PREHISTORIC AND HISTORIC BACKGROUND AND ARCHIVAL RESEARCH

This section is divided chronologically and will first discuss the prehistoric background of the area. It will then present a comprehensive history of the area, followed by a discussion on general tavern operations and activities. The specific history of the site will be discussed in the following order: the late eighteenth- to mid-nineteenth-century tavern era; the mid- to late nineteenth-century tenant farm, and the twentieth-century farm and dairy operation.

Prehistoric Period

Within the State of Delaware, the regional prehistory has been divided into four major time periods by Custer (1984, 1986a): the Paleo Indian Period, ca. 12,000 B.C. to 6500 B.C.; the Archaic Period, from 6500 B.C. to 3000 B.C.; the Woodland I Period, from 3000 B.C. to A.D. 1000; and the Woodland II Period, from A.D. 1000 to 1650. Following these prehistoric time periods is the Contact Period, from 1600 to 1750. This terminates with the aboriginal populations' shift to an acculturated way of life. The Historic Period overlaps the contact period somewhat, with European settlement in the project area from about the 1680s.

Paleo Indian Period - 12,000 - 6500 B.C.

This time period dates to the terminal Late Pleistocene and early Holocene eras, a time that marks the final retreat of the glaciers and the beginning of the gradual development of modern climatic conditions. The earlier part of this period falls within the Late Glacial Episode (up to 8000 B.C.), a time when the Middle Atlantic would have been affected by the northern ice sheets. A mosaic of different vegetation communities--grassland settings within a broader coniferous matrix dominated by spruce, with deciduous elements in the riverine zones--apparently supported a mixture of mammals, some now extinct (mastodon, mammoth, woodland musk ox, giant moose) and some modern (white-tailed deer, caribou, and elk). Some of these mammals were browsers, while others were grazers. The latter part of the Period, falling within the Pre-Boreal/Boreal Episode (8000 B.C. to 6500 B.C.), marked the transition between the end of the Pleistocene and the beginning of the Holocene. This was characterized by a reduction in grasslands and a spread of mixed woodland settings dominated by boreal species, particularly pine. This environmental change resulted in the extinction of many of the Pleistocene megafauna dependent on open grassland habitats and a redistribution in habitat areas for those animals affected by the reduction in forest edge settings.

Within these settings, the Paleo Indian lifestyle is assumed to have been one of both hunting and gathering, but with a marked emphasis on hunting. The tools in general appear to be for the acquisition of game animals and for the processing of these animals and their by-products. These tools include projectile points for killing, bifacial knives for butchering, and various flake tools for scraping, cutting, and piercing meat, bone or hide.

Diagnostic artifacts include such spear points styles as the Clovis, Mid-Paleo, and Dalton-Hardaway points and, towards the latter part of the period, corner and side notched styles such as Palmer, Amos and Kirk points.

A preference for a high quality cryptocrystalline lithic material is one of the diagnostic features of the Paleo Indian tool kit, and the careful resharpening and maintenance of tools was common. This reliance on such high quality lithics had important implications for Paleo Indian settlement patterns. Base camps were located in the vicinity of quarries, with hunting camps and special resource procurement sites radiating out from the base camp/quarry locale (Gardner 1989). A fairly mobile lifestyle in which groups focused on the quarries and on game-attractive environments is hypothesized, with a society organized by the interaction of single and multiple family bands.

A number of Paleo Indian sites are known for northern Delaware, but because of the absence of quarries and favorable environmental settings within the project area, it was not expected that any Paleo Indian sites would be located.

Archaic Period - 6500 - 3000 B.C.

