2. IDEAS BEHIND THIS INVESTIGATION

Cultural resource investigators are guided by theoretical positions, planning documents, and regulations that constrain and focus.

Archæological survey is part of the preservation planning process, which in turn is integrated into larger planning spheres. Delaware has adopted a state plan for historic preservation, reinforced by a variety of management plans, context studies, and individual project reports. Very large areas of Delaware history and culture remain outside the preservation planning process, but rural life is well supported.

Ethnicity is one area where the Delaware historic-preservation planning documents are seriously silent. Under "people," the list of contexts lists only "major families and individuals." Peculiar ethnic groups are not singled out by the planning process, in spite of Delaware's ethnic diversity (Heite 1992: 6). Native American heritage is covered exhaustively by the prehistoric planning process, but native people have no niche in the thematic structure after the seventeenth-century upheaval.

THE TIME FRAMES OF PLANNING

Time periods applied in Delaware preservation planning (Herman and Siders 1986) reflect only feebly the actual history of the state outside Wilmington. The state's generalized chronology is:

Exploration and frontier settlement..... 1630-1730
Intensified and durable occupation..... 1730-1770
Early industrialization..... 1770-1830
Industrialization and urbanization..... 1830-1880
Urbanization and suburbanization..... 1880-1940

Only one area, between Wilmington and Newark, actually experienced these historical periods in exactly this sequence. In spite of their limited applicability, cultural resouce investigations throughout the state use these subdivisions for the sake of uniformity.

While historians might divide reports into slabs of time, the subject can be sliced other ways as well. We are familiar with "thematic" histories that cover a single subject or group of subjects through time. One such theme is transportation.

Transportation is a dominant historical theme in Delaware, but remains undefined among Delaware contexts. Transportation has not been ignored, however. It pervades other themes, but deserves consideration on its own merits. A historic context has been formulated for the archæology of agriculture and rural life in New Castle and Kent counties (De Cunzo and Garcia 1992).

The Delaware Rail Road, predecessor of the modern north-south Conrail line through Delaware, was so powerful that it was sometimes called the "third house" of the General Assembly. One wag suggested that the enactment clause of bills should be inscribed "the House, Senate, and Delaware Rail Road concurring therein."

During the twentieth century, public roads have taken the place of rails at the center of Delaware's economic life.

Delaware's "framework of historic context elements" (Ames, Callahan, Herman and Siders 1989:21) is arranged according to a group of 18 themes, ten of which refer to occupations, such as forestry and manufacturing. The top of the list is agriculture, followed by forestry. Transportation is tenth on the list. While this order is not supposed to reflect a ranking of priority or significance, the sequence may reflect the authors' viewpoint.

ORGANIZING PRINCIPLES

The theoretical orientation of this study

Plate 3
Flatlands

From ground level, the Delaware coastal plain sometimes appears to be a featureless expanse of flat land. This relative absence of relief frustrates the work of archæologial surveyors, who seek landforms that were hospitable to past inhabitants.

is generally cultural materialist, in keeping with the state management plans. Cultural materialists study the relationship between environment and technology on the one hand and human behavior on the other. Culture is viewed as a form of adaptation to natural, technological and social environments that results from the interaction among human individuals and groups (Custer 1986:2; Harris 1968:240).

"Geographical determinism" is a shorthand designation for a related, if not congruent, approach employed by processualist historians of the cultural ecology school (Schnore 1965). A geographical determinist historian looks at the landscape as an actor in the drama of history, as fully empowered as other actors, including politicians, enterepreneurs, or military leaders.

This theoretical approach is explicit in the state management plan for prehistoric resources and implicit in the plan for historic resources. Those who use the cultural materialist approach tend to rely upon predictive models to structure their survey activities.

Neither the historical nor the anthropological style of expressing these similar ideas should be interpreted as diminishing or ignoring the obvious importance of studying historical individuals.

On an isolated archæological site, a few people are the subject population. Sometimes, rarely, their achievements and personalities can be discerned, but more frequently the individual is lost among the group that created an artifact or assemblage of artifacts and features.

In very rare cases, such as the nearly legendary Johnny Ward (Fontana *et al*. 1962), the person who created a site emerges from the archæological study as a recognizable individual. More frequently, material remains from a site cannot be subdivided into any smaller unit than a family, a military unit, or a community.

From the earliest days of historical archæology, practitioners have struggled to resolve the apparent conflict between general and particular interpretation. Is the site a window into the life of an individual, or into the lives of the group members who lived there, or into the lives of a larger population, of whom the individual is but a sample? Is the archæologist writing a biography, a community history, or a contribution to the study of human society's larger characteristics?

While such questions have bedevilled "new" archæologists for a quarter century, more recent "post-modernist" or "post-processualist" archæologists may argue that it doesn't matter.

As the theoretical pendulum inevitably swings away from structured formulations, it has become acceptable to concentrate on local history, local contexts, and local interpretations, without necessarily relating everything to universal considerations of political theory, natural laws, or some over-arching theoretical model for defining a social structure.

When people from several different ethnic groups are present on the same site, the researcher sometimes is faced with impossible tasks of untangling cultural threads. The traditional division of American archaeology into historic and prehistoric subdisciplines has complicated the problem when Native American and European people occupied the same site, or when people of mixed heritage are being studied (Lightfoot 1995).

A CASE FOR ANTIQUARIANM

Few historians or archæologists today will endorse the proposition that data collection might be an end in itself.

