a mosaic of farms and orchards (Figures 12a-b. No buildings are evident in the survey areas. The survey areas are little changed in 1961 (Figures 13a-b) and are still agricultral fields, although one small structure is evident in Survey Area D.

USGS maps show no structures in the Survey Area D area in 1918, 1937, and 1944. The USGS (1954) map shows two structures on the western side of New Road in the survey area (Figure 14). The 1954 and 1961 aerial photographs show one structure in the area (see Figures 13 and 14), but it is not found on the subsequent 1968 aerial photo. The structure appears to be small in size, separated from the surounding agricultural fields, and resembles an agricultural outbuilding. Together, the maps and photographs indicate that two structures were constructed between 1944 and 1954, with one demolished by later in 1954, and the second strucutre demolished prior to 1968. It is also possible that the USGS (1954) map had an error and only one structure was present alongside New Road. This one structure would have built between 1944 and 1954 and demolished prior to 1968.

The review of maps and aerial photographs also shows that suburban development began in the mid-twentieth century south of Survey Areas A and B.

## E. Previous Studies and Known Sites

### *1. Previous Cultural Resource Studies*

Background research included examination of the DHCA site files and survey reports using the Cultural and Historical Resources Information System (CHRIS) and survey reports database systems. Reports archived with DelDOT were also reviewed, as well as the Archaeology Society of Delaware's Digital Library.

Five cultural resource studies are particularly germane to the project. One study was a regional archaeological research project conducted by Jay Custer and the University of Delaware (Custer and Mellin

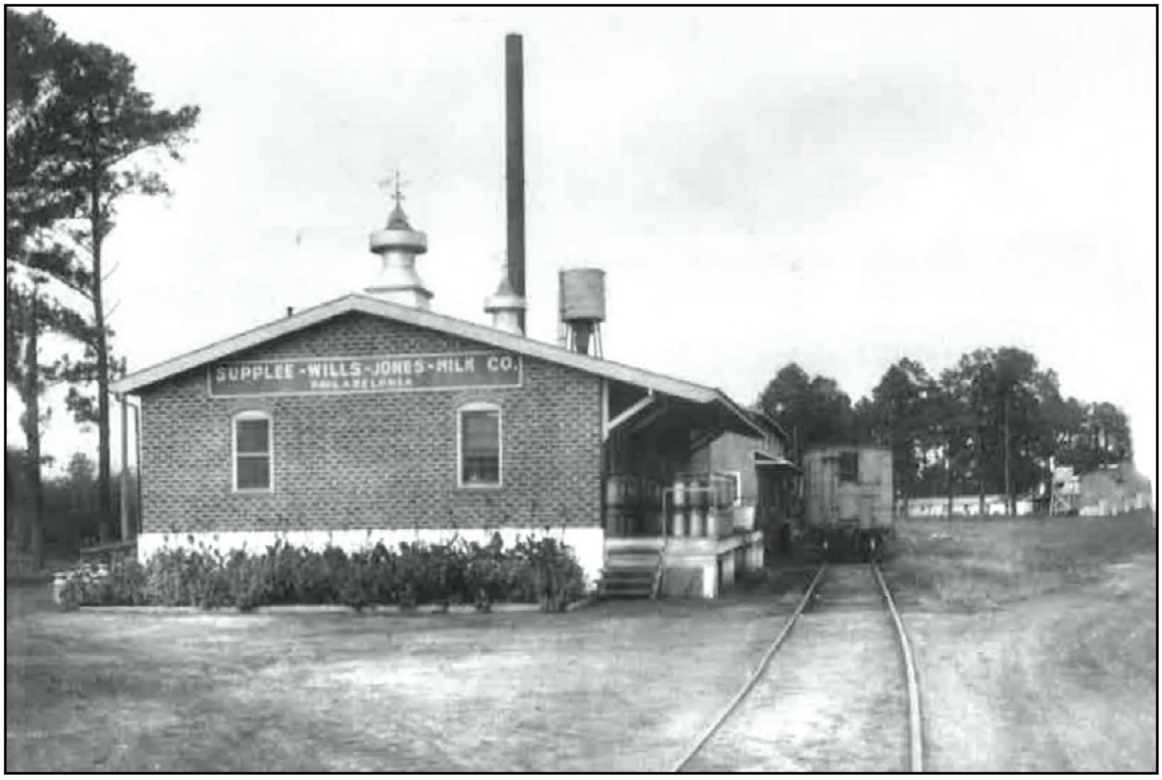



FIGURE 11: Supplee-Wills-Jones Milk Station (Kee 2007)

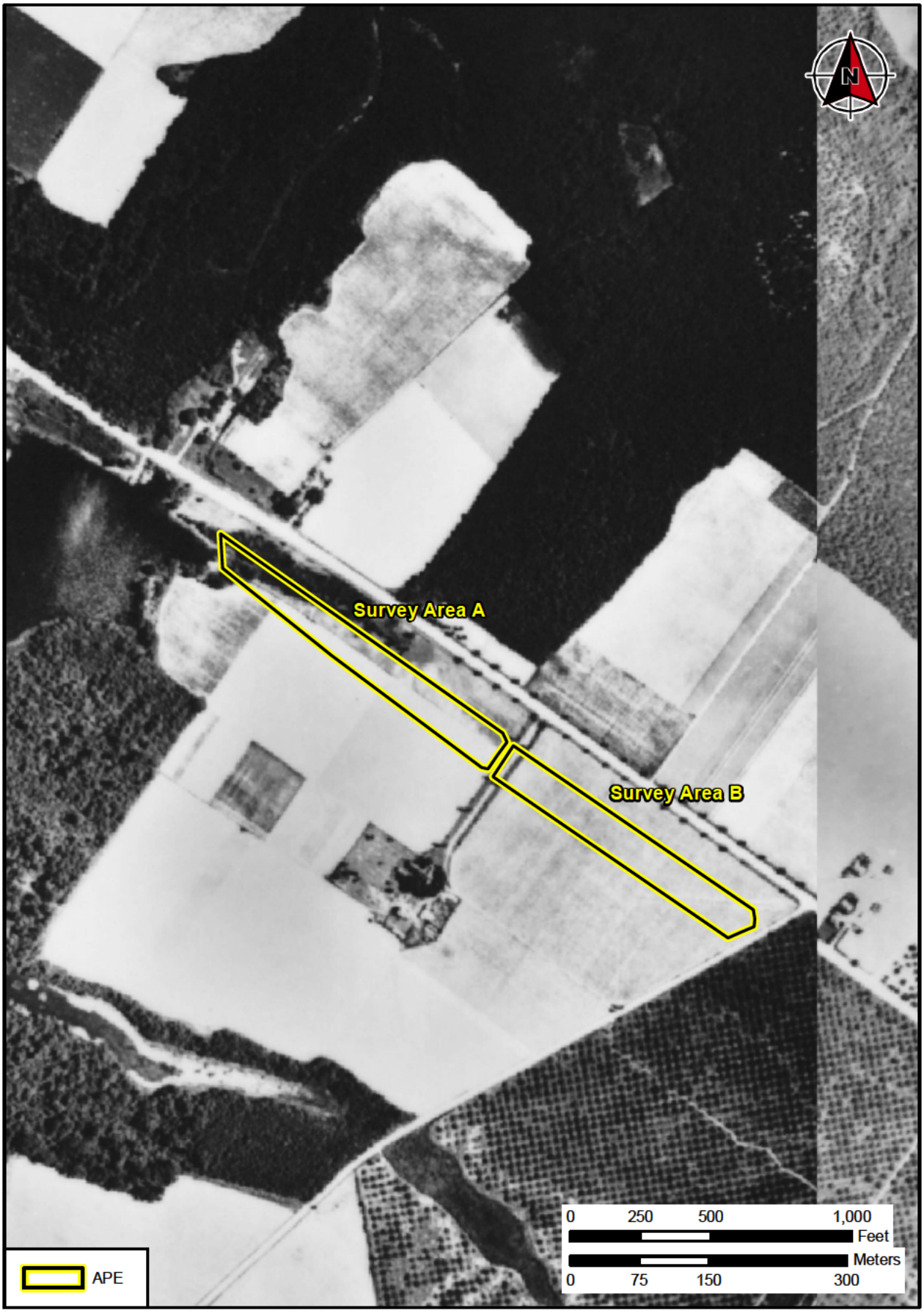



FIGURE 12a: Aerial View of the APE in 1937 (DEMAC 1937)

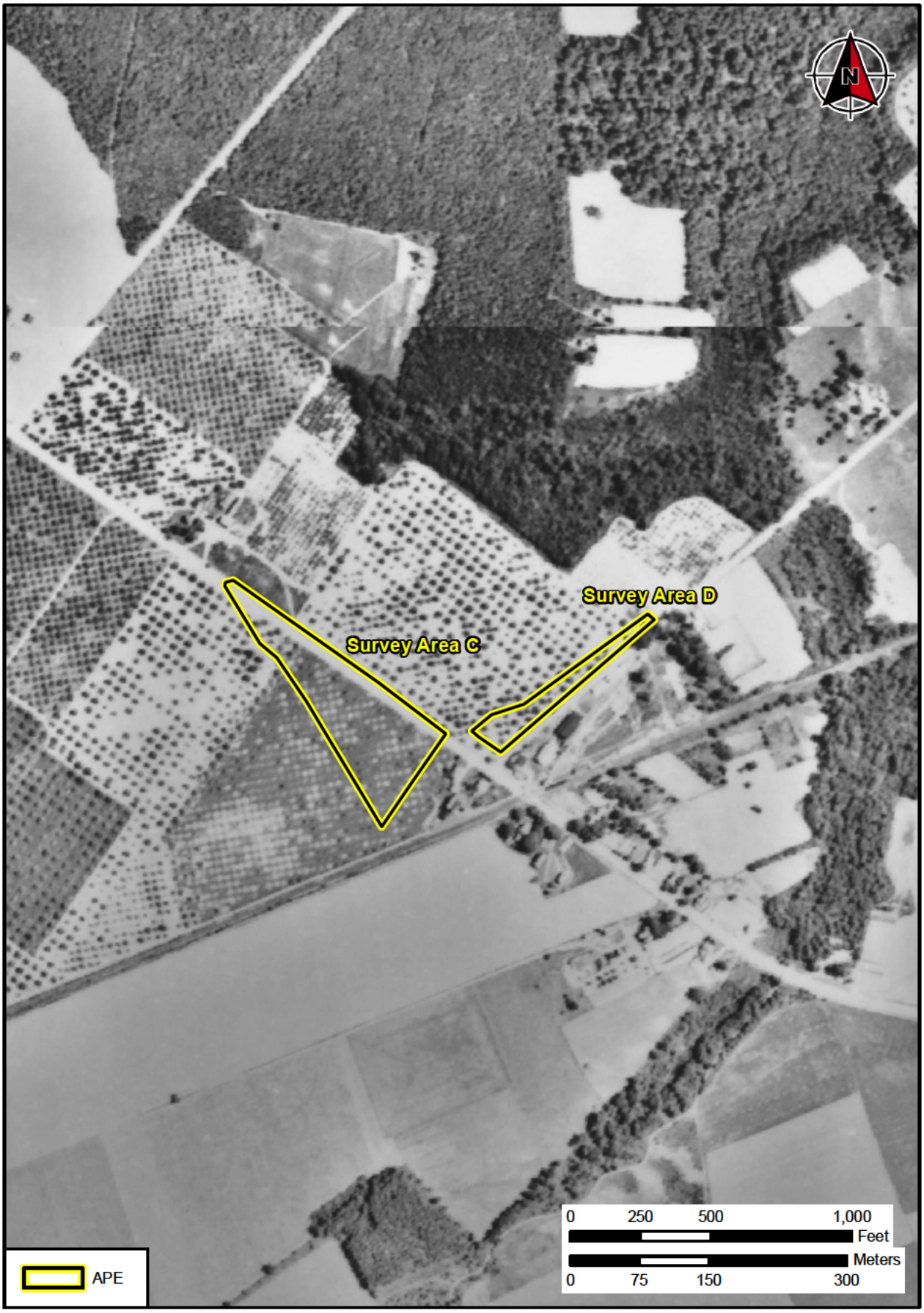



FIGURE 12b: Aerial View of the APE in 1937 (DEMAC 1937)

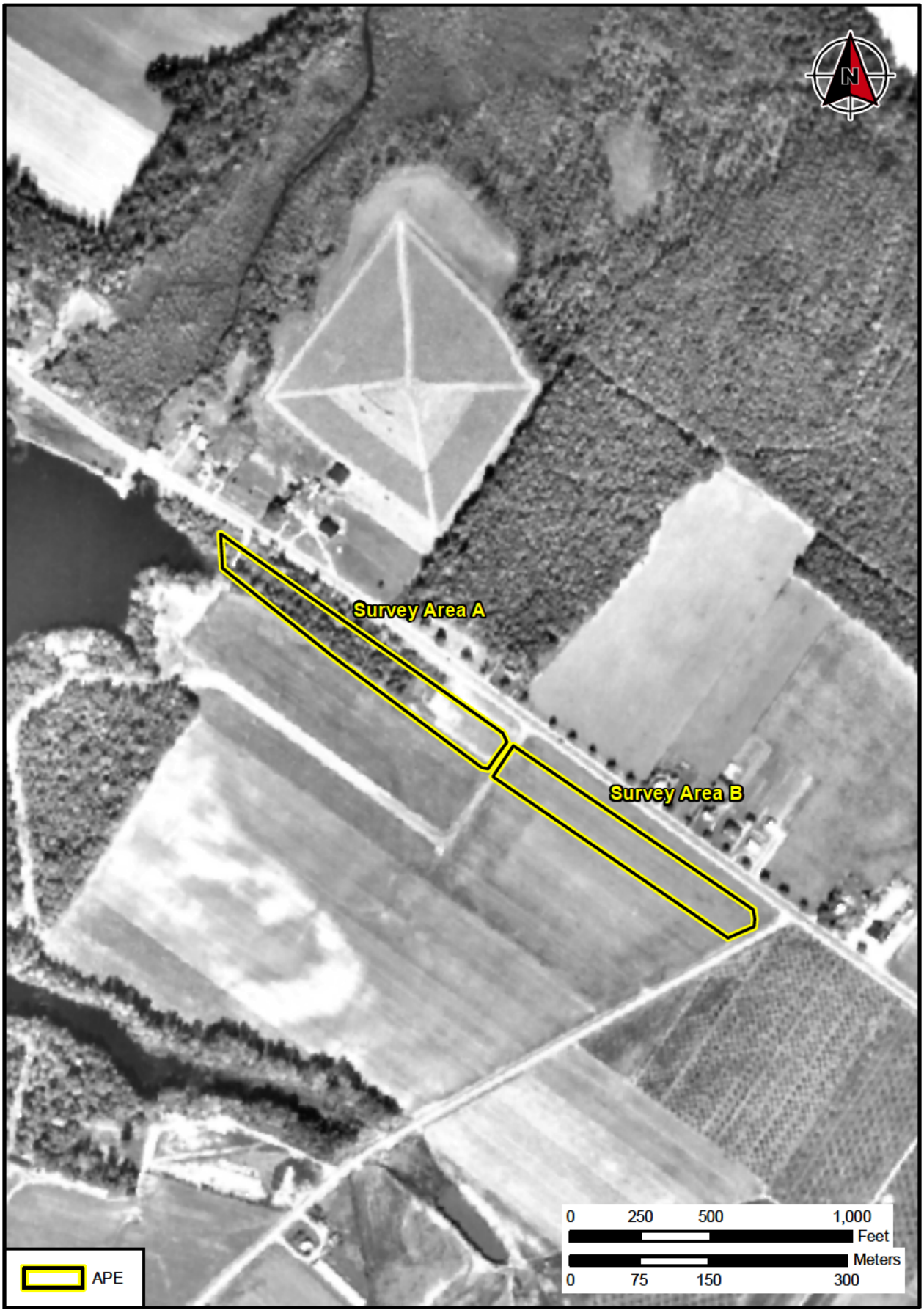



FIGURE 13a: Aerial View of the APE in 1961 (DEMAC 1961)

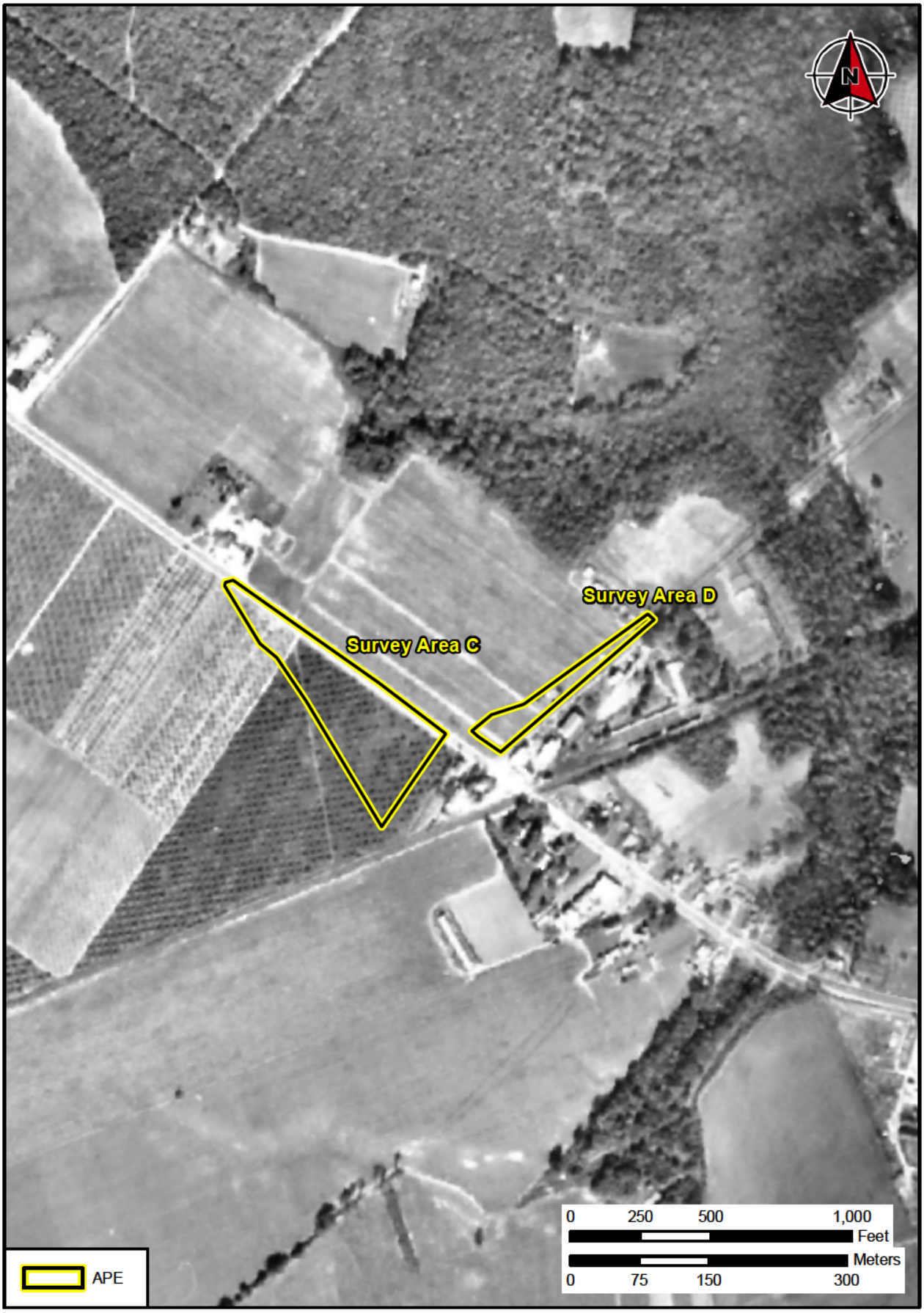



FIGURE 13b: Aerial View of the APE in 1961 (DEMAC 1961)

