3. Research Orientation and the State Plan

PREVIOUS RESEARCH in the region has provided valuable insights into the locations of human activities through time. In some cases, as in the project area, settlement models are so well developed that sites can be predicted with uncanny accuracy, but there is yet much to be learned about human utilization of this part of New Castle County.

Industrial Site Definition

The traditional definition of an archæological site has been "a place where artifacts are found," which is misleading and unduly restrictive in the context of modern industrial archæology.

Twenty years ago, some archæologists could define archæology as "the excavation of data," (Foley 1969:93) and restrict archæological studies to uncovering that which has been physically hidden.

Identification of sites with artifacts forces researchers to ignore loci where artifacts are not found, or places where the site itself is the artifact, or sites where artifacts are intangible or at least not solid. Intangible artifacts may be found on industrial sites or sites where the general landscape has interacted with, and been changed by, humankind in ways that are subtle and not expressed as traditionally recognizable artifacts.

A more satisfactory, but too verbose, definition is one offered by Deetz (1967: 11): "a spatial concentration of material evidence of human activity." This definition distances itself somewhat from the concept of an artifact, as well as from the concept of digging or uncovering.

Industrial sites, in particular, contain elements that do not fit the traditional definition of artifacts. Stream pollution, soil chemicals, odors, and even the acidity of the rain, are artifactual evidence from which human activity can be deduced, even though we do not normally conceive of a gas, a chemical formula, or an effect as an artifact in the sense that a projectile point or a potsherd is an artifact.

It is more correct to define a site, after the example of Deetz, as *a place containing evidence of human agency*.

The object of the archæologist's attention can therefore be identified as the study of man's effect on his environment, or the environment's effect on man, as expressed in measurable phenomena.

Each manifestation of human agency therefore becomes the equivalent of an artifact within a site, the definition of which is more properly broadened to include any place where man has left evidence.

This redefinition is useful, for the holistic industrial archæologist, since much useful evidence of human agency may be atmospheric, environmental, or even intangible.

In the project area, it turns out, the most important artifact may be an engineering idea expressed in feet above sea level, reflecting the personality of an extremely wealthy civil engineer. The artifact has such dimensions as horsepower and volume, in addition to the established dimensions of superficial size and age.

PREHISTORIC MANAGEMENT PLAN

The Delaware prehistoric cultural resources management plan (Custer 1986) and the companion management plan for Northern Delaware (Custer and DeSantis 1986) identify the Brandywine Valley as a high priority area for archæological research, both because of development pressures and because of the scarcity of reported sites.

The plan was based upon a cultural ecological or cultural materialist approach, which examines the relationship between an environment and its people.

In the Piedmont uplands, Custer and DeSantis point out, there has been, historically, little environmental diversity. The streams have very narrow floodplains and there are few swamps. Through most of prehistory, the region was forested. Deciduous forests would have had a high carrying capacity for wildlife.

This part of New Castle County is ranked as having poor data quality and low site probability. Yet the plan identifies the Brandywine Valley as a corridor possessing a high research priority because of development pressures.

In short, any prehistoric archæological site in the Brandywine Valley is to be considered potentially valuable, simply because of rarity.

THE STATE HISTORIC PRESERVATION PLAN

In order to implement the National Register of Historic Places program, the Delaware historic preservation office has issued a set of documents that collectively constitute the state plan for historic preservation.

The historic contexts section of the Delaware Comprehensive Historic Preservation Plan (Herman and Siders 1989) lists a number of historic property types. The following is a list of property types that are present in the project area, as they are grouped in the plan within three of the historic themes:

ECONOMIC AND CULTURAL TRENDS
- Agriculture - Crops
  - [not listed: Hay]
- Agriculture - Methods
  - Land Improvement
  - Mechanized (includes animal labor)
  - Labor
    - Tenant
    - [not listed: Contract Labor Gangs]
- Agricultural Orientation
  - Local Market
  - Estate
  - [not listed: Industrial Support Farms]
- Forestry
  - Saw Mills
  - Dams
  - [not listed: Raceways and Penstocks]
- Shipping/Transporting
  - Land
    - Roads
    - Crossroads
- Manufacturing
  - Rural Industries
    - Saw Mills
    - Grist Mills
  - Heavy Manufactures
    - Cloth Mills
    - Paper Plants [actually paper *mills*]

LANDSCAPE
- Change through Occupation
  - Village/Town Sites
  - Early Plantation Sites
  - Early Industrial/Commercial Sites
- Transportation Networks
  - Land
    - Roads and Toll Roads
    - Crossroads
- Suburbanization
  - Industrial

PEOPLE
- Major Families and Individuals
- [Not listed: Immigration]

The plan divides the state into five geographical areas, the first of which is the Pennsylvania Piedmont, in which the project lies.