Today's regulations require an investigator to demonstrate in advance that a particular line of research is likely to be useful.

Uncritical data and artifact collection might be a legitimate archæological project design, demanding no theoretical or procedural justification in certain branches of historical archæology (Schuyler 1975).

Goal-oriented and tightly constricted research might be cost-effective in limited situations where conclusions are obvious. But a constricted research design can miss the unexpected. At the Bloomsbury site, a few elusive clues led to wholly unexpected lines of research.

For generations, archæologists and historians have been running away from the "antiquarian" school, which considers the study of old things a perfectly legitimate enterprise in itself, with or without a theoretical basis. In the history of both disciplines; however, antiquarians have contributed quite significantly to the common body of knowledge. Some of the most important early works in history and archæology are mere compilations of curiosities, collected haphazardly or idiosycratically by enthusiasts.

In Delaware, the monumental two-volume Scharf history of 1888 is such a collection of undigested and sometimes downright contradictory, "facts," compiled by committees of

NATIONAL REGISTER CRITERIA

(National Register Bulletin 16a, *How to Complete the National Register Registration Form*s)

The quality of **significance** in American history, architecture, archeæology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess **integrity** of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.

antiquaries. William Holmes McGuffey, the well known nineteenth - century educator, once characterized the minds of such intellectual omnivores as resembling a "gourd full of gnats."

Despite their utter lack of any theoretical guiding principle, works of antiquarians are indispensible for those who practice a "higher" form of scholarship. People who collect buttons, or tobacco pipes, or ancestors for that matter, diligently compile endless catalogues of fact, factoid, and fantasy about the objects of their obsession. Thus the starting point for most scholarly artifact studies is frequently the collector literature and the antique market.

"Orthodox" scholars, who have passed through a graduate education process, are taught that each investigation must have a purpose, preferably aimed at pushing back specific frontiers of human knowledge, expressed as formal research questions. The mere collection of data is denigrated as unfashionably "antiquarian," which means that every serious scholarly effort must have a research direction, well-framed questions, and criteria for evaluation. Without such scholarly trappings, a study cannot justify the expenditure of research funds and the valued efforts of "real" scholars.

Emphasis on pre-digested research designs and state-plan research questions has effectively displaced pure antiquarian research, even at the data-collection level. Yet there remains a need for mere raw, uncritical, historical data collection. The surveyor in the field has an obligation to provide unbiased raw material for future scholars, whose research agendas cannot be predicted.

If data collection is limited to answering research questions now being pursued, the profession runs the risk of short-changing future workers by creating too-narrow collections of data. It is therefore incumbent upon field researchers to collect their data in a way that can be re-analysed, and to take samples of whatever environmental materials may be present, whether or not they serve a formulated immediate research purpose.

Reexamination has frequently shed new light on old research collections. Old tissue samples, old record books, and old mineral collections routinely disclose new data. Whether it is an atmospheric scientist looking for old air, or a medical researcher seeking early occurrences of a disease, old collections repeatedly demonstrate their un-anticipated value to future researchers. But in order to benefit future researchers, a collection must have two characteristics: it must have integrity, and it must have documentation.

Curatorial practices are designed to preserve a collection's physical and intellectual integrity, together with the documentation necessary to interpret the materials.

Archivists likewise are careful to keep records with their original contexts, so that future scholars can reinterpret the materials in the light of later discoveries. Over the years, the experience of archival collection users has demonstrated that a collection will almost always be exploited most effectively in a way that its original creator never envisioned. For example, tax lists, created for mundane government budget purposes, have become a vital tool of social historians.

Every record, artifactual or archival, is limited by certain definable constraints. A document is a witness only to the intent of its creator. While a social scientist can dredge new meanings from a tax list, he is limited by the preconceptions held by the tax collector. If the tax collector saw something that was commercially or practically useless, he would not mention it, even though some future archæologist might be immensely interested in the "lumber" or "old stuff" passed over by assessors. So we cannot expect to find a list of decorated slipwares in an old tax assessment, but we can expect to find reference to a "lot of old pots" worth a few pence.

Even in the world of "scholarly" data collection, times change and emphases are constantly re-evaluated. National Register nominations written in 1967 are hopelessly obsolete today, and must be written to meet today's concept of what should be recorded, and

what should be preserved. The National Register criteria (box, page 17) have not changed since 1966, but interpretations surrounding them have shifted several times, in different directions.

Fortunately, much of the data collected by early preservationists has kept its value to this day. Surveys made by the Historic American Buildings Survey a half-century ago are just as valuable as ever, even though we may sometimes wish that certain subjects had been covered by early HABS recorders whose orientation was largely antiquarian.

Old archæological and antiquarian collections likewise retain their value, if their documentation was originally adequate and has been kept intact. Excellent archæological research can be conducted, using ninenteenth-century or older collections, so long as the modern inquirer is aware of the constraints of the time when the material was collected.

Under the veneer of research objectives and scholarly trappings, therefore, cultural resource inventories of raw data continue to be primarily collections for which no research objective has yet been developed. This lack of direction and research orientation may be a blessing, and may indeed define the primary future value of such data.

PRIORITY RANKING FOR ABOVE-GROUND RESOURCES
(State Plan, June 1989, page 79)

Agriculture
Settlement patterns and demographic change
Manufacturing
Retailing and wholesaling
Transportation and communication
Other themes

HOW SITES GET REGISTERED

Every cultural property should, ideally, be evaluated against all four of the National Register criteria. In practice, most sites can be eliminated from consideration under most criteria.

