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An Archeological Survey of the Right-of-Way for South Carolina Electric and Gas Company's Proposed Edenwood 230 Kilovolt Tie Lines Project, Lexington County, South Carolina

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An Archeological Survey of the Right-of-Way for South Carolina Electric and Gas Company's Proposed Edenwood 230 Kilovolt Tie Lines Project, Lexington County, South Carolina

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AN ARCHEOLOGICAL SURVEY OF THE RIGHT-OF-WAY FOR
SOUTH CAROLINA ELECTRIC AND GAS COMPANY'S
PROPOSED EDENWOOD 230 KILOVOLT TIE LINES PROJECT,
LEXINGTON COUNTY, SOUTH CAROLINA

by

Marion F. Smith, Jr.
Research Manuscript Series, No. 115

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Prepared by the
INSTITUTE OF ARCHEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
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FOREWORD

The South Carolina Electric and Gas Company has been mindful of its responsibilities for full consideration of the impact of their various construction projects on archeological and historical resources in South Carolina. In meeting these responsibilities, the Company has, on several occasions, contracted with the Institute of Archeology and Anthropology at the University of South Carolina for archeological assessments and excavations on South Carolina Electric and Gas projects.

Such a contract was anticipated for work on the Edenwood Project but was not possible because at the time of contract negotiations the Institute was under a state-wide hiring "freeze." It was not then possible to hire an archeologist to do the job. Instead, the Company hired an archeologist, selected by the Institute, who worked at the Institute on this Edenwood project, and on subsequent South Carolina Electric and Gas projects.

Thus this evaluation of the impact of the Edenwood power transmission lines on archeological resources was done by an employee of the South Carolina Electric and Gas Company working within the Institute of Archeology and Anthropology and using the Institute's facilities. Funding of the project was mainly by the Company but was supplemented in kind by Institute staff and facilities. Drafting, photography, equipment, space, typing, and professional consultation were provided by the Institute. This is an outstanding example of sincere cooperation between the Company and the Institute and another example of the ability of projects for modern industrial growth to proceed within a framework of concern for the preservation and conservation of the cultural heritage of South Carolina.

Robert L. Stephenson
Director and State Archeologist
Institute of Archeology & Anthropology
University of South Carolina
Columbia, South Carolina

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Because of the close cooperation of South Carolina Electric and Gas Company and the Institute of Archeology and Anthropology in supporting this project, thanks are due to a large group of people. Mr. Esca H. Crews, Jr., Vice President and Group Executive of South Carolina Electric and Gas Company was responsible for the overall direction on the South Carolina Electric and Gas side of the joint endeavor. Virtually everyone in Mr. James Addison's Transmission Engineering group at South Carolina Electric and Gas has helped in one way or another. I would like to mention specifically James Addison, James Boney, Rick Thomas, David Burkhalter, Charles Renew, and Albert Lyons.

At the Institute, the Director, Dr. Robert L. Stephenson, spent much time and effort helping to iron out the many diverse problems that were encountered in the course of this survey effort. Several others at the Institute were of great assistance, especially Paul Brockington, John House, and Ron Wogaman. A. O'Neal Jackson drafted the maps, Gordon Brown was responsible for the processing of the photographs, and Susan Jackson edited this report. Sue Jane Alsing typed the final draft of this manuscript. Mr. James L. Michie, whose informed knowledge of the local archeological record has been developed through years of experience, gave generously of his time and advice.

INTRODUCTION

In support of South Carolina Electric and Gas Company's environmental assessment of the Edenwood 230 Kilovolt Tie Lines project for the South Carolina Public Service Commission, the writer conducted an archeological survey of the area to be affected by the two new power lines in Cayce, South Carolina. The field work for this survey was done intermittently between February 8 and February 28, 1977.

The two proposed Edenwood tie lines, that will parallel each other about 75 feet apart over a 0.67 mile route, are planned to increase the line capacity to the Edenwood Substation on the southwest side of Columbia, South Carolina. The new lines are to be constructed between two existing power lines in a previously cleared right-of-way. They will connect the Edenwood Substation to the existing Wateree-Denny Terrace 230 Kilovolt line (Fig. 1). Each of the two new lines will be carried on "H-frame" structures, with approximately 18 feet between the two poles of each structure. The structures of each line will be set about 600 feet apart. The two lines now in place will not be substantially altered by this project.

The results of several recent surveys in this immediate area have been used in the course of this survey. These include the reports by Ackerly (1976); Anderson, Michie, and Trinkley (1975); Garrow, Cocker, and Warner (1977); Goodyear (1975); and, most notably, Wogaman, House, and Goodyear (1976).

This survey and report have three goals: (1) to locate any archeological resources within the project right-of-way, (2) to evaluate the significance of such resources in relation to the project's anticipated impact on them, and (3) to augment our knowledge of South Carolina's prehistory by furnishing data relevant to significant problems now being studied by archeologists. No historic archeological sites were previously known within the project area, nor did this survey discover any. Small artifact collections were made, however, from seven prehistoric sites. Five of these were known before this survey began.

Project impact on the archeological remains that were located during this survey depends on the physical effects of construction activities as well as on the archeological significance of the sites. In this previously cleared right-of-way, the most significant damage is expected to be caused by the movement of heavy equipment over unprepared ground and by excavations for the power lines' supporting structures.

Two sites, 38LX124 and 38LX145, will not be endangered by the construction as they are outside the project area. Locus A of site 38LX132 is thought to have little archeological significance due to its prior destruction by modern roadbuilding. Four loci, 38LX127, 38LX132B, 38LX133, and 38LX146, are of moderate significance. Restrictions on heavy equipment movement and on the placement of structures should prevent

