An Archeological Survey of the Proposed Alternate Three Route, Southern Alternate, of the Southwestern Columbia Beltway Between I-26 and S.C. 48

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AN ARCHEOLOGICAL SURVEY OF THE PROPOSED ALTERNATE
THREE ROUTE, SOUTHERN ALTERNATE, OF THE SOUTH-
WESTERN COLUMBIA BELTWAY BETWEEN I-26 AND S.C. 48

by

Albert C. Goodyear
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Prepared by the
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INTRODUCTION

By the joint agreement of the South Carolina Highway Department and the Institute of Archeology and Anthropology of the University of South Carolina, a third survey and Environmental Impact Statement was conducted on Alternate Three of the Southwestern Columbia Beltway. This survey was performed under the regular budget and program of 1975.

Fieldwork was performed on various days from June 11, 1975 through July 7, 1975. Since some of the sites were not recently plowed and rained on, surface sampling was delayed until conditions were adequate for data collection. Without at least minimal ground visibility the evaluation and sampling of sites which have been cultivated is most difficult. Field investigations were performed by Highway Archeologist, Albert C. Goodyear; Assistant Highway Archeologists, David G. Anderson and John H. House; and by student assistants Eric Neil, John Stone, and a volunteer Barry Combes.

Primarily due to the interest on the part of the South Carolina Highway Department in building the Southwestern Columbia Beltway, there have been two previous archeological studies performed in the Congaree River floodplain and adjacent upland areas. Two intensive archeological surveys were conducted for proposed highway routes lying immediately to the north of the present Alternate Three route under consideration here, and parts of the extreme eastern and western ends of Alternate Two coincide with the currently proposed alternate. Some of the sites contacted by the Alternate Two route and discussed by Anderson (1974) were also encountered in this survey. These sites were re-visited and in some cases re-sampled and are also reported in this report. Where possible this report will attempt to integrate previous findings of the former two Environmental Impact Statements carried out by the Institute of Archeology and Anthropology into this third study.
The Alternate Two study as performed by Anderson (1974) revealed two sites which are eligible for the National Register of Historic Places. These sites, 38LX50 and 38LX68, are currently being nominated to the National Register. In the time which has transpired between Anderson's study (August, 1974) and the present study, an extensive district to the north of the present Alternate Three route was successfully nominated to the National Register of Historic Places by Mr. Charles E. Lee, State Preservation Officer of South Carolina.

It should be made clear that the present Alternate Three line under study here does not touch either 38LX50 or 38LX68 and travels south of the National Register property mentioned above. Furthermore, no sites encountered in the Alternate Three corridor appear to have National Register significance and as such are not being considered for nomination. These sites are primarily prehistoric in nature and do, however, have important scientific value. Consequently, recommendations are made throughout this study for their adequate mitigation in the event of highway construction.

THE ENVIRONMENT OF THE STUDY AREA

The physical layout of the proposed Alternate Three line begins at the west as a series of connector ramps off of I-26 just south of the U.S. 321 exit. The line then proceeds easterly in the same corridor as the formerly proposed Alternate Two line until approximately the S.C.L. Railroad tracks (Fig. 1). At that point the line begins a gentle south-eastern direction immediately crossing a swamp proceeding on this same tangent toward the Congaree River. The route runs immediately south of 38LX68, a large Mississippian Period village (Anderson 1974), located
FIGURE 1. Locator Map of Sites in Alternate Three, Lexington County Side.
adjacent to the west bank of Congaree Creek. Upon crossing the Congaree River the route runs approximately 800 feet south of the Columbia Sewage Treatment Plant and just to the south of the formerly proposed Alternate Two route (Fig. 2). Upon crossing the Congaree River the route bends up slightly in a northeast direction slowly merging with the old Alternate Two route where both routes ultimately join with a ramp system at S.C. 48 or Bluff Road.

A thorough environmental description has been provided by Anderson, Michie and Trinkley (1974) and by Anderson (1974). This discussion borrows heavily from their work and is intended as an overview of the relevant environmental features of the Alternate Three corridor.

The most general aspects of the effective environment, i.e. those parts which have culture-ecological relevance to prehistoric and historic adaptations (see Binford 1964, Canouts 1972), relate to broad physiographic zones. The Congaree River Valley forms at the base of the fall line, a geological boundary formed by the meeting of the Piedmont Uplands and the Atlantic Coastal Plain. The fact that the study area lies adjacent to the fall line is of theoretical importance. The fall line itself constitutes a dramatic ecotone, a biophysical condition where two or more major biotic communities meet (Odum 1971). The floral and to a great extent faunal resources available in the Upland Piedmont, fall line river valleys, and the coastal plain are differentially distributed according topographic and substrate conditions co-resident to each. While the present study area only occupies one of the three major divisions, a river valley on the fall line, human communities residing there would obviously have been in an advantageous position to exploit resources in the other two. As Anderson (1974: 5) has pointed out, rivers on the fall
FIGURE 2. Locator Map of Sites in Alternate Three, Richland County Side.
line are characteristically wide and shallow with rocks, shoals and rapids, and would be an advantageous point for crossing the river. During historic times, the fall line situation of the confluence of the Broad and Saluda Rivers was an important factor influencing the building site of the City of Columbia (Jones 1971: 121, as cited in Anderson 1974: 5).

At a more local level, the Alternate Three route crosses, for the most part, the alluvial floodplain of the Congaree River Valley immediately south of the actual fall line. Some topographic variability, however, is present on the western segment of the route as the corridor comes down through dissected bluffs where I-26 is now located.

Beginning on the extreme western end where the corridor connects with I-26, the terrain is quite variable due to erosion of sandy hills and residual clay bluffs (Figs. 3A and 3B). Sandy soils are predominant in the bluff zones surrounding the Congaree Valley floor and current flora reflect a relatively well-drained xeric situation. Scrub oaks, long-leaf pine and even prickly pear cactus (*Opunina sp.*) are commonly found here. Some of the bluffs are currently in cultivation or have been in the recent past.

Upon crossing the S.C.L. Railroad tracks there is an immediate and noticeable descent in elevation as the Congaree Creek Valley is approached. Upon entering the valley floor the substrate is completely alluvial in origin and ground surfaces are very flat and low in many places. Linear-shaped swamps are also common, probably representing inundated stretches of former creek channels draining toward the Congaree River. The floodplain today is largely under cultivation (Fig. 4). Consequently the natural vegetation is no longer present to observe. Various hardwoods
FIGURE 3A. View of sandy uplands supporting scrub-oak and pine.

