

## CHAPTER 2

### RESEARCH DESIGN AND METHODOLOGY

#### A. General Approach and Objectives

This report documents work undertaken at both the identification and evaluation survey level, and the partial treatment of one resource at the data recovery level. In the light of this complexity, this chapter presents a review of approaches taken, the previously available information, and the research framework for the project and its implementation at each level. This discussion is developed with reference to the framework for cultural resource management and preservation planning established by the State of Delaware. Guidance for implementation of cultural resource surveys and property treatment are presented in the *Guidelines for Architectural and Archaeological Surveys in Delaware* (Delaware State Historic Preservation Office, October 1993). Historic contexts and management policies have been presented in several documents. The prehistoric framework is set out in Custer 1983 (as modified by later publications). Historic resources were generally addressed in the *Delaware Comprehensive Historic Preservation Plan* (Ames et al. 1989), supported by the more detailed treatment of historic archaeological resources (De Cunzo and Catts 1990), and by comprehensive historic context studies (De Cunzo 1992).

#### **Phase I Archaeological Survey**

The Phase I studies described here were intended to establish the presence or absence of prehistoric and historic archaeological resources within the defined project area as described in Chapter 1. Background research and preliminary examination of the project area were intended to establish the types of resources which would most likely be present, and therefore to guide the detailed field testing. Testing strategy was developed to integrate an ideal sampling program with limitations imposed by ground conditions and by the necessarily specific constraints of the proposed highway undertaking and area of potential effect. It was intended that areas devoid of resources, and resources clearly lacking in integrity sufficient for consideration in the National Register of Historic Places, would be clearly identified in this phase of work.

#### **Phase II Intensive Survey**

Phase II survey was a more intensive study of identified resources, of which four (two historic and two prehistoric) were recognized at the Phase I level. The extensive Puncheon Run Prehistoric Site on the west side of the St. Jones River [7K-C-51] was subdivided into several activity areas or loci which were examined individually. Phase II studies are specifically focussed on establishing the significance of identified resources. Central to this objective is the assessment of the integrity of the resource, which in archaeological terms normally implies detailed examination of the stratigraphic coherence of the site in order to establish whether the patterning which is the signature of the original use of the site is likely to remain in the ground. Closely

linked with this is the need to establish the vertical and horizontal limits of the site, in order to ensure that all components of the property are included in the assessment. Such boundary definition is also a requirement of National Register of Historic Places documentation.

The Delaware Comprehensive Historic Preservation Plan and historic context documents provide a general framework within which significance and National Register eligibility can be evaluated. Although archaeological properties are most commonly evaluated under Criterion D as sites “that have yielded, or may be likely to yield information important in prehistory or history”, the use and development of historic contexts can encourage consideration of the applicability of other criteria. The complex prehistoric sites of mid-drainage Delaware, with their still-controversial “pit-house” features (discussed at length in this report) could, for example, be considered for eligibility under both Criterion A and Criterion C. Development of more specific regional and/or chronological historic contexts is encouraged under both state and federal guidelines.

### **Archaeological Data Recovery (First Phase)**

This report also contains a description of data recovery performed on a portion of the Hickory Bluff Site [7K-C-411] affected by the construction of drainage infrastructure which was to be installed in advance of the main highway construction. Phase II investigations of this site established its eligibility within the framework of mid-drainage prehistoric settlement in the late Woodland I and Woodland II periods. Of particular significance here was the site’s ability to contribute to the ongoing study of the function and meaning of the set of repeatedly recognized archaeological attributes designated by the shorthand term “pit-houses.” These features, the main component of which is a distinctively-shaped pit or excavation into the subsoil, have been found at a number of locations in Delaware. Debate continues as to their cultural or natural origin, although they are clearly found in the same locations as archaeological material. The density of these features at the Hickory Bluff Site, their stratigraphic integrity, and the rich artifact assemblage in and around them indicated that an appropriately structured research design could hope to resolve the cultural/natural debate, as well as place them more precisely within an environmental, chronological and cultural context. The constraints imposed by the small area of adverse effect limited the scope of what could be achieved at this stage, and so the research design sought to generate data which could be further tested over a wider area of the site once construction limits had been established.