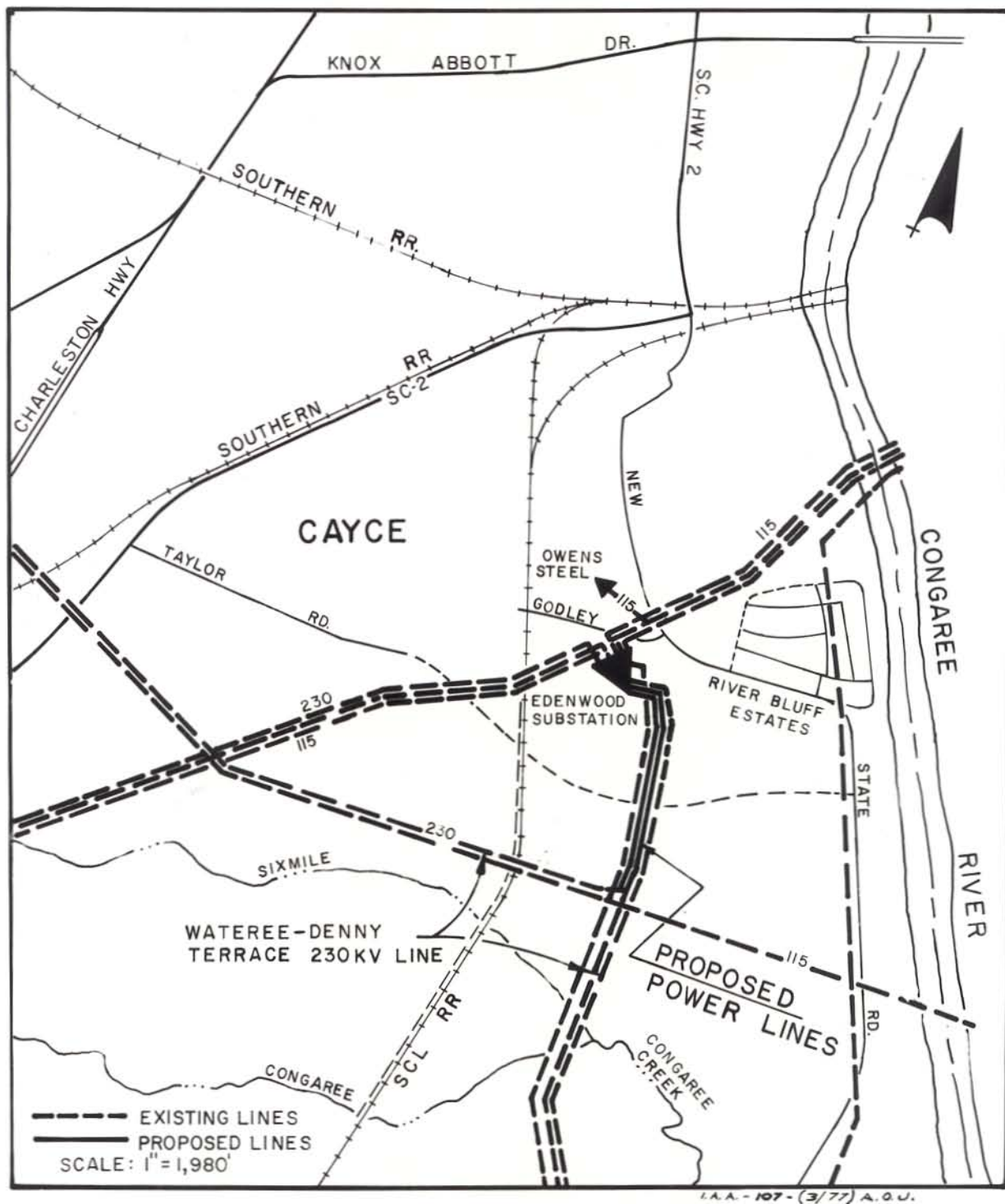


FIGURE 1: Vicinity of Edenwood Project.

substantial damage to them. These measures, though applicable, may not be sufficient to mitigate the impact on site 38LX135. This site appears to have greater archeological significance than the others located during the survey due to its probable long term habitation by several different groups and to the possible preservation there of fragile cultural features. This site's vulnerability and importance appear to warrant a limited archeological excavation in advance of construction, so that possible impact from the Edenwood project will be minimized.

ENVIRONMENTAL SETTING

Archeologists have, for a long time, emphasized the importance of the natural environment in the study of cultures, or human lifeways. It has been recognized that an environment both causes and is caused, in part, by features of a particular culture through a set of complex relationships (Steward 1955; Flannery 1968). Culture is a learned--not inherited--means of coping with a particular set of environmental factors. This suggests that the relationship between a culture and its environment is one of more or less successful adaptation. A culture is adapted in the degree to which it is stable through time amid the normal vicissitudes of its environment. On the other hand, environmental change outside the normal range may prompt changes in the culture whose adaptation thus becomes outmoded. It is in the study of culture change that archeology is uniquely competent among the social sciences, since its data cover longer time spans than historic sources do. Indeed, many cultural systems became extinct before historic times, and can be studied only through archeology. It is therefore imperative that archeologists be familiar with and utilize data concerning macro- and microenvironmental conditions in a given project area.

Special Aspects of the Project Area Environment

The environment of this small study area is attractive for human use because of its position within the Congaree Valley, about 2.5 miles south of a major geologic boundary: the Fall Line, where the Piedmont Uplands and the Atlantic Coastal Plain meet. A previous discussion of this general environment (Goodyear 1975) has pointed out especially relevant cultural-ecological features of this locality. One feature is the presence of swamp edge microenvironments, which probably existed here in the prehistoric past as well. Such areas contrast with the better-drained terrace tops so that the study area as a whole would have offered exploitable resources of some variety. The swamps also suggest the possibility of favorable conditions for the preservation of cultural material that is more perishable than stone. In a wider perspective, the proximity of this riverine study area to two other major environmental zones, the Piedmont and the Coastal Plain, is another significant feature of this environment. These other zones offer a large variety of resources within a short distance. Other features that favor human occupation close to the Fall Line are also present. The shallow, rock-strewn nature of the Congaree River here would have encouraged both river fording and portaging in the vicinity (Anderson, Michie, and Trinkley 1974). Obstructions in the Congaree channel also probably made it a seasonally desirable place to fish. Hudson has noted that, "The best freshwater fishing in the Southeast was at the fall line, where in certain seasons fish could be taken in vast numbers as they swam upstream to spawn" (Hudson 1976: 19).

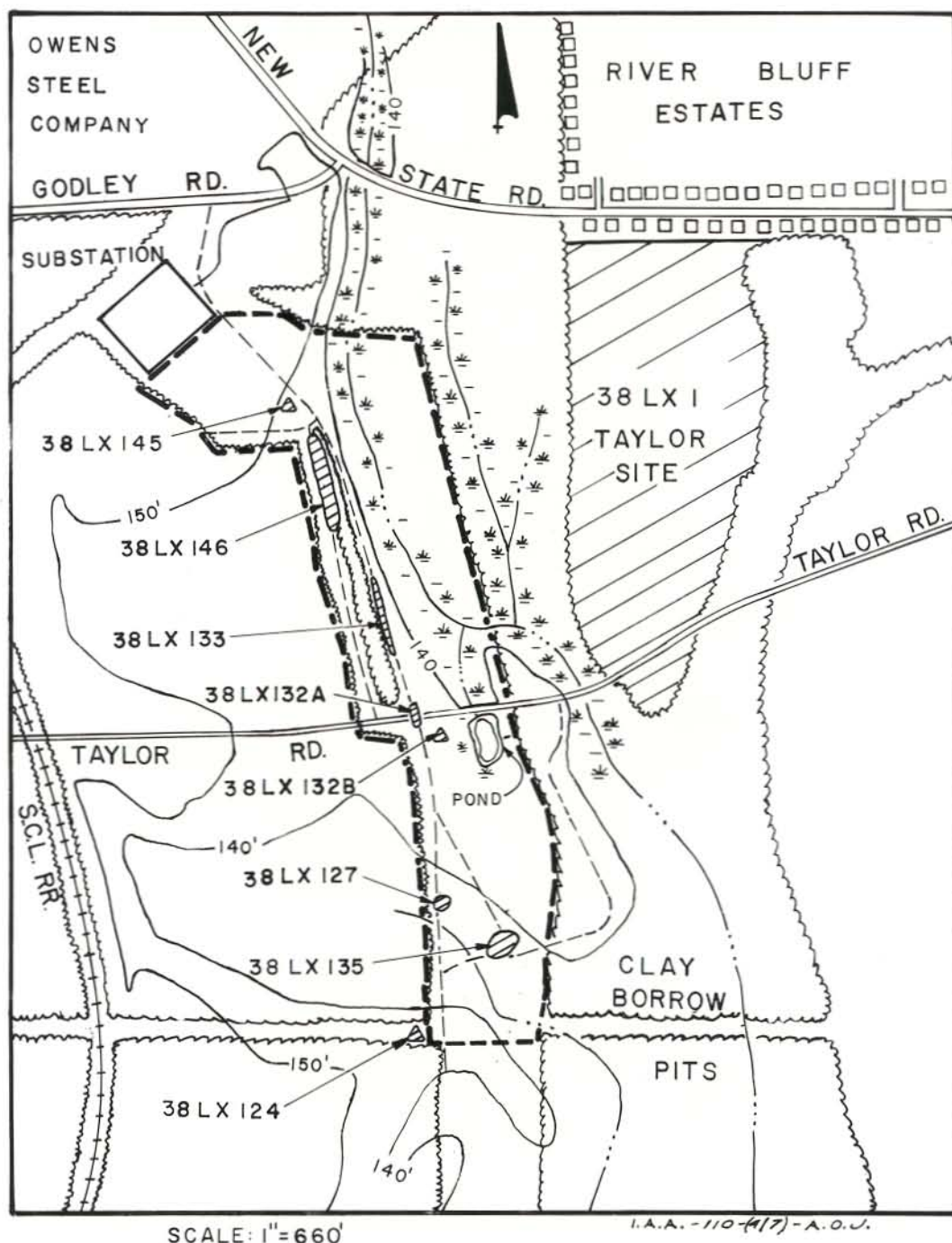
Modern Environment

The climate of the project area is warm, temperate and subhumid. At Columbia, the January temperature averages 46°F., rising to 81° in July. The growing season averages 248 days per year. Columbia receives 42" of precipitation in a normal year. Climatically limiting factors such as cold, drought, floods, and windstorms are notably moderate in frequency and severity (United States Department of Agriculture 1941). This climate results in a fairly rich biota that generally may be relied upon to produce many exploitable resources year after year, as well as to make the area favorable for agriculture.

