

4.0 CULTURAL BACKGROUND AND CULTURAL RESOURCES PREDICTED

The following is a summary of previously identified pre-contact and historic period archaeological sites, as well as historic properties, located in the general vicinity of the Barratts Chapel Road Improvements project area. Included is a discussion of the potential for the project area to contain pre-contact and historic period archaeological resources and historic properties. For additional information regarding the pre-contact period, the reader is referred to: *Delaware Prehistoric Archaeology: An Ecological Approach* (Custer 1984); *A Management Plan for Delaware's Prehistoric Cultural Resources* (Custer 1986); *A Management Plan for the Prehistoric Archaeological Resources of Delaware's Atlantic Coastal Region* (Custer 1987); *Chesapeake Prehistory, Old Traditions, New Directions* (Dent 1995); and *Handbook of North Americans, Volume 15: Northeast* (Trigger 1978).

A number of large-scale studies of archaeological site distributions have been made in east-central Delaware, including *A Cultural Resources Reconnaissance, Planning Study of the Proposed Route 13 Relief Corridor New Castle and Kent Counties, Delaware* (Custer *et al.* 1986). This document (Custer *et al.* 1986) lists examples of these studies, which include an archaeological survey of Lums Pond State Park (Wise 1983), a survey of the north bank of the Appoquinimink River between Middletown and Odessa (Gardner and Stewart 1978), a survey of cultural resources north of the St. Jones River (Griffith *et al.* 1979), a survey of portions of the Bombay Hook National Wildlife Refuge (Rappleye and Gardner 1980), a controlled sample survey of selected portions of the St. Jones and Murderkill drainages (Custer and Galasso 1983), and a survey of an early proposed alignment of a West Dover By-Pass Corridor (Griffith and Artusy 1976).

For more information regarding the historic period, the reader is referred to *Historic Context and Master Reference and Summary* (Herman *et al.* 1989); *History of Delaware, 1609-1999* (Scharf 1888); *Historic Context: The Archaeology of Agriculture and Rural Life, New Castle and Kent Counties, Delaware, 1830-1940* (De Cunzo and Garcia 1992); and *Agricultural Tenancy in Central Delaware, 1770-1990±: A Historic Context* (Siders *et al.* 1991).



4.1 Pre-contact Period

4.1.1 Paleoindian Period

The Paleoindian period (ca. 12,000 B.C. to 6,500 B.C.) started with the arrival of the earliest inhabitants of Delaware, ca. 15,000 years ago, and ended with the emergence of essentially modern environmental conditions at approximately 6,500 years ago. Paleoindian archaeological remains in Delaware include fluted projectile points attributable to the Clovis, Mid-Paleo, and Dalton-Hardaway phases, as well as early side and corner notched projectile points such as Palmer, Amos, and Kirk types (Broyles 1971; Coe 1964; Custer 1986:32). Types of Paleoindian sites include quarries, quarry reduction stations, base camps, base camp maintenance stations, outlying hunting sites, and isolated projectile point finds, with these isolated projectile points the most common (Custer 1984:52-53). The majority of the Paleoindian site types, as defined by Gardner (1979), are directly related to lithic resource procurement and lithic tool manufacturing. Sources of high-quality lithic raw materials are not present within the Barratts Chapel Road Improvements project area; therefore, the likelihood of substantial Paleoindian period remains being present is low.

No Paleoindian archaeological remains have been previously identified within or adjacent to the project area; however, numerous surface finds of isolated Paleoindian projectile points are noted for central Delaware. These isolates are usually found on well-drained knolls adjacent to poorly drained areas (Riley *et al.* 1994:6). The Hughes Paleo-Indian Complex sites (7K-E-10, 7K-E-24, and 7K-E-33), produced several varieties of fluted and notched projectile points and are located on well-drained sites adjacent to a number of different types of swampy settings (Custer 1984:58). The concentration of Paleoindian sites defined by Custer (1984:57) as located along the Mid-peninsular Drainage Divide is the closest to the project area. These sites appear to correlate with poorly drained areas and the areas immediately surrounding these poorly drained areas. Portions of the project area are poorly drained, especially along Double Run and several other small unnamed streams, and may have the potential to contain Paleoindian period archaeological sites on landforms adjacent to these wet areas.

4.1.2 Archaic Period

“The beginning of the Archaic period (6,500 B.C.-3,000 B.C.) coincides with the emergence of Holocene environments in Delaware and is characterized by a shift in human adaptation strategies” (Custer 1984:61). This adaptation strategy shift occurs at approximately 6,500 years ago with the emergence of bifurcate projectile points, such as St. Albans, LeCroy, and Kanawha types (Broyles 1971; Chapman 1975). Based on preliminary information gleaned from excavated archaeological sites in locations surrounding Delaware, a variety of stemmed projectile point types characterize the Archaic period from approximately 6,000 B.C. to 4,000 B.C. (Custer 1984:62). Indicators of the new adaptations include the addition of new tools, such as ground stone, to the tool kit; the addition of alternative lithic raw material sources (e.g., secondary cobble sources) for tool making; replacement of direct procurement systems by embedded systems; reduction in the range of activities carried out at special purpose sites; less reliance on cryptocrystalline lithic raw materials; increased floral resource use; reduced emphasis on hunting; and site location preference to a wider variety of environmental settings different from Paleoindian preferences. “In the overall picture the variety of site types and activities seems to represent a diffuse adaptation (Cleland 1976) to an increasing variety of environmental settings as well as the increasing variety of resources available due to increased seasonality” (Custer 1986:65). This seasonality is reflected in the macro/micro-band/procurement site settlement types postulated for the Archaic period in Delaware. A variety of environmental settings, including swamps/marshes and their associated terraces, as well as floodplains of major streams, would have been preferred locations for macro-band camps. The Barratts Chapel Road Improvements project APE does not contain these types of environmental settings. Sheltered locales along smaller streams and major stream headlands appear to be the preferred micro-band camp environmental settings. There is a paucity of data for both Archaic period macro- and micro-band site locations in Kent County (Custer 1986:73). A number of small procurement sites in favorable hunting and gathering locales are known from central and southern Delaware (Riley *et al.* 1994:8). Archaic period archaeological sites located in Kent County, such as the Leipsic site (7K-C-194A) (Custer *et al.* 1996) and the Carey Farm site (7K-D-3) (Custer *et al.* 1995), yielded diagnostic Archaic period artifacts from mixed temporal components in plow zone contexts.