Prehistoric archæological sites are evaluated almost exclusively under Criterion D, as properties that have yielded, or may be likely to yield, information that is important in prehistory or history.

PRIORITY RANKING FOR BELOW-GROUND RESOURCES

(State Plan, June 1989, page 79)

Settlement patterns and demographic change
Trapping and hunting
Mining and quarrying
Fishing and oystering
Forestry
Agriculture
Manufacturing
Other themes

Perhaps too hastily, historic and, especially, industrial archæological sites also are lumped into National Register Criterion D, which sometimes seems in danger of becoming an archæological ghetto. In fact, an archæological site could be listed under any criterion, and any archæological site must be considered potentially significant under any criterion.

Archæological sites might be eligible under Criterion A, if they are associated with significant events. For example, contributing features of a battlefield are entirely archæological in most cases.

Sites associated with people under Criterion B should typically include both above-ground and below-ground resources, but planners frequently favor the standing structure over the archæological site. Much historical archæology associated with famous people has been performed at places where the person's house is preserved, as at Monticello, Mount Vernon, Poplar Forest, or the Hermitage. It is possible, however, to assess the significance of places associated with famous people without considering the relative value of standing structures versus archæological sites.

Criterion C permits registration of modest sites in districts or other aggregations. While archæological districts are not unusual under Criterion C, few nominated districts mix above-grade and below-grade significant features.

To qualify under Criterion D, the resource must be able to contribute to our knowledge about some research question. The ability of a site to answer a question is, of course, related to its integrity. Well-preserved sites by definition contain more information than damaged ones. Prevailing research questions, therefore, will influence the decision

to apply this criterion, which raises chicken-or-egg questions.

The potential of a site to answer yet-undeveloped questions is not considered when evaluating a property under Criterion D. Other criteria might profitably be applied to archæological sites for which no pre-packaged research questions have been contrived. Criterion C, for example, might be used to justify preservation of certain classes of archæological sites that represent a type rather than answer a question.

Finally, the site must be significant. To an archæologist, mere knowledge of the existence of a site is useful information. Any site can tell us something. To be significant as well as merely interesting, a site must have sufficient intellectual content that its excavation would substantially increase our knowledge about the people who have used the site.

The irony of this provision is the fact that research value is subjective and constantly shifting. A few years ago, European-American cemeteries were not considered research subjects, but now they are keenly sought for study; as demonstrated by at least one paper in the present DelDOT series. Canning factories, likewise, were not mentioned in the archæological literature until two were excavated under the DelDOT program. The key to "research" value is therefore the quality of the observer, and his or her ability to identify research potentials, even when they lie outside the investigator's own narrow field of expertise.

To be eligible for the Register, under Criterion D, an archæological property must meet all three tests of significance, integrity, and research value. The site must also have the good fortune to be evaluated by a person with sufficient breadth and insight to appreciate the less obvious virtues, who might evaluate the property under the other three criteria.

STATE PLAN PROPERTY TYPES EXPECTED

Property types that might be found in the project area, based in part on a list promulgated for Delaware historic properties by Herman, Siders, Ames and Callahan 1989.

- Agriculture (crofts)
  - Products
    - Nursery / Orchard
  - Methods
    - Cultivation
      - Plowing
      - Plow Scars
    - Enclosures
      - Field Boundaries
    - Drainage and Irrigation
      - Ditches
      - Ponds
    - Fertilization
      - Manuring Spread
      - Fertilizer Residues
  - Forestry
    - Sawmills
  - Mining and Quarrying
    - Borrow Pits
    - Brick Clay Pits

APPLICABLE CONTEXTS

In terms employed by the Comprehensive Historic Preservation Plan (Ames, Callahan, Herman and Siders 1989), and the management plan for prehistoric resources (Custer 1986), the project area lies on the line between the Coastal and Upper Peninsula geographic zones.

An obvious choice of historical context is agriculture, defined as an archæological context by DeCunzo and Garcia (1992), which will be considered here. The archæology of agricultual fields has been discussed by the present authors (Heite and Blume 1992: 80-97).

Ethnicity has been discussed by one of the authors (Heite 1992), who suggested a provisional context for the Montchanin Italian community.

PROPERTY TYPES IN PUMPKIN NECK

North of Route 6, on the Brown property near Taylor's Gut, a University of Delaware party identified several prehistoric sites associated with minor drainages, nearly adjacent to the present project area. (Grettler, Seidel, and Kraft 1994).

Small lithic scatters along the edges of shallow, ephemeral drainages (7K-A-121, 7K-A-119, and 7K-A-120) were located on low rises in the relatively well-drained Mattapex silt loam soils. Since similar locations exist on the project area, these sites were considered useful precedents to consider in the present survey.

