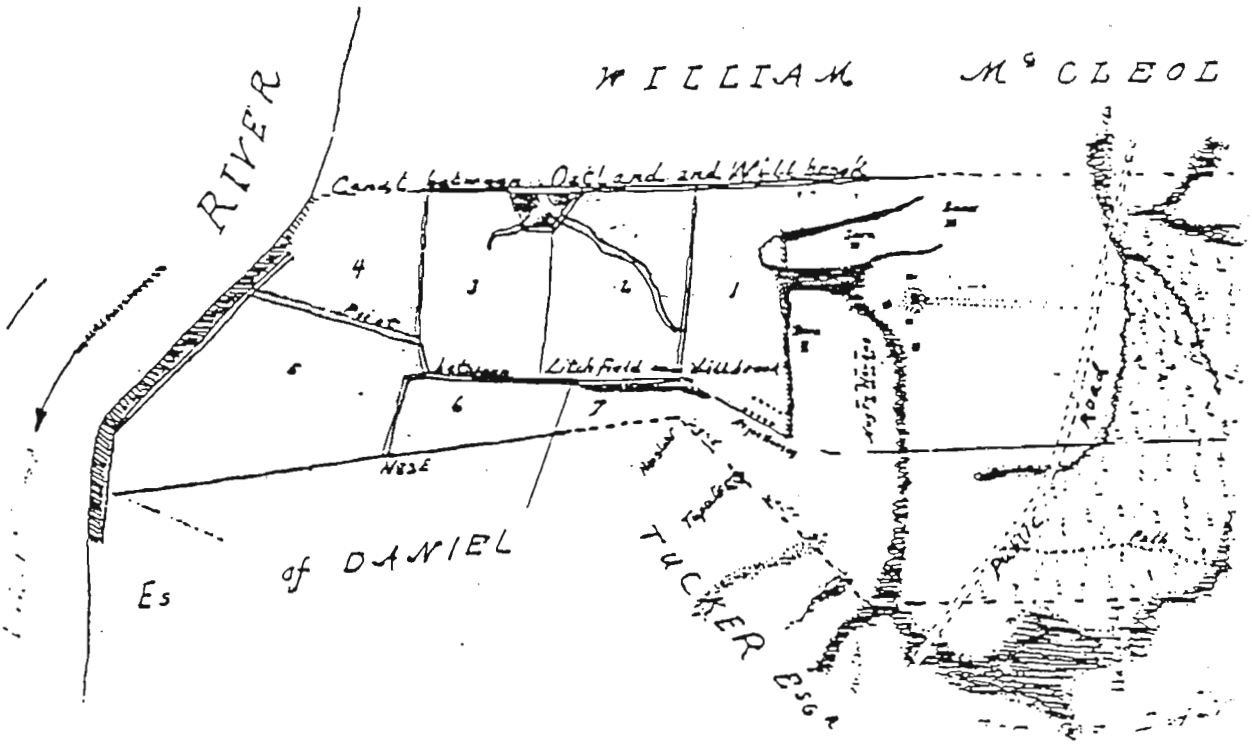
AN ARCHAEOLOGICAL STUDY OF WILLBROOK, OATLAND, AND TURKEY HILL PLANTATIONS, WACCAMAW NECK, GEORGETOWN COUNTY, SOUTH CAROLINA



CHICORA FOUNDATION RESEARCH SERIES 11

AN ARCHAEOLOGICAL STUDY OF WILLBROOK, OATLAND, AND TURKEY HILL PLANTATIONS, WACCAMAW NECK, GEORGETOWN COUNTY, S.C.

RESEARCH SERIES 11

Michael Trinkley, Editor

Contributors:

Colin Brooker
Debi Hacker
Wesley K. Hall
Rowena Nylund
Michael Trinkley
Gordon P. Watts, Jr.

Chicora Foundation, Inc.
Post Office Box 8664
Columbia, South Carolina

September 1987

ISSN 0882-2042

LIBRARY OF CONGRESS
Library of Congress Cataloging-in-Publication Data

An Archaeological study of Willbrook, Oatland, and Turkey Hill Plantations, Waccamaw Neck, Georgetown County, S.C. / contributors, Colin Brooker ... [et al.].
p. cm. -- (Research series / Chicora Foundation, Inc., ISSN 0882-2042 ; 11)
Bibliography: p.
$15.00
1. Georgetown County (S.C.)--Antiquities. 2. Willbrook Plantation Site (S.C.) 3. Oatland Plantation Site (S.C.) 4. Turkey Hill Plantation Site (S.C.) 5. Excavations (Archaeology)--South Carolina--Georgetown County. 6. Plantation life--South Carolina--Georgetown County--History. 7. South Carolina--Antiquities. I. Brooker, Colin. II. Series: Research series (Chicora Foundation) ; 11.
F277.G35A73 1987
975.7'89--dc19 87-27810
CIP

One must not love sometimes only, for a passing moment, but always. There is no man who doth not sometimes love; even the wicked can do that.

-- Fyodor Dostoevsky

ABSTRACT

This study represents a preliminary historical and archaeological survey of the 2400 acre Willbrook Plantation development, situated in the north central portion of the Waccamaw Neck, just south of Brookgreen Gardens in Georgetown County, South Carolina. Previous work, conducted by Dr. Larry Lepionka on the development tract in 1984, 1985, and 1986, located and tested 11 archaeological sites. The primary purpose of this study is to assess these previously identified sites, conduct spot checks on the 2400 acres for additional sites, and incorporate historical, architectural, and underwater archaeological investigations. Secondary goals are to examine the relationship between aboriginal and historic settlement patterns and soil types, to examine the diversity of the aboriginal occupation and associated pottery, and to evaluate the degree of diversity in the archaeological remains from the three plantations.

As a result of the corraborative survey conducted by Chicora an additional 26 archaeological sites were defined, almost entirely through non-systematic reconnaissance level pedestrian surveys. Data on potential high probability areas, useful for future archaeological surveys, is generated by this study and the historical findings are compared to previous research on nearby plantations.

Of the 37 identified terrestrial archaeological sites, 17 are primarily historic sites, 19 are primarily prehistoric, and one contains equal prehistoric and historic components. Of these, 14 sites (three prehistoric and 11 historic) are recommended as eligible for inclusion in the National Register of Historic Places. The underwater study has identified one site, which includes the remains of several historic construction features associated with the main Turkey Hill Plantation canal. This site is probably eligible for inclusion in the National Register of Historic Places. The architectural study examined eight structures or structural remains on the plantation and two are recommended as eligible for inclusion in the National Register.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

This work was funded by The Litchfield Company of Easley, South Carolina in the amount of $19,757.50. While the work was conducted at the behest of the Army Corps of Engineers, the S.C. Coastal Council, and the S.C. Department of Archives and History, I wish to thank Steven W. Goggans, Manager of Litchfield Architectural Division at Pawleys Island for his support and interest in the history of the Willbrook area. In addition, I wish to thank Andy Thompson, project foreman, for his assistance during the field work and the loan of a power auger for several days.

Langdon Edmunds and Patricia Cridlebaugh, with the S.C. Department of Archives and History, reviewed the original research plan, participated in several meetings, and provided considerable assistance during the field work and review phases. Martha Zierden, Curator of Historical Archaeology at The Charleston Museum assisted in arranging for the curation of the materials from this study at The Charleston Museum. Keith Derting and Nena Powell, S.C. Institute of Archaeology and Anthropology, both assisted in searching that institution's site files and assigned site numbers to the identified sites. Robin Salmon, historian with the Brookgreen Gardens Foundation provided very kind assistance during the historical research.

Larry Lepionka, who conducted the original research on the Willbrook tract for The Litchfield Company, has assisted this project considerably. He has provided copies of his previous research, has passed on his collections so these analyses could be inclusive, and has offered insights concerning the various sites. His assistance and interest is very much appreciated.

I also wish to acknowledge the skill and dedication of my field assistant, Ramona Grunden, and my laboratory supervisor, Debi Hacker. Obviously, much of this work should be credited to them. I also wish to thank all of the other contributors to this project, including Colin Brooker, Wesley K. Hall, Rowena Nylund, Jim Scurry, and Gordon Watts, Jr. They have all worked diligently to meet deadlines and produce excellent research.

I gratefully acknowledge the review comments offered by my colleagues, Debi Hacker, Martha Zierden, and Jack H. Wilson, Jr.

INTRODUCTION

Michael Trinkley

Background

This investigation was conducted by Dr. Michael Trinkley of Chicora Foundation, Inc. for The Litchfield Company (Steven W. Goggans, Manager, Architectural Division), developer of the 2300 acre (930 hectares) Willbrook tract, known as Willbrook Plantation. This property is situated about 17 miles (27 kilometers) northeast of Georgetown and about 5 miles (8 kilometers) southwest of Murrells Inlet in Georgetown County. The tract is bounded by the Waccamaw River to the west, Brookgreen Gardens to the north, and various properties to the south and east. The tract partially fronts U.S. 17 on its east border and is bisected by the old Kings Highway (Figure 1).

The proposed development plan intends to deed about 576 acres (230 hectares) of ricefields to the State of South Carolina and there are 125 acres (50 hectares) of interior wetlands, leaving about 1604 acres (642 hectares) of developable land. The project is anticipated to include about 240 acres (96 hectares) of roads and over 3900 dwelling units (based on the March 22, 1985 Conceptual PUD Master Plan developed by Edmund Pinckney Associates). The development plans call for the creation of new wetlands in highground areas and the creation of a marina with associated dredging around the fringes of Turkey Hill Island. Included in the plans is the construction of 50 holes of golf scattered over the tract. The project, consequently, has a high potential to impact archaeological sites through either direct road and support facility construction, marina construction, and golf course development, or through eventual house construction activities.

1984 Studies by Lepionka

The archaeological surveys and evaluations of the Willbrook tract were begun in 1984 and continued through 1986 by Dr. Larry Lepionka. The first work, conducted from October 15 through 19, 1984 (5 days, an estimated 120 person hours), was intended "to gain an initial appreciation of the extent and nature of archaeological remains on the property" (Lepionka 1984:1). This reconnaissance level survey identified "surface

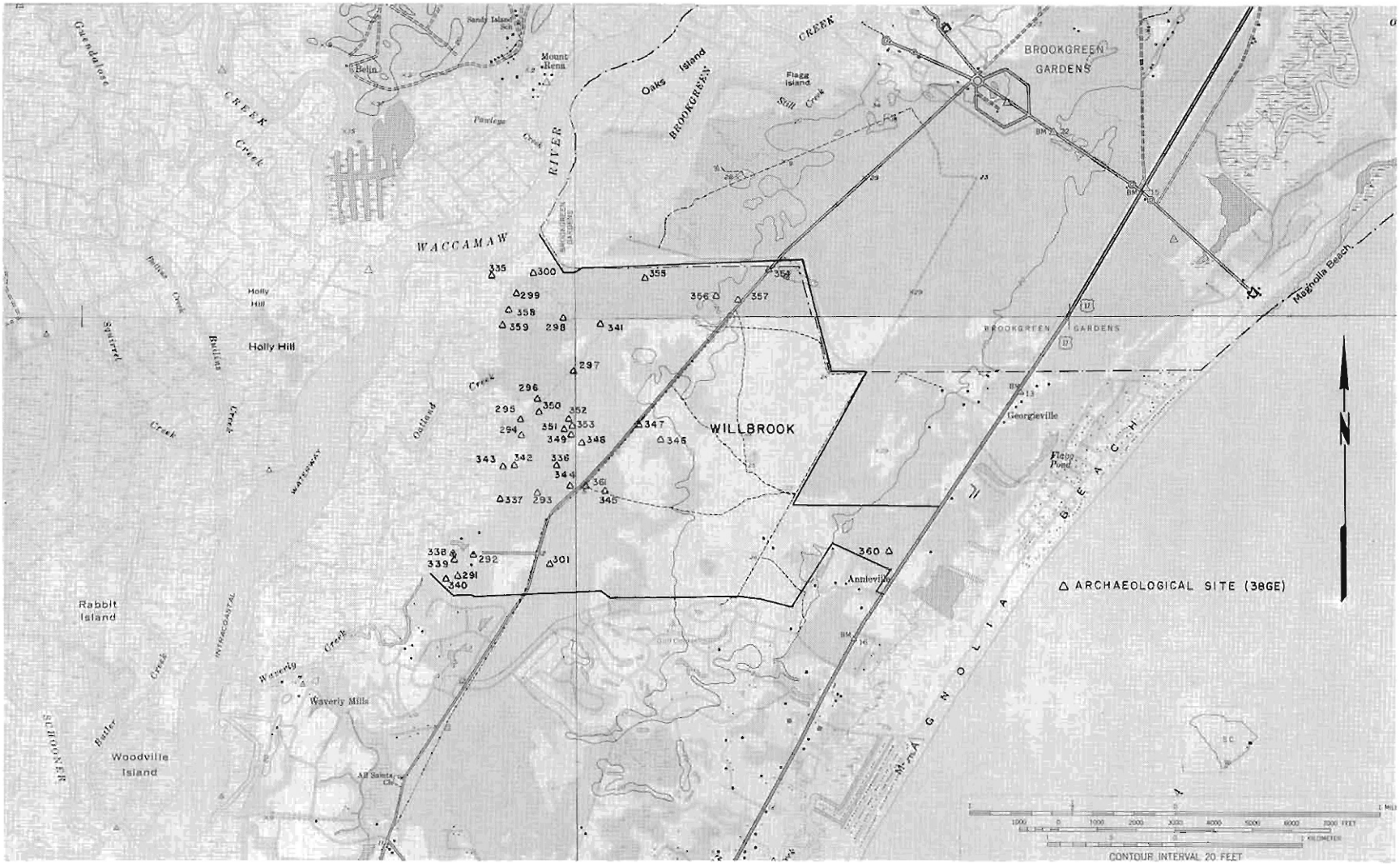


Figure 1. Portions of the Brookgreen, Magnolia Beach, Plantersville, and Waverly Mills USGS topographic maps showing the Willbrook Plantation area.

sites or exposures of obvious or potential significance" which were known by a local informant, Tom Hunter (Lepionka 1984:1). Included in the survey were brief descriptions of seven standing structures and seven unnumbered archaeological loci (state site inventory forms were not completed until the completion of the third report in July 1986 (Lepionka 1986), which hinders the discussion of sites found and discussed in 1984 and 1985). It appears that these seven archaeological sites include Willbrook Plantation (38GE292), Oatland Cemetery (termed "The Black Cemetery," 38GE293), Oatland "Industrial" Site (termed "Causeway Prehistoric Site," 38GE295), Turkey Hill Island East Settlement (termed "The Northwest Shore," 38GE299), Allston Cemetery (termed "The Turkey Hill Cemetery," 38GE300), and Willbrook Tenant Site (termed "South Central Area . . . closely spaced loci," 38GE301). In addition, this study collected six artifacts from a plowed field later identified as the Willbrook Slave Settlement (38GE291) and from several loci which were never given site numbers by Lepionka (1984:33-34). A total of 247 artifacts were collected from six sites and the unnumbered loci. Lepionka concludes the 1984 report by recommending "intensive testing" at four sites (38GE292, 295, 298, and 299); "minimal testing" at one site (38GE301); the further investigation of the unnumbered loci; the expansion of the survey "to cover most of the property;" and, finally, the preservation of the Willbrook main house, kitchen chimney, and tobacco barn. No recommendations of site eligibility are offered by this work.