By 3,000 B.C. in Delaware, significant changes occurred in lifeways, climate, and environment, and signaled the end of the Archaic period. The potential for the Barratts Chapel Road Improvements project area to contain Archaic period archaeological remains is moderate based on the limited environmental settings included in the project area that were preferred by Archaic peoples. If Archaic period remains are identified, they will most likely represent lithic scatters, micro-band camps, or procurement sites on small areas of relatively higher elevation adjacent to poorly drained areas along small drainages (Custer 1986:74).

4.1.3 Woodland I Period

The Woodland I period begins at approximately 3,000 B.C., when the rate of sea level rise slowed and riverine and estuarine environments began to stabilize, and continues until *ca.* A.D. 1000 (Riley *et al.* 1994:6; Morin *et al.* 2001:3.2). An increase in population is posited for the period, along with the development of sedentism. Many large base camp sites, with associated large numbers of people, are evident in many parts of the Delmarva peninsula during the Woodland I period (Custer and Catts 1991:19). The overall trend was towards more sedentism, with increases in local populations. Woodland I period lifeways varied from the Archaic period and included increases in plant processing tools; the introduction of stone and then ceramic containers; the development of incipient ranked societies; the addition of fishing gear, such as netsinkers; increases in broad-bladed knives; and the development of trade and exchange networks/systems. Important areas for settlements include the major river floodplains and estuarine swamp/marsh areas. Large base camps are evident at several settings in Central Delaware, such as at the Barker's Landing, Coverdale, Hell Island, and Robbins Farm sites (Riley *et al.* 1994:8). These sites were occupied by larger groups of people than Archaic base camps and may have been occupied year-round. The close of the Woodland I period is dated to approximately A.D. 1000 (Morin *et al.* 2001:3.2). Due to the lack of major drainages within the Barratts Chapel Road Improvements project APE, there is a low to moderate probability of identifying Woodland I period sites.



4.1.4 Woodland II Period

The Woodland II period is dated from A.D. 1000 to the contact period, ca. A.D. 1600. The period is marked by the alteration of Woodland I lifeways (Custer 1984:146). “The basic changes noted in Delaware include the breakdown of trade and exchange networks, alterations of settlement patterns, the development of sedentary lifestyles, and the appearance of agricultural food production to varying degrees in different areas” (Custer 1984:146). Horticulture became very important across the Middle Atlantic region during the Woodland II period, although little archaeological evidence for it has been identified in Delaware (Morin *et al.* 2001: 3.3). Woodland I settlements, especially the large base camps, continued in many instances to be occupied during the Woodland II period, with very few changes in basic lifestyles and overall artifact assemblages indicated (Stewart *et al.* 1986). Intensive plant utilization and hunting remained the basic subsistence activities up to European contact. Similarly, no major changes are seen in social organization for this period in central Delaware (Riley *et al.* 1994:10). Small triangular projectile points and various styles of ceramics are temporally diagnostic Woodland II period artifacts. Two basic varieties of ceramics, Townsend and Minguannan wares, are distinguished in Delaware (Custer 1984:148). Townsend ceramics are described as shell-tempered, fabric-impressed exterior surface wares and are found from central Kent County south (Griffith 1982:56; Custer 1984:154), while Minguannan wares exhibit sand, grit, or quartz temper with smoothed, corded, or smoothed-over corded surfaces and are distributed mainly in northern Delaware (Custer 1981:154). Identified Woodland II period ceramic types, including Wolfe Neck, Coulbourn, Mockley, Hell Island, and Townsend wares, are found in central and south Delaware (Griffith 1982:52-57). Like the Woodland I period, due to the lack of major drainages within the Barratts Chapel Road Improvements project area, there is a low to moderate probability of identifying Woodland II period sites.

4.1.5 Pre-contact Period Archaeological Resources Predicted

According to the predictive modeling accomplished by Custer (n.d.) for pre-contact period archaeological resources in Delaware, the majority (ca. 63 percent) of the project area is contained within moderate probability areas (Figure 3). Thirty-four percent of the project area is classified as low probability, while only three percent is classified as high.

There are two locations within the project area that have high probability ratings. The first is located at the western end of Barratts Chapel Road at its intersection with McGinnis Pond Road and is the larger of the two high probability areas. The second is a small area west of the roadway crossing with Double Run. Both of these areas are located proximal to the two larger drainages located in the project APE.

In 1986, Custer (1986:196-197) identified 107 previously recorded archaeological sites within County Block F, where the Barratts Chapel Road Improvements project area is located and within an area considered to have a high known site density. The project area is also located within Custer's (1986:193) "Medium/High Significance Probability," "High Data Quality", "High Numbers of Known Sites" research sensitivity zone. The location of the project area proximal to Dover makes it an area of high development pressure, as well. Review of the Delaware archaeological site files did not yield any previously recorded pre-contact period archaeological sites within or immediately adjacent to the project area; however, ongoing archaeological studies by A.D. Marble for the Little Heaven road project has identified pre-contact period artifacts, including lithics, cobbles, and fire-cracked rock (Emory and Fanz 2005:58) in the Barratts Chapel Road archaeological APE. No chronologically diagnostic artifacts were identified; however, the artifacts are interpreted as minimally suggesting a Woodland II period affiliation (Emory and Fanz 2005:58). Archaeological research for the S.R. 1 Frederica Interchange project located to the south of the Barratts Chapel Road Improvements project archaeological APE also yielded extensive evidence of pre-contact period occupation across the landscape (Emory and Fanz 2004:38). "Diagnostic artifacts, including a Middle to Late Archaic Period (6,500 to 1,000 B.C.) jasper Lamoka point, a Late Archaic Period (3,000 to 1,000 B.C.) quartz MacPherson point, and eight pre-contact ceramic sherds with sufficient diagnostic characteristics reflective of Woodland I Period (3,000 B.C. to 1000 A.D.) wares, reflect a significant temporal period of occupation" (Emory and Fanz 2004:38). Phase II archaeological testing has been recommended for some of the pre-contact period archaeological resources identified in the S.R. 1 Frederica Interchange project area (Emory and Fanz 2004:41-42).