The continually changing climatic conditions resulted in the emergence of essentially modern environmental conditions by approximately 6500 B.C. A corresponding change in the adaptive strategies of aboriginal groups living in the Middle Atlantic region is also evident in the prehistoric record. Most important to these early settlers was the extinction of the large game species caused, at least in part, by the reduction in the grassland environments and their replacement by the closed mesic forests of oak and hemlock of the Atlantic Episode (6500 B.C. to 3100 B.C.). A general warming trend and an increase in precipitation favored the expansion of the dense mesic forests; swampy and boggy areas were probably widely distributed in areas of poor drainage. Faunal components were essentially modern, with deer and turkey figuring as major game animals. Thus the aboriginal hunting patterns adapted to the habits of these more solitary species, and the gathering of plant foods became increasingly important in their subsistence systems. This change in subsistence is indicated in the archeological record by the increased presence of various types of ground stone tools such as axes, gouges, and grinding stones, by plant processing tools such as mortars and pestles, and by a variety of new projectile point styles (bifurcated and stemmed) made from a wide variety of lithic materials.

Archaic sites are located in a wider variety of environmental settings and in different locations than are the earlier Paleo Indian sites (Gardner 1987). Many of the new site settings are related to emerging environmental zones associated with the spread of the mesic forests, variations in the water table, and sea level rise. This increase in the variety of environmental settings would have been reflected in a concomitant increase in the variety of seasonally available resources. Settlement patterns were now characterized by three types of sites: macro-band or multiple family base camps in areas of maximum habitat overlap; micro-band base camps, apparently occupied by fewer family units; and special resource procurement sites, exhibiting a more limited range of activities oriented towards the extraction of locally available resources. These different site types

apparently represent a fusion/fission social organization, based on seasonal activity. In this model micro-band and special resource procurement sites radiate out from the base camp. In the Piedmont a more complex system of functional site types is represented, perhaps an adaptation to the more varied resource settings resulting from the greater topographic relief than one finds in the Coastal Plain of Delaware (Custer 1986b).

Areas of high probability for Archaic sites in the Piedmont would be low rises located around marshy or swampy areas away from major drainages and locations at sheltered locales along smaller streams which allowed the utilization of available resources such as plant or animal foods or lithic raw materials.

Woodland I Period - 3000 B.C. - A.D. 1000

This period is correlated with the Sub-Boreal Episode (3110 B.C. to 810 B.C.) and the Sub-Atlantic Episode (810 B.C. to A.D. 1000). The Sub-Boreal Episode begins with a pronounced warm and dry period characterized by an increase in the xeric oak/hickory forest cover and a waning of the mesic forests, at least in the northern portion of Delaware. This was accompanied by an increase in grassland areas and a decrease in the rate of sea level rise sufficient to allow the formation of estuarine resources. During the Sub-Atlantic Episode, a cooling trend accompanied by increasing precipitation led to the development of forest communities that approximate modern distributions. The northern Piedmont and the Fall Line Zones would have fallen within the oak/chestnut biome.

By 3000 B.C. the rising sea level and climatic/environmental changes led to a reorganization of the prehistoric way of life. The rise in the ocean's water level resulted in the development of brackish water estuaries along the continent's coastal areas, creating a rich environmental zone that could support the occupants of large base camps on a seasonal schedule. These base camps most likely represent a population that was semi-sedentary for a large part of the year. An increase in the overall population for the region may be noted for this time period. Earlier groups seem to have had relatively mobile lifestyles associated with flexible social organizations and an easily transported tool technology. Now one may recognize, in addition to the more sedentary lifestyle and the large population aggregates, a less portable storage technology, elaborate exchange systems, and complex burial patterns (Custer 1986b).

The 3000 B.C. to A.D. 1000 time range is based on similarities as delineated by Custer (1986b:87, 1989:143, 144):

1. The development of estuarine and riverine adaptations that are stable and intensive enough to produce large macro-band base camps in the zone of freshwater/saltwater interface and along the major drainages;

2. Population growth (or more intensive site utilization) at single site locations much larger than Archaic macro-band base camps;

3. The appearance of foraging and collecting adaptations in areas less productive than the estuarine and riverine settings;

4. The participation in exchange networks that result in the movement of raw materials and finished artifacts across large areas;

5. The occasional participation in complex mortuary ceremonies with the creation of cemeteries with rich grave offerings.