1985 Studies by Lepionka

The second study of the Willbrook tract, conducted from April 15 through 26, 1985, was intended to obtain additional survey data and "to conduct testing in known site areas" (apparently as recommended in the 1984 study) (Lepionka 1985:5). Although the report is titled an "archaeological reconnaissance survey," Lepionka describes the work as an "intensive examination of the shoreline sector," although the exact units of this work, its methodology, and the resulting findings are nowhere discussed (Lepionka 1985:5). The report is almost entirely devoted to the extensive testing of the various sites and further survey in the interior areas of the property is dismissed as unnecessary based on the findings of the earlier, reconnaissance level report. Curiously, while the interior (unnumbered) and tenant site (38GE301) were originally recommended for further study, by 1985 they were "too diffuse for any practical study" and "of minimal significance" (Lepionka 1985:2).

By 1985 the Willbrook Plantation house, which was recommended for preservation and possibly even restoration in 1984 (Lepionka 1984:19, 34), had been torn down, with the comment by Lepionka (1985:3) that the "loss . . . is not of

major import." Lepionka (1985:3) also mentions that another structure, possibly the kitchen chimney, had also been torn down.

The archaeological testing included the excavation of 21 3-foot (0.9 meter) squares (189 square feet or 17.6 square meters) at the Willbrook Slave Settlement (38GE291), the excavation of 444 square feet (41.3 square meters) at the Willbrook Plantation (38GE292), the excavation of 12 3-foot (0.9 meter) squares (108 square feet or 10.0 square meters) at the Oatland Slave Settlement (38GE294), the excavation of 117 square feet (10.8 square meters) at the Oatland Industrial Site (38GE295), and the excavation of nine 3-foot (0.9 meter) square (81 square feet or 7.5 square meters) and a single shovel test at the Turkey Hill East site (38GE298).

The Willbrook Slave site (38GE291) was distinguished from the plantation settlement (38GE292) during this work, and three additional sites, the Oatland Slave Site (38GE294), the Oatland Prehistoric Site (39GE296), and the Turkey Hill Mainland Site (38GE297) were recorded as a result of "extensive land clearing." Lepionka noted that "while the land clearing has caused some superficial damage, this has not been particularly detrimental to the sites in question" (Lepionka 1985:5). The identification of these additional sites brought the number of sites to 11, for a ratio of one site per 146 acres of highland. This provides a strong contrast to the one site per 40 acres reported by Michie (1984:1) from the Wachesaw and Richmond plantations to the north on Waccamaw Neck.

Lepionka concludes that the proposed dredging in the ricefields adjacent to Turkey Hill for a marina would not damage any of the terrestrial sites and would only impact "underwater sites or artifacts" located "in the limited areas of established entrance channels and along the short section of the upper end of Oatland Creek that is to be traversed by the canal" (Lepionka 1986:43). A subsequent underwater archaeological study (in this report) indicates the presence of significant remains in one area of the ricefields.

Lepionka suggests preservation in place for the two cemeteries (38GE293 and 38GE300), while the Allston Cemetery (38GE300) is recommended as eligible for inclusion in the National Register. Regretably, the cypress crosses on the Oatland Cemetery (38GE293) are dismissed as "too rotten for preservation" (Lepionka 1985:44). The only other eligible site is the Willbrook Slave settlement (38GE291), although the tobacco barn is recommended as an eligible standing structure (Lepionka 1985:45). Lepionka, however, recommends further testing or data recovery at six other sites: Turkey Hill Plantation (38GE299), Turkey Hill East (38GE298), Oatland Industrial (38GE295), Oatland Settlement (38GE294), Oatland

Prehistoric (38GE296), and Willbrook Plantation (38GE292) (Lepionka 1985:44-45).

1986 Studies by Lepionka

The 1986 report by Lepionka "synthesizes the results of all survey efforts and is intended to replace" the earlier reports (Lepionka 1986:1); a thorough comparison of the reports will illustrate considerable changes in significance statements and conclusions. In addition, "several areas of the property were surveyed or re-examined following completion of land clearing activities" (Lepionka 1986:42), although he fails to indicate when this additional work was conducted or how many person hours were devoted to additional studies. There are no survey fieldnotes available for any of the three seasons and the only site notes available are those from the Turkey Hill Plantation site (38GE299) which indicate work by a crew of two on June 27 and September 27, 1985.

The report, however, does outline the areas of additional study:

1. The area southwest of Willbrook Plantation (38GE292) was examined using an undisclosed number of posthole tests and probe rod tests in the hopes of identifying a second slave row shown on a 1798 plat of Willbrook. No artifacts were cataloged from the posthole tests and Lepionka notes that the study "confirmed the absence of any evidence for the west cluster of slave houses shown in the 1798 plat" (Lepionka 1986:42).

2. The brick piles observed on the south bank of the North Oatland drainage were further examined and found to lack integrity.

3. A series of 16 posthole tests and one shovel test along the south bank of the North Oatland drainage were excavated to examine the Oatland Prehistoric site (38GE296). These tests indicated that the site was "strictly superficial."

4. The Oatland Church, shown on a 1926 plat, was searched for in the vicinity east of the north end of the River Road causeway.

5. The southeast shore of the North Oatland drainage in the vicinity of the Turkey Hill Mainland site (38GE297) was examined.

6. Posthole transects and random tests (discussed above) were made in the vicinity of the Turkey Hill Plantation (38GE299) leading, as Chicora's investigations would prove, to

the erroneous conclusion that the site "does not retain any intact structural features" (Lepionka 1986:42).

7. The dredge spoil area was examined, relying on "surface cuts (roads, other disturbances)" and posthole survey transects apparently running west from Kings Highway to the swamp drainage. No information is supplied on the number or more precise location of these transects, but they failed to identify at least three sites in the vicinity.

8. Additional survey, of unspecified type and intensity, was made "in the interior and east extension of the property" (Lepionka 1986:42).

9. Lepionka (1986:122) also comments on shovel testing in the vicinity of a pond "in the southeast area," which failed to find any evidence of occupation.

Lepionka comments that coring of the ricefields should be conducted to identify "hummocks and paleochannels" and that an underwater survey should seek evidence of floodgates or other engineering features (Lepionka 1986:123). This report concludes that of the 11 sites, four are eligible for inclusion in the National Register: Willbrook Slave Settlement (38GE291), Willbrook Plantation (39GE292), Oatland Prehistoric Site (38GE296), and Turkey Hill Plantation (38GE299) (Lepionka 1986:125-126). By 1986 Lepionka has concluded that the Allston Cemetery (38CH300) is not eligible because "it is a cemetery," although both cemeteries should be preserved in place. In addition, no recommendation is offered concerning the eligibility of the tobacco barn, although "preservation in place of the Willbrook Plantation Tobacco Barn and preservation of selected elements of Barn I in an indoor environment" with both buildings "recorded in measured drawings and photographs" is recommended (Lepionka 1986:126).

1987 Investigations By Chicora

Because the previous studies of the Willbrook tract were rejected by the State Historic Preservation Officer (letters from Mr. Charles Lee, S.C. Department of Archives and History to Lt. Col. F. L. Smith, Jr., Charleston District Army Corps of Engineers, dated June 27, 1985 and May 14, 1986; letter from Mr. Charles Lee, S.C. Department of Archives and History to Lt. Col. Stewart H. Bornheft, Charleston District Army Corps of Engineers, dated September 18, 1986) The Litchfield Company requested a meeting with Chicora Foundation on March 31 to discuss the additional work needed to obtain a satisfactory compliance document. As a result of this initial meeting, the editor of this study and Dr. Larry Lepionka met with staff members of the S.C. Department of Archives and History on April 7 to discuss the additional work required by that agency.

A nine point program was developed by Chicora in response to the April 7 meeting and was presented to The Litchfield Company on April 9, 1987. Chicora was retained by Litchfield to prepare a thorough compliance review of the Willbrook tract on April 22, 1987 and the necessary additional fieldwork was conducted by a crew of two (Trinkley and Grunden) from May 4 through May 15, 1987, for a total of 160 person hours. Archival research was conducted by Rowena Nylund during May. Laboratory studies, including washing, cataloging, and the analysis of both Lepionka's earlier collections and those obtained by Chicora, were conducted by Debi Hacker during the months of May and June. Conservation of these materials is still on-going but is expected to be completed in early September 1987.

Within the development boundaries is a 9 acre (3.6 hectares) tract which is slated for immediate golf course development. On this tract Lepionka located three archaeological sites -- 38GE294, 295, and 296. The State Historic Preservation officer agreed to accept a management summary for these three sites, which were of immediate concern to the Litchfield Company, with the provision that a final report fully cover all of the plantation. A management summary was provided on these three sites on May 25, 1987.

This document, as stipulated by the State Historic Preservation officer, provides a complete report of both the 9 acres of immediate concern and the entire tract. Because consistent field and laboratory techniques were used throughout, no further distinction between the two phases will be maintained.

Scope and Goals

The primary goal of this project was to review the previous work conducted at Willbrook and produce a compliance report which would be acceptable to the State Historic Preservation officer. To accomplish this primary goal a nine point program was developed in consultation with Archives and History at the April 7 meeting which included:

1. Extensive revision of Lepionka's report format to comply with recognized professional standards and guidelines, coupled with equally extensive elaboration and rewriting;

2. Provision of additional information on the two identified cemeteries, to include mapping, photographing, and recording;

3. Additional documentation of sites 38GE294, 295, and 296 in order to facilitate the uninterrupted development of the golf course (see Trinkley 1987c);

4. Additional archival and historical research to be conducted by a trained historian;

5. Re-visiting and evaluating all previously recorded sites and spot checking areas of the plantation to determine the thoroughness of the original survey by Lepionka;

6. Cataloging, conserving, and ensuring the curation of materials gathered from the original surveys by Lepionka and from work by Chicora (including the professional curation of all fieldnotes, photographs, and other records which may be part of this project);

7. Preparation of new, detailed line drawings for the revised report;

8. Ensuring the necessary revisions of the architectural survey and its inclusion in the final study; and

9. Ensuring the necessary revision of the underwater archaeological survey and its inclusion in the final study.

To accomplish these goals each of the 11 previously identified sites was revisited. Some sites, such as the cemeteries, received considerable additional attention, while others, such as Willbrook Plantation, were simply examined for information on current condition. Additional surface collections were made from most sites, although little additional subsurface investigation was conducted, and most of the sites were photographed. This level of effort, coupled with a complete re-analysis of previous collections and review of available field records was sufficient to allow an independent evaluation of site significance.

The spot checks of the Willbrook tract used the 1:2400 scale topographic mapping of the plantation submitted by Lepionka with his 1986 report (loaned to Chicora by the South Carolina Department of Archives and History). With only two weeks of field time, and most of this devoted to examination of known sites and the recordation of the cemeteries, it was decided to target high probability areas, based on topography, proximity to water, and soil series. For example, high, well-drained sand ridges overlooking Oatland Creek or other swampy areas were targeted for prehistoric occupation. In two cases historic structures or complexes shown on period plats were targeted. This additional survey work, then, did not examine so-called low probability areas (low, moist soils; areas distant from a water source; and so on), nor did it conduct any subsurface testing for site identification except in targeted high-probability areas. As a result of these investigations, 26 additional sites were identified, bringing the total number of sites at Willbrook to 37, or one site per 43 acres

(comparable to the Wachesaw and Richmond Hill plantations by Michie [1984]).

All of the sites from the Willbrook tract were evaluated for their potential eligibility for inclusion in the National Register of Historic Places. Site significance in this study was evaluated on the basis of five archaeological properties: site integrity, site clarity, artifactual variety, artifactual quantity, and site environmental context (Glassow 1977). These qualities stress properties of the archaeological record rather than a site's ability or potential to assist in providing data to a limited, and possibly transient, research design. Such an approach is particularly reasonable for evaluating a number of sites, from a limited geographic area, at one time. If a site exhibits integrity it is likely that it may address at least some research questions and contribute information, but to be eligible the contribution should be major. The use of Glassow's "archaeological properties" also ensures that factors beyond site integrity are considered.

