III. BACKGROUND RESEARCH

A. REGIONAL PREHISTORY

Custer (1984, 1986) has divided the prehistory of Delaware into four periods: the Paleoindian period (ca. 12,000 BC-6500 BC), the Archaic period (ca. 6500 BC-3000 BC), the Woodland I period (ca. 3000 BC-AD 1000), and the Woodland II period (AD 1000-AD 1650). The European Contact period (ca. AD 1600-1750) marks the final years of Native American occupation of the area during early European colonization of the state. While Custer's chronology utilizes the traditional Paleoindian/Archaic/Woodland cultural stages, his bracket dates differ significantly from those used by most archaeologists in the surrounding region. Custer's chronology differs most significantly from the prevailing regional model in the truncation of the Archaic period. Most investigators bracket the Archaic period from roughly 8000 to 1000 BC, and divide the Archaic into Early, Middle, and Late subperiods. Custer includes most of the Early Archaic period (ca. 8000-6000 BC) in the Paleoindian period, and he subsumes the Late Archaic period (ca. 3000-1000 BC) into the Woodland I period.

The Paleoindian period marks the initial occupation of the state by small groups of nomadic Native American hunters and gatherers. Their presence coincided with the amelioration of late Pleistocene glacial environmental conditions throughout eastern North America and the beginning of early Holocene conditions, i.e., cold temperatures and alternating periods of wet and dry conditions. The economic system of the Paleoindians was based largely upon the hunting of large, cold-adapted animals, including both migratory and nonmigratory species. Although direct evidence of Paleoindian use of nonmammalian food resources is lacking in the archaeological record of Delaware, paleoenvironmental data indicate that their exploitative territories included habitats in which plant foods and other edible resources were available. Palynological and geomorphological data suggest that the vegetation in Delaware during the Paleoindian period consisted of a mosaic comprised of deciduous and boreal forests and grasslands that would have provided grazing, browsing, and shelter for a variety of small and large mammals. In conjunction with various surface water settings, these habitats would have been focal points for Paleoindian foragers.

Custer, following Gardner (1974, 1977), views the Paleoindian settlement pattern as highly focused on sources of high-quality lithic material. Based on Gardner's work on the Flint Run Complex, Custer defined a variety of Paleoindian site types: quarry sites, quarry reduction stations, base camps, base camp maintenance stations, outlying hunting sites, and isolated point finds. Custer discusses two alternative Paleoindian settlement pattern models that would reflect differential regional distribution patterns of lithic raw material. The cyclical model would be most applicable to settings that contain a single lithic source area, while the serial model would be applicable to territories that include a number of widely separated sources.

The stone toolkit of the Paleoindians was characterized by a limited number of bifacial and unifacial implements that suggest heavy emphasis on the procurement and processing of animal

resources. These implements include projectile points, hafted and unhafted knives, scrapers, and less formalized flake tools. Of these, the fluted point is the diagnostic hallmark of the Paleoindian period. Other point styles indicative of the later part of this cultural period include both unfluted triangular forms and notched and stemmed points. The distributions and environmental settings of Paleoindian sites and isolated point finds suggest that these people maintained a way of life that consisted of relatively frequent movements of single- or multiple-family groups to and from resource-rich habitats. It appears that this basic settlement/subsistence strategy persisted with only minor variations for approximately 5,500 years.

Custer has identified a concentration of Paleoindian sites along the Mid-Peninsular Drainage Divide of the Delmarva Peninsula. Using modern LANDSAT imagery, it was found that Paleoindian site loci were strongly correlated with poorly drained or swampy areas. The Hughes Complex in Kent County exemplifies this Paleoindian site distributional pattern. This complex includes a series of six surface finds located on low, well-drained knolls within or adjacent to a large freshwater swamp and other poorly drained areas (Custer and Bachman 1986a:49-51). No Paleoindian sites have been identified in the Mid-Drainage physiographic unit, where the project area is located.

The Archaic period is characterized by a series of changes in prehistoric Native American technologies, subsistence, and settlement. These shifts are interpreted as gradual human responses to the emergence of full Holocene environmental conditions. The landscape was dominated by mesic oak and hemlock forests. Reductions in open grasslands brought about by warm and wet conditions resulted in the extinction of certain cold-adapted grazing animal species (i.e., caribou and bison) that were the favored prey of Paleoindian groups. An alternative interpretation is that these vegetational changes were favorable to browsing animals, such as deer, which flourish in forest settings (Custer 1984, 1986).

A rise in the sea level and an increase in precipitation at the beginning of the Holocene would have facilitated the development of inland swamps within the Mid-Peninsular Drainage Divide, as well as the first tidal marshes in the Mid-Drainage zone. At that time, Native American populations in these locales shifted from the more hunting-oriented foraging pattern of the Paleoindian period to one in which plant foods became a more important part of their economies. In southern Delaware, large swamp habitats such as Cedar Swamp and Burnt Swamp would have served as locations for the first large residential base camps, possibly occupied by several different family groups. Associated with these larger group camps are more numerous and smaller procurement sites situated in various settings that would have been favorable for hunting and gathering activities during different seasons of the year.

Based primarily on the work of Gardner (1978, 1987), studies by Custer define three types of Archaic sites: macroband base camps, microband base camps, and procurement sites. The three site types are distinguished primarily by their environmental settings, the size of the occupant group, and the range of activities carried out at the site. Macroband base camps are located in settings that afford access to the greatest range and quantity of resources, and they exhibit evidence of occupation by relatively large groups that carried out a broad range of activities.

Procurement sites represent the opposite end of the Archaic site type continuum. They exhibit evidence of occupation by small groups that carried out a limited range of activities, and they are located to afford access to a specific resource (Custer 1984, 1986).

Archaic toolkits differ from those of the Paleoindian period in that they include a number of artifacts indicative of plant food processing (i.e., grinding implements and stone mortars). Although Archaic groups in Delaware appear to have been less mobile than Paleoindian populations, they were more mobile than later Woodland period groups. The sizes of Archaic exploitative groups seem to have fluctuated seasonally and with the availability of food resources.