Physiography and geology are of great significance in determining the raw materials upon which the various processes of soil formation may operate and the lithic raw materials for toolmaking. The nearby Piedmont Plateau, immediately northwest of the Fall Line, runs east to west, just north of U. S. Highway 1. This physiographic province of rolling hills is underlain in the area of the Edenwood project by the Carolina slate belt. Constituent rocks of this belt are of a low rank metamorphic type--shales and schists--rather than true slate. The principal rock is a fine-grained argillite (Lawrence 1976; Overstreet and Bell 1965). In localized areas throughout the Piedmont, white or clear quartz chunks occur in the soil as relics of weathered veins and quartz was a particularly important raw material for toolmaking by prehistoric peoples.

Coastal Plain geology in Lexington County is represented by four different unconsolidated marine deposits of Cretaceous age. Underlying the study area is one of these, the Sunderland formation. It is "... a nearly level marine estuary terrace which extends inland in the Congaree River Valley. It consists chiefly of sand and gravel. Elevations range from 120 to 160 feet. This formation underlies the soils of the Congaree-Toccoa-Brogdon association" (Lawrence 1976: 82). The nature of the geologic substrate indicates that most useful stone-working materials of the project area have been imported, either by stream action or by humans.

Soils largely determine, and are determined by, other important factors of the environment. Climate, for example, has significant effects on the rate and outcome of soil formation processes and the composition of plant communities depends on the nature of the soils that nourish them. Generally, the major soils of the Congaree-Toccoa-Brogdon association are "nearly level, well drained soils that are predominantly loamy throughout" (Lawrence 1976: 4). The major soil types occur primarily on floodplains. Depressions and broad flats have poorly drained, minor soils that are usually covered with hardwoods. Soil type is significant in that it directly effects any past or present occupation that is based on agriculture. A rough idea of the current agricultural suitability of the immediate survey area can be derived from Figure 2. The marshy areas fall into Lawrence's unsuitable minor soils category, while nearly all of the remaining right-of-way is composed of the Orangeburg loamy sand (0-2% slopes) soil series. This soil type generally has few limitations for crops or grasses (Lawrence 1976).



KEY:

- TREE LINE
- BORDER OF SURVEYED AREA
- SITES
- POORLY DRAINED AREAS
- FIELD ROAD
- IMPROVED ROAD
- INTERMITTENT STREAM

FIGURE 2. Site map.

The most obvious hydrological feature of the project area is its position on the Congaree River Valley's second terrace, about 130 to 150 feet above sea level. The Congaree River runs south-southeast, no more than 0.7 miles east of the right-of-way (Fig. 1). Sixmile and Congaree Creeks meet about 0.5 miles south of the project area before flowing into the Congaree. Each creek has a swampy margin, although Sixmile Creek has a fairly low discharge over most of the year, appearing in drier times as a marshy slough no more than 300 feet wide (Garrow, Cocker, and Warner 1977).

Water resources also occur in the immediate survey area. Small intermittent streams flow through the right-of-way, and a small pond existed less than a decade ago just south of Taylor Road (Fig. 2). The portions of the project area above 140 feet appeared to be well drained during the field survey, but boggy ground and standing water were evident in the indicated lower areas.

The plants of the study area lie in a transition zone between those typical of the Congaree River bottomlands and those of the upland Sand Hills region. Five to ten feet difference in elevation appears to determine the general vegetation type. In less xeric areas, the uplands contain longleaf pine forests, with many shrubs and attractive flowers (Braun 1950: 284-285). The typical bottomland flora of this area, such as probably occurred in the swampy areas of the right-of-way, differed from that of the upland zones.

The forest on the hardwood bottoms [those areas flooded for considerable periods] of the Congaree River, in South Carolina, consists chiefly of red gum, cottonwood (Populus heterophylla), white ash, elm, sycamore, hackberry, some few oaks, and red and silver maples (Chittenden 1905, as quoted in Braun 1950: 293).

The Piedmont, undoubtedly exploited by the past inhabitants of this area, now exhibits a rather quilted pattern of even-age pine stands (relics of old clear cuts), some hardwood stands, abandoned fields in various stages of succession, and fields now in use. Few remnants of the aboriginal flora exist (Braun 1950: 262-263).

It appears that the upland forest, before European colonization, was dominated by oak and hickory. However, it is likely that both natural excessive drainage in the sand hills and artificial burning led, even in prehistoric times, to the dominance of longleaf pines in local areas otherwise suited for the oak-hickory forests (Shelford 1963: 57, 86-87). Fires and extensive logging favoring the fire-resistant but shade-intolerant longleaf pine increased after Euro-African contact (Shelford 1963: 87) and possibly reduced the extent of the oak-hickory forests. However, the cover of the bottomlands may have been similar in late prehistoric times to that of today, as historic peoples have found the uplands more desirable for many purposes than poorly drained areas.

When compared with the fauna of such habitats as the North American temperate prairie, the pine and oak-hickory forests contain relatively small populations and small numbers of species. Major fauna of pine

forests are the timber rattlesnake, white-tailed deer, gray fox, fox squirrel, eastern cottontail, gray wolf, and mountain lion--in the few areas where they have not been decimated by hunting or habitat destruction. Oak-hickory forests can support species such as turkey, wolf, bobcat, gray and fox squirrel, raccoon, opossum, striped skunk, and a few bear and gray fox (Shelford 1963: 87,59). Riverine and wetland zones would have offered such special resources as fish and waterfowl, especially at certain seasons of the year.

The modern environment described in this section may not be projected backward in time more than perhaps 5,000 years. A good, brief review of environmental change in the Southeastern United States may be found in House and Ballenger (1976).

Effects of Historic Land Use

The Euro-African use of this environment has drastically altered its character. Clearing for agricultural purposes probably began well before the end of the eighteenth century in the project area, as Saxe Gotha Township was founded in the immediate vicinity in 1733 (McDowell n.d.). Even in the unsuitable wetlands, effects were probably felt through logging activities as trees of the hardwood bottoms often exceeded three feet in diameter (Braun 1950: 283), and this resource was quickly exploited.

Before power line construction, the right-of-way north of Taylor Road, with the probable exception of that section from the substation site south to the tree line, was wooded. Personal communication with South Carolina Electric and Gas personnel, and field observation of tree stumps of up to 50 centimeters (20 inches) in diameter in the poorly drained northern sector support this. The substation section and the area south of Taylor Road were crop or pasture land.

Recent field observations establish that all of the vegetation in and close to the project area is relatively recent secondary growth. The cleared right-of-way was covered with hip-high grass, wild onion, and other weeds yielding to brushy plants and briars in the boggy areas. The right-of-way margins were in young pines (less than 30 feet tall), or hardwoods along the intermittent streams (Fig. 2). The conditions within the right-of-way are principally due to the clearing for the Wateree-Edenwood line in 1969 and 1970 and the subsequent selective spraying of herbicides and other clearing techniques necessary for maintaining the line.

THE HUMAN PAST IN THE EDENWOOD PROJECT AREA

Both the upper Congaree River Valley in general and the immediate vicinity of the project area are rich in archeological resources, although excavation efforts (Michie 1969, 1970; Trinkley 1974) have been limited. The significance of the area's cultural resources is indicated by the proximity of sites that are on or have been nominated to the National Register of Historic Places. The Taylor site, 38LX1, is now on the Register, while the Manning site, 38LX50, was nominated in 1976 (Wogaman, House, and Goodyear 1976). Both of these are within a mile of the project area.