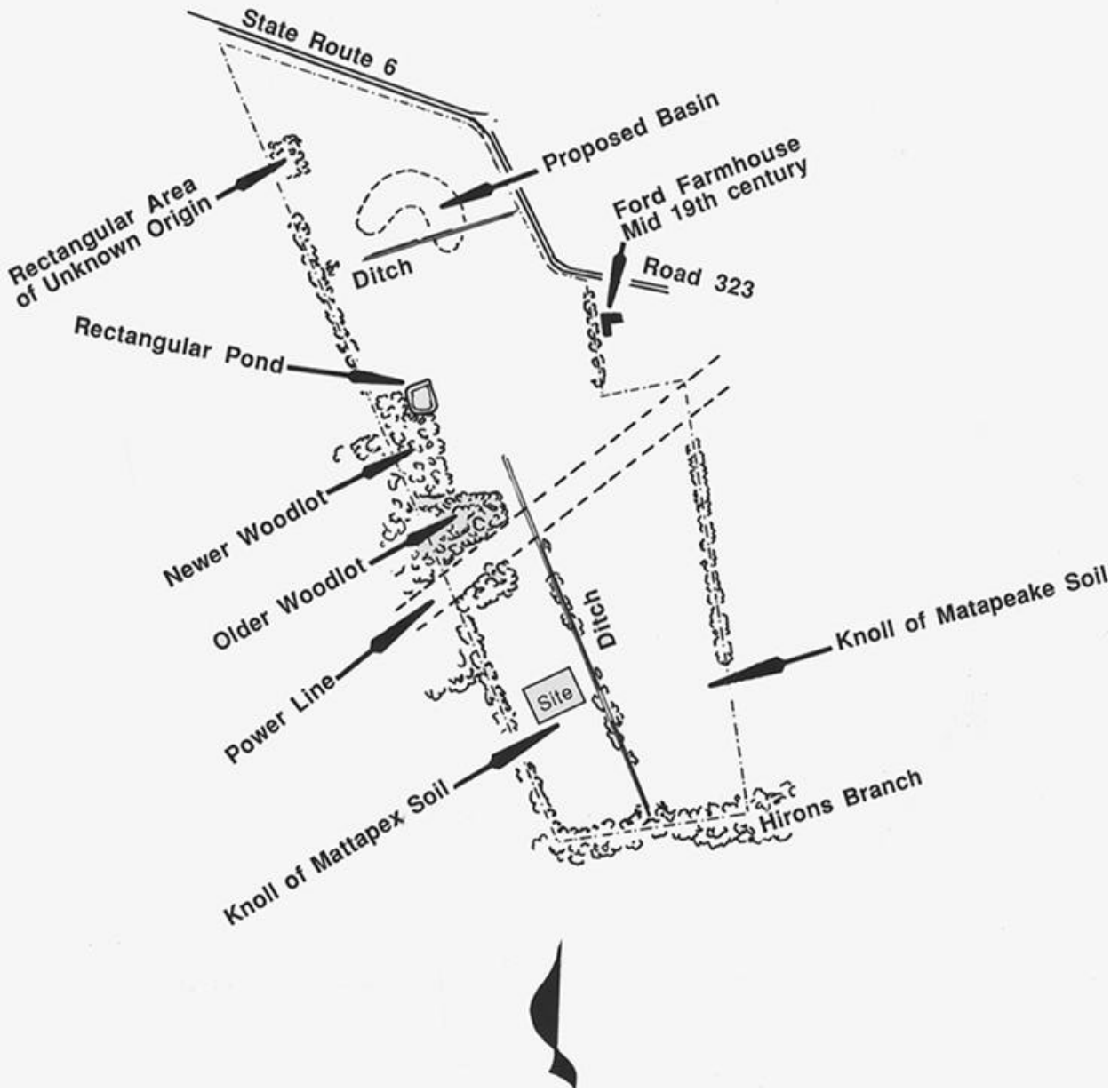

Figure 6

Sketch map of the property

Nearby historic property types include agricultural complexes, agricultural fields, two nineteenth-century church sites, and a former nine-foot road. The older agricultural complexes all occur on islands of well-drained soil that intrude into the poorly-drained areas. Only more recent habitations, such as mobile homes, occur on soils that are not well drained.

STATE PLAN CONTEXTS

Because of the high priority assigned to agriculture and the archæology of agriculture by the state planning documents, there is a high likelihood that well-preserved agricultural

remains would be candidates for the National Register.

In order for a property to be eligible, it must possess integrity and definable boundaries as well as a quality called "significance," which can be defined only in context.

DeCunzo and Garcia suggest that temporal and physical integrity may be important factors when one seeks to determine significance on an agricultural site, especially if the site is being evaluated as representative (DeCunzo and Garcia 1992:311-317).

This concept of eligibility through "representativeness" takes on special importance when dealing with "ordinary" or "commonplace" properties. A property is "representative" if it contains all the elements of the "typical" property of that category, as defined in terms of a historic context. Integrity becomes the most important single determinant in evaluation when "representative" sites are being considered.

If a farmstead site is "typical," how can it be eligible? This issue has been debated at length (Wilson 1990) in the cultural resource management community. In any case, it can be argued that significance depends upon the context in which the site is found.

The context, for such comparative purposes, can be defined either as a site type or as a geographical unit, or both.

DOCUMENT RESEARCH MISSION

Documentation puts a human face on the subject of any archæological research. Some people are easily documented, but most individuals encountered by archæologists are previously unknown to history. Documentation of low-status individuals is more difficult than for their more affluent fellow citizens. Since most of our ancestors were not the wealthy and well-documented, the documentation of the poor and illiterate is more relevant to most of us.

In dealing with any agricultural toft, one is immediately confronted with status questions. Recent works by Richard Bushman, Rebecca Yamin, and Paul Shackel, among others, have attempted to identify the components of status, in terms of cultural distance and economic accomplishment.

Status is most easily determined through documentary research, but the determination can be defined and clarified through archæology.

