

were excavated. All excavated soils were screened through 1/4" mesh, and test units were excavated to a sufficient depth to reach soils too old to contain artifacts. All cultural materials recovered were bagged according to individual test units and excavation levels. Field records for each excavated test unit noted the thickness, color and textural characteristics of soils encountered, and cultural materials recovered. If prehistoric cultural materials were encountered, additional test units were excavated at five or ten meter intervals surrounding the original unit. Based on whether these tests yielded additional cultural material, a decision was made whether or not to undertake Phase II investigations.

Phase II location/identification testing was carried out to determine the National Register eligibility of any sites discovered during the Phase I survey. Phase II testing consisted of the systematic excavation of 1m test units and controlled surface collection to determine the integrity, limits, and stratigraphic context of archaeological sites. In areas adjacent to the Smyrna River, Phase II testing specifically considered the depositional integrity of overlying soils and included preparation of a geological cross section.

RESULTS OF PHASE I AND II INVESTIGATIONS

To facilitate the discussion of cultural resources identified by background research or Phase I field reconnaissance survey, the project area was divided into two segments: 1) from the southern terminus of the project area to the Smyrna River; and, 2) from the Smyrna River to the northern terminus of the

project area (Figure 2, Plate 1).

SEGMENT 1 - (SOUTH SIDE OF SMYRNA RIVER)

Resource Potential

Prehistoric and Historic. There exists a low potential for the presence of prehistoric resources within this segment of the project area. As was noted earlier, this area is a very poorly-drained marsh adjacent to the main river channel and has been poorly drained over the past 12,000 years. No historic resources are expected for this segment due to the poor drainage as well. Due to the very poorly drained nature of the proposed ROW within this segment no testing was carried out and no further work is recommended.

SEGMENT 2 - (NORTH SIDE OF SMYRNA RIVER)

Background Research

Introduction. Background research on this segment revealed the area to have been the location of an active, but dispersed, hamlet created in the early to mid-19th century. The hamlet at its late 19th century population maximum contained approximately 6 farmsteads, 1 store, a tomato cannery and wharf, a landing operation and storehouse, and a small landing operation associated with the Fleming House. The settlement known today as Flemings Landing was founded in the late 18th century because of its favorable setting within the water transportation network of central Delaware. During the late 18th and early 19th century the landing was first known as Ward's and later as Barlow's Landing. A revitalization took place during the turn of the 20th century with the construction of several new businesses along the

Duck Creek (Smyrna River) and a series of structures fronting present day Route 9. The housing stock was almost totally destroyed during the 1960s and 1970s through acquisition of land by the Shell Oil Company for their Delaware Point refinery project. Since that time, the area has returned to and remains a fairly inactive rural landscape. The present landscape (Plate 1) is almost devoid of structures and which looks nothing like either the 18th or the mid-20th century environment.

Area History. In 1767, the land included within the project area was purchased by John Ward from James Gano to whom the land had been surveyed in 1738. John Ward's landholdings included a large portion of the surrounding area extending southward from Deakyneville to Flemings Landing. (Table 1 shows a summary of deed transactions for the site). During the late 18th century the landing was called Ward's Landing and was operated by George Ward. In 1782, a road was laid out from "a landing at Duck Creek at George Ward's to intersect the Throughfare Road". The Throughfare road ran from Deakyneville across Long Bridge, through Chambersville to the Duck Creek Town. A 1796 survey of lands for Gideon Emory indicates that George Ward's Landing was comprised of upper and lower wharves. No other specific information is known about the landing operation during this time period. From 1800 to 1809 the tract of land at Flemings Landing was partially purchased and partially inherited by Nicholas Barlow from his wife's family. With this and other lands Nicholas Barlow owned, the "mansion farm" tract was formed. According to New Castle County Orphan's Court Records (OC-I-1-582-84), when Barlow received the land in 1809 there were

TABLE 1

SUMMARY OF DEED TRANSACTIONS FOR THE
FLEMINGS LANDING SITE, 1767-1987

Transaction	Date	Deed Reference	Acres
James Gano		Land Grant	?
James Gano, Est John Ward	1767	Y-1-116	382
John Ward to George Ward	1767	Y-1-325	158
George Ward Est to Nicholas Barlow	1803	Z-2-456	158
Nicholas Barlow, decd to sons and daughters	1828	Will	158
Nicholas Barlow, Est. to Joseph Fleming	1828 1856	I-4-20 X-6-456	250
Joseph Fleming to Enoch Fleming	1857	Will W-1-421	250
Enoch Fleming, Est. to Benjamin Niels	1861	N-7-453	200
Benjamin Niels to Jacob Deakyne	1861	N-7-456	200
Isaac Grubb, Shff. to Kent Co. Mutual Ins. Co.	1877		160
Kent Co. Mutual Ins. Co. to Annie Hitchens	1878	C-11-158	160
Annie E. Hitchens to William Coning	1896	A-17-583	160
William Coning to Charles Storz	1915	K-25-303	158
Charles Storz to Samuel A. Fortner	1927	H-35-44	158
Samuel A. Fortner to Louise F. Fortner	1942	Will	158
Louise Fortner to David and Ivison Fortner	1974	Will	158

buildings on the river at the landing. An 1817 tax assessment listing Nicholas Barlow's estate indicates that by this time a good wooden dwelling house, barn, stables, and three storehouses were present on the property. Barlow lived on the property until his death, ca. 1815, and by this time had become a rather wealthy man, owning a large portion of the Cedar Swamp and the lands in Throughfaire Neck, as well as the mansion farm tract. At the time of his death, an inventory of his estate totaled \$19,099.99. Among his possessions were a watch valued at \$15, a clock valued at \$45, a mahogany table, a black walnut table, several beds and bed furniture, and several carpets. He had an ox cart, two wagons with a total value of \$90, and a \$100 riding carriage. On his farm at the time of his death were 7 horses, 3 yoke of oxen, 21 cows, 19 sheep, and 21 hogs. In his meat house were 127 lbs. of beef and 1042 lbs. of pickled pork. In the barn and corn crib were timothy, flax, oats, wheat, corn, and hay. Also in the barn were cedar rails, poplar and oak boards, and two thousand cedar shingles. Based on the limited quantity of surplus goods, it is probable that Barlow operated as more of a middleman in the commercial network than as a true merchant or shopkeeper. Most of his business transactions seem to have involved the exportation of goods (cedar shingles for example) to urban markets in the region such as Wilmington and Philadelphia.

The land went through a series of estate settlements between 1820 and 1830. Joseph Fleming (son-in-law to Nicholas Barlow) purchased the rights to the mansion farm and the tracts of land in the Cedar Swamp from the heirs of Nicholas Barlow. Under the ownership of Joseph Fleming, the operation became known as

Flemings Landing and was used as a port for the merchantile business he previously had operated in Smyrna. The land passed to his son Enoch Fleming, Sr. and then upon his death to his son Enoch Fleming, Jr. In 1861, the land was sold at a public auction ordered by the Orphan's Court to pay the debts of Enoch Fleming, Sr. The property was sold to Benjamin Nields for \$5525.00. It changed hands about every 20 years until 1927 when it was purchased by Samuel Fortner. The tract is now in the possession of his great-grandsons David and Ivison Rowland. The mansion farm tract has remained virtually the same acreage over the years and is still in agricultural production.

During the 19th century the settlement at Flemings Landing in proximity to the project area consisted of a single farm complex, the Fleming House, and its associated outbuildings (wharves and storehouses). A Kent County Mutual Insurance Company policy, dated 1857, lists a two storey frame dwelling (20 x 40 feet) with a back section (16 x 25 feet), a smoke house (11 x 13 feet), and a stabling (22 x 33 feet) (Kent County Mutual Insurance 1857). Based on the present configuration of extant structures and visible landscape features, it is likely that most of these buildings were located between the present building complex and the river. The 1868 Beers' Atlas of Delaware (Figure 5) shows the existence of a roadway continuing from the present lane and extending to the river and wharf. It is probable that the storehouse structures listed in the 1817 tax assessment flanked either side of the roadway leading to the river.