A recent comprehensive review of past research efforts and results in this locality may be found in Wogaman, House, and Goodyear (1976). Below, drawing largely upon their treatment, is a summary of information about past human occupation in the Southeast.

Paleo-Indian: Before 8500 B.C.

This earliest occupation of North America may have begun as early as 13,000 B.C. (Adovasio, et al. 1975). Although the Southeast in particular lacks evidence of unquestionable associations of cultural material and extinct fauna such as the mastodon (Dragoo 1976), people of this period are thought to have been nomadic hunters of large mammals, most species of which are now extinct. Sites of this period are recognized by a distinctive series of fluted stone projectile points. Wauchope (1939) reported such artifacts in the vicinity, while James Michie (n.d.) described fluted points from the Taylor and Manning sites. The project area is thus clearly associated with occupations within the Paleo-Indian Period.

Archaic: 8500-2500 B.C.

Generally, this period is regarded as one of increasingly finer-tuned adaptation to the post-glacial environment. In the long adjustment by Southeastern cultures to changing environmental conditions, such factors as the adoption of a seasonal subsistence round and the development of woodland-oriented technology were important (Caldwell 1958).

The Early Archaic is identified by notched and serrated Dalton and Palmer projectile points (Coe 1964), often associated with well-made end scrapers. In this locality, Dalton points occur at the Taylor and Manning sites and at 38LX19. Dalton cultural features at the Taylor site included two hearths and several stone-knapping loci. Palmer points have been found at these sites as well as at several other nearby localities (Goodyear 1976: 8). Well-made unifacial tools occur at nearby sites (Wogaman, House, and Goodyear 1976: 11).

The Middle Archaic started about 6000 B.C. and is identified in South Carolina by stemmed Morrow Mountain and lanceolate Guilford points. Locally, the Thom's Creek site (38LX2) excavations revealed Guilford and Morrow Mountain occupations with associated features identified as fire pits (Michie 1969). Many other sites close by have produced the diagnostic projectile points.

The Late Archaic began about 3500 B.C. and ended between 2500 and 1000 B.C. at different places in the Southeast with the appearance of pottery. This time is thought to have been one of increased stability of residence, as inferred from deeper and more extensive refuse middens. The South Atlantic coast and its major drainages up to the Fall Line showed this trend earliest and people there began to make North America's earliest pottery (fiber-tempered) by about 2500 B.C. (Stoltman 1972). Large, stemmed Savannah River points--probably knives--date to the Late Archaic and perhaps slightly later. Sand-tempered Thom's Creek pottery overlaps fiber-tempered wares in time, but is probably somewhat later (Anderson 1975: 184). Ground stone tools and containers formed of steatite became common during this period. Contracting-stemmed points very close in form to some Morrow Mountain examples are thought to date to this period, and occur at numerous sites in the vicinity (Wogaman, House, and Goodyear 1976). Locally, the Godley site (38LX141), the Manning site, and several others have yielded material of at least one of the types mentioned above (Wogaman, House, and Goodyear 1976).

Woodland: 1000 B.C.--A.D. 1000

This period is identified with the first widespread horticulture in the Southeast. That the first widespread use of pottery also dates to this time is perhaps no coincidence, but may indicate greater stability of residence due to the exploitation of domesticated plants. Deptford check stamped pottery made between approximately 500 B.C. and A.D. 500 in the local area (Goodyear 1976), and a plain, sand-tempered type characterized this period. Locally, the Manning site, among several others, has produced Woodland artifacts.

South Appalachian Mississippian: A.D. 1000-1700

During Mississippian times, many Southeastern Indians were intensive corn farmers living in villages on large floodplains. There is also evidence for seasonal and expedient exploitation of other zones and resources. Thus one would expect village sites to be associated with alluvial soils, while low density scatters of stone-working waste and isolated arrowpoints would be associated with upland areas (Ackerly 1976; Goodyear 1976; Wogaman, House, and Goodyear 1976). Chicora ware group pottery (South 1973), small triangular arrowheads, and the use of black or gray flint (transported from the Ridge and Valley Province beyond the Blue Ridge) for toolmaking are associated with this time span and locality. Many Mississippian village sites occur in the Congaree Valley.

Historic

The earliest permanent European settlement in the Columbia area was Old Fort Congaree (1718-1722), established for defense against the Catawba and Cherokee Indians, as well as for promoting the Indian trade (McDowell n.d.). The fort's exact location has never been determined, although McDowell places it a little over a mile southeast of the project area, where Congaree Creek turns abruptly south before joining the Congaree River. Intensive settlement began in the area with the settling of Saxe Gotha in 1733. Goodyear's rough position for it (1976, Fig. 6) includes the project area, but there is some question as to how much of the settlement shown on old plats was ever occupied.

Colonial material is represented in the vicinity of the project at the Manning site and at 38LX54. Nineteenth century material is reported nearby by Wogaman, House and Goodyear (1976). No diagnostic historic artifacts were found during the Edenwood survey.

SURVEY METHODS

Preliminary research included checking the Statewide Archeological Site Inventory of the Institute of Archeology and Anthropology for previously recorded sites; consulting with Institute staff and others who are familiar with the archeology of the area; indirect consultation with the South Carolina Department of Archives and History (personal communication from John Califf to Rick Thomas of South Carolina Electric and Gas Company); and referring to many of the works cited in this report for the environmental and cultural background of the project area. Two previous archeological surveys have reported on the project area itself (Wogaman, House, and Goodyear 1976; Garrow, Cocker, and Warner 1977).

Contract archeology may be divided into three levels of intensity of field work, often comprising successive phases of a single project: reconnaissance, intensive survey, and mitigation (Brockington 1977). Reconnaissance is appropriate to the route selection stage of a given project. A common situation might be that archeological input is a factor influencing the choice of one among several potential power line or highway routes. In such a case, pedestrian survey of exposed ground with limited subsurface testing may be called for (eg., Wogaman, House, and Goodyear 1976).

The second phase is an intensive survey. This is done in the stage of planning at which the route and thus the area of impact are precisely known. The goal at this phase is not to rank various project alternatives by their relative impact. It is rather to obtain an accurate evaluation of significance and impact for every cultural entity (typically, a site) to be affected. If this goal is attained, then a sound plan for the mitigation of impact is possible. A primary distinction between reconnaissance and survey is that more subsurface testing is required in an intensive survey, not merely to locate hidden sites, but also to allow a degree of description of all affected sites, to guide mitigation planning. This report documents such an intensive survey.

Mitigation of project impact is performed when the impacts of construction and the significance of archeological resources are well defined. It may involve preservation of the resources (as by minor relocation of structures) or intensive study (as by excavations) of sites to be unavoidably damaged.

Several techniques for field investigation were applied to this intensive survey. Initially, a close inspection was made on foot of all areas of bare ground--in this case, dirt roads. Nearly all of the right-of-way, however, was obscured by vegetation. When cultural material was found, complete surface collection of all observed artifacts was made. Spatial controls on surface collecting were considered but not implemented, as there was no practical method of exposing significant areas of ground. The complete collection of exposed material maximized the sample size of artifacts and its representativeness (cf. House and

Ballenger 1976), and assured the comparability of samples from different sites. One new site, 38LX146, was discovered by surface inspection (Table 1).

