

Chapter 5

FIELD INVESTIGATIONS

A. METHODS

Only areas directly impacted by the proposed construction within the APE were selected for archaeological investigation (Figures 5.1 and 5.2; Plate 5.1). In the absence of clear topographical or archaeological predictors, no areas were excluded from examination.

Two approaches to archaeological field survey were proposed and implemented. In the area of Ramps A and B (Area 2), the most recently cultivated portion of the APE that lies southeast of Wilkins Road/State Route 206, east of Cedar Creek Road/SR 30 and west of SR 1, a controlled surface collection was conducted followed by judgmentally placed shovel testing of artifact clusters and locations of significant artifacts. This was further investigated by regular interval shovel testing to better understand the level of stratigraphic integrity across areas of clustered artifacts.

In the remaining areas (Area 1: Intersection of State Route 30/Cedar Creek Road and State Route 206/Wilkins Road; Area 3: Proposed Overpass and Ramps C & D Connecting State Route 1 and State Route 206/Cedar Neck Road) regular interval shovel testing was conducted on long-fallow locations (manicured lawns, greens and agricultural field margins) or areas where standing crops did not allow for an acceptable level of surface visibility (mature feed corn). Regular interval shovel testing also provided a methodological check on testing for the other areas. Shovel testing aimed for an overall coverage of about 17 tests per acre. The initial testable area amounted to approximately 17 acres, and a total of 300 shovel tests were proposed. This allowed for closer interval testing where artifact concentrations were found.

Shortly before the fieldwork was to commence the proposed alignment along the south side of SR 1 was shifted southwest connecting SR 1 directly to Cedar Creek Road/SR 30. This change in the proposed alignment eliminated approximately 200 proposed shovel test locations. The proposed new alignment fell completely within a recently plowed agricultural field containing bush lima beans. As the beans were freshly sprouted it was decided not to wait for an adjustment to the scope of work and to take advantage of the high visibility of the freshly plowed fields by conducting a controlled surface collection supplemented by shovel testing. This strategy proved fruitful as both prehistoric and historic artifact clusters were observed near Cedar Creek Road/SR 30. The shift in the alignment resulted in the excavation of 28 shovel test less than originally proposed while increasing the area for controlled surface collection by approximately 55%.

B. SURVEYED LOCATIONS (FIGURES 5.2 AND 5.3)

Area 1. Intersection of State Route 30/ Cedar Creek Road and State Route 206/ Wilkins Road. Shovel Tests 1-24, 268-270 (Figure 5.2)

A total of 12 shovel tests (STs 1 through 10, 2A and 2B) were excavated along a single transect spaced 50 feet apart along the east side of SR 30/Cedar Creek Road north of State Route 206/Wilkins Road intersection (Plate 5.2) and the north side of State Route 206/Wilkins Road, east of the intersection (Plate 5.3). This area is characterized as an open green bordering SR 1 and is maintained by the State of Delaware. Soils in this area consist of silty sand subsoil overlain

by silty loam plowzone and capped by re-deposited material excavated from the adjacent drainage ditch. The uppermost deposit contained numerous modern artifacts such as beverage bottles (beer and soda), chunks of asphalt, and crushed road gravel/trap rock. Shovel Test 2 recovered a single sherd of red-bodied earthenware from the top context. Two additional shovel tests (STs 2A and 2B) were placed 12.5 feet north and south of ST 2. No additional significant cultural remains were identified.

Three shovel tests (STs 268, 269 and 270) were excavated along a single transect spaced 50 feet apart along the south side of State Route 206/Wilkins Road, east of the intersection with SR 30/Cedar Creek Road. ST 267 was not excavated because of obstructions. This area consists of well-maintained front lawns of residential properties. Soils in this area consist of sterile medium and coarse sand subsoil overlain by loamy sand topsoil which was likely transported to the location when the houses were constructed, or shortly afterwards. No significant or potentially significant cultural remains were identified.

Seven shovel tests (STs 11 through 17) were excavated along a single transect spaced 50 feet apart along the east side of SR 30/Cedar Creek Road south of State Route 206/Wilkins Road. The testing area lies within well-maintained front and side yards of residential properties (Plate 5.4). Soils in this area consist of sterile silty sand and loam subsoil overlain by former silty sand plowzone. The only cultural materials, coal and plastic, were from the plowzone in ST 17. These items were recorded and discarded in the field.