During the last decades of the 19th century, the settlement at the landing expanded greatly. A partial reason for the growth

at this time can be attributed to the construction of a bridge across the Smyrna River at Fleming's Landing. This created the only connection across the Smyrna River between the Town of Smyrna and the Delaware Bay. At this time, the tract of land east of Route 9 was subdivided into approximately three parcels. On the parcel bordering the River, the Brady Steamship Company purchased a 3 acre lot and by ca. 1890 had constructed a wharf and tomato cannery (Plate 1). To the east of the cannery, a series of 10 or 12 small one storey frame houses with individual wells were constructed in order to house the seasonal workers for the tomato cannery. At the height of production, the cannery employed approximately 50-60 workers with 30-35 of these seasonal employees. These structures were not extant by 1920, the date when the informant and his family moved to the above mentioned farmstead. Adjacent on the fast land side of this lot a small farm was created through a division and sale of the property to William Pleasanton. By the early 1920s, this farmstead consisted of a one and one-half storey frame structure with three rooms on the first floor and two rooms on the second floor, a large barn and granary, horse stable with wagon shed, corn crib, chickenhouse, meat house, and privy. At the time of the purchase of the property by the Gardner family, a frame addition off the back of the structure was created by moving the extant Pleasanton country store, at that time placed adjacent and parallel to Route 9, into a position north of and perpendicular to the main block. This two storey frame building thus created an ell off the rear of the main block and functioned to provide additional bedrooms for the family.

During the same time two structures were constructed on lots at the mouth of the lane leading to the Fleming House. The Nellie E. Johnson House (Plates 1, 3) and the Almus Akers House (Plates 1, 4) are both located to the northeast of the project area and will not be impacted by the proposed construction. The Almus Akers House was constructed in 1921 by the father of the informant, William Gardner. The lot and structure were then sold to Samuel Fortner, the owner of the Fleming House who utilized the house as a tenant house for workers under his employ. The exact date of construction of the Nellie E. Johnson House is not known. The structure is not present on Baist's 1893 Atlas but, based on architectural characteristics, was probably constructed in the first decades of the 20th century. It also appears to have been constructed as a tenant house for workers at the Flemings House.

Land subdivision into lots was also occurring in the late 19th - early 20th century to the west of the present day Route 9 with the creation of the lot for the operation of the Smith and Burkley Wharf/Warehouse (Plate 1). The history of this site will be outlined under the discussion of the archaeological investigation at the site.

Later in the 20th century, several additional lots were created within the settlement. An additional lot was created between the Akers House and the Pleasanton House (Plate 1). On the lot was constructed a structure designed to house the bridgetender for the Flemings Landing moveable bridge. By the second decade of the 20th century, the population density of Flemings Landing had reached an historic maximum.

PLATE 3

Nellie E. Johnson House



PLATE 4

Almus A. Akers House



Resource Potential

Prehistoric. The Flemings Landing project area on the north side of the Smyrna River has a moderate to high probability for prehistoric cultural resources. The project area's location along the main branch of the Smyrna River enhances its desirability as a prehistoric site locus because presence of surface water is the major factor in determining prehistoric site locations in the Delaware Coastal Plain (Custer, Eveleigh, Klemas, and Wells 1986; Eveleigh, Custer, and Klemas 1983). However, the absence of a stream confluence near the project area makes it unlikely that any large base camps will be found in the project area.

Historic - Terrestrial. The potential for historic site location within the proposed right-of-way is moderate. The close proximity of the project ROW to the Fleming House increases the probability for the location of historic resources. Adjacent to the Smyrna River water-related resources could be expected, also with a moderate probability. The disturbance due to plowing reduces the probability of the location of intact prehistoric and historic resources.

The Fleming House (N-153), a National Register site, is located on the north side of Duck Creek and to the west of Route 9 and outside of the project area (Figure 2, Plates 1, 5). The easternmost National Register site boundary line ranges from approximately 50 to 200 feet from the centerline of the proposed construction (Figure 7). No segment of the site will be impacted by the proposed construction. The Fleming House was built sometime in the early 1800s by Nicholas Barlow on what became his

PLATE 5

Fleming House (N-153)

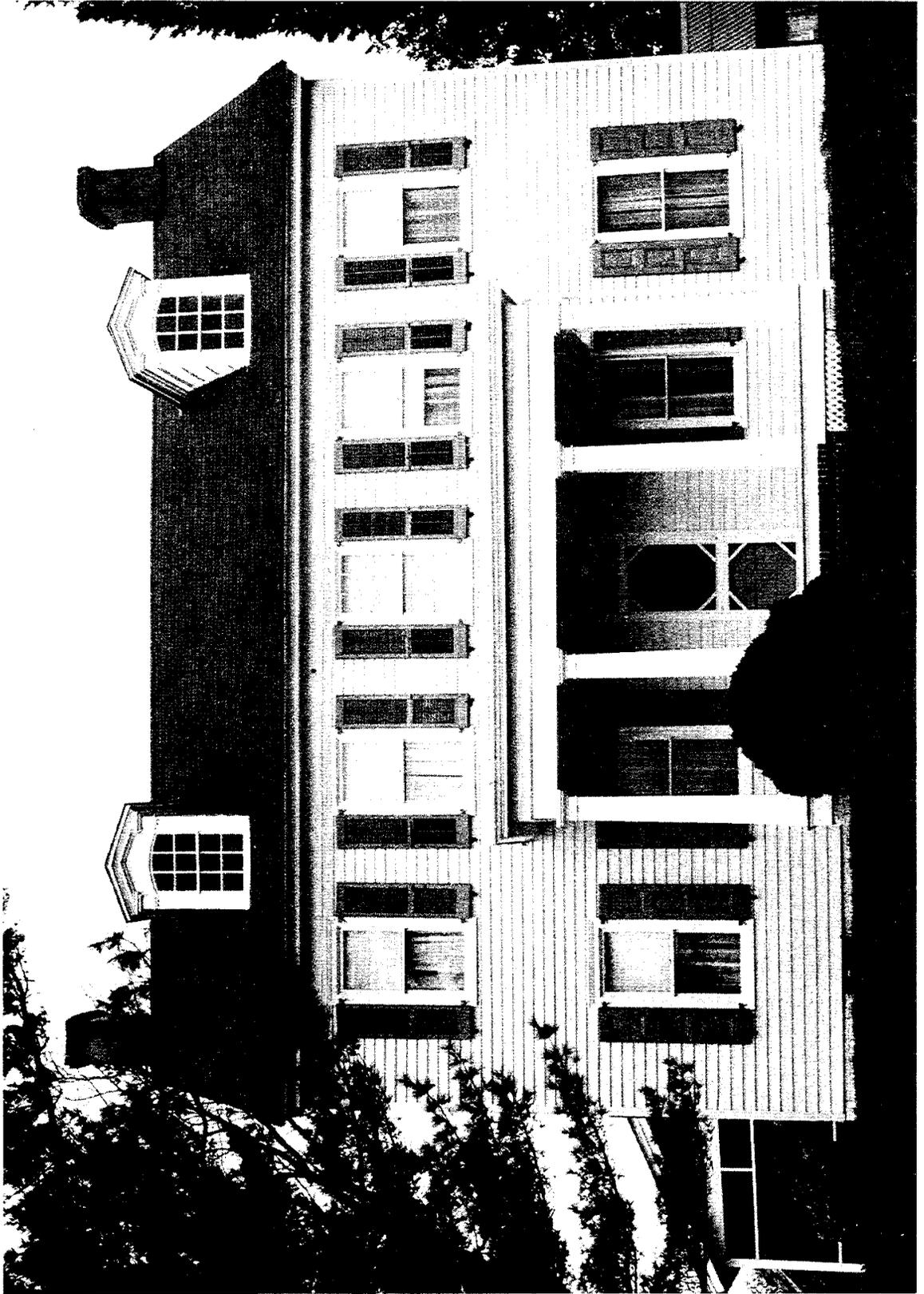
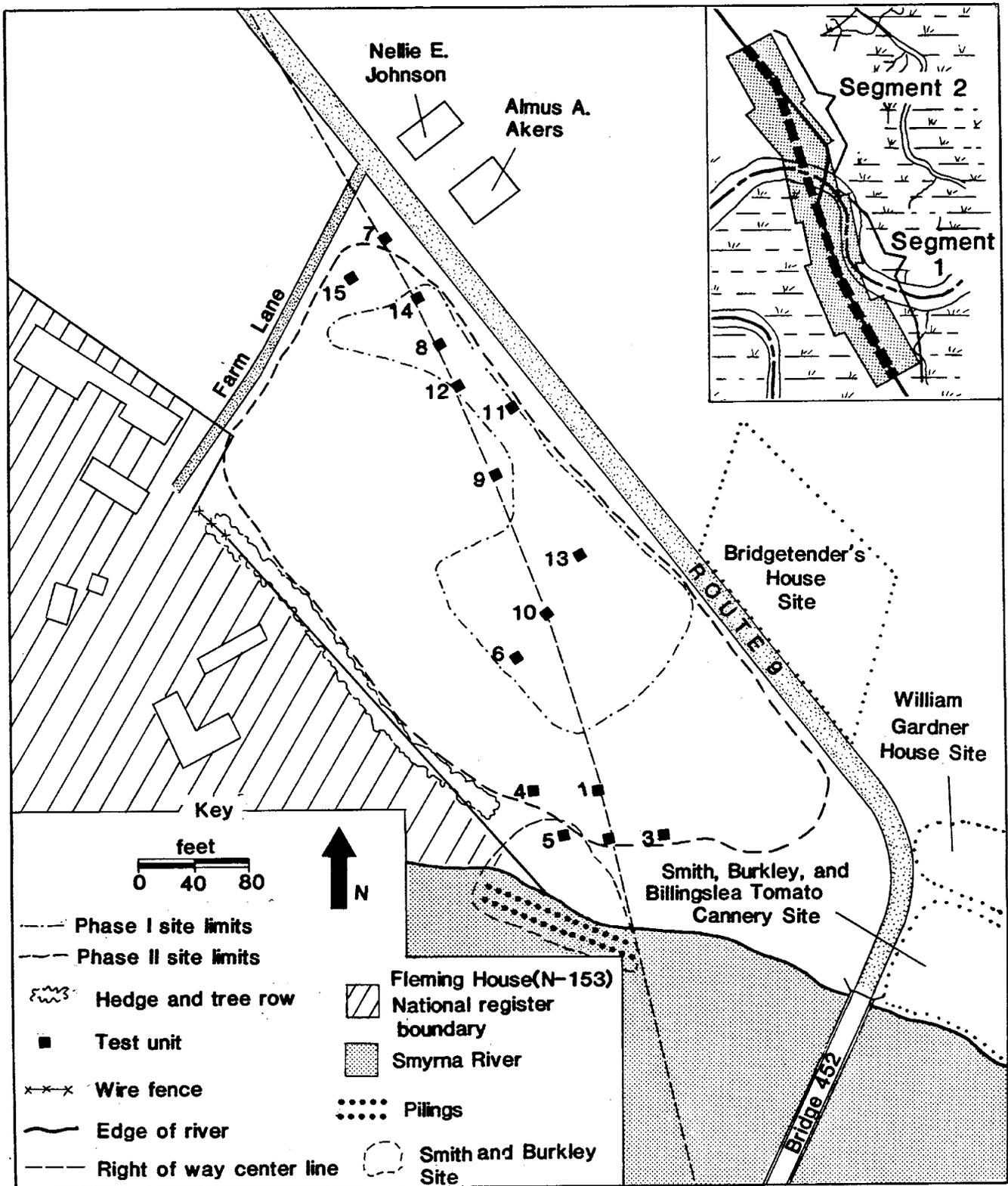


