3.0 Cultural Context

3.0 CULTURAL CONTEXT

3.1 Regional Prehistoric Context

There are five general periods regarding the chronological sequencing of Native American cultures of the Delmarva Peninsula: Paleoindian (13,000-6500 BC), Archaic (6500-3000 BC), Woodland I (3000 BC-AD 1000) and Woodland I (AD 1000-1650), and the Contact Period (AD 1650-1750).

3.1.1 Paleoindian Period (13,000-6500 BC)

Paleoindian occupation of eastern North America was coeval with retreating glacial conditions and the emergence of a Holocene environment. The emergent environment is characterized as a mosaic of deciduous, boreal, and grassland biomes with a uniformly cold and alternately wet and dry climate. Human adaptation to these changing environmental conditions involved small, mobile bands of hunter-gatherers with movements related to the exploitation of different localized environments and resources. Site patterning seems to indicate a preference for riverine environments with sites located on high terraces or knolls overlooking river or streams (Leslie 1973; Marshall 1982, Custer 1989). Northern Delaware is thought to have contained a wide variety of resources attractive to Paleoindian inhabitants. It is theorized that the mobile lifestyle, with its emphasis on hunting, would leave its mark on the landscape in the form of base camps and base camp maintenance sites, hunting sites, and quarry-related locations (Custer 1984: 52-3). The swampy, bay/basin features associated with the Mid-Peninsular Drainage Divide have been hypothesized as potential locations for Paleoindian sites (Custer 1989:107). The Everett Site (7NC-D-21) is one of the few Paleoindian sites identified adjacent to a bay/basin feature (Kellogg 1993:41).

Although there is some evidence displaying Paleoindian exploitation of plant resources (Dent and Kaufman 1985), Paleoindian tool kits were designed primarily for game procurement and processing. These tool kits often display a high degree of maintenance and reworking, indicative of a high level of curation. This pattern is consistent with nomadic migration between sources of lithic raw materials. The earliest diagnostic tool forms include fluted points (Clovis, Mid-Paleo, and Dalton), while later forms include notched (and often serrated) points (Palmer, Amos, Kirk).

Early Paleoindian people preferentially selected high quality cryptocrystalline lithic materials such as chert, jasper, and chalcedony for the manufacture of their tools. Jasper and chalcedony from the Delaware Chalcedony Complex (Iron Hill, located approximately 24 kilometers southwest of the APE) are believed to have been an important lithic source for the early inhabitants of this region. In fact, researchers have identified a cluster of fluted point finds associated with the Delaware Chalcedony Complex in northwestern New Castle County, Delaware, and northeastern Cecil County, Maryland (Custer and Galasso 1980; Custer, Ward and Watson 1986; Custer 1989:103). The aforementioned Everett site is also located only 500 meters from the Iron Hill School Quarry Site (7NC-D-34) (Kellogg 1993:41). The trend towards the nearly exclusive selection of high quality lithic materials began to attenuate during the later portion of the Paleoindian Period. Numerous Kirk and Palmer notched points manufactured from coarser materials, including quartz, quartzite and rhyolite, have been found in Delaware (Custer 1989:59).

The majority of Paleoindian sites in northern Delaware and in the Mid-Peninsular Drainage Divide have taken the form of isolated point and tool finds on the surface (Custer 1984, 1989). In the vicinity of the APE, a fluted point fragment and a Kirk/Palmer point were found at the Snapp Site (7NC-G-101), located approximately 29 kilometers southeast of the APE (Custer and Hsiao-Silber 1995:93-7). To the south, a series of three Paleoindian sites have been identified in the Drainage Divide in central Kent County, Delaware. Known collectively as the Hughes Early Man Complex, these sites yielded a Clovis point, Kirk and Palmer notched points, and numerous bifacial and flake tools (Custer 1984:58).

3.1.2 Archaic Period (6500-3000 BC)

The Archaic Period is marked by the emergence of a fully Holocene environment. Warmer, moister climatic conditions prevailed with the disappearance of grasslands and the expansion of mesic forests of oak and hemlock. Mast foods were provided by the mesic forest, which also attracted small game animals, especially deer and turkey. A marked rise in sea level during the early Holocene had a profound effect on the Delmarva Peninsula. This rise caused lowland flooding and the inundation of river systems. This speeded the development of complex estuary

systems. Numerous interior swamps were also created. These changes caused a net increase in floral and faunal resources associated with new wetland areas.

Changes in the environment to more moderate conditions occurred simultaneously with a broadening of the subsistence base. Archaic people utilized a wide variety of plant and animal resources, resulting in a wide range of subsistence activities and associated tool kits (Custer 1989:128). An increase in sedentism is also inferred by the settlement pattern, with base camps located on terraces of major drainage systems, supported by smaller micro-band camps and procurement camps found along smaller streams and interior swamps (Custer 1989:129-30). A fission-fusion model of social organization drives site identifications of macro, micro, and procurement camps (Custer 1989:131). A shifting band level organization is also inferred, with group sizes changing in response to seasonal availability of resources.

Archaic projectile points include bifurcated-base and a wide variety of stemmed and notched forms. Unfortunately, stemmed points of this period are often difficult to distinguish from similar Woodland I types. In response to the broadening of exploited food resources, Archaic people produced diverse tool kits containing an array of ground stone tools, including grinding stones, netsinkers, and axes.

Archaic period sites in the area include several sites associated with Churchman's Marsh, a large interior swamp approximately three kilometers south of the APE. The Clyde Farm site (7NC-E-6), one of the Churchman's Marsh sites, yielded bifurcate points and Neville-like stemmed points and has been interpreted as a base camp (Custer, Watson and DeSantis 1986). Several sites associated with bay/basin features have also been identified in southern New Castle County. These sites produced small numbers of artifacts and are considered to be short-term hunting/procurement sites (Custer 1989:135).

3.1.3 Woodland I (3000 BC-AD 1000)

The transition to the Woodland I Period is marked by the intensification of subsistence and resource exploitation processes that include a greater use of aquatic resources. Sea level rise slowed, which allowed the stabilization of riverine and estuarine areas. This in turn fostered the

development of shellfish and anadromous fish populations. These new resources were heavily exploited during the Woodland I period. The increased expansion of food resources also led to a higher degree of sedentism. In fact, it is during the Woodland I period that very large, macro-band base camp sites were occupied on a year-round basis (Custer 1989). In addition, storage pits and evidence of house structures are found at these sites for the first time.