The Woodland I tool kit is characterized by broad-bladed, bifacially chipped broadspears, as well as by the appearance of a solid container technology. This technology is first apparent in the appearance of soapstone, or steatite, bowls, which were later replaced by ceramic vessels. Ground stone tools continue to be a part of the tool kit, and there was an increase in the number and variety of such tools as adzes, gouges, celts and axes. Participation in regional trade networks also seems evident for this era, as indicated by the extensive use of non-local materials such as argillite, rhyolite and steatite, used both for tools as well as for non-utilitarian items. This is most evident at Delmarva Adena sites.

The settlement pattern exhibits an increase in the number and variety of procurement sites as well as an increase in the size of macro-band base camps that appear to represent sedentism, characterized by semi-subterranean pit houses and storage and/or trash features.

Woodland II Period - A.D. 1000 - 1650

The environmental setting of the Woodland II Period is essentially modern in character. It is at this time period that a stable agricultural adaptation appears to have developed throughout much of the Middle Atlantic region, accompanied by more sedentary lifestyles (Custer 1989:298). While a movement to the more arable lands in the floodplains of major drainages accompanied by the appearance of more permanent structures and large villages is typical for the Middle Atlantic at this time, the Delaware Piedmont continues to exhibit many of the characteristics of Woodland I settlements. Indeed, many Woodland I settlements were also occupied during the Woodland II Period, with few changes in overall lifestyle and artifact assemblages. A shift to large village sites has not been found in the Piedmont Uplands (Stewart et al. 1986; Custer and Cunningham 1986:24). Settlement patterns continue to focus on areas of reliable water sources; the smaller campsites that are found for this time period probably represent short-term exploitative sites. There appears to be a breakdown in the trade and exchange systems that existed during the Woodland I Period, possibly caused by the disruption of social networks as a result of fissioning communities, resulting in fewer and less distinctive non-local materials to be found at sites. The lack of non-local lithics may also be related to the changing settlement system at the source areas (Custer 1984).

It is the various new ceramic types, with their complex decorations including incised lines and cord-wrapped stick impressions, that characterized the Woodland II Period in Delaware. These wares evolved out of the earlier Woodland I ceramics. Crushed shell Townsend Ware with fabric impressed exterior surfaces and Minguannon ceramics tempered with sand, grit and crushed quartz with smooth or cord marked surfaces are the primary types. Townsend ware is associated with the Slaughter Creek Complex in southern Delaware, while the Minguannon complex is found in New Castle County and surrounding areas. Small triangular projectile points that appeared in late in the Woodland I period become ubiquitous and indicate the use of the bow and arrow. These are generally made from high quality cryptocrystalline stone (Custer 1984).

High probability areas in the Piedmont Uplands would include well-drained terraces near high order streams and stream confluences, sinkhole/spring complexes, upland slopes near ephemeral streams, low order stream floodplains, particularly swampy areas, and areas near lithic sources.

Contact Period - A.D. 1600 - 1750

It was during this time that the Delaware Indians developed an active interaction with the newly arrived European traders and settlers. Ethnohistorical accounts chronicle a rapid disruption of the Indian way of life from deculturation brought about by a combination of factors. These include the expulsion of the Indians from their land; introduced European diseases, to which the indigenous populations had no immunity and which frequently struck down the people even before direct contact was made; a new dependence on European manufactured goods; and an increase in inter-group warfare due to competition for access to fur trading (Custer 1984).

It may be that because the fur trade moved swiftly to the west and the Susquehannocks blocked Native Americans in Delaware to the west, there was less participation in the European trade spheres in this area. Large quantities of trade goods are not found in Delaware sites, making contact period sites difficult to recognize. The artifact assemblages are thought to otherwise resemble Woodland II sites. Only two contact period sites have been excavated in New Castle County (Custer and Silber 1995:16).