The term "status" is used fairly loosely by historians to refer to the constellation of political and commercial power, recognition, and influence which an individual or group may control. The assumption is that these components are linearly related, that an individual's command of a given level of one will reliably predict his command of the others, within definable limits. With the single exception of commercial power, which is directly measurable in terms of money possessed, the components of "status" are largely conceptual and subjective, and of themselves leave light footprints in the material record.

In the Anglo-American context, though, the possessor of "status" generally but by no means always engages in a certain amount of display behavior which requires the possession and display of semiotically loaded objects. The objects usually include the house in which the subject lives and some of the furniture and furnishings in the house, while the status-display behaviors include the way the subject allocates his personal living space both indoors and out. In the archæologial context, the appearance of recognized status-laden objects and status-laden space arrangements is used as a measure of the immeasurable, the conceptual characteristic of "status."

Investigations, usually statistical, linking recognizable status in terms of control of wealth and/or control of political power with certain artifacts and use patterns have shown that these stand-in measurements are fairly reliable for the dominant group. But because "status" is a largely conceptual entity which is expressed only secondarily in the artifactual and building contexts, it is necessary that the investigator choose the correct yardstick when determining

the status context of a given site. It is symptomatic of lazy thinking to apply a single status value scale to a given phenomenon regardless of the particular context of the display which the phenomenon represents.

Engaging in an unexpected status-display activity, as well as failure to engage in an expected one, creates uneasiness among the general community. It usually results in the isolation of groups or individuals who engage in what is perceived as mismatched behavior. Certain mismatches are so common and so jarring that there are terms for them in the language. Whether one is talking of a miser who hordes millions in a hovel; of the owner of a "welfare Cadillac;" or decayed gentry and their opposites, the nouveau riche, mismatch between resources and status-defining behavior will be noticed.

The important thing, though, to remember is that these mismatches of resources and behavior are mismatches only within the context of the defining community. An ordinary consumer in a community of misers would indeed be perceived as a jarring phenomenon.

Moreover, certain constellations of mismatched behavior become in turn the defining status-display behaviors in clearly definable subgrups, as witness the group signalling which "youth fashion" represents. A high-status object or behavior in one context may thus be perceived as a low-status object or behavior in another. And because status is largely conceptual, its symbology passes fairly easily from group to group and from level to level, acquiring new meanings as it becomes associated with a new context.

In Delaware, the five-bay brick farmhouse is one token which has been generally assigned to a certain status context (white landowners possessing a secure income and mainstream political influence) without much effort to define more closely what that context might have meant for non-members of the group. Indeed, the fact that the public records were kept largely by, for, and about, denizens of five-bay brick houses probably skews our perception of the "normal" eighteenth- and nineteenth-century Delawarean and his house.

Because of a complex mix of inherited prejudices and modern ambitions most historians and archæologists tend to identify with this subgroup (at the expense of others), and because brick houses are built of a material which lasts and leaves a fairly heavy footprint on the material legacy of the region, these houses have been described as the norm.

There has been much unsubstantiated assumption that all financially secure people aspired to own one, and that the possession of another form (with the exception of architect-built houses) was an indication of either lack of status or lack of money or both. It might be more useful to consider the five-bay brick house to be simply the expected behavior for members of that group, but very well might have been considered inappropriate in another community for people of similar status.

HOUSES SPEAK OF STATUS

Below the level of the five-bay brick house, the various lower status groups can be defined. There should be no mistaking a small freeholder's house for a tenant house, even though they might be superficially similar.

By the same token, tenant houses are different archæologically from from slaves' quarters, even though all three classes were relatively low in the social hierarchy.

A disproportionate amount of study has been devoted to higher-status members of the dominant culture, whose sites have been pronounced "typical" by some observers.

Richard Bushman (1992) has noted that the two-story five-bay brick houses of Kent County were erected first by the wealthier gentry just before the middle of the eighteenth century. Thereafter, the five-bay, two-story brick farmhouse became a badge of gentility and prosperity. Until the end of the nineteenth century, this single house style completely dominated the Kent County countryside, so standardized that parts can be interchanged between houses built in different localities fifty or more years apart.

One such house, albeit frame, stands adjacent to the project area and was originally the farmhouse to this tract. Another, the eighteenth-century brick Allee House, stands a short distance away on Dutch Neck, preserved as an historic site and open for tourists. These were not "typical" of the majority of Delawareans' houses at any time in the state's history, but they were the standard with which every yeoman farmer sought to comply.

Instead, the "typical" site, or the one most "representative" of a particular population segment may prove to be a less substantial shelter. In order to identify lower-status individuals, particularly those who did not hold land by regular freehold, it is often necessary to go beyond a mere descent of title. These people may turn up in court, in the poor records, or as tenants mentioned in guardian accounts. Their houses frequently were modest, sometimes of log, sometimes even more ephemeral.

Probes into Orphans Court, property tax assessments, manumissions, and other personal records often are necessary in order to identify sites of lower-status individuals who existed on the perimeter of landowning society. In recent years, cultural resource management projects in Delaware have encompassed the kind of research necessary to flesh out the less-well-documented lower-status sites with sometimes surprising results.

HOUSES SPEAK ABOUT PEOPLE

Much ink has been spilled over the subject of "typical" or "folk" housing types in Delaware and elsewhere. Students of folk housing have attempted to identify "mental templates" or "standards" that can be interpreted as traits transmitted through the larger culture.