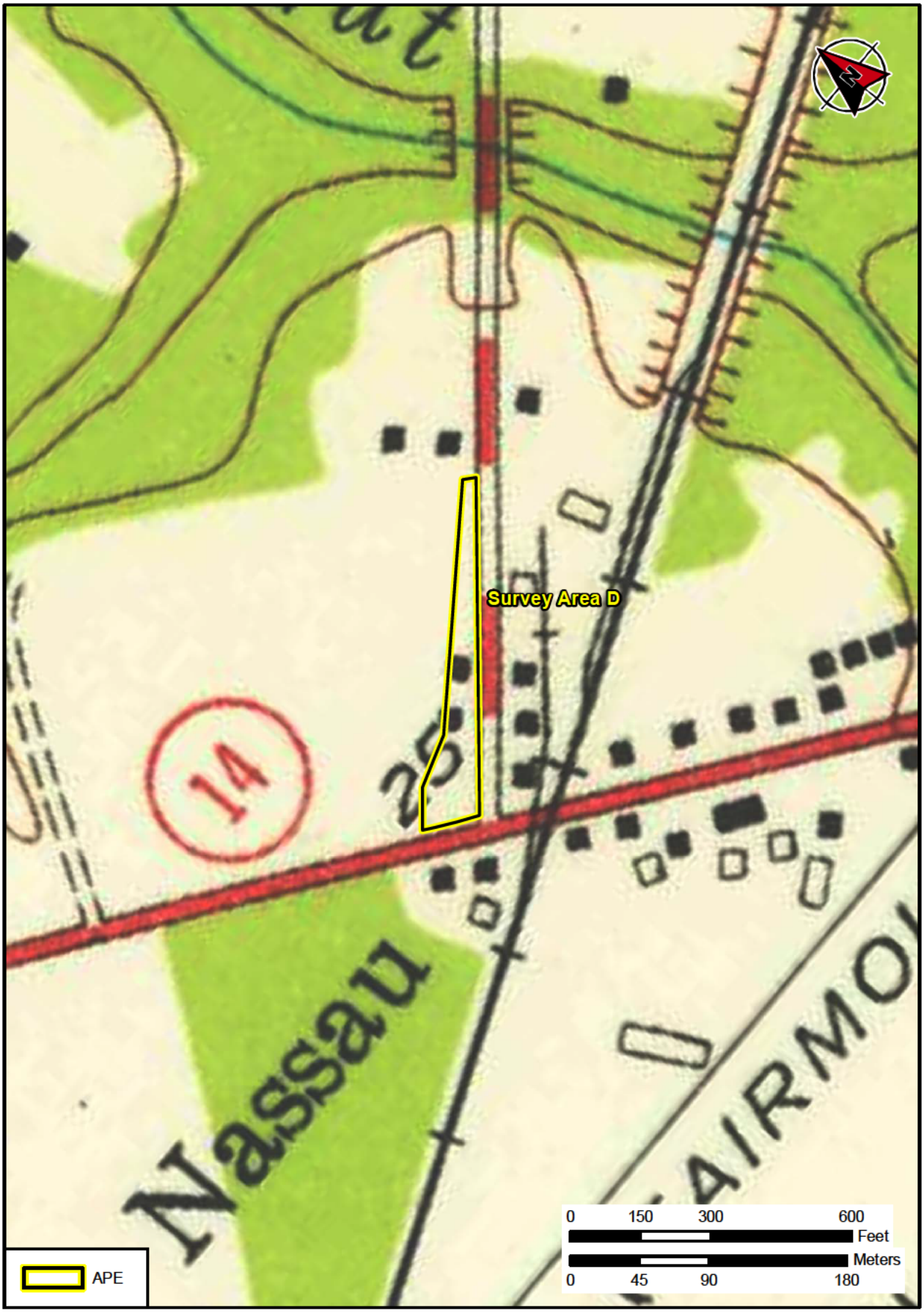



FIGURE 14: Map of Survey Area D in 1954 (USGS Lewes 1954)

1991). That regional study attempted to capture baseline information on sites in the area, particularly precontact sites. Another study was a survey conducted in advance of sanitary sewer improvements (Kellogg et al. 1999). This was followed by two studies conducted for DelDOT as part of planning for the Western Parkway, a four-lane north-south roadway corridor considered in 2006-2008. One of the Western Parkway studies was an archaeological predictive model (Gundy et al. 2006), and the other was a Phase I/II architectural survey (Kuncio et al. 2008). Most recently, a Phase I/II architectural survey was conducted of the JBRR Corridor between Georgetown and Lewes (Troppauer and Alpert 2018).

It is worth noting that the Lewes-Rehoboth area has long history of archaeological research, and was intensively studied by avocational archaeologists in the 1940s and 1950s. The first published references to the archaeology of the area appeared in 1865 and 1866, when Dr. L. Leidy presented on precontact-era shell heaps near Lewes and Cape Henlopen at the Academy of Natural Sciences in Philadelphia (Leidy 1865, 1866). He discussed finding the shell heaps (surface middens) extending form the southeastern side of Lewes for a about a mile to a huge sand dune near the Cape Henlopen lighthouse. Shell-tempered pottery was noted as well as a Native American clay pipe, jasper flakes, and stone arrowheads. The thickness of the shell deposits was investigated and found to be generally thin (less than 1 foot).

In 1948 a group of people interested in the archaeology of the area formed the Sussex Society of Archaeology and History (SSAH). The organization conducted excavations of sites and published a periodic manuscript called *The Archeolog*. The Townsend Site (7S-G-2) was a Native American village site that had been "discovered" a short time prior, and SSAH members were interested and engaged in excavating the site during the period from 1948 to ca. 1960. In 1963 SSAH members published a book on the site (Omwake and Stewart 1963). The Townsend Site is located about 2.5 miles south of Lewes, and has been classified as a Slaughter Creek Complex (Woodland II) macro-band base camp or village (Custer 1989:321). SSAH members also identified and excavated a number of precontact sites north of the APE in an area called Hells Neck. The sites included the Ritter No. 1 Site (7S-D-2), Ritter No. 2 Site (7S-D-3), Derrickson Site (7S-D-6), Miller-Toms Site (7S-D-4), and Russell Site (7S-D-7) (Karl and Ingram 1951; Marine 1957; Omwake 1951, 1952, 1954a, 1954b, 1954c, 1958; U.S. National Museum 1954) (Figure 15). These sites have also been classified as Slaughter Creek Complex (Woodland II) micro-band base camps (Custer 1989:325). SSAH also excavated an important village site named Mispillion (Site 7S-A-l) (Custer 1989:321).

A considerable number of fairly spectacular archaeological sites have been identified in Sussex County in recent decades. These include a complex of precontact sites at Wolfe Neck (Hoffman and Heite 1995; Hoffman et al. 1995), and a site known as Bay Vista (Site 7S-G-26) (Kellogg 1996). Near Rehoboth, the Avery's Rest Site, a highly significant site dating to the Colonial period, was investigated in recent years by Dan Griffith and the Archaeological Society of Delaware (Lauria 2017).

## *2. Previously Recorded Cultural Resources in Project Area Vicinity*

CHRIS has records of eight archaeological sites within 0.6 mile (1.0 kilometer) of the project area (Table 2). The site data show precontact-era activity principally along Old Mill Creek (formerly Cool Spring Branch), but also some activity along Black Hog Gut. No sites have been identified in the project area.

Architectural resources recorded in CHRIS were also reviewed. Numerous structures have been recorded in the area, although historical background on these resources is scant. As part of the Western Parkway planning project, Gerald Kuncio prepared documentation of the Nassau railroad depot and the Nassau Orchard, both of which are close to Survey Area D (Kuncio 2008a, 2008b).

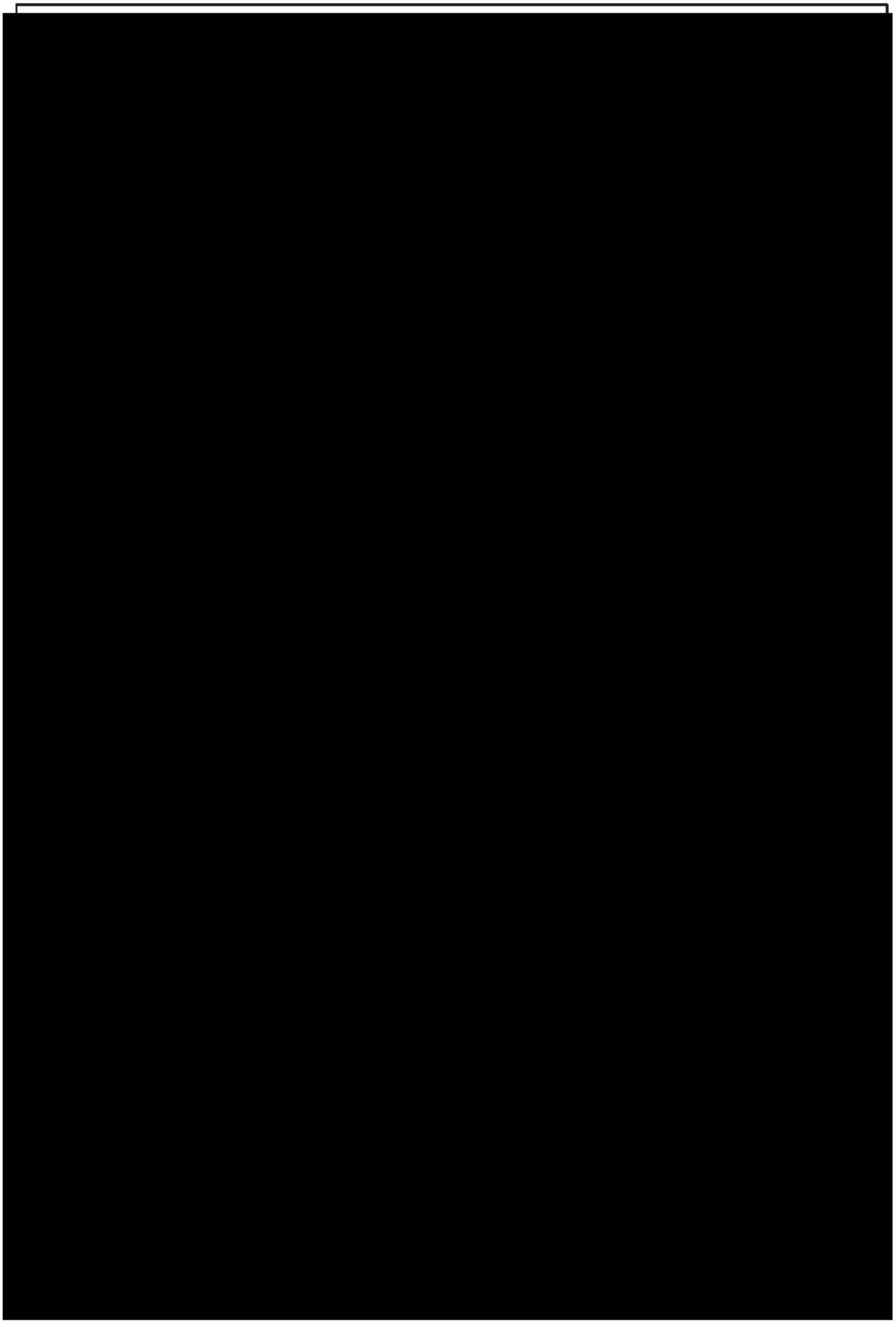


FIGURE 15: Major Prehistoric Sites in Lewes Vicinity (Omwake 1958)

TABLE 2: KNOWN ARCHAEOLOGICAL SITES
WITHIN 0.6 MILE (1 KILOMETER) OF THE PROJECT AREA

| SITE No. | LOCATION | NAME | PERIOD(S) | NOTES |
|---|---|---|---|---|
| 7S-D-015 | Near Red Mill Pond | Red Mill North Site | Precontact | 2 axes, pitted stones |
| 7S-D-019 | Near Red Mill Pond | Red Mill South Site | Precontact | Unknown details |
| 7S-D-025 | Near Old Mill Creek | . | Precontact | Private collection Unknown details |
| 7S-D-028 | Near Red Mill Pond | Taylor Site | Precontact and Historic | Projectile point and knives collected |
| 7S-D-072 | New Road north of Nassau | Five Points North Pump Station 4B Site | Historic, 2 isolated precontact artifacts | House site, 19th century |
| 7S-D-085 | Near Red Mill Pond | Paynter Cemetery | Historic | Destroyed. 12 graves found by trenching |
| 7S-D-086 | East of Nassau | Paynter Family Cemetery Site | Precontact | Precontact site in middle of historic cemetery; four pit features |
| 7S-G-138 | Belltown | Belltown Historic District | Historic | - |

# *III. Research Design*

## A. Research Objectives

The purpose of the Phase I investigation was to determine the presence or absence or archaeological resources in the APE and to provide a context for assessing the importance or significance of any archaeological remains that are present.

## B. Documentary Research Methods

Information on the precontact background was derived from standard references (Custer 1984, 1989, 1996) and previous reports on nearby archaeological projects, including a regional survey by Custer and Mellin (1991) and a local survey conducted by Doug Kellog and John Milner Associates (Kellogg et al. 1999).

Information on the post-contact history of the project area was derived from secondary sources, a review of historical maps and aerial photographs, and a review of site files held by the DHCA. Reports archived with DelDOT were also reviewed, as well Louis Berger's in-house report library and the Archaeology Society of Delaware's Digital Library. Of particular importance were a county context by Lu Ann De Cunzo and Anne Marie Garcia (1993), and a National Register of Historic Places (NRHP) inventory for nearby Little Creek and Broad Creek Hundreds (Quinn and Herman 1986).

## C. Archaeological Field Methods and Techniques

Louis Berger conducted the Phase I survey primarily through the systematic excavation of shovel tests. Shovel tests were excavated initially on a 15-meter grid within each survey area. Close-interval shovel tests (radials) were excavated to assist in site delineation, with initial radials excavated 7.5 meters from positive finds in four directions on the testing grid. Additional radials were subsequently excavated 1.0 meter from the positive finds. Modern material and twentieth-century cultural material was not subjected to close-interval testing, and radial testing did not expand more than 10 meters beyond the limits of the APE or onto neighboring property. Each shovel test measured approximately 38 centimeters in diameter and extended a minimum of 10 centimeters into subsoil. Excavations proceeded stratigraphically and were recorded on standardized forms that included stratigraphic information as well as information on artifact recovery. The uppermost soil stratum was designated Stratum A, and underlying strata were assigned consecutive alphabetic designations (Strata B, C, etc.). Artifacts post-dating 1950 were typically noted and discarded in the field. All shovel tests were backfilled upon completion.

Shovel tests were recorded on standardized field forms, which include a schematic soil profile with information on soil texture, Munsell color notation, and inclusions. Shovel test locations were recorded on field maps and with a survey-grade Global Positioning System (GPS) device (Trimble GeoXT). Digital photographs were taken to document the field investigation.

The survey areas were also subjected to an informal pedestrian survey. Soil exposures such as animal burrows and tipped trees were non-systematically examined for the presence of artifacts. Survey Area D was the only survey area with good exposure of the ground surface, as this area was largely a fallow farm field. In a non-systematic fashion artifacts were observed on the ground surface of Area D, and non-modern cultural material was collected. GPS positions were captured of each surface find and numbered sequentially. The pedestrian survey also yielded evidence of recent disturbance and looked for traces of structural remains.

Artifacts were bagged in 4-mil resealable polyethylene bags and organized sequentially by provenience.

## D. Laboratory Methods

The artifacts were taken to Louis Berger's archaeological laboratory for cleaning, processing, and cataloging. Artifact cataloging and tabulations were accomplished using Louis Berger's computerized database system. This flexible analytical database system fully integrates all artifacts in one database for use in data manipulation and interpretation. The computerized data management system is written using Microsoft Access, a relational database development package that runs on a Windows® platform. The system allows the integration of field provenience information, historic artifact catalogs, and precontact artifact catalogs. The database also allows recordation of more than a dozen attributes for each artifact. Some of the attributes, such as date ranges, are automatically generated by the database system; this is especially useful for commonly encountered artifact types. Data processing speed and storage are enhanced by the use of alphabetic and numeric codes for the various attributes, but more lengthy translations are generated for printing inventory sheets. Historic artifacts were cataloged according to standard typologies, using the class, type, and variety approach (for example, class = glass, type = bottle, variety = case). The analytical approach to stone tool production and use that was used in this analysis can be described as technomorphological; that is, artifacts were grouped into general classes and then further divided into specific types based upon key morphological attributes, which are linked to or indicative of particular stone tool production (reduction) strategies. Additional details on laboratory analytical methods are presented in Appendix C.

The artifacts recovered are the property of the State of Delaware. Louis Berger is providing temporary storage of the artifacts and associated field records and is preparing to transmit them to the Delaware State Museum at the completion of the project.

## E. Expected Results

Louis Berger expected that one or possibly two sites might be present in the APE. Based on background research, Louis Berger anticipated the APE to have moderate potential for precontact archaeological sites and a relatively low potential for historic sites. Precontact site potential was thought to be highest in the western portion of Survey Area A and the northern portion of Survey Area D, as these areas are close to waterways. The potential for historic-period archaeological sites was thought to be generally low, based on reviewed historical maps.

# *IV. Survey Results*

Figure 16 provides an archaeological base map of the Phase I testing. Appendix B contains the log of shovel tests, and Appendix C provides the artifact inventory. As detailed below, archaeological sites were identified in Survey Areas B and D, and no sites were identified in Survey Areas A and C.

## A. Survey Area A

Survey Area A consisted of the area along SR 1 west of Devon Road (see Figures 16a-b). This area included an open field, dense woodlots, and a drainage ditch parallel to SR 1 that expanded at the tract's western end, by Red Mill Pond. Shovel tests were limited in this western portion of the survey area, to avoid the drainage ditch and wetland/marsh. A total of 40 shovel tests were excavated in Survey Area A (A-1 to A-40).

Soil stratigraphy typically consisted of a plowzone above subsoil, although in some shovel tests an eluvial horizon was present (E horizon). The plowzone (Stratum A) consisted of a dark brown (10YR 3/3), very dark grayish brown (10YR 3/2) or dark yellowish brown (10YR 4/4) silt loam, which ranged between 11 and 30 centimeters (0.36 and 0.98 foot) in depth. In certain shovel tests this was underlain by Stratum B, a dark yellowish brown (10YR 4/6) or olive yellow (2.5Y 6/6) silty clay or silty clay loam (an E horizon). The typical terminal stratum was a strong brown (7.5 RY 4/6) silty clay or silty clay loam (subsoil). Shovel tests in Survey Area A ranged between 34 and 100 centimeters (1.11 and 3.28 feet) in total depth.

No sites were identified in Survey Area A, but some isolated finds were recovered. These consisted of a red brick fragment from Shovel Test A-1 and two fragments of a broken wire nail from Shovel Test A-13. Material discarded in the field included modern metal and faunal material (bone). All cultural material was recovered from Stratum A, with the exception of Shovel Test A-11, which displayed disturbed soils. No precontact cultural material was recovered.

## B. Survey Area B and Site 7S-D-099

Survey Area B consisted of the area along SR 1 east of Devon Road and west of Minos Conway Road (see Figures 16b-c). This area was an open field with manicured grass. A drainage ditch and utility corridor lay adjacent to SR 1, which was not tested. A total of 61 shovel tests were excavated in this survey area (B-1 to B-39 and radials).