Based upon palynological and geomorphological data from the Middle Atlantic region, the Late Archaic period (the first part of Custer's Woodland I period) has been described as a time of "dramatic change in local climates and environments" in which "a pronounced warm and dry period" (i.e., a mid-postglacial xerothermic) began at approximately 3000 BC and persisted until approximately 1000 BC (Custer and Bachman 1984). During that period, the mesic oak and hemlock forests of the Archaic period were replaced by more drought-resistant (xeric) oak and hickory forests and more abundant grasslands. Although these conditions caused the drying up of some interior streams, continued sea level rise resulted in the creation of highly productive and large brackish water marshes in coastal areas. In essence, the xerothermic is hypothesized to have effected shifts in the distributions of plant and animal species and the establishment of new resource-rich settings in some areas of the state.

In turn, these proposed shifts in climate, environmental conditions, and resource distributions are believed to have resulted in radical changes among resident prehistoric Native American populations in the study area, including a trend toward greater sedentism and more complex systems of social organization and interactions. For example, major river floodplains and estuarine swamp habitats became the primary resource zones and the locations of large residential base camps occupied on a multiseasonal or year-round basis. Such sites are particularly prominent in northern Delaware; they include the Delaware Park Site, the Clyde Farm Site, the Crane Hook Site, and the Naamans Creek Site. Artifact assemblages and features from these sites suggest intensive utilization by prehistoric populations and a trend toward more sedentary lifeways. The Hell Island Site, just west of the project area, is a good example of such a site, and others are possible in the project area along the Appoquinimink River and Drawyer Creek. In southern Delaware, there was an increase in the utilization of shellfish in the coastal areas, concurrent with an inland shift in the locations of macroband base camps along the tidal drainages (Custer 1984, 1986).

Custer has observed that the Late Archaic and Early Woodland settlement pattern is characterized by a reduction in the number and variety of site locations utilized, although the three primary site types established during the Archaic period—macroband base camps, microband base camps, and procurement sites—continued into the Woodland period. However, Custer notes that Woodland period macroband base camps were significantly larger than Archaic macroband base camps, and there is some regional variation in the settlement patterns in various physiographic zones.

The toolkits of Late Archaic and Early Woodland groups are generally similar to those of the Middle Archaic, with the addition of such items as heavy woodworking tools, soapstone and ceramic containers, broad-bladed points, and netsinkers. The increased abundance of plant processing tools in this period suggests more intensive use of plant foods, which by Middle Woodland times may have approached incipient agriculture. The presence of nonlocal lithic materials such as argillite, rhyolite, and soapstone is interpreted as an indicator of regional trade and exchange networks. Soapstone and ceramic vessels are viewed as items that facilitated more efficient food preparation and storage of surplus foods. Pit features employed for food storage and the remains of prehistoric dwellings have been documented at the Delaware Park and Clyde Farm sites in northern Delaware.

The inferred reduction in overall group mobility, the presence of certain artifact types indicative of intensified resource processing, the possible generation of food surpluses, the presence of artifact caches, and the possible existence of increased interregional exchange networks as inferred from the presence of nonlocal lithic raw materials are interpreted as indicators of the initial development of ranked social organization as opposed to earlier egalitarian systems.

The Late Woodland period (AD 1000 to 1650) within the Middle Atlantic region is marked primarily by increased sedentism and the development of horticulture. During this period, settlements became larger and more permanent and tended to be located adjacent to areas with easily worked floodplain soils. This period is also characterized by an attenuation in the interregional trade and exchange systems. The shift to agricultural food production effected important changes in the Late Woodland settlement pattern, although the settlement pattern included the basic site types established during the Archaic period—macroband base camps, microband base camps, and procurement sites. Two Late Woodland complexes have been defined for Delaware. In southern Delaware, the Slaughter Creek Complex is characterized by the presence of Townsend ceramics, triangular projectile points, large macroband base camps, and possibly fully sedentary villages with numerous food storage features. Most major sites assigned to the Slaughter Creek complex have been identified in the Delaware Shore, Mid-Drainage, and Coastal/Bay physiographic zones of southern Delaware (Custer 1984, 1986).

In northern Delaware, Custer calls the dominant Late Woodland culture the Minguannan Complex (Custer 1989:311-316). The identifying characteristics of this complex include Minguannan ceramics (a hard, grit-tempered, high-fired variety similar to Potomac Creek), small triangular points, and frequent storage pits. Although agriculture and settled village life developed in this period in southern Delaware and in the Middle Atlantic region generally, there is no evidence of either of these important changes in northern Delaware. The large sites of the Late Woodland in northern Delaware are in the same environmental contexts as those of earlier periods, oriented toward wetlands rather than toward good agricultural land. In many cases, sites from the Early and Middle Woodland continued to be occupied in the Late Woodland, including the Hell Island, Delaware Park, and Clyde Farm sites (Custer 1984; Thomas 1966, 1980). The evidence suggests that there was no major change in lifeways in northern Delaware in this period, and that the inhabitants continued to rely on hunting and gathering, especially in marsh areas, for their sustenance. Ethnographic data about the Lenape, who occupied the area at the time of European contact, tend to support this conclusion (Stewart et al. 1986; Weslager 1972).

The European Contact period is marked by both the initial contact between the Native American inhabitants of Delaware and European colonists and the subsequent total collapse of traditional native lifeways and sociopolitical organization. The picture is further complicated by the paucity of sites within the state dating to this important period. However, historical sources indicate that resident Native American populations had minimal interaction with European settlers and were subjugated by the Susquehannocks of southern Lancaster County, Pennsylvania. A small number of descendants of the original Native American inhabitants of Delaware still reside in the state today.

B. HISTORICAL OVERVIEW

1. Sketch of Delaware History

The *Delaware Comprehensive Historic Preservation Plan* (Ames et al. 1989) divides the history of Delaware into five named time periods: the Period of Exploration and Frontier Settlement (1630-1770), the Intensified and Durable Occupation Period (1730-1770), the Early Industrialization Period (1770-1830), the Period of Industrialization and Early Urbanization (1830-1880), and the Period of Urbanization and Early Suburbanization (1880-1940). The discussion of Delaware history presented here follows this chronological framework.