Changes in the exploitation of lithic resources also occurred during this period. Whereas cryptocrystallines had been heavily favored during the Paleoindian and Archaic Periods, groups inhabiting the Middle Atlantic region greatly expanded their use of lithic raw materials to include quartz, quartzite, argillite, and rhyolite (Kinsey 1977; Stewart 1984; Custer 1992). Custer has suggested that the use of more varied materials reflects a decrease in band territory size (1992:42). However, wide distribution of non-local lithic materials, such as South Mountain rhyolite from south central Pennsylvania, also suggests the development of long-distance trade networks.

Early Woodland I (Clyde Farm Complex) sites are marked by stemmed, broad-bladed, and fishtail points. A major increase in the use of rhyolite and argillite is also noted. Clyde Farm assemblages also include steatite bowl fragments and a wide range of ground stone tools. Around 1000 BC, steatite bowls were replaced by ceramics. Early ceramic wares included Marcey Creek, Dames Quarter, and Experimental. Collectively, the Woodland I artifact assemblage reflects the intensification of food production concomitant with the development of a more sedentary settlement strategy focused on riverine and estuarine resources (Custer 1984). Clyde Farm Complex macro-band base camps are found along river floodplains and estuarine marshes, with micro-band camps being located near specialized resources. Procurement sites are found short distances from base camps (Kellogg et al. 1994). Numerous Clyde Farm Complex sites have been identified in the vicinity of Churchman's Marsh. Significant components of this period have also been excavated at the Snapp (7NC-G-101) and Lums Pond (7NC-F-18) sites (Custer and Hsiao-Silber 1995, Petraglia et al. 1998). Also, a Clyde Farm Complex (mid period) site, 7NC-F-14, was identified on Back Creek, approximately 32 kilometers south of the project area. This site yielded a soapstone fragment and contracting-stem broadspear point (Bureau of Archaeology and Historic Preservation Site Files).

Increased social complexity is evident during the Woodland I period as well. It is felt that the development of a sedentary lifestyle and the production and control of surplus food resources may have led to the development of incipient ranked societies (Custer 1989). Evidence for this change comes in the form of exotic grave goods indicating complex mortuary ceremonies, which were being practiced in central Delaware beginning around 500 B.C. and ending around 0 B.C. Known as the Delmarva Adena, this culture group possessed exotic materials and ceremonial goods similar to those of the Ohio Valley Adena cultures (Custer 1984). Several important Delmarva Adena sites excavated in Kent County have produced status-related goods, such as Flint Ridge chalcedony cache blades, copper beads, and tubular pipes, inferring some degree of social stratification. Custer has suggested a *big-man* social organization for this complex (1989:268-9). Delmarva Adena Complex sites include micro-band base camps, major and minor mortuary-exchange sites, cache sites, and isolated finds. Ceramic wares associated with this complex include Wilgus, Coulbourn, and Nassawango.

While the Delmarva Adena Complex was thriving in central Delaware, the Black Rock Complex (formerly known as Wolfe Neck) was present in New Castle County, as well as in several adjacent Maryland and Pennsylvania counties (Custer 1994, Petraglia et al. 1998). Sites of this complex included macro-band and micro-band base camps, procurement sites, and shell middens (in coastal areas). Black Rock components are often found at Clyde Farm Complex sites, including the Clyde Farm site, the Delaware Park site, and the Mitchell Farm site (Custer 1989:253). In New Castle County, Black Rock Complex artifacts include Susquehanna Series ceramics and stemmed projectile points.

By A.D. 0, the Delmarva Adena and Black Rock Complexes appear to have ended (Custer 1989:275). Around this time, the Carey Complex, characterized by shell-tempered ceramics (Mockley Ware) and Rossville-like and Fox Creek points, replaced these earlier complexes and expanded across the Delmarva Peninsula. The settlement and subsistence patterns of the Carey Complex generally followed those of the previous Woodland I complexes. However, the Carey Complex conspicuously lacks the mortuary/exchange centers of the Delmarva Adena Complex (Custer 1989:277). By A.D. 500, the Delaware Park Complex replaced the Carey Complex in northern Delaware. This poorly represented complex is represented by Hell Island ceramics and

Rossville and Jack's Reek points. The Delaware Park site produced evidence for intensive exploitation of plant foods, a continuation of trends observed at earlier Woodland I sites.

3.1.4 Woodland Period II (AD 1000-1650)

The Woodland II Period, or Late Woodland Period, is generally marked by a change in subsistence in the Middle Atlantic region. The primary change is the introduction of cultigens; associated changes in artifact types and settlement patterns are also noted. However, evidence for the shift to an agricultural system is absent in the Delmarva Peninsula. Rather, continuity with earlier periods is reflected by research results (Custer 1989). Woodland II settlement patterns generally follow the Woodland I model: macro-band base camps supported by micro-band camps and procurement sites. Woodland II culture groups include the people of the Minguannan Complex, who occupied northern Delaware, northwestern Maryland, and portions of Chester County, Pennsylvania (Custer 1989:314). This poorly understood group settled many sites previously occupied during the Woodland I period (e.g., Clyde Farm site, Delaware Park site, Mitchell Farm site). Artifacts from this group include thin-walled Minguannan ceramics and triangular projectile points. Again, no evidence for village sites or agriculture has been found in association with this complex. In fact, Custer (1989:315) suggests that the Minguannan people may have been less sedentary that previous Woodland I groups.

3.1.5 Contact Period (A.D. 1650-1750)

The Contact Period in Delaware began with the settlement of Europeans in the New World. This was quickly followed by a major disruption of native lifeways, as European goods and practices were adopted. Also, introduction of European diseases and internecine conflict over fur trade caused a severe loss of life among native groups.

The Susquehannock Indians were the dominant force from 1550 through the mid-1600s in the Susquehanna River Valley and the central Middle Atlantic region in general. The Susquehannocks gained control of the European fur trade and prevented indigenous groups in southeastern Pennsylvania (e.g., Lenni Lenape) and the Delmarva Peninsula (e.g., Nanticoke) from participating in this trade during the mid-seventeenth century. The Susquehannocks and the Iroquois fought for control over the Susquehanna River and European trade. After 1675, the

Susquehannocks lost control of the region and were completely exterminated by 1763 (Custer 1996:315, Kent 1989).

The fall of the Susquehannocks precipitated what Custer has labeled as the "Refugee Complex," characterized by groups of indigenous people migrating west to join up with other native groups. Sites of this period/complex are virtually non-existent in Delaware; one possible Refugee Complex site (the Parkway Gravel Site, 7NC-G-100) was identified in New Castle County as part of the Route 1 Corridor study (Kellogg et al. 1994). By the mid 1700s, native settlement of the Delmarva had come to a virtual end.