The stratigraphy encountered was the same as that in Survey Area A, with a plowzone above an E horizon (variably preserved), followed by subsoil. Shovel tests ranged between 40 and 80 centimeters in depth. Representative shovel test profiles from the area are shown in Figure 17.

One Colonial-period[2] site was identified in the survey area, designated the Cool Spring Site (7S-D-099; CRS No. S13128). The site has very low artifact density; it was identified by the recovery of nine artifacts from four shovel tests: one creamware fragment (1762-1820), three pearlware fragments (1775-1840), four redware fragments (uncertain date range), and one piece of clam shell. The two fragments of pearlware recovered from Shovel Test B-34 + 1m East mend into one piece. The artifacts were fairly equally divided between plowzone (n=4) and E horizon (n=5) contexts. The assemblage is too small for secure dating, but it suggests a domestic occupation circa 1800. No nails or architectural items were recovered from the testing, which is somewhat unusual. No features were identified. Figure 18 shows selected artifacts

[2] 1770-1830 (early industrialization) period according to DCHA chronological framework and the 1989 state plan (Ames et al. 1989).

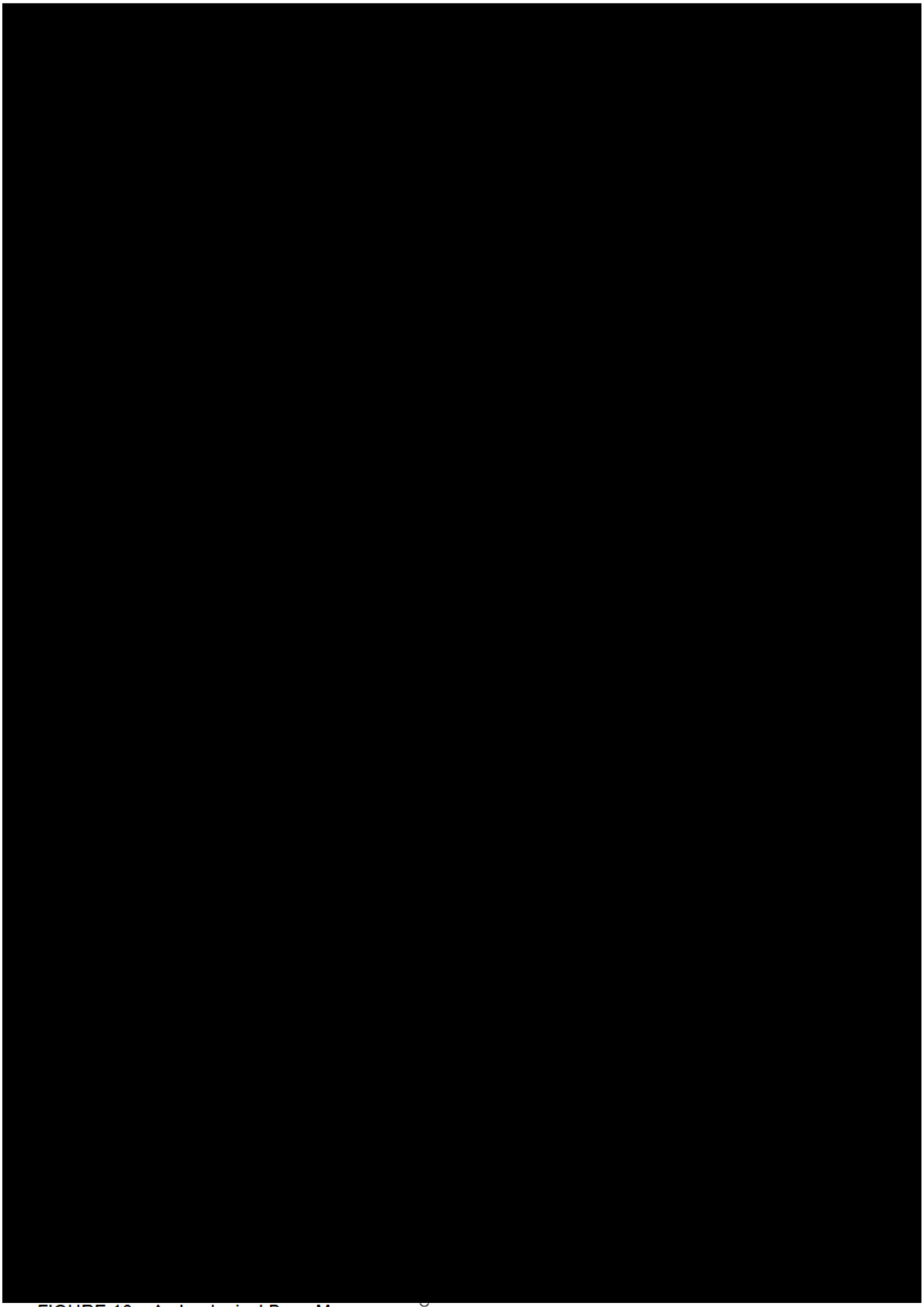


FIGURE 16a: Archaelogical Base Map

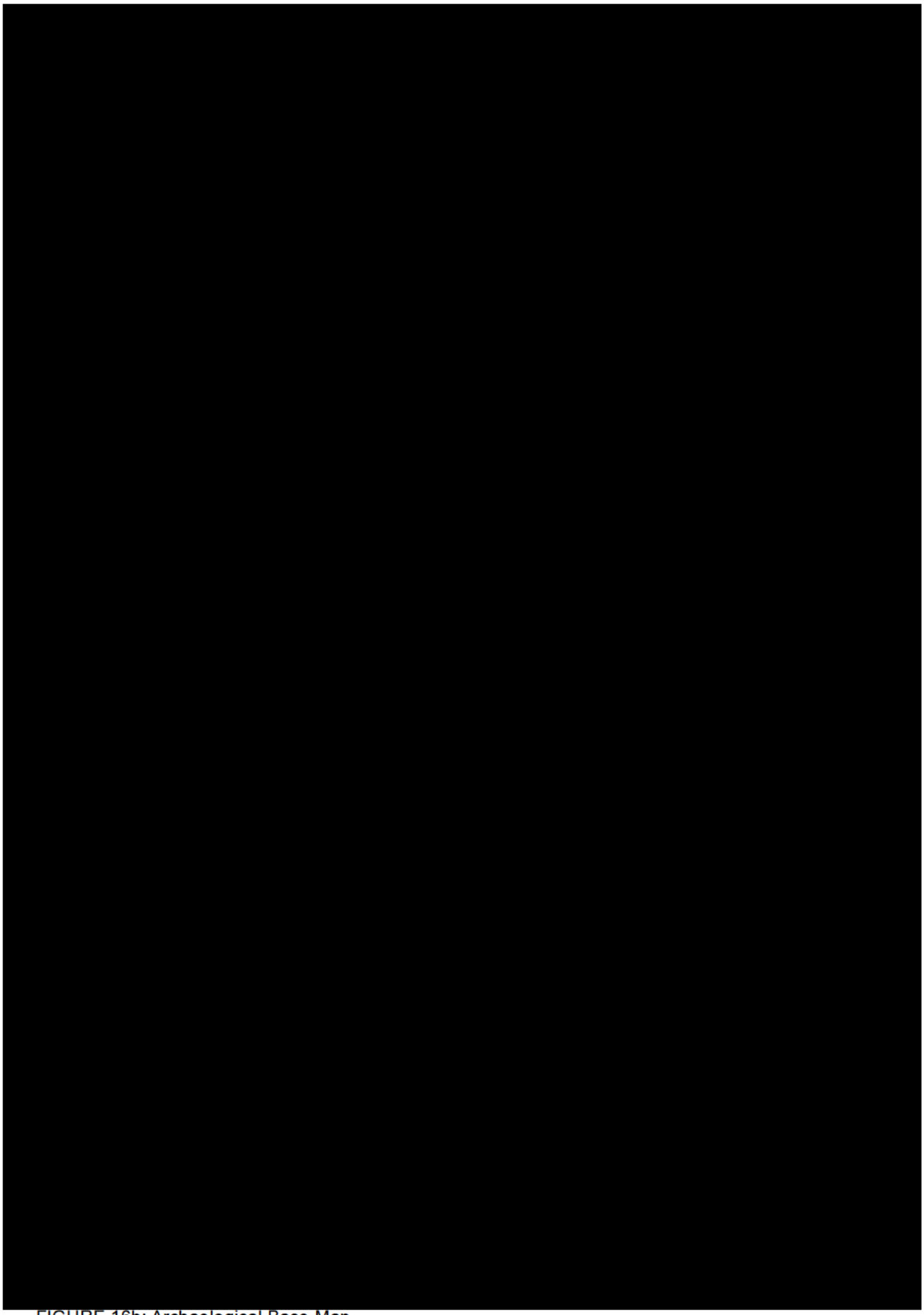


FIGURE 16b: Archaelogical Base Map

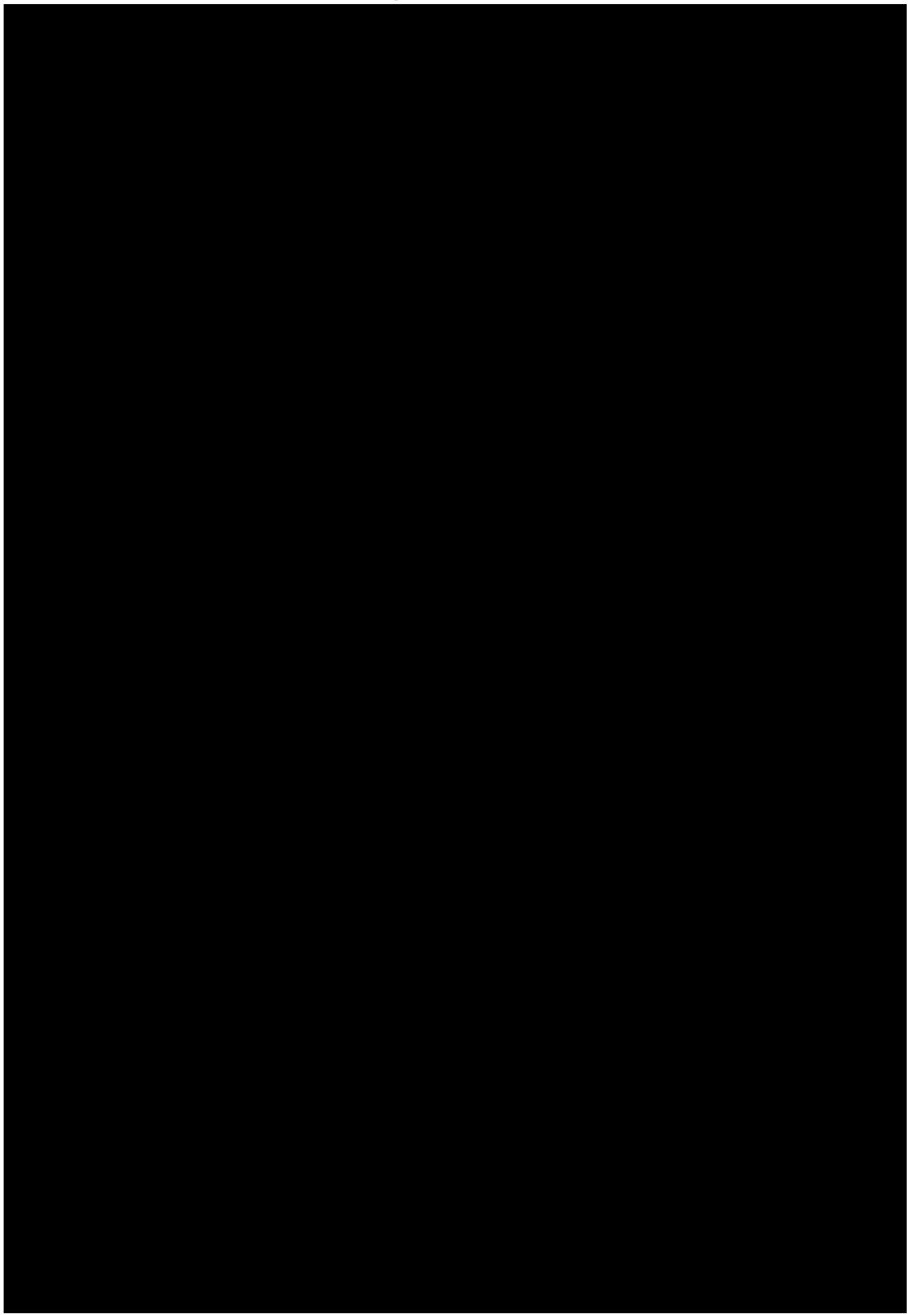


FIGURE 16c: Archaelogical Base Map

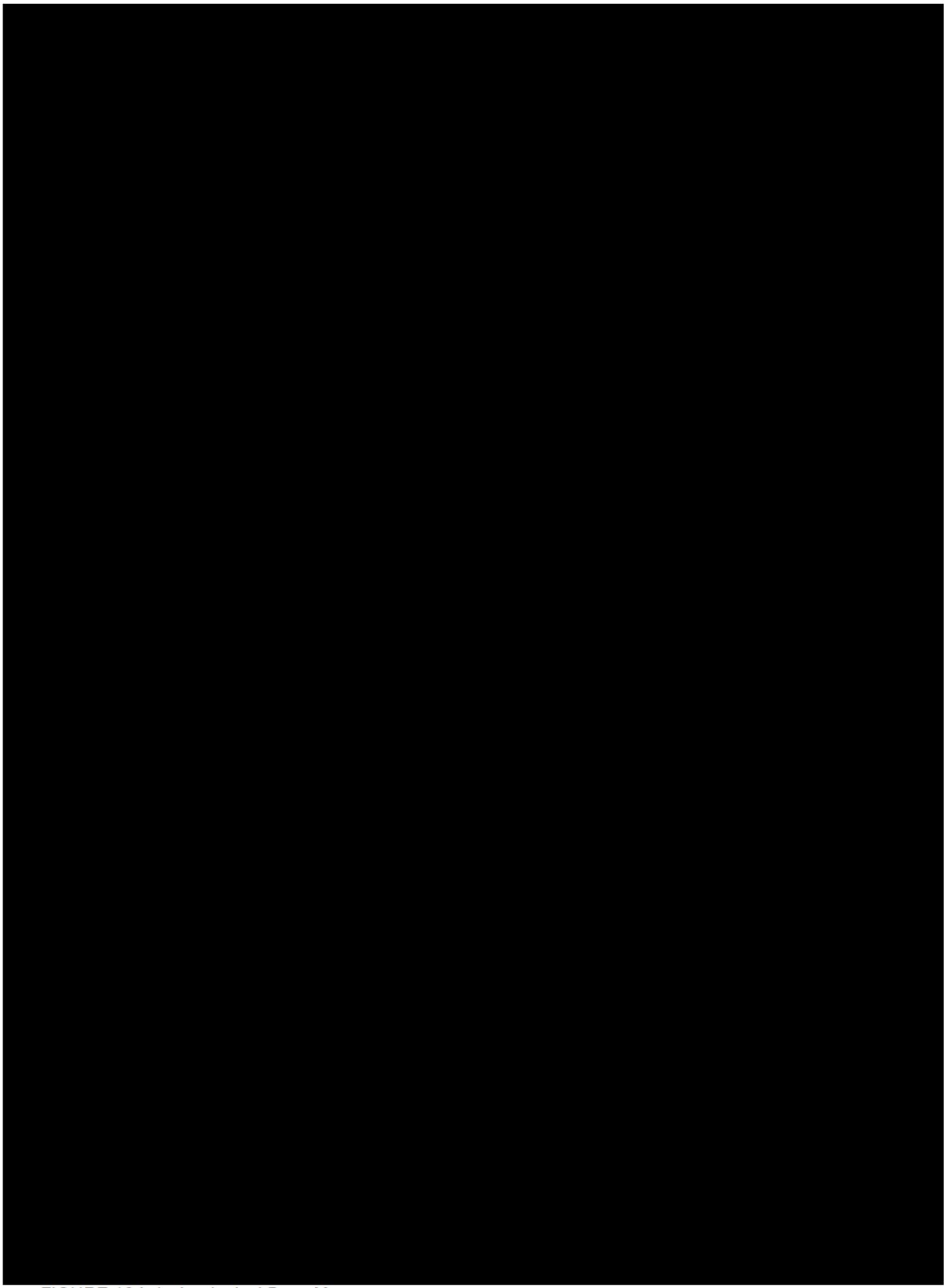


FIGURE 16d: Archaelogical Base Map

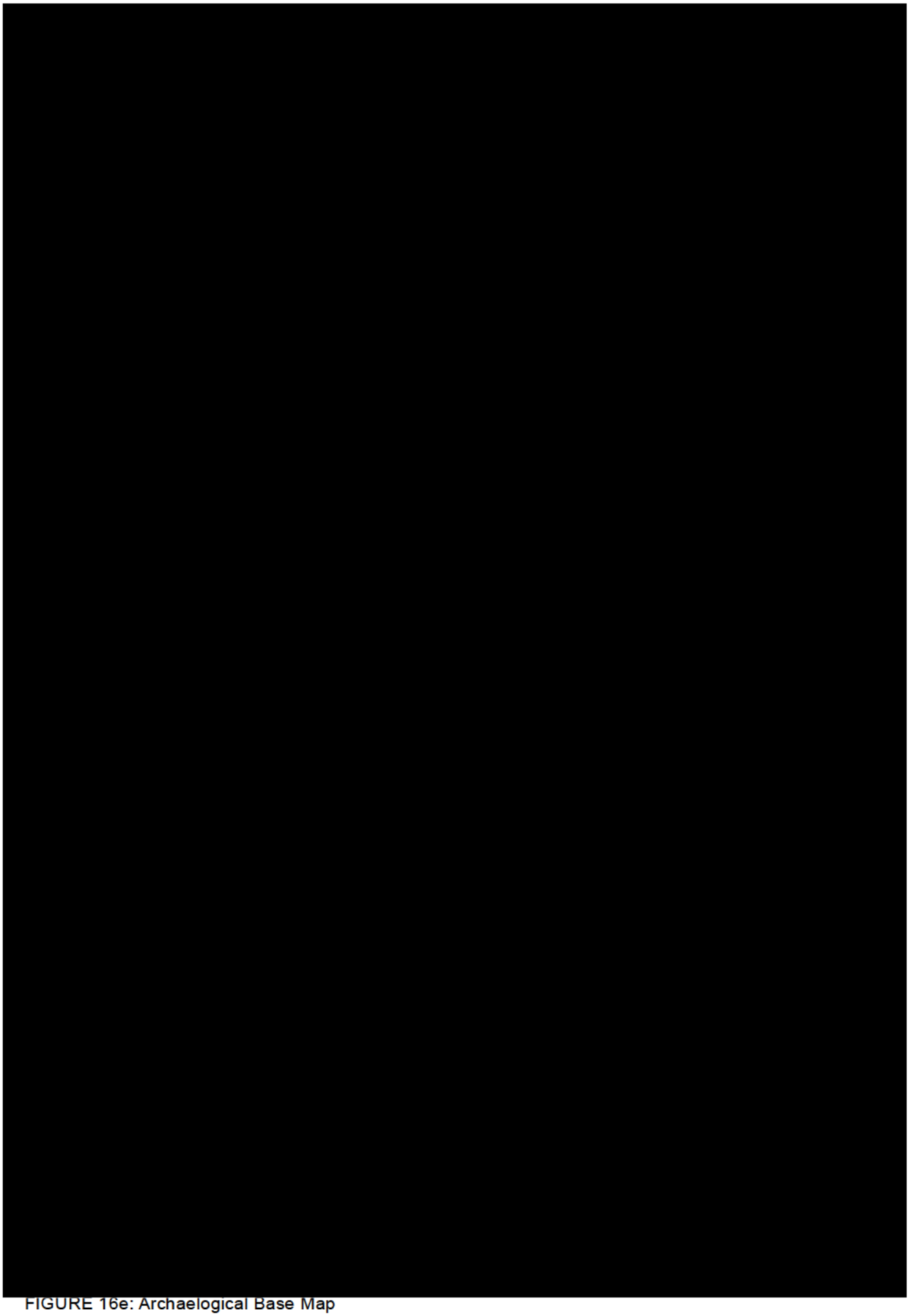


FIGURE 16e: Archaelogical Base Map

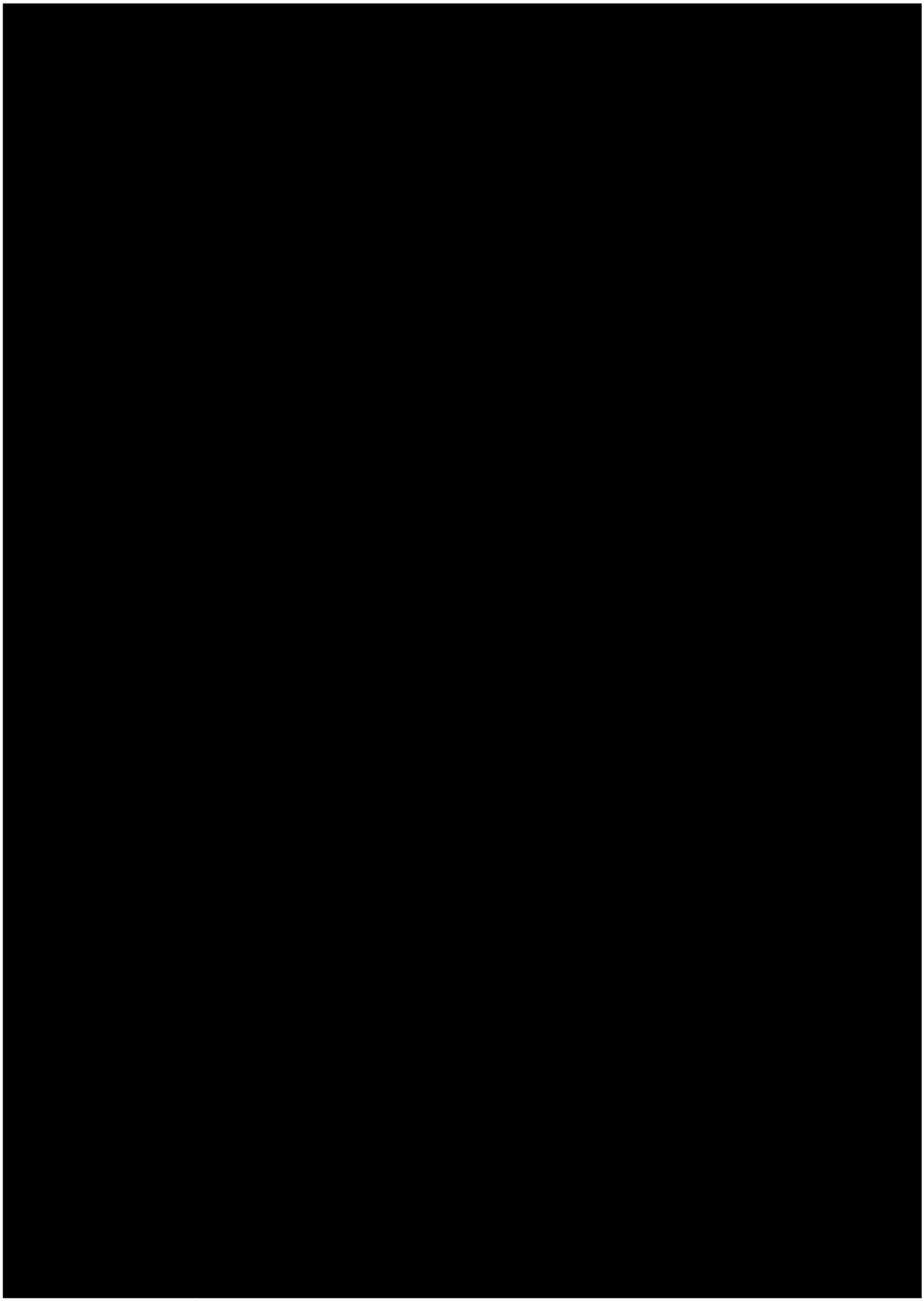
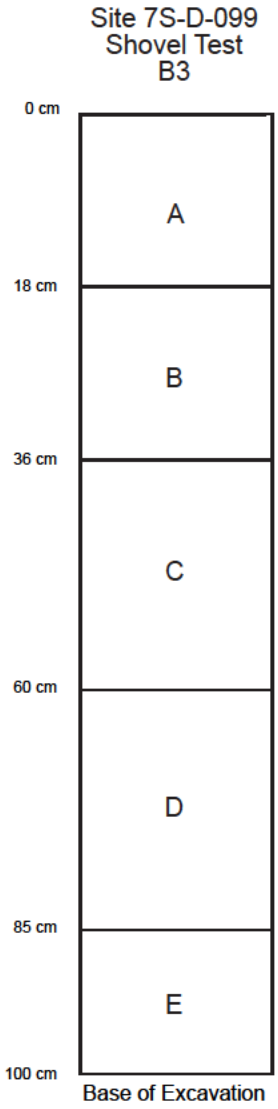
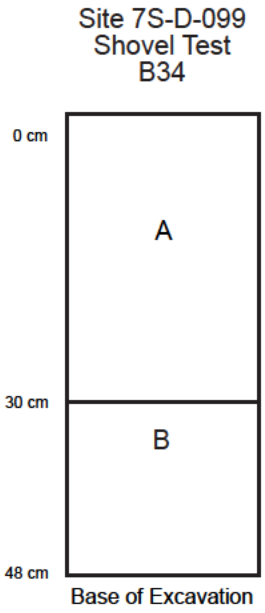


FIGURE 16f: Archaeological Base Map




Legend

A Plowzone. Dark yellowish brown (10YR 4/4) silty clay with <5% gravel; FN 204

B Strong brown (7.5YR 4/6) silty clay with <5% gravel

Legend

A Dark brown (10YR 3/3) silt loam

B Plowzone. Dark yellowish brown (10YR 4/4) sandy loam

C E Horizon. Yellowish brown (10YR 5/4) sand; FN 202

D Light yellowish brown (10YR 6/4) coarse sand

E Brown (7.5YR 4/4) sand

FIGURE 17: Representative Shovel Test Profiles from Survey Area B


FIGURE 18: Artifacts from Site 7S-D-099. Left to right: Creamware body sherd (FN 204.1); Pearlware body sherd (FN 203.1); Pearlware body sherds, mended (FN 205.1)

from the site. The recovered redware fragments are very small and eroded; they are not included in the photograph.

One isolated find was recovered from the survey area, an oyster shell fragment from Shovel Test B-1.

## C. Survey Area C

Survey Area C was located between the overpass for SR 1 and Nassau Road, and consists of a roughly triangular area of open grass field with sparse trees adjacent to the berm for SR 1 (see Figures 16d-e). A total of 80 shovel tests were excavated in this survey area (C-1 to C-80).

Similar to Survey Areas A and B, stratigraphy consisted of a plowzone, above an E horizon (variably preserved), followed by subsoil. The plowzone (Stratum A) was a dark yellowish brown (10YR 4/4) or dark brown (10YR 3/3) sandy loam and ranged between 13 and 33 centimeters in depth. The E horizon was a brown (7.5 4/4) sandy loam or silty clay loam, and subsoil was a strong brown (7.5YR 4/6) or yellowish red (5YR 4/6) sandy loam or sand. Shovel tests ranged from 39 to 108 centimeters in depth. Strata in shovel tests in the northwestern corner of the parcel displayed signs of disturbance, possibly a result of the construction of the SR 1 overpass or removal of the railroad spur.

A single redware sherd was recovered from Survey Area C, from Shovel Test C-61. Material discarded in the field included modern bottle glass, plastic, brick fragments, asphalt, coal, and charcoal. No precontact material was recovered from the testing, and no sites were identified.

According to a nearby landowner, portions of the tract were scraped and graded during the construction of the SR 1 overpass in the 1960s. Field observations are consistent with the parcel's being variably graded with both cutting and filling.

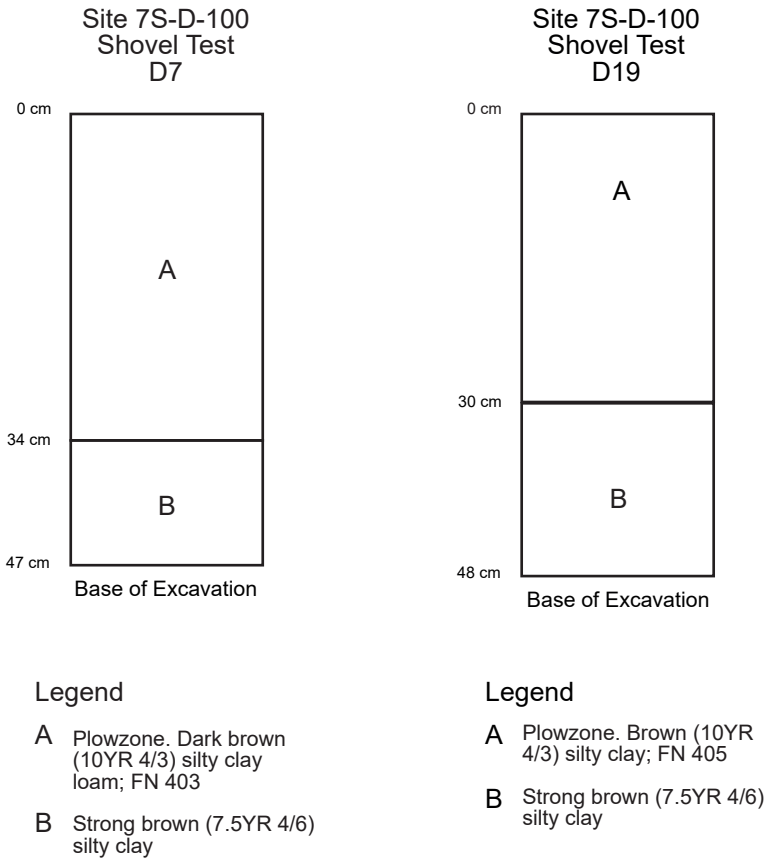
## D. Survey Area D and Site 7S-D-100

Survey Area D consisted of a somewhat linear area adjacent to the western shoulder of New Road from the intersection with Nassau Road to approximately 200 meters northeast (see Figure 16f). A total of 38 shovel tests were excavated in this section, including the initial 20 shovel tests (D-1 to D-20), and close-interval radials (7.5-meter and 1-meter). Several underground utility lines run parallel to New Road, between Survey Area D and the roadway, and this utility corridor was not tested.

The survey area is an active plowed farm field, and no E horizon was preserved. The plowzone (Stratum A) consisted of a dark brown (10YR 4/3) or dark yellowish brown (10YR 4/4) silt loam or silty clay loam, which ranged between 14 and 44 centimeters in depth. This was followed by Stratum B, brown (10YR 5/3) to dark yellowish brown (10TR 4/6) silty clay loam or sandy loam, and subsoil, a strong brown (7.5YR 4/6) sandy clay loam to silty clay. Shovel tests ranged between 38 and 59 centimeters in total depth. Representative shovel test profiles from the area are shown in Figure 19.

One site dating to the mid-twentieth century was identified in the survey area. The site was designated Locus D1 (Site 7S-D-100; CRS No. S13129). Sixteen positive shovel tests were excavated within the site, including Shovel Tests D-6, D-7, D-8, and D-19, and a number of radial shovel tests around D-6, D-7, and D-19. Some portions of the site area had minimal ground cover, and 12 surface finds were also collected and point-provenienced.

A total of 64 artifacts were recovered from the site (Figure 20; Table 3).




Legend

A Plowzone. Dark brown (10YR 4/3) silty clay loam; FN 403

B Strong brown (7.5YR 4/6) silty clay

Legend

A Plowzone. Brown (10YR 4/3) silty clay; FN 405

B Strong brown (7.5YR 4/6) silty clay

FIGURE 19: Representative Shovel Test Profiles from Survey Area D


FIGURE 20: Artifacts from Site 7S-D-100. Left to right: Milkglass jar seal fragment (FN 413.3); Vick's Vaporub body to base fragment (FN 408.1); Wire nail (FN 408.7); Transfer-printed whiteware body to rim fragment, teaware (FN 412.1)

TABLE 3: ARTIFACTS FROM LOCUS D1, 7S-D-100

| ARTIFACT TYPE/SUBTYPE | COUNT |