FIGURE 3B. Cultivated field in sandy uplands, west of 38LX5.
FIGURE 4. View of floodplain looking west towards the uplands.

FIGURE 5. View of forested swamp-edge on floodplains.
and occasional pines are present on the edges of swamps and near creeks (Fig. 5). The western side of the Congaree River appears to be higher and drier than the east side (Anderson 1974: 5). There are few drainage ditches on the western side while numerous large ditches and dikes have been built on the eastern side of the river to drain excessively moist fields. As Anderson (1974: 5) has pointed out, there is more topographic variability on the western floodplain as numerous small terraces or rises can be seen in cultivated fields, each one quite often having archaeological remains.

The soils of the floodplain are all alluvial in origin being comprised mainly of fine silts and loamy sands (Craddock and Elliot 1966) resulting from floods from the Congaree River and Congaree Creek. Anderson (1974: 6) cites archeological studies which indicate that stratified or buried archeological deposits exist in the floodplain, and test pit investigations undertaken in this study also indicate subsurface remains. As can be seen from the intensive cultivation of modern day farming, the alluvial soils of the Congaree River Valley constitute an important abiotic resource to agriculturally-based societies and there is little doubt that peoples from the prehistoric Woodland and Mississippian Periods were locating their sites in the valley, at least in part, for purposes of growing cultigens. Conversely, the higher elevations or bluffs to the west of the valley floodplain consist of residual clays overlain by a thick mantle of sand. While these sandy soils would not be ideally suitable for prehistoric agriculture, the well-drained character of such sediments would heavily structure the type and distribution of plant and animals in this area.
The prehistory of the Congaree Valley area as it is currently known has been described by Anderson, Michie, and Trinkley (1974) and Anderson (1974). Anderson (1974) has attempted to integrate locally observed culture patterns into broader Eastern and Southeastern United States prehistory in the adjacent Alternate Two report. The relevant aspects of culture history will be treated in this report as sites bearing chronologically diagnostic remains are reviewed. Briefly, Anderson (1974: 6-8) documents the existence of all known cultural phases starting with Paleo-Indian as recognized by fluted points found at the Manning Site (38LX50); Early Archaic, as indicated by Dalton points, Hardaway side-notched, Taylor, and Palmer Points (see Coe 1964) from sites throughout the area. The remains of other aspects of Paleo-Indian and Early Archaic tool kits are also common as indicated by the typical flake and unifaced tools. Post-early Archaic points such as Kirk, Guilford, and Morrow Mountain I (cf. Coe 1964) are also commonly found in the Congaree River Valley. In the Late Archaic, numerous examples of Morrow Mountain II, Savannah River and Thelma points have been found along with a few examples of steatite vessel fragments. The Archaic and Woodland Periods, as evidenced by the studies of Anderson, Michie, and Trinkley (1974) and Anderson (1974), appear to have the most extensive distributions across the land surfaces of the Congaree River Valley.

At approximately 2000 B.C. a new culture pattern emerged which is referred to as the Woodland Stage or Period (Willey 1966, Griffin 1967). At this time there are some technological changes and presumably demographic and settlement pattern shifts. The technological changes, at least superficially, relate to the use of ceramics as a means of food
preparation and storage and probably the bow and arrow in later times. Early Woodland ceramics have been found in the Congaree Valley area as well as in the current right-of-way. Temporal and stylistic differentiation of the Woodland Period for this region of the State has not been systematically pursued, hence it is difficult to further subdivide the Woodland Period on a chronological basis. Yadkin points which seem to be a Middle- to Late-Woodland Period point style are common on many sites in the area as is cord-marked ceramics, although the latter seems to run the gamut of culture periods in the area.

What is referred to throughout the Eastern United States as the Mississippian Period, the local counterpart being referred to as South Appalachian Mississippian (Ferguson 1971), also can be found in the study area. The South Appalachian Mississippian groups seem to be most intensively involved with agriculture and their settlement pattern reflects this emphasis in subsistence. There is one large South Appalachian Mississippian village (38LX68) just to the north of the current Alternate Three line, but which is not intercepted. There appears to be a major emphasis on settlement location close to the Congaree Creek and Congaree River banks and terraces, probably representing an attempt to locate settlements more advantageous to agricultural plots fertilized and made productive through annual flooding (see Murphy and Hudson 1968). Mississippian-related sites seem to diminish as the primary terraces adjacent to major rivers and streams are left.

The historic period pertaining to the Congaree River Valley is most intense. Anderson (1974: 9-10) has effectively summarized the protohistoric and historic events for the area and has drawn together the several recent studies which have attempted to deal with the location of
Fort Congaree. Anderson (1974) made a preliminary document search. Based on our findings and his general overview of important historic events and places in the immediate area, another document search was deemed unnecessary. The historic period begins with the founding of Fort Congaree in 1718 somewhere about the location of Congaree Creek and the Congaree River. This fort was established to stabilize relationships with the local Congaree Indians and to protect the English deer skin trade (Anderson 1974: 9). Trinkley's (n.d.) work documents the increase in colonial settlements in the area around 1735. While several efforts have been made by the use of archeological methods and historic records to pin down the physical location of Fort Congaree, none have succeeded in locating the structure on the ground. Important to purposes of the current Alternate Three line, all evidence points to a location well to north of this line for the Fort.

The early history and settlement of the Congaree Valley is of potential importance to anthropological studies. Numerous sites bearing scatters of eighteenth century artifacts can be found in the valley, the probable result of early farmsteads settling and cultivating the valley. Such sites when approached with a research design guided by a thorough document study, could be most informative about colonial settlement patterns in a frontier situation.