FIGURE 7

Site Boundaries and Test Unit Locations - 7NC-J-165



"mansion farm" tract. The house is a two-and-a-half storey sheathed clapboard frame structure, five bays across, with a two storey frame wing also covered with sheathed clapboard. Architecturally, the house represents the symmetry and central hall floor plan of the Greek Revival Style. The architectural elements of the house have been altered little since it was built. The house has a full basement under the main section and a foundation of brick and stone. There are six frame outbuildings associated with the house, a late 19th century garage, an early 20th century machine shed, a late 20th century outbuilding, a late Victorian horse barn, and a late Victorian barn connected to a large barn by a 20th century chickenhouse (Figure 7). The arrangement of the outbuildings associated with the main structure appears to consist of remnants of a court plan with more modern structures built closer to the house rather than replacing earlier buildings on or near their sites (Fleming House National Register Form, 1979). It also appears that another cluster of buildings was formerly located adjacent to the extant Fleming House wharf.

Based on research by Catts et al. (1988) of the Christiana Bridge area, landings played a most important economic function to the surrounding community, acting as nodal points as described by Hickman (1977). The poor overland network of 18th century Delaware and the Delmarva Peninsula made landings and water-oriented shipping critical to the lives of the regions' inhabitants. The importance of the landings to the economic health of the community can be surmised from advertisements in the Pennsylvania Gazette. An example of such an advertisement

appeared on February 18, 1768;

To be sold, 650 acres of land, on Duck Creek, New Castle County, at the confluence of Main Duck Creek, and the Northwest Branch, 7 miles from the river Delaware, and navigable for large vessels. There is a commodius landing on the premises, for transporting the county produce to Philadelphia, and is suitable for storekeeping and ship building.....

David Finney

An earlier advertisement dated November 15, 1750 states;

.....A very valuable plantation, situate on the north side of Murtherkiln Creek, containing about 350 acres land and marsh, with a very good navigable landing adjoining thereunto, is a fine place for trade to Philadelphia, or elsewhere.

It appears that the landing operation at Flemings Landing was similar to those located to the east of Christiana Bridge which were named for and owned by single individuals, i.e., Patterson's Landing, Read's Landing. These were small-scale operations and contained only a wharf and storehouse. Flemings Landing through much of the 19th century did not develop into a merchantile village such as Christiana Bridge with its concomitant growth of shops and other service-oriented operations. Instead, Flemings Landing was operated solely by the occupants of the Fleming House as a distribution and redistribution center for the surrounding community as a place where local farmers could bring their produce for shipment to regional markets. It is probable, also based on research by Catts et al. (1988), that at times partnerships, joint ventures, and other business agreements were formed between the landing owner and other merchants, shallopmen, and shopkeepers. It was

common for gentlemen and farmers to travel to Philadelphia in order to purchase goods and to contract shallops to deliver the goods to local landings (Munroe 1954). The constant shallop traffic also provided convenient, if somewhat uncertain passenger service from Kent and Sussex counties to Wilmington and Philadelphia. This was an important service in these areas and many of the lower Delaware landings were placed long distances up the drainages in order to facilitate passengers. Duck Creek, on which Flemings Landing was located, was navigable by shallops for approximately 20 miles inland (Munroe and Dann 1985). There existed during the 19th century eight or nine landings along this 20 mile distance. Except for Smyrna Landing, all were small owner-operated businesses serving only the surrounding landowners (farmers).

Historic - Underwater. Knowledge of the potential for location of underwater cultural resources within the project area were gained from U. S. Army Corps of Engineers records and informant information. Within the local area, dredging of a channel through the northern end of Bombay Hook Island in the early 1740s represents the first in a series of projects designed to improve inland water transportation. The 'Throughfare' was the name given to this mile channel which was completed through the efforts of local farmers seeking to improve their access to regional markets.

Within the project area, channel modification began as early as 1810 when a tax assessment was made in order to embank and drain the Northwest Branch of Duck Creek in order to erect banking and sluices, drains, and canals. It is probable that by

this date the main branch of Duck Creek had also been stabilized and banked.