In Delaware, the "standard" ruling-class five-bay, center-hall house quickly became a "mental template" for "prosperous" housing. It became a standard to which upwardly mobile people aspired. In the McKee Road community (Heite and Blume 1995), poor smallholders built two-story, two-bay houses that repeated the features, if not the scale, of the model.

Delaware eighteenth-century rural society divided itself between people who lived in five-bay, two-story brick houses and those who could not. Today Duck Creek Hundred remains a rural neighborhood architecturally dominated by five-bay, two-story, brick houses, occupied in some cases by descendants of their builders.

Missing from today's landscape are the numerous small houses occupied by the majority of the people. The records are full of descriptions of log houses, eighteen feet square or smaller, frequently with wooden chimneys and unglazed windows (Herman 1992). Some families who occupied the less substantial houses were poor relatives of the ruling class. There was some mobility, but certain family names appear in the record as tenants, and seldom or never as landowners.

Downward mobility was more easily accomplished than upward mobility in a society where land ownership and literacy were keys to power. Delaware's inheritance laws required that each estate should be divided among the surviving children. Each land owner with children was faced with a need to obtain new land or to watch each succeeding generation subsist on smaller and smaller plots until, finally, the remaining plots were indivisibly small.

Once a family consciously or unconsciously adopted a strategy, its future mobility was inevitable. During the middle years of the eighteenth century, members of the Allee, Durham, Denney, and Handsor families were roughly equal in their landed wealth. A century later, the Allees and Denneys were still among the leading citizens, while the Handsors and Durhams were poor and illiterate, subsisting on small patches of inherited ground.

ASSIGNING RESPONSIBILITY

When a principal investigator is chosen for a cultural resource management job, he or she must develop a field strategy and a research design that will allow the sponsor to comply

with regulatory requirements, at the same time achieving professional objectives unrelated to the sponsor's main [usually engineering] purpose.

This project is a result of compliance requirements embedded in several federal laws. Stated bluntly, the objective of cultural resource managment is to comply with the law, and not necessarily to enhance the scholarly study of human history and archæology.

Because of this limited objective, the field of archæology conforms to performance measures not necessarily directed toward the accomplishment of research objectives.

"Compliance" archæology is the dominant employment for archæologists in America today, mostly as a result of Section 106 of the National Historic Preservation Act. This law and its associated regulations have established a national system of controls and standards in which archæologists work.

Some standards have nothing to do with archæology. Most are concerned with the regulatory aspects of the end product, inevitably a report or a determination of eligibility.

When the archæological profession turned from "pure" scholarship to regulatory activities, a traditional system of control was lost. Before the advent of regulatory archæology, quality was controlled by peer-reviewed journals and by academic committees, grant agency committees, and other bodies staffed by similarly-qualified scholars.

Traditional controls have been replaced by a structure of regulation that fulfills similar functions, albeit without parallel professional controls. Principal among these new controls are the state and federal manuals and guidelines.

Section 106 standards and guidelines define a minimum common level of quality among diverse practitioners. Sometimes the act of controlling practice becomes more significant than the original objective of the study itself.

There are two divergent approaches to controlling reliability in archæological site surveys: qualitative controls and quantitative controls. Both approaches seek to deal with the third mandate of the Secretary of the Interior's standards for identification: "Identification activities include explicit procedures for record-keeping and information distribution."

In its archæological guidelines, the Park Service defines constraints that must be considered in devising a field regimen to meet this standard:

> "Logistics in the field, including the deployment of personnel and materials and the execution of sampling strategies, should consider the site signifcance, anticipated location of most important data, cost effectiveness, potential time limitations and possible adverse environmental conditions." (*Federal Register* vol. 48, no. 190, 9/29/83, page 44736)

The purpose of control, at the state level, is to ensure that the survey activity is undertaken within these constraints. Control takes the form of a state survey manual, or a contract document, that prescribes procedures from either the quantitative or the qualitative point of view.

Quantitative controls seek to ensure quality by prescribing numeric dimensions of the testing activity, while qualitative controls seek to ensure the desired result by measuring the quality of completed work against defined standards. In a regulatory environment, research is not so much designed, as it is engineered.

MEASUREMENT AS CONTROL

In the quantitative approach, a certain number of test units are prescribed in a specific space. For example, a linear survey might be required to include one shovel test pit every fifty meters. Such arbitrary numerical controls are predicated on the theory that enough holes will produce at least a valid sample of the cultural materials, and that results can be improved by increasing the number of holes dug in a given area.

Such number-defined research designs are useful under two conditions, neither of which exist on this site. The first justification for such

an approach is to force results from less-skilled or less diligent field workers who may be unable or unwilling to seek out areas where sites might be expected. The second reason for deploying arbitrary arrays of tests is to develop the predictive models that will make such gridded, nonexclusive, testing obsolete (King 1984:87).

Some state preservation agencies have chosen to depend upon the quantitative approach to ensure minimally reliable results. However, no method of quantitative control can ensure quality. As quantitative controls have failed, new controls of the same type have been added, creating in some jurisdictions an environment of rigid quantitative control with no qualitative objectives whatever.

An extreme case, in the author's experience, occurred in another state, where the two fieldworkers were followed across a site by two state-employed inspectors with clipboards, who counted the number of test pits. Another state's preservation office declared that each shovel test pit was to be 50 centimeters square and no less than a meter deep, regardless of environment, site probability, or any other conditions.

When quantitative controls become rigid, they fail to fulfill the Secretary's third standard, quoted above.