For the purpose of creating contexts, the plan identifies five historic periods:

A. 1630-1730 Exploration & frontier settlement
B. 1730-1770 Intensified & durable occupation
C. 1770-1830 Early industrialization
D. 1830-1880 Industrialization & early urbanization
E. 1880-1940 Urbanization & early suburbanization

The plan sets priorities for all these various plan elements (Ames et al 1989: 79-82). According to the authors of the plan, "The Piedmont Zone is not a high priority now because much of the historic landscapes of the nineteenth century have already been compromised or destroyed. By the late 1990s the Piedmont will have the greatest number of potentially eligible resources in the state from the early twentieth century and should move up in the Geographic Zone priorities."

Agriculture is the plan's first-ranked priority among above-ground resources, followed by settlement patterns and demographic change. Manufacturing is the third priority for above-ground resources. The term "above-ground" refers to visible structures, while "below-ground" does not necessarily include historical archæological sites.

For below-ground resources, the plan identifies settlement patterns and demographic change as the highest ranking priority for preservation attention. Trapping and hunting is second, followed by mining and quarrying. At the bottom of the list, seventh, is manufacturing.

It would seem that manufacturing is of little concern to the historic preservation planning process in Delaware, and that there is little to be gained from studying and protecting below-ground industrial historic resources in northern Delaware. The opposite is true.

The Piedmont Zone is fifth on the priority list for above-ground resources and is similarly low on the priority list for below-ground resources. The state plan notwithstanding, Delaware history is dominated by industrial history, and industrial sites in the state are major concerns to preservation interests.

When the plan's composite list of priorities was compiled, the Piedmont fell near the bottom in every configuration of the data:

Above-Ground

#1: Agriculture

1770-1830±, 1830-1880±
Upper Peninsula, Lower Peninsula/Cypress Swamp, Coastal

#2: Settlement Patterns and Demographic Change

1830-1880±, 1880-1940±
Urban (Wilmington)

#3: Settlement Patterns and Demographic Change

1770-1830±, 1830-1880±
Piedmont, Upper Peninsula, Lower Peninsula/Cypress Swamp, Coastal

Below-Ground

#1: Settlement Patterns and Demographic Change
1630-1730±
Coastal

From this it can be inferred that the state plan assigns low priority to virtually all preservation issues in and around the project area. In practice, manufacturing centers on the Brandywine have received lavish preservation attention. Not the least of these is the Rockland mill, of which the project area was once a part.

Since two of the plan's temporal divisions are labelled "industrialization," it seems strange that manufacturing should be lightly regarded among the preservation priorities, especially in view of the rapid erosion of industrial resources.

COMMERCIAL ORIENTATION

Transportation-related sites are, by definition, an element of commercial history. The project-area sites are commercial and industrial elements of the larger Philadelphia sphere of influence.

From the establishment of Philadelphia in 1682, Delaware has been part of Philadelphia's commercial hinterland.

Even after Delaware broke away from Pennsylvania politically in 1776, local commerce has continued to flow into the Pennsylvania economy. When steam navigation and railroads were introduced during the nineteenth century, Delaware's farmers turned to Philadelphia for access to the national markets beyond.

Wilmington, a commercial satellite of Philadelphia, was a market center for Delaware and Pennsylvania hinterlands to the west and northwest, up the Christina and Brandywine Valleys. Elsewhere in Delaware, Wilmington played no role whatever in the economic system. In terms of regional commerce, the city looked entirely to its westward and northwestward.

To tap this market, Wilmington interests built turnpikes, railroads, and local roads that radiated out from the city. The network of roads we now call Route 100 was never a turnpike, but it served as a secondary artery into Wilmington markets.