Based on Army Corps of Engineer records, only small scale channel work was carried out on Duck Creek until the late 19th century. During 1870-1878, several transporting companies and private citizens had expended approximately \$6500 in dredging and making cut-offs between Smyrna and Flemings Landing. In its original condition, Duck Creek was obstructed by a bar at its entrance, having but 3' draught at low water. Between the mouth and Smyrna, the head of navigation, there existed nine shoals creating a minimum depth of 2.5'. The first project to improve navigation was initiated in 1878, at which time was made a complete survey of Duck Creek from its mouth to Smyrna Landing (Annual Reports, War Department 1910:251) (Figure 8). This project called for deepening the channel at the entrance across shoal, creating a 100' long channel, eight feet in depth and between the mouth and Smyrna Landing to remove all shoals and provide for a 40' wide channel to a depth of 6' at mean low water. Based on reports in following years, the dredging of the channel mouth was not successful as it was filled in within one year of the completion of the project. Approximately \$10,000 was spent on this project. The second project to affect the channel of Duck Creek was initiated under the River and Harbor Act of 1888 and called for a channel 7' in depth throughout with a width of 60' in the river and 100' at the mouth (Annual Reports, War Department 1910:251). The project acted to produce a channel 40' wide, 6 1/2 feet deep at low water through dredging from Smyrna Landing to Brick Store Landing, a distance of 3 miles. The

excavated material was deposited on the banks of the stream. A summary of the survey states that "No further difficulty is met for the next 3 miles, when we arrive at Flemings Landing, a very important shipping point. A pivot draw bridge crosses the creek here, with two openings of about 35 feet each. This iron bridge is in good working order and is not regarded as an obstruction to navigation. Based on the 1887 report, "five schooners of 30-80 tons, several barges of 100-200 tons and one 200 ton screw steamer navigate the creek regularly at high water as far up as Rothwells Landing with a draught of 6 1/2 feet" (Annual Reports, Chief of Engineers 1887:848). The amount of commerce was estimated between \$2,000,000 and \$3,000,000 per annum, consisting of fruit, grain, truck, timber, fertilizer, coal, iron, agricultural implements, tile, brick, lumber, stock, and general merchandise. Further channel modification was initiated through the River and Harbor Act of 1905 (Annual Reports, War Department 1910:251). This act sought to provide for a channel 7' deep at mean low water, 100' wide at the bar and 60' wide thence to Smyrna, a distance of 10 miles. Dredging completed in 1910 between Smyrna Landing and Cherry Tree Reach, a distance of 5 1/2 miles, created a continuous channel not less than 50' wide and 6' deep from Smyrna Landing to the mouth (Annual Reports, War Department 1910:1305). Again the dredged materials were deposited upon the adjacent banks above the high water line. Based on a 1920 survey, there existed eight wharves on the river, beside individual farm landings (Annual Reports, Chief of Engineers 1920:461). At Flemings Landing were located the Smith and Burkley and Billingslea wharves on which were located a

canning factory and 2 warehouses and the Donovan wharf on which was located a large warehouse. The Donovan Wharf was later sold to Smith and Burkley.

The current channel structure of Duck Creek within the project area places the north bank of the creek on the outside of the meander bend of the river. In this position, the bank is highly subjected to bank erosion through tidal-induced current action. There is present within this northern bank an almost vertical profile based on topographical information. Contemporary observation of current conditions supports the high energy conditions along the north bank of the river channel. Recent diving expeditions have confirmed both the depth of the channel (estimated depth up to 40') and also the extremely strong current action within the project area.

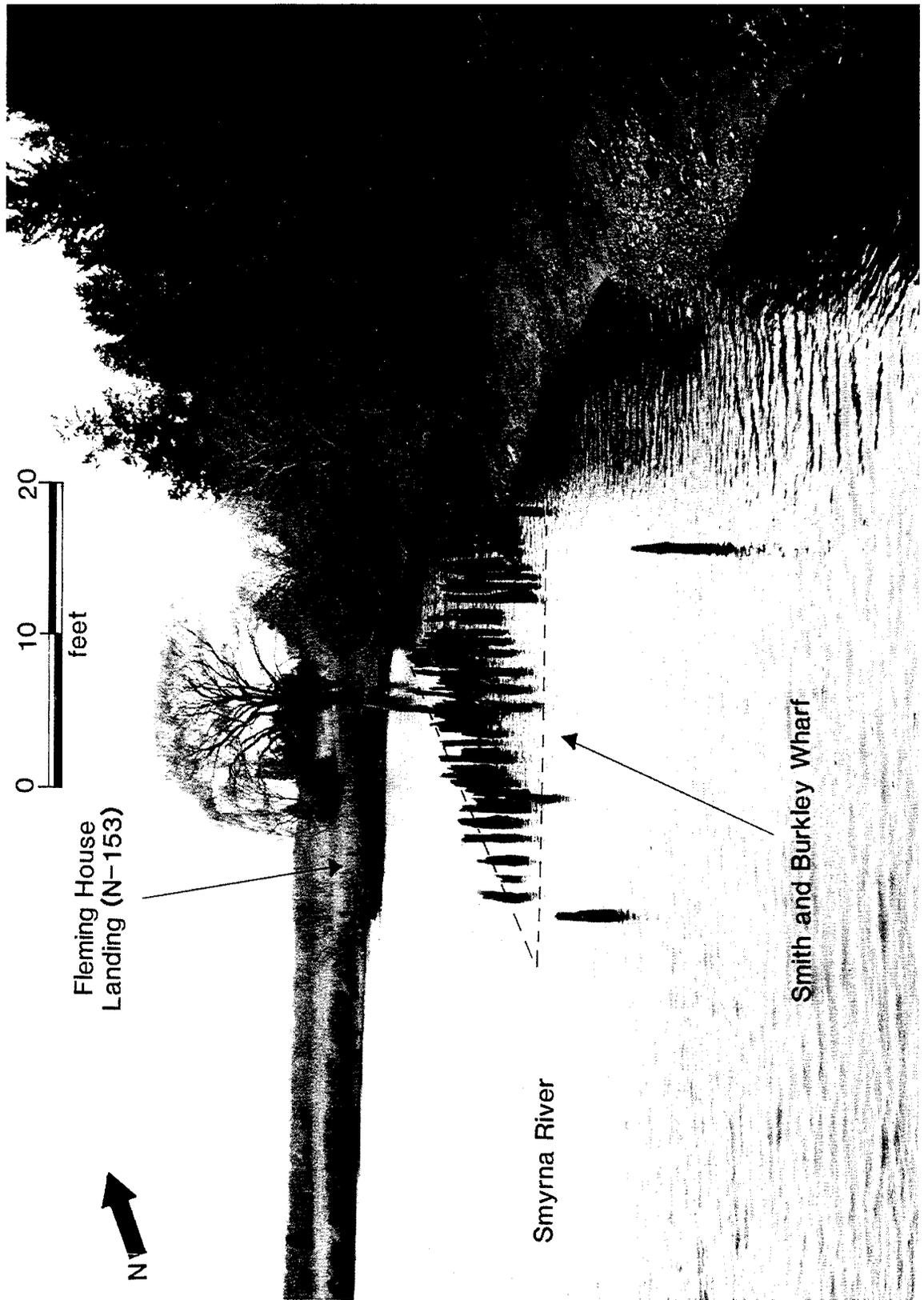
Based on the available archival information, the potential for the presence of significant underwater cultural resources is low. It is more probable that any underwater resources associated with Flemings Landing would be more likely out of the proposed ROW, adjacent to the Fleming House wharf (Plate 6). This is because: 1) this wharf saw the bulk of the 19th century traffic; 2) because of the presence of the wharf structure, the area probably was impacted less by the dredging carried out in this area; and 3) present day current and channel erosion in this area is much less than that downstream.

Results of Field Investigations

The majority of the proposed ROW within this segment consists of a plowed field currently under cultivation. The southern section of the segment contains a narrow strip of brush

PLATE 6

Smith and Burkley Wharf, Looking Northwest



and trees bordering the Smyrna River. Phase I field reconnaissance survey in Segment 1 resulted in discovery of two archaeological sites, one with purely historic materials, and one site with both historic and prehistoric materials.

Smith and Burkley Wharf/Warehouse Site. This site was located by Phase I reconnaissance and consists of the remnants of a wharf on whose western section a small warehouse was located. The present day condition of the site is poor and only the piers from the wharf are present adjacent to the north bank of the Smyrna River (Plate 6).

Background research indicated the presence of this operation in this location beginning ca. 1900. At this time, a small parcel of land was purchased from William Coning who at the time owned the Fleming House farm. Based on informant interviews, Smith and Burkley shipped locally grown produce, mainly tomatoes, to points along the Delaware River from the wharf. Besides the wharf/warehouse, a small frame structure which functioned as a weighing station, and a well were present on the parcel early in the 20th century. By 1920, the business had grown considerably and was moved to the east side of the main road where a large tomato cannery and wharf were in operation. This cannery, first owned by the Brady Steamship Company, was sold in 1920 to Smith, Burkley, and Billingslea, and in the early 1930s to Norman E. Warean. The cannery ceased operation in the mid-1930s. The cannery building was moved to Dover in the late 1940s to serve as the main building of Spence's Bazaar (Plate 7). During this period, structures on the west side of the road were abandoned and gradually fell into disrepair. Aerial photographs of the

PLATE 7

Spence's Bazaar

(former Smith, Burkley, and Billingslea Tomato Cannery)



area dated to 1937 show the presence of a dirt road running from Route 9 along the north bank of the Smyrna River to the vicinity of a wharf present on the river. Situated on the western end of the wharf is a frame structure which covers approximately one-half of the wharf's surface. Located approximately 25 feet to the northeast of the wharf is another very small frame structure, the weighing station. By the time of the 1954 aerial photograph, the structures are no longer present, the dirt road is overgrown and the pier system had assumed its modern appearance.