Seven shovel tests (STs 18 through 24) were excavated along a single transect spaced 50 feet apart along the south of State Route 206/Wilkins Road south side of State Route 206/Wilkins Road, west of the intersection with SR 30/Cedar Creek Road. The testing area lies in a grassy margin between a soybean field and the road (Plate 5.5). A drainage ditch runs parallel

to the road within the APE. Soils in this area consist of sterile silty sand and loamy sand subsoil overlain by sandy loam plowzone. The plowzone contained numerous modern beverage bottle fragments (beer and soda), which were discarded in the field. No other cultural materials were observed in this area.

Area 2. Proposed Ramps A and B Connecting State Route 1 and State Route 30/Cedar Creek Road. Shovel Tests 25-102 (Figures 5.2 and 5.3)

A controlled surface collection was undertaken within the freshly plowed agricultural field in the area of the proposed ramps connecting SR 1 and SR 30/Cedar Creek Road. Surface collection was initiated from the southbound side of SR1 heading southwest towards SR 30/Cedar Creek Road (Plates 5.6 and 5.7). Very few artifacts were observed on the surface in the eastern part of the alignment. The heaviest concentrations were immediately east of SR 30/Cedar Creek Road. During the initial walkover the ground was dry and powdery with less than optimal visibility. As the upcoming forecast was for rain additional passes were put on hold in lieu of shovel testing in other areas. Following a steady overnight rain two additional passes were conducted in opposite directions. All artifacts were flagged and labeled with individual point provenance numbers (PP) and an initial inventory was recorded in the site notebook. The position of each flag was then recorded using a handheld sub-meter GPS unit (TOPCON GMS-2). Artifact locations were coded for quick identification as prehistoric or historic artifacts with subdivisions into artifact classes. A map of the first two days' survey was generated for use in the field and in consultation with archaeologists from DelDOT.

Although not proposed in the original scope of work a metal detector survey was initiated within the areas containing clusters of artifacts. Starting at the



Plate 5.6. General view of bush lima bean field, the Proposed Locations of Ramps A and B facing northeast towards State Route 1. (Photographer: Sue Ferenbach, July 2009) [HRI Neg. # 09014/D1:001].



Plate 5.7. Surface visibility within the bush lima bean field between State Route 1 and State Route 30/ Cedar Creek Road at the end of fieldwork facing north. (Photographer: Joelle Browning, July 2009) [HRI Neg. # 09014/D1:013].

proposed intersection of SR 30/Cedar Creek and the SR1 ramps, the crew proceeded in a northeast direction towards SR1. The typical practice employed by operators during a metal detector survey is to discriminate against iron so that time is not wasted digging up every nail commonly found on historic sites. In this case the machine was set to pick up all metals in an effort to locate former structures based on the presence of nails and other architectural hardware, such as latches and hinges. After excavating several pull-rings, bottle tops and beverage cans two historic artifacts were located (designated MD1 and MD2). Both appear to be small fragments of cast iron kettles, which were popular during the 18th and early 19th centuries. A third find located in the same area at the end of the day was unidentified. On the next day when an attempt was made to continue the metal detector survey the metal detector malfunctioned and we had to abandon this aspect of the survey. The results of the small metal detected area indicate such a procedure may prove fruitful in the future at this site.

Twenty-eight shovel tests (STs 25 through 52) were placed at locations where individual or clusters of artifacts of interest (such as prehistoric tools and debitage or early historic ceramics) were observed on the surface. Soils in this area consist of compact loamy sand and loamy coarse sand subsoil overlain by an active sandy loam plowzone. Thirteen tests (STs 28, 29, 32 through 39, 43, 44 and 49) recovered artifacts from the plowzone and one test, ST 37 encountered brick flecks and charcoal from below the plowzone within a dark soil anomaly. A one-inch soil auger was employed to delimit the anomaly. The overall dimensions of the anomaly are 9.5 feet east-west by 15 feet north-south by 3.5 to 4.0 feet deep. This may represent a cellar hole for a domestic structure. The feature lies 160 feet south of the proposed right of way. The two-foot contours show a very slight terracing at this point (Figure 5.3).