Although there is a dearth of previously identified pre-contact period archaeological sites within the Barratts Chapel Road Improvements project archaeological APE, there are a number of previously identified pre-contact period archaeological resources located nearby. The project area is located along an existing transportation and utilities corridor, but the geomorphological studies identified relatively undisturbed soils/sediments present in the



project APE. Well-drained soils of appropriate age to contain archaeological resources within the project area are proximal to wetland areas rich in natural resources. All of these factors support a determination of moderate to high potential for the project APE to contain pre-contact period archaeological resources.

4.2 Historic Period

4.2.1 Exploration and Frontier Settlement (1630-1730±)

During this period, Euro-American settlements were widely scattered and found predominantly along the coast or navigable streams of Kent County. Water was the most dependable form of transportation, and roads were non-existent or crude and often impassible in spring and fall (Herman *et al.* 1989:19-29). Although Swedish, Dutch, and Finnish settlers had been in the Delaware area since 1630, in 1682, the year William Penn assumed control over the “lower three colonies,” only 99 tithables (adult males) were present in Kent County (Scharf 1888:1030). Land in the project vicinity was predominantly divided into large estates or manors of several hundred acres each. In the eastern part of the project region, the land was part of a 600 ac tract called “Williams’ Chance” (Scharf 1888:1156), sometimes also referred to as Williams’s Clearance (Kent County Deeds 1770:170). It was surveyed in 1680 for Thomas Williams and Peter Groendyk, and later came into the possession of Philip Barratt (Scharf 1888:1156). A nearby, and perhaps overlapping, estate was called Ausbe or Ouesby, a manor containing 1,600 ac that was surveyed in 1682. In the western part of the project region, encompassing a large area surrounding Barratts Chapel and McGinnis Pond roads and north of the tributary of the Murderkill River known as Hudson’s Branch, was an 880 ac estate known as Arundel, sometimes also called Avendale. It was warranted to Peter Baucom in 1680, and upon his death in 1684, passed to his daughter, Ruth Baucom. Through marriage, the tract passed to her husband, Richard James, and then to their son, George James, and his son, Jacob James (Scharf 1888:1162-1163).

By the early eighteenth century, Hudson’s Branch was already being referred to as Mill Creek, in reference to a mill located on the branch at what is now McGinnis Pond Road. The mill predates 1722; Scharf notes that in that year, the mill of the late Samuel Nichols



plus 100 ac was sold to Andrew Caldwell (Scharf 1888:1163). The land would support a mill or mills into the mid-twentieth century (Delaware State Highway Department 1941).

The presence of a mill or mills on Hudson's Branch indicates the need to process agricultural grains and wood from the area's fields and forests, suggesting that farms had been established in the area by at least the early eighteenth century. This is confirmed by deed research, which indicates that tracts were being subdivided into manageable-sized farms (Kent County Deeds 1740:86). Area farmers raised predominantly cereals and livestock. What could be sold at market was generally shipped by water. Murderkill Creek was navigable between the Delaware Bay and three miles above Frederica, a distance of approximately 25 mi (Scharf 1888:1148).

Houses during this period tended to be impermanent for all but the wealthiest of landholders. Houses were built on wood sills or with shallow foundations or piers of brick or stone. Log was a frequent construction material, and houses tended to be small by today's standards, often just one or two rooms, sometimes with a habitable loft above. Consequently, architectural remains from this period are uncommon. Outbuildings from this period almost never survive (Bedell 2002:53-57).

4.2.2 Intensified and Durable Occupation (1730-1770±)

Although this time period is notable for the formation and development of towns and villages in many parts of Delaware, the land in the project area remained in agricultural production during this period. The large manors and estates that characterized the preceding period were subdivided into smaller farms that were farmed by the actual owners or their tenants (Herman *et al.* 1989:24). Deed research indicates that farms remained fairly sizable, averaging between 150 and 250 ac (Kent County Deeds 1770:12, 1797:25, 1801:38). Chief crops in the region were wheat and Indian corn (Herman *et al.* 1989:24). Most crops were shipped by shallow bottomed boat on navigable streams, as the road system remained crude. In 1736, the first ship to have been built and launched on the Murderkill was the *Hopewell*, a 10-ton sloop (Archibald *et al.* 2004:11). Over the course of the period, the road system improved somewhat, tying settlements together. The most important overland route was the north-south King's Highway between Lewes and Wilmington, which was in place by 1764 (Bedell 2002:7). This highway's route generally



approximates the route of S.R. 1. A portion of S.R. 1 is included in the Barratts Chapel Road Improvements project area.

During this period, Delaware and Kent County witnessed a rapid growth in population. This was fueled by a steady stream of overseas immigrants from England, Wales, Scotland, Ireland, Germany, and Africa, out-migration by settlers in Maryland, and the creation of large families by residents. Scots-Irish immigrants and dissenters from the Church of England, such as Presbyterians, Quakers, and Methodists, made up much of the population (Bedell 2002:7-8).

During this period, one of the area's most influential citizens would move into the area. Philip Barratt, along with his brother, Roger, settled in the area prior to 1755. Philip Barratt established a 600 ac tract of land on which he lived, a part of Williams' Chance. The well-to-do farmer and entrepreneur owned two sloops, which he used to ship corn, pork, bark, and staves to Philadelphia (Conrad 1908:892). Philip Barratt was also an early convert to Methodism, which would have a profound impact on the region and the state. Other prominent early settlers include Henry Newell, the Sipple family, Nicholas Bartlett, the James family (Scharf 1888:various), the Lowber family, John Price, and John Stradley.