Phase I surface reconnaissance and archaeological testing was carried out in the area of the weighing station (Figure 9). Artifacts recovered consisted exclusively of various unidentified metal fragments within a very thin humus horizon. (Appendix I contains an inventory of all artifacts recovered.) No features were located. The site is not considered to be eligible for listing on the National Register under any criteria and no further work is recommended at the site.

Flemings Landing Site (7NC-J-165, N-8849). A 1983 surface reconnaissance by the staff of the Delaware Bureau of Archaeology and Historic Preservation had identified this site in the cultivated field on the north side of the Smyrna River between the Fleming House and Delaware Route 9 (Plate 8). No information on diagnostic artifacts is available in the state files. Further surface reconnaissance in 1985 recovered a variety of historic and prehistoric artifacts including an undiagnostic biface fragment, debitage, fire-cracked rock, mid-late 19th century ceramic and glass fragments, brick, coal, and oyster shell fragments. Investigations of the site by UDCAR consisted of two

FIGURE 9

Test Excavations at the Smith and Burkley Weigh Station

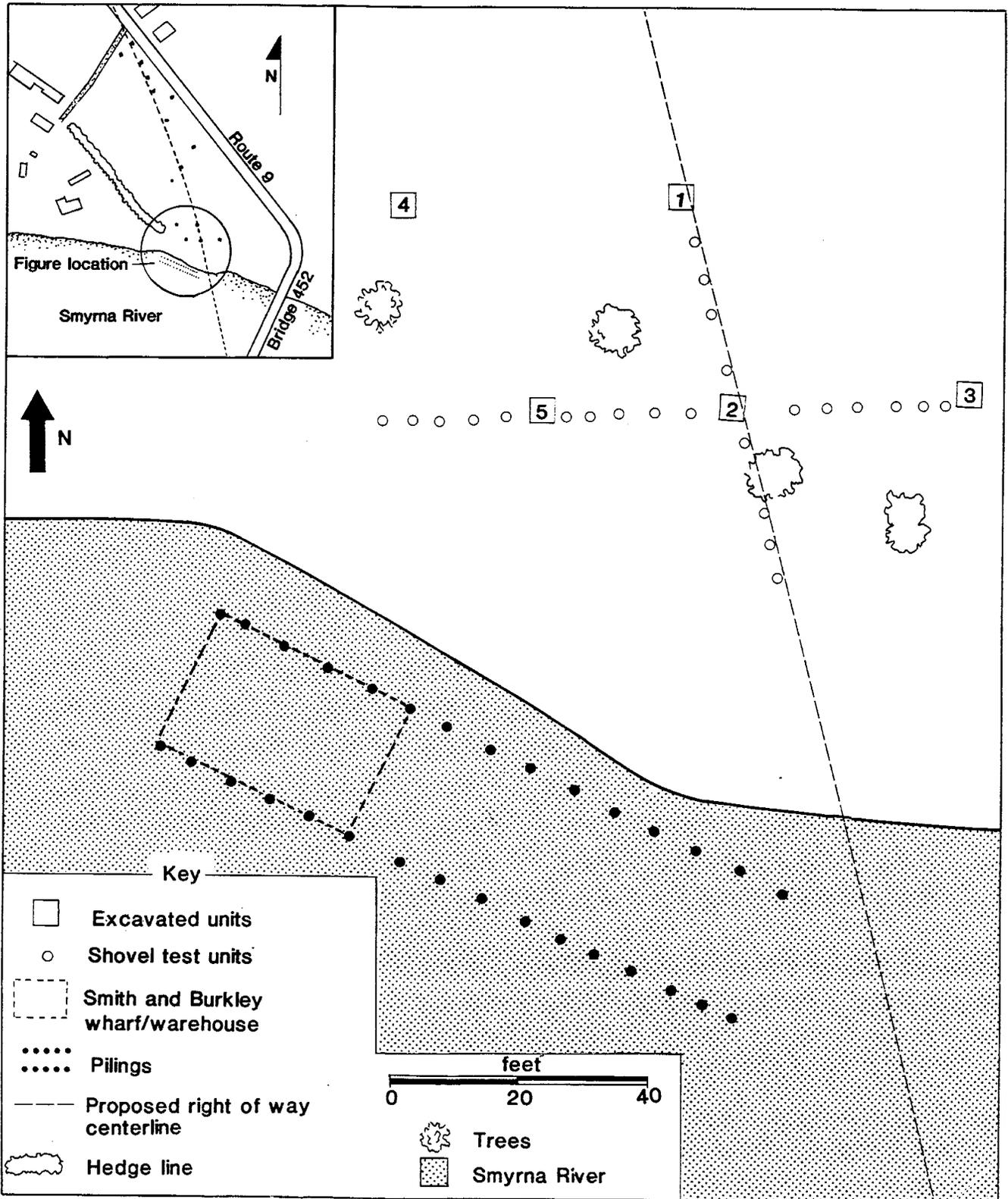
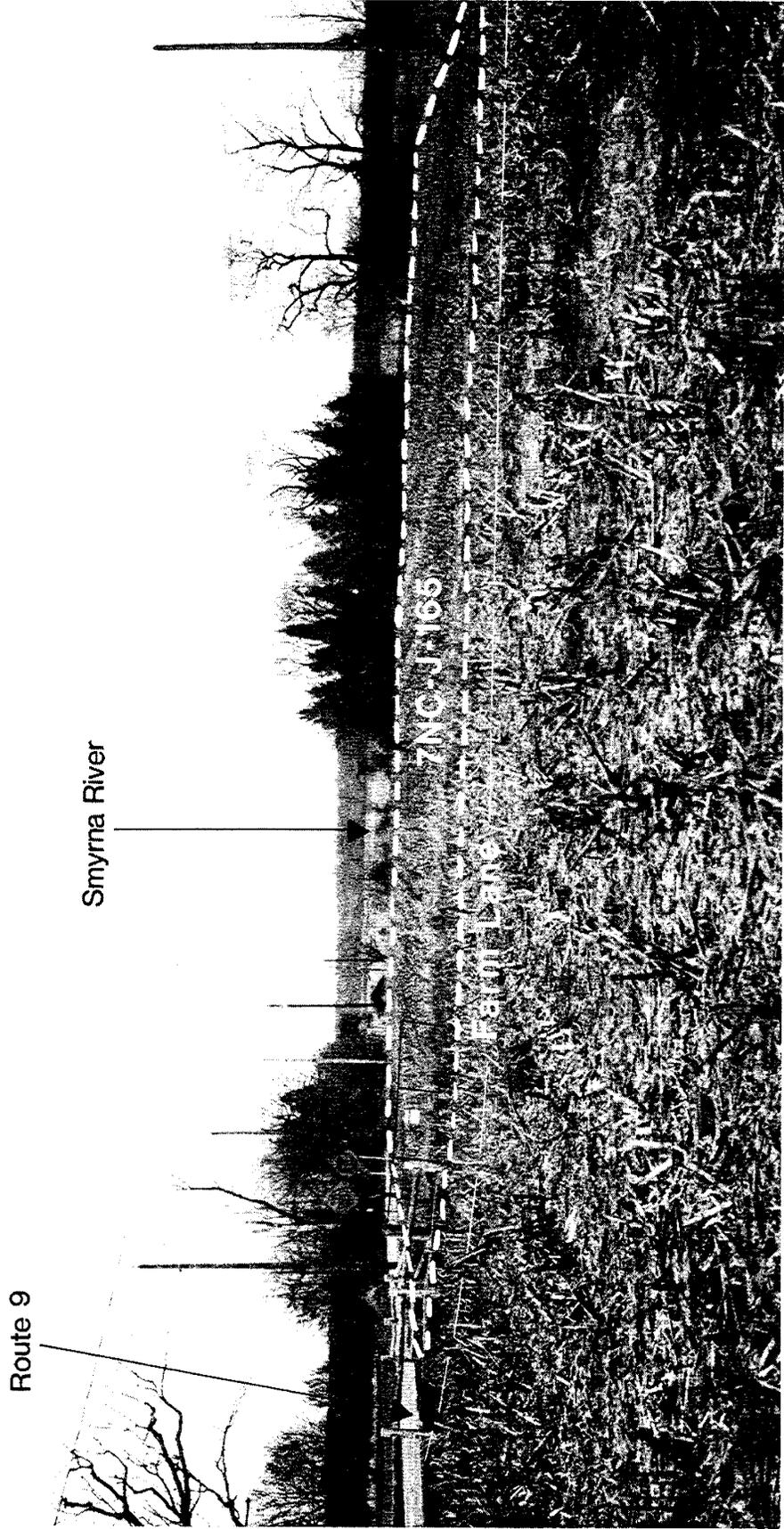
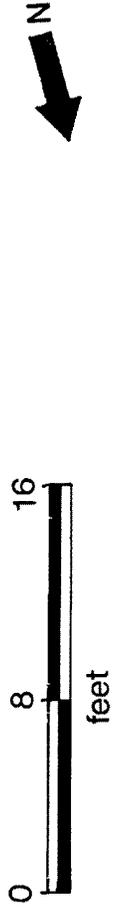