CONTROLLING QUALITY

The qualitative approach to control, inherent in the federal standards, relies on the presumed ability of a professional to creatively employ accumulated insights and to adapt a research design for specific conditions of a particular site, anticipating site significance, location of most important data, cost effectiveness, and environmental conditions.

This approach begins with assurances that appropriately qualified individuals will be in control at all times, and that those individuals are capable of adapting and revising accepted techniques as necessary.

Conversely, the federal standard presumes that the state preservation staff will be qualified to interpret and understand the work of fully-qualified professionals. Without mutual professional respect on both sides of the process, the qualitative approach cannot succeed.

When the qualitative method of quality control is employed, one manages by specifying objectives, and not by prescribing methodologies. Methods might be abandoned or modified in the middle of a project, without adverse effect, if the objective of the research design is kept constantly in mind.

The federal guidelines are based upon the qualitative approach, requiring that each report conclude with evaluations of the methodology and the results.

THIS FIRM'S APPROACH

The archæological compliance industry has evolved along the two different lines as well. Some cultural-resource firms design their projects along quantitative models, employing large staffs to dig many holes. Their proposals typically involve large nonexclusive surveys and neatly spaced holes, regardless of environmental considerations.

The opposite organizational approach is to employ models, to shift or refine priorities in the field, and thereby to reduce the number of unproductive test holes. Such organizations employ relatively larger numbers of skilled personnel, and smaller field crews.

This second approach was employed at Bloomsbury, where a small crew is responsible directly to an on-site professional who is intimately familiar with the local archæological and physical environment. The research design was created with attention to existing models, and to the need for bias control that involves investigating at least some of the places where no resources were expected.

A key aspect of the firm's approach is reliance on advance preparation. Site history, environmental background, and other studies, typically are completed before the first fieldwork is undertaken. Because there is no operational

barrier between the skilled and unskilled personnel, there is no separate report-writing phase, and much of the report is, or should be, written before fieldwork begins.

Historical research is similarly divided between approaches. Some historians choose to approach local studies through an overview of aggregated statistics. This approach encourages the researcher to place sites and their occupants into pre-ordained types, and then to interpret the site in terms of these categories.

Others choose to begin from studies of particular subjects and draw conclusions only after characterizing the subject in some detail. This bottom-up approach to historical research requires that the investigator should first become intimately familiar with the history of the site and its social milieu.

This approach was chosen here. Studies began with propoerty history and worked upward to more general studies.

HYPOTHESES AND MODELS

A project team must choose, at the outset, an approach to survey that will yield the most results with the least expenditure. This choice is dictated not only by the site conditions, but by the training, equipment, and preferred working style of the principal investigator.

All site surveys can be categorized somewhere between two extremes: the purely intuitive and the purely formulaic. Neither extreme approach is entirely satisfactory. Intuitive surveyors will depend entirely upon their knowledge of a locality, finding sites in places where they "know" to look. Because they have found sites in specific settings, they repeat their success by going to similar settings to the exclusion of places where they do not expect to find sites.

Model-driven surveying is a refinement of the "intuitive" method, but with an important difference. Unless the surveyor's assumptions have been rigorously and independently tested, intuitive surveys run the risk of missing large categories of sites (King 1978:34).

This shortcoming of intuitive surveys was demonstrated recently in central Delaware, when surveys associated with the Route 1 Project discovered many Woodland-period sites in the wooded fringes of fields adjacent to waterways. This entire category of sites had been missed by fieldworkers who had diligently followed the accepted routine of investigating nearby plowed fields. Non-exclusive surveys discovered the sites because this technique forced investigators to test previously neglected places where no sites had been reported.

Non-exclusive survey also is less than satisfactory. A non-exclusive survey covers every part of the study area uniformly. Typically, this means laying out a grid and uncritically digging test holes at each grid intersection. The purpose of such blanket non-exclusive survey is not (or should not be) primarily to find sites, but to provide data for building a model. Non-exclusive surveys provide data equally for presence and for absence of resources, and constitute a tool for creating predictive models. Once a sufficient database has been accumulated in this manner, models can be developed and non-exclusive survey should be abandoned or severely abated (King 1978:37).

Non-exclusive surveys typically involve hundreds or thousands of regimented shovel test pits, which T. F. King (1978:52) describes as "a slow, expensive, frustrating, and often marginally effective way to locate archeological sites."

Delaware has fortunately transcended the need for massive non-exclusive blanket test arrays. Well-tested predictive models shorten the task of field identification. Fortunately for the weary fieldworker and the budget-conscious sponsor, there is unlikely to be any further need to locate sites in Delaware by digging huge grids of regularly-spaced shovel test pits. Today's Delaware survey archæologist can test selectively, using site-distribution information from earlier non-exclusive surveys. Much of this survey data has been provided by projects in the DelDOT program.

Any research design should include some examinations outside the highest-probability areas, if only to confirm one's presumption that nothing

Figure 7

Detail of Beers *Atlas*, 1868. Arrow indicates project area

is there. If a site should be found outside the area of high expectations, it does not necessarily disprove the model. Instead, studies of such anomalous locations merely contribute to our understanding of the model.

On the other hand, the soil map shows Mattapex and Matapeake soils near the branch, on slight rises flanking a now-ditched natural drain (Figure 4, page 11) at the south end of the property. Similar soil types have been used successfully in broad-area studies to predict site locations (Lukezic 1990). Just across the road, similar soil types on similar low elevations yielded abundant prehistoric and historic remains.