Secondary goals were, first, to obtain a representative body of archaeological data useful for the examination of eighteenth and nineteenth century plantation activities and economics in the Waccamaw Neck area. Although previous work by Rogers (1970) and Joyner (1984) offer an impressive historical synthesis of Georgetown area rice plantations, there are no thorough archaeological studies (see, however, Drucker 1980). This survey provides a foundation for future, specialized research. Another secondary goal was to further explore the concept of deep water and high ground as it relates to eighteenth and nineteenth century plantations in the Waccamaw Neck region. Third, this study was designed to examine the relationship between prehistoric and historic site location, soil type, and topography, extending the previous work of Brooks and Scurry (1978), Scurry and Brooks (1980) and Trinkley (1987) in the Charleston area. Finally, this survey also allowed the examination of a number of Early and Middle Woodland ceramic collections and permitted one of the more thorough typological assessments of pottery from the Georgetown area (see also the previous work on this topic by Drucker and Jackson 1984).

Curation

The curation of the materials from this project may be divided into two components: those from the 1984, 1985, and 1986 studies by Lepionka and those from the 1987 Chicora investigations. The Litchfield Company requested that Lepionka release all previously collected materials to Chicora, which was gradually done from May 8 through June 15. As a result, Chicora obtained fieldnotes from the various site tests, a small collection of color slides, an assortment of field maps,

false color infra-red aerial photographs of the tract, copies of the various reports, laboratory and analysis sheets, and, of course, the collections themselves. No black and white photographic materials or survey field notes were available. Chicora's material includes daily reports, fieldnotes, photographic materials (color slides and black and white negatives), and artifacts.

All of these materials have been curated at The Charleston Museum as Accession Number 1987.26. The artifacts are cataloged as ARL-38561 through ARL-38933 (using a lot provenience system) and the photographic materials are cataloged as MK-34765 through MK-34933. All of Lepionka's field records were photocopied on archival paper since the originals were in unstable condition and had possibly been exposed to mold. Two copies of these records were provided The Charleston Museum and the originals have been maintained on file at Chicora's office. All original records, and duplicates, of Chicora's fieldnotes were provided to the Museum in archival condition. The artifacts have been cleaned and/or conserved as necessary and further information on conservation practices may be found in the Research Strategy and Methods section.

NATURAL SETTING

Michael Trinkley

Georgetown County is situated in the northern lower coastal plain of South Carolina and is bounded on the east by about 37 miles (59 kilometers) of irregular Atlantic Ocean shoreline (including marsh and barrier islands such as Pawleys and Litchfield). The mainland topography consists of subtle undulations in the landscape characteristic of ridge and bay topography of beach ridge plains. Elevations in the county range from sea level to about 75 feet (23 meters) MSL (Mathews et al. 1980:132). The county is drained by five significant river systems, four of which (the Waccamaw, Black, Pee Dee, and Santee rivers) have significant freshwater discharge and only one of which (the Sampit River) is dominated by tidal action. Because of the topography, however, many broad, low gradient interior drains (such as Oatland Creek) are present as either extensions of tidal streams and rivers or flooded bays and swales.

Climate

The climate of the Georgetown County area is influenced primarily by its southern latitude, proximity to the ocean, and low elevations, which results in a subtropical influence. The summers are long, hot, and humid, while the South Carolina mountains tend to serve as a barrier to cold air masses from the north and west, resulting in mild, dank winters (Hilliard 1984:13; Mathews et al. 1980:46).

The temperatures for Georgetown average 49° F (9°C) in winter, with an average daily minimum of 38° F (3° C). The mean summer temperature is 79° F (26° C) and the average daily maximum summer temperature is 88° F (31° C). These temperatures are coupled with relative humidity levels ranging from about 85% at night to 55% at midday. Although summer levels tend to be higher than those of winter, the project area's proximity to the ocean mitigates this trend, producing relatively constant levels. The growing season, from about April 4 to November 3 is at least 226 days in length (Stuckey 1982:73). The total annual precipitation is 52 inches (133 centimeters) and of this, 31 inches (80 centimeters) or 60%, usually falls in April through September, the growing season for most crops. Stuckey (1982:2), however, notes that in two years out of ten, the

rainfall during this growing season will be less than 15.5 inches (40 centimeters).

This mild climate, as Hilliard (1984:13) notes, is largely responsible for the presence of many southern crops, such as cotton and sugar cane. Under normal conditions even corn, which requires 20 inches (51 centimeters) of precipitation during the growing season, thrives in the area (Wann 1977:183).

This environment, in spite of its potential agricultural productivity, was often seen as hostile, unhealthy, and even deadly to both blacks and whites alike. Joyner (1984:35-37) provides a brief review of nineteenth century observers, all of whom argue that the low country's "marsh miasma" was responsible for considerable sickness and death. Visitors frequently mentioned the stagnate air, noxious marsh gas, and abundant mosquitoes. Postell (1970:149-150) indicates that on one South Carolina rice plantation the 1859 figures show that there were 15 days lost from work per slave, compared to a southern mean of 12 days per slave. The Kollock Plantation, on Ossabaw Island, Georgia had a morbidity rate of 19.3 and a Florida plantation averaged 21.3 days lost per slave in 1841. Postell (1970:74-75) also notes that malaria and the various autumnal fevers were so chronic that they were only rarely mentioned in plantation records, although the frequent remedies for "chills and fevers" found in planters' manuals testify to malaria's presence.

Hilliard points out that "any description of climate in the South, however brief, would be incomplete without reference to a meteorological event frequently identified with the region -- the tropical hurricane." Hurricanes occur in the late summer and early fall, the period critical to antebellum cane, cotton, and rice growers. Hilliard notes,

> [t]he capricious nature of hurricanes precluded a given area's being hit every year, but no one could predict what areas were susceptible in any given year, and in some years several struck one area or another (Hilliard 1984:18).

This view was clearly stated in the nineteenth century by Ramsay,

> [i]n such a case between the dread of pestilence in the city, of common fever in the country, and of an unexpected hurricane on the island, the inhabitants . . . are at the close of every warm season in a painful state of anxiety, not knowing what course

> to pursue, nor what is best to be done (Ramsay, quoted in Calhoun 1983:2).

From 1670 to 1860 there were 10 major hurricanes, occurring at intervals ranging from 2 to 52 years, several of which caused extensive reported crop damages (Mathews et al. 1980:54). Doar comments that,

> [t]he heaviest and most destructive gale that the rice country has ever experienced . . . was in 1822, for it not only destroyed most if not all of the crops but a great many negro lives were lost . . . whole plantations were decimated in a few hours, and only those were saved who could get hold of a tree or floating debris (Doar 1936:22-23).

The September 27, 1822 hurricane is estimated to have killed 300 people, but it followed by only nine years the August 27, 1813 hurricane which was actually even more severe.

After these, Doar comments that coastal rice planters began building "storm towers." Located in the rice fields,

> [t]hese were of brick, round, with conical roofs and were 20 or 30 feet [6-9 meters] in diameter and 20 feet [9 meters] high. About ten feet [3 meters] from the ground was an entrance to the floor at this height . . . . Upon the approach of threatening weather all the hands were taken into them until the danger was over (Doar 1936:23).

Geology and Soils

Coastal Plain geologic formations are unconsolidated sedimentary deposits of very recent (Pleistocene and Holocene) age lying unconformably on ancient crystalline rocks (Cooke 1936; Hilliard 1984:6-7; Mathews et al. 1980:5-6). The Pleistocene sediments are organized into topographically distinct, but lithologically similar, geomorphic units, or terraces, parallel to the coast. The study area is situated on the Pamlico terrace which includes deposits that accumulated when the sea level was about 25 feet (7.7 meters) above its present level (Cooke 1936).

Thom (1967) has studied the geomorphology of adjacent Horry and Marion counties, identifying five phases of coastal progradation, each represented by a "barrier island or barrier spit behind which have accumulated quiet-water . . . and fluvial sediments" (Thom 1967:50; see also Cooke 1936 who

recognized the Waccamaw Neck as a spit or island built above the contemporaneous sea level). Thom suggests that the Waccamaw Neck is an extension of the more northern Myrtle Barrier, with a maximum position of the sea at 22 feet. There is also a narrow fringe of Holocene barrier formation which forms the present shoreline (Thom 1967:54-55). Lepionka notes that,

> dune ridges associated with the progradation of the Myrtle Barrier are evident in the Southern part of the neck but are subdued in expression in the north. Within the survey property there is considerable relief on Turkey Hill "Island" . . . and there is minimal visible expression of the dune and swale system on the adjacent mainland (Lepionka 1986:25-26).

The significance of the interplay between geology, coastal morphology, and hydrology is perhaps nowhere better exemplified than in the tidewater rice producing areas. As Hilliard (1975) notes, tidewater rice cultivation was "an ingenious adaptation to nature" which occurred only in those few areas where both sufficient tidal range (5-7 feet [1.5-2.1 meters]) and strong layering of fresh water on top of the saline water occur. These conditions were met in the narrow zone between tidal salt flats and the freshwater swamps above the tidal zone (Hilliard 1975:62), such as the Winyah Bay area of Georgetown County. Brown (1975:14-15) relates these conditions to the Arcuate Strand morphology typical of the area South to Bulls Bay (which includes the premier rice production areas of South Carolina).

Two additional aspects of Sea Island geology should be briefly discussed. The first is groundwater availability, since water is of primary importance to both prehistoric and historic settlement criteria. The principal deep water aquifers are the limestone of Eocene age known as the Santee Formation and the sands of Cretaceous age known as the Pee Dee and Black Creek formations, although these are at depths of 400 to 500 feet (120 to 150 meters) and 1600 to 2000 feet (490 to 615 meters) respectively. The Santee Formation has been pumped so heavily that there is now a "cone of depression" with the result that chloride levels exceed 400 mg/l (S.C. Water Resources Commission 1973:100).

Lynch et al. (1982) note that colonial wells rarely exceeded 20 feet (6 meters) into the sands which were "everywhere saturated with the water which it received from a rainfall averaging 43.78 inches each year" (Lynch et al. 1882:258). Consequently, wells 12 to 15 feet (3.5 to 4.5 meters) deep provided "an unfailing supply of water of the very

best quality" (Lynch et al. 1882:259). Water quality gradually declined as the population increased and antebellum wells became deeper, although they rarely exceeded 60 feet (18.5 meters) in downtown Charleston. One antebellum brick-lined well on Daniels Island, about 5.5 miles (8.8 kilometers) northeast of Charleston, was only 10.7 feet (3.3 meters) in depth (Zierden et al. 1986:4-44). It is therefore clear that during the historic period both deep and shallow wells were in common use, although shallow wells probably tended to be less healthy and more saline. While less information is available for the prehistoric period, it is likely that there were free-flowing aquifers or springs in addition to groundwater in shallow aquifers recharged by local rainfall.

The second aspect of Sea Island geology to be considered in these discussions is the fluctuation of sea level during the late Pleistocene and Holocene epochs. Prior to 15,000 B.C. there is evidence that a warming trend resulted in the gradual increase in Pleistocene sea levels (DePratter and Howard 1980). Recent work by Colquhoun et al. (1980) clearly indicates that there were a number of fluctuations during the Holocene. High stands are recorded at about 2050 B.C. (-3.6 feet [1.1 meters] MSL), 1650 B.C. (-1.9 feet [0.6 meter] MSL), 950 B.C. (-2.6 feet [0.8 meter] MSL), and 500 B.C. (-2.3 feet [0.7 meter] MSL). Low stands are recorded at 1850 B.C. (-10.4 feet [3.2 meters] MSL), 1250 B.C. (10.1 feet [3.1 meters] MSL), 700 B.C. (-6.5 feet [2.0 meters] MSL), and 300 B.C. (-7.5 feet [2.3 meters] MSL). By A.D. 1650 the sea level was about 2.6 feet (0.8 meter) lower than present.

These data suggest that as the first Stallings phase sites along the South Carolina coast were occupied about 2100 B.C. the sea level was about 3.9 feet (1.2 meters) lower than present. However, by 1600 B.C., when a number of Thom's Creek shell rings were occupied, the sea level has fallen to a level of 7.2 feet (2.2 meters) lower than present levels. By the end of the Thom's Creek phase, about 900 B.C., the sea level had risen to a level of 2.6 feet (0.8 meter) lower than present, but over 4.5 feet (1.4 meters) higher than when the shell rings were first occupied. Quitmyer (1985b) does not believe that the lower sea levels at 2100 B.C. would have greatly altered the estuarine environment, although drops of 10 feet (3 meters) would have greatly reduced the available tidal resources.

Data from the nineteenth and twentieth centuries suggest that the level is continuing to rise. Kurz and Wagner (1957:8) report a 0.8 foot (0.2 meter) rise in Charleston sea levels from 1833 to 1903. Between 1940 and 1950 a sea level rise of 0.34 foot (0.1 meter) was again recorded at Charleston. These data, however, do not distinguish between sea level rise and land surface submergence.

The Willbrook tract is characterized by nine soil series. Centenary, Chipley, Hobonny, Johnston, Lakeland, Leon, Rutlege, Wakulla, and Yauhannah (Stuckey 1982:Maps 26,33). These soils may be divided into three categories: moderately well to excessively drained upland soils (Centenary, Chipley, Lakeland, Wakulla, and Yauhannah) which account for about 38% of the acreage; poorly to very poorly drained upland soils (Johnston, Leon, and Rutlege) which account for about 37% of the tract; and the Hobonny ricefield soils which account for 25% of the development.

The well-drained upland soils are found in sandy, or occasionally loamy, marine sediments and most are found on broad ridges or flats. The Lakeland soils tend to be level to slightly sloping and are found in narrow areas along drainageways, as well as on broad flats. Most of these soils have water tables at least 3 feet (0.9 meter) below the ground surface. All of the soils have an A or Ap horizon of grayish-brown sand varying from 0.3 to 0.6 foot (0.1 to 0.2 meter) in depth overlying a yellowish-brown subsoil.

The poorly drained upland soils are characterized by extensive flooding, with a water table no deeper than 1.0 foot (0.3 meter) below ground level. Because of water saturation all are chemically reduced and have black to very dark gray A horizons. These soils are found on broad flats, narrow drainageways, and in floodplains.