SURVEY AND SITE SAMPLING

It is useful to think of archeological sampling in two contexts. First, at a regional level, and second at the intra-site level. Considerations of the limitations and strengths of regional sampling in narrow right-of-way impact zones such as a highway prism have been made in the
general highway research design (Goodyear 1975). Briefly, the main limitation of sampling with a highway corridor, a defacto transect, relates to the shape of the sampling plat as well as the non-random or biased nature of its course. By sampling in a narrow transect there is little possibility of adequately contacting and measuring the variety of archeological remains often present within a single environmental zone. There is an obvious bias in the routes highways take since they are directed by factors such as elevated, well-drained ground; avoidance of swamps; or avoiding sites on the National Register. In spite of this limitation, highways most frequently cross-cut several environmental zones and different geographical loci of human settlement systems such that often a wide variety of sites are contacted. As will be seen shortly, such a phenomenon has occurred in the Alternate Three right-of-way. While no contention is made that the sites contacted and recorded on any of the three Alternates studied in the context of highway research in the Congaree Valley constitute accurate representations of the true statistical parameters of site-types and their frequencies or proportions; nevertheless, it is both valuable and significant that the corridors have cross-cut upland and floodplain environments on both ends of the Congaree Valley and accordingly have yielded a variety of sites.

Sampling problems on an intra-site level must also be dealt with. These problems have been discussed elsewhere in detail (Goodyear 1975), but will be briefly reviewed here in light of sampling strategies undertaken in the present survey.

Regional Sampling (Survey)

Although not customarily thought of as such, even surveys are a form of sampling. Regional surveying is obviously the first stage in most
archeological sampling designs and thereby exert considerable influence on the way sites are ultimately chosen for further analysis. The method of surveying in this case was to walk as intensively as possible the entire Alternate Three line including sections which had sites known to exist. An estimated 400-foot width was surveyed along the route.

We began the survey on the western end in the area which will be taken up by a connecting ramp off of I-26. Most of this section is in the forested, hilly, dissected uplands and not amenable to direct surface inspection. There are large hillslopes in cultivation, however, to the west of and including 38LX5 (Fig. 1) which were carefully examined. No materials of a prehistoric or early historic age were encountered to the north of 38LX5 except for a single slate flake of bifacial retouch in a field overlooking the man-made lake. In spite of the ground cover of herbaceous growth and leaves, an attempt was made to walk the proposed route from 38LX5 to the S.C.L. Railroad tracks (Fig. 1). All bare ground was walked including trails, dirt roads, and fields in the hope of spotting cultural materials. The area from I-26 to approximately 800 feet east of the railroad tracks is part of the sandy uplands. Two sites were found in this terrain using this method. This stretch of the proposed route had not been intensively surveyed prior to this study and it was felt that such an examination was appropriate.

Once inside the valley floodplain the plowed fields adjacent to the swamp were intensively walked. This yielded sites 38LX96 and 97 (Fig. 1). Again, this area was examined since it was not part of any previous E.I.S. studies in the area. The corridor passes immediately through a swamp after 38LX97, an area which was not amenable to surface inspection. Upon reaching firm ground on the other side, 38LX64 was located which is a site previously recorded (Anderson 1974: Fig. 1).
After contacting 38LX64, a straight line was walked just to the south of 38LX68 (Fig. 1). There was good ground visibility on this route and it seems likely any major scatters of artifacts would have been seen. Most archeological sites tend to cluster against the swamp edges to the immediate north rather than occur out on the flat floodplain.

Upon crossing Congaree Creek it was not possible to inspect the ground until reaching cultivated sections on the east side of the Congaree River. The section in between is heavily grown over and not amenable to survey. Given the existence of the large South Appalachian Mississippian village immediately to the north of the Alternate Three line, it seems likely that other archeological sites although not as large might also be found in the terrain adjacent to both the Congaree Creek and Congaree River.

After crossing the Congaree River to the east bank the entire route practically to Gill Creek was under cultivation and most amenable to surface examination. The area from Gill's Creek east to S.C. 48 was in forests and swamps, and therefore was not inspected.

**Intra-Site Sampling**

Intra-site or site specific sampling relates to data classes collected or observed once an individual site is detected. Some data classes are recorded but not removed from the field. For example, various attributes of the environmental setting of a site would be "unremoved" data that does not damage the archeological resource base.

It is almost always necessary to collect and remove some physical remains of an archeological site in order to assess its significance. Site sampling, however, becomes complex as soon as cultural materials are collected from its surface. Traditional sampling schemes have been
referred to as "grab" samples indicating that a selective method of collecting materials was used, a technique heavily biased toward so-called "diagnostic" artifacts, usually diagnostic of culture-historical units (Schiffer and House n.d, Goodyear 1975, Goodyear and Anderson [in prep.], and Anderson 1974). Grab samples usually focus on artifacts previously treated in morpho-stylistic type-categories for both stone tools and pottery. Such classes are usually capable of making chronological estimates of a site -- providing such materials are present, but little else. Such classes as formalized hafted bifaces (e.g., projectile points) and decorated pottery are usually heavily collected from site surfaces by amateur collectors further reducing the utility and reliability of using only those classes for the assessment of site significance.

In order to remedy some of the problems in sampling biases which refer to narrow and implicit selections of archeological materials, a statistically random surface collecting method was used. This method has been described elsewhere (Goodyear and Anderson [in prep.]), and represents a modification of the stratified systematic unaligned method used by Redman and Watson (1970), also described by Hagget (1966). Briefly, this method consists of setting a site into a theoretical grid system on paper, randomly choosing a series of collection points with a table of random numbers, and determining the angle and distance of such points with a transit. Once a collection point has been found in the field, a standard 10-foot diameter circle is exhaustively collected of all macroscopically observable remains. By sampling in such a way, all parts of the site are given equal chance of representation, the amount of space sampled is precisely known so that the percents of the site sampled can be estimated, and all ranges of cultural refuse are unbiasedly...
collected. The use of this method requires some homogeneity or standardization of ground conditions and consequently, only those sites which have been plowed and recently rained on were sampled in this fashion. Sites which were not cultivated or had poor ground visibility were sampled by the grab method. Each site is discussed in the next section and its sampling methodology described.

It should be noted that collecting data with the surface-circle method produces a great quantity of materials particularly of such classes as fire-cracked rock and lithic debitage, materials often ignored in surface evaluations of sites. Having well-controlled, quantified data such as this enables many types of statistical studies, especially since data have been collected in a random manner, and many types of quantified intra-site spatial studies can be conducted as well. Using such computer mapping programs and SYMAP and SYMVU, this method and the resultant data have been used to rigorously elucidate intra-site patterning of plowed sites, patterns which have both obvious behavioral and chronological significance (see Goodyear and Anderson [in prep.]). Such spatial studies have not been prepared in this report but the data produced by the surface-circle method is available for analysis and is used here to describe the existence of certain classes of remains.

