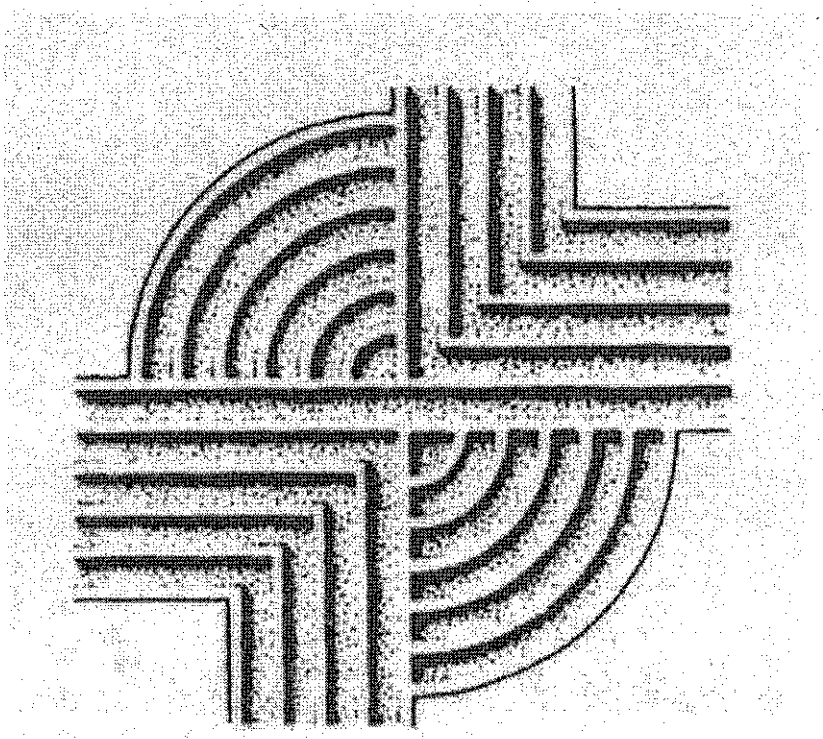
CULTURAL RESOURCES SURVEY OF THE EASTOVER 115kV SUBSTATION LOT, RICHLAND COUNTY, SOUTH CAROLINA



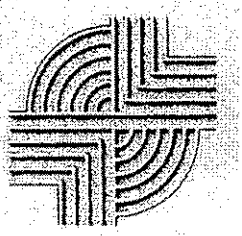
CHICORA RESEARCH CONTRIBUTION 315

CULTURAL RESOURCES SURVEY OF THE EASTOVER 115kV SUBSTATION LOT, RICHLAND COUNTY, SOUTH CAROLINA

Prepared By:
Michael Trinkley, Ph.D.

Prepared For:
Mr. Tommy Jackson
Central Electric Power Cooperative, Inc.
PO Box1455
Columbia, South Carolina 29202

CHICORA RESEARCH CONTRIBUTION 315



Chicora Foundation, Inc.
PO Box 8664
Columbia, SC 29202-8664
803/787-6910
Email: chicora@bellsouth.net
www.chicora.org

January 12, 2001

ABSTRACT

This report provides the results of a cultural resources investigation of the new Eastover 115kV substation lot, situated in southern Richland County, about 21 miles southeast of Columbia. The study was conducted by Dr. Michael Trinkley of Chicora Foundation for the Central Electric Power Cooperative and is in anticipation of the construction of a new substation lot adjacent to the existing Eastover facility. The work is intended to assist the Central Electric comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

Settlement in the region began shortly after the Yemassee War and was escalated by the 1747 Cherokee cession. By the 1770s there were a number of farms in the region. In the nineteenth century large plantations were present, largely growing cotton and subsistence crops that were shipped by river to Charleston. By the twentieth century the area was dominated by tenant farms.

Although the McEntire Air National Guard base is situated north of the project, much of area remains rural in character. As a result the area of potential effects (APE) was defined as 1.0 mile. Examination of the S.C. Department of Archives and History GIS database failed to identify any National Register sites within the APE. Examination of the topographic maps generated by the 1993 Richland County architectural survey also failed to identify any structures recorded in the immediate area. The closest archaeological sites is 38RD79, located just southeast of Weston's Pond, about 1.5 miles to the northwest.

The architectural survey consisted of driving public roads within the APE looking for any structures at least 50 years old which retain integrity. One structure, Whitehall, was identified, but we were not given access to the property. Consequently, we cannot offer a recommendation concerning eligibility. Regardless, it is nearly a mile from the proposed substation lot and will not be affected by the project.

The archaeological survey consisted of shovel testing at 50 foot intervals along transects laid out at 100 foot intervals through the tract, which had been cleared. A total of 18 shovel tests were excavated on the 1.60 acre tract. No archaeological sites were identified.

It is possible that archaeological remains may be encountered in the project area during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office or to Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

TABLE OF CONTENTS

List of Figures iv

Introduction 1
- *Project Background* 1
- *Physiography and Geology* 4
- *Climate* 5
- *Floristics* 5

Prehistoric and Historic Synopsis 7
- *Prehistoric Overview* 7
- *Historical Synopsis* 13

Methods and Findings 19
- *Archaeological Field Methods* 19
- *Architectural Survey* 20

Conclusions 23

Sources Cited 25

LIST OF FIGURES

Figure

1.	Location of the project in Richland County	2
2.	Survey tract	3
3.	Proposed new substation lot	4
4.	Substation lot showing ground conditions	5
5.	Generalized cultural sequence for South Carolina	12
6.	Portion of Mills' *Atlas* showing the project area in 1826	18
7.	White and black population change in Richland County	19
8.	Portion of the 1897 Braswell map of Richland County	15
9.	Portion of the 1939 General Highway and Transportation Map for Richland County	16
10.	Proposed substation lot showing the layout of shovel test transects	19
11.	Shovel testing in the substation lot	20
12.	Location of Whitehall	20

INTRODUCTION

Project Background

The investigation of the proposed 1.6 acre Eastover 115kV substation lot was conducted by Dr. Michael Trinkley of Chicora Foundation, Inc. for Mr. Tommy Jackson of Central Electric Power Cooperative. The field crew included Mr. Tom Covington and Ms. Nicole Southerland.

The substation lot is situated in southern Richland County, about 21 miles southeast of Columbia south of S-67 and just west of S-1322 (Figure 1). This particular area of Richland County has historically been rural and devoted almost exclusively to agriculture. Today the are is largely wooded with small clusters of trailers and other dwellings. This work was conducted to assist Central Electric Power Cooperative comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The tract is rectangular, measuring about 350 by 200 feet (for a total of about 1.6 acres). The substation lot is situated immediately west of the existing substation, with an existing overhead transmission line forming the southern boundary. The existing substation is fronted by Whistle Top Road (S-1322) (Figure 2). At the time of this survey the substation lot had been cleared and visibility was near 100%. A fence had been erected around the new substation lot (Figure 3).

Chicora was requested to survey the substation by Central Electric Power Cooperative on December 27, 2000. The field investigations were conducted on January 17, 2001 and required 3 person hours. The architectural survey was conducted at that same time and required an additional 4 person hours.

Although there is some mixed commercial/industrial development taking place in the project area, much of the vicinity retains a rural character. As a result, we have defined the area of potential effect (APE) for this project to be 1.0 mile. Nevertheless, it is unlikely that the proposed substation will introduce "visual, audible, or atmospheric elements" even within this one-mile radius, given that it is flanked by an existing substation lot to the east. The new substation is not likely to introduce any effects which are not already present from the existing substation.

The statewide archaeological site files held by the South Carolina Institute of Archaeology and Anthropology were examined by Mr. Tom Covington for information pertinent to the project area. Although there were a number of archaeological sites in the general area, the closest (38RD79) is situated about 1.5 miles to the northwest, in the vicinity of Weston's Pond. The site, a scatter of prehistoric pottery, is found on a level area adjacent to Tom's Creek — a setting somewhat similar to the current project area.

In addition, the South Carolina Department of Archives and History GIS database was reviewed. There are no National Register of Historic Places buildings, districts, structures, sites, or objects on or within a mile of the project area. The GIS database does not include the Lower Richland County comprehensive architectural survey conducted in 1993 and it was necessary to pull the hard copy maps generated by this survey. We identified no recorded architectural sites within a mile of the substation tract.

We anticipate that the development will involve extensive clearing and grubbing, various soil preparation activities, heavy equipment stagging and movement, perhaps a temporary increase in traffic on S-1322 or other nearby roads, the potential for increased dust levels during construction, and increased noise levels for short durations associated with the various construction activities. Again, these impacts will be short-term. We do not anticipate any long-term consequences which are not already evident based on the existing substation.