The Hobanny soils are organic mucks found on the floodplains of rivers. The soils, very strongly acidic and high in natural fertility, were extensively used for rice cultivation in the nineteenth century (Stuckey 1982:16, 49).

Considerable research along the coast has employed soil types as an indication of site probability. The late Tucker Littleton found that North Carolina prehistoric sites in the vicinity of Onslow County had a near perfect correlation with high, excessively drained, sandy Wando series soils (Tucker Littleton, personal communication 1978). Moving southward to the Bulls Bay area of coastal Charleston County, Trinkley (1980:445-446) found a preference for the high, sandy Sewee and Lakeland soils. Work by Brooks and Scurry (1978) and Scurry and Brooks (1980) found that sites in the Charleston area are generally found on well drained soils, although slightly over 20% of the sites in one survey were found on poorly drained soils, leading to the conclusion that "although soil type seems to be a good general predictor for the presence of prehistoric sites, other variables," at present unrecognized, are also significant (Brooks and Scurry 1978:69). At the Palmetto Grove Plantation in the Mount Pleasant area, all of the prehistoric sites are found on moderately well drained soils (Trinkley 1987b:87).

While drainage and proximity to a water source are likely the primary considerations for prehistoric site settlement locations, other factors, such as proximity to a landing and suitability of the adjacent lands for agricultural activity, are expected to be of equal importance. The Willbrook tract, representing the larger portion of up to three separately operating plantations at various periods, seems to be well suited for agriculture. The rice fields accounted for almost a third of the acreage, and high and low interior lands account for roughly equal acreage. As a consequence, there would seem to have been ample acreage for cash crops, subsistence crops, and timberlands.

Florestics

While the immediate vicinity of the Willbrook tract may be characterized as an upland Atlantic Coast Flatwoods ecosystem, the project borders on a riverine ecosystem (the Waccamaw River) and several palustrine ecosystems (the old rice fields and cypress ponds). Additionally, an estuarine ecosystem may be found within a mile (1.6 kilometers) to the south. A somewhat different upland environment, called the maritime ecosystem, was previously found in the barrier islands in the vicinity. Consequently, Willbrook is situated in an area of extensive ecological variability.

The vascular flora of the upland ecosystem in the Willbrook area is characterized by a mixed hardwood community. This community exhibits considerable diversity, but Kuchler (1964) suggests that the potential natural vegetation in the area is the Oak-Hickory-Pine forest containing medium tall to tall forests of broadleaf deciduous and needleleaf evergreen trees. The dominant trees are hickory, shortleaf pine, loblolly pine, white oak, and post oak. Other components would include dogwood, persimmon, sweetgum, and water tupelo. Such upland mixed hardwood communities have been selectively eliminated through logging and agriculture. Today much of the area is planted in pines or has been converted into live oak groves. The mixed hardwood forests provide excellent browse and cover for deer and even higher densities may be found in the edge zone between the upland zone and the palustrine zone (Moore 1978:9). Other mammals frequently found in this zone are squirrels, opossums, raccoons, and skunks. Less common species include the black bear, fox, and bobcat (Sandifer et al. 1980:473-478). The only terrestrial turtle found in any frequency in this environment is the Eastern box turtle, although freshwater turtles may occasionally be observed (Sandifer et al. 1980:457). The turkey is especially characteristic of mixed hardwood forests where mature oaks are common (Bevill 1978:42-43).

Because Willbrook is situated on the Waccamaw River, the riverine ecosystem is a significant factor in the site's natural setting. The riverine ecosystem is based on waters with less than 0.5% ocean-derived salts and may be characterized as freshwater. The Waccamaw River is a tidal subsystem because it is characterized by "water velocity fluctuating under tidal influence, a low gradient, a streambed composed mainly of mud, occasional oxygen deficits, and a well-developed floodplain" (Sandifer et al. 1980:9). The mud riverbed is not conducive to the survival of shellfish, although some freshwater mussels such as Elliptio spp. may be found in the sandier areas. Approximately 24 fish species are common in the riverine system and six species of anadromous fish are found. The more important common species include catfish, largemouth bass, black crappie, white bass, and yellow perch. Also present are spotted sucker, carp, shiner, and longnose gar. The anadromous species include shad, herring, striped bass, and sturgeon (Sandifer et al. 1980:411). Reptile species, including the river cooters, sliders, snapping turtles, and Florida cooters, are fairly common although most are found along the edges of slower flowing streams in the palustrine ecosystem. Alligators are not uncommon today and may have been more common prior to extensive human pressure (Sandifer et al. 1980:419). Avifauna are relatively uncommon in many riverine ecosystems because of the tidal range and weak flow. The highest numbers of birds coincide with the spring and fall migrations (Sandifer et al. 1980:420). The presence of a nearby palustrine ecosystem, however, probably attracts birds to the site vicinity.

The palustrine ecosystem in the vicinity of Willbrook includes several areas of tidal forested wetlands. These areas are dominated by oaks, sweetgums, cypress, and water tupelo with an abundant understory including swamp privet and wax myrtle (Sandifer et al. 1980:313). Adjacent tidal impoundments are the result of historic rice cultivation which diked areas of tidal emergent wetlands. These river marsh areas are dominated by brackish and freshwater plants such as giant cutgrass, wild rice, cat-tails, and saw grass. This ecosystem attracts a variety of mammals also found in the upland zone, including deer, opossum, and raccoon. The beaver is especially suited to the forested wetlands and the forested wetlands are historically the home of the black bear (Sandifer et al. 1980:381-382). As previously suggested, this environmental zone is the most ideally suited habitat for birds in the Sea Island Coastal Region (Sandifer et al. 1980:375). Possibly significant birds to aboriginal Indians include the various wading birds such as the wood stork, egret, ibis, and heron, and the ducks, primarily the wood duck. Turtles are abundant but do not include any species not previously mentioned.

Two distinct areas of the estuarine ecosystem are found near Willbrook -- the intertidal flats characterized primarily by the ubiquitous intertidal oyster beds and the emergent wetlands characterized by vascular flora such as Spartina and Juncus. The estuarine area is highly productive and provides an environment for a number of fish in tidal creeks. These fish may be divided into two groups. Fish such as the flounder, drum, catfish, and gar represent large predators which are found at the mouths of intertidal creeks. These fish feed on the second group of fish, such as the mumichog, spot, Atlantic menhaden, and silver perch, which commonly travel in schools and migrate in and out of the intertidal creeks with the tide (Cain 1973:76-77). While few turtles are found in the estuarine area, birds are fairly common, particularly in the area of emergent wetlands. Some of the birds, such as the ibis, found in the estuarine ecosystem are also found in the palustrine zone while others, such as the clapper rail, are usually found only in tidal marshes. While deer may graze in the high marsh, the only mammals frequently associated with the estuary are the marsh rabbit and the raccoon (Sandifer et al. 1980:259-260).

The following sections will provide historical evidence that the vegetation of the Willbrook area was being affected by farming and logging by the eighteenth century and was intensively affected by the nineteenth century. The pollen record is somewhat useful for the prehistoric period. Wright states that,

> [t]he transformation to temperate deciduous forest similar to that of today occurred rapidly through a series of successional stages and in most of the area it was essentially completed by 9,000 years ago, with relatively minor changes since then in the proportion of the principal forest components (Wright n.d.:23).

Watts (1979:n.p.) would characterize the vegetation and climate after 7600 B.C. as being "rather similar to the present," and "essentially like the present" after 4000 B.C.

This brief discussion suggests a natural setting at Willbrook that would have been particularly attractive to aboriginal occupants. The topography of the tract indicates a number of sandy, well-drained upland "dune ridges" vegetated in mesic or xeric species overlooking poorly drained bottomland swale swamps with a high biomass.

PREHISTORIC OVERVIEW

Michael Trinkley

Previous Archaeology

Although considerable research has been conducted on the central and southern coast of South Carolina (see Anderson and Logan 1981 and Trinkley 1980, 1983 for brief reviews), very little scholarly research has focused on the coast north of the Santee River. The earliest published work from the area is Carl Miller's (1950) brief study of 884 sherds from nine sites in the vicinity of Myrtle Beach, Horry County. All of the sites were situated on small sandy ridges overlooking Long Bay and evidenced only light scatters of shells and pottery. The collections had been donated to the Smithsonian by Dr. L. C. Glenn and Miller's analysis was basic; in fact, we may only guess that the bulk of the material was sand-tempered coid-marked, fabric impressed, or simple stamped, with small amounts of complicated stamped or Thom's Creek pottery. A brief re-examination of the collections from one of Miller's sites (HO1) in 1979 resulted in the identification of probable Deep Creek and Hanover wares, although a thorough examination of the sherds is clearly warranted. Unfortunately, it is not possible to accurately locate any of these sites today.

Woldemar H. Ritter, from The Charleston Museum, was collecting from sites in the Georgetown area as early as 1933. Sites were found at Pawleys Island and on the "Baruch property at Waccamaw Neck," but the descriptions are insufficient to allow the sites to be identified today. The Museum's collections include an inordinate quantity of complicated stamped pottery, perhaps as a result of selective collecting (see 33.52.1-5, 40.23.44 a-c, 40.103.2, and 48.57.1 or ARL-1109).

Stanley South (1960a), reporting on a survey of southeastern coastal North Carolina and the northeast coast of South Carolina, offered type descriptions for the Thom's Creek, Cape Fear, Hanover, and Oak Island series. These types were based on a surface collection of 2701 sherds from 81 sites and, in general, agrees with the descriptive statements offered earlier by Miller (1950). South's sites were found adjacent to the estuary, in similar environmental contexts as reported by Miller (1950). These findings were largely supported by his

survey of Alder's and Russell's islands in the White Oak River in Onslow County, North Carolina (South 1962b).

South (1962) also examined a probable Middle Woodland sand burial mound in Brunswick County, North Carolina (see also Wilson 1982 for a more recent examination of this site's significance). The mound, formed by the covering of secondary deposits of cremated or secondary deposits, contained few artifacts but is part of a widespread burial mound tradition found along the coasts of North and South Carolina, and Georgia (see also Brooks et al. 1982; Larsen and Thomas 1982; Rathbun 1985a).

Between 1963 and 1965 additional, largely unreported, work was being conducted in Georgetown and Horry counties by the South Carolina Institute of Archaeology (Dr. William Edwards) and students from the University of South Carolina-Coastal Carolina campus. Information on this work has been gathered together by Erika Fogg-Amed (1980) and is briefly detailed here. A total of 11 sites (six in Georgetown County and five in Horry County) were studied. The most common were shell midden sites, which were undisturbed and 1.0 to 2.0 feet (0.3 to 0.6 meter) in thickness. These 11 sites are examined in Table 1. As a result of this work, Fogg-Amed (1980) developed a sequence from the Paleo-Indian through the late Pee Dee.

Early projectile points, including several Hardaway-Dalton points, and mammoth remains are reported from "Hurl Rock Beach" south of Myrtle Beach. Early Archaic Palmer points are reported from the Garden City Beach and Fogg-Amed (1980) also notes the presence of Kirk, Morrow Mountain, Guilford, and Savannah River points from various sites. Other lithic remains found by this work included fragments of soapstone vessels, "pitted stones," mortar and pestle fragments, and ground stone axe fragments. The pottery types identified by Fogg-Amed include Stallings, Thom's Creek (termed Myrtle Beach I, which is primarily plain, and Myrtle Beach II, which is decorated and is "probably identical to the North Carolina 'Thom's Creek'"[Fogg-Amed 1980:n.p.]), Hanover, Deptford, "Cape Fear" (including what is termed "Briarcliff Fine Cord Marked"), Jeremy (which is actually Pee Dee), and Oak Island. Of considerable interest are two additional, minority, types, including sherds which had "some resemblance to the Caraway series . . . . [which] are hard, wellmade, but crudely finished," and others which were similar to the Jeremy (Pee Dee) sherds, but with bold stamped surface treatments (Fogg-Amed 1980:n.p.). This latter pottery was associated with some sites "along the Waccamaw River" which had produced graves and European trade goods, although "only a few test pits have been dug" at these sites. Finally, Fogg-Amed recognized the presence of Colono ware in private collections (none was found

Site	Location	Area Excavated	Comments
SCGE2, Crosswell	Murrell's Inlet on property of B. W. Crosswell and Watson Mosier east of U.S. 17	2 5-foot squares	Clam shell midden, excavated to 2 feet. Primarily Pee Dee pottery. 1555 sherds.
SCGE3, Lachiotte	South of Murrell's Inlet in Huntington. Site of old Lachiotte Canning Factory	6 5-foot squares	Clam shell midden, excavated to 2 feet. Heavily damaged. Materials similar to SCGE4
SCGE4, Huntington	Within Huntington Beach State Park, 0.6 mile NE from U.S. 17	10 5-foot squares	Stratified clam shell midden, excavated to 3 feet. At least one feature identified. Thom's Creek, cord and fabric Pee Dee pottery
SCGE7, Underwater	Unknown	Unknown	Shell midden extended below mean low tide. Pee Dee pottery.
SCHO10, Coates	In Briarcliff Acres on property of Eileen Coates, about 10 miles north of Myrtle Bch.	Unknown	Clam shell midden; lithics but no pottery at 10-1, Thom's Creek pottery at 10-2.
SCHO17, Swash	Windy Hill area on property of I. Lewis off Harrison Street	1 5-foot square at 17-1; 3 5-foot squares squares at 17-2	Clam shell midden producing Thom's Creek pottery.
SCGE1, Luther Smith	Murrell's Inlet at race track on property of Luther Smith, north of Sunnyside Ave.	12(?) 5-foot	Very little shell, stie contained Thom's Creek Cord and fabric impressed pottery, and Pee Dee
SCGE5, Willcox	Murrell's Inlet west of U.S. 17 and Willcox Drive on property owned by Willcox family	5 5-foot squares	Pits exposed by road construction, site destroyed. Some shell midden. Found Thom's Creek, "Cape Fear," Hanover, Pee Dee
SCHO12, Ellsworth	Briarcliffe Acres on property of Ellsworth	2 5-foot squares at 12-1, 17 5-foot squares at 12-2	Excavations recovered Hanover, "Cape Fear," Oak Island, Deptford, and Pee Dee Possible Stalling pottery
SCHO5-2, Big Rise W.	Vicinity of South's SCHO5; site is adjacent to borrow pit on road to Windy Hill city dump	6 5-foot squares	Thom's Creek site with lithic remains
SCHO13, Sherwood Forest	Unknown	2 5-foot squares	Shell Midden present

Table 1. Sites examined by Fogg-Amed in Georgetown and Horry counties.

in the excavations), describing it as "a beautifully burnished ware that shows European influence" (Fogg-Amed 1980:n.p.).