Following consultation with DelDOT archaeologists David Clarke and Kevin Cunningham, an additional fifty shovel tests (STs 53 through 102) were excavated along two 50-foot-interval transects spaced 40 feet apart. Numbers 103 through 199 were held in reserve but were not assigned. These tests were excavated to get a better understanding of the depth of disturbance by decades of plowing across the portion of the project area where artifacts were recovered from the surface. Results of this testing indicate the disturbance across this area extended between 0.9 and 1.1 feet below the surface. Shovel Test 57 encountered a shallow disturbance extending to a depth of two feet below the plowzone. Two artifacts were recovered from this feature, a square-bodied nail fragment and a single rim sherd of a blue shell edge decorated pearlware plate (*circa* 1780-1830). The function of this feature cannot be determined at this level of survey effort. There is considered sufficient data from this area to merit assignment of a site number [7S-C-100 (CRS S10315)].

Area 3. Proposed Overpass and Ramps C & D Connecting State Route 1 and State Route 206/Cedar Neck Road. Shovel Tests 200 through 266.

Sixty-seven shovel tests assigned to the 200 series (STs 200 through 266) were excavated east of the SR 1 and Cedar Neck Road/State Route 206 intersection entirely within a mature feed-corn field (Plate 5.8). Shovel Tests 200 to 223 and 238 to 266 were spaced 50 feet apart following the proposed routes of the on and off ramps and along the proposed shift of Cedar Neck Road/State Route 206. A single transect was also tested (STs 224 through 237) across a proposed detention basin located in the same area. Soils in this area consist of silty sand and loamy sand subsoil overlain by an active silty sand plowzone. The only artifacts retained from this area were an isolated small brick fragment recovered from the plowzone in ST



Plate 5.8. General view of corn field along north side of State Route 1 in the area of the proposed Ramps C and D facing northeast. (Photographer: Sue Ferenbach, July 2009) [HRI Neg. # 09014/D1:007].

211, and a single small fragment of window glass from the plowzone in ST 244. Discarded items consist of coal from ST 228, 230, 252 and 253, a small modern glass beverage bottle fragment from ST 223, a metal pop-top from ST 241 and piece of plastic from ST 245.

C. MATERIAL CULTURE FROM PROPOSED RAMPS A AND B

1. Prehistoric Artifacts (Table 5.1, Plate 5.9)

The prehistoric assemblage consists of ten lithic (stone) artifacts: thermally fractured rock fragments (6) associated with hearths for heat and cooking; lithic debitage (2) also known as waste flakes, the byproducts of stone tool production or maintenance; a broad quartzite biface/knife used for a variety of cutting purposes; and a small narrow-bladed black chert projectile point (midsection/distal) fragment used for hunting. Neither the biface nor the projectile point are considered diagnostic, but the broad style of the knife is suggestive of the Clyde Farm and Barker's Landing Complex of the Woodland I period between *circa* 5,000 B.P. and 2,500 B.P. as defined by Jay Custer (Custer 1984: 75-144). The absence of prehistoric ceramics from this small assemblage also hints at an earlier date for the occupation. The location of the site, 940 feet away from an un-named third order branch of the Cedar Creek on what at first glance appears to be a featureless, level terrain does not fit into typical settlement models. Close examination of the one-foot contours (Figure 5.3) indicates the course of a former fourth-order stream running directly through the middle of the scatter of prehistoric materials. As the number of prehistoric artifacts is low and the range of artifacts is limited, the function of the site is unclear at this time. The site may represent a

periodic hunting foray from a micro-band base camp or a short-term stay of a single-family unit in transit to another location.

2. Historic Artifacts

Historic artifacts collected from proposed Ramps A and B connecting SR 1 and SR 30/Cedar Creek Road exhibit a date range from the early 18th to the late 19th century. The preliminary conclusion is that these artifacts are related to the Shockley house depicted on the 1868 Beers map.

a. 18th-Century Artifacts (Tables 5.2 and 5.3, Plate 5.10)