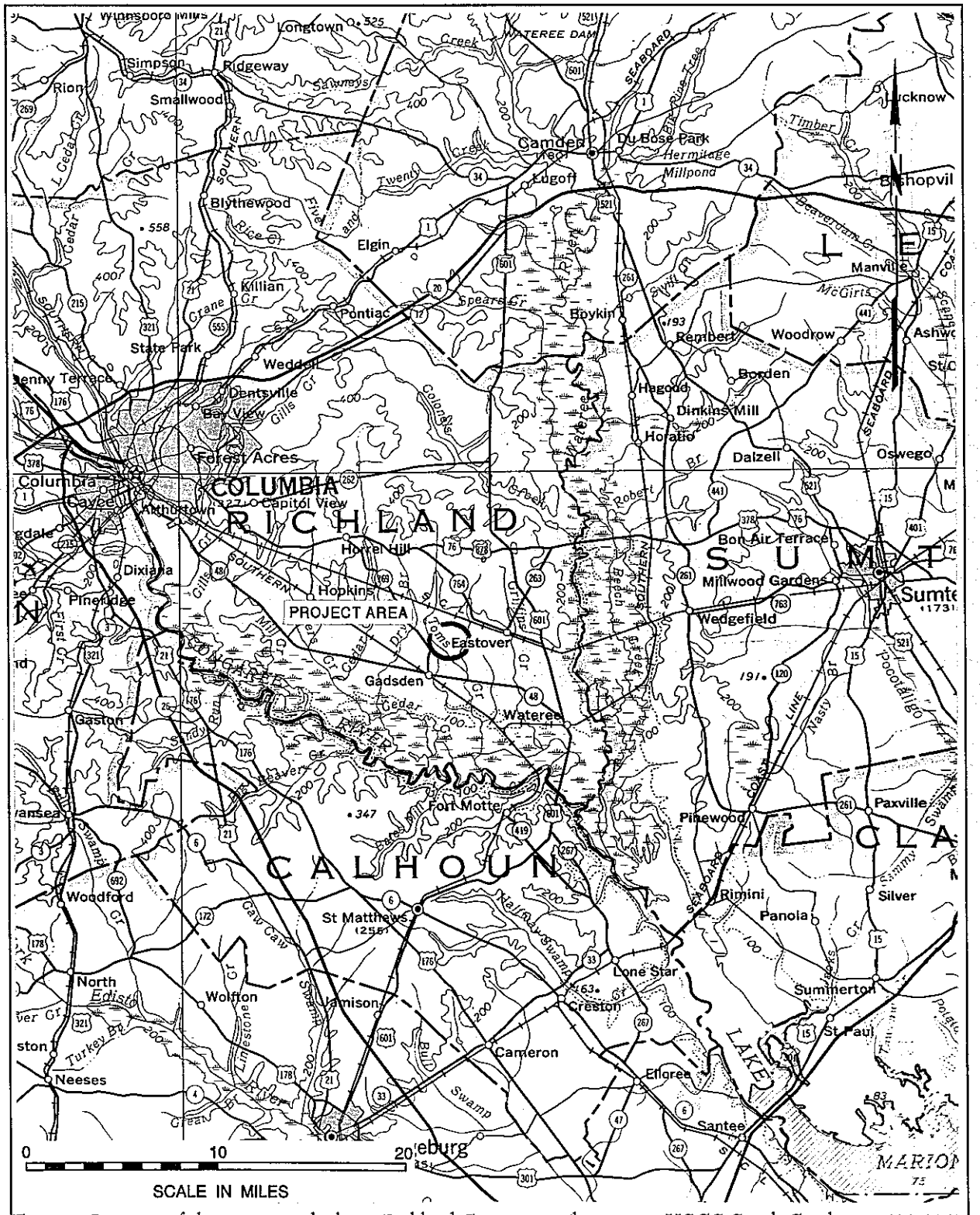


Figure 1. Location of the project in the lower Richland County area (basemap is USGS South Carolina 1:500,000).

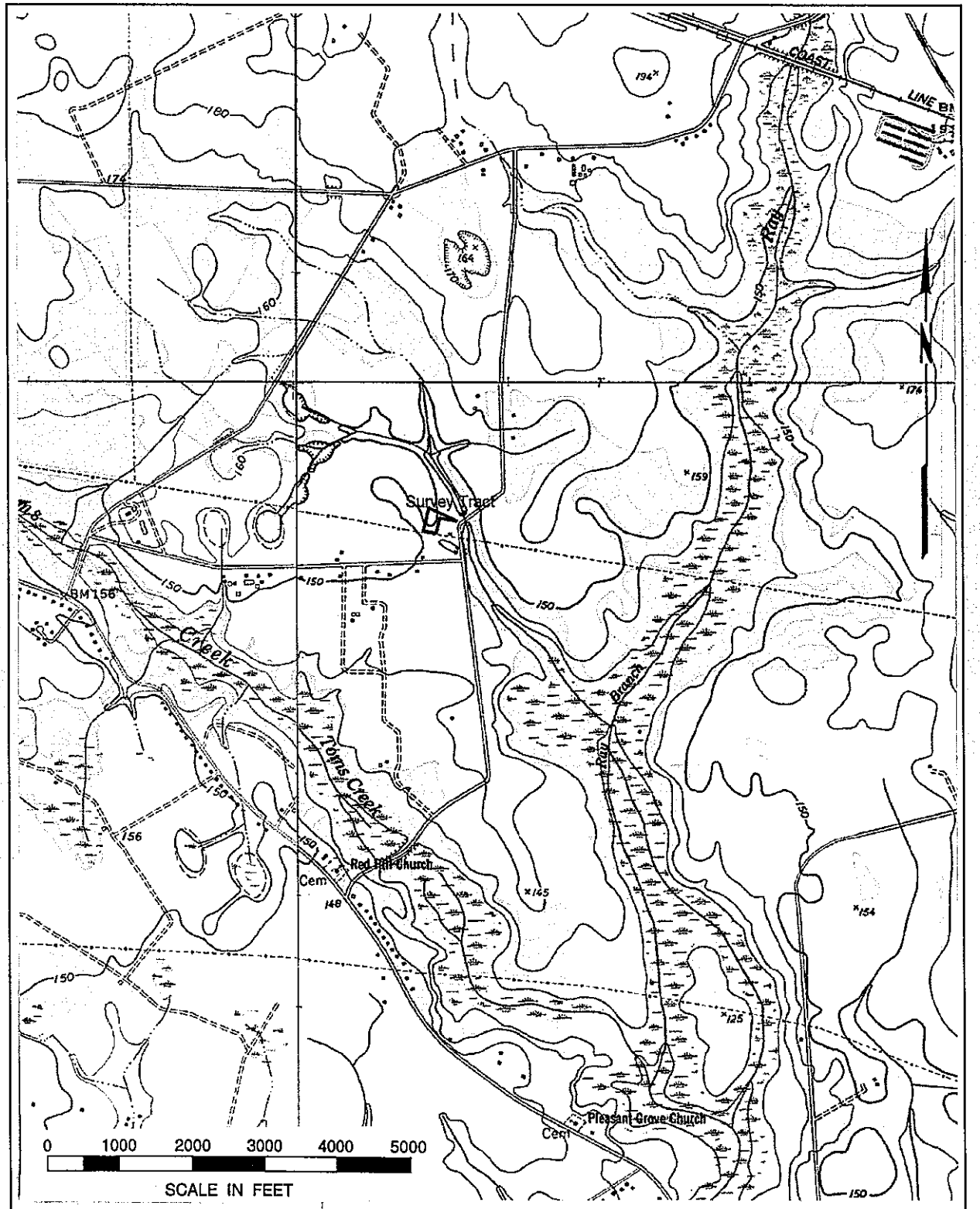


Figure 2. Survey tract (basemap is USGS Gadsden and Wateree 1:24,000).

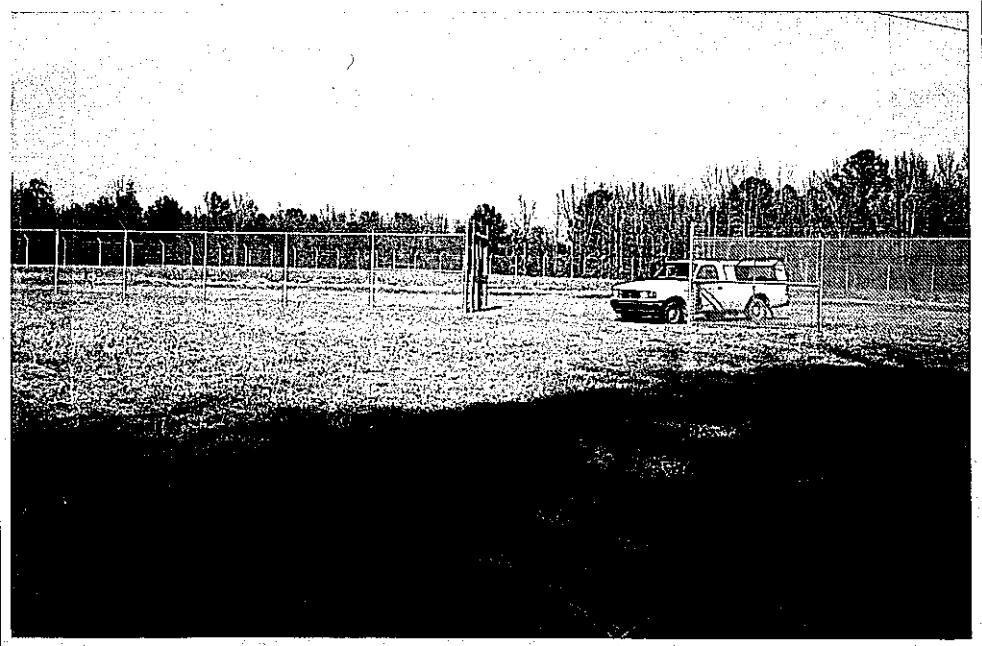


Figure 3. Proposed new Eastover Substation lot, view to the north.

This report details the investigation of the project area undertaken by Chicora Foundation and the results of that investigation.

Physiography and Geology

Richland County, situated in the approximate center of South Carolina, is bounded to the southwest by the Congaree River, to the southeast by the Wateree River, to the northeast by Kershaw County, to the north by Fairfield County, as well as sections of both Cedar Creek and the Broad River, and to the northwest by Lexington County.

The county is located within two distinct physiographic provinces — the Piedmont Plateau and the Atlantic Coastal Plain. The northern half of the coastal plain is known as the Sand Hills. About a third of Richland County is found within the Piedmont, separated from the coastal plain by an irregular line, known as the Fall Line, that extends north from the vicinity of Columbia and runs west of US 21 to Blythewood. From Blythewood the Fall Line continues southeast, entering Kershaw County at the confluence of Twentyfive Mile Creek and Rice Creek.

The survey tract is situated in the Upper Coastal Plain, southeast of the Fall Line and south of the Sand Hills found along the northern and eastern edges of the County. Elevations in the Upper Coastal Plain range from 100 to 270 feet above mean sea level, with the topography being gently rolling. As Kovacik and Winberry (1987:20) observe, it can be very difficult to distinguish the Upper Coastal Plain from that of the Sand Hills or even the lower Piedmont. You find the flatter, and almost featureless, Coastal Plain topography further to the southeast, south of the Citronelle Escarpment (Orangeburg Scarp). In the project area the elevations range from about 130 to 150 feet and the topography is generally level, with a slight slope to the southeast.

The underlying geology of this area consists of unconsolidated marine deposits of light colored sands and kaolin clays.

In the nineteenth century Mills observed that the County:

> includes the extremes of sterility and fertility. The highlands are composed of extensive regions of barren sand, covered with small pitch-pines, and blackjack or dwarf oaks. The air is here remarkably salubrious, and the waters pure and pleasant (Mills 1972 [1826]:693).

He went on to divided the county into a variety of land

Figure 4.Substation lot showing ground conditions and soybean crop.

types, noting that the soils in the project area "is soon impoverished and exhausted" being best adapted to the cultivation of subsistence crops, such as corn (Mills 1972 [1826]:696).

The soils in the region broadly fall into the Dothan-Clarendon Association. These are well-drained soils with sandy surface layers and a loamy subsoil. In the immediate project area the soils are classified as the Dothan Series. These are formed in thick beds of loamy marine sediment and are found on broad ridge tops. The Dothan soils have an Ap horizon of grayish brown (10YR4/2) loam sand to a depth of about 0.6 foot. Below is an A2 horizon to about 1.4 feet, consisting of a pale brown (10YR6/3) loamy sand. Below this is the B horizon, a yellowish brown (10YR5/8) sandy clay loam.