|---|---|
| Faunal | |
| Clam | 1 |
| Oyster | 1 |
| Glass | |
| Bottle | 1 |
| Jar lid | 8 |
| Pharmaceutical bottle, Vicks Vaporub (1905-present) | 2 |
| Soda bottle | 2 |
| Unidentified bottle/jar | 12 |
| Unidentified curved/vessel | 12 |
| Historic Ceramic | |
| Hard-paste porcelain | 1 |
| Stoneware, gray salt-glazed with Bristol-type slip (1835-present) | 1 |
| Whiteware (1820-present) | 10 |
| Whiteware, blue transfer-printed (1820-1915) | 1 |
| Small Find/Architectural | |
| Brick | 2 |
| Nail, wire (1880-present) | 2 |
| Nail, unidentified | 2 |
| Plastic, green PVC, unidentified form (1952-present) | 1 |
| Coal | 1 |
| Cinder/Slag/Coal | 2 |
| Unidentified material, poss. Tile | 2 |
| Total | 64 |

Recovered artifacts are consistent with a field scatter from the late nineteenth century overlaid by a mid-twentieth century domestic site. The site assemblage includes a number of whiteware sherds (1820-present) and bottle glass fragments. One piece of transfer-printed whiteware likely dates to the early twentieth century; this is anomalous as most of the recovered artifacts likely date to the mid-twentieth century, most notably a fragment of PVC plastic. Recovered artifacts also include a small architectural assemblage with two brick fragments, two wire nails, and coal fragments. The recovered jar lid fragments are milk glass. The historic cultural material was recovered exclusively from a plowzone context, and the majority of the material was found adjacent to the utility lines running parallel to New Road. No features or structural remains were identified at the site, either in the subsurface testing or on the surface.

The entire survey area, including Site 7S-D-100, was littered with modern roadside debris, principally bottles, cans, and plastic packaging. Modern debris was not collected. Material from shovel tests discarded in the field included modern glass, automotive safety glass, a soda can, and plastic (including a plastic cigar tip).

# *V. Conclusions and Recommendations*

On behalf of DelDOT, Louis Berger, a WSP company, completed a Phase I Archaeological Survey for the Minos Conaway Grade Separated Intersection project near Lewes in Sussex County, Delaware. The work was conducted for further compliance with Section 106 of the NHPA of 1966, as amended (36 CFR Part 800). The purpose of the Phase I investigation was to determine the presence or absence of archaeological resources in the APE and to provide a context for assessing the importance or significance of any archaeological remains that are present. DelDOT defined the APE as four non-contiguous areas along SR 1 extending from Red Mill Pond in the northwest to the intersection with Nassau Road (SR 266B) in the southeast, covering a total area of approximately 5.1 hectares (12.5 acres). The archaeological survey identified two sites within the APE: the Cool Spring Site (7S-D-099; CRS No. S13128) and Locus D1 (7S-D-100; CRS No. S13129). Further work is recommended at the Cool Spring Site.

The Cool Spring Site is a small scatter of historic ceramics dating to about 1800 that may represent a modest homestead. Shovel testing recovered nine artifacts from four shovel tests. The small assemblage includes three different ceramic wares (creamware, pearlware, and redware), and a clamshell fragment. No nails or architectural items and no glass or tobacco pipes were recovered from the testing. Although the absence of nails is somewhat unusual, the assemblage may attest to a humble post-in-ground house site. In the Chesapeake region a number of low-density Colonial-period sites have been identified (e.g., Gibb 2006), and it has often taken mechanical stripping and other intensive excavation techniques to locate postholes and reconstruct house sites.

Documentary evidence does not illuminate (or has not yet illuminated) the residents of the Cool Spring Site. Data suggest that the SR 1 alignment generally follows a Colonial-period road known as the Whorekill Road, and also suggest that there was a community known as Cool Spring in the area in the early 1800s, although this community may have been centered on the western side of the bridge over Cool Spring Branch (Old Mill Creek). The site was on a large tract that was owned by the Parker family in the nineteenth century, and the inhabitants of the Cool Spring Site may have been tenants, slaves, or perhaps workers at a nearby mill. Artifacts at the Cool Spring Site were fairly equally divided between plowzone (n=4) and E horizon (n=5) contexts. The integrity of deposits is therefore relatively good.

Given the site's age and the fact that there are not many examples of humble Colonial-period house sites in Sussex County, additional investigation of the site (a Phase II investigation) is recommended. It is recommended that the Phase II investigation include a metal detector survey followed by geophysical remote sensing. Should the remote sensing provide evidence of postholes or other architectural features, these possible features should be investigated with hand-excavated test units. The Phase II investigation should also include supplemental research on property ownership.

Locus D1 (Site 7S-D-100) dates to the mid-twentieth century and appears to be a domestic site. A minor component is a late nineteenth-century field scatter. Sixteen shovel tests within the site were positive, yielding 64 artifacts. The assemblage is principally whiteware (n=10), glass bottle or jar fragments (n=12), jar lid fragments (n=8), and unidentified curved glass (n=12). Only trace quantities of architectural material were recovered, including brick, wire nails, and coal. All artifacts came from a plowzone, and no structural remains were encountered. The 1954 USGS quadrangle map shows that two structures stood in the area, both of which were not present in 1944. Aerial imgery shows one structure resembling an outbuilding in the site area in 1954 and 1961, and no structures in 1968. The documentary evidence and archaeological evidence combine to suggest that this was a short-lived residence with an outbuilding in the mid-twentieth century. Given the recent age of the site and the site structure, Locus D1 has no appreciable research potential. Site integrity is relatively low, with all artifacts found in plowzone contexts. Locus D1 (Site 7S-D-100) is recommended as not eligible for listing in the NRHP.