The second technique involved subsurface testing using a transversely randomized form of systematic sampling (TRS sampling). The procedure was to walk from the Edenwood substation end of the right-of-way east or south toward the southern end of the project area along the dirt road that runs just inside the right-of-way's southern and western edges. Every 200 feet along the road a decision was made randomly as to how far across (transverse or perpendicular to) the right-of-way a post hole should be placed. Two flips of a coin selected locations 80, 160, 240, or 320 feet from the road edge. The systematic aspect of this technique ensured that the entire length of the right-of-way would be represented. The randomization of the transverse distance minimized the role of extraneous factors such as the ease of access in affecting hole placement. In the TRS sampling, 19 post holes of about 15 cm (6") in diameter were excavated to at least 60 cm (23") below surface by a double-bladed post hole digger. The soil brought up was sifted through 0.6 cm (1/4") screen. In all cases, the post holes were taken down at least to the typically sterile, red, sandy clay layer. At nine of the randomly chosen locations, standing water in the right-of-way made a subjective choice of the hole's placement necessary. This decision was based on (1) proximity to the originally chosen location and (2) an estimate of the probability of site preservation (steeper slopes and roads were avoided, for example). One new site, 38LX145, was discovered by TRS sampling.

When cultural material was found at a location, whether it was discovered by surface or subsurface survey methods, intensive subsurface testing of the site was done in order (1) to assess the extent of the site, (2) to recover controlled and therefore comparable samples of artifacts from each site (as by the screening of equal volumes of earth) for purposes such as functional analysis of tools, and (3) to recover large enough samples of artifacts so as to have a prospect of answering culture-historical questions with diagnostic types. Both post holes and larger units address the first problem. When screened post hole samples yielded artifacts, screened 50 by 50 cm (20" square) tests units were used to meet the second goal. In two cases, it was felt that excavation of a 100 cm (39") square unit without the very time-consuming screening was justified by the third goal. Both the 50 cm and 100 cm squares were excavated by natural strata. Strata thicker than 20 cm were divided into arbitrary 20 cm levels.

The various forms of subsurface testing used in this survey appear to have adequately examined all the areas of the right-of-way that looked promising for yielding information about past occupation. The only exceptions to this were the banks of the intermittent stream that site 38LX135 overlooks (Fig. 2). Two post holes aside from those in the TRS sample were placed here. For a summary by sites of procedures applied and results derived, see Table 1.

TABLE 1

SUMMARY BY SITE OF METHODS AND RESULTS OF EDENWOOD SURVEY

SITE	FOUND BY:		EDENWOOD WORK DONE:							
	12th Street Work Done	Edenwood Discovery Technique	Surface Collection	P.H. Hits(a)		50x50 Hits(a)		100x100 Hits(a)		
38LX124	C, G	TRS Sampling	Yes	0	0	0	0	0	0	
38LX127	C		Yes	7	1	1	1	0	0	
38LX132A	C		No Surface Material	4	0	0	0	0	0	
38LX132B			No Surface Material	9	3(b)	1	1	0	0	
38LX133	C		Yes	4	1	1	0	0	0	
38LX135	C		Yes	4	2	1	1	1	1	
38LX145			TRS Sampling	No Surface Material	11	3(b)	1	1	1	1
38LX146			Surf. Inspection	Yes	4	2	1	1	0	0

Total TRS P.H. 19 - 2 hits
P.H. on Stream Bank 2
Total P.H. 64 - 12 hits(c)

Abbreviations:

C - Complete general surface collection
G - Grab surface collection
P.H. - Post holes

Notes:

- (a) A hit is an excavation unit bringing up cultural material
- (b) One of these post hole hits belonged to the TRS phase of the survey, by which means the locus was discovered.
- (c) The total post hole count is diminished by 2 to avoid counting the post holes of (b) twice.

Complex analytical methods were not appropriate for a survey such as this of a very limited area that yielded only small artifact samples. In addition to an attempt to define the cultures and time periods to which sites belonged, the main analytical frame used was the artifact typology developed by the Institute's Highway Archeology program. This scheme is being used in an ongoing attack on such local archeological problems as Fall Line human ecology, variability in prehistoric site function, and prehistoric stone raw material procurement (Wogaman, House, and Goodyear 1976). In using this analytical typology, the data of this survey may become most immediately useful to future studies in this area of larger scope.

SITE INFORMATION

The seven sites (Fig. 2) from which cultural material was collected during the Edenwood survey will be discussed in this section. In this discussion, a "general, complete surface collection" means the spatially uncontrolled, but total collection of all visible artifacts. A summary tabulation for each site of all artifacts recovered by either this survey or that of Wogaman, House, and Goodyear (1976) may be found in the Appendix. Table 2 gives basic information on cultural identification and topographic position for all sites dealt with during this survey.

TABLE 2

GENERAL SITE INFORMATION

SITE 38LX	ELEVATION	TOPOG. POSITION IN 2D TERRACE OF CONGAREE	EXTENT	PROBABLE PERIOD
124	145'	Distinct ridge	Ca. 150m diam?	A, W
127	140'	High area	Uncertain	Early A?
132	145'	Locus B is below A, on down slope to pond	Ca. 75m NNW-SSE	Unknown
133	145'	High area	Ca. 120m in road	Unknown
135	140'	High area overlook- ing intermittent stream	At least 40m NE-SW X 60m NW-SE	All phases of A, Early W
145	150'	High level area	Less than 20m diam.	Unknown
146	145'	High, overlooking intermittent stream	Ca. 160m long in road; at least 10m wide	Unknown

A = Archaic
W = Woodland

38LX124 Due to the position of this previously known site just outside the right-of-way, no subsurface test was made. The general complete surface collection yielded six pieces of stone-working debitage. The data collected here do not alter the picture of 38LX124 presented in the prior Twelfth Street Extension Survey report (Wogaman, House, and Goodyear 1976: 24-25), of a probable Archaic/Woodland multicomponent site.

38LX127 This previously recorded site lies under the existing eastern transmission line, on the same rise as 38LX135, about 100 m to the northwest of that site. The extent of the area of occupation was not determined. The current survey added only small amounts of fire-cracked quartz and quartz debitage to the previously known inventory through a general, complete surface collection, six post hole samples, and one 50 cm square sample. Wogaman, House and Goodyear (1976) reported from a surface collection a small amount of debitage, two utilized flakes, one endscraper, and five biface fragments--all of quartz. The form of the endscraper suggests Early Archaic occupation. Subsurface testing (Table 1) revealed a low artifact density. Modern road erosion and construction activities may have disturbed the site and been responsible for the appearance of light aboriginal occupation. Post-holing revealed that the typical soil profile here is 20 cm (8") of light brown friable sand, overlying 5 cm of a yellowish brown clayey sandy (both apparently culture-bearing levels), beneath which was sterile red sandy clay. Apparent marked variations in topsoil depth seen in post holes may be regarded as evidence of erosion.

Due to this site's location, the proposed power line will not be a direct threat, but construction traffic may impinge upon it.

38LX132 This previously recorded site is located at the intersection of Taylor Road and the field road that runs along the western edge of the right-of-way. One previous survey's general complete collection produced nondiagnostic flakes of quartz, Carolina slate, Coastal Plain chert, and black Ridge and Valley chert (Wogaman, House, and Goodyear 1976). A later survey yielded a distal fragment of a serrated point, a unifacial scraper of chert, and quartz debitage (Garrow, Cocker, and Warner 1977).

The current work involved surface inspection and four post holes at the original locus (Locus A) of the site. None of these yielded cultural remains. Much stratigraphic disturbance had taken place due to roadbuilding and brush moving and burning. In addition to the formerly reported Locus A, another locus (Locus B) of low density was found, about 25 m southeast of the periphery for 38LX132 that was suggested by Wogaman, House, and Goodyear (1976). Two of nine post holes produced four grams of fire-cracked rock and one biface thinning flake, all of quartz. Excavation of a 50 cm square recovered two more pieces of debitage and one split cobble with use wear. These materials came from the upper 25 cm of friable light brown, medium to coarse sand. A possibly intrusive thinning flake was recovered from the next 15 cm. All artifacts were of quartz. No cultural assignment of this site is possible with this artifact inventory. Moreover, the extent of the site

is uncertain, although as defined by all surveys it extends for at least 75 m along a north-northwest to south-southeast axis.