Climate

Elevation, latitude, and distance from the coast work together to affect the climate of South Carolina, including the Sand Hills. In addition, the more westerly mountains block or moderate many of the cold air masses that flow across the state from west to east. Even the very cold air masses which cross the mountains are warmed somewhat by compression before they descend on the Piedmont and adjacent Sand Hills.

Consequently, the climate of Richland County is temperate. The winters are relatively mild and the summers warm and humid. Rainfall in the amount of about 46 inches is adequate, although less than in some neighboring counties. About 27 inches of rain occur during the growing season, with periods of drought not uncommon during the summer months. As Hilliard illustrates, these droughts tended to be localized and tended to occur several years in a row, increasing the hardship on those attempting to recover from the previous year's crop failure (Hilliard 1984:16). Perhaps the best wide-scale example of this was the drought of 1845, which caused a series of very serious grain and food shortages throughout the state.

The average growing season is about 232 days, although early freezes in the fall and late frosts in the spring can reduce this period by as much as 30 or more days (Lawrence 1978:73). Consequently, most cotton planting, for example, did not take place until early May, avoiding the possibility that a late frost would damage the young seedlings.

Floristics

In the early nineteenth century Mills comments that "the long leaf pine is found in abundance here; besides several species of oak, hickory, red bay, dogwood, elder, elm, locust, persimmon, poplar, sassafras, &c" (Mills 1972 [1826]:713). Today,

however, the survey area has been extensively altered by modern land-use activities. Up to the 1970s much of the area was under cultivation, with only narrow strips of vegetation along drainageways and field edges. Today many fields are out of cultivation and have been replaced by second growth. The survey parcel, however, was still being cultivated and at the time of this study was in soybeans (Figure 4).

PREHISTORIC AND HISTORIC SYNOPSIS

Prehistoric Overview

Overviews for South Carolina's prehistory, while of differing lengths and complexity, are available in virtually every compliance report prepared. There are, in addition, some "classic" sources well worth attention, such as Joffre Coe's *Formative Cultures* (Coe 1964), as well as some new general overviews (such as Sassaman et al. 1990 and Goodyear and Hanson 1989). Also extremely helpful, perhaps even essential, are a handful of recent local synthetic statements, such as that offered by Sassaman and Anderson (1994) for the Middle and Late Archaic and by Anderson et al. (1992) for the Paleoindian and Early Archaic. Only a few of the many sources are included in this study, but they should be adequate to give the reader a "feel" for the area and help establish a context for the various sites identified in the study areas. For those desiring a more general synthesis, perhaps the most readable and well balanced is that offered by Judith Bense (1994), *Archaeology of the Southeastern United States: Paleoindian to World War I*. Figure 5 offers a generalized view of South Carolina's cultural periods.

Paleoindian Period

The Paleoindian Period, most commonly dated from about 12,000 to 10,000 B.P., is evidenced by basally thinned, side-notch projectile points; fluted, lanceolate projectile points, side scrapers, end scrapers; and drills (Coe 1964; Michie 1977; Williams 1965). Oliver (1981, 1985) has proposed to extend the Paleoindian dating in the North Carolina Piedmont to perhaps as early as 14,000 B.P., incorporating the Hardaway Side-Notched and Palmer Corner-Notched types, usually accepted as Early Archaic, as representatives of the terminal phase. This view, verbally suggested by Coe for a number of years, has considerable technological appeal.[1] Oliver suggests a continuity from the Hardaway Blade through the Hardaway-Dalton to the Hardaway Side-Notched, eventually to the Palmer Side-Notched (Oliver 1985:199-200). While convincingly argued, this approach is not universally accepted.

The Paleoindian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented toward the exploitation of now extinct mega-fauna" (Michie 1977:124). Survey data for Paleoindian tools, most notably fluted points, is somewhat dated, but has been summarized by Charles and Michie 1992). They reveal a widespread distribution across the state (see also Anderson 1992b:Figure 5.1) with at least several concentrations relating to intensity of collector activity. What is clear is that points are found fairly far removed from the origin of the raw material. Charles and Miche suggest that this may "imply a geographically extensive settlement system" (Charles and Michie 1992:247).

Although data are sparse, one of the more attractive theories that explains the widespread distribution of Paleoindian sites is the model tracking the replacement of a high technology forager (or HTF) adaptation by a "progressively more generalized band/microband foraging adaption" accompanied by increasingly distinct regional traditions (perhaps

[1] While never discussed by Coe at length, he did observe that many of the Hardaway points, especially from the lowest contexts, had facial fluting or thinning which, "in cases where the side-notches or basal portions were missing, . . . could be mistaken for fluted points of the Paleo-Indian period" (Coe 1964:64). While not an especially strong statement, it does reveal the formation of the concept. Further insight is offered by Ward's (1983:63) all too brief comments on the more recent investigations at the Hardaway site (see also Daniel 1992).

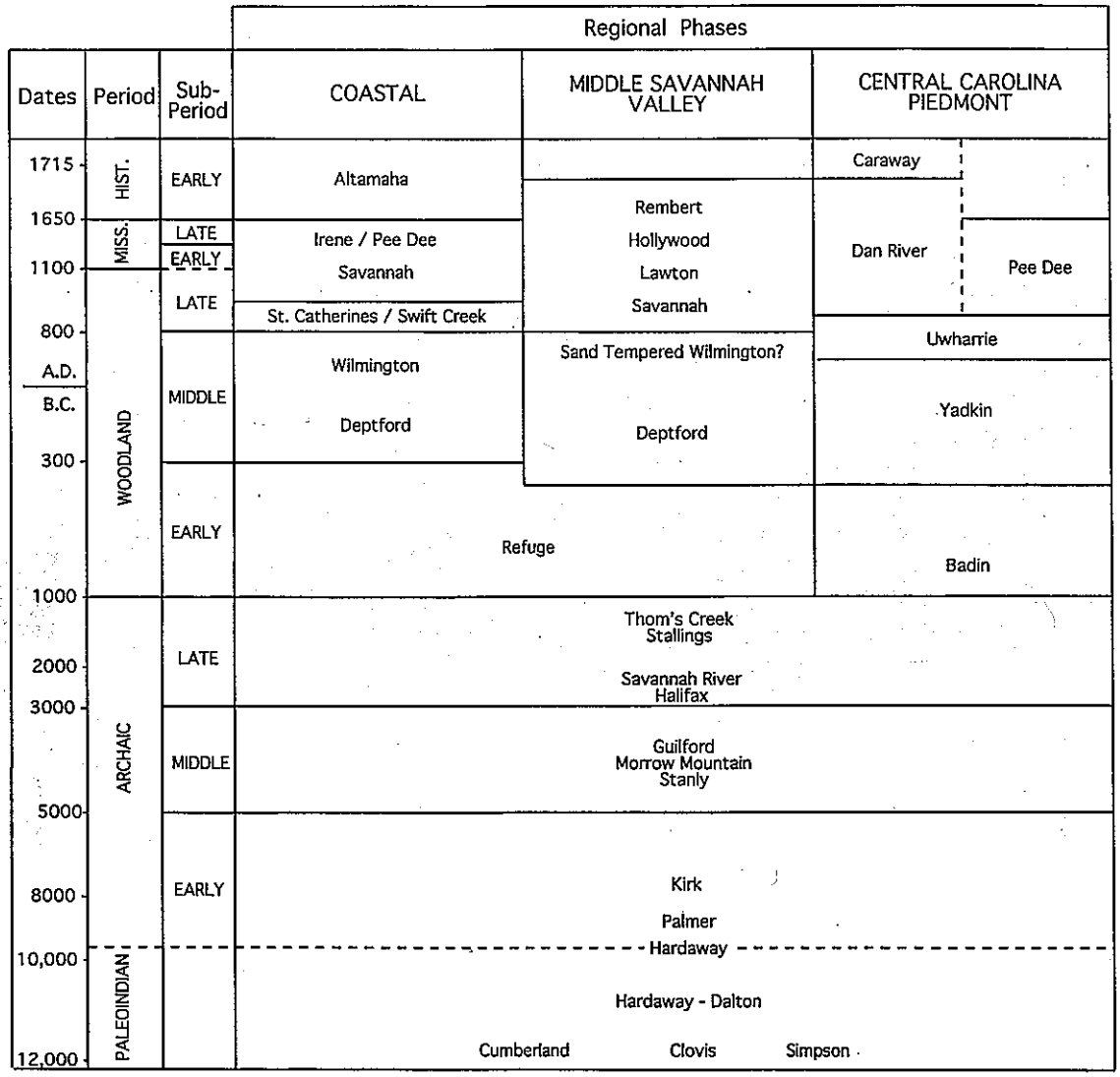


Figure 5. A generalized cultural sequence for South Carolina (partially adapted from Coe 1964:Figure 116).

reflecting movement either along or perhaps even between river drainages) (Anderson 1992b:46).

Distinctive projectile points include lanceolates such as Clovis, Dalton, perhaps the Hardaway, and Big Sandy (Coe 1964; Phelps 1983; Oliver 1985). A temporal sequence of Paleoindian projectile points was proposed by Williams (1965:24-51), but according to Phelps (1983:18) there is little stratigraphic or chronometric evidence for it. While this is certainly true, a number of authors, such as Anderson (1992a) and Oliver (1985) have assembled impressive data sets. We are inclined to believe that while often not conclusively proven by stratigraphic excavations (and such proof may be an unreasonable expectation), there is a large body of circumstantial evidence. The weight of this evidence tends to provide considerable support.

Unfortunately, relatively little is known about Paleoindian subsistence strategies, settlement systems, or social organization (see, however, Anderson 1992b for an excellent overview and synthesis of what is known). Generally, archaeologists agree that the Paleoindian groups were at a band level of society, were nomadic, and were both hunters and foragers. While population density, based on isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

Archaic Period

The Archaic Period, which dates from 10,000 to 3,000 B.P.[2], does not form a sharp break with the Paleoindian Period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited animal. Archaic period assemblages, exemplified by corner-notched and broad-stemmed projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

Many researchers have reported data suggestive of a noticeable population increase from the Paleoindian into the Early Archaic. This has tentatively been associated with a greater emphasis on foraging. Diagnostic Early Archaic artifacts include the Kirk Corner Notched point. As previously discussed, Palmer points may be included with either the Paleoindian or Archaic period, depending on theoretical perspective. As the climate became hotter and drier than the previous Paleoindian period, resulting in vegetational changes, it also affected settlement patterning as evidenced by a long-term Kirk phase midden deposit at the Hardaway site (Coe 1964:60). This is believed to have been the result of a change in subsistence strategies.