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# *APPENDIX A: Qualifications of Researchers*

# *APPENDIX B: Shovel Test Log*

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| A1 | A | 18 | 0.59 | 10YR 3/2 Very dark grayish brown | Silty clay | | 101 | Brick (1) |
| | B | 40 | 1.31 | 10YR 4/3 Brown | Silty clay | | NCM | |
| | C | 56 | 1.84 | 10YR 5/6 Yellowish Brown | Coarse sand | <5% gravel | NCM | |
| A2 | A | 23 | 0.75 | 10YR 4/2 Dark grayish brown | Silty loam | 5% gravel | NCM | |
| | B | 53 | 1.74 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | NCM | |
| | C | 64 | 2.10 | 10YR 6/6 Brownish yellow | Silty loam | 2-5% gravel | NCM | |
| A3 | A | 11 | 0.36 | 10YR 3/2 Very dark grayish brown | Silty clay | | NCM | |
| | B | 39 | 1.28 | 10YR 4/3 Brown | Silty clay | | NCM | |
| | C | 61 | 2.00 | 10YR 5/6 Yellowish brown | Coarse sand | <5% gravel | NCM | |
| A4 | A | 19 | 0.62 | 10YR 4/2 Dark grayish brown | Silty loam | 5% gravel | NCM | |
| | B | 37 | 1.21 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | NCM | |
| | B | 59 | 1.94 | 10YR 6/6 Brownish yellow | Silty loam | 2-5% gravel | NCM | |
| A5 | A | 19 | 0.62 | 10YR 4/2 Dark grayish brown | Silty loam | 5% gravel | NCM | |
| | B | 37 | 1.21 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | NCM | |
| | C | 50 | 1.64 | 10YR 6/6 Brownish yellow | Silty loam | 2-5% gravel | NCM | |
| A6 | A | 24 | 0.79 | 10YR 4/4 Dark yellowish brown | Silty clay | | NCM | |
| | B | 41 | 1.34 | 10YR 4/3 Brown | Silty clay | | NCM | |
| | C | 57 | 1.87 | 7.5YR 4/6 Strong brown | Coarse sand | <5% gravel | NCM | |
| A7 | A | 19 | 0.62 | 10YR 3/4 Dark yellowish brown | Silty clay | | NCM | |
| | B | 35 | 1.14 | 7.5YR Strong brown | Sandy clay | | NCM | |
| A8 | A | 23 | 0.75 | 10YR 3/3 Dark brown | Silty loam | 10% roots | NCM | |
| | B | 40 | 1.31 | 2.5Y 6/6 Olive yellow | Sandy loam | 5-10% gravel | NCM | |
| | C | 53 | 1.74 | 2.5Y 8/6 Yellow | Sandy loam | 5-10% gravel | NCM | |
| A9 | A | 12 | 0.39 | 10YR 3/2 Very dark grayish brown | Silty loam | | NCM | |
| | B | 49 | 1.61 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | |
| | C | 59 | 1.94 | 7.5YR 5/8 Strong brown | Silty loam | | NCM | |
| A10 | A | 23 | 0.75 | 10YR 3/3 Dark brown | Silty loam | 10% roots | NCM | |
| | B | 42 | 1.38 | 2.5Y 6/6 Olive yellow | Sand | 10% gravel | NCM | |
| | C | 83 | 2.72 | 2.5Y 7/7 Pale yellow | Fine sand | 5-10% gravel | NCM | |
| | D | 100 | 3.28 | 2.5Y 8/4 Pale yellow | Fine sand | 5-10% gravel | NCM | |
| A11 | A | 17 | 0.56 | 10YR 3/2 Very dark grayish brown | Silty loam | | NCM | |
| | B | 40 | 1.31 | 10YR 4/2 Dark grayish brown mottled with 10YR 5/4 Yellowish brown | Silty loam | | | Modern metal and bone, discarded |
| A12 | A | 17 | 0.56 | 10YR 3/3 Dark brown | Silty Loam | 10% roots | NCM | |
| | B | 52 | 1.71 | 2.5Y 6/6 Olive yellow | Find sand | 5% gravel | NCM | |
| | C | 63 | 2.07 | 10YR 7/8 Yellow | Coarse sand | 5% gravel | NCM | |
| A13 | A | 12 | 0.39 | 10YR 3/2 Very darkish gray brown | Silty loam | | 102 | Nails (2) |
| | B | 30 | 0.98 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | Root impass |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| A14 | A | 16 | 0.52 | 10YR 3/2 Very dark brown | Silty loam | | NCM | |
| | B | 30 | 0.98 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | |
| | C | 50 | 1.64 | 7.5YR 5/8 Strong brown | Silty loam | | NCM | |
| A15 | A | 27 | 0.89 | 10YR 3/3 Dark brown | Silty Loam | 10% roots | NCM | |
| | B | 68 | 2.23 | 2.5Y 6/6 Olive yellow | Find sand | 5% gravel | NCM | |
| | C | 79 | 2.59 | 10YR 7/8 Yellow | Coarse sand | 5% gravel | NCM | |
| A16 | A | 23 | 0.75 | 10YR 3/2 Very dark brown | Silty loam | | NCM | |
| | B | 44 | 1.44 | 10YR 5/4 Yellowish brown | Sandy loam | | NCM | |
| | C | 55 | 1.8 | 7.5YR 5/8 Strong brown | Sandy loam | | NCM | |
| A17 | A | 18 | 0.59 | 10YR 3/2 Very dark brown | Silty loam | | NCM | |
| | B | 33 | 1.08 | 10YR 5/4 Yellowish brown | Sandy loam | | NCM | |
| | C | 51 | 1.67 | 7.5YR 5/8 Strong brown | Sandy loam | | NCM | |
| A18 | A | 22 | 0.72 | 10YR 3/3 Dark brown | Silty loam | 10% roots | NCM | |
| | B | 43 | 1.41 | 2.5Y 6/6 Olive yellow | Find sand | 5% gravel | NCM | Root Impass |
| A19 | A | 19 | 0.62 | 10YR 3/2 Very dark grayish brown | Silty loam | | NCM | |
| | B | 52 | 1.71 | 10YR 5/3 Pale brown | Silty loam | | NCM | |
| A20 | A | 17 | 0.56 | 10YR 3/3 Dark brown | Silty loam | 10% roots | NCM | |
| | B | 70 | 2.3 | 2.5Y 6/6 Olive yellow | Find sand | 5% gravel | NCM | |
| | C | 81 | 2.66 | 10YR 7/8 Yellow | Coarse sand | 5% gravel | NCM | |
| A21 | A | 19 | 0.62 | 10YR 3/2 Very dark grayish brown | Silty loam | | NCM | |
| | B | 34 | 1.12 | 10YR 5/3 Pale brown | Silty loam | | NCM | |
| A22 | A | 22 | 0.72 | 10YR 3/3 Dark brown | Silty loam | 10% roots | NCM | |
| | B | 43 | 1.41 | 2.5Y 6/6 Olive yellow | Find sand | 5% gravel | NCM | End of transect |
| A23 | A | 16 | 0.52 | 10YR 3/4 Dark yellowish brown | Silty loam | 5% gravel | NCM | |
| | B | 23 | 0.75 | 10YR 5/6 Yellowish brown | Silty loam | >5% gravel | NCM | |
| | C | 37 | 1.21 | 7.5YR 4/4 Strong brown | Silty loam | >5% gravel | NCM | |
| A24 | A | 16 | 0.52 | 10YR 4/3 Brown | Silty loam | 1-2% gravel | NCM | |
| | B | 24 | 0.79 | 2.5Y 6/6 Olive yellow | Silty loam | 1-2% gravel | NCM | |
| | C | 36 | 1.18 | 10YR 6/6 Brownish yellow | Silty clay loam | 1-2% gravel | NCM | |
| A25 | A | 26 | 0.85 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 39 | 1.28 | 7.5 YR 4/6 Strong brown | Silty clay | | NCM | |
| A26 | A | 27 | 0.86 | 10YR 4/4 Dark yellowish brown | Silty clay | | NCM | |
| | B | 50 | 1.64 | 7.5 YR 4/6 Strong brown | Sand | 60% gravel | NCM | |
| A27 | A | 17 | 0.56 | 10YR 4/3 Brown | Silty loam | 1-2% gravel | NCM | |
| | B | 29 | 0.95 | 2.5Y 6/6 Olive yellow | Silty loam | 1-2% gravel | NCM | |
| | C | 42 | 1.38 | 10YR 6/6 Brownish yellow | Silty clay loam | 1-2% gravel | NCM | |
| A28 | A | 28 | 0.92 | 10YR 4/4 Dark yellowish brown | Silty clay | | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| | B | 41 | 1.34 | 7.5 YR 4/6 Strong brown | Sand | | NCM | |
| A29 | A | 25 | 0.82 | 10YR 4/4 Dark yellowish brown | Silty clay | | NCM | |
| | B | 41 | 1.34 | 7.5 YR 4/6 Strong brown | Sand | | NCM | |
| A30 | A | 18 | 0.59 | 10YR 4/3 Brown | Silty loam | 1-2% gravel | NCM | |
| | B | 35 | 1.15 | 2.5Y 6/6 Olive yellow | Silty loam | 1-2% gravel | NCM | |
| | C | 44 | 1.44 | 10YR 6/6 Brownish yellow | Silty clay loam | 1-2% gravel | NCM | |
| A31 | A | 30 | 0.98 | 10YR 4/4 Dark yellowish brown | Silty clay | | NCM | |
| | B | 45 | 1.48 | 7.5 YR 4/6 Strong brown | Sand | | NCM | |
| A32 | A | 26 | 0.85 | 10YR 3/3 Dark brown | Silty loam | | | Brick and shell, discarded |
| | B | 37 | 1.21 | 10YR 5/6 Yellowish brown | Silty loam | | NCM | |
| | C | 63 | 2.07 | 7.5YR 4/6 Strong brown | Sand | | NCM | |
| A33 | A | 17 | 0.56 | 10YR 4/3 Brown | Silty loam | 1-2% gravel | NCM | |
| | B | 30 | 0.98 | 2.5Y 6/6 Olive yellow | Silty loam | 1-2% gravel | NCM | |
| | C | 42 | 1.38 | 10YR 6/6 Brownish yellow | Silty clay loam | 1-2% gravel | NCM | |
| A34 | A | 13 | 0.43 | 10YR 4/4 Dark yellowish brown | Silty loam | <5% gravel | NCM | |
| | B | 40 | 1.31 | 10YR 5/6 Yellowish brown | Sandy clay | <%5 gravel | NCM | |
| | C | 60 | 1.97 | 7.5YR 4/6 Strong brown | Silty clay | | NCM | |
| A35 | A | 24 | 0.79 | 10YR 4/3 Brown | Silty loam | 1-2% gravel | NCM | |
| | B | 36 | 1.18 | 2.5Y 6/6 Olive yellow | Silty loam | 1-2% gravel | NCM | |
| | C | 47 | 1.54 | 10YR 6/6 Brownish yellow | Silty clay loam | 1-2% gravel | NCM | |
| A36 | A | 22 | 0.72 | 10YR 4/3 Brown | Silty clay | <5% gravel | NCM | |
| | B | 31 | 1.02 | 10YR 5/3 Brown | Silty clay | <5% gravel | NCM | |
| | C | 46 | 1.51 | 7.5YR Strong brown | Silty clay | | NCM | |
| A37 | A | 21 | 0.69 | 10YR 3/3 Dark brown | Sandy loam | <5% gravel | NCM | |
| | B | 34 | 1.16 | 10YR 5/6 Yellowish brown | Silty clay (wet) | <5% gravel | NCM | |
| | C | 48 | 1.57 | 7.5YR 4/6 Strong brown | Silty clay (wet) | | NCM | |
| A38 | A | 13 | 0.43 | 10YR 4/3 Brown | Silty loam | 1-2% gravel | NCM | |
| | B | 34 | 1.12 | 2.5Y 6/6 Olive yellow | Silty loam | 1-2% gravel | NCM | |
| | C | 46 | 1.51 | 10YR 6/6 Brownish yellow | Silty clay loam | 1-2% gravel | NCM | |
| A39 | A | 30 | 0.98 | 10YR 3/3 Dark brown | Sand | <5% gravel | NCM | |
| | B | 50 | 1.64 | 7.5 YR Strong brown | Sand | <10 gravel | NCM | |
| A40 | A | 19 | 0.62 | 10YR 4/3 Brown | Silty loam | 1-2% gravel | NCM | |
| | B | 27 | 0.89 | 2.5Y 6/6 Olive yellow | Silty loam | 1-2% gravel | NCM | |
| | C | 38 | 1.25 | 10YR 6/6 Brownish yellow | Silty clay loam | 1-2% gravel | NCM | |
| B1 | A | 20 | 0.66 | 10YR 3/3 Dark brown | Silty loam | | 201 | Shell (1) |
| | B | 49 | 1.61 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| | C | 71 | 2.33 | 10YR 4/6 Dark yellowish brown | Silty clay | | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| B2 | A | 22 | 0.72 | 10YR 4/2 Dark grayish brown | Silty loam | | NCM | |
| | B | 42 | 1.38 | 10YR 5/4 Yellowish brown | Silty clay loam | | NCM | |
| | C | 62 | 2.03 | 10YR 6/6 Brownish yellow | Silty loam | | NCM | |
| B3 | A | 18 | 0.59 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 36 | 1.18 | 10YR 4/4 Dark yellowish brown | Sandy loam | | 202 | Ceramic (1) |
| | C | 60 | 1.97 | 10YR 5/4 Yellowish brown | Sand | | NCM | |
| | D | 85 | 2.79 | 10YR 6/4 Light yellowish brown | Coarse sand | | NCM | |
| | E | 100 | 3.28 | 7.5 YR 4/4 Brown | Sand | | NCM | |
| B3/7.5mW | A | 30 | 0.98 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 42 | 1.38 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B3/7.5mS | A | 30 | 0.98 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 52 | 1.71 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B3/7.5mE | A | 27 | 0.86 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 49 | 1.61 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B3/1mW | A | 37 | 1.21 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 50 | 1.64 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B3/1mS | A | 30 | 0.98 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 42 | 1.38 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B3/1mE | A | 32 | 1.05 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 46 | 1.59 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B3/1mN | A | 30 | 0.98 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 41 | 1.35 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B4 | A | 32 | 1.05 | 10YR 4/2 Dark grayish brown | Silty loam | | NCM | |
| | B | 55 | 1.8 | 10YR 5/4 Yellowish brown | Silty clay loam | | NCM | |
| | C | 66 | 2.17 | 10YR 6/6 Brownish yellow | Silty loam | | NCM | |
| B4/7.5mS | A | 32 | 1.05 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 60 | 1.97 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B5 | A | 14 | 0.46 | 10YR 4/2 Dark gray brown | Silty loam | 5% gravel | NCM | |
| | B | 35 | 1.15 | 10YR 4/4 Dark yellowish brown | Silty loam | 5% gravel | 203 | Whiteware (1) |
| | C | 52 | 1.71 | 10YR 6/6 Brownish yellow | Silty loam | 2-5% gravel | NCM | |
| B5/7.5mW | A | 37 | 1.21 | 10YR 3/6 Dark yellowish brown | Silty Loam | | NCM | |
| | B | 59 | 1.94 | 7.5YR 4/6 Strong brown | Silty Clay loam | | NCM | |
| B5/7.5mS | A | 31 | 1.02 | 10YR 3/6 Dark yellowish brown | Silty Loam | | NCM | |
| | B | 49 | 1.61 | 7.5YR 4/6 Strong brown | Silty Clay loam | | NCM | |
| B5/7.5mE | A | 35 | 1.15 | 10YR 3/6 Dark yellowish brown | Silty Loam | | NCM | |
| | B | 48 | 1.57 | 7.5YR 4/6 Strong brown | Silty Clay loam | | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| B5/1mW | A | 30 | 0.98 | 10YR 3/6 Dark yellowish brown | Silty Loam | | NCM | |
| | B | 56 | 1.84 | 7.5YR 4/6 Strong brown | Silty Clay loam | | NCM | |
| B5/1mS | A | 34 | 1.12 | 10YR 3/6 Dark yellowish brown | Silty Loam | | NCM | |
| | B | 52 | 1.71 | 7.5YR 4/6 Strong brown | Silty Clay loam | | NCM | |
| B5/1mN | A | 31 | 1.02 | 10YR 3/6 Dark yellowish brown | Silty Loam | | NCM | |
| | B | 49 | 1.61 | 7.5YR 4/6 Strong brown | Silty Clay loam | | NCM | |
| B5/1mE | A | 32 | 1.05 | 10YR 3/6 Dark yellowish brown | Silty Loam | | NCM | |
| | B | 45 | 1.48 | 7.5YR 4/6 Strong brown | Silty Clay loam | | NCM | |
| B6 | A | 19 | 0.62 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 34 | 1.12 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| | C | 52 | 1.71 | 10YR 4/6 Dark yellowish brown | Silty clay | | NCM | |
| B7 | A | 13 | 0.43 | 10YR 4/2 Dark gray brown | Silty loam | 10% gravel | NCM | |
| | B | 36 | 1.18 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | NCM | |
| | C | 50 | 1.64 | 10YR 6/6 Brownish yellow | Silty loam | 5% gravel | NCM | |
| B8 | A | 24 | 0.79 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 39 | 1.28 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| | C | 50 | 1.64 | 10YR 4/6 Dark yellowish brown | Silty clay | | NCM | |
| B9 | A | 19 | 0.62 | 10YR 4/2 Dark grayish brown | Sandy loam | | NCM | |
| | B | 40 | 1.31 | 10YR 5/6 Yellowish brown | Sand | | NCM | |
| | C | 66 | 2.17 | 7.5YR 5/6 Strong brown | Sand | <1% gravel | NCM | |
| B10 | A | 15 | 0.49 | 10YR 4/2 Dark gray brown | Silty loam | 10% gravel | NCM | |
| | B | 32 | 1.05 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | NCM | |
| | C | 44 | 1.44 | 10YR 6/6 Brownish yellow | Silty loam | 5% gravel | NCM | |
| B11 | A | 21 | 0.69 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 34 | 1.16 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| | C | 55 | 1.80 | 10YR 4/6 Dark yellowish brown | Silty clay | | NCM | |
| B12 | A | 20 | 0.66 | 10YR 4/2 Dark grayish brown | Sandy loam | | NCM | |
| | B | 40 | 1.31 | 10YR 5/6 Yellowish brown | Sand | | NCM | |
| | C | 56 | 1.84 | 7.5YR 5/6 Strong brown | Sand | <1% gravel | NCM | |
| B13 | A | 19 | 0.62 | 10YR 4/2 Dark gray brown | Silty loam | 10% gravel | NCM | |
| | B | 43 | 1.41 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | NCM | |
| | C | 55 | 1.80 | 10YR 6/6 Brownish yellow | Silty loam | 5% gravel | NCM | |
| B14 | A | 20 | 0.66 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 48 | 1.57 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| | C | 60 | 1.97 | 10YR 4/6 Dark yellowish brown | Silty clay | | NCM | |
| B15 | A | 23 | 0.75 | 10YR 4/2 Dark grayish brown | Silty loam | 10% gravel | NCM | |
| | B | 37 | 1.21 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | NCM | |
| | C | 49 | 1.61 | 10YR 6/6 Brownish yellow | Silty loam | 5% gravel | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| B16 | A | 20 | 0.66 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 45 | 1.48 | 10YR 4/6 Dark yellowish brown | Silty clay | | NCM | |
| | C | 59 | 1.94 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| B17 | A | 16 | 0.52 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 40 | 1.31 | 10YR 4/6 Dark yellowish brown | Silty clay | | NCM | |
| | C | 55 | 1.84 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| B18 | A | 17 | 0.56 | 10YR 4/2 Dark grayish brown | Silty loam | 10% gravel | NCM | |
| | B | 41 | 1.35 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | NCM | |
| | C | 53 | 1.74 | 10YR 6/6 Brownish yellow | Silty loam | 5% gravel | NCM | |
| B19 | A | 19 | 0.62 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 36 | 1.18 | 10YR 4/6 Dark yellowish brown | Silty clay | | NCM | |
| | C | 60 | 1.97 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| B20 | A | 17 | 0.56 | 10YR 4/2 Dark grayish brown | Silty loam | | NCM | |
| | B | 32 | 1.05 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | |
| | C | 50 | 1.64 | 10YR 6/6 Brownish yellow | Silty loam | | NCM | |
| B21 | A | 27 | 0.88 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 53 | 1.74 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| B22 | A | 19 | 0.62 | 10YR 4/2 Dark grayish brown | Silty loam | | NCM | |
| | B | 33 | 1.08 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | |
| | C | 45 | 1.48 | 10YR 6/6 Brownish yellow | Silty loam | | NCM | |
| B23 | A | 23 | 0.75 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 42 | 1.38 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| B24 | A | 26 | 0.85 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 49 | 1.61 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| B25 | A | 20 | 0.66 | 10YR 4/2 Dark grayish brown | Silty loam | | NCM | |
| | B | 36 | 1.18 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | |
| | C | 48 | 1.57 | 10YR 6/6 Brownish yellow | Silty loam | | NCM | |
| B26 | A | 25 | 0.82 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 51 | 1.67 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| B27 | A | 19 | 0.62 | 10YR 4/2 Dark gray brown | Silty loam | | NCM | |
| | B | 34 | 1.12 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | |
| | C | 50 | 1.64 | 10YR 6/6 Brownish yellow | Silty loam | | NCM | |
| B28 | A | 27 | 0.89 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 44 | 1.44 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| B29 | A | 25 | 0.82 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 49 | 1.61 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| B30 | A | 21 | 0.69 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 52 | 1.71 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| B31 | A | 20 | 0.66 | 10YR 4/2 Dark gray brown | Silty loam | | NCM | |
| | B | 38 | 1.25 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | |
| | C | 50 | 1.64 | 10YR 6/6 Brownish yellow | Silty loam | | NCM | |
| B32 | A | 30 | 0.98 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 44 | 1.44 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| B33 | A | 28 | 0.92 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 50 | 1.64 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| B34 | A | 30 | 0.98 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | 204 | Whiteware (1) |
| | B | 48 | 1.57 | 7.5YR Strong brown | Silty clay | <5% gravel | NCM | |
| B34/7.5mE | A | 35 | 1.15 | 10YR 4/4 Dark yellowish brown | Silty loam | | NCM | |
| | B | 45 | 1.48 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B34/7.5mW | A | 30 | 0.98 | 10YR 4/4 Dark yellowish brown | Silty loam | | NCM | |
| | B | 43 | 1.41 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B34/7.5mS | A | 25 | 0.82 | 10YR 4/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 47 | 1.54 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| B34/1mE | A | 33 | 1.08 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 52 | 1.71 | 7.5YR Strong brown | Silty clay loam | | NCM | |
| B34/1mW | A | 30 | 0.98 | 10YR 4/4 Dark yellowish brown | Silty loam | | NCM | |
| | B | 43 | 1.41 | 7.5YR Strong brown | Silty clay loam | | NCM | |
| B34/1mS | A | 36 | 1.18 | 10YR 4/4 Dark yellowish brown | Silty loam | | NCM | |
| | B | 50 | 1.64 | 7.5YR Strong brown | Silty clay loam | | NCM | |
| B34/1mN | A | 27 | 0.86 | 10YR 4/4 Dark yellowish brown | Silty loam | | NCM | |
| | B | 48 | 1.57 | 7.5YR Strong brown | Silty clay loam | | NCM | |
| B34/1mE | A | 33 | 1.08 | 10YR 4/4 Dark yellowish brown | Silty loam | | 205 | Whiteware (2 - mend) |
| | B | 52 | 1.71 | 7.5YR Strong brown | Silty clay loam | | NCM | |
| B35 | A | 18 | 0.59 | 10YR 4/2 Dark gray brown | Silty loam | | NCM | |
| | B | 30 | 0.98 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | |
| | C | 41 | 1.35 | 10YR 6/6 Brownish yellow | Silty loam | | NCM | |
| B36 | A | 32 | 1.05 | 10YR Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 49 | 1.61 | 7.5YR Strong brown | Silty clay | <5% gravel | NCM | |
| B37 | A | 15 | 0.49 | 10YR 4/2 Dark gray brown | Silty loam | | NCM | |
| | B | 32 | 1.05 | 10YR 5/4 Yellowish brown | Silty loam | | NCM | |
| | C | 45 | 1.48 | 10YR 6/6 Brownish yellow | Silty loam | | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| B38 | A | 30 | 0.98 | 10YR Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 45 | 1.48 | 7.5YR Strong brown | Silty clay | <5% gravel | NCM | |
| B39 | A | 17 | 0.56 | 10YR Dark brown | Silty loam | | NCM | |
| | B | 47 | 1.54 | 10YR Dark yellowish brown | Silty loam | | NCM | |
| | C | 62 | 2.03 | 10YR 5/4 Yellowish brown | Sand | | NCM | |
| | D | 67 | 2.20 | 10YR 8/4 Light yellowish brown | Sand | | NCM | |
| | E | 80 | 2.62 | 7.5YR 4/4 Brown | Sand | | NCM | |
| C1 | A | 25 | 0.82 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 36 | 1.18 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 48 | 1.57 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C2 | A | 21 | 0.69 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 35 | 1.15 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 47 | 1.54 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C3 | A | 20 | 0.66 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 38 | 1.25 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 49 | 1.61 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C4 | A | 18 | 0.59 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 34 | 1.12 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 48 | 1.57 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C5 | A | 17 | 0.58 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 30 | 0.98 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 42 | 1.38 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C6 | A | 19 | 0.62 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 32 | 1.05 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 46 | 1.51 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C7 | A | 17 | 0.58 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 35 | 1.15 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 47 | 1.54 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C8 | A | 21 | 0.69 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 33 | 1.08 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 45 | 1.48 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C9 | A | 20 | 0.66 | 10YR 3/3 Dark brown | Sandy loam | 10-20% gravel | NCM | |