Scharf notes that the mill on Hudson's Branch was owned in 1767 by William Roads, who operated it as a water-powered gristmill (Scharf 1888:1163). Gristmill owners and owners of large or multiple farms, like the Barratts and Sipples, were part of the upper class in a society that was becoming increasingly stratified. Tenant farmers and laborers occupied a lower class, while still lower were the area's slave and free blacks (Herman *et al.* 1989:25).

Architecturally, there was an increase in the number of durable farmhouses, including Georgian (stair-passage) houses. The number of buildings constructed on a farmstead was also beginning to increase, although it is extremely rare to find surviving examples of outbuildings from this period (Herman *et al.* 1989:25).

4.2.3 Early Industrialization (1770-1830±)

The time period is noteworthy for the advent of agricultural reform and experimentation, which resulted in new systems of crop rotation and field patterns, adopted by progressive farmers to combat decreased soil fertility. This, in turn, allowed for greater crop yields, particularly as farms moved away from coastal areas into upland fields (Archibald *et al.* 2004:12). Proponents of scientific agriculture typically owned more than



one farm, urban or village property, and investments in various speculative endeavors including transportation, banking, and manufacturing.

Epitomizing the movement to scientific agriculture was wealthy farmer, Jehu Reed, whom Scharf describes as “an enterprising merchant, agriculturalist and horticulturalist of Kent County” (Scharf 1888:1151). He is credited with being the first person in Kent County “to grow peaches on budded trees” (Scharf 1888:1151), which he shipped *via* sloop to Philadelphia beginning in the late 1820s. Reed ground king crab shells and used them to fertilize his peach trees. “He also taught the community to profitably use the worn-out soil, before the use of modern fertilizers, by sowing pine-seed” (Scharf 1888:1151). He further understood that timber could be a farm product, shipping cords of wood and transforming the newly cleared land into garden farms (Scharf 1888:1151). Timber resources in Murderkill Hundred included hickory, chestnut, oak, maple, poplar, and sweet gum (Scharf 1888:1148). The Reed farm was located along the west side of S.R. 1 near the northern boundary of the Barratts Chapel Road Improvements historic structures APE.

Not all the farmers in the region were owner-operators like Reed. As Kent County’s elite farmers consolidated farm ownership, the rates of agricultural tenancy also increased in the county, hundred, and project area (Herman *et al.* 1989:27-29). As noted in the study of agricultural tenancy in central Delaware (Siders *et al.* 1991:3), “Tenancy offered advantages to both the landlord and the tenant. The landlord profited from the contractual improvement of depleted agricultural lands and a solution to the shortage of seasonal farm labor. The tenant gained access to larger, more productive farms.” Tenants and landlords strove to maximize yields and profits and contributed to the success of the agricultural reform movement.

The rise in agricultural tenancy was tied, in part, to a decrease in soil fertility prior to the adoption of scientific management principals. Decreased crop yields, combined with a drop in wheat prices, forced many farmers of small operations to sell off their holdings to larger, wealthier farmers. The dispossessed farmers left Delaware during the 1820s and 1830s or sought occupation in the numerous urban and industrial centers where employment was readily available. In Murderkill Hundred, the population decreased by one-third between 1800 and 1840 (Siders *et al.* 1991:14).

A study of agricultural tenancy in central Delaware provides a snapshot of the relationship between farm tenants and farm owners in Murderkill Hundred in 1822 (Siders *et al.* 1991:29). Tenants formed the bulk of the agricultural population, occupying two-thirds of



the hundred's farms and agricultural land. The average farm size was 168 ac, whether owner or tenant operated. Farms ranged in size from 10 to 500 ac. Deed research indicates that a number of farms in the project area were tenant farms during the period 1770 to 1830.

Other than agriculture, the most noteworthy occurrence in the project area during this period was the establishment of Barratts Chapel by Philip Barratt in 1780. Barratt, a prominent land holder and politically active figure, who served as sheriff before and during the Revolutionary War and as a member of the Delaware State Legislature between 1779 and 1783, was an early convert to Methodism. Barratt wished to build a center for the growing Methodist movement in Delaware. To that end, he donated land for the brick chapel that would bear his name. Barratt's Chapel is the oldest surviving church building in the United States built by and for Methodists and is known as the "Cradle of Methodism." In 1784, John Wesley, the founder of Methodism, sent his friend Thomas Coke to America with instructions to find Francis Asbury, Wesley's emissary to America, and to discuss with him the future of American Methodism. Coke met with Asbury at Barratts Chapel. During this service the sacraments of baptism and communion were administered for the first time in America by ordained Methodist clergy. Following the service, Coke and Asbury adjourned to the home of Philip Barratt's widow (Philip Barratt had died the month before), across the field from the Chapel, where they formulated plans to gather together all Methodist preachers for a meeting in Baltimore on Christmas Day. As "across the field" is not specific, the exact location of the Barratt farm is not known. At this Christmas Conference of 1784, the Methodist Episcopal Church was organized (Bishop's Commission on Barratts Chapel 2008).

4.2.4 Industrialization and Early Urbanization (1830-1880±)

In the period between 1830 and 1880, Delaware's "Upper Peninsula Zone" was divided into two agricultural regions: the northern part (New Castle, Red Lion, Pencader, St. Georges, Appoquinimink, Duck Creek, and Little Creek hundreds) became known for grain production, while the southern section (Dover, Murderkill, and Milford hundreds) was a mixed farming region. However, as grain production and grain milling shifted to the Midwest beginning in the 1870s, the agricultural economy declined in Delaware, and all farms were forced to become more diversified (Herman *et al.* 1989:30-31).



The project area, as it appeared in 1859 and 1868, is shown in Figure 4 (French and Skinner 1859) and Figure 5 (Beers 1868). The Barratts Chapel Road Improvements project area falls into the Upper Peninsula Zone's mixed farming region. At the beginning of the period, the soil was wet and exhausted, forcing a much less intensive use of the land. Scientific management principles introduced in the preceding period had not yet fully taken hold in the region. Initially, corn was the only real market crop (Herman *et al.* 1989:30-31).