Settlements during the Early Archaic suggest the presence of a few very large, and apparently intensively occupied, sites which can best be considered base camps. Hardaway might be one such site. In addition, there were numerous small sites which produce only a few artifacts — these are the "network of tracks" mentioned by Ward (1983:65). The base camps produce a wide range of artifact types and raw materials

[2] The terminal point for the Archaic is no clearer than that for the Paleoindian and many researchers suggest a terminal date of 4,000 B.P. rather than 3,000 B.P. There is also the question of whether ceramics, such as the fiber-tempered Stallings ware, will be included as Archaic, or will be included with the Woodland. Oliver, for example, argues that the inclusion of ceramics with Late Archaic attributes "complicates and confuses classification and interpretation needlessly" (Oliver 1981:20). He comments that according to the original definition of the Archaic, it "represents a preceramic horizon" and that "the presence of ceramics provides a convenient marker for separation of the Archaic and Woodland periods (Oliver 1981:21). Others would counter that such an approach ignores cultural continuity and forces an artificial, and perhaps unrealistic, separation. Sassaman and Anderson (1994:38-44), for example, include Stallings and Thom's Creek wares in their discussion of "Late Archaic Pottery." While this issue has been of considerable importance along the Carolina and Georgia coasts, it has never affected the Piedmont, which seems to have embraced pottery far later, well into the conventional Woodland period. The importance of the issue in the Sandhills, unfortunately, is not well known.

which has suggested to many researchers long-term, perhaps seasonal or multi-seasonal, occupation. In contrast, the smaller sites are thought of as special purpose or foraging sites (see Ward 1983:67).

Middle Archaic (8,000 to 6,000 B.P.) diagnostic artifacts include Morrow Mountain, Guilford, Stanly and Halifax projectile points. Much of our best information on the Middle Archaic comes from sites investigated west of the Appalachian Mountains, such as the work by Jeff Chapman and his students in the Little Tennessee River Valley (for a general overview see Chapman 1977, 1985a, 1985b). There is good evidence that Middle Archaic lithic technologies changed dramatically. End scrapers, at times associated with Paleoindian traditions, are discontinued, raw materials tend to reflect the greater use of locally available materials, and mortars are initially introduced. Associated with these technological changes there seem to also be some significant cultural modifications. Prepared burials begin to more commonly occur and storage pits are identified. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's Middle Archaic "Old Quartz Industry" of Georgia and the Carolinas, where axes, choppers, and ground and polished stone tools are very rare.

Among the most common of all Middle Woodland artifacts is the Morrow Mountain Stemmed projectile point. Originally divided into two varieties by Coe (1964:37,43) based primarily on the size of the blade and the stem. Morrow Mountain I points had relatively small triangular blades with short, pointed stems. Morrow Mountain II points had longer, narrower blades with long, tapered stems. Coe suggested a temporal sequence from Morrow Mountain I to Morrow Mountain II. While this has been rejected by some archaeologists, who suggest that the differences are entirely related to the life-stage of the point, the debate is far from settled and Coe has considerable support for his scenario.

The Morrow Mountain point is also important in our discussions since it represents a departure from the Carolina Stemmed Tradition. Coe has suggested that the groups responsible for the Middle Archaic Morrow Mountain (and the later Guilford points) were intrusive ("without any background" in Coe's words) into the North Carolina Piedmont, from the west, and were contemporaneous with the groups producing Stanly points (Coe 1964:122-123; see also Phelps 1983:23). Phelps, building on Coe, refers to the Morrow Mountain and Guilford as the "Western Intrusive horizon." Sassaman (1995) has recently proposed a scenario for the Morrow Mountain groups which would support this west-to-east time-transgressive process. Abbott and his colleagues, perhaps unaware of Sassaman's data, dismiss the concept, commenting that the shear distribution and number of these points "makes this position wholly untenable" (Abbott et al. 1995:9).

The controversy surrounding Morrow Mountain also includes its posited date range. Coe (1964:123) did not expect the Morrow Mountain to predate 6500 B.P., yet more recent research in Tennessee reveals a date range of about 7500 to 6500 B.P. Sassaman and Anderson (1994:24) observe that the South Carolina dates have never matched the antiquity of their more western counterparts and suggest continuation to perhaps as late as 5500 B.P. In fact they suggest that even later dates are possible since it can often be difficult to separate Morrow Mountain and Guilford points.

A recently defined point is the MALA. The term is an acronym standing for Middle Archaic and Late Archaic, the strata in which these points were first encountered at the Pen Point site (38BR383) in Barnwell County, South Carolina (Sassaman 1985). These stemmed and notched lanceolate points were originally found in a context suggesting a single-episode event with variation not based on temporal variation. The original discussion was explicitly worded to avoid application of a typology, although as Sassaman and Anderson (1994:27) note, the "type" has spread into more common usage. There are possible connections with both the Halifax points of North Carolina and the Benton points of the middle Tennessee River valley, while the "heartland" for the MALA appears confined to the lower middle Coastal Plain of South Carolina.

The available information has resulted in a variety of competing settlement models. Some argue for

increased sedentism and a reduction of mobility (see Goodyear et al. 1979:111). Ward argues that the most appropriate model is one which includes relatively stable and sedentary hunters and gatherers "primarily adapted to the varied and rich resource base offered by the major alluvial valleys" (Ward 1983:69). While he recognizes the presence of "inter-riverine" sites, he discounts explanations which focus on seasonal rounds, suggesting "alternative explanations . . . [including] a wide range of adaptive responses." Most importantly, he notes that:

> the seasonal transhumance model and the sedentary model are opposite ends of a continuum, and in all likelihood variations on these two themes probably existed in different regions at different times throughout the Archaic period (Ward 1983:69).

Others suggest increased mobility during the Archaic (see Cable 1982). Sassaman (1983) has suggested that the Morrow Mountain phase people had a great deal of residential mobility, based on the variety of environmental zones they are found in and the lack of site diversity. The high level of mobility, coupled with the rapid replacement of these points, may help explain the seemingly large numbers of sites with Middle Archaic assemblages. Curiously, the later Guilford phase sites are not as widely distributed, perhaps suggesting that only certain micro-environments were used (cf. Ward [1983:68-69] who would likely reject the notion that substantially different environmental zones are, in fact, represented).

Recently Abbott et al. argue for a combination of these models, noting that the almost certain increase in population levels probably resulted in a contraction of local territories. With small territories there would have been significantly greater pressure to successfully exploit the limited resources by more frequent movement of camps. They discount the idea that these territories could have been exploited from a single base camp without horticultural technology. Abbott and his colleagues conclude, "increased residential mobility under such conditions may in fact represent a common stage in the development of sedentism" (Abbott et al. 1995:9).

From excavations at a Sandhills site in Chesterfield County, South Carolina, Gunn and his colleague (Gunn and Wilson 1993) offer an alternative model for Middle Archaic settlement. He accepts that the uplands were desiccated from global warming, but rather than limiting occupation, this environmental change made the area more attractive for residential base camps. Gunn and Wilson suggest that the open, or fringe, habitat of the upland margins would have been attractive to a wide variety of plant and animal species.

The Late Archaic, usually dated from 6,000 to 3,000 or 4,000 B.P., is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). These people continued to intensively exploit the uplands much like earlier Archaic groups with, the bulk of our data for this period coming from the Uwharrie region in North Carolina.

One of the more debated issues of the Late Archaic is the typology of the Savannah River Stemmed and its various diminutive forms. Oliver, refining Coe's (1964) original Savannah River Stemmed type and a small variant from Gaston (South 1959:153-157), developed a complete sequence of stemmed points that decrease uniformly in size through time (Oliver 1981, 1985). Specifically, he sees the progression from Savannah River Stemmed to Small Savannah River Stemmed to Gypsy Stemmed to Swannanoa from about 5000 B.P. to about 1,500 B.P. He also notes that the latter two forms are associated with Woodland pottery.

This reconstruction is still debated with a number of archaeologists expressing concern with what they see as typological overlap and ambiguity. They point to a dearth of radiocarbon dates and good excavation contexts at the same time they express concern with the application of this typology outside the North Carolina Piedmont (see, for a synopsis, Sassaman and Anderson 1990:158-162, 1994:35).

In addition to the presence of Savannah River points, the Late Archaic also witnessed the introduction of steatite vessels (see Coe 1964:112-113; Sassaman 1993), polished and pecked stone artifacts, and grinding stones. Some also include the introduction of fiber-tempered pottery about 4000 B.P. in the Late Archaic (for a discussion see Sassaman and Anderson 1994:38-

44). This innovation is of special importance along the Georgia and South Carolina coasts, but seems to have had only minimal impact in the uplands of South or North Carolina.

There is evidence that during the Late Archaic the climate began to approximate modern climatic conditions. Rainfall increased resulting in a more lush vegetation pattern. The pollen record indicates an increase in pine which reduced the oak-hickory nut masts which previously were so widespread. This change probably affected settlement patterning since nut masts were now more isolated and concentrated. From research in the Savannah River valley near Aiken, South Carolina, Sassaman has found considerable diversity in Late Archaic site types with sites occurring in virtually every upland environmental zone. He suggests that this more complex settlement pattern evolved from an increasingly complex socio-economic system. While it is unlikely that this model can be simply transferred to the Sandhills of South Carolina without an extensive review of site data and micro-environmental data, it does demonstrate one approach to understanding the transition from Archaic to Woodland.

Woodland Period

As previously discussed, there are those who see the Woodland beginning with the introduction of pottery. Under this scenario the Early Woodland may begin as early as 4,500 B.P. and continued to about 2,300 B.P. Diagnostics would include the small variety of the Late Archaic Savannah River Stemmed point (Oliver 1985) and pottery of the Stallings and Thoms Creek series. These sand tempered Thoms Creek wares are decorated using punctations, jab-and-drag, and incised designs (Trinkley 1976). Also potentially included are Refuge wares, also characterized by sandy paste, but often having only a plain or dentate-stamped surface (Waring 1968). Others would have the Woodland beginning about 3,000 B.P. and perhaps as late as 2,500 B.P. with the introduction of pottery which is cord-marked or fabric-impressed and suggestive of influences from northern cultures.

There remains, in South Carolina, considerable ambiguity regarding the pottery series found in the Sandhills and their association with coastal plain and piedmont types. The earliest pottery found at many sites may be called either Deptford or Yadkin, depending on the research or their inclination at any given moment.