| | B | 30 | 0.98 | 10YR 5/6 Yellowish brown | Sandy loam | 10-20% gravel | NCM | |
| | C | 56 | 1.84 | 5YR 4/6 Yellowish red | Sandy loam | 20-40% gravel | NCM | |
| C10 | A | 30 | 0.98 | 10YR 4/6 Dark yellowish brown | Sandy loam | 40-60% gravel | NCM | |
| | B | 62 | 2.03 | 7.5 YR 4/6 Strong brown | Sandy loam | 20-40% gravel | NCM | |
| C11 | A | 20 | 0.66 | 10YR 4/6 Dark yellowish brown | Sandy loam | 40-60% gravel | NCM | |
| | B | 49 | 1.61 | 7.5 YR 4/6 Strong brown | Sandy loam | 20-40% gravel | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| C12 | A | 23 | 0.75 | 10YR 4/6 Dark yelowish brown | Silty clay | <5% gravel | NCM | |
| | B | 48 | 1.57 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | C | 59 | 1.94 | 7.5YR Strong brown | Silty clay | <5% gravel | NCM | |
| C13 | A | 19 | 0.62 | 10YR 4/6 Dark yelowish brown | Silty clay | <5% gravel | | Coal (discarded) |
| | B | 28 | 0.92 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | C | 44 | 1.44 | 7.5YR Strong brown | Silty clay | <5% gravel | NCM | |
| C14 | A | 29 | 0.95 | 10YR 4/6 Dark yellowish brown | silty loamy clay | <5% gravel | NCM | |
| | B | 59 | 1.94 | 7.5 YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| C15 | A | 10 | 0.33 | 10YR 4/6 Dark yellowish brown | Silty loamy clay | <5% gravel | NCM | |
| | B | 25 | 0.82 | 10YR 3/2 Very dark grayish brown | Silty clay | <5% gravel | NCM | |
| | C | 40 | 1.31 | 7.5YR 4/6 Strong brown | Silty clay | <5% gravel | NCM | |
| C16 | A | 16 | 0.52 | 10YR 4/3 Brown | Silty clay | <5% gravel | NCM | |
| | B | 29 | 0.95 | 10YR 4/6 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | C | 48 | 1.57 | 10YR 5/6 Yellowish brown | Sandy clay | <5% gravel | NCM | |
| | D | 59 | 1.94 | 10YR 5/8 Yellowish brown | Sandy clay | <5% gravel | NCM | |
| C17 | A | 30 | 0.98 | 10YR 4/6 Dark yellowish brown | Sandy loam | 20-40% gravel | NCM | |
| | B | 48 | 1.57 | 7.5YR 5/6 Strong brown | Sandy loam | 40-60% gravel | NCM | |
| C18 | A | 33 | 1.08 | 10YR 4/6 Dark yellowish brown | Sandy loam | 20-40% gravel | NCM | |
| | B | 52 | 1.71 | 7.5YR 5/6 Strong brown | Sandy loam | 40-60% gravel | NCM | |
| C19 | A | 33 | 1.08 | 10YR 4/6 Dark yellowish brown | Sandy loam | 40-60% gravel | NCM | |
| | B | 50 | 1.64 | 5YR 4/6 Yellowish red | Sandy clay | 60-80% gravel | NCM | |
| C20 | A | 20 | 0.66 | 10YR 4/6 Dark yelowish brown | Silty clay | <5% gravel | NCM | |
| | B | 39 | 1.28 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | C | 52 | 1.57 | 7.5YR Strong brown | Silty clay | <5% gravel | NCM | |
| C21 | A | 15 | 0.49 | 10YR 4/6 Dark yelowish brown | Silty clay | <5% gravel | NCM | |
| | B | 35 | 1.15 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | C | 52 | 1.71 | 7.5YR Strong brown | Silty clay | <5% gravel | NCM | |
| C22 | A | 11 | 0.36 | 10YR 4/6 Dark yelowish brown | Silty clay | <5% gravel | NCM | |
| | B | 30 | 0.98 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | C | 56 | 1.84 | 7.5YR Strong brown | Silty clay | <5% gravel | NCM | |
| C23 | A | 31 | 1.02 | 10YR 3/2 Very dark grayish brown | Silty loam | | NCM | |
| | B | 43 | 1.41 | 7.5YR 4/6 Strong brown | Compact silty loam | | NCM | |
| C24 | A | 24 | 0.79 | 10YR 4/6 Dark yellowish brown | Sandy loam | 20-40% gravel | NCM | |
| | B | 43 | 1.41 | 7.5YR 5/6 Strong brown | Sandy loam | 40-60% gravel | NCM | |
| C25 | A | 28 | 0.92 | 10YR 4/6 Dark yellowish brown | Sandy loam | 20-40% gravel | NCM | |
| | B | 51 | 1.67 | 5YR 4/6 Yellowish red | Sandy clay | 40-60% gravel | NCM | |
| C26 | A | 28 | 0.92 | 10YR 4/6 Dark yellowish brown | Sandy loam | 40-60% gravel | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| | B | 55 | 1.8 | 7.5YR 4/6 Strong brown | Sandy loam | 40-60% gravel | NCM | |
| C27 | A | 24 | 0.79 | 10YR 4/6 Dark yellowish brown | Sandy loam | 40-60% gravel | | Brick, charcoal (discarded) |
| | B | 58 | 1.9 | 7.5YR 4/6 Strong brown | Sandy loam | 40-60% gravel | NCM | |
| C28 | A | 14 | 0.46 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 25 | 0.82 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 37 | 1.21 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C29 | A | 18 | 0.59 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 36 | 1.18 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 47 | 1.54 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C30 | A | 17 | 0.56 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 34 | 1.16 | 7.5YR 5/4 Brown | Silty clay loam | 5% gravel | NCM | |
| | C | 45 | 1.48 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C31 | A | 22 | 0.72 | 10YR 4/4 Dark yellowish brown | Silty clay | | | Window glass (discarded) |
| | B | 46 | 1.51 | 7.5YR 4/6 Stong brown | Silty clay | | NCM | |
| C32 | A | 29 | 0.95 | 10YR 4/4 Dark yellowish brown | Clay | <5% gravel | NCM | |
| | B | 46 | 1.51 | 7.5YR 4/6 Strong brown | Clay | | NCM | |
| C33 | A | 22 | 0.72 | 10YR 4/6 Dark yellowish Brown | Silty clay | <5% gravel | NCM | |
| | B | 34 | 1.12 | 10YR 4/4 Dark yellowish brown | Silty clay | | NCM | |
| | C | 47 | 1.54 | 7.5YR 4/6 Strong brown | Silty clay | | NCM | |
| C34 | A | 18 | 0.59 | 10YR 5/3 Brown | Silty clay | <10% gravel | NCM | |
| | B | 34 | 1.16 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | C | 47 | 1.54 | 7.5YR 4/6 Strong brown | Silty clay | | NCM | |
| C35 | A | 17 | 0.56 | 10YR 5/3 Brown | Silty clay | <5% gravel | NCM | |
| | B | 40 | 1.31 | 10YR 4/4 Dark yellowish brown | Moist Silty clay | | NCM | |
| | C | 62 | 2.03 | 7.5YR 4/6 Strong brown | Moist Silty clay | | NCM | |
| C36 | A | 22 | 0.72 | 10YR 3/3 Very dark brown | Silty clay | <5% gravel | NCM | |
| | B | 40 | 1.31 | 7.5YR 4/6 Strong brown | Moist silty clay | | NCM | |
| C37 | A | 23 | 0.75 | 10YR 4/6 Dark yellowish brown | Silty clay | <10% gravel | NCM | |
| | B | 36 | 1.18 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | | Modern plastic (discarded) |
| | C | 50 | 1.64 | 7.5YR 4/6 Strong brown | Compact silty clay | <5% gravel | NCM | |
| C38 | A | 22 | 0.72 | 10YR 4/6 Dark yellowish brown | Sandy loam | 10-20% gravel | NCM | |
| | B | 51 | 1.67 | 5YR 4/6 Yellowish red | Sandy loam | 20-40% gravel | NCM | |
| C39 | A | 16 | 0.52 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 32 | 1.05 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 44 | 1.44 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| C40 | A | 18 | 0.59 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 34 | 1.12 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| | C | 44 | 1.44 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| C41 | A | 25 | 0.82 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 52 | 1.71 | 10YR 6/4 Light yellowish brown | Sandy loam | 10% gravel | NCM | |
| | C | 57 | 1.87 | 7.5YR 5/6 Strong brown | Coarse sandy loam | 10% gravel | NCM | |
| | D | 74 | 2.43 | 7.5YR 6/6 Reddish yellow | Coarse sandy clay loam | | NCM | |
| C42 | A | 19 | 0.62 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 55 | 1.8 | 7.5YR 5/6 Strong brown | Silty loam | 5-10% gravel | NCM | |
| | C | 67 | 2.2 | 10YR 6/8 Yellowish brown | Fine sand | 5-10% gravel | NCM | |
| C43 | A | 23 | 0.75 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | | Modern bottle glass (discarded) |
| | B | 36 | 1.18 | 7.5YR 5/4 Brown | Silty clay loam | <2% gravel | NCM | |
| | C | 48 | 1.57 | 7.5 5/6 Strong brown | Silty clay loam | <2% gravel | NCM | |
| C44 | A | 33 | 1.08 | 10YR Dark yellowish brown | Silty clay | | | Modern glass, brick fragment (discarded) |
| | B | 48 | 1.57 | 7.5YR Strong brown | Moist clay | | NCM | |
| C45 | A | 30 | 0.98 | 10YR 4/4 Dark yellowish brown | Silty clay | | NCM | |
| | B | 50 | 1.64 | 7.5YR 4/6 Strong brown | Sand | | NCM | |
| C46 | A | 25 | 0.82 | 10YR Dark yellowish brown | Sandy loam | 10-20% gravel | NCM | |
| | B | 52 | 1.71 | 7.5YR 4/6 Strong brown | Sandy clay | 10-20% gravel | NCM | |
| C47 | A | 28 | 0.92 | 10YR 4/4 Dark yellowish brown | Silty clay | <5% gravel | NCM | |
| | B | 46 | 1.51 | 7.5YR 4/6 Strong brown | Moist clay | <5% gravel | NCM | |
| C48 | A | 25 | 0.82 | 10YR 3/2 Dark grayish brown | Silty clay | <5% gravel | NCM | |
| | B | 48 | 1.57 | 7.5YR 4/6 Strong brown | Clay | <5% gravel | NCM | |
| C49 | A | 16 | 0.52 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 30 | 0.98 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 40 | 1.31 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| C50 | A | 23 | 0.75 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 35 | 1.15 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 47 | 1.54 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| C51 | A | 15 | 0.49 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 31 | 1.02 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 42 | 1.38 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| C52 | A | 25 | 0.82 | 10YR 4/4 Dark yellowish brown | Silty clay | | NCM | |
| | B | 41 | 1.35 | 7.5Yr 4/6 Strong brown | Clay | | NCM | |
| C53 | A | 23 | 0.75 | 10YR Dark yellowish brown | Sandy loam | 10-20% gravel | NCM | |
| | B | 50 | 1.64 | 7.5YR 4/6 Strong brown | Sandy clay | 10-20% gravel | NCM | |
| C54 | A | 31 | 1.02 | 10YR 3/4 Dark yellowish brown | Sandy loam | <5% gravel | | Modern glass (discarded) |
| | B | 52 | 1.71 | 7.5YR 4/4 Brown | Sandy loam | <5% gravel | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| | | | | | | | | |
| | C | 80 | 2.62 | 7.5YR 4/6 Strong brown | Sand | <15% gravel | NCM | |
| | D | 108 | 3.54 | 10YR 6/6 Brownish yellow | Sand | <15% gravel | NCM | |
| | | | | | | | | |
| C55 | A | 17 | 0.56 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 32 | 1.05 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 44 | 1.44 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| | | | | | | | | |
| C56 | A | 16 | 0.52 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 28 | 0.92 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 40 | 1.31 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| | | | | | | | | |
| C57 | A | 14 | 0.46 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 35 | 1.15 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 45 | 1.48 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| | | | | | | | | |
| C58 | A | 20 | 0.66 | 10YR 4/4 Dark yellowish brown | Sandy loam | <5% gravel | | Glass (discarded) |
| | B | 45 | 1.48 | 7.5YR 4/6 Strong brown | Sandy loam | <10% gravel | NCM | |
| | | | | | | | | |
| C59 | A | 33 | 1.08 | 10YR 4/4 Dark yellowish brown | Sandy loam | <5% gravel | NCM | |
| | B | 54 | 1.77 | 7.5YR 4/6 Strong brown | Sandy loam | <10% gravel | NCM | |
| | | | | | | | | |
| C60 | A | 30 | 0.98 | 10YR 3/4 Dark yellowish brown | Sandy loam | <5% gravel | NCM | |
| | B | 70 | 2.3 | 10YR 6/6 Brownish yellow | Coarse sand | | NCM | |
| | | | | | | | | |
| C61 | A | 28 | 0.92 | 10YR 3/4 Dark yellowish brown | Sandy loam | 5% gravel | 301 | Redware (1) |
| | B | 32 | 1.05 | 10YR 4/4 Dark yellowish brown | Sandy loam | | NCM | |
| | C | 54 | 1.77 | 7.5YR 4/6 Strong brown | Sandy loam | 10% gravel | NCM | |
| | | | | | | | | |
| C62 | A | 19 | 0.62 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 33 | 1.08 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 47 | 1.54 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| | | | | | | | | |
| C63 | A | 14 | 0.46 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 30 | 0.98 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 41 | 1.34 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| | | | | | | | | |
| C64 | A | 23 | 0.75 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 35 | 1.15 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 47 | 1.54 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| | | | | | | | | |
| C65 | A | 29 | 0.95 | 10YR 3/4 Dark yellowish brown | Sandy loam | 5-10% gravel | NCM | |
| | B | 46 | 1.51 | 7.5YR 4/6 Strong brown | Sandy loam | 10-20% gravel | NCM | |
| | | | | | | | | |
| C66 | A | 26 | 0.85 | 10YR 3/4 Dark yellowish brown | Sandy loam | 5-10% gravel | NCM | |
| | B | 44 | 1.44 | 7.5YR 4/6 Strong brown | Sandy loam | 10-20% gravel | NCM | |
| | | | | | | | | |
| C67 | A | 32 | 1.05 | 10YR 3/4 Dark yellowish brown | Sandy loam | <5% gravel | NCM | |
| | B | 49 | 1.61 | 7.5YR 4/6 Strong brown | Sandy loam | <5% gravel | NCM | |
| | | | | | | | | |
| C68 | A | 34 | 1.12 | 10YR 4/4 Dark yellowish brown with lense of 2.5Y 5/4 light olive brown | Sandy loam | <5% gravel | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| | B | 55 | 1.8 | 7.5YR 4/6 Strong brown | Sandy loam | <5% gravel | NCM | |
| C69 | A | 24 | 0.79 | 10YR 4/4 Dark yellowish brown with lense of 2.5YR 5/4 light olive brown | Sandy loam | <5% gravel | | Asphalt, plastic (discarded) |
| | B | 45 | 1.48 | 10YR 4/2 Dark grayish brown | Sandy loam | 5-10% gravel | NCM | |
| | C | 60 | 1.97 | 7.5YR 4/6 Strong brown | Sandy loam | 1-5% gravel | NCM | |
| C70 | A | 24 | 0.79 | 10YR 3/4 and 10YR 4/6 Dark yellowish brown | Sandy loam | <5% gravel | | Charcoal |
| | B | 45 | 1.48 | 7.5YR 4/6 Strong brown including sections of 10YR 4/4 dark yellowish brown | Sand | <10% gravel | NCM | |
| C71 | A | 16 | 0.52 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 36 | 1.18 | 7.5YR 5/4 Brown | Sandy loam | | NCM | |
| | C | 48 | 1.57 | 7.5YR 5/6 Strong brown | Coarse sand | 5-10% gravel | NCM | |
| | D | 59 | 1.94 | 7.5YR 4/3 Brown | Compact sandy loam | 5-10% gravel | NCM | |
| C72 | A | 24 | 0.79 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| | B | 41 | 1.35 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 53 | 1.74 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| C73 | A | 24 | 0.79 | 10YR 4/4 Dark yellowish brown with lense of 2.5YR 5/4 light olive brown | Sandy loam | | NCM | |
| | B | 36 | 1.18 | 10YR 4/2 Dark yellowish brown | Sandy loam | | NCM | |
| | C | 52 | 1.71 | 7.5YR 4/6 Strong brown with inclusions of 10YR Dark yellowish brown | Sand | | NCM | |
| C74 | A | 17 | 0.56 | 10YR 3/3 Dark brown | Silty loam | | NCM | |
| | B | 30 | 0.98 | 10YR 5/4 Yellowish brown | Compact silty loam | | NCM | |
| | C | 38 | 1.25 | 10YR 6/6 Brownish yellow | Compact sandy clay loam | | NCM | |
| | D | 50 | 1.64 | 2.5Y 5/3 Light olive brown | Silty clay | | NCM | |
| C75 | A | 18 | 0.59 | 10YR 3/4 Dark yellowish brown | Silty clay | <5% gravel | | Modern glass (discarded) |
| | B | 80 | 2.62 | 10YR 4/4 Dark yellowish brown | Sandy clay | <5% gravel | NCM | |
| | C | 100 | 3.28 | 10YR 4/4 Dark yellowish brown | Compact silt | <5% gravel | NCM | |
| C76 | A | 17 | 0.56 | 10YR 3/3 Dark brown | Silty loam | 10-15% gravel | NCM | By road and highway offramp |
| | B | 44 | 1.44 | 10YR 5/3 Brown | Silty loam | 5-10% gravel | NCM | |
| | C | 59 | 1.93 | 10YR 4/3 Brown | Silty loam | 10-15% gravel | NCM | |
| C77 | A | 13 | 0.42 | 10YR 2/2 Very dark brown | Sandy loam | <5% gravel | NCM | |
| | B | 33 | 10.08 | 10YR 5/4 Yellowish brown mottled with 10YR 4/2 Dark grayish brown | Wet sandy loam | <10% gravel | NCM | |
| | C | 52 | 1.71 | 7.5YR 4/6 Strong brown | Sand | <20% gravel | NCM | |
| C78 | A | 16 | 0.52 | 10YR 3/4 Dark yellowish brown | Silty clay | | NCM | |
| | B | 24 | 0.79 | 10YR 4/4 Dark yellowish brown | Sandy clay | | NCM | |
| | C | 39 | 1.28 | 7.5YR 4/6 Strong brown | Compact sand | | NCM | |
| C79 | A | 26 | 0.85 | 10YR 4/6 Dark yellowish brown | Sandy clay loam | 5-10% gravel | NCM | |
| | B | 40 | 1.31 | 7.5YR 5/6 Strong brown | Sandy clay | >2% gravel | NCM | End of transect |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| C80 | A | 19 | 0.62 | 10YR 3/3 Dark brown | Silty loam | 5-10% gravel | NCM | |
| (AKA C53.5) | B | 37 | 1.21 | 7.5YR 5/4 Brown | Silty clay loam | 2-5% gravel | NCM | |
| | C | 50 | 1.64 | 7.5YR 5/6 Strong brown | Silty clay loam | >2% gravel | NCM | |
| D1 | A | 24 | 0.79 | 10YR 4/4 Dark yellowish brown | Silty loam | 2% gravel | 401 | Redware (1) |
| | B | 44 | 1.44 | 10YR 7/4 Very pale brown | Silty loam | 2-5% gravel | NCM | |
| D2 | A | 20 | 0.66 | 10YR 4/3 Dark brown | Silty clay loam | <5% gravel | | Modern beer bottle glass (discarded) |
| | B | 37 | 1.21 | 10YR 5/3 Brown | Silty clay loam | | NCM | |
| | C | 50 | 1.64 | 10YR 5/6 Yellowish brown | Silty clay | | NCM | |
| D3 | A | 10 | 0.33 | 10YR 3/4 Dark yellowish brown | Sandy Loam | 5-10% gravel | | Plastic (discarded) |
| | B | 25 | 0.82 | 10YR 4/6 Dark yellowish brown | Sandy loam | 1-5% gravel | NCM | |
| | C | 46 | 1.51 | 7.5YR 5/6 Strong brown | Sandy loam | 1-5% gravel | NCM | |
| D4 | A | 14 | 0.46 | 10YR 4/3 Dark Brown | Silty clay loam | <5% gravel | NCM | |
| | B | 31 | 1.02 | 10YR 5/3 Brown | Silty clay loam | | NCM | |
| | C | 53 | 1.74 | 7.5YR 4/6 Strong brown | Silty clay | | NCM | |
| D5 | A | 21 | 0.69 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | | Modern glass, soda can (discarded) |
| | B | 45 | 1.48 | 10YR 4/6 Dark yellowish brown | Silty loam | 2-5% gravel | NCM | |
| | C | 57 | 1.87 | 7.5YR 5/6 Strong brown | Silty clay loam | 1-2% gravel | NCM | |
| D6 | A | 30 | 0.98 | 10YR 4/6 Dark yellowish brown | Sandy loam | 5-10% gravel | 402 | Clear bottle glass (1)/ hard plastic (discarded) |
| | B | 46 | 1.51 | 7.5YR 5/6 Strong brown | Sandy loam | 40% gravel | NCM | |
| D6/7.5mN | A | 30 | 0.98 | 10YR 5/3 Brown | Silty loam | | 406 | |
| | B | 52 | 1.76 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D6/7.5mW | A | 26 | 0.85 | 10YR 5/3 Brown | Silty loam | | NCM | |
| | B | 42 | 1.38 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D7 | A | 34 | 1.12 | 10YR 4/3 Dark brown | Silty clay loam | | 403 | Bottle lip (1), whiteware (1)/ Modern glass, slag charcoal, shell (discarded) |
| | B | 47 | 1.54 | 7.5YR 4/6 Strong brown | Silty clay | | NCM | |
| D7/7.5mN | A | 30 | 0.98 | 10YR 3/6 Dark yellowish brown | Silty loam | | 407 | |
| | B | 42 | 1.38 | 7.5YR Strong brown | Sandy loam | | NCM | |
| D7/7.5mS | A | 32 | 1.05 | 10YR 3/6 Dark yellowish brown | Silty clay | | 411 | |
| | B | 60 | 1.97 | 7.5YR 5/8 Strong brown | Sand | | NCM | |
| D7/7.5mW | A | 31 | 1.02 | 10YR 3/6 Dark yellowish brown | Silty clay | | | Modern glass, plastic (discarded) |
| | B | 50 | 1.64 | 7.5YR 5/8 Strong brown | Sand | | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| D7/1mN | A | 31 | 1.02 | 10YR 3/6 Dark yellowish brown | Silty loam | | 408 | |
| | B | 44 | 1.44 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D7/1mS | A | 27 | 0.86 | 10YR 3/6 Dark yellowish brown | Silty clay | | 410 | Glass (4), shell (1) |
| | B | 45 | 1.48 | 7.5YR 5/8 Strong brown | Silty clay | | NCM | |
| D7/1mE | A | 31 | 1.02 | 10YR 3/6 Dark yellowish brown | Silty clay | | 409 | Glass (6), coal (1), metal (2), slag (1), brick (1) |
| | B | 49 | 1.61 | 7.5YR 5/8 Strong brown | Sandy loam | | NCM | |
| D7/1mW | A | 29 | 0.95 | 10YR 3/6 Dark yellowish brown | Silty loam | | NCM | |
| | B | 45 | 1.48 | 7.5YR Strong brown | Sandy loam | | NCM | |
| D8 | A | 32 | 1.05 | 10YR 4/4 Dark yellowish brown | Silty loam | 2-5% gravel | 404 | Whiteware (1), bottle glass (1) |
| | B | 44 | 1.44 | 10YR 4/6 Dark yellowish brown | Sandy loam | 2-5% gravel | NCM | |
| | C | 59 | 1.94 | 7.5YR 5/6 Strong brown | Silty clay loam | 2-5% gravel | NCM | |
| D9 | A | 31 | 1.02 | 10YR 4/6 Dark yellowish brown | Sandy loam | 5-10% gravel | NCM | |
| | B | 49 | 1.61 | 7.5YR 5/6 Strong brown | Sandy clay | 5-10% gravel | NCM | |
| D10 | A | 17 | 0.56 | 10YR 4/6 Dark yellowish brown | Silty clay loam | | | Modern glass (discarded) |
| | B | 31 | 1.02 | 10YR 5/3 Brown | Silty clay loam | | NCM | |
| | C | 49 | 1.61 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| D11 | A | 13 | 0.43 | 10YR 4/4 Dark yellowish brown | Silty loam | 1-2% gravel | | Modern glass (discarded) |
| | B | 37 | 1.21 | 10YR 4/6 Dark yellowish brown | Sandy loam | 2-5% gravel | NCM | |
| | C | 47 | 1.54 | 7.5YR 5/6 Strong Brown | Sandy clay loam | 2-5% gravel | NCM | |
| D12 | A | 19 | 0.62 | 10YR 3/3 Brown | Sandy loam | 10-20% gravel | | Automotive safety glass, modern bottle glass, plastic cigar tips (discarded) |
| | B | 37 | 1.21 | 7.5YR 5/6 Strong brown | Sandy clay | 5-10% gravel | NCM | |
| D13 | A | 41 | 1.34 | 10YR 4/6 Dark yellowish brown | Silty clay loam | <5% gravel | | Modern glass, plastic (discarded) |
| | B | 52 | 1.71 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| D14 | A | 21 | 0.69 | 10YR 4/4 Dark yellowish brown | Sandy loam (wet) | | NCM | |
| | B | 38 | 1.25 | 7.5YR 5/6 Strong brown | Sandy loam | 1-5% gravel | NCM | |
| D15 | A | 25 | 0.82 | 10YR 4/6 Dark yellowish brown | Silty clay loam | <5% gravel | NCM | |
| | B | 41 | 1.34 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| D16 | A | 22 | 0.72 | 10YR 4/4 Dark yellowish brown | Silty loam | 1-2% gravel | NCM | |
| | B | 34 | 1.12 | 10YR 4/6 Dark yellowish brown | Sandy loam | 2-5% gravel | NCM | |
| | C | 45 | 1.48 | 7.5YR 5/6 Strong brown | Sandy clay loam | 2-5% gravel | NCM | |
| D17 | A | 13 | 0.43 | 10YR 4/4 Dark yellowish brown | Silty loam | 1-2% gravel | NCM | |
| | B | 27 | 0.89 | 10YR 4/6 Dark yellowish brown | Sandy loam | 2-5% gravel | NCM | |
| | C | 40 | 1.31 | 7.5YR 5/6 Strong brown | Sandy clay loam | 2-5% gravel | NCM | |