## **B. Previous Research and Sources of Information**

### **Prehistoric Resources**

The Hickory Bluff and Puncheon Run prehistoric sites lie within a region which has been the subject of much detailed archaeological survey and synthesis in recent years. The references cited at the end of this report detail much of this work, the highlights of which are outlined here. Prominent among the synthetic publications are the various studies by Dr. Jay Custer and the

University of Delaware Center for Archaeological Research (Custer 1983, 1984, 1989, 1994; Custer et al. 1996). These publications, together with pertinent studies of adjacent regions (e.g., Custer 1989; and Custer 1994), comprise a detailed and necessarily evolving framework and context within which specific site investigations can be placed. The design and construction of Delaware State Route 1 has resulted in archaeological excavations and studies on a considerable scale. The general environmental background has been previously addressed (Custer and Galasso 1983; Kellogg and Custer 1994, while investigations at the Snapp [7NC-G-101], Leipsic [7K-C-194A], Pollack [7K-C-203], Carey [7K-D-3] and Island Farm [7K-C-13] sites have provided a wealth of comparative data on site location, morphology and affiliation in adjacent mid-drainage locations (Custer and Silber 1995; Custer et al. 1995a, 1995b, 1996).

## **Historic Resources**

The general framework for historical archaeology in Delaware has been established in the *Delaware Comprehensive Historic Preservation Plan* (Ames et al. 1989) and elaborated on in the *Management Plan for Delaware's Historical Archaeological Resources* (De Cunzo and Catts 1990). The earlier study defined a series of five chronological periods and broad themes, in each of which up to 18 historic themes could be considered (Ames et al. 1989:Figure 1). This study also provides a comprehensive list of property types associated with the themes. De Cunzo and Catts refined this structure by introducing the concept of four broad "research themes" to which some or all of the historic themes may be related.

A well-known body of secondary source material (e.g., Scharf 1888; Bevan and Williams 1929) and historic maps (e.g., Byles 1859; Beers 1868) was available at the commencement of the study. Studies of particular resources (e.g., Michel 1984, 1985) and period themes (De Cunzo 1992) also provided useful comparative material and approaches. Prior to the commencement of Phase I studies, however, little historical or archaeological work had been undertaken in the immediate project vicinity, except for a handful of cultural resource studies, none of which had specifically identified potentially significant archaeological resources within the study corridor (Custer et al. 1986a; Heite and Heite 1986; Grettler et al. 1991; Heite and Blume 1992; Riley et al. 1994; Heite Consulting 1995; Jamison et al. 1995).

## **C. Research Framework and Implementation: Prehistoric Resources**

### **Phase I**

Review of the comparative material from adjacent areas and similar topographic settings indicated that there was a high probability that prehistoric resources would be present on the well-drained bluffs adjacent to the St. Jones River and to its tributary, Puncheon Run. Sites in these locations have typically been found to date to the later phases of the Woodland I period and to the Woodland II period, although the possibility of locating earlier material was not excluded. Work at a number of nearby sites (referenced above) had demonstrated that complex features and stratigraphy could be expected in these locations.

The main objective of the Phase I studies was therefore to confirm the presence of the previously identified Puncheon Run Site [7K-C-51] and to examine the bluffs on the opposite (east) side of the St. Jones River for prehistoric activity. It was intended to establish the extent and potential eligibility of any resources, and in particular to relate the data to regional concerns and priorities, especially those arising from other work along the nearby State Route 1 corridor. Woodland I period resources are of particular interest within the region since some sites not only show signs of social complexity and associations with the Adena complex of the Ohio Valley, but also have the ability to document complex cultural responses to regional environmental change. The presence of Late Archaic and Woodland II materials at these sites would also enable the Woodland I material to be studied within a broader cultural and environmental continuum.