THE SITES AND THEIR SIGNIFICANCE

38LX5

This site was recorded in the original Alternate One survey and described by Anderson, Michie, and Trinkley (1974: 7) and again by Anderson (1974: 24). Since the Alternate Three route is located somewhat
south of the Alternate One and Two corridors, it was decided to re-visit the site to determine whether or not impact would be likely. The Alternate Three line does contact a substantial portion of the sandy terrace upon which 38LX5 is located. Contact would appear to be more at the northern end. Both the northern and southern ends of the terrace have heavy concentrations of artifactual debris and cultural materials can be observed in a continuous distribution between the two clusters (see Anderson 1974: Fig. 4). The site is located on a terrace perhaps two acres in extent and is higher than most land surfaces surrounding it.

Culturally the site seems to have been used from the Archaic through Mississippian. In our visit a large slate Savannah River knife was found indicating a Late Archaic occupation. Also observed were several sherds of check-stamped pottery suggesting an Early- to Middle-Woodland (Deptford) component. Based on the extensive quantities of debris consisting of chert, quartz, and slate, tools and debitage, fire-cracked rock and pottery, it is quite likely some type of habitation site with shelters was present for some of the phases represented.

Currently, and in the past, the site has been extensively cultivated. It is possible, however, that subsurface or sub-plowzone layers still exist perhaps in the form of postholes, firepits, and storage pits.

This site is particularly significant for two reasons. First, it is located in the drier, sandy uplands, an area which does not ordinarily produce many sites. Secondly, it is a substantial site, one with great quantities of artifactual debris and therefore is more reminiscent of similar sites down on the flood plain which are closely situated to creeks and swamps. There are no creeks or streams close by to 38LX5 further contributing to its anomalous situation.
Looked at from a settlement-subsistence viewpoint, 38LX5 could answer many important questions concerning the regional distribution and organization of Archaic and Woodland settlement systems. For example, does such a occupation area represent year around living with most occupants returning to a basecamp? This would imply the floodplain sites were primarily extraction stations. Or does this site represent seasonal occupation, perhaps in an attempt to locate the population more closely to upland acorn crops? Alternatively, if utilized only seasonally the site might reflect the wet season, in the winter by present rainfall regimes, since the Congaree Valley may have been under water much of the time or at least significant parts of it.

Our survey made no attempt to systematically collect materials. Anderson (1974) used two large intuitively placed sample circles one each on the north and south ends.

This site will require intensive investigations for mitigation. Extensive surface studies need to be done using controlled surface collections as well as extensive excavations designed to discover sub-plowzone features. A more precise chronological assessment is needed as well as a diachronic study of activities and changing use patterns from Archaic through late prehistoric. Some attempt must be made to understand the location of the site since such sites in the uplands area at present seem most anomalous.

38LX107

This is a new site discovered while walking the wooded areas of the dissected uplands. The site consists of an isolated chert Thelma projectile point of Late Archaic-Early Woodland origin. No other materials were seen
nearby in a careful search of the sandy ground. The artifact itself is perhaps not as significant as the context in which it was found. A rather large hill exists just south of Congaree Creek between S.C. 129 and the S.C.L. Railroad. The projectile point was found on the southwestern side of this hill as it merges with a meadow towards its base. Today, there is a suggestion even from the secondary growth that this may have been an edge area, an environmental situation commonly frequented by browsing animals such as deer. For this reason, and because of a similar type of site discussed next, it can be hypothesized that the flanks of this hill and its adjacent environments may have been deer hunting and/or butchering contexts for prehistoric peoples.

38LX106

This site was found in an eroding dirt road which runs down the southeastern side of the large hill discussed under 38LX107. From an aerial photograph two roads can be seen on the southeastern slope of this hill and where the two roads merge, near the bottom, the site was found. The site is apparently Late Archaic in age since a base of a chert Savannah River point was found. About 15 flakes of bifacial retouch were found scattered near the Savannah River base, all of which were made of chert. Some of the flakes were thermally altered suggesting heat treatment of bifaces. The flakes are extremely similar in overall size and morphology suggesting perhaps they represent re-sharpening debitage as opposed to manufacturing waste. One ground mudstone-like fragment of a probable atlatl weight was also found. The contents of this site were distributed roughly over an area 50 feet on a side. While some of the material came from the eroding roadbed, several flakes were found to the
south of the southernmost dirt road indicating that some of the site probably lies in the grass and trees.

This site, taken in conjunction with the previous isolated Thelma dart point (38LX107), suggests a pattern of utilization for the upland areas surrounding the Congaree Valley. With the unusual exception of 38LX5, most sites tend to be quite small and lightly deposited such as 38LX106 and 107. Both of these sites are located in approximately the same environmental situation and are located on the 175' contour interval of the large hill.

If archeological data collection is abandoned at this point we will not actually know what these type of sites represent in the upland environment. A program of intensive investigations should be undertaken which attempts to sample for similar sites consisting of isolated and damaged hunting equipment and sites where tool re-sharpening and repair, and perhaps game butchering, transpired. Such a matter could easily be investigated in the upland area.

This could be done within the highway right-of-way by setting out randomly placed collection squares following the corridor as it runs along the base of the large hill. This method would likely discover any other small-scale sites or spatially discrete pieces of hunting equipment. It is doubtful if sites or materials exist much below the surface of the ground in these hills, thereby requiring little earth removal except to sift the first few inches of the soil and clear away the leaves and vegetation. If other sites are encountered such as 38LX106, great care should be made for horizontal excavations and spatial control since some idea of intra-site patterning can be obtained. Furthermore, there is a problem of valid sampling even in such thinly deposited sites since surface collecting
through leaves and eroded road cuts may not be giving a representative picture of cultural materials. Since such sites are generally not extensive horizontally, it would be a relatively easy matter to exhaustively sift and map items. Such a procedure will allow us to increase our confidence in currently performed grab samples which are strongly affected by such ground conditions. If additional sites are found through statistically random testing points and if they are intensively studied, archeology would be in a good position to test the previously stated hypothesis regarding the existence of hunting/butchering loci in the wooded uplands overlooking the Congaree Valley. Attendant to this test would be a search for non-random associations between such lithic sites and microenvironmental features such as the edge areas already mentioned. Sites like these may also be found where dry, or seasonally wet, streams were used as deer driving shutes for ambush situations.