| STP | Stratum | Depth to base of Stratum | | Soil Color | Texture | Coarse Fraction | Artifact Cat. # | Comments |
|---|---|---|---|---|---|---|---|---|
| | | cm | ft | | | | | |
| D18 | A | 32 | 1.05 | 10YR 4/6 Dark yellowish brown | Silty clay loam | <5% gravel | NCM | |
| | B | 43 | 1.41 | 7.5YR 4/6 Strong brown | Silty clay loam | | NCM | |
| D19 | A | 30 | 0.98 | 10YR 4/3 Brown | Silty clay | | 405 | Glass, whiteware (3)/ modern glass (discarded) |
| | B | 48 | 1.57 | 7.5YR 4/6 Strong brown | Silty clay | | NCM | |
| D19/7.5mN | A | 32 | 1.05 | 10YR 5/3 Brown | Silty loam | | NCM | |
| | B | 44 | 1.44 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D19/7.5mS | A | 32 | 1.05 | 10YR 5/3 Brown | Silty loam | | 416 | Whiteware (1) |
| | B | 42 | 1.38 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D19/7.5mW | A | 34 | 1.15 | 10YR 5/3 Brown | Silty loam | | NCM | |
| | B | 45 | 1.48 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D19/7.5mE | A | 24 | 0.79 | 10YR 5/3 Brown | Silty loam | | NCM | |
| | B | 37 | 1.21 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D19/1mN | A | 27 | 0.89 | 10YR 5/3 Brown | Silty loam | | 413 | Whiteware (1), brown bottle glass (1) |
| | B | 41 | 1.35 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D19/1mS | A | 31 | 1.02 | 10YR 5/3 Brown | Silty loam | | 414 | |
| | B | 46 | 1.51 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D19/1mE | A | 29 | 0.95 | 10YR 5/3 Brown | Silty loam | | 412 | Milk glass (3), whiteware (2), clear glass (3) |
| | B | 39 | 1.28 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D19/1mW | A | 30 | 0.98 | 10YR 5/3 Brown | Silty loam | | 415 | Bottle glass (1), brick (1) |
| | B | 41 | 1.35 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D20 | A | 16 | 0.52 | 10YR 4/4 Dark yellowish brown | Silty loam | 1-2% gravel | NCM | |
| | B | 34 | 1.12 | 10YR 4/6 Dark yellowish brown | Sandy loam | 2-5% gravel | NCM | |
| | C | 49 | 1.61 | 7.5YR 5/6 Strong brown | Sandy clay loam | 2-5% gravel | NCM | |
| D20/7.5mN | A | 20 | 0.66 | 10YR 5/3 Brown | Silty loam | | NCM | |
| | B | 45 | 1.48 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D21 | A | 30 | 0.98 | 10YR 5/3 Brown | Silty loam | | NCM | |
| | B | 42 | 1.38 | 7.5YR 5/8 Strong brown | Silty clay loam | | NCM | |
| D22 | A | 31 | 1.02 | 10YR 5/3 Brown | Silty clay | | NCM | |
| | B | 55 | 1.8 | 7.5YR 5/8 Strong brown | Silty clay | | NCM | |

# *APPENDIX C: Methods of Artifact Cataloging and Analysis*
# *Artifact Inventory*

# METHODS OF ARTIFACT CATALOGING AND ANALYSIS

## A. LABORATORY PROCESSING

All artifacts were transported from the field to the Louis Berger laboratory. In the field, artifacts were bagged in 4-mil, resealable polyethylene bags. Artifact cards bearing provenience information were included in the plastic bags. A Field Number was assigned to each unique provenience in the field. This number appears with all the provenience information and is used throughout processing and analysis to track artifacts.

Most historic artifacts were washed in water with a soft toothbrush. Faunal material and fragile artifacts were wet-brushed with a soft natural-bristle paintbrush or were simply dry-brushed. Metal objects were cleaned using a dry toothbrush or stainless steel wire brush. All artifacts were laid out to air-dry in preparation for analysis.

During analysis, individual Specimen Numbers were assigned to artifacts. After analysis, the artifacts were re-bagged into clean, perforated 4-mil resealable polyethylene bags. Artifacts are organized sequentially first by Site Number, then Field Number and finally by Specimen Number. Before submitting for curation, catalog numbers were assigned in accordance with DHCA guidelines. An acid-free artifact card listing full provenience information and analytical class was included in each bag.

When labeling, all artifacts dime sized and larger were labeled as follows:

| Catalog #-Field #.Specimen # | Example: |
|---|---|
| | 2011.32-43.1 |

Please note that no nails in the collection were labeled. No conservation treatment on the artifacts was needed nor performed.

## B. ANALYTICAL METHODS

All artifact analyses were conducted by the Laboratory Supervisor and/or Material Specialist(s). Louis Berger maintains an extensive comparative collection and laboratory research library to contribute to the completeness and accuracy of the analyses.

Louis Berger has developed a flexible analytical database system that fully integrates all artifacts in one database for use in data manipulation and interpretation. The computerized data management system is written using Microsoft Access, a relational database development package that runs on a Windows® platform. Each class of artifacts (historic ceramics, curved (vessel) glass, small finds/architectural, historic tobacco pipes, and faunal) has a series of attributes, sometimes unique to that class, that are recorded to describe each artifact under analysis. Artifact information (characteristics) was entered into the system during the process of analysis. The system was then used to enhance the artifact records with the addition of provenience information. Louis Berger maintains a complete type and attribute coding system maintained in the database. The format for the historic artifacts is based on the South/Noël Hume typology (South 1977), as modified for use in a computerized system (LBG 2013). The Notes field allows individual written comments applicable to a specific entry. In general, notes are used to describe particulars of decorative motifs or unusual characteristics, or to record bibliographic references used for identification or dating.

## C. HISTORIC CERAMIC ANALYSIS

The ceramic tabulation provides the following information: identification of ware types and techniques of surface decoration; dates based on manufacturing and decorative techniques and, if present, maker's marks; identification of vessel forms and functions; and descriptions of decoration motifs.

**Begin/End Dates**. Sources for these dates include but are not limited to Cameron (1986), Denker and Denker (1985), Diagnostic Artifacts of Maryland (2018), Erickson and Hunter (2001), Howard (1984), Ketchum (1983), Magid and Means (2003), McAllister and Michel (1993), Miller (1980, 1987, 1991), Noël Hume (1969b), Rickard (2006), South (1977), and Wetherbee (1980, 1985). When more precise dates can be determined from maker's marks or particular decorations or forms, these fields are entered manually. Sources used for identification of Maker's Marks or Decoration/Motif include Barber (1968), Gates and Ormerod (1982), Godden (1964), Godden (1999), Hunter and Miller (1994), Kowalsky and Kowalsky (1999), and Lehner (1988).

**Form**. Form indicates the shape and possible function of the complete vessel as represented by the sherds present. General categories, such as "Tableware, Hollowware," are used for sherds whose small size or ambiguous characteristics make determination of form problematical. **Part** is used to indicate what part of a vessel is represented by the sherd(s) present. Definitions of forms are based, for the most part, on Beaudry et al. (1983), Greer (1981), Ketchum (1983), and Towner (1963).