Transportation improvements, better farm management, and demographic changes during this period would transform the state of agriculture in the project area and the hundred, and have profound, far-reaching effects. In 1829, the Chesapeake & Delaware Canal was completed, linking the head of the Chesapeake Bay to the Delaware River and eliminating the long water journey around the Delmarva Peninsula. The shortened travel time opened greater markets for the Upper Peninsula's farm products in the urban centers of Baltimore and Philadelphia. In 1837, 100,000 tons of cargo passed through the canal. By the late 1850s, tonnage on this route exceeded the 500,000 ton mark. In 1872, the peak tonnage year, 1,318,772 tons were transported (Snyder and Guss 1974; Taylor 1951:41-42), much of it products from Delaware farms. To take advantage of the opportunities offered by the canal, entrepreneurs began using steam-powered boats on Delaware's streams. The first steamboat to navigating the Murderkill was the "Egypt Mills," operated by James S. Buckmaster in 1858 (Scharf 1888:1160).

The second transportation improvement was the completion of the Delaware Railroad between Wilmington and the Delaware-Maryland state line in the 1850s and 1860s. The railroad enabled Delaware farmers to transport perishable crops to urban centers along the Mid-Atlantic and along the eastern seaboard. The rapid transportation network re-ordered downstate agriculture and town development.

Initially, Kent County did not benefit from the transportation improvements to the same extent of New Castle County. Kent County's economy and population remained static during first half of the Industrialization and Early Urbanization period. Between 1790 and 1850, the population of Kent County increased only 21 percent, from 18,920 to 22,816 people. By comparison, during the same period the population of New Castle County jumped 117 percent, from 19,688 to 42,780 (University of Virginia Geospatial and Statistical Data Center 2004). As New Castle County prospered during the first half of the nineteenth century, Kent County suffered from economic stagnation. Intense farming of the land, coupled with a lack of soils conservation, completely exhausted the soil in the southern parts

of the state by 1850. Wheat yield per acre in Kent County fell to five bushels (Hoffecker 1977:44).

With the completion of the canal and railroad, however, downstate farmers began to experiment with perishable crops, most notably peach orchards. Prior to the arrival of the railroad in particular, large-scale peach production would have been nearly impossible. Transportation of peaches, an easily-damaged fruit, over nineteenth-century roads would have made the venture unprofitable. The railroad however, offered a mode of transportation that conveyed the product to market with minimal damage and spoilage. Farmers in Delaware's mid and southern areas planted peach orchards in anticipation of the railroad's arrival. Between 1860 and 1870, the value of Kent County's orchard products jumped from \$35,694 to \$489,283 (University of Virginia Geospatial and Statistical Data Center 2004).

Nearly as important as the transportation improvements was the founding of the Kent County Agricultural Society in 1835. The society encouraged farmers to increase the productivity of agricultural lands by improving drainage, using fertilizers such as guano and manure to restore soil viability, rotating crops, and employing machinery to plant and harvest crops (Siders *et al.* 1991:96).

Transportation improvements and scientific management of farm land paid dividends. By the 1860s, the Upper Peninsula ranked among the finest agricultural regions in the nation. Overall, farm size and the number of farms both increased in Kent County between 1830 and 1880, indicating that land previously considered marginal for agriculture was being brought under cultivation. The county's percentage of cultivated land and the amount of improved land per farm also increased (De Cunzo and Garcia 1992:25-26, 31; Siders *et al.* 1991:25). Taking full advantage of the transportation and agricultural improvements, Kent County farms moved away from subsistence-level to a more market-based form of agriculture (De Cunzo and Garcia 1992:40-41).

Exemplifying the shift to perishable crops and scientific farming were Jehu Reed and his son, Jehu M. Reed. The senior Reed "cultivated a large nursery of the best fruit trees from 1829 to 1858," and also grew mulberry trees in order to raise silk from silk worms. His son used the knowledge gained from his father to become "one of the most successful farmers and fruit-growers in Kent County" (Scharf 1888:1153). Jehu M. Reed was among the first Kent County farmers to raise strawberries on an extensive scale, as well as asparagus for markets outside of Delaware. At the end of the Industrialization and Early Urbanization period, Reed owned more than 400 ac of land and had 10,000 peach trees,



5,000 pear trees, and 1,000 apple trees. He also grew vast quantities of wheat and corn (Scharf 1888:1152). He expanded the family's home, originally constructed in 1771 in the Italianate style, and improved the types and layout of his farm buildings (Scharf 1888:1152). His home, now eligible for listing in the NRHP, is an example of a "peach mansion," homes constructed or reconstructed by fortunes made in the peach market (Herman *et al.* 1989:33). While no other peach mansions exist within the project historic structures APE, a number of other farmhouses are constructed in the Italianate style or with Italianate style influences. The style was extremely popular during this time frame and represented a modernization of the building stock.

To disseminate knowledge of sound agricultural practices, farmers in Kent County began organizing Grange Halls during the 1870s. The Grange offered a forum for the discussion of scientific crop management and techniques. The Grange also consolidated the buying power of the local farmers to obtain favorable prices on fertilizers, equipment, seed, and shipping rates (De Cunzo and Garcia 1992:172).

The coming of the railroad also re-ordered settlement patterns in the vicinity of the Barratts Chapel Road Improvements project region. Established communities like Frederica (founded 1772) and Magnolia (founded 1847) were bypassed by the railroad, stagnating or slowing further development, although the establishment of canneries brought new employment to the towns. New towns like Viola and Felton, sprang up around railheads; the latter became the post office noted on the agricultural and population censuses in 1870 and 1880.