Delftware

A small tin-enameled, buff-bodied, earthenware rim sherd (PP 42) was recovered from the surface in close proximity to a sherd of creamware and a white clay tobacco pipe stem (7/64 bore diameter, see below). The form of the original vessel represented by this small sherd is indeterminate, as is its country of origin, but this can be limited to Holland or England. The dating of tin-enameled ware also known as Delftware (after the Dutch city of Delft) is often difficult on small sherds as it was imported to the colonies from the late 17th through the 18th centuries (Hume 1977:1-11). This small sherd, as is the case with so many tin-enameled sherds, is missing the interior glaze. Tin glazes do not fuse well with the earthenware bodies and expand and contract at different rates when exposed to variations in temperatures. This causes the glaze to detach from the body. By the time sherds are collected from the surface of a plowed field, they have been separated from their glazes. A second tin-enameled, buff-bodied, earthenware sherd (PP 92) recovered from the surface exhibits a series of hand painted parallel blue lines, a design element

Table 5.1. Prehistoric Artifacts From Ramps A and B

Class	Type	Subtype	Material	Quantity	
Lithics	debitage	flake fragment	Jasper	1	
			Quartz	1	
	flake tool	biface/knife	Quartzite	1	
	pebble-based tool	projectile point	Chert		1
	thermally altered rock			Quartzite	5
Limonite				1	
Total				10	

Table 5.2. Historic Artifacts From Ramps A and B

Class	Quantity
Building Materials	70
Ceramic Vessel Sherds	106
Fauna	2
Furnishings	1
Glass Vessel Fragments	9
Kitchen	2
Personal Items	5
Tools/Hardware	4
Unidentified	2
Total	201

Table 5.3. Historic Ceramics from Ramps A and B

		Quantity
Delftware		2
Porcelain	Hard paste	4
	Unidentified	1
Redware		59
Refined Earthenwares		
	Creamware	6
	Ironstone	4
	Pearlware	8
	Whiteware	16
Stoneware		
	Gray-bodied	2
	Tan-bodied	1
	White salt-glazed	2

seen more frequently during the mid-18th century but could have an earlier date of manufacture (Garner and Archer 1972).

White salt-glazed stoneware

A base sherd from a molded, white, salt-glazed stoneware plate (PP 44) recovered from the surface unfortunately does not exhibit any molded decoration typical of this type of ware. These plates, manufactured in England, have a date range of *circa* 1740 to 1785 (Hume 1985:116) (Gusset 1980: 82-132). Another white, salt-glazed stoneware sherd (PP 38) from small hollowware form, likely a tea bowl, exhibits what is referred to as debased scratch-blue decoration and dates to *circa* 1765-1790 (Hume 1985:118) (Gusset 1980:37-67). This small sherd is decorated on the interior with a lightly scratched oval which has been in-filled with a cobalt wash.

Creamware

Five undecorated sherds (ST 40, PP 4, PP 79 and PP 90) of English creamware were recovered from the surface collection and the plowzone from one shovel test. Creamware has an accepted date range of 1762 to 1820 but recent studies have suggested earlier origins (Smart-Martin 1994:178). A single creamware sherd recovered from the plowzone in Shovel Test 32 exhibits dendritic (fern-like) decoration. This decoration was accomplished by applying a small amount of tobacco, coffee or hops juice with stale urine and turpentine to the wet surface of annular, slip-banded wares (Hume 1985:131) (Sussman 1997:26). The “tea” mixture would run creating a fern or tree like decoration which was unique each time. Creamware decorated in this manner dates to between 1770 and 1820.

Pearlware

Eight English pearlware sherds were recovered from the surface and the plowzone (STs 53 and 57, PP 21, PP 47 and PP 71); three undecorated, three transfer printed, one hand painted monochrome, and one blue shell edge. Pearlware has a date range of *circa* 1775 to 1840 (Miller and Hunter 2001: 135-161). Transfer printed pearlware was manufactured towards the later half of the date range.

Redware

The production of redware was a cottage industry throughout the Delaware Valley engaged in by some potters to supplement their income as farmers or other trades. Most of these wares were made to fill utilitarian needs and were not marked by individual potters. A total of 59 redware sherds were recovered from this area. The majority of the redware sherds (40) exhibit dark brown to black manganese glazes common during the 18th and 19th centuries. Only one sherd (PP 57) of redware exhibited white slip decoration. Slipwares were produced by countless potters throughout the Delaware Valley during the 18th and 19th centuries and are usually better represented in ceramic assemblages from this period.