Such sites as 38LX106 and 107 have too often been overlooked or disregarded in archeology as sites which have little information to offer. This is probably the case since much of contract archeology is pervaded by an implicit culture-historical viewpoint and ephemeral sites such as these do not contain many "diagnostic" artifacts or occur in stratified contexts. Nevertheless, even small sites such as these can be highly informative about the less visible elements of prehistoric settlement systems and must be understood if we are to comprehend human activities beyond the large and obvious base camps and villages.

38LX97 and 38LX96

Upon dropping out of the uplands immediately to the east of the S.C.L. Railroad, the Congaree Valley Floodplain commences. These two
sites are actually part of a relatively continuous scatter of occupational debris located on the northwestern edge of a linear swamp (Fig. 1). 38LX96 and 97 represent major clusters of a single continuous scatter and were sampled separately, each by the surface-circle method. A drainage ditch and hedgerow separate 38LX96 and 97 and a permanent datum point was driven in easy view of both sites. The sites are currently in soybean fields. Work on these two sites was delayed until plowing and heavy rains had taken place in order to gain ground visibility.

The artifactual materials from the sites suggest an Early Archaic through Woodland span of occupation. One Early Archaic Taylor point was found on 38LX96 as well as two other broken side-notched points which are further suggestive of Early Archaic usage of the site. Seven unifaces were found, some with graver spurs, which are probably associated with the Early Archaic utilization. Several points which resemble Morrow Mountain II were found, some of which are small and have short contracting stems. These smaller ones may be dart points. From the Woodland Period, a total of three sherds were found, one cord-marked. One Yadkin or Carraway triangular point was found also probably related to the Woodland Period. Fire-cracked rock, probably for the most part attributable to the whole Archaic Stage, was abundant.

In an effort to determine if any undisturbed deposits were still extant at these sites, a test pit was initiated in the woods adjacent to 38LX96 (Fig. 6). This test was 3' by 6' and oriented from north to south so that the pit ran from the terrace down toward the swamp which was less than 10 feet away. There is an area covered and protected by woods on both 38LX96 and 97 which lies between the plowed fields and the swamp. It is likely that this strip, approximately 40 feet in width, has never
FIGURE 6. Excavations in swamp-edge forest at 38LX96.

FIGURE 7. Test pit with feature (fire-pit) exposed at 38LX96.
been plowed. The results of the test trench revealed that undisturbed cultural materials could be found as deep as 18 inches below the surface, although most materials were restricted to the top 12 inches. One obvious firepit was discovered (Fig. 7) measuring 9 inches in diameter and extended 14 inches below the ground surface. This pit began at least 10 inches below ground surface. It was photographed, measured, and removed intact for further paleo-botanical studies. This pit was dug in arbitrary six inch levels and sifted with quarter-inch hardware screen. As can been seen from Figure 7, there is apparent visual stratification. Whether much of the upper dark stain is resultant from humic staining or a true aboriginal midden is not clear. Artifacts were fairly common just below the stain approximately 14 inches below the ground surface. All of the artifacts were small pieces of lithic debris and fire-cracked rock.

Both sites 38LX96 and 38LX97 are interesting in that they form part of a larger pattern with other similar sites located on swamp edges. Notice the distribution of sites; for example 38LX82, 38LX81, 38LX19, 38LX80, 38LX64, and 38LX103 (Fig. 1). These are all sites apparently dominated by Archaic through Woodland Period occupations bearing quantities of fire-cracked rock, quartz, slate and chert debitage, frequent bifacial implements with stems and notches, cobble tools, and occasional plain or cord-marked potsherds. A relationship with the swamp area is directly implied by the tight spatial association. These sites drop off in density of materials as soon as the swamp margin is abandoned. The results of testing in 38LX96 would indicate that cultural occupations are indeed present on the immediate swamp edge in a context protected by wet conditions and large hardwood trees.
The significance of 38LX96, 38LX97, and 38LX64, to be considered next, would be the apparent ecological relationship these sites share with the above mentioned sites and the linear-shaped swamp. In terms of rough chronological assessments, site morphologies and artifactual composition, there is a general uniformity suggested in the activities of the former inhabitants. We know from previous investigations in the Congaree Valley locality that while such sites are commonly found on the floodplain near flowing streams and swamp areas, they are not the only type of site. The previously discussed upland lithic sites exist in a dramatically different ecological setting and have obvious tool kit differences. Secondly, the Manning Site, 38LX50, (Fig. 1) would appear to be most unusual for the majority of sites known in the area. It is a large terrace, the highest one for several miles around, and appears to have possible techno-functional differences as well. The swamp-edge sites are located sufficiently close to the wet areas that plowing has probably not completely destroyed stratigraphic contexts. For this reason alone such sites have added research value since they hold the promise of subsurface studies. In this same vein, the fact that these sites are known to be located on the swamp edges strongly suggests the possibility of refuse along the upper parts of the marsh. If sea levels were lower than present during the Archaic and Early Woodland Periods this would mean that water tables would be lower than observed today. Therefore, parts of the swamp now perennially under water may have been habitable. The implications for preservation of organic subsistence-related refuse are enormous. If sufficiently covered by moist sediments such debris as nuts, leaves, wood, faunal bone, pollen, and other charred food remains would be preserved and amenable to labora-
tory analysis. Such remains are not usually preserved in the open sites of South Carolina. Early Archaic implements such as Dalton points, Hardaway points, and Palmer points have been commonly found along these swamp-edge sites. If organic subsistence-related remains can be found attributable to the Early Archaic, a preserved context will have been located in the Southeastern United States only infrequently replicated in the various shelters of Alabama, Tennessee, Missouri, and other mountainous regions. Since both sedimentological, micro- and macro-fossil remains may be present, here might lie an almost unique situation to make interdisciplinary studies of early Holocene climatic and geological conditions, a study of extreme interest to Pleistocene and Holocene geologist and paleo-geographers.

Prior to the construction of a research design and mitigation budget for Alternate Three, either a backhoe or hand tests should be made of the moist swamp margins to test for the possibility of buried cultural deposits. If cultural layers are found but with no preserved organic remains such deposits would still be valuable since they would presumably have been undisturbed by modern plowing. Even if no buried swamp deposits exist, the plowed and forest edge sections of 38LX96, 38LX97, and 38LX64 should be investigated. The forest edges do have undisturbed remains and the plowed portions of the sites are amenable to other types of sampling and data analysis. In the case of a site being completely plowed up, the contents of the site are still important since the artifactual composition of swamp-related sites is most likely different in some respects from sites in other environmental associations. In this latter case excavations of plowzone materials are needed to insure valid sampling of site contents since it is still uncertain how well the surface
of a plowzone represents the contents of a plowzone (Goodyear and Anderson [in prep.]; Baker and Schiffer 1975). Methods have been developed for analyzing plowed sites whereby spatial analysis and multivariate statistics are used to elucidate non-random artifactual relationships (Goodyear and Anderson [in prep.]).