The improved agricultural picture at the end of the period and the growth of towns and villages, thanks to the railroad and the establishment of canneries, led to a population increase in Kent County by the end of the period. Between 1840 and 1870, Murderkill Hundred's population increased by 68 percent, accompanied by an increase in the number of households in the hundred (Siders *et al.* 1991:14). The increase reflects an influx of farmers and the subdivisions of existing farms into smaller units (De Cunzo and Garcia 1992:76). One result of the increase was the splitting of Murderkill Hundred into North and South Murderkill hundreds in 1867 (Scharf 1888:1148). A second result was a realignment of the western part of Barratts Chapel Road. Maps from 1859 (French and Skinner 1859) and 1868 (Beers 1868) (see Figures 4 and 5) show the road running in a northwesterly direction. In 1867, local residents petitioned for the road to be extended in a more westerly direction beginning near the R. Williams property to an intersection with what is today



McGinnis Pond Road (Kent County Road Book 1867:154). The road terminated at the T. McIlvaine House (Beers 1868).

Many more farms in the hundred were owner-occupied than had been in the preceding period. Tenants occupied about 40 percent of the farms. Tenant farms tended to be larger than those of owner-operators, averaging 153 ac versus 109 ac (Siders *et al.* 1991:29).

The population increase included a large number of free African Americans. Kent County had the highest percentage of free blacks of any county in the nation in the mid-nineteenth century, rising from 22 percent of the population in 1800 to 29 percent in 1840 and then leveling off at 25 percent for the remainder of the century. The percentage of free African Americans in Murderkill Hundred is virtually identical to that of the county (Siders *et al.* 1991:73). Free African Americans comprised a cheap labor force that could be effectively prevented from emigration to the west or to northern urban centers during the nineteenth century by a variety of legal maneuvers on the part of powerful white landowners. This labor force cushioned Delaware from the severe labor shortages experienced in rural areas without a sizeable free African American population (Siders *et al.* 1991:97). Population census records from the 1860s indicate that both African American farmers and laborers lived along Barratts Chapel Road (U.S. Census 1860:296-297). The dwellings of two of the farmers, J. (Joseph) Smith, Jr. and T. (Thomas) Bell, are shown on the 1859 Murderkill Hundred map (French and Skinner 1859) (see Figure 4).

There was also some slavery in Kent County, but at only about five percent of the total population, it clearly was not an important institution. Delaware had a relatively short growing season compared to states further to the south, which prevented the development of a one-crop economic system. This made the expense of keeping slaves year-round impractical. Farm owners found it more economical to hire workers, in many cases African Americans, during the summer growing season only (Archibald *et al.* 2004).

4.2.5 Urbanization and Early Suburbanization (1880-1940±)

Kent County in general, and the project area in particular, remained overwhelmingly agricultural during this period. Economic depressions in the 1890s and 1930s diversified landholdings, with proprietors of a large number of farms often forced to sell off some of their holdings. As the period progressed, there was a trend toward greater commercialization in

agricultural production, as large canning companies purchased extensive tracts of land and contracted for the produce. It became increasingly more difficult for independent farmers to compete, and they instead turned to producing fresh vegetables and fruit for local markets (Herman *et al.* 1989:35).

Average farm size in Kent County declined throughout the period, relatively modestly between 1880 and 1910 (130 ac to 107 ac) and more significantly after that. By 1930, 54 percent of Kent County's farms were between 50 and 174 ac, and thirty percent were smaller. By contrast, in 1880, 55 percent of the county's farms had been between 100 and 500 ac (De Cunzo and Garcia 1992:97-102).

Early in the Urbanization and Early Suburbanization period, peaches remained an important crop. However, peaches presented many difficulties to growers, which ultimately led to the demise of much of the industry in Delaware. Orchards required intensive maintenance of the soil, and the productive life of a peach tree lasted only about 20 years. What ultimately decimated the industry was an outbreak of a disease known as "peach yellows," which infected many orchards during the last few decades of the nineteenth century. The disease caused the fruit to mature rapidly, tainted the flavor, turned foliage yellow, and ultimately destroyed the tree within two growing seasons (Rutter 1880:11). By 1940, the size of Kent County's peach crop was one-tenth what it had been in 1890 (De Cunzo and Garcia 1992:134).

In response to the declining peach production, Kent County growers diversified their crops, continuing a trend begun in the preceding period. In addition to decreased peach production, staples were also de-emphasized. Corn production in Kent County declined by two-thirds between 1880 and 1940; wheat production also fell, although less precipitously. There was an increasing emphasis on truck and cannery crops, particularly in South Murderkill and Kent County's other south-central hundreds. Crops included tomatoes, asparagus, beans, peas, melons, and strawberries. Between 1900 and 1930, sweet potatoes became an important root crop. The number of chickens kept increased by 365 percent between 1880 and 1935. Apples, and to a much lesser extent pears, became the primary fruit orchard crops (De Cunzo and Garcia 1992:110-143). Between 1890 and 1925, the number of apple trees in Kent County rose from less than 700,000 to nearly 1.1 million, and the number of bushels harvested rose to over 824,000 (Bevans 1929:761).

Nuts were another valuable crop. Kent County became the largest fruit and nut producing county in Delaware. The value of fruits and nuts in Kent County rose from



\$231,803 in 1910 to nearly \$1.3 million in 1920. The yearly value of the crops continued to grow over the next decade, exceeding \$1.6 million in 1930. By 1950, however, the value of fruit and nut products fell to \$388,000 (University of Virginia Geospatial and Statistical Data Center 2004). Area farmers continued to harvest orchard products, but never again would they figure so prominently in the economic success of Kent County.

During this period, Kent County farmers increasingly mechanized production (De Cunzo and Garcia 1992:167). This led to construction of new buildings on the area's farms, such as garages and equipment barns. Tenancy rates also increased. In South and North Murderkill hundreds in 1896, for example, tenants occupied slightly more than half of the farm. As in the preceding period, tenant farms tended to be larger than those of owners, 120 ac as compared to 88 ac (Siders *et al.* 1991:29).