Given the extensive nature of the project corridor and the high archaeological potential of a high percentage of the area of potential effect it was determined that a systematic program of testing would be implemented to cover as much of the area as possible. Standard spacings of 30 meters (100 feet) and 15 meters (50 feet) between tests was adopted on the Puncheon Run (west) side of the St. Jones River, with closer interval testing, typically 7.5 meters (25 feet) being used in areas where the presence of artifacts and/or cultural stratigraphy suggested the location of loci of activity. On the east side of the St. Jones River, where the Hickory Bluff Prehistoric Site was identified, a series of transects 40 meters (130 feet) apart were laid out, and testing undertaken at 40- and 20-meter (66-foot) intervals, the closer spacing being employed nearer to the bluff edge. Tests were augmented by the excavation of one-meter (3.2-foot) square test units (see below, Figures 7.2, 7.4, 7.6, 7.10 and 8.1).

## **Phase II**

The major focus of the Phase II studies was on the delineation and characterization of the numerous identified pit features and in establishing their relationship to the site stratigraphy and to each other. A close integration of archaeological and geomorphological investigations was also built in to the research design for the two principal prehistoric sites on the two sides of the St. Jones River. As with the Phase I survey, a combination of shovel test pits and one-meter (3.2-foot) square excavation units was employed. At specific locations several excavation units were excavated in blocks to expose portions of pit features. Split-spoon augering was also conducted to search for soil anomalies which might indicate the presence of additional subsoil features. Excavation units were also selectively placed to sample areas of both high and low artifact density across the site and areas where subsoil features were suspected.

Geomorphological investigations were undertaken on both sides of the St Jones River in association with the Phase II studies. These investigations were designed to inspect surface landforms and excavation unit profiles in order to refine understanding of the depositional sequence, and to identify preserved paleosols which would increase the information potential of

the site. Efforts were made to establish direct associations between the paleosol and prehistoric occupation, and soil-sediment specimens were taken for radiometric (carbon-14) dating purposes to index the soil association with the prehistoric materials.

### **Data Recovery (First Phase)**

Although the data recovery reported on here was limited in scale, considerable effort was concurrently expended in refining the research background relating to the Woodland I and Woodland II manifestations in the region, with particular reference to the “pit-house” controversy. The traditional tripartite division of the Woodland into Early, Middle and Late spans more than two millennia, from 3000 B.P. to 500 B.P. Custer, in various books and papers, has proposed a different cultural framework. Late Archaic occupations are combined with Early and Middle Woodland ones into a Woodland I phase which commences *circa* 5000 B.P. The Late Woodland is designated as Woodland II, and emerges *circa* 1000 B.P. This revised framework is based upon archaeologically-perceived cultural changes within the Delmarva Coastal Plain, and is adopted throughout this report.

The primary cultural elements which define the human adaptations in the Woodland of central Delaware are defined as follows:

- apparent emergence of a more sedentary settlement system, possible associated with the construction of “pit houses”
- evident population increase
- manifestations of social complexity/stratification, followed by collapse of trade networks and lack of evidence for social complexity
- consistent occupation of relatively small base camps
- relatively consistent subsistence base with very limited use of cultigens

The broad objective of the initial data recovery at the Hickory Bluff Prehistoric Site was to contribute to these broad themes by addressing a number of site-specific issues.

An initial task was to further define the nature of site formation processes through archaeological studies. This was already accomplished to a limited extent through the geoarchaeological investigation performed as part of the Phase I and II surveys of the site. Further work of this type was to be more archaeologically based, concentrating on the visual identification of paleosols and stratigraphic relationships between pit features, building on experience gained at the Phase I and

Phase II levels. Stratigraphic relationships and the recovery of samples suitable for radiometric dating were also considered extremely important as contributing to the refinement of the chronology of the Woodland occupation.