A rim sherd, (PP 41) from an eight-inch-diameter bowl exhibits a dark gray body that is the result of over firing, although the interior exhibits a lead glaze which appears to be unaffected by the high temperatures. Another possibility may be that the vessel was fired in a reducing atmosphere in a sealed kiln where the supply of oxygen was limited, a technique typical of potters of the late 17th to early 18th centuries.

A single thin-walled, body sherd (PP40) with interior and exterior black glaze is typical of wares produced during the second half of the 18th century in England by the Jackfield Pottery in Shropshire and by Thomas Whieldon in Staffordshire, with similar wares being produced in Philadelphia, Pennsylvania. Another thicker, purple-bodied body sherd (PP 126) with inte-

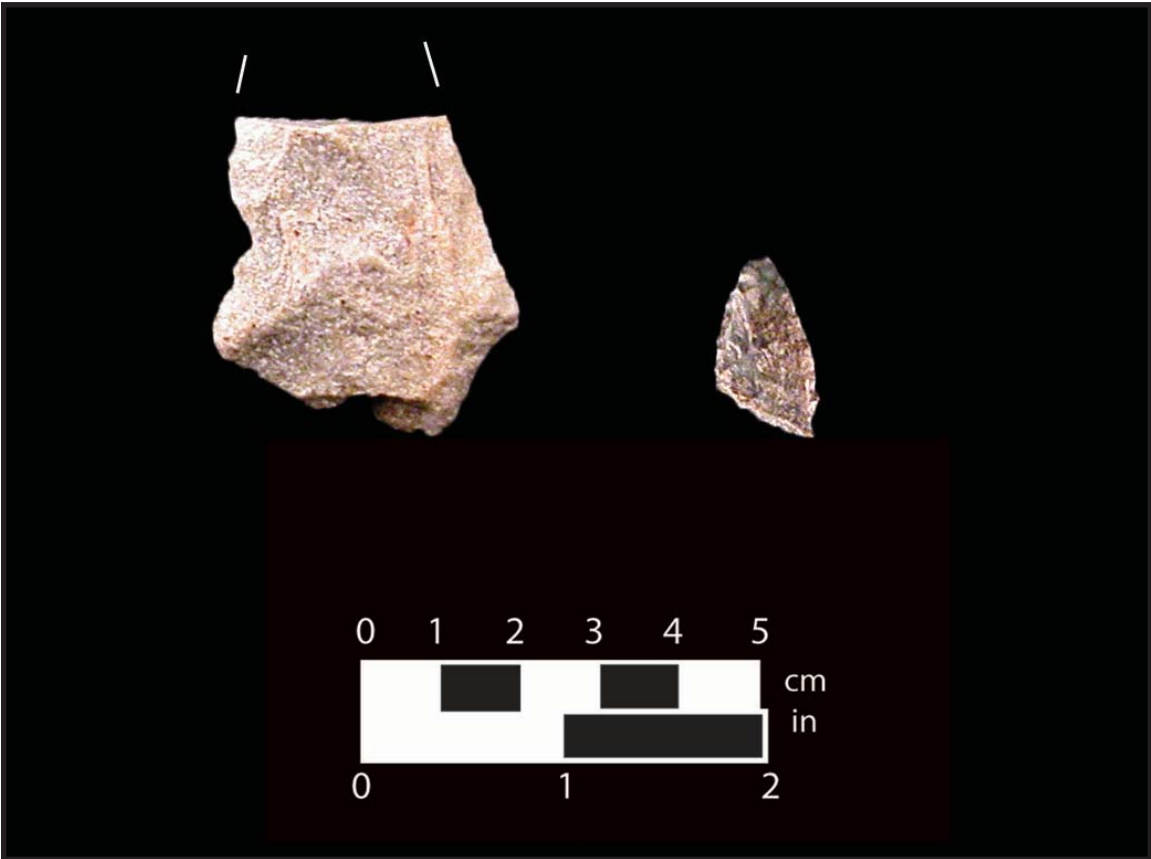


Plate 5.9. Selected prehistoric artifacts recovered from the proposed locations of Ramps A and B between State Route 1 and State Route 30/Cedar Creek Road. (Left to right); Quartzite biface/knife; Chert projectile point fragment (Photographer: Marjan Osman, September 2009) [HRI Neg. # 09014/D2:001].