The Deptford phase, which dates from 3050 to 1350 B.P., is best characterized by fine to coarse sandy paste pottery with a check stamped surface treatment. The Deptford settlement pattern involves both coastal and inland sites.

Inland sites such as 38AK228-W, 38LX5, 38RD60, and 38BM40 indicate the presence of an extensive Deptford occupation on the Fall Line and the Inner Coastal Plain/Sand Hills, although sandy, acidic soils preclude statements on the subsistence base (Anderson 1979; Ryan 1972; Trinkley 1980). These interior or upland Deptford sites, however, are strongly associated with the swamp terrace edge, and this environment is productive not only in nut masts, but also in large mammals such as deer. Perhaps the best data concerning Deptford "base camps" comes from the Lewis-West site (38AK228-W), where evidence of abundant food remains, storage pit features, elaborate material culture, mortuary behavior, and craft specialization has been reported (Sassaman et al. 1990:96-98; see also Sassaman 1993 for similar data recovered from 38AK157).

Further to the north and west, in the Piedmont, the Early Woodland is marked by a pottery type defined by Coe (1964:27-29) as Badin.[3] This pottery is identified as having very fine sand in the paste with an occasional pebble. Coe identified cord-marked, fabric-marked, net-impressed, and plain surface finishes. Beyond this pottery little is known about the makers of the Badin wares and relatively few of these sherds are reported from South Carolina sites.

[3] The ceramics suggest clear regional differences during the Woodland which seem to only be magnified during the later phases. Ward (1983:71), for example, notes that there "marked distinctions" between the pottery from the Buggs Island and Gaston Reservoirs and that from the south-central Piedmont.

Somewhat more information is available for the Middle Woodland, typically given the range of about 2,300 B.P. to 1,200 B.P. In the Piedmont and even into the Sand Hills, the dominant Middle Woodland ceramic type is typically identified as the Yadkin series. Characterized by a crushed quartz temper the pottery includes surface treatments of cord-marked, fabric-marked, and a very few linear check-stamped sherds (Coe 1964:30-32). It is regrettable that several of the seemingly "best" Yadkin sites, such as the Trestle site (31An19) explored by Peter Cooper (Ward 1983:72-73), have never been published.

Yadkin ceramics are associated with medium-sized triangular points, although Oliver (1981) suggests that a continuation of the Piedmont Stemmed Tradition to at least 1650 B.P. coexisted with this Triangular Tradition. The Yadkin in South Carolina has been best explored by research at 38SU83 in Sumter County (Blanton et al. 1986) and at 38FL249 in Florence County (Trinkley et al. 1993)

In some respects the Late Woodland (1,200 B.P. to 400 B.P.) may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500-700 years. From the vantage point of the Middle Savannah Valley Sassaman and his colleagues note that, "the Late Woodland is difficult to delineate typologically from its antecedent or from the subsequent Mississippian period" (Sassaman et al. 1990:14). This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971).

Historical Synopsis

There are several histories of Richland County which should be consulted for more detailed information concerning the project area, including Green's *A History of Richland County* (Green 1932) and Moore's (1993) *Columbia and Richland County: A South Carolina Community*. This synopsis will only briefly cover the major historic influences on the region.

While the coastal region has received much of the historical research, the interior of the state is equally interesting. Although Carolina was settled by the English as a small cog in the mercantile system, the early economy was based more on Indian trade, ranching, subsistence agriculture, and the harvesting of forest products — all forms of rudimentary plunder — than on the production of raw materials so essential to the wealth and power of England. By 1700, only 20 years after the founding of Charles Towne, the trading post at the Congarees (Congaree Creek near Columbia), was well established (see Michie n.d.). This post was on the path from Charleston to Keowee, the capital of the Cherokee Nation, while other paths lead from the Congarees to the Creek and Catawba nations. It was this pattern of Indian-White relations which lead to the death of six out of every seven Native Americans along the South Carolina coast.

The Yemassee War (1715-1716) resulted in many of the Native American groups in South Carolina being either destroyed, enslaves, or driven out of the region. After the defeat of the Indian threat, the General Assembly opened Indian lands to settlement and in 1718 Fort Congaree was established at the Congarees to protect settlers in the region. Fort Congaree was abandoned and later replaced by Fort Granby, further to the north. The project area, however, was far from safe, apparently being part of the undivided Cherokee and Catawba hunting ground.

When South and North Carolina were divided in the early 1700s there were no interior settlements. In 1730 George II ordered that eleven townships be established in the back country to promote settlement. Within each township, a town would be drawn up fronting the river and each settler would receive a town lot and 50 acres of plantation lands for each family member. Two of these townships, Amelia and Saxe Gotha, are south and west of Columbia and a third, Fredericksburg was located to the east, in the Camden area. By the late 1730s settlers were moving into the area between the Wateree and Congaree rivers. These first settlers included not only South Carolinians from the coastal region, but also individuals from Pennsylvania, Maryland, and Virginia. Nevertheless, DeBrahm's *Map of South Carolina and a Part of Georgia* from 1757 shows northern Richland County as

uncharted — and likely very sparsely settled. Even as late as 1773, James Cook shows little activity in this region on his *Map of the Province of South Carolina*.

Settlement in the region was largely spurred by the Indian attacks on Scotch-Irish settlements in Pennsylvania and Virginia during the French and Indian War. A wave of immigration flooded the Wateree region with the defeat of Braddock in Virginia in 1755 (Oliphant 1964:125).

The American Revolution had little impact on the project area. Although Camden to the west fell to the British in 1780, a skirmish at Fort Granby to the south in 1781 was won by the Americans, who took possession of the fort. Additional skirmishes were also fought at Friday's Ferry and Juniper Spring in nearby Lexington County (Lipscomb 1991). It seems that most of the region's farmers were supportive of the patriot forces. By 1782 the British had been forced out of the upcountry.

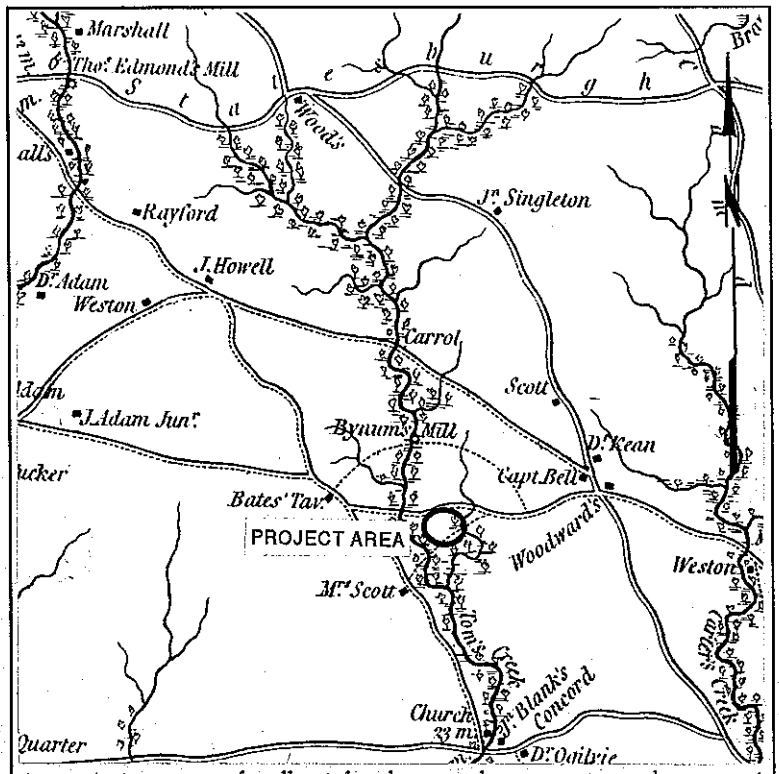


Figure 6. A portion of Mills' *Atlas* showing the project area about 1826.

Richland District is one of seven districts or counties which were taken from the Camden District (originally formed in 1768). Created in 1785 Richland was the result of increased interior population and demand for local government. Because of Columbia's central location, it became the state capital in 1786, although it wasn't until the promotion of the cotton gin in the 1790s that cotton became the economic backbone of the region. Mills (1972 [1826]:697) remarked that "everything is neglected for the culture of cotton," likely because of the rich lands around the new capital yielded upwards of 500 pounds of cotton per acre. Mills' 1825 *Atlas* shows the gradual increase in plantations spreading out around Columbia, with at least six in the general vicinity of the survey area (Figure 6). Also present in the area were a number of mills, with Bynum's situated about a mile northwest of the project site.

The dependence on cotton resulted in the failure to diversify crops and establish any meaningful industry (see Adams and Trinkley 1992 for a discussion of the Columbia Canal and Trinkley 1993 for a discussion of the Palmetto Foundry). It also resulted in the number of African American slaves increasing from 1,451 in 1790 (when there were 2,479 white residents) to 3,168 in 1800 (at which time there were only 2,929 whites in the county). This disparity of population continued until 1920 (see Figure 7).

Just as the area saw little activity during the American Revolution, the Civil War had little impact in the region. In fact, it is likely that the greatest action was seen at the end of the war in 1865, when General William T. Sherman marched toward Columbia rather than Charleston as was expected. Sherman's troops moved northward from Orangeburg, on the west side of the Congaree and crossed the Saluda River, north of Columbia, then moving into the land between the Saluda and Broad rivers. Part of his force (the 20th Corps) moved on into Fairfield County, while another group turned east and entered Columbia, crossing the

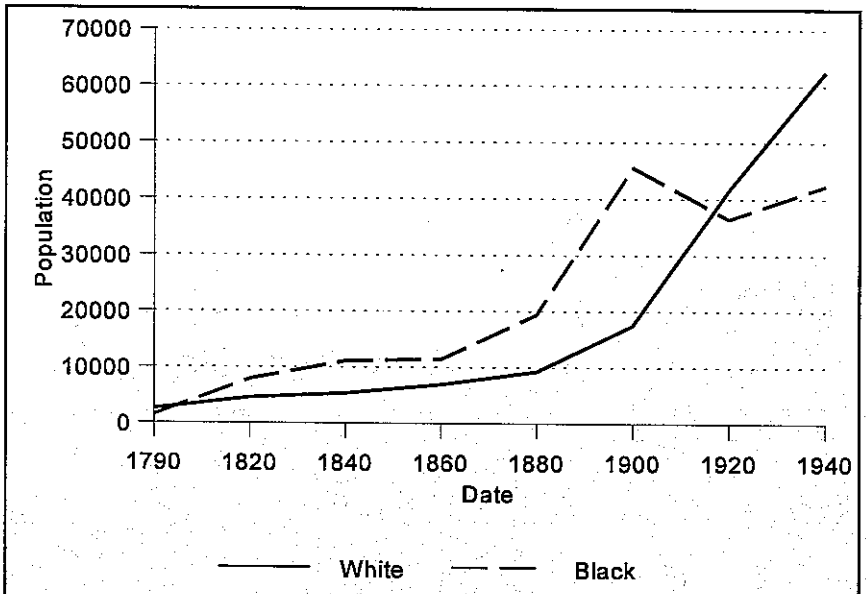


Figure 7. Black and white population in Richland County.