At this time in their history, the Indians in the northern part of Delaware were a part of the rather loosely defined Delaware Nation. All of the groups belonged to the larger linguistic grouping known as the Coastal Algonquian, of which Delaware is a subdivision. The Delaware Nation consisted of widely scattered, rather fluidly organized and relatively independent local groups that seemed to be organized at a band or tribal level, lacking large scale organization and large communities. During the later part of this period, Native American groups began to leave areas where Europeans had established relatively dense settlements, further disrupting Indian traditions and cultural institutions (Custer 1984). It was much later in time that the shattered remnants of these groups were able to form a cohesive Pan-Delaware polity.

Prehistoric Archaeological Remains

A total of 11 prehistoric artifacts, two of which date to the Woodland I Period (5,000-1,000 B.C.), were recovered during excavations at the Blue Ball site. None were from primary contexts, but rather were from either fill soils or plow zones. All prehistoric component materials were cataloged by provenience according to raw material and function. The assemblage includes a middle stage biface fragment, an unfinished stemmed point fragment, and a stemmed point fragment and eight flakes, all of quartz. One of the flakes showed evidence of cobble cortex, indicating that that the material was probably derived from local secondary cobble sources. As the site was intensively examined during the historic component excavations, it is believed that a representative sample of prehistoric materials was obtained.

Five of these artifacts, four flakes and the unfinished point fragment, were recovered from fill soils found in the south yard of the tavern/house (N40W04), within a pipe trench in the north yard (N130W20), and in the west yard (N75W115). The biface was recovered from a buried plowzone found in the west yard (N49W80) while excavating the foundation remains of an auxiliary structure. The remaining four flakes (Trench 1, Square 6; Trench 2, Squares 10 and 11) and stemmed point fragment (Trench 2, Square 5) were recovered from a buried plowzone found during trench excavations in the north field.

The quantity, type, and distribution of the artifacts suggest that it was most likely a transient, short-term hunting camp, similar to other such light density concentrations found in the vicinity. The Alapocos Run site (7NC-B-13/N-10941) to the northwest (Taylor et al. 1989; Wholey et al. 2000) is another example of a light density, transient use site from which a single Bare Island point from the transitional Late Archaic/Early Woodland period was recovered. The Concord Run site (7NC-B-12/N-10940) to the north (Taylor et al. 1989) is an example of a small site. A greater diversity in formal tool types suggests that the site was a more intensively used area. A single Early Archaic Kirk corner-notched projectile point was recovered. The Matson Run Site and the Rock Manor Site, located on the east site of Concord Pike, are also nearby of examples of prehistoric use areas (Taylor et al. 1989). The former yielded an array of quartz, quartzite, jasper and chalcedony debitage from various lithic reduction stages and diagnostic artifacts, such as a stemmed and contracting stemmed point, dating to the transitional Late Archaic/Early Woodland period. Prehistoric remains from the latter were limited to quartz, quartzite, jasper and chert flakes and one biface. Survey work conducted several hundred feet to the west on the other side of the du Pont dairy barn and further west in the vicinity of the A. Bird House (Wholey et al. 2000) has also produced examples of isolated finds and light density scatters. The isolated Jack's Reef projectile point from the area around the A. Bird House dates to the Middle to Late Woodland period. From a local perspective, it appears the areas near and adjacent to Alapocos Run were exploited prehistorically probably as small foray camps.