38LX64

This site is located southeast from 38LX96 and 38LX97 on the opposite side of the aforementioned swamp. The morphology and artifactual contents of 38LX64 are essentially the same as 38LX96 and 38LX97. This site has a large section of protected woods next to the swamp and may have buried remains as well. No subsurface testing was performed for this site. The surface-circle method of data collection was made, but has not undergone analysis. This site is a relatively discrete concentration of debris and tapers off in artifact density as one proceeds either east or west on the swamp margins. Light scatters and isolated artifacts can be found, however, all along the field edge adjacent to the swamp. An extensive site, 38LX103, is located approximately 300 feet to the west of 38LX64, but is just outside the project highway boundary.

The same consideration and recommendations for research provided for 38LX96 and 38LX97 also apply to this site.

38RD87

This site was previously studied and located in the Alternate Two report by Anderson (1974: 31-32). As Anderson has described it, the site is currently recognized within the plowed fields in alluvial bottom land just south of the Columbia Sewage Treatment Plant (Fig. 2). The
site consists of sherd and lithic debris indicative of the South Appalachian Mississippian Period. Artifacts such as pottery and debitage can be found in varying densities from the area next to the sewage treatment facility south to the earthen dam (Fig. 2). No intensive sampling strategy was undertaken at this site during the Alternate Three examination. Surface investigations revealed, however, that 38RD87 does extend far south enough to be damaged by the Alternate Three prism. From the presently known existence of 38RD87 west to the Congaree River channel lies a small hill or terrace currently overgrown in weeds. This terrace has not been empirically shown to be a site since it has never been inspected under cleared conditions but it seems imminent that archeological deposits exist there. A secondary road separates this rise from 38RD87, and just across the road artifacts can be found. Thus, the road and vegetation have probably given a limited estimation of the true spatial limits of this site.

38RD87 is interesting in that it appears to be part of a more extensive distribution of late prehistoric remains which apparently exist as far north as the sewage treatment plant. Late prehistoric remains have recently been found one quarter mile north of the sewage plant as well. Anderson (1974: 32) reports that the treatment plant destroyed a large midden area. 38RD87 seems to fit the settlement pattern of the late prehistoric South Appalachian phase peoples who attempted to locate their villages close to the terraces adjacent to free flowing creeks and rivers. This same phenomenon was discussed in passing with regard to 38LX68. A study of 38RD87 will help increase our knowledge of late prehistoric adaptations to the Congaree River Valley and to evaluate the role of agriculture in the subsistence systems of late...
period peoples. Currently, the total site configuration is not well-known along the eastern bank of the Congaree River. Materials appear in a light distributions punctuated by denser areas suggestive of small midden areas, perhaps resultant from habitation areas. Some excavations are needed here to spatially define such concentrations and subsurface techniques should be applied to investigate the adjacent terrace between the plowed areas and the actual river channel.

38RD102

This site was discovered while walking the new Alternate Three line. The site is located on a small rise overlooking a wet area immediately to the north. The site is in cultivation. All cultural materials observed were collected as a grab sample. These include one sherd of steatite, one plainware sherd of unknown age and cultural affiliation, one piece of ground slate, and one chert flake of bifacial retouch. These artifacts were distributed lightly over an area perhaps 50 feet on a side.

Given such a small array of materials 38RD102 is difficult to discuss in terms of human activities. It is interesting to note that even slightly elevated areas such as the low rise upon which this site was situated, appear to be of interest to prehistoric groups. Anderson (1974) has accurately pointed out that the eastern side of the Congaree River tends to be lower and wetter than the western side. Just how this affected settlement strategies and which sections of the eastern floodplain were usable for habitation and exploitation is of yet unknown. The existence of the steatite fragment indicates the site was contacted by Late Archaic groups and it seems unusual to find steatite apart from more densely occupied sites.
38RD103

This was a small scatter of lithic debris near a drainage ditch in the same cultivated field as 38RD102. The site was recently plowed and rained on making artifact recognition easier. No ceramic materials were observed and the character of the lithic debitage suggests the retouching of bifaces. The majority of artifacts observed were picked up, examined, and placed back down in their original position. The largest portion of the lithic remains were slate flakes of bifacial retouch, although one chert striking platform from a bifacial retouch flake was saved. The area in which the lithics were found was approximately 75' by 50' and seemed to follow a slight rise near the drainage ditch.

Again, similarly to 38RD102, here is an ephemeral site located on a very slight rise in elevation. In this case, however, the composition of the artifact inventory is strikingly homogeneous suggesting a manufacturing and/or re-sharpening of bifacial implements. The flakes of bifacial retouch are large, 20 mm and longer suggesting either manufacture or re-sharpening of large hafted bifaces commonly found in the Archaic sites. The South Appalachian Mississippian or late prehistoric groups seemed to use smaller bifaces than this suggesting 38RD103 might be exclusively preceramic in age.

This site should be examined in a manner similar to other sites suspected to be largely in the plowzone. Test excavations should examine the possibility of subsurface horizons and attempt to secure a representative sample of the lithic materials from what has thus far only been surface collected. Like the geographic position of 38RD102, this site is not readily explicable in terms of its environmental situation. Although undoubtedly related to a wider settlement system operating in the Congaree
Valley, its exact location away from major streams or swamps seem anomalous. It should be pointed out, however, that there is a good chance that much of the more ephemeral natural surface drainage patterns of this portion of the floodplain have been artificially altered by dike systems and drainage ditches. Thus, subtle but important aquatic environments once in existence have been eradicated. The fact that a drainage ditch exists to the immediate east of this site suggests a low area nearby.

38RD86

This site was sampled and recorded previously by Anderson (1974: 32) in his survey of Alternate Two. This site was revisited during the Alternate Three survey and intensive collections of plowed site surfaces were made through the surface-circle method. A single test pit was excavated one square yard over Sample-circle Number 24 which was located on the highest part of the terrace. The results indicate this end of the site is completely in the plowzone.