1630-1730: Exploration and Frontier Settlement

The first European to explore the Delaware River was Henry Hudson, who visited both the Hudson and Delaware rivers on his famous voyage of 1609. The English were slow to follow up on Hudson's discoveries, and in 1610, Dutch traders plied the Delaware River. In 1631, the Dutch West India Company, formed to administer Dutch land claims in North America, established a fishing and agricultural settlement called Swanendael, near modern Lewes. The settlers came into conflict with a local Native American group called the Sickoneysincks, and the settlement was abandoned in 1632. In 1638, the Swedish government, acting in consort with dissident Dutch merchants, "purchased" the land on both banks of the Delaware River from Cape Henlopen to modern Trenton from various Native American groups and established a settlement called New Sweden. The center of the colony was Fort Christina, constructed at the confluence of the Christina River and Brandywine Creek in modern Wilmington. Swedish and Finnish immigrants set up scattered farms in the nearby countryside (Weslager 1961).

The Dutch West India Company, which still claimed the entire coastline from New York to the Chesapeake Bay, prepared to dispute the pretensions of the Swedes, and in 1651, they established Fort Casimir at the present site of Newcastle. After five years of back-and-forth military struggle, the Dutch captured Fort Christina in 1655, and New Sweden ceased to exist as a political entity. Swedish and Finnish settlers remained in the region, however, and the log cabin of the American frontier may have been derived from their traditional building techniques. In the years that followed, the Dutch established other settlements in the region, including New Amstel, at the old site of Fort Casimir. To resist the incursions of English settlers from the Chesapeake Bay region, a fort was constructed at modern Lewes, an area the Dutch called the

Whorekil. In 1663, the Dutch West India Company handed over the administration of all its colonies in North America to the city of Amsterdam.

In 1664, English forces, acting on behalf of the Duke of York, brother of King Charles II, attacked and pillaged the Dutch settlements on the Delaware and Hudson rivers. Political control of the colonies passed from Amsterdam to the Duke of York, but his agents allowed Dutch and Swedish settlers to retain their lands and Dutch magistrates to keep their offices under his authority. The Dutch reoccupied Delaware in 1673, but in 1674, they officially relinquished their claims, and from that point on English rule was secure. The Dutch had divided their lands on the Delaware River into three jurisdictions: Upland (present-day Chester County, Pennsylvania), New Amstel (New Castle County, Delaware), and Whorekil (Lewes, Delaware). In 1680, the English divided Whorekil, creating the separate jurisdiction of St. Jones, and the modern divisions of Delaware were established.

Control over the land between the Chesapeake Bay and the Delaware River was then disputed between two English claimants: the Duke of York, and Lord Baltimore, the proprietor of Maryland. In 1682, the situation was further complicated when Charles II, to settle an old debt, granted William Penn a charter for Pennsylvania. Penn's grant included all the land west of the Delaware River between 40 and 43 degrees north latitude. Lest this grant be found to interfere with the Duke of York's claims, a clause was inserted excluding all land within 12 miles of New Castle, the origin of modern Delaware's peculiar arched border. Thinking that his new colony was too far from the sea, Penn then acquired Delaware from the Duke of York. Modern Delaware became the "three lower counties" of Pennsylvania, with political control based in Philadelphia. Lord Baltimore still maintained his claim, however, and he made many land grants within Delaware; the boundary dispute between Maryland and Delaware was not settled until 1770. The residents of the lower counties became disgruntled with their status in the Pennsylvania legislature, and in 1704, they broke away and created the new colony of Delaware (Munroe 1993:42).

Initial English immigration to Delaware was slow. In 1677, the New Castle jurisdiction contained only 307 tithables (adult males), 130 of whom had English names (Reed 1947:73). Settlement was mainly concentrated around tidal rivers and creeks.

1730-1770: Intensified and Durable Occupation

The eighteenth century saw enormous population growth in Delaware, as in most of English North America. The population grew from perhaps 400 settlers in 1682 to 64,273 in 1800. The new immigrants came from England, Ireland, and Africa, and from other, more crowded colonies, particularly Maryland. Dissenters, such as Presbyterians, Quakers, and Methodists, were a majority among these new arrivals, reducing the official Anglican church to minority status. The main settlements of the colony were the ports of Wilmington, chartered in 1739, New Castle, and Lewes, with smaller hamlets growing up at places such as Christiana Bridge, where roads crossed the larger streams. Most of the residents were farmers, whose homes were mostly scattered along the rivers and later along the main roads. These farmers practiced a mixed, highly

commercialized agriculture, including grains, especially wheat and corn, and livestock. Wheat was the most important export. Roads were developed to carry traffic between the towns, of which one of the most important was the north-south road from Wilmington to Lewes, which had been established by 1764 and passed through the project area along the route of modern U.S. Route 13.

1770-1830: Early Industrialization

Although the colony had become independent of Pennsylvania, eighteenth-century Delaware retained close economic ties with Philadelphia, and many of the colony's leaders also had social and family ties to the city. Those ties led the leaders of Delaware into supporting the political ferment that preceded the Revolutionary War, even though Delaware had suffered no atrocities at British hands (Munroe 1993:62). Only one Revolutionary War battle was fought in Delaware, at Cooch's Bridge near Scottsborough, during the campaign that led up the Battle of Brandywine in 1777.

After the Battle of Brandywine, a British victory, the British occupied Wilmington and threatened the state capital at Newcastle. To escape the threat—and also because many Kent and Sussex residents were unhappy with the leadership being provided by Newcastle men during the crisis—the capital was moved to Dover. For a time the legislators met at various places around the state on a rotating basis, but in 1781, Dover was made the permanent capital.

In the early Federal period, Delaware farmers were buoyed by inflated wheat prices, brought on by the Napoleonic Wars. However, after the return of peace in 1819, the state experienced an agricultural decline, as careless farming practices exhausted the land and many residents moved farther west (De Cunzo and Garcia 1992:24). To arrest the decline, progressive farmers formed agricultural societies and experimented with new crop rotation methods, and their efforts led to more productive and less destructive agricultural practices later in the century (Herman 1987:8). Industrial production increased, mostly in the Piedmont region, where water power was available to drive gristmills, fulling mills, and snuff mills. Wilmington prospered as an industrial and mercantile city, and its population grew from about 1,500 at the time of the Revolutionary War to 7,000 by 1830. An interesting feature of Delaware society in this period was the large number of free blacks, who made up more than 75 percent of the black population of the state in 1810. Politically, Delaware, which had been the first state to ratify the constitution, remained staunchly Federalist throughout the period (Munroe 1954).