General Regional History

Although European explorers visited the Delaware Bay area in the early 1600's, it was not until decades later that any were motivated to settle along its western shores. The earliest known colonial settlement in Delaware was founded by the Dutch West India Company in 1631, with the establishment of Zwaanedael or Swanendael, just north of present day Lewes. This palisaded encampment was intended to develop into a whaling station, trading center, and farming community, but local Indians, sparked by a dispute with the settlers, destroyed the settlement and massacred all its inhabitants within a year. New Sweden, the first permanent colony, was established near the juncture of the Brandywine and Christiana Rivers in 1638 by the New Sweden Company and settled by Swedes and Finns. This venture was partly financed by disenchanted members of the Dutch West India Company until 1641 when the Swedes bought out the Dutch shares. The colony grew into a string of small farming settlements situated on the western shore of the Delaware River and reaching as far north as the Schuylkill in present day Philadelphia. Small communities grew up at Fort Christiana, in the vicinity of what is now Wilmington, at Upland (now Chester, Pennsylvania), and on Tinicum Island, just south of Philadelphia. However by 1647, suffering neglect from its homeland, the colony had only grown to about 183 individuals. In 1651 a small group of Dutch, acting independently of the West India Company, set up Fort Casimir at what is now New Castle, ostensibly for the purpose of trade with the Native Americans but mainly as an attempt to interrupt New Sweden's commerce. Fort Casimir was about seven miles down river of Fort Christiana and therefore in a position to block Swedish trade and obtain control over all river traffic. The Swedes took this fort in 1654 and renamed it Fort Trinity, but a conflict ensued that resulted in the Swedish surrender of the fort and enabled the Dutch to gain control of the entire colony of New Sweden.

In 1656 the Dutch West India Company, indebted to the City of Amsterdam, sold its interest in the land along the western shore of the Delaware from the mouth of the bay to the former Fort Casimir to the City. Merchants from the City established a new colony and its capital, the town of New Amstel, grew up around the former Fort Casimir. New Amstel, under Dutch rule, was essentially a separate colony (Hoffecker 1977:17-19, Munroe 1984:21-28). During this time the area north of New Castle still contained a high population of Swedes and Finns, while the Dutch population was more prevalent to the south. Under a prior agreement, the Swedes were permitted to elect their own officers, although they were officially under the Dutch West India Company rule. This northern area became known as the "Company Colony" and reestablished Fort Christiana as its capital, renaming it Fort Altena. The southern area was the "City Colony" and kept New Amstel as its capital (Munroe 1978:47, 1984:29-33). In 1663 the Dutch West India Company, driven by mercantilism, not colonization, sold its remaining interest to the City of Amsterdam. That year the City financed the settlement of a group of Mennonites at Whorekill, present-day Lewes, and brought in large numbers of blacks from West Africa via Curacao, a center for the Dutch slave trade. Throughout this early period of settlement, the Delaware colonies were influenced by and under the unofficial control of New Amsterdam (New York), the center of Dutch colonial activity.

In 1664 the English, unhappy with the Dutch presence, captured New Amstel and destroyed the Mennonite community to the south. For nearly two decades the area was governed under the Duke of York as a part of New York, with only one short-lived resurrection of Dutch rule in 1673. It was during that time that separate court jurisdictions in Whorekill, New Castle, and Upland were established. Two years later New Salem, later Salem, was established by a small group of Quaker settlers from England. Based on a longstanding boundary dispute, the Duke of York and Lord Baltimore made conflicting claims to the land along the western shore of the Delaware River, with the land around Whorekill most frequently contested. William Penn was granted a charter for Pennsylvania in 1681, and the Colony of Delaware was officially cleaved from lands to the north. Penn was however unsatisfied, as his new territory was essentially landlocked, with no access to navigable waters. In 1682 the Duke of York agreed to grant proprietary rights to Penn for the three counties of Delaware. These lands were issued in two separate deeds: the first included the land within twelve miles of New Castle, and the second, the land from twelve miles south of New Castle to Cape Henlopen, present day Fenwick Island. In gaining this land, Penn inherited the dispute with Lord Baltimore, but in 1688 was granted rights over the 'province of Lower Pennsylvania' by King James, formerly the Duke of York. This was a gesture intended to settle a long-standing debt to Penn's family, and for the time it squashed Lord Baltimore's claim over the Lower Counties. However, the boundaries that divided the Lower Counties from Maryland were not settled upon until 1751 and not made official until 1775 with the Mason and Dixon survey.