Following South's 1960 survey and typological assessment of coastal pottery, work by Crawford (1966) and later by Loftfield (1976) continued to emphasize the North Carolina coast. While these studies tended to develop more or less local typologies, work in the late 1970s by David Phelps at East Carolina University began to synthesize the North Carolina coastal typologies (Phelps 1978, 1980, 1981, 1982, 1984). One of the most important contributions of this work was the recognition that South's "Cape Fear" series actually represented at least two Early and Middle Woodland series lumped together. The application of much of this North Carolina sequence to the South Carolina coast is discussed by Trinkley (1983a).

Archaeological research in Georgetown County is limited to the extensive testing of the protohistoric and historic Wachesaw Landing site (Trinkley et al. 1983), a brief survey of portions of the Brookgreen Garden property (Drucker 1980), and examination of the prehistoric Minim Island site (Drucker and Jackson 1984), and surveys of various properties (e.g. Michie 1984; Zierden and Calhoun 1983). Work to the north, in Horry County, is not much more detailed. One of the few reports available from the work conducted by Reinhold Engelmayer at Coastal Carolina is a study of the Rum Bluff development on the Waccamaw River (Engelmayer 1980). The Myrtle Beach Air Force Base survey (Drucker and Anthony 1980) provided some early information on prehistoric site distribution for this section of the South Carolina coast. The survey area was found to be distinct from the sound areas to the north and Drucker and Anthony suggest that geographic marginality affected the interaction of northern and southern ceramic traditions. Site settlement suggested "limited, perhaps seasonal, exploitation of littoral resources" in the Early Woodland and a somewhat more intensive, although still seasonal or resource - specific, occupations in the Middle Woodland. The brief test excavations at 39HR133 (Trinkley 1984) presents some of the only excavated prehistoric period data available for this area of South Carolina. Some limited archaeological data are offered by Trinkley and Caballero (1983) for a small nineteenth century farmstead and a twentieth century tenant farm in Horry County, although little archaeological or historical research has been conducted on these topics in Georgetown or Horry counties.

Archaeological Synthesis

The previously discussed coastal research is sufficient to develop a sequence of occupation and at least some information on how the prehistoric occupants lived. This section is intended to provide only a brief review of the various temporal

periods and the previously cited works should be consulted for additional information, and particularly for discussions on divergent opinions.

The Paleo-Indian period, lasting from 12,000 to 8,000 B.C., is evidenced by basally thinned, side-notched projectile points (Hardaway and Hardaway-Dalton); fluted, lanceolate projectile points (Clovis); side scrapers; end scrapers; and drills (Coe 1964; Michie 1977; Williams 1968). The Paleo-Indian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy, "oriented towards the exploitation of now extinct mega-fauna" (Michie 1977:124). Michie (1977:106-108) briefly discusses the Surfside Springs site (38HR26), which produced faunal remains and posited Paleo-Indian tools from dredge spoil. Sea levels during much of the period are expected to have been as much as 65 feet (20 meters) lower than present, so many sites may be inundated (Flint 1971). This possible inundation is supported by Fogg-Amed's (1980) discovery of animal bones and Paleo-Indian points on various beaches.

Unfortunately, little is known about Paleo-Indian subsistence strategies, settlement systems, or social organization. Generally archaeologists agree that the Paleo-Indian groups were at a band level of society (see Service 1966), were nomadic, and were both hunters and foragers. While population density is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30). In addition, it is likely that in the Carolinas there was a greater emphasis on small game than has been previously recognized. Walthall notes that,

> in the southeast there appears to have been an early adaptation by Paleo-Indian bands to the developing oak-hickory forest environment . . . . Small game probably played a significant role in the hunting activities of most groups (Walthall 1980:36).

The Archaic period, which dates from 8000 to 2000 B.C., does not form a sharp break with the Paleo-Indian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. The chronology established by Coe (1964) for the North Carolina Piedmont may be applied with little modification to the South Carolina coast. Archaic assemblages are rare in the coastal area, although the sea level is anticipated to have been within 13

feet (4 meters) of its present stand by the beginning of the succeeding Woodland period (Lepionka et al. 1983:10). Brooks and Scurry note that,

> Archaic period sites, when contrasted with the subsequent Woodland period, are typically small, relatively few in number and contain low densities of archaeological material. This data may indicate that the inter-riverine zone was utilized by Archaic populations characterized by small group size, high mobility, and wide ranging exploitative patterns (Brooks and Scurry 1978:44).

Alternatively, the general sparsity of Archaic sites in the coastal zone may be the result of a more attractive environment inland adjacent to the floodplain swamps of major drainages. Of course, this is not necessarily an alternative explanation, since coastal Archaic sites may represent only a small segment in the total settlement system.

The Woodland period begins by definition with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast (the introduction of pottery, and hence the beginning of the Woodland period, occurs much later in the Piedmont of South Carolina). It should be noted that many researchers call the period from about 2500 to 1000 B.C. the Late Archaic because of a perceived continuation of the Archaic lifestyle. Regardless of the terminology, the period from 2500 to 1000 B.C. is well documented on the South Carolina coast and is characterized by Stallings and Thom's Creek pottery.

The subsistence economy during this early period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shell fish. Various calculations of the probable yield of deer, fish, and other food sources identified from Thom's Creek shell ring sites indicate that sedentary life was not only possible, but probable. Recent work at fiber-tempered sites on the southern Georgia coast has led Quitmyer to note that there was,

> a specialized economy heavily dependent on marine resources. Marine invertebrates, primarily oyster, were the most significant of the zoological resources. Marine vertebrates, primarily drum, accounted for another important aspect of the diet. To a lesser extent, sea catfishes (Ariidae) and mullet were part of the diet. Terrestrial animals, like deer, represented only an occasional resource (Quitmyer 1985a:90).

Stallings pottery is relatively uncommon along the northern South Carolina coastal plain, although it extends as far north as the Neuse drainage and small quantities are found to the Tar River (Phelps 1983:28). Likewise, Thom's Creek pottery decreases in popularity to the north and is not found north of Neuse River.

Toward the end of the Thom's Creek phase there is evidence of sea level change and a number of small, non-shell midden sites are found. Apparently the increasing sea level drowned the tidal marshes (and sites) on which the Thom's Creek people relied. Since none of the larger, more elaborate sites typical of the earlier periods in Charleston or Beaufort counties have been identified along the northern coast, the Georgetown and Horry sites may date from the end of the phase and may represent fragmentation of population.

The succeeding Refuge phase, which dates from about 1100 to 500 B.C., evidences the fragmentation caused by the environmental changes (Lepionka et al. 1983; Williams 1968). Sites are generally small and some coastal sites evidence no shellfish collection at all (Trinkley 1982). Refuge phase sites are very uncommon in the northern area and are not reported at all from North Carolina (Phelps 1983). Peterson (1971:153) characterizes Refuge as a degeneration of the preceding Thom's Creek series and a bridge to the succeeding Deptford culture.

The Deptford phase, which dates from 1100 B.C. to A.D. 600, is best characterized by fine to coarse sandy paste pottery with a check stamped surface treatment. The Deptford settlement pattern involves both coastal and inland sites. The coastal sites, which are always situated adjacent to tidal creeks, evidence a diffuse subsistence system and are frequently small. The inland sites are also small, lack shell, and are situated on the edge of swamp terraces. This "dual distribution" has suggested to Milanich (1971:194) a transhumant subsistence pattern. While such may be the case, it has yet to be documented on the coast. The Pinkney Island midden, north of Hilton Head, evidences a reliance on shellfish and was occupied in the late winter (Trinkley 1981c). The Minim Island midden, on the coast in Georgetown County, indicates a greater reliance on fish and was apparently occupied in the fall or winter (Drucker and Jackson 1984).

For many years virtually all cord marked, fabric impressed, or net impressed pottery, regardless of other attributes, was lumped in South's (1960a) Cape Fear series. This practice was unfortunate since it blurred not only typological distinctions, but also cultural differences. Phelps, based on work in North Carolina, has been able to separate ceramics previously termed "Cape Fear" into two

series: the Early Woodland Deep Creek and the Middle Woodland Mount Pleasant.

The Deep Creek series (Phelps 1981:vi, 77, 79; 1983:29-32) is characterized by a paste with inclusions ranging in size from fine to coarse sand with occasional large quartz pebbles (with some resemblance to the Yadkin Series paste). The surface treatments include cord marking, fabric impressing, simple stamping, and net impressing. Because of the time frame (1000 B.C. to A.D. 1 in North Carolina and up to A.D. 200 in South Carolina, see Trinkley 1983a:46) the Deep Creek series is occasionally associated with fiber tempered Stallings or steatite tempered Marcy Creek pottery in North Carolina or Deptford pottery in South Carolina. As Phelps (1983:31-32) notes, very little is known of the Deep Creek settlement system or subsistence base during the Early Woodland, except by analogy. It is believed to be similar to that known for Thom's Creek and Deptford.

The Mount Pleasant series, which dates from about A.D. 200 to 1000 in South Carolina, is most frequently characterized by a sandy paste with quantities of pebble inclusions (Phelps 1984:41-44). The paste, however, is variable and a significant percentage of the series has a fine sandy paste with few or no inclusions. Surface treatments include fabric impressed, cord marked, net impressed, and plain. The Mount Pleasant series is typologically similar (perhaps, with further study, identical) to the South Carolina Santee and McClellanville series.

This period is characterized by the use of sand burial mounds and ossuaries (Phelps 1983:11-35; Wilson 1982). In South Carolina the sites appear to continue the Early Woodland pattern of mobility. Coastal shell midden sites evidence sparse shell and few artifacts. In North Carolina, however, Phelps (1983:33-35) has distinguished both small, seasonal, shellfish collecting camps (found on the coast and in inland riverine areas) and sedentary villages. Phelps (1983:36) notes that the absence of excavated sites on the south coastal region of North Carolina (as on the northern coast of South Carolina) severely limits our knowledge of Middle Woodland lifestyle.

Frequently found with the Mount Pleasant pottery (Phelps 1983:32) is Hanover, originally defined by South (1960). This pottery is characterized almost solely by its sherd temper, which may make up 30 to 40% of the paste. The surface treatments known for Hanover include cord marked, fabric impressed, net impressed and plain. Loftfield's (1976) Carteret series is identical to the Hanover types. The pottery dates from 200 B.C. to about A.D. 700 and is found from the central North Carolina coast southward, declining in popularity by Charleston.

In many respects the South Carolina Late Woodland may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500 to 700 years. This situation would remain unchanged until the development of the South Appalachian Mississippian complex.

The South Appalachian Mississippian is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European contact. The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers. The earliest phases include the Savannah, Irene, and Pee Dee (A.D. 1200 to 1650).

In North Carolina the Late Woodland extends form about A.D. 800 to contact and there is no South Appalachian Mississippian period along the coast. In the north coastal area the archaeological manifestations include the Carolina Algonkians in the Tidewater Zone and the Iroquoian Tuscarora on the Inner Coastal Plain (Phelps 1983:36-37). The Algonkians produced Colington shell-tempered pottery (Phelps 1984:44-49) while the Tuscarora produced Cashie pebble-tempered wares (Phelps 1983:43-44). While both of these phases are "local variants of the same basic cultural tradition" (Phelps 1983:47), the area to the south is presumed to be Siouan and is characterized by shell-tempered Oak Island pottery (Phelps 1983:47-48). Unfortunately, the situation becomes less clear as one moves south from the Neuse River to the Cape Fear River and there is almost no data for the North Carolina coast in the vicinity of the Cape Fear.

Moving further south, into South Carolina, the history of the two Indian groups thought to have inhabited the coast at contact is poorly known. As Mooney noted, the coastal tribes,

> were of but small importance politically; no sustained mission work was ever attempted among them, and there were but few literary men to take an interest in them. War, pestilence, whiskey and systematic slave hunts had nearly exterminated the aboriginal occupants of the Carolinas before anybody had thought them of sufficient importance to ask who they were, how they lived, or what were their beliefs and opinions (Mooney 1894:6).

Indian Trade agreed to establish a factory at Saukey (although the location of Saukey is unknown, Milling [1969:221] notes that the "Soo-kay" are a small, unidentified Siouan group in South Carolina) to allow trade with the Pedeas and Waccamaw Indians (McDowell 1955:80). William Waties, the factor of this proposed post, however, argued in September, 1716, that the post ought to be established at "Uauenee (or the Great Bluff)" (Yauhannah) because of its closer proximity to English settlements, greater distance from the Sara, and close proximity to the Waccamaw. In fact Waties states that the move to Yauhannah is useful "in obliging the Wackamaws, a People of greater Consequence than the Pedeas" (McDowell 1955:111). The Commission agreed to this change and ordered that "Goods and Necessaries" valued at £86:15:3 be delivered. While the invoices for this post have been lost, several items are mentioned in the Commissioners' minutes, including broad hoes, blankets, muskets, salt, and rum. The early eighteenth century explorers most frequently traded beads, hoes, hatchets, bells, hollowing adzes, knives, and scissors (Gregorie 1926:23-24). The Indians also were trading for corn as the Commissioners in May, 1717, told the new factor at Yauhannah, Meredith Hughes: "[y]ou must note the Corn comes very dear, so you ought to sell it accordingly" (McDowell 1955:175). Previously the Commissioners had written Hughes,

> [t]hough we gave you Caution Yesterday, of parting but sparingly from the Corn, yet it's our Will if the Indians want it very much, that you supply them and send the Periagoe for more, and we'll procure it here as well as we can, being we would not have any Clamour that the Indians are not well supplied by us (McDowell 1955:164).