It was hoped that attempts to assign features and stratigraphic deposits to successive time periods would prove fruitful. It was considered that it might be possible to examine the rate of population increase or at least population density throughout the Woodland period, although the sample size in the initial data recovery would probably be too small for definite conclusions to be drawn. Consistent numbers of features through time would suggest little or no increase in population density. A gradual increase would indicate increased need for storage capacity, and perhaps suggest that population increase may have preceded more sedentary occupation. A dramatic increase in the number of features and occupation deposits would indicate an associated pronounced need for storage capacity, and possibly suggest that population increases followed sedentary occupations. The relative sizes of occupation areas have important implications for critical examination of the suggestion that the neighboring mortuary complexes were supported by relatively small groups.

The extent to which the population remained mobile at least for a portion of the annual cycle represents an important but probably very challenging question. Faunal preservation in the highly acidic soils was anticipated to be poor outside of the microenvironments of a certain number of features, and the probable paucity of faunal data suggests that reconstructions of seasonality and of certain elements of the subsistence system will be difficult. Again, the limited size of the initial data recovery sample was predicted to restrict the extent to which this issue could be fully addressed.

As lithic artifacts were known to be preserved, detailed raw material and technological analyses were expected to provide some indication of group mobility, at least in a relative sense within the Woodland and in comparison with earlier Archaic occupations. The extent to which non-local raw materials are utilized, and the technological stage at which those materials are introduced, provides a primary means of considering the question of technological organization (Morrow and Jefferies 1989). Lurie (1989), for example, argues that sedentary societies expend more effort in tool production since such populations are generally larger, giving rise to greater social complexity and perhaps a need to encode social information in lithic tools. Jochim (1989) draws a distinction between Mesolithic populations with more regular lithic assemblages on a restricted range of lithic materials, interpreted as more sedentary, compared with presumably mobile groups with smaller, irregular flakes made on a wider range of materials. These arguments should not be accepted without question, but do serve to indicate that the lithic component may provide behavioral and organizational insights beyond functional ones (as evident in microwear characteristics, etc.). One complicating factor during the Woodland I period is the appearance of long-distance materials presumably acquired by relatively sedentary populations through trade or exchange networks.

The evidence of social complexity in mortuary practices suggests that similar indications should be sought within the domestic occupations of contemporary groups. Such indications may be found in the differential distribution of Adena-related material culture or other non-local materials, in an increase in the storage facilities associated with a given domestic unit relative to other contemporaneous units, and in the differential distribution of domestic units. Current excavation data from the Hickory Bluff Prehistoric Site suggest that features are more densely concentrated near the St. Jones River, and decrease in frequency as one moves eastward away from the river. The initial data recovery was designed to further test this hypothesis and to determine whether this distribution, if confirmed, relates to increasing settlement size through time, functional distinctions, shifts in population loci through time, differential domestic distributions among contemporary groups or other explanations. Clear distinctions between the proposed explanations may not be apparent, but these questions are important and must be addressed, if not resolved.

Foremost among the site-specific research questions is the issue of the interpretation of the "cut" features which proliferate at the Hickory Bluff Prehistoric Site and which have been provisionally treated as "pit houses". Numerous variants of these purported semi-subterranean structures have been documented in recent UDCAR investigations directed by Jay Custer, but their archaeological and cultural (as opposed to natural) basis is by no means universally accepted at this point. Since this issue is currently the subject of considerable debate within the archaeological community and colors much of the broader interpretive work on the prehistory of the Delmarva peninsula, further discussion of this issue is offered below in a brief preamble to the summary of site-specific research questions. It should be noted that the most recent geoarchaeological work at the Hickory Bluff Prehistoric Site tends to support a cultural origin for a number of the features here.