Philadelphia, established by Penn in 1682, had a population of 6,000 within a decade and, as planned, became a center for commerce, shipping, and government. As the capital of Penn's colony, New Castle County was under its control, both economically and politically. Growing political and religious hostilities between the provincial colony (Pennsylvania) and the territorial colony (Delaware) materialized in 1701 when Penn was forced to grant Delaware political autonomy (Munroe 1978:116). Seeing the opportunity within this schism, a Scottish petition for the Lower Counties was made in 1717 but apparently ignored. After Penn's death, proprietary rights to the Lower Counties were passed by order of his will to his three sons, John, Richard, and Thomas (Munroe 1978:134). In the same year that Penn established Philadelphia, he also created nine hundreds in Delaware, based on an old Saxon land division that was similar to a precinct (Hancock 1983). Brandywine Hundred was one of these original divisions.

Philadelphia so dominated the region that other urban centers were slow to develop. Wilmington was not chartered until 1739 and Lancaster, Pennsylvania, did not receive borough status until 1742. Philadelphia became the chief export port for grain and flour produced in the region, including New Castle County (Lemon 1967). Small commercial centers began to grow up as the population density increased, and shipping points, small towns such as Newport and Christiana, through which goods were channeled to Philadelphia, began to appear. Grain and flour were also shipped from various landings along the Delaware River, although Wilmington quickly surpassed other port towns, more than doubling its population in less than half a century. During this time Delaware and Philadelphia, but particularly New Castle County, attracted large numbers of Scotch-

Irish and Welsh immigrants, most of whom were indentured for a period of five or so years (Munroe 1978:162). Settlement patterns at this time can be generally characterized as scattered family farmsteads along the major drainages (Weslager 1961).

Although subsistence farming was important, with farming oriented to the production of goods for household use, the production of goods for consumption for the growing international market was always a factor (Lemon 1972:2). Agricultural production for home consumption can be described as general mixed farming, with most farms producing several types of small grains, corn, flax, hemp, and vegetables. Most farms also had substantial orchards. Cattle, pigs, and a few sheep were generally kept, and horses were used more often than other animals for farming operations and hauling. Many farmers were also artisans, making products for use by the local population (Lemon 1972:6). Tobacco was the most profitable crop and primary export throughout the middle and late seventeenth century. Primarily grown in Kent and Sussex Counties, its production was probably responsible for the larger sized landholdings and larger slave population that characterized these two counties during that period (Munroe 1978:117). An extractive crop, its profitability was short-lived and its cultivation abandoned in favor of grains. With the decline in tobacco production, the need for slave labor also diminished, and in 1775, with the abolition movement already underway, the three counties of Delaware drafted a provision that outlawed slave importation (Munroe 1978:188-190).

Wheat and flour emerged as primary agricultural exports, replacing the rye and barley introduced earlier by the Swedes and Finns. Wheat continued as the primary market crop through the eighteenth century, being first shipped to local milling sites and then on to Philadelphia where it was distributed to Europe and the Caribbean. In the eighteenth century an estimated 80 to 90% of the New Castle County population was participating in farming; however, the average farm size declined from the previous century from 200 to 100 acres (Coleman et al. 1990).

Milling along the Brandywine and other streams began in the seventeenth century with the initial Swedish settlement, but did not develop as an industry until the 1730s (Munroe 1978:202, Hoffecker 1974:8). Milling and other manufacturing during the 1700s were mostly run by a single proprietor, and the business locations were dispersed throughout the countryside. Initially these custom mills were employed to grind flour for farmers, but milling rapidly grew into an important regional industry, utilizing Philadelphia as a point for national and international export. Wheat was shipped to milling sites from downstate locations through an extensive coastal trade employing shallops or other small boats and from areas around Lancaster and in Chester County, Pennsylvania, via wagon roads that terminated at the mill's landing. The 1799-1801 Shallus and Varlè Map of the State of Delaware and the Eastern Shore of Maryland shows at least ten mills along the Brandywine. By 1820, the Heald Map of the Roads of New Castle County shows additional mills along the Brandywine in addition to those on the Shallus and Varlè Map, including a cluster at the edge of Wilmington labeled Brandywine Mills. Located in Brandywine Village, a largely Quaker community, these mills would become the industrial center of the state. Other forms of manufacturing that developed in eighteenth-