The site was in cultivation during the 1975 visit. Anderson (1974: 32) has adequately described the site as a long terrace about 100' by 600' adjacent to a linear-shaped swamp to the immediate east. The terrace is higher and drier that the wetter bottom lands surrounding it and consists mainly of fine sands and silt giving better drainage. In terms of its environmental position, this site seems similar to previously discussed sites which were oriented along the edges of swamps.

The surface-circle data have not been analyzed, but the gross findings of the surface study can be briefly summarized. Spatially, most artifactual debris is restricted to the higher crest of the terrace as materials rapidly drop in density approaching the plowed fields to the
immediate west. Judging from the surface material the age of the site begins with the Late Archaic. One Savannah River point and seven steatite sherds suggest this period. Many small contracting-stemmed slate and chert dart points were found strongly resembling a Woodland type described as Thelmas by South (1959: 151). Proportionately, more Thelma-like points were found here than any site examined thus far in the highway-related surveys of the Congaree Valley. Almost all of the bifaces and projectile points found were either slate or chert which fits the debitage pattern at the site. Such a pattern of raw material utilization also makes a break with previously recorded sites in the highway surveys in the Congaree Valley.

A fair number of sherds were recovered which probably relates to the Woodland Period. Two large triangular points were found also suggesting a Late Woodland origin.

This site is like other swamp-edge sites discussed except with regard to the predominance of small dart points made on non-quartzitic materials and the unusual number of biface related debitage made of slate and chert. While the customary remains such as fire-cracked rock and cobble tools are present, there would appear to be a specialized activity revolving around the use of hunting equipment. The density of ceramics at 38RD86 is also unusual compared to other swamp-edge sites.

There is an early historic occupation on the extreme southeastern end of the terrace. Sherds of pearlware and creamware were found along with several scraps of early brick. One clay anthropomorphic pipe bowl fragment was found also known to be from the colonial historic period (South 1965).
This site is significant since it is another example of a swamp-edge site. This site, however, in addition to having some of the usual material remains, is different due to the unusual quantities of small slate and chert dart points along with their resultant debitage. One category of a Woodland point, the Thelma (South 1959: 151), is unusually common. This pattern coupled with the plain pottery suggests a possible relationship among these artifact classes. The association of these point styles of the Woodland Period, with ordinarily more infrequent raw materials such as slate and chert, suggests a special use-procurement system for these populations. Chert definitely does not occur locally in the Congaree Valley while the slate does in special locations. Statistical analysis of the frequencies of non-quartzitic raw materials used as stone tools is an important study for reconstructing lithic procurement strategies of sites in the Congaree Valley, and 38RD86 could provide useful contrastive data.

The one modest test square indicated that the site in its highest portions is completely in the plowzone. The soil beneath the plowzone is a homogenous sandy-silt with mica particles common. Given the lower and more heavily flooded condition of the eastern bank of the floodplain, there exists the possibility of deeply buried cultural components. This contingency should be checked during mitigation phase investigations. Even if the site is completely in the plowzone increased sample sizes are badly needed to reconstruct artifact inventories and activities from the site. Statistical analysis of spatial units such as grid collected data would likely yield meaningful groups in covariation and would be a viable means of associating tool classes with each other and pottery for both
chronological and functional relationships. The edges of the terrace dip sharply toward the extensive swamp to the east. This swamp may also contain refuse, if not genuine occupational strata, related to 38RD86.

38RD85

This site is reported and described by Anderson (1974: 32) as a recent historic site. Our Alternate Three survey re-visited the site but made no additional collections. The site is apparently recent twentieth century and warrants no special archeological consideration.

SUMMARY AND RECOMMENDATIONS

In accordance with the National Environmental Policy Act and Executive Order 11593, an archeological Environmental Impact Statement was prepared for the proposed Alternate Three route of the Columbia Southwestern Beltway. This survey produced a total of 11 archeological sites which will receive direct archeological impact. Preliminary assessments of significance and recommendations of further work were made for each site for the mitigation phase of research. All sites will require some detailed study in order to mitigate the loss of archeological information.

None of the 11 sites will be nominated to the National Register of Historic Places. This decision is predicated on the following criteria. First, the sites have primarily scientific value. There are no archeological remains extant in the Alternate Three corridor which appear to have great historic, national, social or psychological importance. Second, although the sites have great scientific and anthropological value such resources are best used in the course of an intensive scientific study which will elucidate their inherent value to social science. This
does not imply that archeological sites of important scientific value cannot or should not be placed on the National Register. Some archeological sites of primarily scientific value can legitimately have National Register distinction when such sites contain potential data of scientific relevance that is unusual, infrequent, well-preserved or whose greatest scientific value would be best realized by deferring investigations and preserving the data base until such a time when the most appropriate methods and theories are available with which to study them. An example of such a site in the Congaree Valley would be the Manning Site, 38LX50. This site is the largest prehistoric site currently known in the upper part of the valley, and would appear to have one of the most complex sets of archeological remains, as well as an unusual environmental position. This site was likely the hub of much cultural activity going on in the Congaree Valley for over 10,000 years. Such a site has obvious scientific value beyond the usual scientific importance. Such sites of extreme scientific significance should be studied over a long period of time taking advantage of new developments in archeological method and theory and should be studied from several points of view. In nearly all cases, archeological mitigation studies are a compromise between adequate time and research strategy and as such, the inherent information value of such important sites is not always completely realized.

The conclusion of this study regarding the 11 sites, is that adverse impact will be total and complete. Consequently, each site will require some additional form of intensive field investigation. In order to accommodate the need for further study a detailed research design and budget of research costs will be submitted. This design and budget will be submitted and executed in sufficient time to allow all recommended
phases of field research to be completed prior to actual highway construction. This design must consider other potentially inter-related aspects of prehistory relevant to the region and the Congaree Valley in particular. In other words, the focus of this design must attempt to integrate cultural patterns observed in the Alternate Three corridor with probable patterns which exist within and perhaps external to the Congaree Valley as a whole. Any other approach is completely at variance with wider anthropological knowledge which has repeatedly established that all human societies exist as systems whose range and existence have abundant geographical loci (see Streuver 1971). The idea of using specific sites as revealed in geographically restricted construction projects has relevance for the role of such projects in secondary archeological impact.