Broad River near the present crossing of Broad River Road and I-126.

The immediate postbellum period was difficult for many in South Carolina — black and white alike. The loss of property and life, the near total destruction of transportation networks and industrial facilities, combined with the collapse of traditional financing and slave labor, created a situation of exceptional misery. The Union failed to follow through on provisions to ensure the safety, education, and self-sufficiency of its new black citizens and the South sought measures to re-establish the old order. Contracts, and eventually the Black Codes, created something approaching a new form of slavery.

One important "by-product" of the dissolution of the many large plantations in the area was the creation of what might be called village life at the numerous railroad depots which also served as post offices. Places such as Eastover, Gadsden, and Hopkin's Turnout (later Hopkins) all formed in the mid-1870s (Moore 1993:210). The Braswell 1897 map (Figure 8) of the area reveals that settlements were either at these depots or along the main highways. The project area, between both rail lines and roads, is not shown as settled and was probably under cultivation.

By 1880 there were 21 grist mills, four foundries, 12 lumber mills, and 17 turpentine mills in Richland County capitalized at just under half a million dollars. These industrial activities were largely small operations — only one of the grist mills, for example, was a merchant mill. The rest were scattered around the county and ground corn into meal for immediate neighborhood wants, operating one or two days a week.

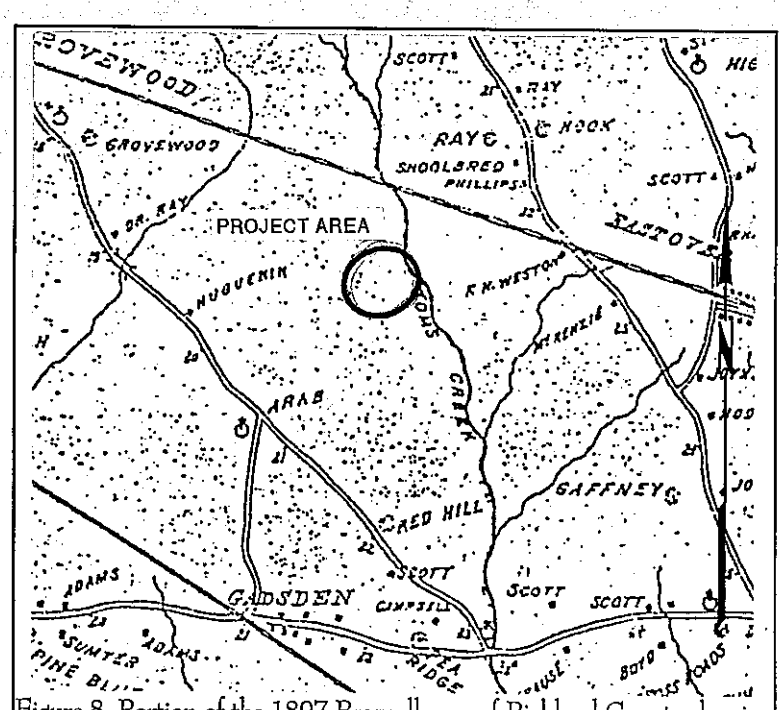


Figure 8. Portion of the 1897 Braswell map of Richland County showing the project area.

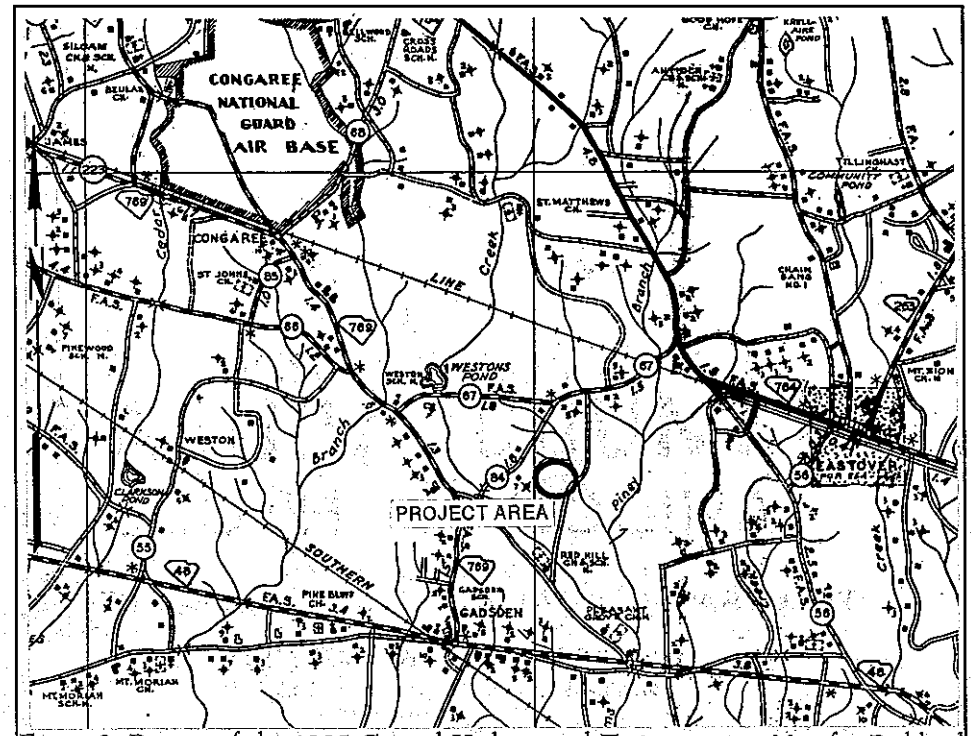


Figure 9. Portion of the 1935 General Highway and Transportation Map for Richland County showing the project area.

Agricultural activities were little more focused. The county boasted only one sower, 50 reapers, and three sulky plows, although there were over 2,200 guano distributors and nearly 750 harrows. The vast majority of agricultural activities were still conducted by hand, with over 85% of the labor supplied by blacks. There were 1,540 white owned farms operated by blacks, and the wage system (with daily wages ranging from 30¢ to 50¢) and share cropping were both equally used. Like elsewhere in South Carolina the white owners reported their laborers to be inefficient. In fact, it was suggested that, "the large tracts of land now owned by a few proprietors should be sold to working white men in small areas, instead of being rented to colored tenants, who injure it by bad cultivation" (The News and Courier 1880:n.p.) It was figured that each pound of cotton cost about 8¢ to produce (or about $40 per bale), with 72% of that cost occurring during the raising of the cotton.

By 1907 corn was planted on almost as many acres as cotton (30,399 acres compared to 35,182 acres of cotton). Industry was more common, including brick works, lumber mills, quarries, and, most importantly, cotton mills. In fact, the Olympia Mill was the largest cotton mill under one roof in the world with 10 acres of floor space, 100,000 spindles and 2,250 looms (State Department of Agriculture, Commerce, and Immigration 1907:560).

By 1939 the General Highway and Transportation Map for Richland County reveals settlements still clustered either at the small communities or along the road network. While the road today known as Whistle Top had been constructed by this time, there were no settlements in the immediate area (Figure 9).

The Great Depression of the 1930s was perhaps a less disruptive in the Columbia area than many other places. Loften (1977) suggests that the diversified industrial base of Columbia, combined with its strong professional orientation helped buffer it from the depression's effects. More to the point, outside the city agriculture was already so depressed that there were no abrupt changes in the farming community — many farm laborers were already out of work or were marginally surviving. The number of farms in Richland County was declining during the first quarter of the twentieth century (from 2,927 in 1900 to 2,748 in 1910). Although a change in the method of calculating farm units increased the number to 3,889 in 1920, the number again steadily declined to 2,787 in 1930 and 2,428 in 1940. Just as the number of farms declined, so too did the acres in farms, from a high of 238,193 in 1900 to 191,430 in 1930. Most telling, however, was the decline in farm values. In 1920 the average farm value for Richland County was $5,575 or about

$54.11/acre. Within 10 years about half of this average value was lost — in 1930 the average value was calculated at $2,852. While the average value held steady between 1930 and 1940, the value per acre continued to slip — from nearly $42 in 1930 to only about $33 in 1940.

This change gradually continued over the next forty years so that in 1980 there were only 382 farms listed for Richland County, with an associated decline in farm size. Replacing agriculture in Richland County was an increased dependence on industrial and governmental activities. While the county was largely urban even as early as 1920, when 51.3% of the population lived in urban areas, this increased to 61.6% in 1940.

METHODS AND FINDINGS

Archaeological Field Methods

Normally archaeological investigations use shovel testing at 100 foot intervals on transects spaced every 100 feet. For the substation lot, because of its size, this would have resulted in only nine tests. Although likely adequate, especially considering the good surface visibility at the project site, we chose nevertheless to increase the shovel testing intensity. A series of four transects were laid out at 50 feet intervals along the southern boundary and shovel tests were excavated north along these transects at 100 foot intervals. An additional three shovel tests were excavated at the north edge of the existing substation (Figure 10). All soil was screened through ¼ inch mesh, with each test numbered sequentially by transect. Each test measured about 1 foot square and was excavated until clay subsoil was encountered at depths ranging from 1.2 to 1.4 feet. We intended to collect any cultural remains identified, except for mortar, and brick, which would be quantitatively noted in the field and discarded. Notes were maintained for representative profiles.

Should sites (defined by the presence of two or more artifacts from either surface survey or shovel tests within a 25 feet area) be identified, further tests would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. These tests would be placed at 25 foot intervals in a simple cruciform pattern until two consecutive negative shovel tests were encountered. The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigators.