After decades of argument about a route, the Chesapeake and Delaware Canal was opened in 1829. The canal provided improved market access for farmers in St. Georges Hundred, and helped bring prosperity back to the region.

1830-1880: Industrialization and Early Urbanization

The increasing urbanization and industrialization of the eastern seaboard, along with steamships, the railroad, and other improvements in transportation, had a major impact on Delaware.

Wilmington grew into a major city, with important manufacturing industries. Although grain remained an important crop, agriculture shifted toward the production of fruits and vegetables for Wilmington, Philadelphia, and other cities. Starting in about 1830, a boom in peach growing made many fortunes in Newcastle County. The agricultural expansion led to a great rebuilding in the county, and many fine, large farmhouses survive from the period (Herman 1987). The Civil War had no great impact on the economy of the region, since the state saw little fighting, and free black labor was already far more important than the relatively few slaves.

Detailed statistics available for this period allow for some generalizations about the social side of agriculture in Delaware (De Cunzo and Garcia 1992). Approximately half of Delaware farms were occupied by their owners, the other half by tenants. Some tenants paid cash rents, others a share of their crops. In all areas farm ownership was strongly correlated with age. Older men were much more likely to own farms, suggesting that many tenants were able to accumulate enough capital to buy their own farms later on. Farm laborers, who worked for cash and board, outnumbered operators in all parts of the state, but especially in the south. A few blacks owned farms in this period, and a few more were tenants, but the great majority of the rural black population were laborers. The few black-owned farms were almost all on inferior land, valued at much less than the land of the average white farmer.

1880-1940: Urbanization and Early Suburbanization

The late nineteenth and early twentieth centuries in Delaware saw a continuation of trends begun in the 1830-1880 period. Wilmington continued to grow, and in 1920, it held nearly one in two residents of the state. The peach orchards never recovered from a devastating blight in the 1870s, and much of the less productive farmland was abandoned. The farm population began to fall as mechanization made agriculture less labor intensive and competition squeezed out many smaller farms. However, on Delaware's better soils, grain and truck farming remained profitable, and Delaware farmers benefitted from the worldwide surge in food prices that enriched so many American farmers in the 1890-1920 period (De Cunzo and Garcia 1992:28). New crops, such as strawberries and asparagus, helped many farmers.

2. St. Georges Hundred

Each of Delaware's three counties is subdivided into smaller political units called "hundreds" that are the equivalent of the townships or parishes of other eastern states. There are 10 hundreds in New Castle County, and the current project area crosses three: St. Georges, Appoquinimink, and Blackbird.

St. Georges Hundred is bounded on the north by the Chesapeake and Delaware Canal, which follows the route of the old St. Georges Creek, and on the south by the Appoquinimink River. The first European settlement in St. Georges Hundred was established by Dutch and Swedes from Newcastle who patented land along the Appoquinimink River in the 1650s. The Appoquinimink River was important to the Dutch as part of a natural portage from the Delaware River to the Chesapeake Bay; in the seventeenth century, it was less than five miles from the head of

navigation on the Appoquinimink River to the head of navigation on the Bohemia River, and an important trade between the Dutch in Delaware and the English settlers in Maryland was carried out along this route. The patents of the Dutch settlers were so-called "long lots," stretching from the Appoquinimink River to Drawyer Creek. A few lots were also established on the northern bank of Drawyer Creek. These settlements were conceived of as a town, called Appoquemenen. Although the houses of this town were scattered on the various lots, the town was a functioning administrative unit and probably also an important social reality. The Dutch patents were confirmed by the English conquerors in 1671. The English granted further patents in the area, using their own "metes and bounds" system instead of the Dutch long lots. Because of the new settlement pattern and other administrative changes, the old town of Appoquemenen effectively disappeared, and there is very little continuity between it and the future towns that occupied the same location (De Cunzo 1993; Heite 1972).

In the eighteenth century, a new town grew up in at the site of Appoquemenen, called Cantwell's Bridge, after a bridge constructed over the Appoquinimink River in 1731 by Richard Cantwell. Cantwell, son of the first English sheriff of Newcastle County, owned extensive lands that included about half of the current town of Odessa. The town of Cantwell's Bridge was based around the port, where salops called regularly to carry grain and other produce to Philadelphia. Towns such as Cantwell's Bridge were an integral part of the late eighteenth-century countryside. It was typical for landed farmers to maintain village dwellings for themselves as well as farmhouses (Herman 1987:81). The town grew very slowly until the 1760s and 1770s, when several large brick houses were constructed along the Middletown Road not far from the bridge. Two of these, one built in 1774 by William Corbitt, who operated a tannery at the bridge, and the other built by David Wilson in 1769, are still standing in Odessa. A frame tidemill was situated at the eastern end of town. Settlement also increased in the surrounding area, and most of the available land was brought under cultivation in this period.

By 1800, Cantwell's Bridge contained 26 dwellings and boasted a population of 211 (Rogers and Easter 1960:62). By 1800, the bank of the Appoquinimink River was lined with frame and log storehouses filled with corn and wheat. The villagers lived in houses arrayed on either side of the road that ran down to the landing. The dwellings ranged from brick mansions to one-room hewn-log houses. Each dwelling possessed outbuildings that typically included stables, carriage houses, smokehouses, and kitchens. Merchants' and local artisans' shops were interspersed among the outbuildings, and taverns provided lodging for travelers and spirits for all. At the western end of town was a Quaker meetinghouse, established in 1785. Farmers came to town often for business purposes and market days (Herman 1987:81).

A sketch map preserved in the Clinton Collection at the University of Michigan, undated but probably drawn in the early to mid-eighteenth century, shows some of the main transportation routes in Delaware and the Eastern Shore of Maryland (Figure 7). One road is shown running south from Christina Bridge to "Appoquinimy" and thence west to the head of the Bohemia River; this road was called the Bohemia Cart Road, and probably crossed Drawyer Creek in the vicinity of the current U.S. Route 13 bridge, then turned to join the route of current SR 299 somewhere just west of Odessa.