The Indians traded in return skins, primarily deer, but also bear, beaver, fox, otter, raccoon, and bobcat (Gregorie 1926:72).

Apparently the Indians in this part of South Carolina were growing restless and were beginning to move around by mid-1717. Hughes notified the Commissioners and they responded saying that they "laid your letters relating to the Indians that have shifted their Abode and plagued our People about their Cattle, before both Houses" (McDowell 1955:176). By August, 1717, the Sara, Santee, Pedea, and Waccamaw had apparently forced Hughes to leave the factory at Yauhannah (McDowell 1955:202) and in September of that same year a group of Pedea, Winyah, and Waccamaw Indians appeared before the Commission. The Winyah and Waccamaw Indians desired to have Hughes stay in the area of the English settlements (on the Black River) while the Pedea "declared that his People preferred Your-henee to any other Place for Trade" (McDowell 1955:208). The Commission, probably

because the trade potential of the Waccamaw was greater than that of the Pedea, decided that Hughes should stay in the Black River area (McDowell 1955:210). This factory was, according to the Commission minutes, located on "Andrew Collins' Plantation at Black-River" (McDowell 1955:232). Rogers (1710:14) notes that while there is no plat for Andrew Collins on the Black River, there is a plat for Andrew Collings on the south side of the Pee Dee River (this plat, however, does not indicate where on the Pee Dee this plantation is located). Hughes indicated in May 1817/18 that he was preparing to return to Yauhannah, although this transfer appears to have never taken place because in August, 1718, money was still being sent to Hughes for his "Board and Accommodations" (McDowell 1955:264). The Commissioners sent Hughes the Governor's "Command under his Hand and Seal to said Wackamaws, to return to their old settlements" (McDowell 1955:264), however, there are no indications whether this order had the desired effect.

The Waccamaw were effectively destroyed in a 1720 "war" with South Carolina. The entire account is contained in one paragraph:

> I am to inform you that at the same time the negroes was playing the rogue we had a small war with the Vocamas a nation on Winea river not above 100 men, but the gentlemen have paid for it for there is 60 men women and children of them taken and killed . . . and now they petition for peace, which will be granted them (B. P. R. O. quoted in Milling 1969:226-227).

Rogers (1970:14) notes that during this war the Winyahs sided with the English and survived somewhat longer. Apparently a few Waccamaw Indians were still present in the area into the 1730s (Milling 1969:227) and in April, 1733, Rangers on the Northern Frontier were ordered by the Council to "Observe the behavior of the Pedee and Waccamaw Indians" (Journal of the Council, April 18, 1733). Mooney (1894:77) notes that in 1755 the Cherokee and Notchee "were reported to have killed some Pedee and Waccamaw in the white settlements." Mooney (1894:77) believes that the Waccamaw were finally incorporated with the Catawba, a view echoed by Hodge (1910:887) and mentioned by Swanton (1952:101). I have previously mentioned several authors' idea that the Waccamaw eventually became known as the Croatan. While it is possible that the Waccamaw eventually allied themselves with the Catawba, it is also possible that they instead were simply absorbed by the English settlements. This latter view is supported by the vague references from the 1730s and 1775.

No maps have been found which document the location of the Waccamaw, although an undated Bowen map ("A New and Accurate Map of the Provinces of North and South Carolina, Georgia, etc.") does show the "Winyou" Indians southwest of the Pee Dee River. Based on the ethnohistoric documents and a reliance on the secondary sources, it appears that Willbrook is well within the area of presumed Waccamaw Indian control prior to their move to the Black River in 1717. A review of the colonial documents, as previously mentioned, does not indicate if the Waccamaw were ever persuaded to leave the Black River and return northward. Nor are there any indications of their movements in the period of 1720 to 1755.

Excavation (see Trinkley et al. 1983) at the Wachesaw Landing site have yielded "post-classic" Pee Dee pottery characteristic of the South Appalachian Mississippian, dating about A. D. 1650. Also found at the site, and probably produced by the historic Siouan Waccamaw Indians (ca. A. D. 1700), was a crude, heavy, gritty paste complicated stamped pottery called the Wachesaw series. Finally, a small quantity of non-tempered, fine paste, carefully smoothed sherds termed Catawba or the Kimbel series were also found. This pottery has a hard, compact paste and is similar to the pottery produced by a variety of Hill Tribe Siouan groups (see Wilson 1983). A synopsis of Woodland phases and pottery designations has been provided in Figure 3.

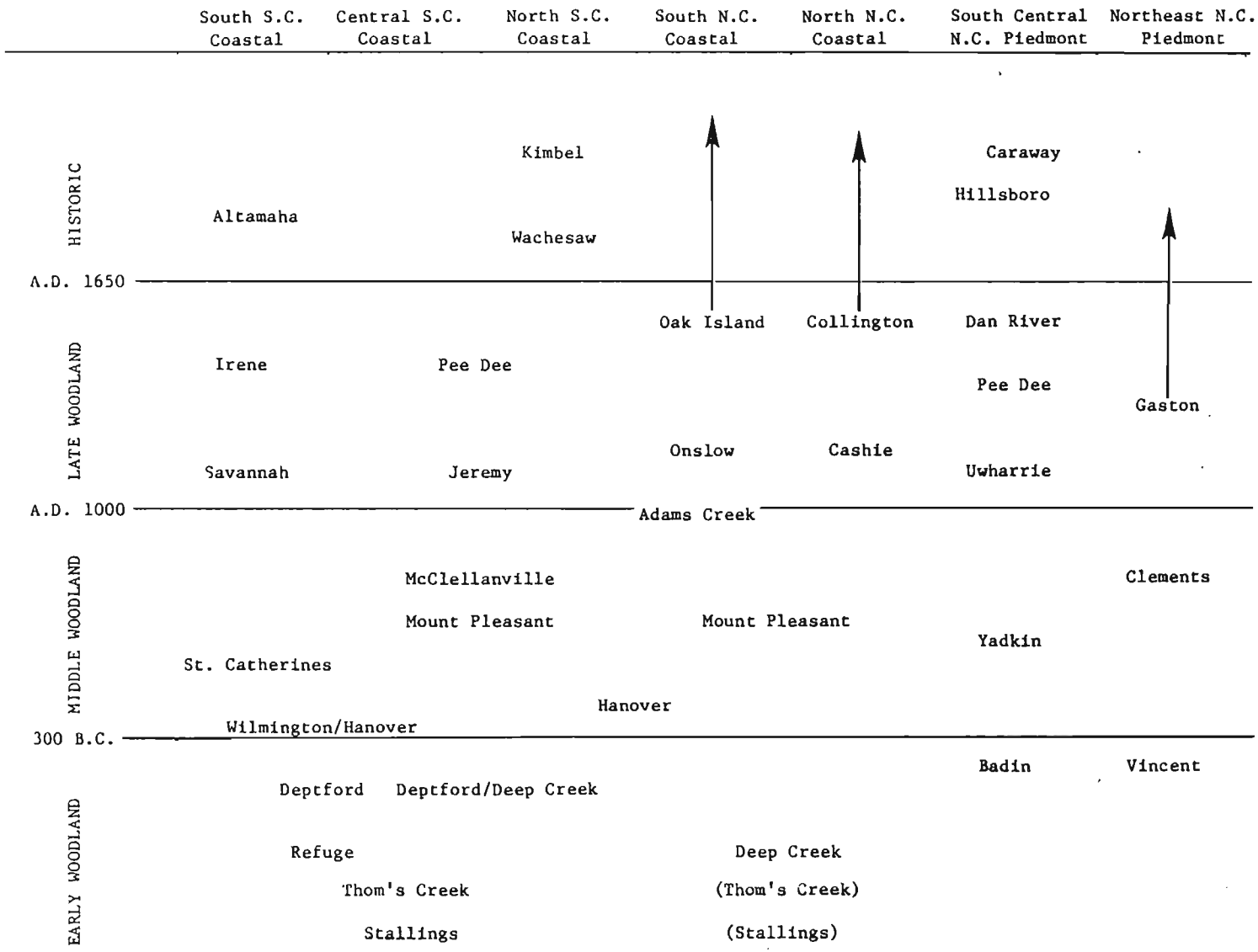


Figure 3. Chronology of the Woodland and Protohistoric periods in the Carolinas.

HISTORICAL OVERVIEW

Rowena Nylund

Historical Overview of the Waccamaw Neck

Waccamaw Neck is a narrow strip of land lying between the Waccamaw River and the Atlantic Ocean within Georgetown County. Here, beginning in the first half of the eighteenth century, ocean tides were used to push fresh water into the rice fields along the Waccamaw, irrigating fields, feeding the rice plants, and driving out weeds (Joyner 1984:12).

The first white settlers were drawn to the area around Winyah Bay by the lure of lucrative Indian trade. The English, Scots, and French acquired land through proprietary and royal land grants and purchases, beginning as early as 1705. However, the majority of lands were granted in the 1730s (Rogers 1970:12,20,26). Access to water was a primary factor in land development. The earliest policy was to grant narrow river frontage in order to give more settlers river access. Among the early grantees was mariner Percival Pawley, who, through a series of land grants, obtained 2500 acres on the Pee Dee, Sampit and Waccamaw rivers in 1711. One of the Pawley grants extended from the Waccamaw River to the sea marshes. It was from this 1711 grant that John Allston received lands in the 1730s. Among the early settlers were names of later owners of the original John Allston (Sr.) plantations: Tucker, Young, Pyatt, Trapier, and Lesesne. Many early settlers came from the nearby districts of Berkeley and Colleton seeking greater opportunity, as did John and William Allston who left their father's place in St. John's Berkeley in the early 1730s (Rogers 1970:16-21).

Indigo was one of the area's first major crops, but had a relatively short life of less than fifty years. Production, which began in the 1740s and reached its peak from 1754-1760, was stimulated by an English bounty and King George's War (1739-1749) which cut off England's supplies in the French and Spanish West Indies. Indigo grew particularly well along the highlands adjacent to the Pee Dee, Black and lower Waccamaw rivers. By the end of the eighteenth century, planters had abandoned indigo due to a market surplus (Winberry 1979:92,98; see also Honeycutt 1949).

The early economy also depended on naval stores, and to a lesser extent, on salt processing. In the mid-1700s shipbuilding was an important Georgetown industry.

Another crop was to have a more enduring effect on the economic and cultural life of the area. Along the rivers that drained into Winyah Bay, a distinctive rice culture began in the 1730s and continued with diminished importance until 1910. Charles Joyner captures the flavor of this unique experience in his prologue to Down by the Riverside,

> [t]he old rice fields are deserted now. Once thousands of black slaves labored on the lowcountry plantations, toiling in the intense heat and humidity of these rice fields, raising and lowering their hoes to the rhythm of work songs not unlike those of their African ancestors . . . . Toiling and singing, the slaves produced immense crops of rice, the fabled Carolina Gold Rice, which the Waccamaw River carried away and converted into immense profits that made their masters wealthy. Now the rice fields have been reclaimed by river and swamp; and bobolinks--locally called rice birds--have the banks to themselves. All Saints Parish, lying between the Waccamaw and the Atlantic Ocean, bounded on the south by Winyah Bay and on the north by the state line, was once the site of the richest plantations on the South Carolina rice coast. Lower All Saints Parish was in Georgetown District; it was here that the rice plantations were concentrated. A rice aristocracy of incredible wealth and power developed in Lower All Saints Parish. It supplied much of the leadership that took South Carolina out of the Union in 1860 and precipitated the Civil War (Joyner 1984:1).

George C. Rogers, Jr. (1970) attributes the rise of rice production in the area to four factors: the cultivation of rice had already been successfully developed in the colony, a stable slave labor supply existed, land titles were stable and allowed for the accumulation of large tracts of land, and there were men ready to exploit this potential, including John and William Allston on the Waccamaw.

Georgetown District was the nation's major rice-growing area. In 1826 Robert Mills observed that in Georgetown "everything is fed on rice, horses and cattle eat the straw and hogs, fowls, etc. are sustained by the refuse, and man subsists

upon the marrow of the grain." In 1840 the district produced 45% of the national crop. Between 1850-1860, production peaked. In 1850, 46,765,040 pounds of rice were produced in Georgetown County. The average yield on Georgetown plantations in 1850 and 1860 was thirty bushels per acre although some produced as much as 52 bushels per acre. Profits were high, with prices ranging from 2.9 to 4.3 cents per pound in the 1850s (Rogers 1970:324-25,338-40).

Large plantations were the rule; the 99 planters who harvested more than 100,000 pounds each produced 98% of the total crop in 1850 (Rogers 1970:253). Overseers managed the black slaves who worked the rice fields since the earliest days. Georgetown District had the highest percentage of slaves in South Carolina. From 1810-1850, slaves made up 88% of the total population of the district and the slave proportion was 85% in 1860 (Rogers 1970:328,343).

The planters of Waccamaw Neck were a small aristocratic group, closely knit by ties of blood as well as common interest. They were rich, even by standards of most of the planters of South Carolina, and lived in great style. In 1839 planters along the Waccamaw, the Pee Dee, the Black, the Sampit, and Winyah Bay formed the Planters Club on the Pee Dee. In 1845 the men formed the Hot and Hot Fish Club for "convivial and social intercourse" (Rogers 1970:228,296).