Locus A, at the road intersection, appears to have been destroyed by road building and maintenance, erosion, and right-of-way traffic and maintenance. Locus B appears to be of low density (compared, for example to 38LX135). Some disturbance was also noted at this location, probably due to old field roads and right-of-way activities. It is about 50 m from the western edge of the cleared right-of-way, and the construction of the westernmost set of proposed power lines is expected to affect it.

38LX133 This previously recorded site lies along the western edge of the field road and contains a low density surface scatter of stone artifacts. The site extends about 120 m northward from a point 100 m north of Taylor Road. The east-west extent of the site is uncertain. A previous general, complete collection recovered fire-cracked quartz quartz debitage, one utilized flake of Coastal Plain chert, and an early historic nail (Wogaman, House, and Goodyear 1976).

This survey's general, complete surface collection added fire-cracked quartz and probable quartzite, and quartz and Coastal Plain chert debitage. Four post holes were excavated, one of which yielded fire-cracked quartz. A 50 cm square was excavated and screened adjacent to that post hole, and produced no artifacts. However, the following stratigraphy was noted:

- 0-5 cm, below surface, humus
- 5-15 cm, light brown friable sand
- 15-25 cm, light brown friable sand mottled with red sandy clay
- 25-45 cm, red sandy clay

It is inferred that disturbance in this unit extended to a depth of at least 25 cm.

No cultural assignment of the prehistoric component(s) of this site is possible. Some early historic activity is indicated by the iron nail.

As with the other roadbed sites, erosion, grading, and motor traffic have inflicted considerable damage. For the current project, only heavy equipment disturbance threatens this site as it is 15m from the western edge of the right-of-way.

38LX135 This site was discovered by the Twelfth Street Extension survey. It is close to the lip of a slight ridge that runs roughly from northwest to southeast. To the southwest of the site is a meter-wide, clearly defined, intermittent stream. The surface manifestation of cultural activity is a rather dense lithic scatter. In conjunction with post holes, this surface scatter indicates that 38LX135 extends at least 40 m in a northeast-southwest direction and at least 60 m on a northwest-southeast axis. The densest part of the site appears to be the southeastern portion, where the larger test units were placed.

The procedures used to examine this site are summarized in Table 1. The tabulation of artifacts in the Appendix includes those artifacts collected during this survey and previously by Wogaman, House, and Goodyear (1976).

Stratigraphy noted from the 100 cm square excavated is interesting, as it suggests the possibility of a midden or occupation layer:

- 0-5 cm, dark, rooty humus
- 5-15 cm, dark brown coarse sand of occasionally greasy appearance, with charcoal and orange flecks, containing artifacts.
- 15-20 cm, dark brown coarse sand, mottled with orangish red, containing artifacts.
- 20-25 + cm, red sandy clay, with brown mottles decreasing with depth containing no artifacts

Several factors suggest that this was a habitation site or an often-occupied camp. These include its location 30 m from a now-intermittent stream, the relatively large quantity of fire-cracked rock, the "greasy" or organic look of the dark brown topsoil, the orange and charcoal flecks in the topsoil, the relatively high density of cultural material both on the surface and below it, and the reasonably large subsurface area of the site as indicated by post-holing and other testing.

This site seems to have components from the Early, Middle, and Late Archaic subperiods, as well as from the Early Woodland subperiod. A quartz endscraper most probably dates to the Early Archaic. A quartz point similar to the Morrow Mountain type (Coe 1964) may date from about 4500 to 4000 B.C. One point from the one meter square closely resembles a Savannah River type, but its 45 mm length fits most closely the Otarre type described by Keel (1976: 194-196). He views the Otarre type as the lineal descendant of the larger Savannah River points/knives which were common in the Late Archaic. Otarre-like points co-occur with Thom's Creek ceramics in surface collections from 38LX141 and the Manning site, Area A. They are widespread in the Piedmont and Fall Line areas of South Carolina (John House, personal communication). The other point from the one meter test unit has been identified as a probable Gary type, as defined by Suhm, Krieger, and Jelks (1954: 430-31). It is within the morphological and size range of that type, although its approximate 30 mm length is below the average.

There is a problem in the morphological intergrading--attributed by Phelps (1964) to a lineal relationship--of Gary points with the much earlier Morrow Mountain type. The Gary identification here is supported by its close association in the test unit with the Otarre point of roughly similar age. Bullen and Greene (1970) report "Type 3" points resembling the Gary type from the Stallings Island site in the Savannah River. These "Type 3" points are concentrated in strata also yielding fiber-tempered pottery. Associated radiocarbon dates caused Bullen and Greene to suggest that early fiber-tempered pottery there dates at least to about 1800 B.C. Thus both Otarre and Gary types indicate occupations in the period transitional to pottery-making and possibly horticultural

societies in the range of 2500 to 1000 B. C. Finally, the single plain, sand tempered sherd from the one meter unit may indicate Woodland period activity.

The preservation of this site is surprisingly good, in light of adverse factors such as two field roads running through it, 10-15° slopes with attendant erosion over part of it, location close to the centerline of the more eastern of the existing rights-of-way, and probable long-term cultivation. While it may seem unlikely that features such as hearths remain intact, it must be remembered that the long-farmed Taylor site nearby produced undisturbed material from just over 30 to 36 cm deep (12-14").

38LX145 This site was discovered during the TRS post-holing of the right-of-way. No surface manifestations were noted despite the dirt road that runs almost over it, well exposing the surface. The site lies on a high (150' elevation), fairly flat, well-drained area about 120 m south of the Edenwood substation. Extensive post-holing (10 units) was done in an attempt to define the spatial limits of this entirely buried site. Results were that one posthole 8 m north of the original posthole and one hole over 8 m west of that point contained cultural material. The best estimate would be that this site has no more than a 20 m radius centered on the original post hole.

Additional testing by 50 cm and 100 cm units shows a localized, dense cluster of debitage, almost entirely of quartz and very homogeneous in the forms exhibited. While fire-cracked rock also occurred, no diagnostic materials were recovered (Appendix). The half meter square was excavated to 60 cm and a posthole was excavated inside the square to 80 cm. The one meter unit was excavated to 40 cm. Stratigraphy observed from the larger test units showed the following indistinct layers:

- 0-10 cm, below surface, dark brown friable sand, containing no artifacts
- 10-20 cm, light brown to yellowish brown sand, containing artifacts
- 20-30 cm, the above material grading smoothly to the below material, containing artifacts
- 30-80 cm, red sandy clay, with a few possibly intrusive artifacts in the uppermost 10 cm

While no cultural or period designation can be made with the available information, this site is significant because of its small size, homogeneity, and high density of artifacts which suggest that it may be the legacy of a single cultural episode. This offers an opportunity for careful excavation to reconstruct a single or small number of events unencumbered by a welter of other activities.

Considerable disturbance from operations relating to agriculture, roads, and power lines has occurred at 38LX145. The major concentration of the site is only four meters from a dirt road. The very lack of cultural material in that road suggests, however, that the site is not

rapidly eroding at this time. It appears that only vehicular construction traffic should affect this site, as it is removed from the proposed new power line routes.

38LX146 This site was defined from a large but diffuse lithic scatter in a field road (Fig. 2). This road runs on top of, and parallel to, a long, low ridge, the east side of which is in young pines. The ridge overlooks a boggy area in the Edenwood right-of-way. The site extends in the roadbed about 160 m south from a point 10 m south of the three-way divergence in the field roads (Fig. 2). Dense scrub vegetation to the west of the road and needles strewn by the 15 m wide belt of medium pines to the east prevented precise definition of the east-west extension of the site. Subsurface testing, however, established that the cultural material extends into the pine belt. No cultural material was recovered from the dirt road running just inside the western edge of the right-of-way, and two post holes between the right-of-way edge and the road also failed to yield any artifacts.

No diagnostic artifacts were recovered from this site (Appendix), but during a preliminary visit James Michie collected a Guilford point basal fragment about 20 m northeast of the site, between it and 38LX145. Unless this is attributable to 38LX146, no cultural affiliations can be suggested with current information.