## D. SMALL FINDS/ ARCHITECTURAL ANALYSIS

For the small finds/architectural analysis, each artifact was identified by its group and class, Material Type and Part/Portion, and received a count and/or weight. Additional information, including Characteristic, Maker's Marks, Backmark, Color, and Decoration, is recorded as identified for the individual artifacts if present or needed.

**Begin/End Date**. Dates for certain artifact were generated in the database based on the Type/Subtype. Other dates were entered manually and were based on various artifact characteristics. References used for dating of artifacts include but are not limited to Civil War Artillery (2014), Edwards and Wells (1993), Friedel (1987), Gurcke (1987), Hogg (1985), Hughes and Lester (1981), Johnson (1942), King (1991), Kovel and Kovel (1961), Lamm et al (1970), Lavitt (1983), Luscomb (1967), Martells (1976), McGuinn and Bazelon (1984), Munsey (1970), Nelson (1968), Noël Hume (1969b), Rock (2000), Sacharow (1978), and Thomas and Thomas (1996).

**Characteristic**. A modifier that best described the form or manufacturing technique of each artifact was entered in this field.

## E. CURVED (VESSEL) GLASS ANALYSIS

The glass artifacts from the collection were broken down, for analytical purposes, into functionally distinct groupings based on Bottle, Table, Lighting, and Other use-categories. All artifacts identified as to specific function and form were coded as such regardless of the degree of fragmentation. Window glass, considered more functionally inclusive under an architectural group of artifacts, was subsumed for analysis under Small Finds/Architectural materials.

**Begin/End Date**. Dating of the glass artifacts was completed according to established diagnostic criteria. These criteria, utilized either singly or in combination, can include various technological aspects of glass manufacture such as finish treatments, tooling methods, empontilling techniques, mold markings, Brand, Maker's Marks, Color, and various stylistic elements (including Decoration/Motif) associated with certain

tablewares. Sources for glass dating include but are not limited to Busch (1987), Cheney (1980), Ferraro and Ferraro (1964, 1969), Fike (1987), Haynes (1959), Jones (1971, 1983, 1986), Jones and Smith (1985), Jones and Sullivan (1985), Kaplan (1982), Klamkin (1973), Kovel and Kovel (1986), Lief (1965), Lockhart (2004), Lorrain (1968), McKearin (1970), McKearin and McKearin (1948), McKearin and Wilson (1978), Miller and Sullivan (1984), Munsey (1970), Noël Hume (1961, 1968, 1969a, 1969b), Paul and Parmalee (1973), Riley (1958), Society for Historical Archaeology (2018), Spillman (1981, 1982, 1983), and Toulouse (1971, 1969).

**Finish**. Common names, such as "Blob-top," "Crown," and "Screw," were used when appropriate. Sources include Everette 1982.

**Base**. The majority of coded base types in the collection indicate the marks on the basal surfaces of glassware. "Snap case" indicates the lack of any markings when this device was used to hold a bottle in place while its finish was formed. Machine-made basal markings were also coded, if identifiable.

**Manufacturing Technique**. Manufacturing Technique refers to the distinctive mold seams and markings found on the bodies (and sometimes bases, finishes, or rims) of glassware.

**Wear**. The wear category has been devised to aid in specialized analyses, e.g., in distinguishing commercial as opposed to domestic deposits from urban sites (Diamond in Geismar 1983:315). Vessels from establishments offering glassware for sale would not be expected to show more than slight evidence of use-wear. On the other hand, vessels from domestic deposits would be expected to show use-wear ranging from heavy to very heavy. The code Wear on Interior can be used to indicate artifacts associated with fill deposits. The code Waterworn or Rolled can be used to indicate artifacts that have been rolled in surf.

**Lead/Non-lead (Comments)**. A short-wave ultraviolet light was utilized to examine select colorless glass vessels and sherds for the presence of lead. Leaded glass exposed to UV light appears ice-blue in color while non-leaded glass appears pale yellow or has no change.

## F. FAUNAL ANALYSIS

The analysis of the faunal material allowed for the identification of species, element, and completeness of the specimen. Identifications were made with the aid of a comparative faunal type collection and the use of reference materials, which include, but are not limited to Gilbert (1973), Olsen (1964, 1968, 1979), and Schmid (1972).

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## Minos Conaway DelDOT Artifact Catalog

| Acc No. | Site No. | Area | STP/Other | Stratum | Level | Cat # | Field # | Spec # | Class | Artifact Description: | Count | Weight (g) | Begin Date | End Date | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | A1 | A | 0-18cm | | 1 | 1 | Small Finds/Architectural | Brick | 1 | 194.3 | | | Red-bodied brick fragment; machine made; some burning present |
| | | A | A13 | A | 0-12cm | | 2 | 1 | Small Finds/Architectural | Wire Nail | 2 | 4.3 | 1880 | | 2 pieces mend; ferrous wire nail head and shank; missing tip; heavily corroded wi h concretions |
| | | C | C61 | A | 0-28cm | | 3 | 1 | Historic Ceramic | Redware | 1 | | | | Thick-bodied rim sherd; hollowware serving/utilitarian vessel; interior and exterior dark brown glaze; mostly spalled |
| S13128 | 7S-D-099 | B | B1 | A | 0-20cm | 1 | 201 | 1 | Faunal | Oyster | 1 | 2.2 | | | Oyster shell fragment; powdery surface |
| S13128 | 7S-D-099 | B | B3 | B | 18-36cm | 2 | 202 | 1 | Historic Ceramic | Redware | 4 | | | | Very small fragments mend; small amounts of dark brown glaze remain - all other surfaces are spalled; unknown vessel type (fragments are crumb-like) |
| S13128 | 7S-D-099 | B | B5 | B | 14-33cm | 3 | 203 | 1 | Historic Ceramic | Pearlware | 1 | | 1775 | 1840 | Hollowware body sherd; undecorated |
| S13128 | 7S-D-099 | B | B34 | A | 0-30cm | 4 | 204 | 1 | Historic Ceramic | Creamware | 1 | | 1762 | 1820 | Body sherd; hollowware; interior entirely spalled; exterior undecorated |
| S13128 | 7S-D-099 | B | B34 1mE | A | 0-33cm | 5 | 205 | 1 | Historic Ceramic | Pearlware | 2 | | 1775 | 1840 | 2 body sherds mend; exterior undecorated; interior completely spalled; flatware |
| S13129 | 7S-D-100 | D | Surface | | | 1 | 4 | 1 | Historic Ceramic | Whiteware | 1 | | 1820 | 2000 | Flatware rim sherd; interior molded rim - scallops; exterior undecorated |
| S13129 | 7S-D-100 | D | Surface | | | 2 | 5 | 1 | Glass | Jar Lid | 1 | | | | Milkglass jar seal/liner; rim fragment; embossed "..RS" |
| S13129 | 7S-D-100 | D | Surface | | | 3 | 6 | 1 | Historic Ceramic | Whiteware | 1 | | 1820 | 2000 | Flatware body sherd; exterior undecorated; interior entirely spalled |
| S13129 | 7S-D-100 | D | Surface | | | 4 | 7 | 1 | Historic Ceramic | Whiteware | 1 | | 1820 | 2000 | Hollowware rim sherd; undecorated; bowl |
| S13129 | 7S-D-100 | D | Surface | | | 5 | 8 | 1 | Glass | Jar Lid | 1 | | | | Milkglass jar seal/liner; embossed lettering "..N.." |
| S13129 | 7S-D-100 | D | Surface | | | 6 | 9 | 1 | Historic Ceramic | Hard Paste Porcelain | 1 | | | | Undecorated body sherd; flatware |
| S13129 | 7S-D-100 | D | Surface | | | 7 | 10 | 1 | Glass | Jar Lid | 1 | | | | Milkglass jar seal/liner; embossed lettering "..ORO.." rim |

| Acc No. | Site No. | Area | STP/Other | Stratum | Level | Cat # | Field # | Spec # | Class | Artifact Description: | Count | Weight (g) | Begin Date - End Date | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S13129 | 7S-D-100 | D | Surface | | | 8 | 11 | 1 | Glass | Soda Bottle | 1 | | | | Thick vertically-ribbed aqua body sherd; Coca-Cola georgia green; machine made |
| S13129 | 7S-D-100 | D | Surface | | | 9 | 12 | 1 | Small Finds/Architectural | Uniden ified Plastic | 1 | 19.9 | 1930 | | Mint-green plastic fragment; surface damage; thick industrial PVC |
| S13129 | 7S-D-100 | D | Surface | | | 10 | 13 | 1 | Historic Ceramic | Whiteware | 1 | | 1820 | 2000 | Flatware body sherd; undecorated |
| S13129 | 7S-D-100 | D | Surface | | | 11 | 14 | 1 | Historic Ceramic | Stoneware - Gray Salt Glazed w/ Bristol Type Slip | 1 | | 1835 | 2000 | Thick bodied rimsherd; Serving/mixing bowl; undecorated; underside of rim lip is partially spalled; Bristol glaze missing from rim edge |
| S13129 | 7S-D-100 | D | Surface | | | 12 | 15 | 1 | Glass | Soda Bottle | 1 | | | | Aqua neck sherd; Coca-Cola georgia green; machine made |
| S13129 | 7S-D-100 | D | D1 | A | 0-24cm | 13 | 401 | 1 | Small Finds/Architectural | Brick | 1 | 2.9 | | | Red-bodied brick fragment; spalled; compact paste |
| S13129 | 7S-D-100 | D | D6 | A | 0-30cm | 14 | 402 | 1 | Glass | Uniden ified Curved/Vessel Glass | 1 | | | | Colorless body sherd |
| S13129 | 7S-D-100 | D | D6 | A | 0-30cm | 14 | 402 | 2 | Glass | Uniden ified Curved/Vessel Glass | 1 | | | | Colorless body sherd; embossed cursive lettering (unreadable) |
| S13129 | 7S-D-100 | D | D7 | A | 0-34cm | 15 | 403 | 1 | Historic Ceramic | Whiteware | 1 | | 1820 | 2000 | Base sherd; undecorated; flatware |
| S13129 | 7S-D-100 | D | D7 | A | 0-34cm | 15 | 403 | 2 | Glass | Bottle | 1 | | | | Crown finish fragment; brown bottle glass; no mold seams visible |
| S13129 | 7S-D-100 | D | D7 | A | 0-34cm | 15 | 403 | 3 | Small Finds/Architectural | Coal/Cinder/Slag | 2 | 3.9 | | | Coal and slag fragments |
| S13129 | 7S-D-100 | D | D7 | A | 0-34cm | 15 | 403 | 4 | Faunal | Oyster | 1 | 0.4 | | | Powdery and heavily weathered shell fragment |
| S13129 | 7S-D-100 | D | D8 | A | 0-32cm | 16 | 404 | 1 | Glass | Jar Lid | 1 | | | | Small rim sherd; milkglass; jar lid fragment |
| S13129 | 7S-D-100 | D | D8 | A | 0-32cm | 16 | 404 | 2 | Glass | Uniden ified Curved/Vessel Glass | 1 | | | | Colorless body sherd |
| S13129 | 7S-D-100 | D | D8 | A | 0-32cm | 16 | 404 | 3 | Glass | Uniden ified Curved/Vessel Glass | 1 | | | | Brown body sherd; no mold seams visible |

| Acc No. | Site No. | Area | STP/Other | Stratum | Level | Cat # | Field # | Spec # | Class | Artifact Description: | Count | Weight (g) | Begin Date - End Date | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S13129 | 7S-D-100 | D | D19 | A | 0-30cm | 17 | 405 | 1 | Historic Ceramic | Whiteware | 1 | | 1820 | 2000 | Rim sherd; interior rim embossed with unidentifiable motif; exterior undecorated; flatware |
| S13129 | 7S-D-100 | D | D19 | A | 0-30cm | 17 | 405 | 2 | Glass | Uniden ified Bottle/Jar-Body | 1 | | | | Colorless body sherd; embossed lettering "..NO.." |
| S13129 | 7S-D-100 | D | D19 | A | 0-30cm | 17 | 405 | 3 | Glass | Uniden ified Bottle/Jar-Body | 1 | | | | Colorless neck fragment approaching finish; finish portion is textured/stippled; machine made |
| S13129 | 7S-D-100 | D | D6 7.5mN | A | 0-30cm | 18 | 406 | 1 | Small Finds/Architectural | Uniden ified Nail | 1 | 4.2 | | | Ferrous metal nail; whole; concretions obscure form |
| S13129 | 7S-D-100 | D | D7 1mN | A | 0-31cm | 19 | 407 | 1 | Historic Ceramic | Whiteware | 1 | | 1820 | 2000 | Hollowware body sherd; undecorated |
| S13129 | 7S-D-100 | D | D7 1mN | A | 0-31cm | 19 | 407 | 2 | Glass | Uniden ified Curved/Vessel Glass | 1 | | | | Small body sherd; unidentified manufacture; heavily chipped |
| S13129 | 7S-D-100 | D | D7 1mN | A | 0-31cm | 19 | 407 | 3 | Small Finds/Architectural | Uniden ified Material | 1 | 0.8 | | | Fragment of burned material; possibly tile fragment? Paste and exterior exhibit burning |
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 1 | Glass | Pharmaceutical | 1 | | | | Cobalt base to body sherd; machine made; base embossed "VI.."; Vicks vapor rub pot (same as 410.1) |
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 2 | Glass | Uniden ified Bottle/Jar-Base | 1 | | | | Colorless base sherd; no diagnostic markings |
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 3 | Glass | Uniden ified Bottle/Jar-Body | 1 | | | | Colorless body sherd; panel bottle; squared sides; machine made mold seam |
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 4 | Glass | Uniden ified Bottle/Jar-Body | 1 | | | | Colorless body sherd; embossed "..ORBIDS … US… 80.." |
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 5 | Glass | Uniden ified Bottle/Jar-Body | 1 | | | | Colorless body sherd; embossed cursive lettering; possibly Coca-Cola |
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 6 | Glass | Uniden ified Curved/Vessel Glass | 1 | | | | Lime green body sherd; undecorated |
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 7 | Small Finds/Architectural | Wire Nail | 2 | 3.5 | 1880 | | Ferrous wire nails; missing tips; corroded wi h concretions |
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 8 | Small Finds/Architectural | Uniden ified Nail | 1 | 10 | | | Ferrous metal nail; whole; corroded with concretions obscuring form |
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 9 | Small Finds/Architectural | Coal | 1 | 4.3 | | | Coal fragment |

| Acc No. | Site No. | Area | STP/Other | Stratum | Level | Cat # | Field # | Spec # | Class | Artifact Description: | Count | Weight (g) | Begin Date | End Date | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S13129 | 7S-D-100 | D | D7 1mE | | | 20 | 408 | 10 | Small Finds/Architectural | Uniden ified Material | 1 | 2.7 | | | Fragment with flaky cleavage interior; exterior appears glazed but could be wea hered smooth; no streak |
| S13129 | 7S-D-100 | D | D7 1mS | A | 0-27cm | 21 | 409 | 1 | Faunal | Clam | 1 | 3.6 | | | Powdery clam shell sherd |
| S13129 | 7S-D-100 | D | D7 1mS | A | 0-27cm | 21 | 409 | 1 | Glass | Uniden ified Bottle/Jar-Body | 2 | | | | Colorless body sherds; unidentified manufacture; undecorated |
| S13129 | 7S-D-100 | D | D7 1mS | A | 0-27cm | 21 | 409 | 2 | Glass | Uniden ified Bottle/Jar-Body | 1 | | | | Molded colorless body sherd; possible cornered bottle; unidentified manufacture |
| S13129 | 7S-D-100 | D | D7 1mS | A | 0-27cm | 21 | 409 | 3 | Glass | Uniden ified Bottle/Jar-Body | 1 | | | | Amber/honey bottle glass; body sherd; undecorated; thin |
| S13129 | 7S-D-100 | D | D7 7.5mN | A | 0-32cm | 22 | 410 | 1 | Glass | Pharmaceutical | 1 | | | | Cobalt finish-shoulder fragment; single thread con inuous screw top; machine made; likely Vicks vaporub pot (same as 408.1) |
| S13129 | 7S-D-100 | D | D7 7.5mN | A | 0-32cm | 22 | 410 | 2 | Glass | Uniden ified Curved/Vessel Glass | 1 | | | | Colorless body sherd; heavily chipped; unidentified manufacture |
| S13129 | 7S-D-100 | D | D7 7.5mS | A | 0-32cm | 23 | 411 | 1 | Glass | Uniden ified Curved/Vessel Glass | 1 | | | | Colorless vessel glass; body sherd; possibly neck/shoulder joint; unidentified manufacture |
| S13129 | 7S-D-100 | D | D19 1mN | A | 0-27cm | 24 | 412 | 1 | Historic Ceramic | Whiteware - Transfer Printed - Blue | 1 | | 1820 | 1915 | Body to rim fragment; scenic pastoral motif transfer printed on exterior; interior entirely spalled; teaware |
| S13129 | 7S-D-100 | D | D19 1mN | A | 0-27cm | 24 | 412 | 2 | Glass | Uniden ified Bottle/Jar-Base | 1 | | | | Brown bottle glass base fragment; footring only; unidentified manufacture |
| S13129 | 7S-D-100 | D | D19 1mE | A | 0-29cm | 25 | 413 | 1 | Historic Ceramic | Whiteware | 1 | | 1820 | 2000 | Undecorated body sherd; hollowware |
| S13129 | 7S-D-100 | D | D19 1mE | A | 0-29cm | 25 | 413 | 2 | Historic Ceramic | Whiteware | 1 | | 1820 | 2000 | Undecorated base sherd; flatware |
| S13129 | 7S-D-100 | D | D19 1mE | A | 0-29cm | 25 | 413 | 3 | Glass | Jar Lid | 3 | | | | Milkglass jar seal/liner; embossed "G.." and "..A.." with diamond maker's mark (Owens-Illinois Glass Co.) |
| S13129 | 7S-D-100 | D | D19 1mE | A | 0-29cm | 25 | 413 | 4 | Glass | Uniden ified Curved/Vessel Glass | 3 | | | | Colorless curved body sherds; no diagnostic markings |
| S13129 | 7S-D-100 | D | D19 1mS | A | 0-31cm | 26 | 414 | 1 | Glass | Jar Lid | 1 | | | | Milkglass jar seal/liner; likely for a fruit jar; embossed "..RUIT" |

| Acc No. | Site No. | Area | STP/Other | Stratum | Level | Cat # | Field # | Spec # | Class | Artifact Description: | Count | Weight (g) | Begin Date - End Date | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S13129 | 7S-D-100 | D | D19 1mS | A | 0-31cm | 26 | 414 | 2 | Glass | Uniden ified Curved/Vessel Glass | 1 | | | Colorless body sherd; partial mold seam present; interior stippling present near edge of sherd |
| S13129 | 7S-D-100 | D | D19 1mW | A | 0-30cm | 27 | 415 | 1 | Glass | Uniden ified Bottle/Jar-Body | 1 | | | Colorless body sherd; angular corner - possibly a panel bottle; machine made |
| S13129 | 7S-D-100 | D | D19 1mW | A | 0-30cm | 27 | 415 | 2 | Small Finds/Architectural | Brick | 1 | 1.4 | | Red bodied brick crumb; compact and homogenous paste |
| S13129 | 7S-D-100 | D | D19 7.5mS | A | 0-32cm | 28 | 416 | 1 | Historic Ceramic | Whiteware | 1 | | 1820 2000 | Flatware body sherd; interior partially spalled; exterior undecorated |

# *APPENDIX D: Cultural Resource Survey Property Identification Forms*