century New Castle County included textile milling, paper milling, and the preparation of snuff from tobacco (Munroe 1978:203-204; Hoffecker 1977:30-31). Subsidiary trades, such as coopering and shipbuilding, developed proximate to the mill sites as a means to provide watertight barrels, sloops, and schooners for the preservation and transport of the mills products. Individuals involved in these occupations often worked for a specific miller. Since milling was generally not a very labor intensive industry, more workmen were actually employed in these related crafts than in milling itself (Hoffecker 1974:33-34). Iron making began about 1722 at Iron Hill in Pencader Hundred (Munroe 1978:135), and later in the century the cotton industry developed (Lemon 1972:30).

Water was the primary mode of transportation throughout the seventeenth century, and major land grants had access to a water course for transportation (Hoffecker 1977). Most all farms were situated within twelve miles of navigable water (Munroe 1954:27), and shipbuilding was conducted early on in small scale along navigable watercourses (Munroe 1978:198-201). Overland transportation was a limited option as it was not well developed and in poor condition and often more expensive than water transport. Overland roads began to multiply, and existing road conditions improved through the eighteenth century with a 1752 and 1762 Act of the Legislature (Laws of the State of Delaware 1797). These acts called for the construction and maintenance of roads and bridges, with the highest priority to the maintenance and improvement of a system of King's Roads. Small hamlets continued to appear along these major transportation routes, especially at their crossroads.

The success of the Lancaster and Philadelphia Turnpike in the 1790s spurred an expansion of other turnpike roads. Toll roads such as the Gap and Newport Turnpike (authorized in 1807 in Pennsylvania and 1808 in Delaware), the Wilmington and Lancaster Turnpike (authorized in 1808--connecting Wilmington to the Gap and Newport Turnpike), the Wilmington and Kennett Turnpike (1811), and the Wilmington and Great Valley Turnpike (1811) were developed to accommodate the burgeoning commercial trade among these towns. These were generally built on existing public roads that were improved to facilitate movement of grains and crops from inland locations and remain competitive in this trade sphere. In some cases sections were built on new alignments. Tollgate intervals and rates were set for each company and were not standard from one road to another. A major railroad was completed in 1838 that linked Philadelphia, Wilmington and Baltimore and quickly became the major transportation route across the Delmarva Peninsula. In the first half of the nineteenth century overland transportation improved in New Castle County due to the construction of turnpike roads, bridges, and railroads. These improvements were crucial to development of agriculture and industry.

New Castle County remained largely agricultural in the nineteenth century, with a notable increase in the number of major industries located along the Brandywine. Farmers at the beginning of the century continued to use a four-field system of cropping that had been followed since the late 1700s. Use of fertilizer was infrequent, and yields were low, as repeated tillage had depleted the soil. Continued population increase also forced the use of marginal or poor quality land for farming. According to agricultural reformers around the turn of the nineteenth century, yields on the area farms were low

and cattle were of small size (Lemon 1972:150-166). In 1818, the New Castle County Agricultural Society was revived. Their influence in the use of machinery, improved drainage systems, and fertilizers eventually turned the county into one of the most productive farming areas, and at the same time, improvements in transportation allowed successful marketing of the farm products (Coleman et al. 1990:20-22).

According to tax assessments and census lists, the total population for New Castle County grew by about 43% during the early nineteenth century, making it the most populated County in the state. Previously (in 1782) it had accounted for one third of the statewide population, about even in distribution with Kent and Sussex counties (Nelson et al. 1994). The 1816 tax assessment for Brandywine Hundred shows 263 houses, 43% of which were stone, 30% wood, and 5% brick. This can be compared to the 1816 assessment for White Clay Creek Hundred (Coleman et al. 1990) showing approximately 190 houses 26% of which were log, 19% brick, and 5% stone. These can also be more broadly compared with the 1804 assessment for Mill Creek Hundred (Catts et al. 1986) that shows 168 houses, 59% of which were log, 28.5% stone, and 12.5% brick. Dwellings of stone or brick are generally connected to higher socio-economic status.