Four post holes were placed at this site. Both of the tests in the pine belt resulted in the recovery of prehistoric materials, and one of the tests was supplemented by excavation and screening of a 50 cm square. The larger test unit also produced artifacts. Stratigraphy within it consisted of:

- 0-5 cm, pinestraw and dark humus, containing no artifacts
- 5-20 cm, light brown friable sand, grading into the next layer, containing artifacts.
- 20-45 cm, yellowish brown, very friable sand, containing some artifacts
- 45 + cm, red sandy clay, containing no artifacts

Artifacts appeared to come from about 10 to 30 cm below the surface.

This site is fairly extensive, and dense beneath the surface. It occupies an interesting microenvironmental position. In the Edenwood project area, only a few feet of elevation distinguish well-drained pine eminences (such as 38LX146 occupies) from marshy areas once in hardwoods (such as the central part of the right-of-way at this location). These features are separated horizontally by only about 40-50 m. Hence opportunity may have existed for aboriginal exploitation of a rich marsh edge microenvironment while the inhabitants of the site camped close-by on permanently dry ground. The only tangible evidence, however, of habitation activities is the relatively high proportion of fire-cracked rock in the collection from this site.

This site has been damaged by modern activity. Old clearings are seen in the belt of 25 foot pines to the east, as well as in the area

of pines and scrub growth to the west. The road itself is deeply eroded, and a dirt bank one to two feet high on its eastern side testifies to grading of the roadbed. The area under the belt of medium pines has plainly suffered less in very recent times and may be fairly intact.

Careful investigation of this site confirms that it does not extend substantially into the Edenwood project area.

*CONTRACT ARCHEOLOGY AND THE EFFECTS OF
OVERHEAD POWER LINE ACTIVITIES*

The impact of a construction project is the destructive effect that its various activities may exert upon nonrenewable cultural resources. The degree of impact depends on two factors--the physical effect of the project on the resources, and the significance of the resources. Generally, the volume of earth disturbed will largely determine the physical effect. However, this must be evaluated in each specific case by considering the placement of the resources (for instance, how deeply is the site buried?), the nature of the project activities (how deep will the vehicles used sink in wet sandy clay?), and the probable indirect effects (how much erosion will occur after the vegetation is gone?).

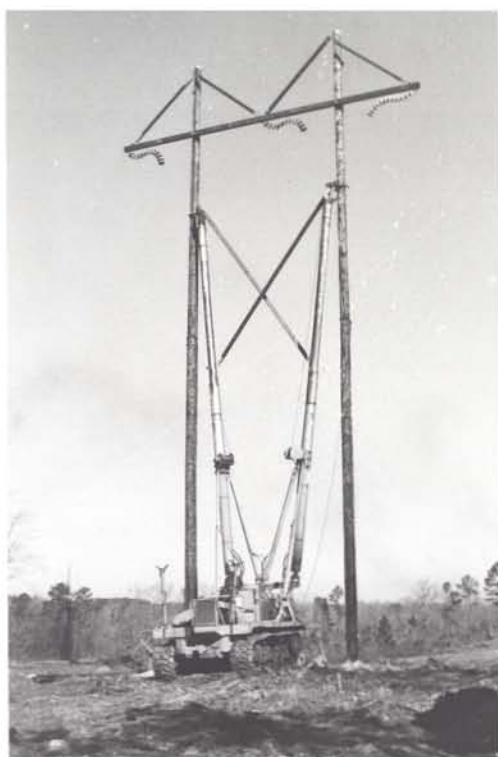
The second factor in impact assessment, the significance of impacted resources, can be evaluated only through the actual survey and the analyses preceding and succeeding it. The most inclusive indicator mentioned in federal guidelines for determining National Register significance of archeological sites is that they "have yielded, or may be likely to yield, information important in prehistory or history" (National Park Service 1975).

Suggested below, with consideration of these factors, is a ranking--from greatest to least effect--of activities commonly occurring in building transmission line rights-of-way. This is based on brief field inspections of ongoing or just completed activities, as well as on personal communications with South Carolina Electric and Gas Company personnel.

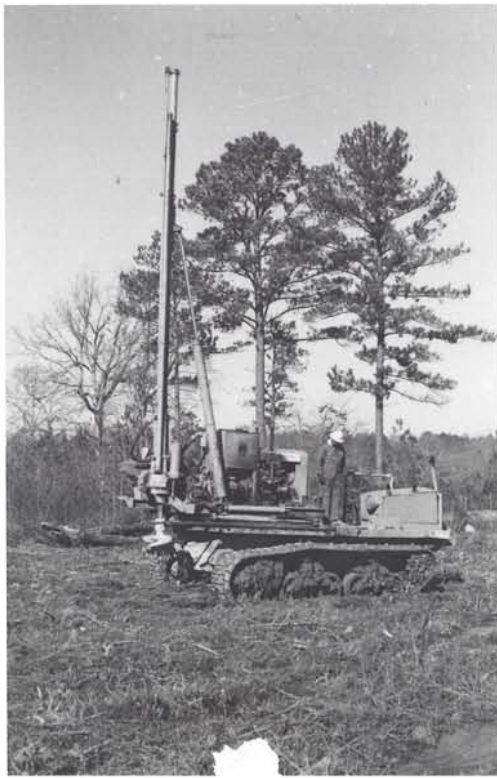
1. Mechanized clearing of heavily overgrown areas, as for a new right-of-way. Much soil may be disturbed, especially in brush-moving and stump removal. There is a trend toward greater mechanization of clearing operations on the part of contractors. Power equipment is currently used for many of these operations. An important indirect effect is the promotion of erosion in susceptible situations such as slopes.

2. Building and subsequent grading of access roads. This is often done not by the easement-equipped power company, but by the county or private landowner. In the Edenwood right-of-way, the dirt roads were typically worn into the red sandy clay subsoil (Fig. 3). Relatively small areas are directly affected, but an extremely important indirect effect is the increased ease of access for relic collectors and other potential vandals.

3. Movement of vehicles and heavy equipment, as for the transportation or erection of power pole structures. Large, tracked vehicles are often used (Figs. 4, 5). Such vehicles churn the earth to depths of two feet or more. (Fig. 5, 6, 7). Repeated passages over an archeological site might entirely scramble spatially associated artifacts so that strati-graphic interpretations would be impossible.







12-5



12-6

4. Excavations for structure placement, such as the pair of approximately 2.5 foot (76 cm) diameter, 10 foot (305 cm) deep holes augered for a common class of power line pole (Fig. 8). While engineering exigencies (such as poor soil or long overwater crossings) may occasion larger excavations than the one mentioned, the fraction of right-of-way affected is quite small, due to the typically small size and long spacing between these excavations (for Edenwood, about 625 feet). In the Edenwood right-of-way, much less than 0.1% of the total area was affected by such excavations for the two lines now in operation.

5. Clearing operations to maintain an existing right-of-way may include selective spraying of herbicides, selective hand cutting, or the use of heavy duty mowing equipment powered by a tractor. Little ground disturbance should occur due to these activities as long as no heavy equipment is driven over the ground.

Overall, work on existing rights-of-way for power lines constitutes less of a threat to archeological resources than many other types of projects, such as highways and reservoirs. The principal exception to this is that shallow stratified sites that do occur in this area (Michie 1971) may be irretrievably damaged by the movement of machinery over unprepared ground.

RECOMMENDATIONS

Despite the use of subsurface testing techniques on this survey, only small artifact samples were recovered. This makes the evaluation of the significance of each site a difficult task. However, in the absence of sufficient data, it must be assumed that each reasonably intact site contains information on at least a few specific aspects of an extinct culture, and if possible, it should be preserved for future study.