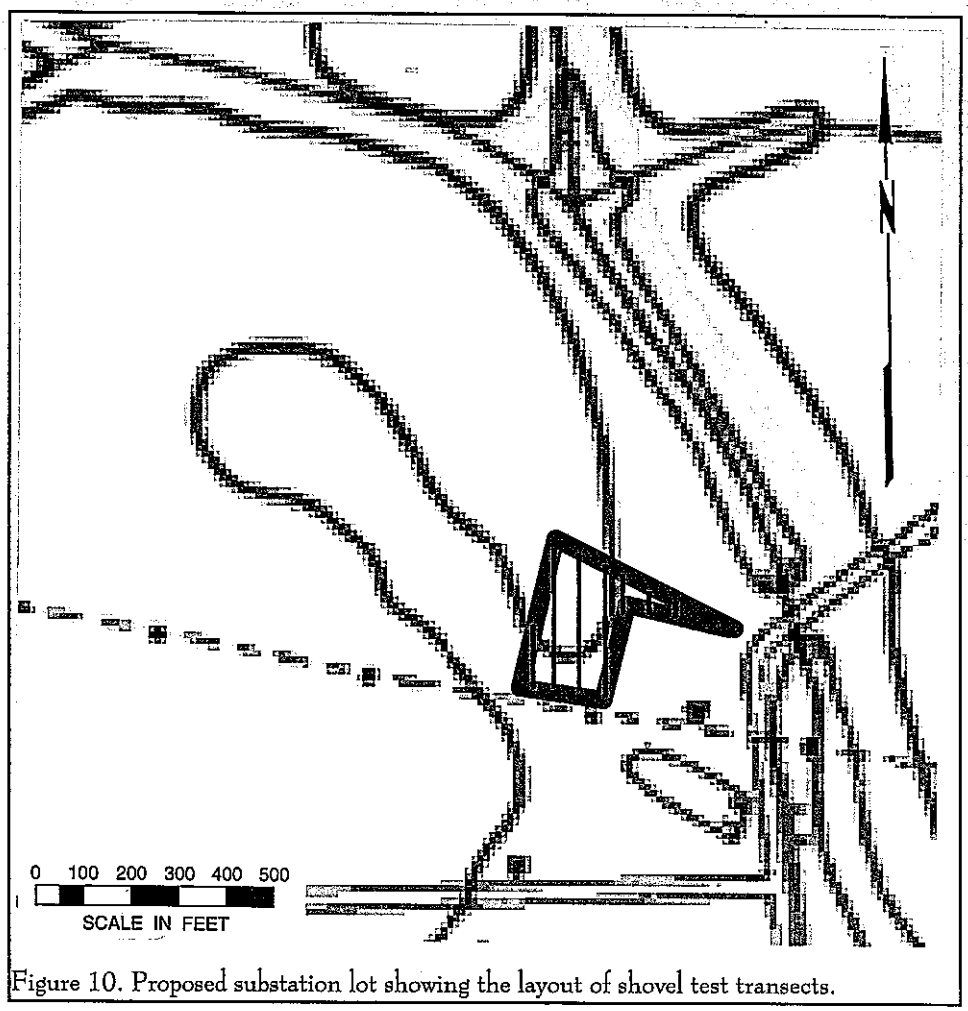


Figure 10. Proposed substation lot showing the layout of shovel test transects.

Figure 11. Shovel testing in the substation lot, view to the southwest.

The field investigations were conducted on January 17, 2001 by Mr. Tom Covington and Ms. Nicole Southerland under the direction of Dr. Michael Trinkley. A total of 18 shovel tests were excavated during this survey.

The field investigation identified Ap horizon soils ranging from dark grayish brown (10YR4/2) to pale brown (10YR6/3) with depths of 1.1 to 1.4 feet. These soils overlaid mottled yellowish-brown (10YR5/8) sandy clays. At the time of the survey surface visibility in the area was excellent (Figure 11) and a pedestrian survey was conducted not only the fenced substation lot, but also the immediately adjacent field.

No archaeological sites were identified during the shovel testing. Nor were any remains found on the surface of the substation lot, which exhibited excellent surface visibility.

Architectural Survey

As previously discussed, we opted to explore an area of potential effect (APE) 1.0 mile in diameter around the survey site, although no structures had been identified during the 1993 comprehensive architectural survey of this portion of Richland County.

The architectural survey was intended to record buildings, sites, structures, and objects which appeared to have been constructed before

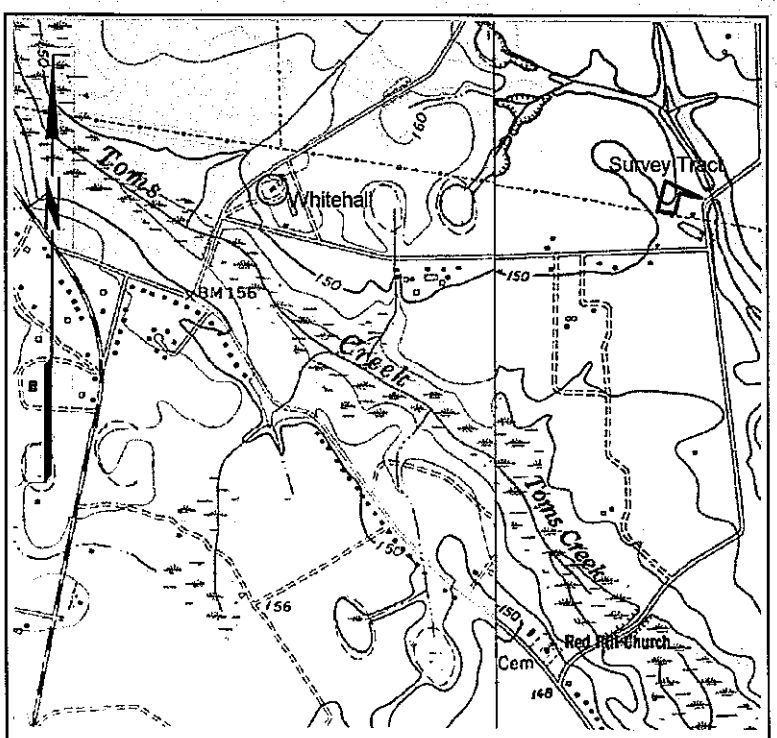


Figure 12. Location of Whitehall (basemap is USGS Gadsden).

Figure 13. View of Whitehall from S-84 looking southeast.

Whitehall is so far removed from the substation that we do not believe it will be impacted by the proposed work. No other historic structures were identified within the APE.

1950. Typical of such projects, this survey would record only those which "have kept their integrity" (Anonymous n.d.:4). For each identified resource a Statewide Survey Site Form would be completed and at least two representative photographs would be taken. Permanent control numbers would then be assigned by the Survey Staff of the S.C. Department of Archives and History at the conclusion of the study. The survey would be conducted by driving the public roads (typically county or state secondary roads) in the APE. These roads included S-67, S-84, S-1318, and S-1322.

The only structure identified that might be worthy of recordation is identified on a roadside sign as "Whitehall, ca. 1750." This structure is situated at the end of a private drive running southeast from S-84 (Zeigler Road) about a mile northeast of its junction with S-1322 (Haystack Road) (Figure 12). The structure is a large two story frame building with columns (Figure 13), but we were denied access by the manager who was adamant that the site not be recorded. Consequently, it was impossible to obtain sufficient information to allow an accurate and meaningful survey record to be completed. Since the structure was not recorded during the 1993 survey, we can only conclude that they, also, were denied access. Regardless,

CONCLUSIONS

This study involved the examination of a 1.6 acre tract situated south of S-67 and west of S-1322 in southern Richland County, South Carolina. The tract, situated on a sandy ridge overlooking a tributary of Ray Branch to the east, is adjacent to an existing substation lot which is being expanded. This research, conducted for the Central Electric Power Cooperative, provides results of the cultural resources investigation and is intended to assist that organization comply with their historic preservation responsibilities.

Historic research reveals that this portion of Richland County was settled in the mid- to late-eighteenth century by large plantations focused on cotton and subsistence crops such as corn. Considerable industrial activity took place in and around the nearby creeks with the building of a number of small mills and gins. No Civil War battles were found in this immediate area and Sherman's troops moved north toward Columbia from Orangeburg on the west side of the Congaree. Once in Columbia they did conduct raids into outlying areas, but we have found no indication of activity in the project area. In the postbellum there continued to be large landowners, although a number of small farms were gradually established. Cotton continued to the be primary crop into the mid-twentieth century.

The area has been extensively cultivated, and at the time of this survey the tract was in soybean stubble and had been fenced. A series of four transects spaced at 50 foot intervals were used to examine the study tract, with shovel tests being excavated at 100 foot intervals. A total of 18 shovel tests were excavated. The shovel tests revealed generally deep, plowed soils and no archaeological sites were identified on the study tract.

A survey of historic sites was conducted within a 1.0 mile APE. A comprehensive survey had been conducted in 1993, but no structures were identified in the APE. Our survey did identify one structure, Whitehall, but we were denied access to the property and no survey card was completed. Nevertheless, this structure is nearly a mile from the project and will not be affected by the undertaking. No other historic structures or sites were found in the APE.

It is possible that archaeological remains may be encountered in the corridor during construction activities. As always, the utility's contractors should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office, or Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No further land altering activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

SOURCES CITED

Abbott, Lawrence E., Jr., John S. Cable, Mary Beth Reed, and Erica E. Sanborn

1995 *An Archaeological Survey and Testing of the McLean-Thompson Property Land Acquisition, and the Ambulatory Health Care Clinic Project, Fort Bragg, Cumberland County, North Carolina*. Technical Report 349. New South Associates, Stone Mountain, Georgia.

Adams, Natalie and Michael Trinkley

1992 *Archaeological Reconnaissance and Survey of the Granby River Front Tract, Richland County, South Carolina*. Research Contribution 86. Chicora Foundation, Inc., Columbia.

Anderson, David G.

1979 *Excavations at Four Fall Line Sites: The Southeastern Beltway Project*. Commonwealth Associates, Inc., Jacksonville, Michigan. Submitted to the South Carolina Department of Highways and Public Transportation, Columbia.

1992a A History of Paleoindian and Early Archaic Research in the South Carolina Area. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 7-18. Council of South Carolina Professional Archaeologists, Columbia.

1992b Models of Paleoindian and Early Archaic Settlement in the Lower Southeast. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 28-47. Council of South Carolina Professional Archaeologists, Columbia.

Anderson, David G. and Lisa O'Steen

1992 Late Pleistocene/Early Holocene Environmental Conditions in the South Carolina Area. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 3-6. Council of South Carolina Professional Archaeologists, Columbia.

Anderson, David G., Charles E. Cantley, and A. Lee Novick

1982 *The Mattassee Lake Sites: Archaeological Investigations Along the Lower Santee River in the Coastal Plain of South Carolina*. Report Number 2311. Commonwealth Associates, Inc., Jackson, Michigan.

Anderson, David G., Kenneth E. Sassaman, and Christopher Judge

1992 *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*. Council of South Carolina Professional Archaeologists, Columbia.