PLATE 8

Flemings Landing Site, Looking South



separate controlled surface collections with excellent surface visibility and excavation of a series of 15 1-meter squares. Figure 7 shows the site boundaries and the location of the test units.

In all cases, artifacts from the test units were recovered from disturbed plowzone and surface soil contexts. Figure 10 shows a profile of Test Unit 6 and is typical of test units within the cultivated field. The plowzone overlies Pleistocene deposits and in some cases gravels are present in both plowzone and subsoil contexts. The presence of these deposits near the surface indicates that severe erosion had taken place. The test units on the edge of the cultivated field, especially Test Unit Nos. 1 and 4, showed very thick plowzones (Figure 11) and these thick plowzone deposits are probably the result of the previously mentioned erosion. The high degree of erosion at the site precludes the possibility of finding any intact and undisturbed artifacts. Even in areas where eroded soils had been redeposited, no artifacts were found in undisturbed contexts and recent slope wash deposits were underlain by Pleistocene deposits. Oral interviews with local residents also indicated that the site area had been used as a stock pen and this land usage most likely increased the degree of site disturbance.

Appendix I contains a complete inventory of the artifacts recovered from the surface collections and the subsurface testing. The limited range of historic artifacts is indicative of field scatter from mid-late 19th century cultivation and manuring activities; however, it is possible that some of the historic artifacts could have been derived from sheet middens,

FIGURE 10

Flemings Landing, Test Unit 6,
North Wall Profile

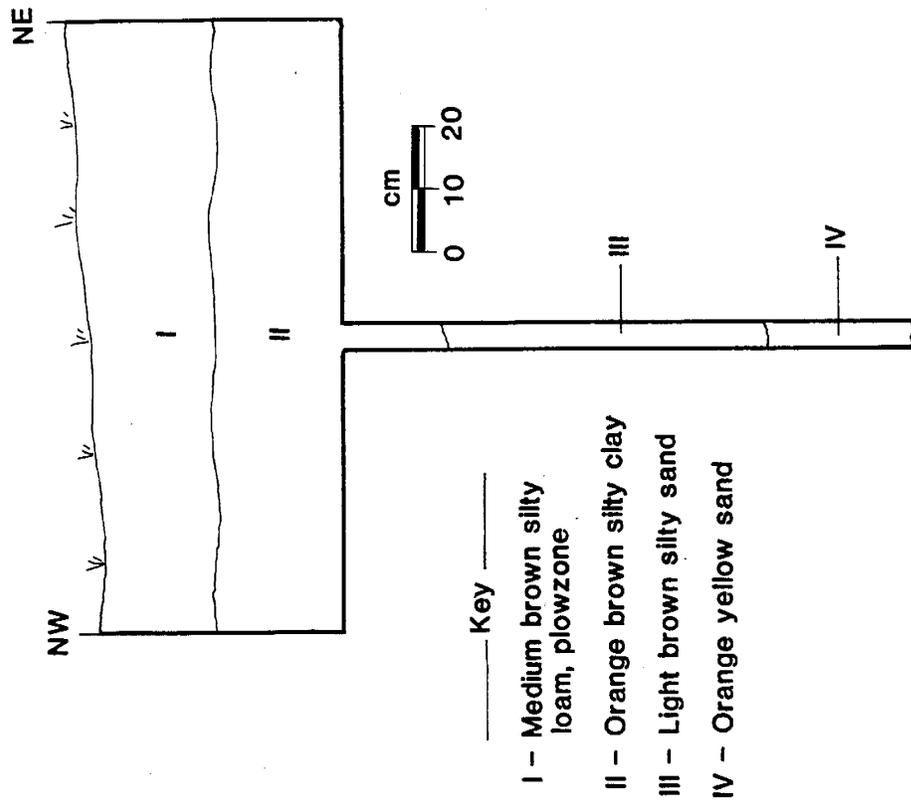
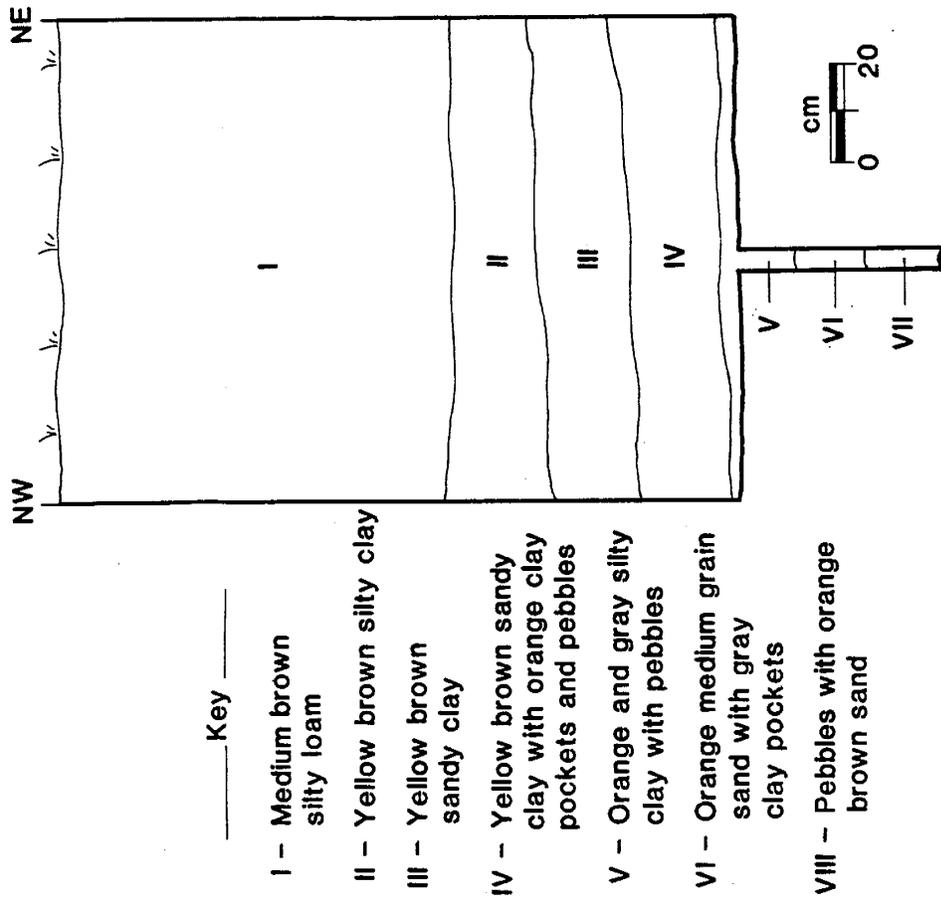