The Civil War left Georgetown's economy weakened. The blockade and occupation of Georgetown in 1865 threatened the plantation system. An estimated 75% of the county's plantation families moved to the interior of South Carolina. The war was followed by crop failures from 1865-67. During this period, a number of things happened to land ownership: bankruptcies were common, the Freedmen's Bureau resettled former slaves on some of the lands, and other lands were sold for nonpayment of taxes. Several local men formed corporations to attempt to revive the rice industry. Philip R. Lachicotte formed Lachicotte and Sons and tried to profitably operate a number of Waccamaw plantations combining planting with rice milling to reduce operational costs. Efforts such as these kept the rice industry alive until the turn of the century. By the late 1800s Northern investors were buying up the old Waccamaw rice plantations. Not interested in agriculture, many of these buyers used the plantations as game preserves for sport hunting. The loss of a stable and experienced labor force, the competition from western rice lands, and finally the hurricanes of 1889, 1893, 1898, 1906, 1910, and 1911 that wrecked the dike system, ended the long history of rice production on the Waccamaw. Elizabeth Allston Pringle of Chicora Wood wrote in 1906, "I fear the storm drops a dramatic, I may say tragic, curtain on my career as a rice planter. The rice plantation, which for years gave me the exhilaration of making a good

income myself, is a thing of the past now--the banks and trunks have been washed away, and there is no money to replace them" (Rogers 1970:488-89).

Today most of the approximately forty plantations that dotted the Waccamaw have been or are being developed into residential areas for permanent or seasonal residents and into commercial districts to service these developments.

A Brief Sketch of the Allstons

About 1730, two brothers, John and William Allston, acquired lands and settled on Waccamaw Neck in Prince George Winyah Parish. Their grandfather, William Alston, was "a gentleman of Hammersmith (part of London)." John Alston, their father, came to the colonies around 1682 as an apprentice to James Jones, a Charlestown merchant. Having served his seven year apprenticeship, John moved to St. John's Berkeley and in 1690 had established himself as a merchant. In the late 1690s he married a widow, Elizabeth Harris, and they had six children: John, William, Elizabeth, Mary, Peter, and Thomasin (Thomassine) (Allston 1936:8; Salley 1905:114-116). At his death in 1719, John (the immigrant) left approximately 2890 acres of land to his six children (Anonymous 1845:51).

John and William acquired large amounts of property, first through royal lands grants in the 1730s and later through direct purchases from owners. One source states that the two brothers were the first settlers north of the Hobcaw barony. According to Henry A. M. Smith, the Alstons and Allstons owned as much as 80% of the plantations on Waccamaw Neck at one time or another. Elizabeth Deas Allston lists twenty-six plantations that were owned at one time by a family member. Smith suggests that their holdings were of such magnitude that the peninsula "might well have been called Alston land or Alston's neck" and Magnolia Beach was, in fact, named Allston Beach at one time (Allston 1936:99; Smith 1913:99).

The two brothers, John and William, changed the spelling of their surname from Alston to Allston. About 1829, William Allston's grandson, Col. William Allston, changed the spelling to one "l" and descendants on William's side continued to use this spelling while the descendants of John retained the two "l" spelling.

The Biographical Index of the South Carolina House of Representatives notes that the "Allston family was the richest and one of the most powerful families on Waccamaw River" (Edgar and Bailey 1977:35). In addition to being established rice planters, descendants were prominent in cultural, military, and political affairs. John Allston's (Sr.) son, William, Jr.,

served as a captain under General Francis Marion in the Revolution. One of William's grandsons was a painter of some note, Washington Allston (1804-1823). Another grandson, Robert F. W. Allston (1801-1864), served as state representative, senator, and governor (1856-58). His brother, Joseph Waties Allston (1798-1834), served in the South Carolina House (1824-1828) and Senate (1830-33). Both brothers were Nullifiers. Joseph Alston (1779-1816), grandson of William Allston, married Aaron Burr's daughter, Theodosia, and he served as the state's governor (Anonymous 1845:51; Bailey 1986:51-54).

Relatively little was recorded about the Allston women. In reading of the times and responsibilities of the rice plantation, one concludes, however, that women often had to be intelligent and strong in character as well as the legendary river belles. For approximately forty years after her husband's death, Martha Allston Pyatt managed the Oatland Plantation. She was able to keep the plantation together through the Civil War and to pass it at her death in 1869 to her daughter Charlotte Pyatt Trapier. Charlotte also managed the property following her husband's death and left it to the next generation of Allston's at her death in 1906.

The Allstons, like most planters in the Neck, were associated with the major cultural and agricultural organizations of their day, including the Winyah Indigo Society, Agricultural Association of the Southern States, Carolina Art Association, South Carolina Historical Society, St. Cecelia Society, S. C. Jockey Club, Planter's Club, and the Hot and Hot Fish Club (Bailey 1986:51-54).

History of Willbrook, Oatland, and Turkey Hill

Research Methods and Future Study

The following primary sources were used to trace the ownership and land use patterns of the three properties that comprise present-day Willbrook Plantation: Charleston Deeds, Plats, and Wills; Georgetown Deeds, Wills, Plats, Tax Records; Colonial Plats and Deeds; Royal Land Grants and Plats; Agricultural and Slave Censuses for 1850, 1860, 1870, and 1880; map and plat research of Waccamaw Neck at the South Caroliniana Library, the South Carolina Historical Society, and the University of South Carolina Library. In addition, Robin Salmon, Archivist at Brookgreen Gardens, graciously shared information on her research of the Brookgreen area and the Allston (Alston) family and Agnes Baldwin's report on Brookgreen.

Secondary sources included issues of the South Carolina Historical Magazine and Sims Magazine; books on the Georgetown

area by George C. Rogers, Jr. (The History of Georgetown County South Carolina), Charles Joyner (Down by the Riverside), Julian Stevenson Bolick (Waccamaw Plantations), Alberta Morel Lachicotte (Georgetown Rice Plantations), Georgetown County South Carolina Tombstone Inscriptions; and biographical data in Walter B. Edgar and N. Louise Bailey's Biographical Directory of the South Carolina House of Representatives and Elizabeth Deas Allston's Allstons and Alstons of Waccamaw.

In the time allotted, the basic legal records have been researched in some detail and an overview made of the available private manuscript materials and secondary sources. Suggested areas of future study which would augment this work and perhaps provide additional land use and title information include R.F.W. Allston's records at the South Caroliniana Library and South Carolina Historical Society (those at the SCHS were briefly examined during this research); manuscript records of the Pyatt, Trapier, and other members of the Allston family at the South Caroliniana Library and a search for records of Fraser and Sessions, Auctioneers; Freedmen's Bureau records; South Carolina Land Commission records; Charleston and Georgetown newspapers, especially at the time of the auction of Willbrook and its burning; oral interviews with Waccamaw neck/Georgetown residents such as Sarah Lumpkin (Mrs. Robert L.), an expert on Pyatt family history; discussions with George C. Rogers, Jr., and Charles Joyner, professional historians with specialties in the Georgetown area; and review of any materials held by Litchfield by the Sea on the Litchfield Plantation which joins the southern boundary of Willbrook.

Ownership of Willbrook, Oatland, and Turkey Hill in the Eighteenth Century

From 1732 until his death in 1750, John Allston, Sr. acquired large land holdings in the Prince George Parish of Georgetown District. Although he held some property on the Socastee River and within the village of Georgetown, the majority of his holdings extended eastward from the western bank of the Pee Dee River across Waccamaw Neck to the Atlantic Ocean. The various tracts of property devised in his will totalled 4,685 acres. According to extant records, the nucleus of Allston's Waccamaw Neck holdings were acquired through four transactions.

The Turkey Hill, Oatland, and Willbrook properties were originally part of a 2,400 acre tract granted by the Lord Proprietors to Robert Daniel in 1711 which included properties in Berkeley, Granville, and Craven Counties. Within that grant was one tract of 1490 acres situated on Waccamaw Neck and extending from the Waccamaw River to the marshes of the seashore. Daniel sold this 1490 acre tract to Thomas Smith in 1722 and later that year, Smith deeded the same property to

Percival Pawley. The 1490 acres is referred to in several records as "Unesaw" (Unneaw, Unisaw). In 1722 Pawley bequeathed 490 acres of this 1490 acre tract to his brother's (Joseph Pawley) two daughters, Ann and Susanna (or Susannah). The remaining 1,000 acres were deeded by Pawley to John Allston's brother, William. The will states that the two nieces will have the "land on southwest side son Percival's land at Unesaw." Percival's land was described as an "Ile opposite to Unesaw and Wando passoe . . ." (Charleston Wills, Inventories and Miscellaneous Records, 1722-24, Percival Pawley, pp. 358-361; Charleston Deeds HH, pp. 315-321, George Pawley to Josias Allston; Charleston Deeds M-4, pp. 16-23, Josias Allston to Joseph Allston, SCAH).

Ann died; Susanna married Joseph Allen and he sold the 490 acre tract to John Allston (Sr.) in 1730 or 1736 for 600 pounds. The Colonial Memorial cites the deed date as July 23, 1730, and the recorded date as May 18, 1733. The recorded deed cites March 11, 1736, as the date of transfer. Probably the earlier date (1730) is the actual date of initial purchase and the 1736 deed was an effort to insure clear title. This property became John Allston's home, the Turkey Hill plantation (Colonial Memorials, Roll 5, pp. 67-68; Charleston Deeds 5, pp. 348-351; Charleston Wills 6, pp. 358-361).

By 1734 John Allston had obtained a royal land grant for a 700 acre strip running north-south along the eastern bank of the Waccamaw River. A 1732 plat describes the property as "bounding to the westward on Waccamaw River to the Northward on William Allston's lands, to the eastward on the said John Allstons land on all other sides on lands laid out by Major Percival Pawley." These 700 riverfront acres formed the valuable rice lands on the western boundaries of the Turkey Hill, Oatland, and Willbrook tracts (Royal Land Grants, v.1, p. 280; Plat, R.F.W. Allston Papers, South Carolina Historical Society) (Figure 4).

In 1747 Allston added 640 acres through a purchase from William and Mary Branford. This land, according to Allston's 1750 will, lay to the southwest of the 490 acres bought from Joseph Allen. This purchase and a portion of the 700 acre riverfront property composed the Oatland tract (Charleston Deeds FF, pp. 22-27; Charleston Wills 6, p. 359; see also Charleston Deeds K-3, pp. 216-224).

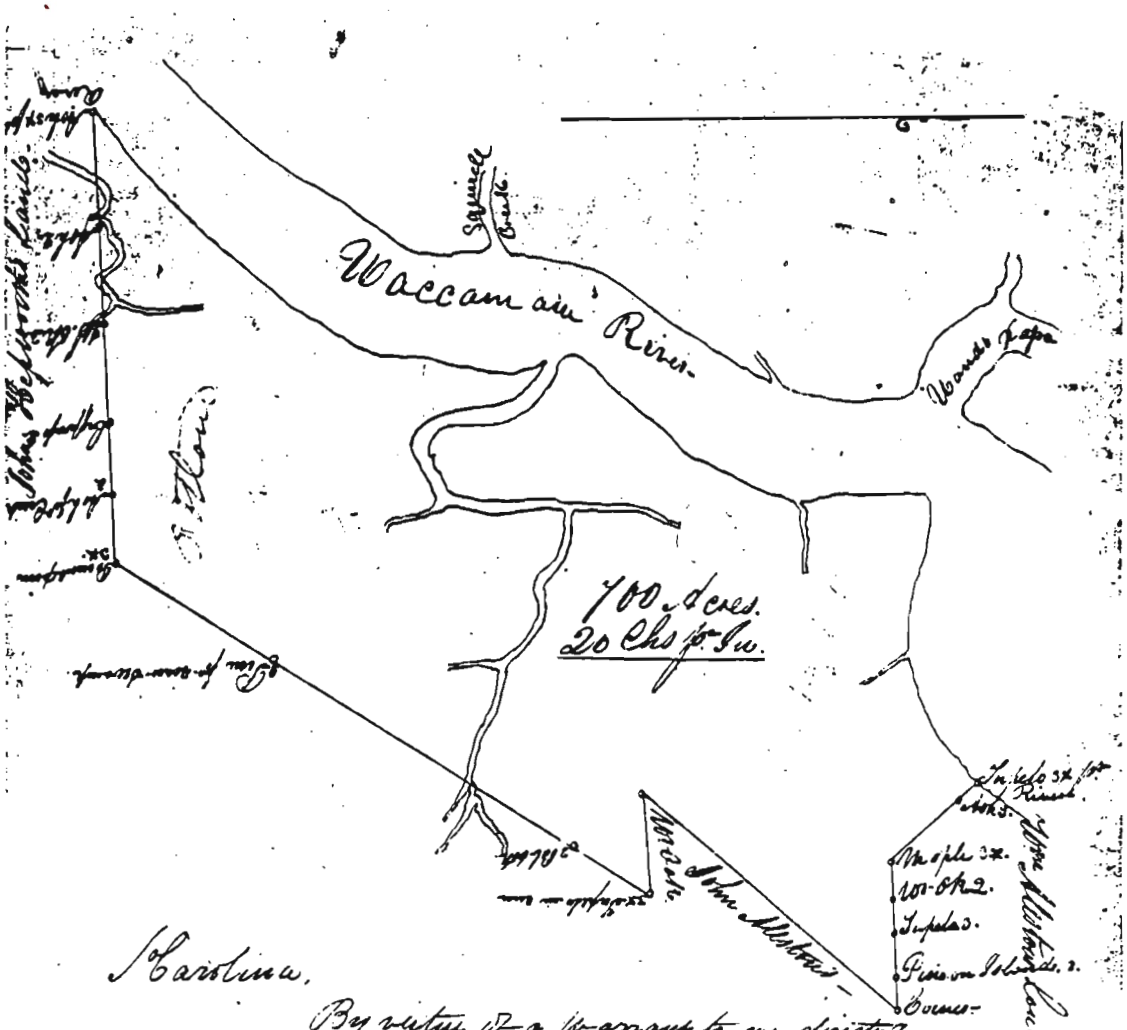


Figure 4. A portions of the 1732 plat of the Willbrook, Oatland, and Turkey Hill marshes (R.F.W. Allston Papers, South Carolina Historical Society).