3.2 Historic Context

The history of the Middle Atlantic region begins with the explorations of numerous European peoples in North America. In general, the history of Delaware is divided into five time periods, beginning with exploration of the area, and concluding with modern urbanization (DeCunzo and Catts 1990). The following discussion has been abstracted from several historical works, specifically DeCunzo and Catts (1990), Hoffecker (1977), Kellogg (1993), Lemon (1972), Munroe (1979), Scharf (1888), and Weslager (1961).

3.2.1 Exploration and Frontier Settlement (1630-1730)

Early exploration of the Delaware Bay offered much promise for colonizing the new land. Navigators such as Henry Hudson and Samuel Argall briefly sailed in the Delaware Bay, yet neither man could portend the growth and conflict that would arise in the area. The introduction of Dutch settlements at High Island in 1624 and Lewes in 1631 opened the area to initial colonization, but these outposts did not survive for more than two years (Weslager 1961:11).

In March of 1638, the first Swedish colonists in America disembarked at the confluence of the Christina and Brandywine Rivers in what is now Wilmington, Delaware (Munroe 1979:21). Peter Minuit, leader of the expedition, safely brought the party across the stormy Atlantic and helped to establish a foothold in Delaware. After Minuit's departure in June 1638, Mans Kling guided the growth of the colony and within a few years a church, fort, and farming community evolved to form the first European settlement in Delaware (Weslager 1961:181).

The presence of this Swedish colony posed a challenge to the Dutch colonial interests in the Delaware Bay area. Peter Stuyvesant, the Dutch governor of New Netherland, resented the Swedish presence in Dutch territory and the fact that Fort Nassau, a Dutch post constructed in 1626, predated the Swedish settlement. As a result, in 1651 Stuyvesant established Fort Casimir, near present-day New Castle. A series of military conflicts ensued, with the victorious Dutch establishing the town of New Amstel (New Castle) near Fort Casimir in 1656 (Weslager 1961:12).

English influence began in the Delaware Valley region in 1664 with the takeover of the Dutch colonies by Sir Robert Carr. Carr, on behalf of James, Duke of York and Albany, confiscated the lands, houses, and personal possessions of the Dutch officials. Despite the hostile nature of Carr's actions, the transfer of authority went smoothly. The English leadership sought to maintain existing land ownership, political structure, and trading privileges among the remaining colonists. New immigrants, including English and Scotch-Irish, joined the remaining mixed populace of Swedish, Finnish, and Dutch colonists.

In 1681, William Penn received proprietary rights over Pennsylvania from King Charles II. While the new colony served Penn well, this province was lacking in one essential detail – access to the ocean. Penn appealed to the Duke of York to give him the land between Pennsylvania and the ocean and in 1682 the Duke of York conveyed the three Delaware counties, New Castle, Kent, and Sussex, to Penn. Penn's hold over a newly expanded Pennsylvania, however, was soon tested by disputes among the three Pennsylvania counties and the three Delaware counties. The colonists of the three lower counties, generally members of the Church of England, often found themselves in disagreement with the Quaker-majority Pennsylvania counties over voting power, appropriations, and religious character. Political dissension and mistrust eventually lead to a separate government and relative autonomy for Delaware in the fall of 1704. Despite the political rift, social and economic ties were maintained between the Lower Counties and Pennsylvania throughout the seventeenth and eighteenth centuries (Munroe 1984).

Settlement patterns in Delaware shifted from the closely spaced Dutch and Swedish villages along the Delaware River to scattered farmsteads along internal drainages, such as Naamans Creek, Red Clay Creek, White Clay Creek, and the Christina River, and along emerging roads. These large plantations were typically made up of a dwelling house and outbuildings, including a surrounding patchwork of farmed fields. Structures present at these plantations included small dwellings built of wood, or, less frequently, brick. Large portions of the property were likely kept in marsh or woodland for livestock forage.

Changing economic factors based on the agricultural activities encouraged a pattern of scattered settlement. Farmers and settlers in the area found that wheat crops sold for a higher value than tobacco, rye, or barley. Large tracts of land provided the acreage to grow cash crops of wheat as well as to sustain subsistence gardens for the household and provide grazing for livestock. The focus of farmers and settlers in the area shifted from subsistence to market-oriented agriculture in response to the demands of the urban market (Loehr 1952; Hoffecker 1977).

Transportation routes in late-seventeenth- to early-eighteenth-century Delaware were often dictated by natural waterways, as existing roads were few and in poor condition. In 1660, "Herman's Cart Road," located between Appoquinimink (present day Odessa) and Bohemia Manor in Maryland, offered one of a select few overland routes connecting the Delaware Bay to the Chesapeake Bay (Scharf 1888:991). However, water transportation provided a cheaper, more efficient method of transporting goods from the remote hinterland to urban markets along the Delaware River. Access to a navigable water source proved to be a strong influence, as many farmsteads were developed within eight miles of a mill or shipping wharf (DeCunzo and Catts 1990:30-35). The port cities of Philadelphia and Wilmington, and to a lesser extent New Castle, grew steadily and took over a dominating commercial role in the growth of Delaware.

3.2.2 Intensified and Durable Occupation (1730-1770)

Delaware witnessed an increase in population and commercial expansion by the middle of the eighteenth century. Small hamlets located along riverine settings and at crossroads underwent rapid growth. This expansion accommodated the increase of the settler population and the agricultural commodities that were brought in from the surrounding farms for transport to

Philadelphia and Wilmington. These "commercial towns," such as Christiana, Newport, Cantwell's Bridge (Odessa), and Newark, served as focal points for the local society and economy (Heite and Heite 1986; DeCunzo and Catts 1990:41-51).

Farming continued to dominate as the main activity for 80 to 90 percent of colonial Delaware's population (Egnal 1975:201). Wheat constituted the primary crop, followed by rye, corn, barley, oats, and garden vegetables. Livestock husbandry supplemented the income produced from field crops; additionally, home manufactures, such as soap, were introduced into the local economy (Main 1973).

Land use patterns increased with regard to the tillage of the farm's total acreage. Lands once reserved as forest or marsh were cleared and incorporated into the crop cycle. A system of three-field or four-field rotation was used on farms of the northern Delaware, spurring larger harvests per acre (Lemon 1972:169). The increased need for larger tracts of land forced new buyers to purchase and cultivate property once reserved as marginal grounds.