Broader research questions of regional importance that may be addressed at the Hickory Bluff Prehistoric Site can be keyed conveniently to the issues identified in the Management Plan for Delaware's Prehistoric Cultural Resources (Custer 1983) and Custer's report "Stability, Storage, and Culture Change in Prehistoric Delaware: The Woodland I Period (3,000 B.C.-A.D. 1000)" (1994). Although somewhat dependent on a clear resolution of the "pit house" issue, the Hickory Bluff Prehistoric Site has the ability to contribute significantly to demographic and socio-political interpretations of Delaware prehistory, and, with its deep stratigraphy, may allow for chronological consideration of population levels and site usage.

A number of Woodland I period sites have been excavated in recent years on the Delmarva peninsula and these supply a useful context within which to study the Hickory Bluff Site. A series of four sites has been studied in detail by UDCAR -- the Pollack Site [7K-C-203] (Custer et al. 1995a), the Snapp Farm Site [7NC-G-101] (Custer and Silber 1995), the Leipsic Site [7K-C-194A] (Custer et al. 1995b) and the Carey Farm Site [7K-D-3] (Custer et al. 1996). All four of these sites were investigated using a similar field strategy of Phase I shovel testing, Phase II unit excavation (from which a 1% sifted sample of the site was derived), and Phase III data recovery involving mechanical removal of the plowzone followed by flat-blade shoveling, excavation or sampling of features, and limited open area (block) excavation in areas of well-preserved soils. At all four of these sites, this approach resulted in the identification of cut features that UDCAR

has interpreted as pit houses. In some instances, as shown by examples at the Snapp Farm Site and the Leipsic Site, these features appear indubitably cultural and are accompanied by postmolds or concentrations of artifacts, but in most cases, they are less distinct, contain few, if any, cultural materials or evidence of posts, and display minimal internal stratification. Nevertheless, the many hundreds of these features identified at the Pollack and Carey Farm Sites have been characterized by UDCAR as pit houses and have been used as a basis for estimating demographic and settlement-subsistence patterns (Custer 1994).

Other key excavated Woodland I period sites in the region that are relevant to the Hickory Bluff Prehistoric Site investigations include the Island Field Site (Griffith and Artusy 1975), the Delaware Park Site [7NC-E-41] (Thomas 1981), the Hollingsworth Farm Site in Cecil County, Maryland (Thomas and Payne 1981) and the Charles Robinson Plantation near Odessa, New Castle County, Delaware (Mid-Atlantic Archaeological Research Associates, Inc. 1994). The Island Field Site yielded unequivocal evidence of a pit house-like feature containing a burial. Excavations at the Delaware Park Site identified more than 200 subsurface features, most of which were interpreted as storage pits, but four so-called "Type B" features were noted as possible semi-subterranean structures. One of the latter contained postmolds and a hearth. In contrast, the possibility has been raised by Ronald Thomas and others that the numerous pit-like features identified at the Hollingsworth Farm Site and the Charles Robinson Plantation may be natural rather than cultural in origin, and could be the result of tree falls.

One additional Woodland I period resource that has been recently examined, and which is especially relevant to the Hickory Bluff Prehistoric Site data recovery plan, is the Gabor Site in New Castle County, Delaware. This site was investigated to the Phase II level by UDCAR and evidence was found for three subsurface features that were thought to be pit houses, one of which was fully excavated and produced a biface, a flake tool, lithic debitage and two apparent postmolds. Subsequent excavations by the Rutgers University Center for Public Archaeology resulted in a number of other shallow pit-like features being identified with the preliminary conclusion being drawn that these are probably naturally formed, most likely from the upward ripping and gouging motion of tree falls.

Currently, the excavation and interpretation of pit-like features on Woodland I period sites in the Delmarva peninsula is the subject of ongoing scholarly debate. It should be admitted that the jury is still out on the issue of whether many of the pit-like features being found at sites in central Delaware are indeed cultural and represent the remains of semi-subterranean structures, or whether they are merely the result of something as mundane as tree falls occurring in locations that have also been subject to periodic Native American occupation. In any event, the features are often difficult to recognize in the field, since they seldom have visually distinctive soils, and the frequency and type of cultural materials found within them varies considerably. While it is certainly true that some of the features can be convincingly presented as pit houses, the majority are without telltale attributes such as postmolds, hearths, well-developed cultural stratification and

substantial quantities of artifacts. There are hints that this variability might have a chronological and typological explanation, with Woodland II pit features lacking the more distinctive cultural characteristics of earlier pit houses.