Anonymous

n.d. *South Carolina Statewide Survey of*

Historic Places Survey Manual. S.C. Department of Archives and History, Columbia.

Bense, Judith A.
1994 *Archaeology of the Southeastern United States: Paleoindian to World War I*. Academic Press, New York.

Blanton, Dennis B., Christopher T. Espenshade, and Paul E. Brockington, Jr.
1986 *An Archaeological Study of 38SU83: A Yadkin Phase Site in the Upper Coastal Plain of South Carolina*. Garrow and Associates, Inc., Atlanta.

Cable, John S.
1982 Differences in Lithic Assemblages of Forager and Collector Strategies. In *Archaeological Survey and Reconnaissance Within the Ten-Year Floodpool Harry S. Truman Dam and Reservoir*, edited by Richard Taylor. Report submitted to the U.S. Army Corps of Engineers, Kansas City District.

Chapman, Jefferson
1977 *Archaic Period Research in the Lower Little Tennessee River Valley, 1975: Icehouse Bottom, Harrison Branch, Thirty Acre Island, Calloway Island*. Report of Investigations 18. University of Tennessee, Knoxville.

1985a Archaeology and the Archaic Period in the Southern Ridge-an-Valley Province. In *Structure and Process in Southeastern Archaeology*, edited by Roy S. Dickens and H. Trawick Ward, pp. 137-179. The University of Alabama Press, University.

1985b *Tellico Archaeology: 12,000 Years of Native American History*. Reports of Investigations 43, Occasional Paper 5, University of Tennessee, Knoxville.

Charles, Tommy and James L. Michie
1992 South Carolina Paleo Point Data. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 242-247. Council of South Carolina Professional Archaeologists, Columbia.

Coe, Joffre L.
1952 The Cultural Sequence of the Carolina Piedmont. In *Archaeology of the Eastern United States*, edited by J.B. Griffin, pp. 301-311. University of Chicago Press, Chicago.

1964 The Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Society* 54(5).

Daniel, I. Randolph, Jr.
1992 Early Archaic Settlement in the Southeast: A North Carolina Perspective. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 68-77. Council of South Carolina Professional Archaeologists, Columbia.

Drucker, Lesley
1997 *Preliminary Investigation of Site 38RD1082, Kiva Construction Project, Richland County, South Carolina*. Resource Studies Series 165. AF Consultants, Columbia.

Ferguson, Leland G.
1971 *South Appalachian Mississippian*.

Ph.D. dissertation, University of North Carolina, Chapel Hill. University Microfilms, Ann Arbor, Michigan.

Goodyear, Albert C., III and Glen T. Hanson
1989 *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*. Anthropological Studies 9. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Goodyear, Albert C., John H. House, and Neal W. Ackerly
1979 *Laurens-Anderson: An Archaeological Study of the Inter-Riverine Piedmont*. Anthropological Studies 4, Occasional Papers of the Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Green, Edwin C.
1932 *A History of Richland County*. R.L. Bryan, Columbia.

Gunn, Joel D. and Kathy Wilson
1993 *Archaeological Data Recovery Investigations at Sites 38CT54 and 38CT58 Along the S.C. 151 Jefferson Bypass, Chesterfield County, South Carolina*. Garrow and Associates, Raleigh. Submitted to the S.C. Department of Highways and Public Transportation, Columbia.

Hilliard, Sam B.
1984 *Atlas of Antebellum Southern Agriculture*. Louisiana State University Press, Baton Rouge.

House, John H. and Ronald W. Wogaman
1978 *Windy Ridge: A Prehistoric Site in the Inter-riverine Piedmont of South Carolina*. Anthropological Studies 3. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Kovacik, Charles F. and John F. Winberry
1987 *South Carolina: The Making of a Landscape*. University of South Carolina Press, Columbia.

Lawrence, Carl B.
1978 *Soil Survey of Richland County, South Carolina*. U.S.D.A., Soil Conservation Service, Washington, D.C.

Lipscomb, Terry W.
1991 *Battles, Skirmishes, and Actions of the American Revolution in South Carolina*. South Carolina Department of Archives and History, Columbia.

Mathew, William M.
1992 *Agriculture, Geology, and Society in Antebellum South Carolina: The Private Diary of Edmund Ruffin, 1843*. University of Georgia Press, Athens.

Mills, Robert
1972 [1826] *Statistics of South Carolina*. Hurlburt and Lloyd, Charleston. 1972 facsimile ed. Reprint Press, Spartanburg, South Carolina.

Michie, James L.
1966 The Taylor Point. *The Chesopiean* 4(5-6):123.

1977 *The Late Pleistocene Human Occupation of South Carolina*. Unpublished Honor's Thesis, Department of Anthropology, University of South Carolina, Columbia.

1992 The Taylor Site: An Early Occupation in Central South

Carolina.. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 208 - 241. Council of South Carolina Professional Archaeologists, Columbia.

n.d. *The Discovery of Old Fort Congaree*. Research Manuscript Series 208. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Moore, John Hammond
1993 *Columbia and Richland County: A South Carolina Community*. University of South Carolina Press, Columbia.

Neuffer, Claude Henry
1981 *Names in South Carolina*. 28:9.

News and Courier
1884 *South Carolina in 1884: A View of the Industrial Life of the State*. News and Courier Presses, Charleston.

Oliphant, Mary C. Simms
1964 *The History of South Carolina*. Laidlaw Brothers, River Forest.

Oliver, Billy L.
1981 *The Piedmont Tradition: Refinement of the Savannah River Stemmed Point Type*. Unpublished Master's Thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

1985 Tradition and Typology: Basic Elements of the Carolina Projectile Point Sequence. In *Structure and Process in Southeastern Archaeology*, edited by Roy S. Dickens and H. Trawick Ward, pp. 195-211. The University of Alabama Press, University.

Oliver, Billy L., Stephen R. Claggett, and Andrea Lee Novick
1986 Lithic Analysis. In *Indian and Freedmen Occupation at the Fish Hall Site (38BU805), Beaufort County, South Carolina*, edited by Michael Trinkley, pp. 183-207. Research Series 1. Chicora Foundation, Inc., Columbia.

Phelps, David S.
1983 Archaeology of the North Carolina Coast and Coastal Plain: Problems and Hypotheses. In *The Prehistory of North Carolina: An Archaeological Symposium*, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 1-52. North Carolina Division of Archives and History, Department of Cultural Resources, Raleigh.

Ryan, Thomas M.
1972 *Archaeological Survey of the Columbia Zoological Park, Richland and Lexington Counties, South Carolina*. Research Manuscript Series 37. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Sassaman, Kenneth E.
1983 *Middle and Late Archaic Settlement in the South Carolina Piedmont*. Unpublished master's thesis. Department of Anthropology, University of South Carolina, Columbia.

1985 A Preliminary Typological Assessment of MALA Hafted Bifaces from the Pen Point Site, Barnwell County, South Carolina. *South Carolina Antiquities* 17:1-17.

1993 *Early Woodland Settlement in the Aiken Plateau: Archaeological Investigations at 38AK157, Savannah River Site, Aiken County, South Carolina*. Savannah River Archaeological Research Papers 3. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1995 The Cultural Diversity of Interactions Among Mid-Holocene Societies of the American Southeast. In *Native American Interactions: Multiscalar Analyses and Interpretations in the Eastern Woodlands*, edited by M.S. Nassanmey and K.E. Sassaman. University of Tennessee Press, Knoxville (in press).

Sassaman, Kenneth E. and David G. Anderson

1990 Typology and Chronology. In *Native-American Prehistory of the Middle Savannah River Valley*, edited by Kenneth E. Sassaman, Mark J. Brooks, Glen T. Hanson, and David G. Anderson, pp. 143-216. Savannah River Archaeological Research Publication 1. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1994 *Middle and Late Archaic Archaeological Records of South Carolina: A Synthesis for Research and Resource Management*. Council of South Carolina Professional Archaeologists, Columbia.

Sassaman, Kenneth E., Mark J. Brooks, Glen T. Hanson, and David G. Anderson

1990 *Native American Prehistory of the Middle Savannah River Valley*. Savannah River Archaeological Research Papers 1. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

South, Stanley A.

1959 *A Study of the Prehistory of the Roanoke Rapids Basin*. Master's thesis, Department of Sociology and Anthropology, University of North Carolina, Chapel Hill.

State Department of Agriculture, Commerce, and Immigration

1907 *Handbook of South Carolina: Resources, Institutions and Industries of the State*. The State Company, Columbia.

Townsend, Jan, John H. Sprinkle, Jr., and John Knoerl

1993 *Guidelines for Evaluating and Registering Historical Archaeological Sites and Districts*. Bulletin 36. National Park Service, National Register of Historic Places, Washington, D.C.

Trinkley, Michael

1976 *A Typology of Thom's Creek Pottery from the South Carolina Coast*. Unpublished Master's thesis. Department of Anthropology, University of North Carolina, Chapel Hill.

1980 *Additional Investigations at 38LX5*. South Carolina Department of Highways and Public Transportation, Columbia.

1993 *Historical, Architectural, and Archaeological Survey of the Palmetto Iron Works, 1802 Lincoln Street, City of Columbia*. Research Contribution 109. Chicora Foundation, Inc., Columbia.

Trinkley, Michael, Debi Hacker, and Natalie Adams

1993 *Life in the Pee Dee: Prehistoric and*

Historic Research on the Roche Carolina Tract, Florence County, South Carolina. Research Series 39. Chicora Foundation, Inc., Columbia.

Walthall, John A.
1980 *Prehistoric Indians of the Southeast: Archaeology of Alabama*. University of Alabama Press, University.

Ward, Trawick
1983 A Review of Archaeology in the North Carolina Piedmont: A Study of Change. In *The Prehistory of North Carolina: An Archaeological Symposium*, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 53-81. North Carolina Division of Archives and History, Department of Cultural Resources, Raleigh

Waring, Antonio J., Jr.
1968 The Refuge Site, Jasper County, South Carolina. In *The Waring Papers: The Collected Works of Antonio J. Waring, Jr.*, edited by Stephen B. Williams, pp. 198-208. Papers of the Peabody Museum of Archaeology and Ethnology 58.

Williams, Stephen B.
1965 The Paleoindian era: Proceedings of the 20th Southeastern Archaeological Conference. *Southeastern Archaeological Conference Bulletin* 2.

Yohe, Robert M., II
1996 Analysis of Flaked Stone Artifacts. In *Archaeological Laboratory Methods: An Introduction*, edited by Mark Q. Sutton and Brooke S. Arkush, pp. 39-68. Kendall/Hunt Publishing, Dubuque, Iowa.