In response to the abundance of wheat produced, milling operations prospered along rivers in New Castle County. Commercial flour mills were established along the Brandywine and Christina Rivers, providing Wilmington with a large influx of flour and other wheat-based products for shipment to New York and Philadelphia. The resulting commerce from milling led to the establishment of other industries in Wilmington, including shipbuilding, coopering, and import-export trade. Water-powered mill technology spread throughout the colony, fostering grist, saw, and fulling (woolen cloth) operations during different seasons of the year.

3.2.3 Transformation from Colony to State (1770-1830)

The American Revolution brought much disarray to the region at the beginning of this time period. British activities on the Delaware River and Bay disrupted the maritime economy of the area, impacting all manner of trade. British, French, and Continental forces passing through Delaware made for disruptive travel for farmer and merchant alike. Social and political unrest in the colony further heightened an already tense atmosphere.

Colonists witnessed a variety of military forces passing through Delaware during the Revolutionary War. British and Hessian troops marched from Cecil County, Maryland, and skirmished in the fall of 1777 with American forces at Cooch's Bridge, south of Newark. The American forces were forced to retreat, and the British seized Wilmington. The control of Wilmington shifted frequently throughout the winter of 1777-78. In 1781, Lafayette's French troops disembarked at Christiana, then proceeded to march west towards Tidewater, Virginia. Later that same year, Washington's troops headed south through Wilmington and Christiana to the head of the Elk River.

After the Revolutionary War, the population of Delaware grew rapidly, while its agricultural productivity dropped. A decrease in soil fertility coupled with competition for good farming land and a decline in wheat prices forced many farmers with small operations to sell off their holdings to larger, wealthier farms. Many dispossessed farmers left Delaware during the 1820s and 1830s or sought occupation in the numerous urban and industrial centers where employment was readily available.

Manufacturing and commerce prospered under the influence of an increased labor force. Textile manufacturers in the cotton and woolen mills along Red Clay Creek, White Clay Creek, and Brandywine Creek produced the finished raw fabrics needed to clothe a growing country (Pursell 1958). Other products manufactured in New Castle County included paper, snuff, rope, gunpowder, and iron (Coxe 1814). Newport supported numerous occupations, including inns, tanneries, market houses, and a large shipping industry (Accessible Archives website, accessed 8 February 2006).

Overland transportation routes were improved to accommodate the increased volume of travelers and freight utilizing local roadways. Numerous turnpike organizations were incorporated to oversee the construction and cost of these new, improved sections of road. By 1816, ten different turnpike organizations has been established, including the Gap and Newport Turnpike Company, responsible for the development of Route 41 from Newport to the Pennsylvania state line, and the Wilmington Turnpike Company, which spearheaded the construction of Lancaster Pike (Route 48) from Wilmington to its connection with the Gap Turnpike (Accessible Archives

website, accessed 8 February 2006). Although Centre Road does not represent an early nineteenth century turnpike, Barse's background research into the development of the roadway suggests that Centre Road is an eighteenth-century relocated roadway constructed to provide landholders along Christina Creek access to the markets in Wilmington (Barse 1985:18).

3.2.4 Industrialization and Capitalization (1830-1880)

The effects of the Industrial Revolution led to significant advances in transportation, urbanization, and industrialization in northern Delaware. By the early 1830s, a significant number of transportation improvements were underway. The Chesapeake and Delaware (C & D) Canal, finished in 1829, opened a direct route from the head of the Chesapeake Bay to the Delaware River, eliminating the long water journey around the Delmarva Peninsula. The shortened travel time fostered more business between the major urban centers of Baltimore and Philadelphia. In 1837, 100,000 tons of cargo passed through the C & D Canal, while in 1872, the peak tonnage year, 1,318,772 tons were transported (Snyder and Guss 1974). The towns of Chesapeake City, Maryland, and Delaware City, Delaware, grew at the respective terminal points of the canal. Locks were located at Chesapeake City and at St. George's, Delaware, where the "King's Highway" crossed. These towns became social and economic points for the local community as a result of the commercial traffic with the canal.

The arrival of railroads in northern Delaware during the nineteenth century expedited the journey of people and goods alike. The Pennsylvania, Washington and Baltimore Railroad, connecting Newport to Wilmington, was completed in the 1840s. A branch line of the railroad connected New Castle to Delaware Junction, near the mouth of Little Mill Creek. The Delaware Western Railroad and the Wilmington and Northern Railroad passed through the Little Mill Creek drainage south of the current study area, providing a significant transportation route for distribution of passengers and cargo. The community of Elsmere grew as a transportation hub servicing these two rail lines. The Philadelphia, Wilmington, and Baltimore Railroad, opened in 1839, provided local transportation for farmers who shipped their produce to markets in the eastern urban areas.