Kent County's agricultural products continued to be shipped to market by rail. However, in the early twentieth century, produce could also be transported over an improved road network. The Delaware State Highway Department, the precursor to DelDOT, improved the State Road to Dover (now U.S. Route 1) near Frederica in 1919 and at various other times over the years. The Dupont Highway (U.S. 13/113) opened west of the project area in 1924. Secondary roads like Barratts Chapel Road were also improved, reorienting overland transportation networks and collapsing the distance between town and back country (De Cunzo and Garcia 1992:28). In 1913 (Figure 6) (United States Postal Service 1913), Barratts Chapel Road intersected what is today McGinnis Pond Road near Lynch's Mill. The juncture, however, was not a four-way intersection, as can be seen on United States Geological Survey (USGS) maps from the 1930s (Figure 7) (USGS 1931, 1936) and an aerial photograph from 1937 (Figure 8) (Delaware DataMIL 2008). That intersection was realigned as part of improvements undertaken in 1938 by the Delaware State Highway Department (Delaware State Highway Department 1938). Barratts Chapel Road first appears in its current configuration in a Delaware State Highway Department Map from 1941 (Figure 9) (Delaware State Highway Department 1941).

At the close of the period in 1940, the project area remained a rural, agricultural area, as is clearly shown on the 1936 topographic map (Figure 7) and the 1937 aerial photograph (Figure 8). The 1940 census enumerated nearly 3,000 farms in Kent County, with an average farm size of more than 100 ac (University of Virginia Geospatial and Statistical Data Center 2004). In the 60-year period from 1880 to 1940, the population of Kent County remained almost unchanged, while the population of the rest of Delaware grew rapidly.



During this period, the population of Kent County rose from 32,874 to 34,441, an increase of less than five percent. The population of the rest of the state, however, more than doubled from 113,734 to 232,064 during the same period (University of Virginia Geospatial and Statistical Data Center 2004).

4.2.6 Suburbanization and Early Ex-urbanization (1940-1962±)

The Barratts Chapel Road Improvements project area remained agricultural throughout this period, as is shown on aerial photographs from 1954 (Figure 10), a USGS quadrangle map from 1956 (USGS 1956) (Figure 11), and an aerial photograph from 1961 (Figure 12) (Delaware DataMIL 2008). A number of the farms along the road retained acreage in excess of 150 ac.

The figures also show, however, that some infill housing was built along Barratts Chapel Road between 1940 and 1962. This may have been due to the presence of Dover Air Force Base a short distance to the north. Dover Air Force Base began as a municipal airport under construction on 527 ac of land south of Dover on the eve of World War II. Two weeks after the bombing of Pearl Harbor, the United States War Department leased the airport's three airfields and stationed the 112th Observation Squadron there; it also brought the facility up to war time standards. During the war, the base housed both bomber and fighter squadrons. In 1944, the Air Technical Service Command used the base to test air-to-surface weapons that were successfully used in both the European and Pacific theaters. Following the war, the base was de-activated between 1946 and 1951, after which the Military Air Transport Service assumed control of the base and assigned the 1607th Air Transport Wing to the facility (Archibald *et al.* 2005:43).

The number of houses along Barratts Chapel Road increased during the 1970s and 1980s. However, the houses generally were not built as part of subdivisions. Rather, they were predominantly constructed as single houses or small clusters of three or four residences directly along the road, on the edges of farm fields. In the late 1990s, the first subdivision was built along Barratts Chapel Road, near the western end of the project area (Delaware DataMIL 2008). As job opportunities at the Dover Air Force Base and in the city of Dover increase and the area's population grows, and as the distance included in Dover's exurbs continues to grow, there is increasing movement to subdivide the farms that

comprise the project area for housing. Currently, a number of the farms along Barratts Chapel Road are under option for conversion to subdivisions.

4.2.7 Historic Period Archaeological Sites Predicted

Review of the Delaware archaeological site files did not yield any previously recorded historic period archaeological sites within or immediately adjacent to the project area; however, ongoing archaeological studies by A.D. Marble for the Little Heaven Road project has identified historic resources within and near the Barratts Chapel Road Improvements project archaeological APE. These historic period resources are representative of the early nineteenth to early twentieth century time frame (Emory and Fanz 2005:58). Phase II archaeological testing has been recommended for five of the historic period archaeological artifact concentrations identified in the Little Heaven project area (Emory and Fanz 2005:60).

Archaeological research for the S.R. 1 Frederica Interchange project located to the south of the Barratts Chapel Road Improvements project archaeological APE also yielded extensive evidence of historic occupation across the landscape (Emory and Fanz 2004:38). The historic artifact collection recovered from the Frederica project is representative of mid-eighteenth through early twentieth century domestic and architectural refuse (Emory and Fanz 2004:40). Phase II archaeological testing has been recommended for some of the historic period archaeological resources identified in the S.R. 1 Frederica Interchange project area (Emory and Fanz 2004:42, 43). Based on these nearby historic period archaeological sites, additional as-yet unidentified historic period archaeological resources may be expected in the Barratts Chapel Road Improvements project archaeological APE.

Historic archaeological sites representative of all of the periods of Euro-American occupation in Delaware have been identified in Kent County (De Cunzo and Catts 1990:114). Historic structures with potential (untested) archaeological components are present in the project area. When the historic period landuse of the project area is considered, it is clear that agriculture dominates the entire span of Euro-American occupation and was the livelihood of some of the area's most prominent citizens. The project area remains rural and sparsely occupied today, with suburban in-filling of non-agricultural related housing only since World War II. Unlike with pre-contact period archaeological sites, historic disturbances are not considered detrimental to the historic



period archaeological record because they are part of the historic period archaeological record.

The fact that agricultural practices comprise large tracts of land with proportionally few buildings or other permanent features indicates that the historic period archaeological record may be constrained to artifact scatters associated with no longer extant buildings, accidental disposal, or field manuring activities. Given the positioning of the archaeological APE along roadways, the archaeological testing will be mainly relegated to what is and would have been historically front yards of or entrances to residences and farmsteads. Typically, deep historic period archaeological features, such as wells and privies and/or sheet middens, are not located in the fronts of buildings along the main road. Historic period activities which might have taken place in the front yards were most likely short-term and ephemeral, leaving little or no archaeological signature. Not only are front yards not usual places for accumulations of historic period artifacts, excepting roadside litter, they have also often been extensively disturbed by the emplacement of utilities, and in the case of rural agricultural areas, drainage ditches.