If most of these less distinct pit-like features are indeed cultural and represent the remains of semi-subterranean structures, major questions still need to be answered regarding their function, mode of construction, use and abandonment. The paucity of associated postmolds and hearths, the inconsistency of the artifact yields, and the limited patterning in the form and orientation of these features are all somewhat troubling. Are there other tenable cultural explanations for these features? Alternatively, if many of these pit-like features are natural, their origin needs to be clearly demonstrated. Are they in fact tree falls, or could other geomorphic or pedologic processes be at work? Furthermore, if these features are naturally formed, their coincidence with sites of cultural activity (and apparent absence elsewhere) needs to be adequately explained, as do the cultural materials frequently contained within their soils. A multitude of other questions and hypotheses may also be raised. Is it possible that these features are tree falls that have seen opportunistic usage as shelters by Native Americans? Why have similar features not been recognized elsewhere in the Mid-Atlantic region -- for example, in Coastal Plain settings on Long Island, in New Jersey, and further south along the eastern seaboard? Is there a danger that the restricted number of archaeologists hitherto engaged in the debate is causing important perspectives to be overlooked? Should a more active effort be made to engage the wider archaeological community in this debate to ensure that all possible explanations are fully explored?

What the pit feature debate requires at this juncture is an infusion of new information from carefully directed excavation of key sites that offer the potential for real pedological and archaeological explanation of the issues at hand. The Hickory Bluff Prehistoric Site offers just this opportunity for integrated paleoenvironmental and archaeological investigation. In addition to the fact that the site contains multiple pit-like features (some of which certainly appear to be anthropogenic, if not of manmade origin), these features are distributed within a substantial soil profile, up to 0.75 meters in depth, where both vertical and horizontal relationships can be examined in detail. While much of the site has seen agricultural usage and is overlain by a well-defined plowzone, there is a major section, close to the terrace edge overlooking the St. Jones River, that appears never to have been plowed. Investigation of these features can therefore also take place in the context of a plowed and unplowed upper soil horizon. In summary, the deep cultural stratigraphy and abundance of features at the Hickory Bluff Prehistoric Site can supply the basis for the integrated diachronic and spatial study of cultural and paleoenvironmental data relating to the "pit house" debate.

The limited data recovery at the Hickory Bluff site was set within the wider research objectives outlined above, with the appreciation that many of the issues could not be satisfactorily addressed at the scale of this program. An emphasis was therefore placed on refining such issues as spatial and stratigraphic relationships and on the best methodology for identifying and excavating these sites. For example, the use of split-spoon augering to identify and delineate the pit fills in the Phase II tests could be investigated further in this area because of the more extensive excavation

and the monitoring of subsequent contractor's soil stripping and consequent exposure of features. This strategy was designed to use the construction of the drainage ditch as an opportunity to both establish methodology and to obtain specific spatial data which could be integrated into larger scale data recovery operations for the remainder of the project area.

Data recovery initially centered on a program of systematic sampling (using a split-spoon auger and one-meter [3.2-foot] square excavation units) and was subsequently expanded to include open area excavation of selected features. Using a sampling approach similar to that developed by the University of Delaware Center for Archaeological Research (UDCAR) on other Woodland I period sites along the St. Jones River, initial excavation units were located on a ten-meter (32-foot) grid, while split-spoon augering was conducted on a two-meter (6.4-foot) grid which was tightened up to a one-meter (3.2-foot) spacing whenever a soil anomaly or probable feature was encountered.