Plate 5.10. Selected historic artifacts recovered from the proposed locations of Ramps A and B between State Route 1 and State Route 30/Cedar Creek Road. *Top row (left to right):* Delftware with blue linear decoration; White salt-glazed stoneware (“scratch blue”); White salt-glazed stoneware; Gray-bodied stoneware (“Albany slip interior”). *Bottom row (left to right):* Pipe stems (7/64-inch bore); Cast bronze knob or finial (Photographer: Marjan Osman, September 2009) [HRI Neg. # 09014/D2:002].

rior and exterior black glaze is also typical of English wares produced during the second half of the 18th century.

Tobacco Pipes

Two white-ball-clay tobacco pipe stems (PP42 & PP91) both exhibit bore diameters of 7/64 of an inch, which, using “Harrington’s Theory” (Hume 1985) for dating pipes based on their diameter, suggests a date range of 1620-1710. The dating of sites based on pipe stem bore diameters should never be used alone, but it does provide supporting evidence when examining the assemblage as a whole. In this case there are other artifacts suggesting a possible early date for a portion of the site, delftware, redware, and a brass knob/finial (see below). Two other pipe stems with 5/64-inch bore diameters have a date range of 1710-1800.

Glass

Two dark olive green glass bottle fragments (PP 88 and PP 107) recovered from the surface represent portions of wine or spirit bottles. Both fragments are body fragments and provide no diagnostic clues suggesting a date of manufacture, but dark green olive bottles were produced throughout the colonial period and into the 19th century in large numbers.

Building Materials

Several bricks exhibit characteristics of local on-site production. In rural areas of colonial America bricks were manufactured on-site for a chimney, foundation or even an entire house. On-site production of bricks had to make use of the local clays which often contained small stones and other impurities (such as organics). Bricks produced at a brickyard would be made from clays which were allowed time

to weather. Impurities were then removed before the bricks were made. When building a house in rural colonial America the luxury of time to weather the clay for bricks was not a viable option. Larger stones were removed but for the most part smaller stones were left in the mix. Brickbats (fragments) recovered from the site exhibit small stones up to a half an inch in diameter. Lumps or loaves of clay were rolled in sand to prevent the brick from sticking to the mould. Exterior surfaces of many of the bricks recovered from the site exhibit striations incurred when water-soaked sticks were dragged across the surface of the mould to remove excess clay from it (Dobson 1850). Brick manufactured at a brickyard from weathered and screened clays lack these markings. A few of the bricks exhibit “glazed” surfaces. “Glazed” surfaces are not the result of intentional glazing but rather a consequence of intense heat melting the sand coating. Glazing only occurs on the portion of the brick directly exposed to the heat source along the flues of the brick clamp (kiln). Bricks with glazed surfaces are typical of the 18th century and earlier.

Furnishings

A cast brass knob or finial (PP 18) is of a baroque style, suggestive of pre-Georgian (pre 1711) bulbous ornamentation. This knob or finial could be a pull from a piece of furniture or a finial from the handle of an ornate fireplace tool such as a poker.

Two cast iron kettle fragments (MD1 and MD2) were recovered during the brief metal detector survey. Iron kettles were common household items during the colonial period and into the first part of the 19th century.

b. 19th-Century Artifacts

Ceramics

Later 19th-century ceramics are represented by some indeterminate portion of the redware (59); English-made whiteware (16), four with transfer-printed decoration (red, purple and black); ironstone granite china (4), one with a partial maker's mark (British Coat of Arms); domestically produced yellowware (1); and stoneware (3), one tan bodied alkaline glazed and two gray-bodied salt-glazed examples. There are also five porcelain sherds, which could have been produced domestically or in Europe.

Glass

Vessel glass is represented by eight curved, pale aqua and clear bottle fragments. One milk bottle and one medicine bottle were identifiable. All others were too small for positive identification.

Building Materials

Evidence of structures is represented in the artifacts by 58 red brick fragments (three glazed and seven over-fired or burnt); 13 pieces of pale aqua, flat window glass; and three nails, two cut and one unidentifiable. The date of the brick fragments is indeterminate. Window glass fragments all appear to have been made using the cylinder method and date to the 19th century. Cut nails were mainly used during the 19th century.