Table 1
Comparison of 19th-Century House Construction in Three Delaware Hundreds

	Brandywine	White Clay Creek	Mill Creek
Total #	263	190	168
Wood	30%	26%	59%
Stone	43%	5%	28.5%
Brick	5%	19%	12.5%

Tenant farming appears to have been more common in Delaware than in the rest of the United States. In fact, by 1900 over 50% of the population of Delaware were tenant farmers, a mode of farming that was common in the eighteenth and nineteenth centuries and remained a dominant practice into the twentieth century (Hoseth et al. 1990). A farm rental contract in general use for most of the nineteenth and early twentieth centuries divided the proceeds for crops equally between landlord and farmer. The proceeds from keeping livestock, including dairy cattle, went to the tenant, and usually all of the hay was theirs, too. The landlord provided the land and was responsible for repairs and improvements, insurance, and taxes on his property. The tenant provided equipment and livestock, and paid all other expenses including insurance and personal property taxes. Seed and fertilizer were shared expenses. There may have been little difference between yields and receipts on tenant and owner operated farms, and since many farmhouses had originally been built for owners, the quality of housing may not have been very different for the two groups (Bausman 1933).

Simler (1986) has found that in eighteenth century Chester County farm tenancy was an adaptive strategy on both the part of the farm tenant and the part of the landowner. For the landowner, renting was a way to bank or improve upon the land until it was needed for use or capital. Wealthy farmers often purchased and leased additional farmland to be

given to their children. Tenancy occurred in multiple forms. For example, a farm tenant rented farms around 100 acres or more for commercial production and comparable to those of landowning farmers. These farmers could participate in the commercial export market and simultaneously accumulate capital for the purchase of another piece of land. Farm tenants were generally experienced farmers who could earn enough to pay rent and taxes. Often, however, general farming did not generate sufficient income, and extra income was provided through some other sort of trade. In some cases this would be dairying and in others milling or innkeeping. Smallholders, on the other hand, generally rented 20 acres or less and were considered a landless labor pool. They may have aspired to farm tenancy, but rarely to landownership. Middling farm tenants rented properties usually between 20 and 60 acres. Often middling farm tenants were a class that had risen from smallholding. These properties were too small for commercial farming, yet rents were too high to permit mere subsistence farming. Middling farm tenants had to rely on another source of income, such as wage labor or manufacturing.

With improvements in transportation, the onset of the Industrial Revolution, and the rise of Baltimore as a marketing center, Philadelphia's influence over the adjacent areas declined notably throughout the latter half of the nineteenth century (Lindstrom 1978). Industry continued to grow and, in response, agriculture was forced to diversify. In the mid-nineteenth century, Delaware led the regional coastal export to Philadelphia in corn, wheat, oats, grain, flour, and lumber. A shift, however, to wood and merchandise related to manufacturing appears, and those who continued in agriculture were forced to specialize, for example, in dairy production, market gardens, wool, or livestock fattening (Lindstrom 1978:98, 140). In 1840 nonagricultural per capita income was almost triple that of the per capita agricultural income in New Castle County (Lindstrom 1978:164-5), and by the end of the nineteenth century manufacturing had unquestionably overtaken agriculture in economic importance. A shift in agricultural production from staple crops to perishables also began to emerge around the end of the nineteenth century and continued into the twentieth century (DeCunzo and Garcia 1992: 27). Transportation revolutions, first marked by the construction of the Delaware railroad, but accelerated with the completion of Route 13 (DeCunzo and Garcia 1992: 28; Grettler 1992) in the 1920s, enabled the movement of this type of produce to markets across Delaware and throughout much of the Middle Atlantic. This latter 'revolution' linked previously separated regions and contributed to both the incipient and larger scale post-World War II suburban development.