Despite the overall agricultural decline, the prime wheat lands in the Middletown area remained productive, and the town of Cantwell's Bridge prospered as the port for that grain. In 1825, six large granaries, holding about 30,000 bushels, could be seen on the Appoquinimink River waterfront, and up to 400,000 bushels of grain were shipped annually through the port in the 1840s (Scharf 1888:1005). In the busy season, six sloops traveled weekly to Philadelphia, and three coasting schooners went to Boston (Watkins n.d.).

In the mid-nineteenth century, although the region as a whole was growing, Cantwell's Bridge suffered a blow when the Philadelphia, Wilmington and Baltimore Railroad was built through Middletown in the 1850s. The railroad carried away much of the agricultural trade that had been the town's mainstay, and the agricultural fairs that had been held at Cantwell's Bridge since about 1830 were moved to Middletown (Scharf 1888:1005). In 1855, in an effort to promote the town as a grain port, the residents voted to rename it Odessa, but the town's decline continued, and by 1870, it was a sleepy hamlet little different from what it is today.

The first detailed map of New Castle County was published by Samuel Rea of Philadelphia in 1849 (Figure 8). Cantwell's Bridge was clearly the most important town in the vicinity at that time, still significantly larger than Middletown. By 1868, as the Beers *Atlas of the State of Delaware* (Figures 9 and 10) shows, the railroad had come to Middletown, and it had become the larger town. The Beers map also shows that numerous houses had been built along all the roads in the area, including what are now U.S. Route 13 and Pine Tree Corners Road. This map shows that a small crossroads town had already developed at McDonough, while a store was located at Boyd's Corner. Little had changed by the time the 1881 Hopkins *Atlas of New Castle County* (Figure 11) was published. The map shows that most farmhouses in the area were associated with roads, although not necessarily close to them; some were as much as 1,000 feet away.

The most important recent development in St. Georges Hundred, as in much of Newcastle County, is the outward spread of the Wilmington/Newark suburbs. Many areas that were once farms are now bedroom communities, and other such communities are under construction. Commercial development in the U.S. Route 13 corridor, much of it aimed at tourists on the way to or from the Atlantic beaches, has been another major factor. The surviving historic houses in Odessa, and its quiet charm, have enabled the Winterthur Foundation to make the town a tourist destination in its own right, helping to make up for the almost complete loss of commercial establishments. Agriculture remains economically important in the region, although the acreage in production continues to decline under the impact of suburbanization.

3. Appoquinimink Hundred

Appoquinimink Hundred is located south of St. Georges Hundred, between the Appoquinimink River and Blackbird Creek. The derivation of "Appoquinimink," a Native American name, is under dispute. Some sources claim that it means "place where canoes are carried," referring to the portage at the head of the river from the Delaware River drainage to the Chesapeake drainage, while others claim it means "wounded duck" (Conrad 1908:565; Heite 1972:1). The initial

boundaries of the hundred extended from Appoquinimink Creek south to Duck Creek. In 1875, Blackbird Hundred was carved out of the southern portion of Appoquinimink Hundred, leaving it with its present boundaries—Appoquinimink Creek on the north, the Delaware River on the east, Maryland on the west, and Blackbird Creek and Blackbird Hundred on the south (Scharf 1888:1015).

European settlement of the hundred began soon after the initial Dutch grants at Appoquinimy, but was slow to develop. There were only 40 taxable inhabitants between Appoquinimink Creek and Duck Creek in 1683. By 1751, the number had increased to 249 taxables (Scharf 1888:1015). Duck Creek Crossroads was a very early trading center between New Castle and Dover, and by 1780, it possessed a tavern, a mill, a store, and a concentration of dwellings (De Cunzo 1993:19; Reed 1947:82). By the early part of the nineteenth century, with improving road networks, it was not unusual for towns and hamlets to develop at crossroads, growing or declining according to local and regional economic conditions (De Cunzo 1993:20-21).

The hundred is well watered and very productive, with principal products of corn, wheat, and peaches. Townsend and Fieldsboro were the only significant towns to develop within Appoquinimink Hundred. For this reason, road access to mills and larger towns, such as Middletown and Odessa, was an early concern (Scharf 1888:1015). By the 1850s, the Delaware Division of the Philadelphia, Wilmington and Baltimore Railroad had stations in Townsend, Blackbird, and Forest. These railroad stations helped increase access to markets between rural and urban areas, providing a crucial efficient link for people and produce.

The 1849 Rea map gives the first clear indication of the extent of settlement in the hundred. This map shows that a small crossroads town had already developed at Fieldsboro, consisting of a school and 12 other structures. A black church was already present near what would later be called Pine Tree Corners, but no structures are shown in the project area at this crossroads.

History of Fieldsboro

The tract on which Fieldsboro was established was assembled by Cantwell Jones in the late eighteenth century. Cantwell Jones's maternal grandfather, Edmund Cantwell, who came to Delaware with the Duke of York in 1664, had been instrumental in founding what became the town of Cantwell's Bridge (Odessa). In 1667, Governor Lovelace appointed Cantwell High Sheriff of New Castle County, and granted him great estates throughout the county (New Castle County [NCC] Deed Books I-1:30, R-2:552). Cantwell Jones's father, John Jones, also had large estates in the hundred, which on his death were divided between his son, Cantwell, and his daughter, Sarah. Cantwell Jones thus inherited estates from his mother's and father's families, and he added to these through widespread purchases. Jones had no children, and when he died in 1805, his will specified that his property be divided equally among his nieces and nephews, the children of his sister, Sarah Milligan, and her husband, Robert (NCC Probate Records: Cantwell Jones). His farm near the crossroads of Fieldsboro fell to Katherine Milligan. This farm straddled what had been known as the King's Highway, the main north-south road in the state, which extended from Wilmington to Lewes along the current route of the Dupont Highway.

Between 1806 and 1810, Katherine Milligan sold her lands near Fieldsboro to William Fields, Jr., who had also purchased 126 acres nearby from Dickinson Webster (NCC Deed Book G-3:369). Between 1794 and 1816, Appoquinimink Hundred saw a small boom in road building, during which a number of the older roads were laid out, including one in 1808 from James Buxon's land to what was already known as "Fieldsburgh" (NCC Road Books:n.p.).