FIGURE 11

Flemings Landing, Test Unit 1,
North Wall Profile



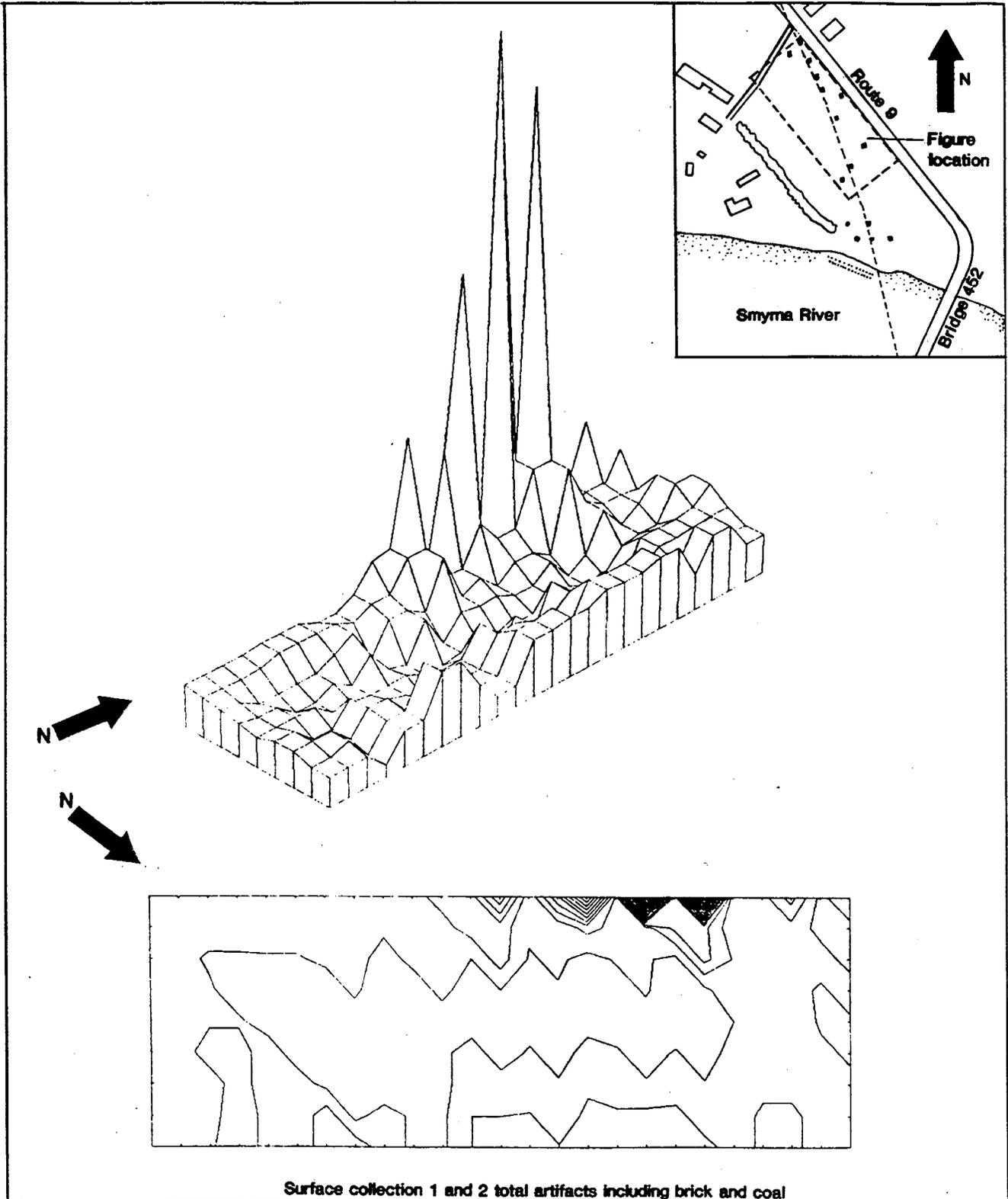
especially in the portions of the site closest to the Flemings Landing house where the artifact concentrations are highest (Figure 12). Nonetheless, cultivation and the extensive erosion at the site has extensively disturbed the context of these artifacts.

Table 2 shows a composite summary catalogue of all prehistoric artifacts recovered from studies at 7NC-J-165. Figure 13 shows the distribution of prehistoric artifacts at the site, and there is no apparent pattern to the distribution. This absence of patterning is due to the disturbance of the site by cultivation and erosion. The artifact assemblage itself contains mainly debitage. Quartz is the most numerous lithic raw material in the assemblage followed by jasper, chert, quartzite, chalcedony, rhyolite, and argillite in order of decreasing frequency. Artifacts with cortex comprise 36% of the total lithic assemblage indicating that reduction of local cobble resources was a major activity at the site. The frequencies of lithic raw materials within the assemblage are also consistent with use of local cobble resources. The only definite non-local lithic materials are the rhyolite flakes and ironstone biface which comprise less than one-half of one percent of the total assemblage.

Nine bifaces, four of which are early stage rejects and five of which are late stage rejects are included in the assemblage. Two examples, A and B in Plate 9, show rejection in the late stage of manufacture, or use. All of these bifaces were broken during manufacture and their presence indicates that biface production from local cobbles was an important activity at the

FIGURE 12

Historic Artifact Distribution - 7NC-J-165



Surface collection 1 and 2 total artifacts including brick and coal

TABLE 2

COMPOSITE SUMMARY CATALOGUE - 7NC-J-165

	Quartzite	Quartz	Chert	Jasper	Rhyolite	Ironstone	Chalcedony	Total
Flakes (cortex)	33(11)	183(49)	117(34)	187(72)	3	---	3(1)	526(167)
Utilized Flakes (cortex)	---	1(1)	---	2	---	---	---	3(1)
Woodland I Points	1	1	---	1	---	---	---	3
Woodland II Points	---	---	3	1	---	---	---	4
Early Stage Biface Rejects	---	4(1)	---	---	---	---	---	4(1)
Late Stage Biface Rejects	---	2	1	1(1)	---	1	---	5(1)
Biface Frags. (cortex)	---	10	3	4(1)	---	---	---	17(1)
Shatter (cortex)	4(4)	106(30)	2	---	---	---	---	112(34)
Cores (cortex)	5(5)	44(40)	15(14)	1(1)	---	---	---	65(60)
Total	43(20)	351(121)	141(48)	197(75)	3	1	3(1)	739(265)