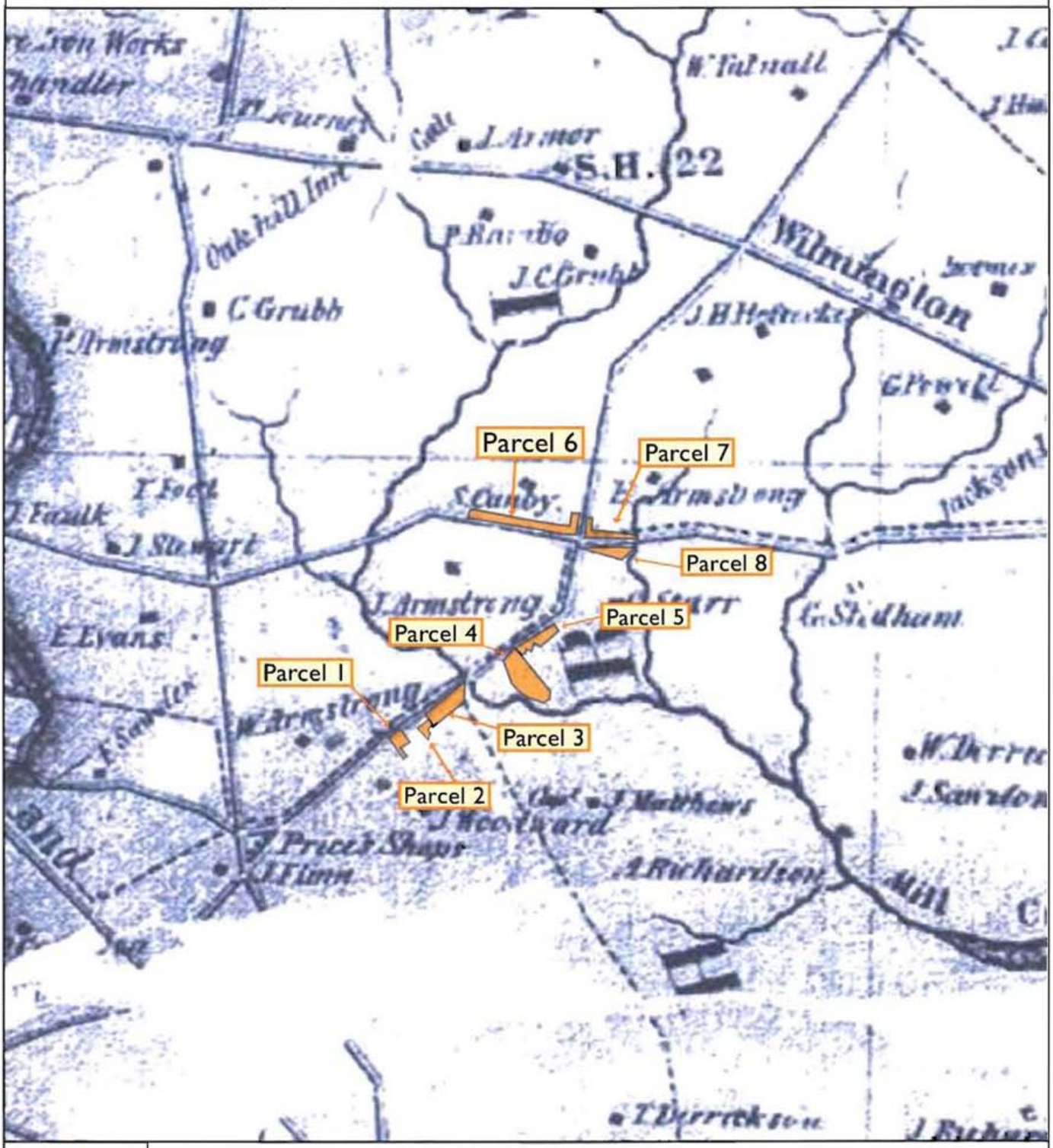
Delaware's agricultural background continued to face a decline in the farm population. Remaining successful farmers incorporated a variety of strategies to extend the life of their farms. Production was diversified to include dairy farming, some wheat production, and market or truck gardening. The New Castle County Agricultural Society recommended that farmers use improved fertilizers, machinery, and drainage techniques on their lands. The agricultural economy of the Piedmont and Upper Peninsula continued to produce goods, but the focus shifted from grain farming to commodities, such as milk, milk by-products, fruits, and vegetables, all of which were needed in nearby urban communities. As seen in Figures 5 and 6, the Centre Road project area remained rural during the middle of the nineteenth century, containing a mix of estate farms associated with Wilmington businessmen, inns, school houses, churches, and rural residences.

As agricultural production shifted to industrialization in northern Delaware, the makeup of farm labor also shifted. Free black laborers played an increasing role in farm work. A strong abolitionist sentiment and legislation prohibiting the importation and exportation of slaves, especially in New Castle and Kent Counties, encouraged free blacks to settle in Delaware. In 1790, less than one-half of the blacks in Delaware were free. By 1810, more than three-quarters of the black population were free in Delaware (Kellogg et al. 1994:13).

3.2.5 Urbanization and Suburbanization (1880-1940)

Throughout the late nineteenth century and into the twentieth century, an increase of population in Delaware led to urban expansion. Immigrants from Eastern and Central Europe filtered into Delaware settling into neighborhoods in Wilmington and other urban points of entry. Nearly 70 percent of New Castle County's population in the early 1900s was living in the city of Wilmington (Kellogg 1990:32). Between 1870 and 1900, the number of people employed in industry and manufacturing in Delaware rose from 23.5 percent to over 31 percent, accounting for 14 percent of the total state population (Reed 1947).

Figure 5
1849 Map of New Castle County, Delaware
SR 141 Centre Road Corridor Improvements
Elsmere, New Castle County, Delaware