In 1810, Katherine Milligan Petitioned the Court of Common Pleas for repayment of a debt of $977.50 owed to her by William Fields, Jr. There is no record of a sale from Milligan to Fields, but it was common practice for the seller to help finance the buyer, and it can be assumed that Fields had purchased the lot and defaulted on the mortgage (NCC Deed Book A-4:395). Fields was unable to repay the debt before he died in 1822, and his property in Fieldsboro was sold that year at a sheriff's sale. Fields must have been trying to establish a town at the crossroads, since his property was said to consist of 16 separate lots; 13 of these lots were bought by William Polk, of St. Georges Hundred, for $1,693.00. Most of these were one-acre lots, but lots of 40 and 150 acres were also included (NCC Deed Book A-4:395).

Since the road books use the name Fieldsburgh in 1808, it is likely that some sort of settlement already existed at the crossroads by that date. The deed recording the sheriff's sale in 1822 describes a small town on Fields's lots, consisting of one storehouse, five log dwellings, two frame dwellings, one double dwelling, two small dwellings and two other dwellings, three stables, three kitchens, one corncrib, one blacksmith's shop, one cartwright's shop, and other outbuildings. The businesses are typical of those found in small crossroads towns in early nineteenth-century America (Catts et al. 1994).

William Polk, who remained the major landowner in Fieldsboro until his death in 1852, was born in Sussex County, Delaware, in 1781. In 1809, he married Eliza Tatman, and by 1810, they were operating a store in St. Georges. In 1816, the Polks moved to Oldtown in Cecil County, Maryland, where they operated a farm and kept a store. After Eliza died in 1817, William Polk moved to Cantwell's Bridge (Odessa), where he developed a large mercantile business specializing in the shipment of grain. In 1825, he married Margaret Cochran, daughter of Samuel Penington and widow of John T. Cochran. The development of the town of Fieldsboro was thus only one of many business ventures in which Polk was involved, and his second marriage connected him to the elite families of the Odessa area (McCarter and Jackson 1882:429).

On the 1849 Rea and Price map (see Figure 8), the town is called Fieldsboro. The map depicts 13 structures in Fieldsboro, including School House 65 just west of the crossroads, W. Polk on the southeastern corner, and J. Doughten on the southwestern corner. Since only two property owners are named, the town may have included several tenants. The 1868 Beers atlas (see Figure 10) shows a higher density of settlement around the town, but still shows only 13 structures. The Beers map identifies commercial establishments with greater regularity than the Rea and Price map, and it shows four in Fieldsboro. Two stores are shown, one southwest of the corner and one to the northeast. The structure on the northwestern corner is identified as a blacksmith's shop, and the one on the southeastern corner as a wheelwright's shop. Six different property owners are identified, but W. Polk still owns three houses and the wheelwright's shop. W.N.

Rosen, whose house is northeast of the crossroads, is presumably the same as the W.N. Rosen identified in the 1860 U.S. census as a shoemaker (U.S., Bureau of the Census 1860). The Beers map also shows the Delaware Railroad, constructed in the 1850s, which led to a shift in growth away from crossroads towns such as Odessa and Fieldsboro and toward railroad stations such as Middletown and Blackbird.

The 1880 U.S. census includes a separate section for Fieldsboro, providing a snapshot of its population; since most of the householders listed in the census are also shown on the 1881 Hopkins map of New Castle County (see Figure 11), they can be placed geographically as well. At the northern end of the row, on the western side of the highway, is Edward Silcox on 15 acres of land. Moving south, there are: J.D. Clayton, identified in the census as a wheelwright; blacksmith J.W. Lind; a blacksmith shop, probably operated by Lind; and, on the northwestern corner of the crossroads, a wheelwright's shop, probably operated by Clayton. The structure on the southwestern corner was a house owned by R. Weldin, but he was not enumerated in the census and the house was probably rented. South of the Weldin house was a store. On the southeastern corner of the crossroads was a post office, and south of that, two houses owned by William Polk, part of 250 acres he owned in the neighborhood. On the northeastern corner were a store and two houses owned by Edward Silcox, and north of them were two more houses belonging to William Polk. East of the crossroads on 15 acres of land was H.W. Brockett. According to the census, the population overall included one wheelwright, one blacksmith, two retail grocers, two farmers, and 11 laborers (U.S., Bureau of the Census 1880).

In the twentieth century, the town seems to have become smaller, since the 1906 USGS Dover quadrangle shows only six structures. The construction of the Dupont Highway in the early 1920s, and its later widening, probably caused the destruction of some of the old buildings on the western side of the road, since a strip of land for the widening was taken from each lot (NCC Deed Book M-27:432). The 1953 USGS Middletown quadrangle also shows only a few structures, but since that time several new ones have been built, including a small hotel and a sizable storage rental facility.

4. Blackbird Hundred

Blackbird Hundred comprises the territory between Blackbird Creek and Duck Creek. It is the most southerly hundred in New Castle County, with Duck Creek forming the natural boundary between New Castle and Kent counties. Until March 1875, the land which comprises Blackbird Hundred was part of Appoquinimink Hundred. Initial land purchases within the hundred were made by Native Americans at a location known as Thoroughfare Neck. They in turn sold the land to European settlers (Conrad 1908:571). Ephraim Herman, Morris Liston, William Green, John Morgan, John Denney, and William Pierce were early landholders within the hundred (Scharf 1888:1023). The Staats family purchased land from the Native Americans and settled in Thoroughfare Neck (Scharf 1888:1024). Abraham Staats, an early settler of Manhattan Island for whom Staten Island was named, immigrated to Delaware when the Dutch conquered the Swedish settlements. The poorly drained area between Blackbird and Smyrna, including the Lynch and Osborne wetlands, was not subject to early European settlement. The soils were too

poor, and the distance to navigable water too great, to interest colonists before the middle of the eighteenth century. In the later eighteenth century, settlement increased along roads, including the King's Highway, which passed near the project area along the route of U.S. Route 13.