Following completion of the sampling an additional 75 one-meter (3.2-foot) square excavation units were placed in areas considered likely to yield important information. This procedure resulted in the location of nine pit-like features. The plowzone was then mechanically removed from the drainage ditch corridor under archaeological supervision. Archaeological monitoring of this activity resulted in the identification of a further 72 pit features within an 18 x 120-meter area within the drainage ditch corridor. An additional 15 possible pit features were projected within inaccessible, unexamined portions of this area.

#### **D. Research Framework and Implementation: Historic Resources**

##### **Phase I**

The Phase I studies commenced with general expectations of historic site occurrence within this topographic setting. The well-drained productive soils close to the head of tide on the St Jones River were considered to be attractive to early European (in this instance, chiefly Anglo-American) settlement. Sites contributing to the *Exploration and Frontier Settlement 1630-1730* and *Intensification and Durable Settlement 1730-1770* themes were therefore predicted (De Cunzo and Catts 1990). Types of properties anticipated were farms, landings, and mill sites processing either timber or agricultural produce. Historical research (e.g., Byles 1859; Scharf 1888; Beers 1868) at this phase did not suggest the presence of many later 19th-century sites in the project area, implying that earlier sites located in the survey would show early abandonment and potentially high integrity as a consequence. Field inspection of the project area formed an important component of the historic survey, and the prehistoric testing program was modified where appropriate to examine surface anomalies thought to relate to historic resources. At the Dawson House shovel tests were placed at 15-meter (50-foot) and 7.5-meter (25-foot) intervals, while at the Nixon Mill Site investigation concentrated chiefly on surface survey of earthwork features beyond the project corridor limits.

## Phase II

The Phase I survey identified two potentially eligible historical archaeological resources: the Dawson House Site [7K-C-414] and the Nixon Mill Site [7K-C-413]. Historical research at the Phase II level was designed to establish the history of the properties on which these resources were located, to determine the dates of occupation and operation of the properties, and to place them within the local social and economic context. Deeds, surrogates records and other primary documentation were researched to achieve these objectives, supplemented by additional secondary research.

The Dawson House Site was determined from documentary study to be a somewhat short-lived plantation occupied in the period *circa* 1740-1780. A maltouse dating from this period was anticipated as being of particular interest, if it could be identified archaeologically. This chronology was supported by evidence from a program of archaeological testing designed to locate primary and secondary structures at the site. Research orientation therefore concentrated on the *Intensified and Durable Occupation 1730-1770* theme. It was felt that the site would most likely yield information relating to Domestic Economy (Agriculture; Settlement Patterns and Demographic Change; Architecture), with the possibility of other data on Landscape (the same themes as Domestic Economy) and Social Group Identity, Behavior and Interaction (Settlement Patterns and Demographic Change). Key site-specific research questions were identified as follows:

1. Why was the site established and abandoned? Is this typical of sites in this region and location?
2. Was there specialized crop production at the site (e.g., tobacco, grain crops from which malt could be derived)? Does the answer to this question throw light on question 1?
3. Could the documentary evidence for malt production at the site be recognized archaeologically?
4. Could the architecture of the house foundation, if it survives, indicate a specific vernacular tradition?

The Nixon Mill Site [7K-C-413] was identified during the Phase I survey through surface inspection of the floodplain of Puncheon Run immediately adjacent to the project limits. Documentary study revealed that this mill seat was established for fulling purposes in the third quarter of the 18th century, was possibly converted to a sawmill in the early 19th century. It was apparently abandoned by 1816. This site was therefore considered to have the potential to contribute to the Early Industrialization 1770-1830 theme. As detailed in Chapters 5 and 11 below, the presence of this specialized cloth-processing facility in this area, as well as its possible

subsequent conversion to lumber processing, raises a number of questions about the agrarian economy of the area and local textile production in the late 1700s. Archaeological investigations were deliberately limited since the core of the mill site lay outside the project corridor and no subsurface investigation was undertaken. Fieldwork concentrated primarily on interpreting the visible surface remains with a view to reconstructing the layout of the mill complex and its hydropower system.