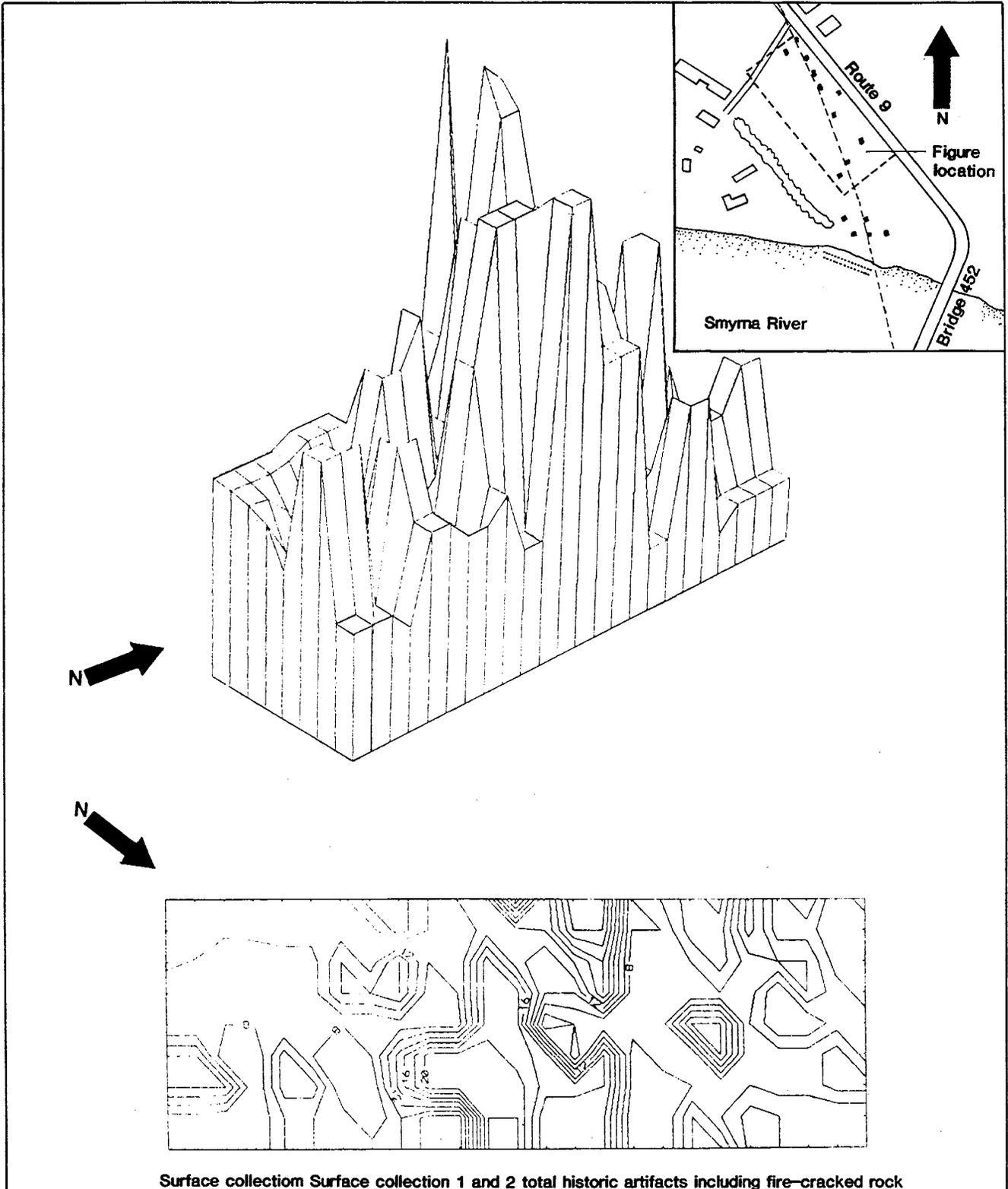
210 Fragments of Fire-cracked Rock

1 Gorget Fragment

7 Minguannan/Killens Ceramic Body Sherds

FIGURE 13

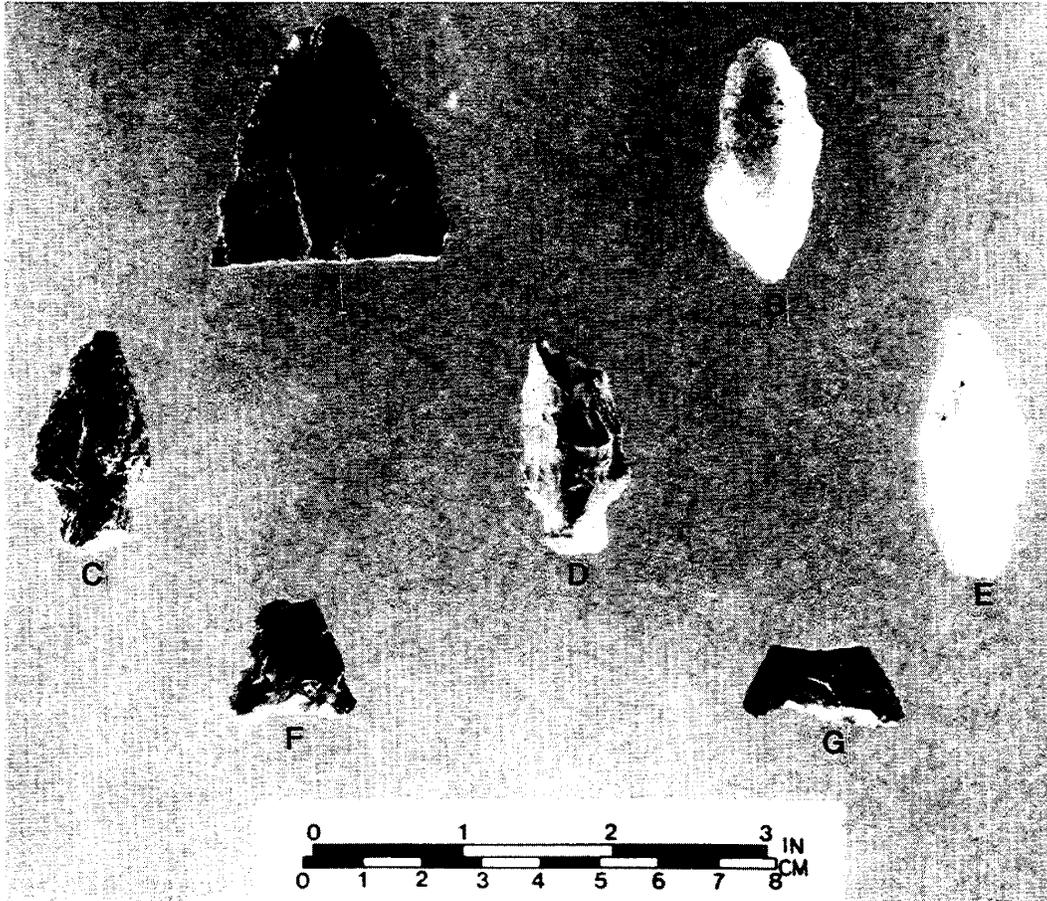
Prehistoric Artifact Distribution – 7NC-J-165



Surface collection Surface collection 1 and 2 total historic artifacts including fire-cracked rock

PLATE 9

Prehistoric Artifacts from Phase I/II Investigation
at the Flemings Landing Site (7NC-J-165)



A - Ironstone biface fragment

B - Quartz late stage biface reject

C - Quartzite stemmed point

D - Jasper stemmed point

E - Quartz stemmed point

F - Chert triangular point

G - Chert triangular point

site. The cores (65) found at the site, which comprise 8% of the total assemblage, indicate that production of flakes for tools also took place at the site.

Diagnostic artifacts from the site include 7 projectile points and 7 ceramic sherds. A sample of the projectile points is shown in Plate 9. Three Woodland I stemmed points (Plate 9, Examples C, D, and E) were found indicating a site occupation between 3000 B.C. and A.D. 1000. Triangular points from the site (Plate 9, Examples F and G) indicate a Woodland II occupation ca. A.D. 1000 to A.D. 1600. The ceramics from the site all date to the Woodland II Period and are tempered primarily with grit, although some shell temper is present. The presence of shell temper indicates that these ceramics would be classified within the Killens category, a late prehistoric ceramic variety newly defined for central Delaware (Custer n.d.; Custer, Bachman, and Grettler 1986:191-192). In sum, the occupation of 7NC-J-165 cannot be specifically dated except to say that prehistoric occupations occurred at least once after 3000 B.C. and at least once after A.D. 1000.

Some further insights about the occupation of 7NC-J-165 can be gained by comparing the site's assemblage with those of other sites. A superficial comparison of 7NC-J-165 with other sites in the High Coastal Plain of northern New Castle County suggests that it might be a base camp. Site 7NC-J-165 contains indications of all stages of biface reduction and extensive core reduction for the manufacture of flake tools. This combination of lithic reduction activities is common of Woodland I and II base camps, such as at the Delaware Park site (Thomas 1981), the

Clyde Farm site (Custer 1982), the Green Valley site complex (Custer, Sprinkle, Flora, and Stiner 1981), and Site 7NC-E-42 (Custer and Watson 1985). On the other hand, the complete biface reduction sequence is not well represented at smaller and more ephemerally utilized, hunting camps such as the Hawthorn site (Custer and Bachman 1984). Therefore, 7NC-J-165 is thought to represent some kind of base camp site during its Woodland I and II occupations.

A more detailed comparison of the artifact assemblage from 7NC-J-165 with other site assemblages allows a closer determination of site function. Analysis of biface reduction and cobble reduction at base camp sites in northern New Castle County indicates that the most intensive cobble reduction took place at specialized micro-band base camps, not at the large macro-band base camps (Custer 1982:29-32). The cortex percentage for the 7NC-J-165 assemblage is 36% and this high value is more typical of the specialized cobble reduction sites of the Green Valley site complex (Custer 1982:31, Table 12; Custer, Sprinkle, Flora, and Stiner 1981). Based on these data and comparisons, it is suggested that 7NC-J-165 was a micro-band base camp where local cobble reduction for biface and flake tool production took place during Woodland I and Woodland II occupations.

CONCLUSIONS

Phase I and II archaeological investigations of the Flemings Landing bridge replacement project area identified one archaeological site, 7NC-J-165, which is categorized as a Woodland I/II micro-band base camp. The site also contains a