In this existing right-of-way, there are two principal construction activities of archeological concern. Of greater importance will be the movement of heavy wheeled or tracked vehicles, over the unprepared ground of the project area. Such traffic undoubtedly will not be confined exactly to the centerlines of the two proposed transmission lines, but might damage sites in any currently cleared section of the right-of-way. The general recommendation to deal with this potential problem is that archeological sites should be marked during construction operations so that construction crews will be able to avoid driving through them. Red flagging tied to lines on stakes should suffice to cordon off the areas to be avoided. In instances where the archeological site is defined to include a field road, a corridor through the site consisting of the eroded roadbed may be cordoned off, so as to allow the public's customary use of these roads. No substantial damage will be done to cultural resources if traffic is confined to these previously affected areas. The contract let for construction should specifically mention the need to avoid such cordoned areas, and a reasonable effort should be made to check on the work to ensure compliance. To ensure that the cordoned areas will be accurately located at the time of construction, permanent markers, (for example, deeply imbedded metal pipe) should be placed in the project area and marked on the detailed construction drawings. In order to avoid advertising the presence of a site, the reason for marking areas should be kept confidential, and the sites should be cordoned off only as long as necessary.

The small excavations augured for the setting of the H-frame poles will constitute the second activity endangering archeological resources. In addition to the excavations, the greatest motor traffic will converge at the points of pole placement. Thus, the precise placement of these supporting structures should be adjusted to avoid the sites discussed in this report. If this proves to be impractical in a given instance, then a professional archeologist should be called in to decide whether further mitigation, perhaps excavation, of the site will be necessary.

Specific recommendations for the individual sites examined by this survey are given below:

38LX124 This site just outside the project area will not be impacted. No further action is recommended.

38LX127 A circle with a radius of 50 m around the three-pole structure should be avoided.

38LX132 Locus A of this site at the intersection of the western edge field road and Taylor Road appears to have been destroyed. Therefore, no further action is recommended for Locus A. At Locus B, however, a circle with a 30 m radius, should be avoided. The center of this circle should be permanently marked.

38LX133 Postholing failed to define the east-west extent of this site, but a permanent marker should be placed 100 m north of Taylor Road and 30 m east of the edges of the western edge field road. This marker will be the southeast corner of a rectangular area to be avoided by heavy equipment. The area will extend northward from the marker, parallel to the edge of the right-of-way, for 120 m. The northern and southern sides of the rectangle will be defined westward from the endpoints of the line already delineated to the edge of the cleared right-of-way.

38LX135 The multiple components, the demonstrable depth of cultural material, and the possibility of this being a habitation site all enhance the importance of this site, the most significant one evaluated for this project. Its size and location between the existing power lines place it at considerable risk of disturbance from both heavy equipment traffic and pole excavations. Such a risk may not be entirely eliminated by marking the area to be avoided and the possibility of the existence of shallow intact features, similar to those at the nearby Taylor site, makes this risk unacceptable at this site.

In this case, further testing to determine the exact nature of site significance should be carried out and should include a limited archeological excavation. This excavation should be of sufficient scope (1) to derive a representative sample of the artifact content of the site, (2) to determine whether any intact stratigraphic information or cultural features survive, and (3) to evaluate the possibility that at one or more periods this site was one component of a settlement system involving the nearby major Taylor and/or Manning sites. As a total excavation of 38LX135 is not necessary, a radius of 60 m, permanently marked at its center, should be avoided.

38LX145 A circle with a 20 m radius around the center should be marked at the center of this site and this area should be avoided by construction vehicles.

38LX146 This site is revealed to be outside the right-of-way, by surface and subsurface checking close to the right-of-way edge. No further action is recommended as a result of the Edenwood Tie Lines project.

APPENDIX

Tabulation of Artifacts Collected in Edenwood Survey Area

38LX124

Lithics: (all figures given are counts unless indicated otherwise)

Fire cracked rock - 190g quartz

Debitage - chunks - 7 quartz

1 unident. chert

flakes - primary - 7 banded argillite

6 quartz

secondary-5 quartz

tertiary -6 banded argillite

43 quartz

8 Coastal Plain chert

thinning flakes - tertiary - 21 quartz

1 unident. schistose

12 Carolina slate

1 banded chert

31 Coastal Plain chert

2 Ridge & Valley chert

10 argillite

1 unident chert

Lithic Artifacts -

flake tools (# tools/# func. edges) - 1/1 quartz

2/3 Coastal Plain chert

1/1 unident.

steep margin tools - 4 Coastal Plain chert

flake core - 1 quartz

points - whole - 1 Gary quartz

frags. - 1 Carolina slate

preforms - whole - 1 quartz

frags. - 1 Coastal Plain chert

other bifaces - whole - 1 quartz

frags. - 2 quartz

Other:

1 plain quartz tempered sherd

1 chipped cobble, unident. material

2 steatite sherds

1 historic stoneware sherd

38LX127

Lithics: (all figures given are counts unless indicated otherwise)

Fire cracked rock - 78g quartz
Debitage - chunks - 5 quartz
 flakes - primary - 1 quartz
 secondary - 3 quartz
 tertiary - 12 quartz
 thinning flakes - tertiary - 14 quartz

Lithic artifacts -

flake tools (# tools/# func. edges) - 2/3 quartz
steep margin tools - 1 end scraper quartz
other bifaces - frags. - 5 quartz

Other:

1 piece clear bottle glass

38LX132

Lithics: (all figures are counts unless indicated otherwise)

Fire cracked rock - 57g quartz
 1g unidentified
Debitage - flakes - primary - 1 quartz
 tertiary - 1 quartz
 thinning flakes - tertiary - 13 quartz
 1 Carolina slate
 1 Coastal Plain chert
 1 Ridge & Valley black chert

Lithic artifacts -

flake tools (# tools/# func. edges) - 1/1 quartz (split cobble
with wear retouch only)

38LX133

Lithics: (all figures are counts unless indicated otherwise)

Fire cracked rock - 467g quartz
 19g quartzite
Debitage - chunks - 11 quartz
 flakes - tertiary - 5 quartz
 thinning flakes - tertiary - 2 quartz

Lithic artifacts -

flake tools (# tools/# func. edges) - 1/1 Coastal Plain chert

Other:

1 square cut nail
1 piece petrified wood - manuport(?)
1 brick frag.

38LX135

Lithics: (all figures are counts unless indicated otherwise)

Fire cracked rock - 295g quartz

1g unident.

Debitage - chunks - 20 quartz

flakes - secondary - 10 quartz

tertiary - 51 quartz

1 yellow Coastal Plain chert

1 argillite

thinning flakes - tertiary - 1 Carolina slate

1 Coastal Plain chert

Lithic artifacts -

flake tools (#tools/# func. edges) - 1/1 quartz

steep margin tools - 1 end scraper quartz

1 Coastal Plain chert

flake core - 1 quartz

points - whole - 1 Ottare (?) quartz

1 Gary Coastal Plain chert

1 small corner notched Coastal Plain chert (drill
used)

frags. -1 base (Morrow Mountain ?) quartz

1 midsection Coastal Plain chert

blanks - 2 frags. quartz

1 frag argillite

other bifaces - 1 frag. quartz

Other:

6 frags. clear bottle glass

4 frags. conglomerated rock - manuport (?)

1 small fossil - manuport (?)

38LX145

Lithics: (all figures are counts unless indicated otherwise)

Fire cracked rock - 90g quartz

Debitage - chunks - 4 quartz

flakes - primary - 2 quartz

secondary-7 quartz

tertiary-13 quartz

thinning flakes - secondary - 4 quartz

tertiary - 20 quartz

Other:

4 pieces unidentified porous rock (slag?)

38LX146

Lithics: (all figures are counts unless indicated otherwise)

Fire cracked rock - 368g quartz

22g quartzite

Debitage - chunks - 9 quartz

flakes - primary - 1 quartz

1 Coastal Plain chert

tertiary - 2 quartz

1 Coastal Plain chert

1 banded Carolina slate

thinning flakes - tertiary - 2 quartz

1 Coastal Plain chert

Other:

1 rock

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