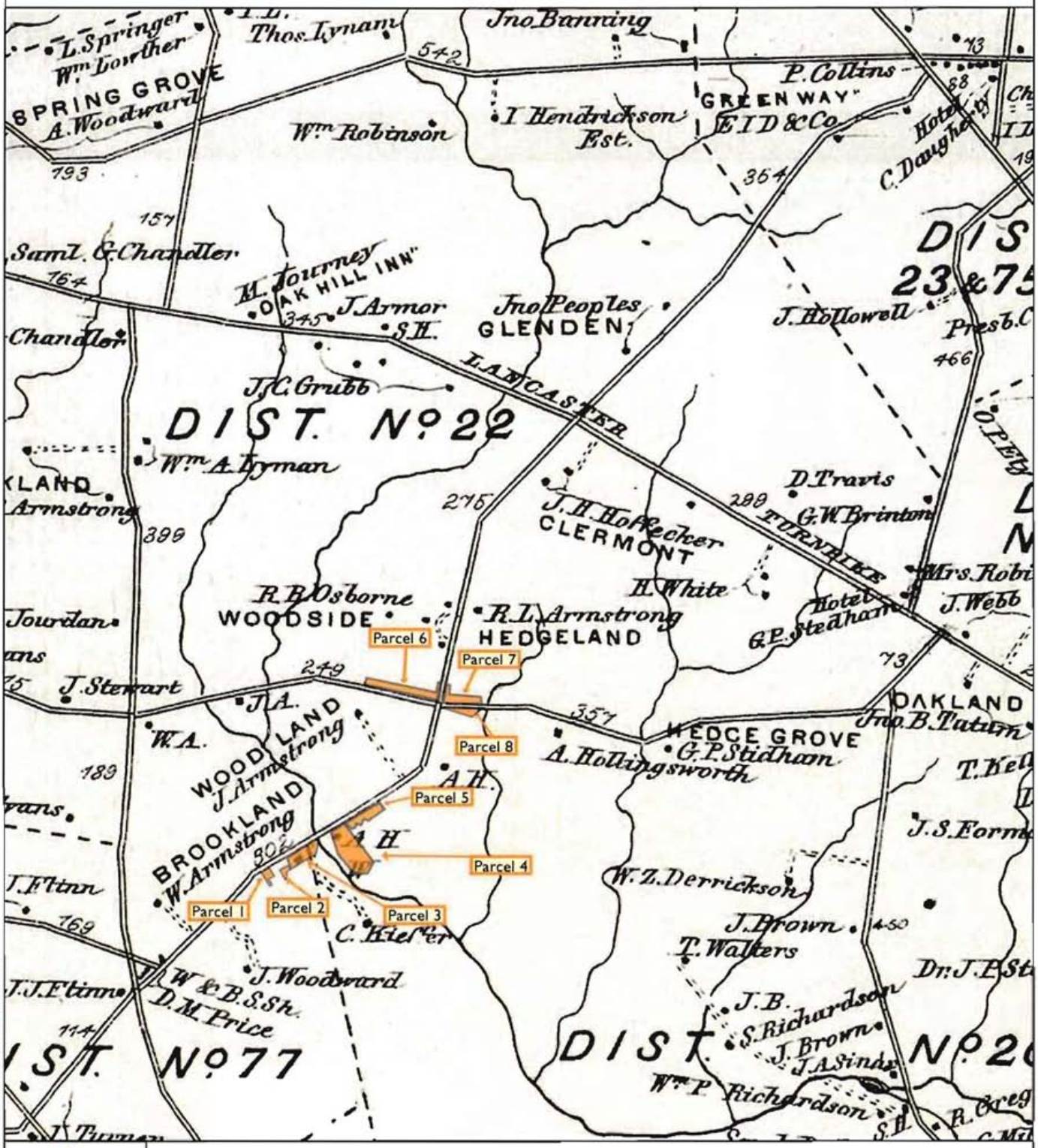
Not to Scale

Approximate Parcel Locations

Map Document: X:\Graphics\Projects\P-7321\Fig.3 1849 Map of NewCastle.ai

Source: Rea and Price Map of New Castle County, Delaware, 1849

Figure 6
1868 Atlas of Delaware
SR 141 Centre Road Corridor Improvements
Elsmere, New Castle County, Delaware



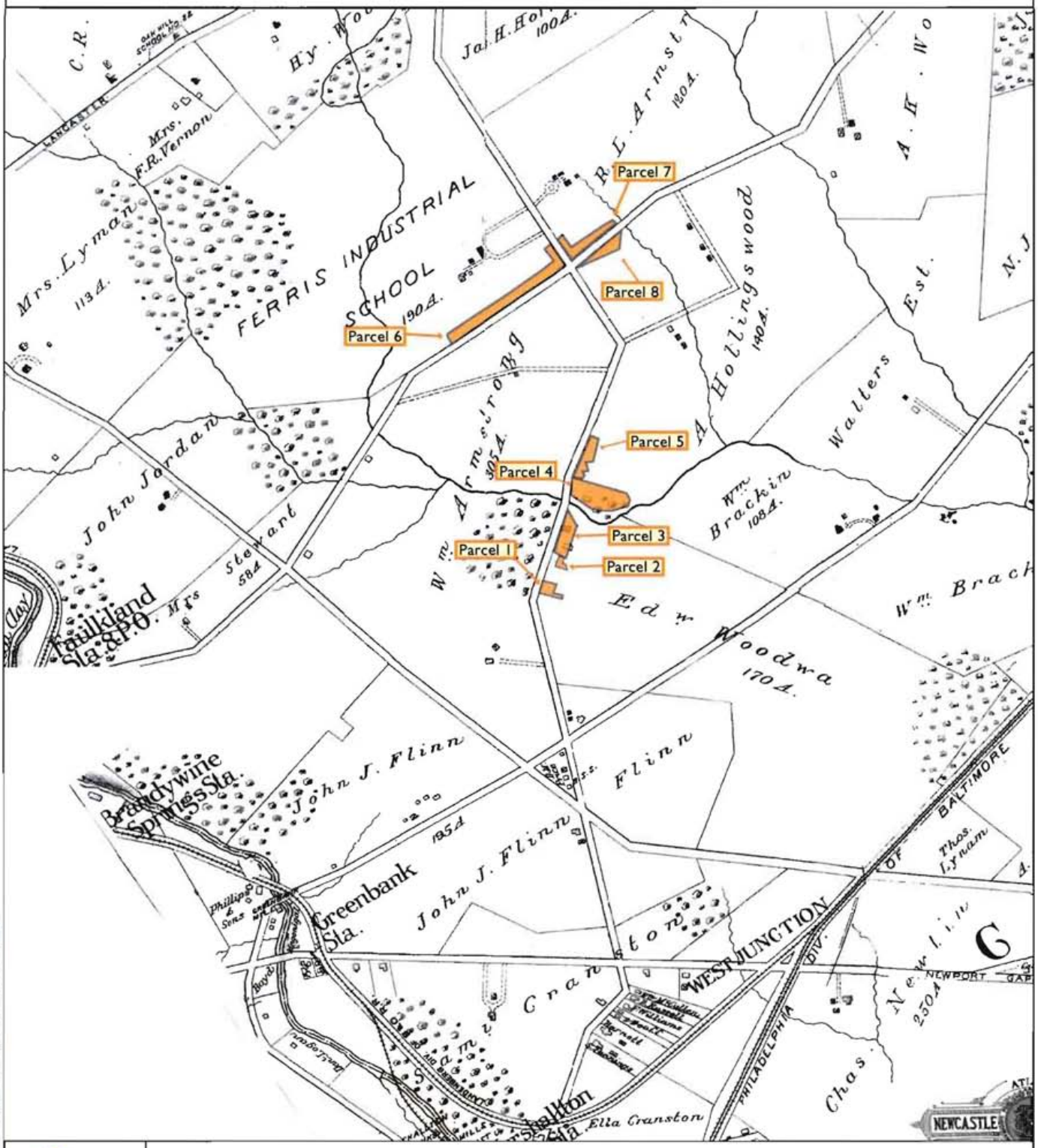
Source: Beers Atlas of Delaware, Christiana Hundred, 1868.

The late nineteenth and early twentieth century witnessed the founding of numerous public institutions to support the growing populace. The Ferris Reform School for delinquent youths, founded in 1885, was created through the generous donation of John Ferris, from Wilmington. An incorporated group was created on March 10, 1885, to manage the project and successfully purchased "Woodside," the estate of Philip Quigley, as the site for the home (Accessible Archives website, accessed 8 February 2006). (Figure 6). The institution was privately managed until 1919, when a lack of funding and increasing demands from the court system required the board to hand over control of the institution to the State of Delaware (Ceponis 2002:4).

In 1909, the town of Elsmere was incorporated within the State of Delaware as a community of 70 families. The proximity of the railway lines provided access to supplies and served as a shipping point for a brickyard and the Wilmington Wheel Company, which provided jobs for the growing local community. Population expansion in the 1920s brought new concerns to the town: inadequate sanitary sewer service, contaminated well water supplies, and a road infrastructure insufficient for the town residents. Opposed to funding the construction of a new sewer and water system that would be linked to Wilmington's utility network, the residents of Elsmere feared annexation into Wilmington limits and opted for buying services water directly from the city (History of Elsmere website, accessed 8 February 2006).