No formal considerations were made in this report, concerning secondary archeological impact to temporally linked future indirect impact on the Congaree River Valley archeological resource base. This impact will obviously be great, probably more destructive that the impact on the 11 sites which will be destroyed. The construction of a multi-lane beltway connecting two commercial-industrial areas of greater Columbia will be the first step in the increased use of the Congaree Valley floodplain for non-agricultural land uses. Such a transportation measure will ultimately have strong ramifications for the contemporary settlement pattern of the Columbia area as well as the Congaree Valley. Such an impact should be made with due considerations of the long-term destructive impact of the State's only non-renewable cultural resource -- its historic and prehistoric heritage. This heritage is, for the most part, in the ground in the form of archeological records. Once moved
or destroyed, our contemporary society becomes irreversibly cut off from its past.

The question is not whether the South Carolina Highway Department or any other constructional agency should build in the Congaree Valley, for obviously improvements in contemporary communications and transportation are necessary. The real issue is how it should be done. The responsibility of archeology in this case is to achieve the maximum long-term beneficial attrition of the archeological resource base. This viewpoint is in agreement with contemporary archeological goals and standards (Lipe 1974, Lipe and Lindsay 1974).

A long range regionally based viewpoint for all projects resulting in archeological impact is particularly appropriate for the Congaree Valley. This is true since the Congaree Valley is a distinct physiographic feature and one with obvious culture-ecological importance to the prehistoric and historic populations of the State. The Congaree River Valley and the few other fall line river valleys produce some of the most intensive examples of aboriginal habitation and activity of the entire State and as such indicate the high concentrations of humanly usable biotic and abiotic resources. Importantly, such environmental niches represent probably less than one percent of South Carolina's total land surface. It is also the case that our contemporary settlement pattern of major urban centers on these fall line localities is destroying the archeological records of these particular niches at an alarming rate.

In order to maximize the total inherent information value of sites contacted by any construction project, regardless of size, mitigation phase research must be capable of gathering data that will allow sites specifically encountered in a particular impact zone to be integrated
into a wider regional framework. The data needed to be gathered which is geographically external to a impact zone should be specified in the course of writing a project research design. Numerous examples of contract archeological research which have gone outside the boundaries of a project impact zone can be cited (Danson 1958, Jenning 1966, Lindsay et. al. 1968, Raab 1974, Schiffer and House 1974). To take an alternative strategy, that is only approaching the data base by considering archeological remains restricted to the impact zone, is to fall short of realizing the maximum amount of information contained in such remains.

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REFERENCES

ANDERSON, DAVID G.

ANDERSON, DAVID G., JAMES L. MICHIE, AND MICHAEL B. TRINKLEY (WITH PREFACE AND CONCLUSIONS BY ROBERT L. STEPHENSON)
1975 An Archeological Survey of the Proposed Southwestern Beltway Extension and Twelfth Street Extension Highway Route in the Vicinity of Congaree Creek. Research Manuscript Series, No. 60. Institute of Archeology and Anthropology, University of South Carolina, Columbia.

BAKER, CHARLES M. AND MICHAEL B. SCHIFFER

BINFORD, LEWIS R.

CANOUTS, VELETTA

COE, JOFFRE L.

CRADDOCK, G. R. AND C. M. ELLERBY
1966 Land Resource Map of South Carolina. S. C. Agricultural Experiment Station Soil Map Leaflet 47. Clemson University, Clemson, South Carolina.

DANSON, EDWARD B.

FERGUSON, LELAND G.
1971 South Appalachian Mississippian. Doctoral dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

GOODYEAR, ALBERT C.

-40-
GOODYEAR, ALBERT C. AND DAVID G. ANDERSON
i.p. An Archeological Survey of the Proposed Camden Beltway (manu-
script in preparation). Institute of Archeology and Anthro-
pology, University of South Carolina, Columbia.

GRIFFIN, JAMES B.
Vol. 156, No. 3772, pp. 175-191.

HAGGET, PETER
1966 Locational Analysis in Human Geography. St. Martin's Press,
New York.

JENNINGS, JESSE D.
1966 Glen Canyon: A Summary. University of Utah Anthropological
Papers, 81.

JONES, LEWIS P.
1971 South Carolina: A Synoptic History for Laymen. The Reprint
Company, Spartanburg, South Carolina.

LINDSAY, ALEXANDER J., JR., et.al.
1968 Survey and Excavations North And East of Navajo Mountain,

LIFE, WILLIAM D.
1974 A Conservation Model for American Archaeology. The Kiva,
Vol. 39, Nos. 3-4, pp. 213-245.

LIFE, WILLIAM D. AND ALEXANDER J. LINDSAY, JR., editors
1974 Proceedings of the 1974 Cultural Resource Management Con-
ference, Federal Center, Denver, Colorado. Museum of Northern

MURPHEY, CHRISTOPHER AND CHARLES HUDSON
1968 On the Problem of Intensive Agriculture in the Aboriginal
Southeastern United States. Working Papers in Sociology and
Anthropology, Vol. 2, No. 1, pp. 24-34.

ODUM, EUGENE P.
Company, Philadelphia.

RAAB, L. MARK
1974 Archeological Investigations for the Santa Rosa Wash Project.
Phase I, Preliminary Report. Manuscript on file at Arizona
State Museum, University of Arizona, Tucson.

REDMAN, CHARLES L. AND PATTY JO WATSON
1970 Systematic, Intensive Surface Collection. American Antiquity,
SCHIFFER, MICHAEL B. AND JOHN H. HOUSE (assemblers)  
n.d. The Cache River Archeological Project: An Experiment in  
Contract Archeology. Arkansas Archeological Survey, Research  
Series, No. 8. (In press).

SOUTH, STANLEY A.  
1959 A Study of the Prehistory of the Roanoke Rapids Basin.  
Masters thesis, University of North Carolina, Chapel Hill.

1965 Anthropomorphic Pipes from the Kiln Waster Dump of Gottfried  
Aust -- 1755 to 1771. Florida Anthropologists, Vol. 18,  
No. 3, Part 2, pp. 49-60.

STREUVER, STUART  
1971 Comments on Archeological Data Requirements and Research  

TRINKLEY, MICHAEL B.  
n.d. Archeological Survey to Locate Fort Congaree. Manuscript on  
file at the Institute of Archeology and Anthropology, Univer­  
sity of South Carolina, Columbia.

WILLEY, GORDON R.  
1966 Introduction to North American Archeology, Vol. I, North and  