One of the earliest secondary roads in the hundred was laid out in 1780, and connected Thoroughfare Neck with the King's Highway. In 1825, money was appropriated for a new bridge over Blackbird Creek, replacing the "old" Taylor's Bridge (Conrad 1908:574). Milling was the earliest industry in the hundred. Abraham Staats operated a tidewater mill, and the Liston farm had a windmill for grinding wheat and corn (Scharf 1888:1026). In 1873, Abraham Staats's grandson, Isaac, built a steam sawmill.

Until the late nineteenth century, most of Blackbird Hundred was characterized as densely wooded. At that time the population seems to have increased, and a good portion of the land was cleared for agricultural production. Peaches, wheat, corn, and oats were the major products cultivated in the hundred. The 1880 population schedule enumerated 1,778 people in Blackbird Hundred (Scharf 1888:1023). This rapid population growth was the main reason Blackbird Hundred split from Appoquinimink Hundred.

Blackbird developed into the largest village in the hundred. Smaller hamlets such as Taylor's Bridge, Deakyneville, and Green Spring sprang up in the hundred during the late nineteenth century (Scharf 1888:1028). Deakyneville was situated on Thoroughfare Neck, east of Route 9 on Deakyneville Road, very close to the shore of the Delaware River. Green Spring is situated just north of the Kent County town of Clayton, at the intersection of Route 15 and Green Spring Road. In 1868, Taylor's Bridge, located on Blackbird Creek, close to the Delaware River, had a schoolhouse, a store, and a scattering of dwellings. By the end of the nineteenth century, these hamlets had grown into something more like villages.

The Blackbird post office was established in 1838, with Bassett Ferguson serving as the postmaster. Sometime before 1836, Benjamin Donoho constructed a hotel in Blackbird. The hotel had several owners before becoming a private dwelling in 1841. In that year, a new hotel with the same name opened. This hotel was still operating in 1888 (Scharf 1888:1028). In 1882, R.C. Brockson erected a building in Blackbird which was used to dry fruit. In 1888, Blackbird had a hotel, a post office, a schoolhouse, two stores, and approximately 50 residents (Scharf 1888:1027). The largest Methodist church in the hundred, the Emanuel M.E. Church in Townsend, was dedicated in August 1871. By 1887, there were 150 church members (Conrad 1908:570).

Although much of Blackbird Hundred has remained rural into the late twentieth century, the ever-expanding suburban corridor extending south from Wilmington and north from Dover has lately spawned residential development in the form of the construction of individual dwellings and subdivisions on well-travelled roads within Blackbird Hundred.

No dwellings are shown within either the Lynch or Osborne wetlands on any map consulted for this study. The only dwelling shown near the Osborne wetland on any nineteenth-century map

is N5625, the James Lester house, a large, nineteenth-century house located on U.S. Route 13 just to the east. This house, shown on the 1868 Beers atlas as L. Davis, burned in 1979. Evidence indicates that the entire wetland area was part of the tract associated with this house throughout the nineteenth century, and no other dwellings would be expected. Houses are shown north and east of the Lynch wetland on maps from 1868 on.

C. PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

1. SR 1 Corridor, Scott Run to Pine Tree Corners

Four substantial archaeological surveys had been carried out in the Odessa area, near the SR 1 corridor segment covered by this project, prior to 1994. In addition, the SR 1 segments north and south of the Scott Run to Pine Tree Corners segment have been surveyed by UDCAR. The first detailed survey was carried out by H.T. Wright, who located eight prehistoric sites on the property of St. Andrew's School in the early 1960s. No report on this survey is available, and information on these sites was obtained from the site files at the Delaware State Historic Preservation Office (DESHPO). In 1978, Thunderbird Associates carried out a survey of a sewer route from Odessa to Middletown along the northern bank of the Appoquinimink River (Gardner and Stewart 1978). The proposed SR 1 corridor crosses the route surveyed by Thunderbird. However, because the Thunderbird survey was limited to the narrow sewer line right-of-way (in most areas, only a single line of shovel tests was excavated), that survey did not cover any significant portion of the SR 1 corridor. The only historic archaeological sites discovered by the Thunderbird survey were east of U.S. Route 13, along the waterfront of historic Odessa. The survey located few prehistoric artifacts and no potentially significant prehistoric sites. Gardner and Stewart (1978) carried out some background research on the area, and they assert that they located few prehistoric remains on the northern bank of the Appoquinimink River because the major sites are all on the southern side.

In 1984, as part of the planning for the U.S. Route 13 Relief Route (now called SR 1), Jay Custer and David Bachman of UDCAR conducted field surveys in several areas that would be crossed by the new highway (Custer and Bachman 1986a, 1986b). One of the areas selected for the survey was Odessa. The survey located 62 new archaeological sites within about two miles of Odessa. Most of the survey was carried out by surface inspection, and since visibility was poor in most fields, only a few artifacts were recovered from each site. In one area, northeast of Odessa between Appoquinimink Creek and Drawyer Creek, subsurface investigations were carried out by the excavation of 1x1-meter test units. These excavations showed that the peninsula formed by the two creeks was the focus of substantial prehistoric occupation, dated by finds of Minguannan ceramics (Custer 1989) to the Late Woodland period. UDCAR excavators also discovered that the ends of the many small points along the creeks had never been plowed, so that intact prehistoric strata survive. The SR 1 corridor crosses this complex of sites just south of Drawyer Creek. However, the UDCAR survey, which was conducted strictly for planning purposes, did not meet DESHPO standards for Phase I archaeological survey, so the area had to be re-surveyed by LBA.

In 1992, Lu Ann De Cunzo of the University of Delaware conducted a survey of the area along Appoquinimink Creek and Drawyer Creek, east of U.S. Route 13, in order to locate archaeological sites from the 1630-1730 period (De Cunzo 1993). The survey was carried out by a combination of surface inspection and shovel testing at 60-foot intervals. Nineteen archaeological sites were located: eight prehistoric sites, one possible Contact period site, and 10 historic sites, including at least two dating to the 1630-1730 period. De Cunzo's survey, which focused on high-potential areas along creeks, did not include any part of the SR 1 corridor.