The Wilmington and Northern Railroad, which penetrated the Pennsylvania hinterland as far as Reading, was an attempt to siphon off some of Philadelphia's natural trade into the secondary market in Wilmington. Instead of becoming a hub, Wilmington became a corridor, through which rail traffic passed en route to somewhere else.

Wilmington's economic isolation from the rest of Delaware was broken with the construction of paved highways shortly after World War I. For the first time, downstate markets opened for upstate businesses through the highway system.

Wilmington's brief period of statewide economic dominance may prove to have been fleeting, as the state's center of population and influence moves again to the southward and newer networks, based on the Interstate highway system, redirect commerce to other, more distant, centers.

In the history of the project area, Philadelphia interests loom large, but the

powder mills are intimately entwined with the larger history of the nation. While the Rockland mills were established by Philadelphia interests, the powder mills were from the start considered instruments of national policy. Neither mill served a Wilmington market, and during the nineteenth century neither company had a significant presence in the life of the city.

The Brandywine banks were, largely, a rural industrial environment detached from the urban industries around Wilmington, a scant four miles away. In the context of the period, "industrial" was not synonymous with "urban" in America.

INDUSTRIAL NATURE OF FARM SITES

During the nineteenth century, industries depended heavily upon their agricultural surroundings. It was impossible to run a factory without a complementary farm, and bigger factories requried bigger agricultural establishments.

Christiana Hundred along the Brandywine functioned as a support structure for the mills along the creek. Animals for motive power and transportation, wood for building and fuel, stone for building, food for man and beast, all were provided by farmlands along the edge of the valley.

In spite of their bucolic appearance, the farms of Christiana Hundred's "Chateau Country" are historically industrial in nature. Many acres were owned or controlled by the duPont Company as hay plantations to feed the draft animals; hundreds of other acres fed the workers who lived in the little industrial villages down in the valley. Only in the present century has Delaware's Brandywine Valley become largely devoted to purely residential estates that do not materially support the local industries.

Co-minglings of agriculture and industry were the rule on the Brandywine as elsewhere in America during most of the nineteenth century. In 1832, W. W. Young reported that his company's activities at Rockland comprised several farms, plus wool and cotton spinning and weaving, which "necessarily, are blended with each other, and there is much difficulty to identify them separately with exactness." A Wilmington tanner reported a similar difficulty of separating his tannery from his farms, which he described as "intimately connected" (Porter 1990:61).

LOCAL PRESERVATION ENVIRONMENT

The Brandywine Valley is an area where cultural resources have been lovingly preserved, but at the same time is suffering intense development pressure. The valley enjoys an active preservation movement, which extends to both historic and natural features.

Historic Preservation in the valley is primarily residential in focus, even though the Hagley Museum is an industrial-history center. Outside Hagley, the preservation movement has parallelled the transformation of the valley from hay farms and industries into a residential suburban region.

Rockland is an example of this phenomenon. The shells of the buildings that once housed the paper mill have been recycled to create upscale housing, rendering interpretation of the mill function all but impossible.

In some cases, progress has taken bizarre turns that have obliterated the historic landscape, sometimes in the name of historic preservation. The realities of the past have received cosmetic treatments that sometimes obscure the truth.

Ugly but significant historic sites have been made æsthetically pleasing in the name of preservation, degrading the historical integrity of the industrial landscape. Historically polluted watercourses are clean and green; historically noisy places have become quiet, and historically noisome places smell sweet, all in the name of historic preservation.

So that more people can enjoy the open spaces, the construction industry is busily throwing up houses in nearly every neighborhood, diminishing the open landscape that characterized the valley for three centuries. Hay fields, which once dominated the valley, are turning into subdivisions, golf courses, and lawns. The visual link with nineteenth-century industry recedes in step with the march of the suburbs.

While isolated artifacts of the nineteenth-century industrial period survive, the built environment in the Brandywine Valley today is primarily a product of the twentieth century, erected after the decline of local industry. Suburbanization is an important historical process, and the name of the most recent temporal division of the state plan.

As the state plan predicts, early examples of the suburbanization process soon will be eligible for the National Register.