The applicable settlement model for the area at the head of Hawkey Branch, during prehistoric times could be summarized in terms of drainage and resources. Prehistoric people favored well-drained sites on slight elevations. Moisture-retaining soils, such as Othello, were not favored. Sandy soils were preferred over clay or silt soils. Slight elevations seemed always to be favored over low places or level ground. And sites tend to be found on the edge of some

resource-rich area, such as a marsh, a stream valley, or a small source of fresh water.

At the Hurd property, the predictions from different sources were not entirely congruent. Custer's probability survey (Figure 2) suggested a high likelihood of sites existing on the high ground at the northwest end of the property, while the area nearest to Hawkey Branch was assigned a low probability.

HISTORIC SETTLEMENT PATTERN

During the historic period, the settlement pattern is less distinct. The project site is inland from the coastal farmsteads that were located during the colonial period farther to the east. Early farmhouses were located closer to navigable water. As the road network developed, houses were built facing east-west roads that ran along the spines of the necks.

The Hurd property was owned for more than a century by people who lived in a house, still standing, that faces a road on the northeast corner of the property. There was therefore a low probability of finding a nineteenth-century site or a late eighteenth-century landowner's house.

Poor soil, isolated from the mainstream locations, frequently was occupied by marginal people. Poor tenants, minority squatters, manumitted slaves, and even runaways, made a living in the wilderness. These people are poorly documented, and their discovery always adds to our understanding of society.

Any domestic site on the property, from any period, would therefore be interesting and possibly significant.

FIELD AND LAB TECHNIQUES

In their work on the Brown property across Route 6, the UDCAR group identified prehistoric sites by sinking lines of test pits in a fallow field traversing slight rises in the Mattapex silty loam. This seems a reasonable approach, considering the large body of inhospitable Othello soil that covers most of the neighborhood.

The UDCAR party's findings confirmed the presumption that sites would be found on a few well-drained patches of soil. They were working under time constraints that forced them to select the most likely soil types, where the sites were found.

Instead of sinking test pits, the present researchers used cultivated swaths that effectively provided 50% coverage, including the Othello soils. Walkover survey provides a view of areas outside the places where the models suggest sites should occur, without the effort of sinking tests that are all but certain to be sterile.

Mr. Wayne Hurd, the last private owner, returned to the property to cultivate the site with a disk harrow on June 20. The machine cut a path 21 feet wide, opening the soil for inspection. A 50% sample was ensured by skipping every second swath across the field.

Where machine cultivation was impossible, shovel test pits were employed. These test pits were deployed along random lines across the wooded areas. Each pit was two shovel widths square, or roughly a half meter on a side. Generally the tests were sunk to natural subsoil, and the soil was sifted through quarter-inch hardware cloth.

Lines of shovel test pits are useful for mapping the internal organization of known sites or assessing relative artifact densities of areas within a study area. Even for this purpose, they are second-best choices, after cultivation and surface walkover.

Shovel tests were restricted to wooded areas and to the place proposed for a basin near Route 6. The area south of the house was fieldwalked.

Once an artifact concentration or feature was identified by shovel testing or fieldwalking, it was to be verified by digging a larger test. A test square provides a larger sample with which to interpret a site, and affords an opportunity to look at subsurface features. Favored sizes for such verification tests are meter squares and five-foot squares.

Plate 4
Volunteers

Kent County Archæological Society members on the site, November 1994.

EXPECTED PROPERTY TYPES

On the well-drained elevations along Hirons Branch to the south, small prehistoric procurement sites were expected. Deeply buried sites were not expected, since project-area soils formed on deposits that had achieved their present levels before humans arrived on the scene.

Rectangular forested patches along the west boundary needed explanation. Such formations typically indicate the presence of a house site, cemetery, or other historic activity area that cannot be cultivated. Sometimes, on the other hand, they simply indicate a place that is too wet to plow. In any case, they represent a culturally-defined space, and therefore need to be explained.

The project area soil was decidedly poor, and could be expected to support only marginal populations. Socially peripheral agriculture-related sites are a poorly understood property type. While a large proportion of the population lived on such properties, they are under-represented in the documentary record and in the standing structures listed in the cultural resource inventory.

If a site of this sort should possess even a minimal level of archæological integrity, it might be eligible because of its rarity, especially if it is tightly dated (De Cunzo and Catts 1990:194).

CEMETERY SENSITIVITY

From earliest settlement, rural Delawareans have buried their dead in both private and public cemeteries. Farm burial plots probably were the earliest interment sites, followed by churchyards.

Until 1774, the only public, nonsectarian cemeteries in Delaware were potter's fields. At that time, John and Philemon Dickinson created a cemetery in western Duck Creek Hundred, where no person could be excluded on account of sect. Large non-sectarian cemeteries would not appear in most areas until the middle of the nineteenth century.

Establishment of a neighborhood churchyard probably signals the end of new farm burial grounds in a particular locality, but established family plots continue to be used long after larger cemeteries are opened. Since there was a Methodist church nearby with a cemetery from the end of the eighteenth century, it is highly unlikely that family burial grounds would have been established after the Revolution.

Plate 5
Project area

View of the project area from the air, looking south; the site is indicated by the crossmark. The road follows the north line of Bloomsbury as it existed after Axell sold the north part. The rectangular yard in center foreground contains the farmyard, as established by Abraham Allee before 1857.