The segment of the SR 1 corridor north of the project area was surveyed by UDCAR in 1988 (Hodny et al. 1989). This survey began on the northern bank of Scott Run and continued north to the Red Lion vicinity, a distance of approximately 10 kilometers (6 miles). Eight archaeological sites—seven prehistoric and one historic—were located during this survey. The prehistoric sites were all associated with streams, and the larger sites were all located along large streams. The Parkway Gravel Site (7NC-G-100) was located on the northern bank of Scott Run. The Snapp Site (7NC-G-101) was located on a bluff on the southern side of the Chesapeake and Delaware Canal, which follows the course of St. Georges Creek. The Weaver Site (7NC-G-102) was north of the canal on a knoll between two ephemeral drainages. The Dragon Run North A and B sites (7NC-G-103 and 7NC-G-104) were situated 300 to 600 meters (1,000 to 2,000 feet) north of Dragon Run on low knolls adjacent to a small, intermittent tributary. The Wrangle Hill Site (7NC-G-105) was located on the downslope toe of a hill overlooking the confluence of two intermittent streams. The Conrail South A and B sites and the Conrail North A and B sites (7NC-E-92, 7NC-E-93, 7NC-E-94, and 7NC-E-95) were located along ephemeral drainages in the vicinity of Doll Run. The artifacts from these sites were all lithics, including flakes, fire-cracked rock (FCR), and a few Woodland I (3000 BC to AD 1000) projectile points; no prehistoric ceramics were recovered. The single historic site recorded (the Smith Site [7NC-E-98]) included the standing stone chimneys of a nineteenth-century farmhouse; this site was located 100 meters (300 feet) from U.S. Route 13 on a low hill overlooking an intermittent stream.

The only previously recorded archaeological sites within the SR 1 project corridor were two prehistoric sites (7NC-F-13 and 7NC-F-24) on the northern bank of the Appoquinimink River. The sites were recorded as undated lithic scatters, without diagnostic artifacts, but a collector told LBA investigators in the field that he had found "lots of arrowheads" on these sites.

The prehistoric archaeological sites previously identified in the Odessa vicinity are shown in Figures 12, 13, and 14. The large majority of the sites were located by UDCAR during the 1984 planning survey (Custer and Bachman 1986a). A few of the site forms in the DESHPO files list no discoverer for the sites; these sites were presumably recorded by amateur collectors. Gardner and Stewart (1978), who inspected the collections in the Island Field Museum, provide some information on these amateur sites not available in the DESHPO files.

Because of the cursory nature of both the UDCAR planning study and Wright's work, little is known about most of these sites. Most of the prehistoric dates were assigned on the basis of one or two diagnostic artifacts, and it is likely that further study of the larger sites would show that they were occupied over very long time spans. In the Muddy Branch and Dyke Branch

drainages, just east of Dover in Kent County, intensive collecting of the larger prehistoric sites by skilled amateurs showed that they had all been occupied during at least the Late Archaic and Woodland periods, and a majority had been occupied during all prehistoric periods from the Early Archaic to the Late Woodland (Custer and Bachman 1986b). Further survey on the neck between Drawyer Creek and the Appoquinimink River, where 17 separate sites have been defined, would be likely to show that the entire neck was occupied in prehistoric times, and that these sites could be combined into one or a few. The known prehistoric sites in the Odessa vicinity are almost all associated with Drawyer Creek, the Appoquinimink River, or one of the ravines tributary to these streams. However, since the surveys carried out to date focused almost exclusively on these areas, the existence of sites in inland settings cannot be ruled out. For example, the sites identified by UDCAR south of Pine Tree Corners are not associated with any major stream. Very few historic archaeological sites have been identified in the area.

Only one major excavation of a prehistoric site has been carried out in the vicinity of the project area. The Hell Island Site (7NC-F-7) is a major Early to Late Woodland base camp located on an island in the Appoquinimink River less than one kilometer west of the project corridor. Two sets of excavations have been carried out at Hell Island, one by H.T. Wright in the 1950s and one by Ron Thomas in 1965 (Thomas 1966; Wright 1960). Together, the two studies reveal a substantial settlement with at least three components: a Wolfe Neck Complex component dating to about 700 to 400 BC, a Delaware Park/Webb Complex component from the AD 600-1000 period, and a Woodland II Townsend component. Hell Island is the type site for Hell Island ceramics, one of the defining elements of the Webb Complex (Custer 1984:136-43).

2. Osborne and Lynch Wetland Replacement Areas, Blackbird Vicinity

Two extensive archaeological surveys have been conducted in the Blackbird vicinity, both by UDCAR. Blackbird was one of the areas chosen for survey during the 1984 planning study (Custer and Bachman 1986a). Although test units were excavated in a few wooded locations, most sites were found by surface inspection of plowed fields. A total of 187 prehistoric sites were identified within about 3 kilometers (2 miles) of Blackbird, most of them small lithic scatters. The sites in the vicinity of the Osborne and Lynch wetlands are shown in Figure 14. Approximately 87 percent of these sites were associated with bay/basin features; some of the larger sites were situated around and among clusters of bay/basin ponds. Sites were also found on headlands overlooking Blackbird Creek and its branches. Most of the located sites could not be dated, but projectile points diagnostic of the Archaic, Woodland I, and Woodland II periods were recovered. The Lynch wetland was located within one of the areas surveyed, and undated lithic scatters were found in the wetland area, all associated with bay/basin features.

UDCAR also carried out a Phase I survey of the SR 1 corridor from Smyrna to Pine Tree Corners. Although no report on this survey was available at the time of this writing, data on the sites discovered are available from the site forms at the DESHPO. The SR 1 corridor is adjacent to the Osborne wetland and bisects the Lynch wetland. A large number of prehistoric sites were discovered, most associated with small, marshy streams or bay/basin features. The typical site location was on a small, well-drained, sandy ridge adjacent to a poorly drained wetland. The

survey was carried out by shovel testing, and some of the sites consist of a single positive shovel test pit. Sites were located in the Lynch wetland and just north of the Osborne wetland. The sites in the Lynch wetland (7NC-J-196 and 7NC-H-91) were both undated lithic scatters. In addition, a single site (7NC-J-5) was recorded by a collector in the SR 1 corridor adjacent to the Osborne wetland.