Agriculture continued to focus on the production of perishable goods with a decrease in staple crops. Dairy, poultry, tomatoes, apples, potatoes, and other truck produce were grown for sale to the markets of Philadelphia, New York, Baltimore, and other large urban areas. Transportation improvements, encouraged by the significance of truck crops, opened new sections of roads for Delawareans. Centre Road remained essentially unchanged during the late nineteenth and early twentieth century. However, by 1893, a small section of the current Kirkwood Highway (SR 2), extending from Price's Corner to Wilmington, was completed, linking a direct route from Greenbank Station and Greenbank Mill to urban markets (Figure 7). Urban growth spread out from the industrial center of Wilmington, encroaching upon farmlands. A noticeable decline in

Figure 7
1893 Map of New Castle County
SR 141 Centre Road Corridor Improvements
Elsmere, New Castle County, Delaware



Not to Scale

Approximate Parcel Locations

Source: Baist Map of New Castle County, Delaware, 1893.

Map Document: X:\Graphics\Projects\P-7121\Fig 5\1893 Map of NewCastle.ai

farm size and total acreage followed, suggesting a period of farm abandonment (DeCunzo and Catts 1990).

By the early twentieth century, the pattern and density of settlement in Delaware had spread from localized urban centers to interlocked suburban communities across the state. Small communities, such as Bowersville (Kirkwood), were replaced by commercial and industrial "strip" development along major roads (Figure 8). The introduction of the automobile gave people a means to travel beyond the confines of a train or boat in a short period of time. Improvements to the state road system expanded manufacturing, commerce, and agriculture throughout the state. The DuPont Highway, opened in 1923, connected northern and southern Delaware and shifted the state's agricultural production permanently towards non-local markets.

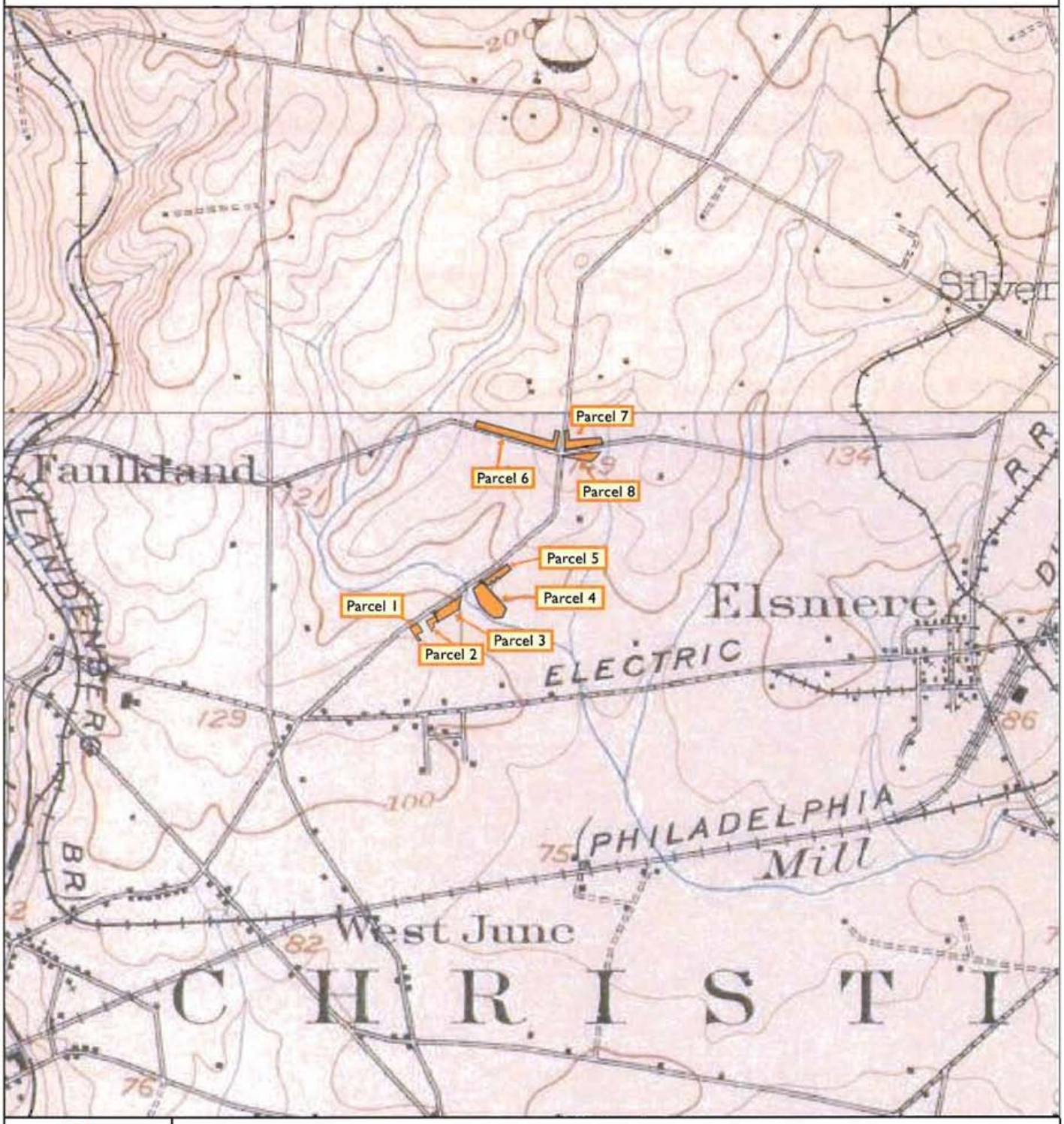
3.2.6 Recent History (1940-Present)

Since 1940, urbanization has spread across New Castle County, altering the landscape and land use patterns of the area. Dense suburbanization and commercialization began around Wilmington, and then affected areas adjacent to Newark and New Castle. The tract communities of Willow Run 1 and Willow Run 2, constructed in 1946 and 1950 respectively, on the east side of Centre Road and south of Faulkand Road, and the Woodland Apartments, constructed in 1952 and 1953, situated on the west side of Centre Road and south of Faulkland Road, represent examples of large-scale, post-World War II development in the immediate project area. During this period, the region's railroads continued to decline, but were reorganized into viable operations. Large industrial manufacturing companies, such as DuPont and Chrysler, built extensive operations to supply goods and services to worldwide customers. Road improvements, such as the construction of the I-95 corridor and SR 1 bypass, provided faster routes for commercial and residential traffic across the state. The construction of the partial cloverleaf interchange at Kirkwood Highway and Centre Road in the last quarter of the twentieth century eliminated much of the nineteenth-century community of Prices Corner. Planned suburban communities spread as the improved roadway system and employment opportunities brought more traffic into rural areas.