Potential expected historic period archaeological resources representative of the Exploration and Frontier Settlement (1630-1730±) and the Intensified and Durable Occupation (1730-1770±) periods should be rare due to the low population density and landuse of the archaeological APE at that time. If historic period archaeological resources from this period are present, they should be related to the large landholding families of the region. The location of the early mill on McGinnis Pond is not within the archaeological APE, and no other mills or other early industrial enterprises are known historically for the archaeological APE. Below-ground structural remains from this period are unlikely, as there were very few structures and most were built using wood sills, shallow foundations, and piers of brick or stone. The location of the Barratt farmstead is along Skeeter Neck Road outside of the archaeological APE; therefore, no archaeology-related remains of this prominent family home are expected.

The Early Industrialization (1770-1830±) period is known for improvements to agricultural practices; however, these would rarely leave identifiable archaeological signatures, since these improvements tended to be more likely changes in types of crops and methods of soil replenishment than issues which would affect the physical record left behind by a farm's layout or tool inventory. The presence of orchards in the project area is important to note, since burned tree root systems associated with the clearing of old



orchards can partially mimic pre-contact period fire features in some cases. The establishment of Barratts Chapel during this period is the other major influence in the project area. However, the chapel property is not included in the archaeological APE, and since it is already listed in the NRHP, no archaeological investigations of the chapel are expected.

During the Industrialization and Early Urbanization (1830-1880±) and Urbanization and Early Suburbanization (1880-1940±) periods, landuse in the project area continued to be agricultural; however, transportation improvements affected the agriculture. None of these major transportation improvements, such as the canal and Delaware railroad, had direct impacts to the Barratts Chapel Road Improvements project area that would have left an archaeological signature. However, route changes to Barratts Chapel Road and S.R. 1 will need to be considered if archaeological resources are identified in the re-routed portions. Historic period landuse information during this period also references populations such as tenant farmers, free African Americans, and slaves in the project area. Archaeological resources, especially culturally related artifacts, associated with these populations may be expected.

If archaeological resources associated with the Suburbanization and Early Exurbanization (1940-1962±) period are present, they will most likely represent non-agricultural suburban landuses related to the expansion of housing surrounding Dover when Dover Air Force Base was created. In addition, one known standing structure, an outer marker beacon with radar, once part of the Dover Air Force Base, is present in the project area, suggesting that isolated military artifacts may be present in the general vicinity of that building. Obviously, increased disturbances by suburban residential features, such as graded landscaping, driveways, sidewalks, and utilities, may have disturbed or destroyed both pre-contact and historic period archaeological remains once present in the Barratts Chapel Road Improvements project archaeological APE.

If generalized historic period artifacts scatters or isolates are found during the Phase I survey, they will most likely not be diagnostic with regard to specific temporal or functional historic contexts. Generalized/fragmentary temporally and functionally non-diagnostic historic period artifacts do not permit specific contextual associations, nor do the interpretations contribute significant information to the specific landuse history of the project area generally, or individual properties specifically.

Based on the absence of previously identified historic period archaeological resources in the project area, the nature of the project area along an existing transportation



and utilities corridor, the history of sparse settlement and heavy agricultural landuse, the relatively undisturbed nature of the soils/sediments present, and the length of Euro-American settlement in the area, the Barratts Chapel Road Improvements project APE has moderate potential to contain significant historic period archaeological resources. With the proximity of the project area to Dover and U.S. Route 113, De Cunzo and Catts (1990:180-183) recognize the project area as a portion of the state whose historic archaeological record is threatened by continued modern development. This places the Barratts Chapel Road Improvements project area as a high priority location for future archaeological research.

4.2.8 Historic Structures Predicted

Most of the project area consists of farmland that was first occupied as early as the late seventeenth or early eighteenth century. Generations of owner-farmers and tenant-farmers worked the land raising wheat and corn, as well as apple and peach orchards. Several mills located near McGinnis Pond processed the produce and raw materials from these farms. In the mid- to late twentieth century, several of the large farm properties were subdivided into small one-acre or half-acre lots with single-family homes.

Historically, agricultural complexes were generally arranged with a cluster of buildings, the farmstead, surrounded by farmland. The farmstead consisted of the farmhouse, one or several barns, and additional outbuildings. The earliest farmhouses would have been simple one-story log structures. In the eighteenth century, the farmhouses would have been primarily log or heavy timber frame structures with brick or stone chimneys. By the nineteenth century, the general form of the local farmhouses would be a two-story frame I-House often with a rear wing. This basic design persisted into the twentieth century, with known exceptions of two Italianate style houses located at the west end of the project area. One or several large frame barns would be located near the farmhouse, as well as other outbuildings which may have included summer kitchens, outhouses, springhouses, root cellars, corn cribs, smoke houses, milk houses, cider houses, sheds, carriage houses or stables. Indications of wood fencing or additional barns would be likely in the fields. Because the Hudson Branch and Spring Creek were important navigable waterways, there may also have been landings or small outbuildings located along their banks.



The land at the eastern limit of McGinnis Pond, which is located at the west end of the project area, was the historic location of at least three mills: a gristmill, a sawmill, and a bark mill. The earliest mill was erected in 1722 or earlier, and the mills remained active through the mid-twentieth century. Historic structures predicted for the area of the mills include mill buildings (which were generally frame or log structures often with brick or stone foundations), mill stones and water wheels, dams and millraces, log or frame miller's houses, and various shops, sheds, and warehouse structures.

The mid-twentieth century subdivision of the farmland and the influence of suburban development patterns would be seen in small single-family houses or mobile homes with outbuildings generally limited to detached garages and/or small pre-fabricated sheds.