Figure 8
1906 Topographic Map of Project Area

SR 141 Centre Road Corridor Improvements

Elsmere, New Castle County, Delaware



Not to Scale

Approximate Parcel Locations

Map Document X:\Graphics\Projects\P-7321\Fig.6 1906 Topographic Map.ai

Source: Wilmington South and West Chester, Delaware Topographic Quadrangle, 1906.

3.3 Documented Archaeological Sites and Previous Cultural Resources Surveys

A review of the Cultural Resource Survey (CRS) files housed at the DESHPO identified no previously identified archaeological sites in the project APE. The project area has been subjected to various cultural resources surveys over the years as a precursor to proposed road improvements and utility line construction projects.

Several archaeological surveys have been conducted for proposed projects located downstream of the current project area. In 1997, Heite Consulting prepared a cultural resources assessment for the proposed sanitary sewer upgrades crossing the Little Mill/Red Clay Creek drainages. Approximately 25 to 30 identified cultural resources were noted in the immediate impact area, and the report recommended that a complete inventory of resources be completed to assess the project's full impacts (Heite 1997a:38). A Phase II Cultural Resources Survey conducted by Heite Consulting in 1997 for the Little Mill Creek section of the sewer upgrade did not identify any cultural resources listed in, or eligible for, the National Register of Historic Places in the proposed project (Heite 1997b:47). A Phase IA cultural resources assessment of a 6.1-kilometer-long section of the Little Mill Creek drainage between the Amtrak railroad bridge and Kirkwood Highway and a Phase IB archaeological survey of two portions of the drainage were conducted by Hunter Research in July 1993 and September 1994, respectively. The archaeological survey recorded evidence of filling and channel modification in the lower project area, located north of Maryland Avenue, and extensive ground disturbance in the upper project area, situated between the Mathes Avenue Bridge and Kirkwood Highway. No further archaeological investigations were recommended (Hunter et al 1995).

To the north of the current project area, Thunderbird Archaeological Associates conducted a Phase I and II archaeological investigation of ten historic properties along a 6.1-kilometer-long section of SR 48 situated between SR 141 and SR 41. The properties tested at the Phase I level included the William Jordan house (N-12084), the Lewis Miller house (N-4075), a destroyed twentieth-century dwelling on the west side of Rolling Mill Road, Breidablik (N-12086), the Stone Barn (N-508), the Oak Hill Inn (N-507), and the Masonic Home/Highfield Hall (N-495). Based on the paucity of artifacts and visible evidence of ground disturbance attributed to SR 48,

no further work was recommended at these locations (Thunderbird Archaeological Associates 1988). Phase II testing was conducted at Dwelling N-12079, the Loveville Post Office and Shoe Shoddery (N-12085), the Barker House (N-12082), and the Oak Hill Schoolhouse (N-12083). A Phase III data recovery investigation was recommended for the Barker house based on the presence of early-nineteenth-century intact cultural deposits surrounding the house and a foundation of specialized nature along Red Clay Creek. In addition, Phase III archaeological efforts were recommended at the Oak Hill Schoolhouse based on the documentation of a deep, artifact-bearing feature associated with structural remains, possibly a sealed privy associated with the schoolhouse. No additional investigations were recommended for the remaining properties (ibid.).

Cultural resources surveys have been conducted along the SR 141 corridor as well. In 1983, Thunderbird Archaeological Associates conducted a Phase I archaeological survey and Phase II archaeological investigation for proposed improvements to the SR 141 Centre Road corridor. The project study area for the 1983 study included the SR 141 roadway from Prices Corner to just north of Kennett Pike (SR 52), as well as a section of Lancaster Pike (SR 48) at the SR 141 interchange. Much of the current project study area along SR 141, excluding the Faulkland Road intersection improvements, overlaps the 1983 study limits. Four fields flanking SR 141 north of the Ferris Reform School, located outside of the current study area, and the Hollingsworth Property, located within the current project study area, were investigated as part of the 1983 study. The archaeological investigation identified two small, Middle to Late Archaic sites (7NC-B-7, Area A and Area B, CRS #N-9568), interpreted as Piedmont Upland limited procurement sites, and a small, plow-scattered assemblage of nineteenth-century domestic refuse associated with household waste from an early nineteenth-century residence on the north side of SR 52, in Field 3, in the southwest corner of the SR 48 and SR 141 intersection (Barse 1983:57-58). No further work was recommended for Field 3, as the two prehistoric sites were found outside of the ROW, and the historic scatter held little interpretive potential.

Testing in Field 4 identified a small, undiagnostic lithic scatter and the subsurface remains of an early- to mid-nineteenth-century tenancy, recorded as the H. Grant Tenancy Site (7NC-B-6, CRS #N-5010). The Phase II investigation of site 7NC-B-6 identified the remains of a stone

foundation, as well as a varied assortment of historic ceramic sherds, a large number (60 percent) of which comprised decorated pearlware sherds, suggesting a mid-nineteenth-century placement of the site (ibid:98). The Phase III Data Recovery of site 7NC-B-6 in 1985 exposed the foundation of the structure, as well as subsurface features, including a well, refuse pits, cellar fill, and a cellar floor midden (Taylor et al 1987:130). Analysis of the artifact collection, combined with distribution patterns of the collection across the site, and comparisons to similar period tenant sites along the eastern seaboard, suggested that the H. Grant Tenancy Site was occupied by individuals of a higher economic status than other sites compared in the study (ibid:134).

The archaeological survey by Thunderbird Archaeological Associates in Field 1, Field 2, and the Hollingsworth Property did not yield any significant archaeological resources.

Kise Straw and Kolodner revisited the cultural resources work conducted by Thunderbird Archaeological Associates for the SR 141 project in 2002, incorporating the cultural resources assessment for several additional impact areas proposed as part of an updated project design. Phase IB testing was recommended along the north side of Faulkland Road adjacent to the Ferris Center, along the north and south side of Faulkland Road between Montgomery and Spruce Avenues, and along the east side of Center Road between Wagoner Drive and Brookland Avenue, if the project would cause ground disturbance in these areas. The remaining portions of the project area exhibited high levels of ground disturbance associated with recent commercial, residential and light industrial development and warranted limited testing to document the extent of disturbance (Ceponis 2002).