An additional 320 acres was acquired by John Allston before his death. His will refers to the property as purchased from John Lupton. A 1767 deed (apparently to clear title) describes the property as "part of the 1280 acres granted to Robert Daniel, Esq." in 1711 which had included the 640 acres (Oatland). The deed states that the property bounds "to the West on Waccamaw River to the east on the sea and to the north on the remaining part of the said tract of land and to the south . . . on land now William Allstons." This southernmost of the three Waccamaw tracts became Willbrook (Charleston Deeds K-3; p. 216).

Allston also acquired rice-producing lands on the western bank of the Waccamaw and on both sides of the Pee Dee. In 1733, he received a 137 acre tract on the Waccamaw through a royal land grant (Figure 5). This land, bounded on the north by Pawley's Creek, west by Allston's Creek, south by Waccamaw River, lay to the west of the 490 acres bought from Joseph and Susanna Allen (Royal Land Grants 1, pp. 2810,2839; Charleston Deeds S, pp. 347-349; Colonial Plats 1, p. 70). At least three Pee Dee properties were obtained in the 1730s, two through royal land grants of 100 and 420 acres each and one by purchase of 150 acres from a brother-in-law, Abraham Warnock (married Mary Allston) (Royal Land Grants 1, pp. 2810,2839; Charleston Deeds S, pp. 347-349; Colonial Plats 1, p. 70). In 1748 John Allston, Sr. sold these three properties totalling 670 acres to his eldest son, John (Charleston Deeds HH, pp. 30-33).

John Allston's will of 1750 divided his real property among four sons and a son-in-law. John, Jr. was given a choice to either retain the Pee Dee properties which he received in 1748 or deed them to his brother, Josias, in exchange for the Turkey Hill property. John chose to retain the Pee Dee lands and the following year he bequeathed them to his daughters and/or to an unborn child. Therefore, Josias Allston, the second born, received three pieces of property that comprised the Turkey Hill plantation,

> the tract of land whereupon I now live and which I purchased of Joseph Allen containing 490 acres bounding northeasterly on lands of John Allston [son of William] and to the southwesterly in a certain line of division markt between the said tract and lands I purchased of William Branford also the lands on the front of the 490 acres which lies between the same and Waccamaw River and is part of the 700 acres for which I have his Majesty's grant and also one other tract of land containing 137 acres situate on the westside of the

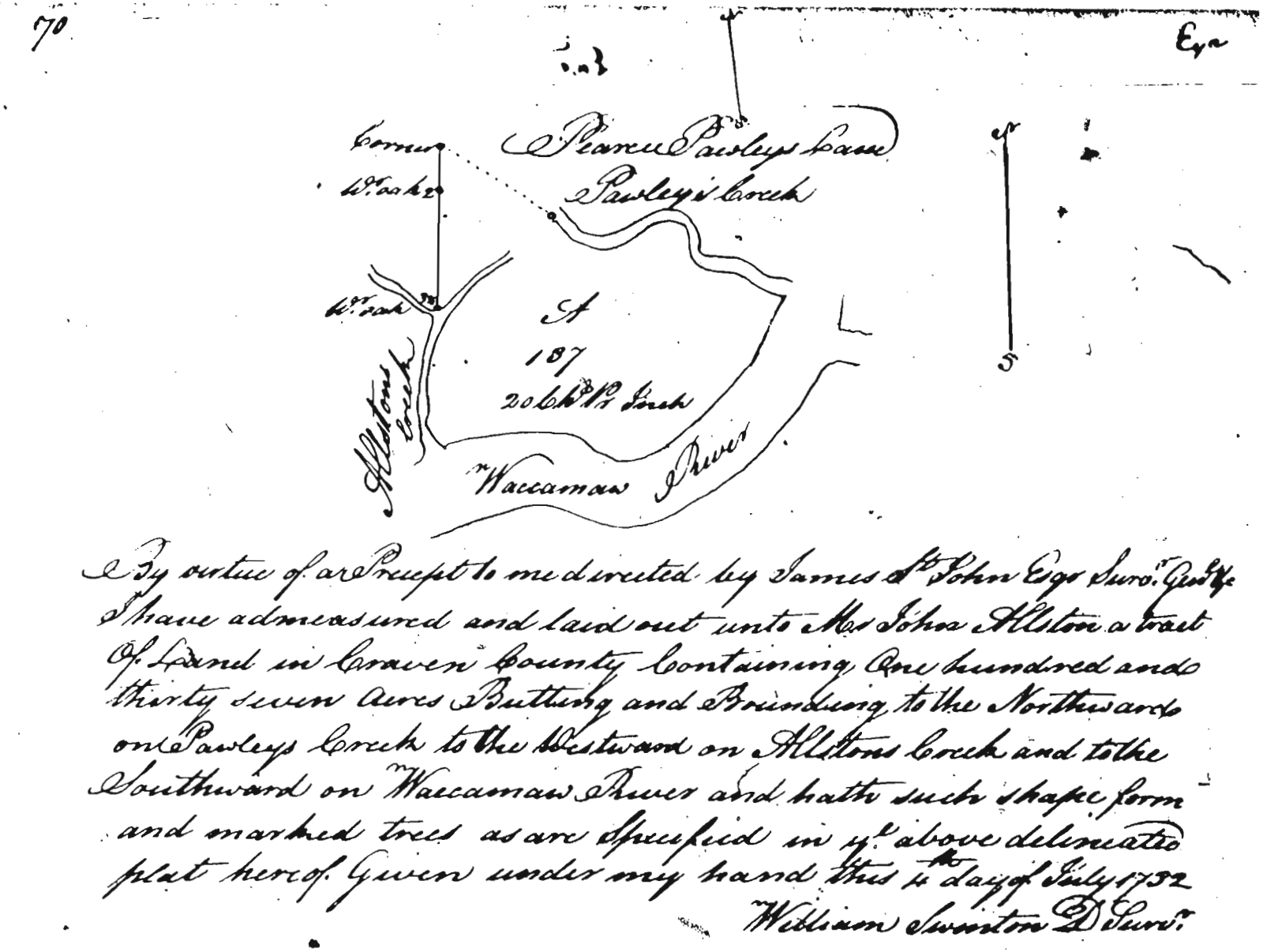


Figure 5. The 1733 lands of the northwest bank of the Waccamaw River (Royal Plats 1, p. 70).

> Waccamaw River and lies opposite to the lands above mentioned . . .

The Oatland tract of 640 acres and an adjoining part of the 700 riverfront tract was left to his son, Samuel. William, the youngest son, received several Pee Dee Tracts. This son was later known as William, Jr. of Brookgreen or "Gentleman Billy." Ten of the fifteen marked graves at the family burial ground at Turkey Hill are members of William, Jr.'s family. They are: William, Jr. (1738-1780); his son Benjamin, Jr. (1766-1809); Benjamin's wife, Charlotte Ann Allston (died 1824); their third son, William Washington (1804-1823); their first daughter, Elizabeth Ann (1790-1822; married John Hyrne Tucker, Sr.), and her two infant children; William's third daughter, Mary Pyatt (1795-1836; married William H. Jones); and two grandchildren (children of his son, R. F. W. Allston, and Adele Petigru Allston) (Galbraith 1909; Rogers 1970:520-521; see also this report).

The 320 acre Willbrook tract and an adjacent portion of the 700 acre riverfront property were left to John Allston's son-in-law, Benjamin Marion. (Two of John Allston, Sr.'s children married siblings of the Revolutionary military leader, Francis Marion. John Allston, Jr. married Esther Marion and Martha Allston married Benjamin Marion.) The elder John Allston's will describes the Willbrook property as,

> situate on the east side of Waccamaw River containing three hundred twenty acres which I purchased of John Lupton and also the lands lying between the same and Waccamaw River which is also part of the seven hundred acres before mentioned.

A small portion of land was devised to William Lupton. The wording of the will indicates that Lupton did not share Willbrook with Benjamin Marion, but was given river frontage to his own property,

> also I give devise and bequeath to William Lupton and his heirs forever the other part of the seven hundred acres which lies between his lands and Waccamaw River.

Allston had already devised to Josias and Samuel Allston and to Benjamin Marion those portions of the seven hundred river acres that abutted their properties (Charleston Wills 6, pp. 568-570; Rogers 1970:127).

The three Plantations would not be united under one ownership again until the twentieth century.

Turkey Hill in the Eighteenth Century

Josias Allston retained ownership of the Turkey Hill lands for twenty-two years and in 1772 sold them to his cousin, Joseph Allston for 10,000 pounds. In addition to the three tracts received through his father's will, the sale included a 13 3/4 acre parcel bounded by the Waccamaw River on the west, by Joseph Allston's land on the northeast, and by Josias Allston's land on the south. This small piece, bought from Joseph Allston in 1768, was apparently on the northwestern edge of the 490 acre tract. Altogether the sale totalled 949 3/4 acres (Charleston Deeds L-3, p. 478 for the 13 3/4 acre purchase; Charleston Deeds M-4, pp. 14-23). The reason Josias sold his property is unknown. His relatively small estate suggests that he may have suffered financial difficulties. He died in 1776, only four years after selling the property. Items listed in the 1772 will are twelve black slaves, "land on the Long Bay in South Carolina," a lot in Georgetown, and a pew in the Georgetown church. Despite this meager estate, Josias was a leading patriot, contributed to the aid of Bostonians suffering from the coercion of the Intolerable Acts, and served on the Committee for Little River to enforce the nonimportation, nonexportation, and nonconsumption agreements. Although he was living in Brunswick County, North Carolina, at the time he wrote his will, Josias asked that if he should die in South Carolina, he be "interred at my old burying ground on Waccamaw" and that his wife's body be moved there from its "Brunswiche" site (Rogers 1970:107,115; Charleston Wills 17, p. 527).

Joseph Allston, the son of John Allston, Sr.'s brother, William, owned The Oaks, a plantation on the northern boundary of Turkey Hill. A highly successful planter, Joseph had five plantations by 1775, each with at least 100 slaves. As all the Allstons, Joseph was a faithful patriot during the Revolution and was later compensated for twelve oxen, a sorrel horse, and 92 days use of slave help "at the public works at Georgetown." One of his noted descendants (grandson) was Governor Joseph Allston who married Theodosia Burr (Edgar and Bailey 1977:36; Revolutionary Accounts Audit, p. 90; Rogers 1970:522).

Joseph Allston died in 1784 leaving the property to his second son, Thomas (1764-1794). His will is the first extant record to name the property and states,

> Allso, one other plantation called Turkey Hill containing One Thousand Three Hundred Acres or Thereabouts which I purchased of Josias Allston (Reserving) the use of the Dwelling House, Kitchen and Wash House, Stable, Hen house and the Garden for ye use of my Beloved Wife untill such time as my

> Executors shall put up a convenient House at my plantation joining on Turkey Hill all which Lands I do Give, Devise and Bequeath to my son Thomas Allston, his Heirs and Assigns for Ever (Charleston Wills 6, p. 34).

Although it can be assumed from John Allston, Sr.'s will that he had built on the site, this document definitely places a "dwelling house" and other buildings on the property by 1784.

Ten years later Thomas Allston died without heirs. It has been contended that Thomas devised the Turkey Hill tract to the children of his brother, William Alston of Clifton. His will does state, "All the residue of my estate, both real and personal . . . I give . . . unto such of the children of my brother William Allston as shall be living at the time of my death to be equally divided between them and to them. And it is my will that such residue be delivered to my brother William as soon as may be convenient . . . ." However, the property is not specified and Thomas' will indicates that he owns a total of two plantations: "and further it is my will that my old negro woman Nanny be freed and liberated from slavery and that she have liberty to live upon either of my plantations." The two plantations, Prospect Hill and The Retreat, a sea-shore tract, were bequeathed to his wife. The 1838 will of William of Clifton also fails to substantiate this devise. His will refers to "a parcel of 150 acres devised to my seven eldest children by their Uncle Thomas Alston" which, he states, adjoins Fairfield Plantation. Fairfield was located considerably to the south of Turkey Hill. Without other evidence, these two wills do not clearly establish that Thomas left the Turkey Hill property to William's children. If he did, it is possible that the father, William, sold the property before they reached maturity (Rogers 1970:188; Charleston Wills 41, pp. 939-946; Allston 1936:27-32).

Turkey Hill and Oatland in the Late Eighteenth Century

Ownership of the Oatland property remains unclear from 1750 when it was devised by John Allston (Sr.) to Samuel Allston until 1812. A search of plats, deeds, and wills for the time period has yielded no information. Since Samuel died intestate without children, one can only conjecture that Oatland either passed to John Allston, Sr.'s last surviving son, William, Jr. of Brookgreen (1738-1781) or to his eldest son, Josias. Josias' will, however, does not refer to this property and William, Jr. has no extant will. By undetermined means, both Turkey Hill and Oatland came into the possession of Josias' son, Benjamin, Sr. (1765-1847). Secondary sources indicate his ownership and in 1812 his daughter, Martha H. Allston, brought both Turkey Hill and Oatland to her marriage.

Benjamin also acquired other property along the Waccamaw. An 1814 plat indicates ownership of 1000 acres in Horry District at the juncture of Socastee Creek and Waccamaw River (Colonial Plats 30, p.81). He spent his later summers in Greenville and is thus described in the recollections of Frederick Adolphus Porcher,

> [o]ne of the distinguished habitues of these regions spending every summer in Greenville with visits to Asheville, the Warm Springs, etc. was Mr. Benjamim Allston, of Georgetown. He was a venerable old man, rather deaf but very fond of company. He had been a very successful man, commencing life I believe as an overseer. By means of industry and thrift he had become one of the richest rice planters on the Waccamaw (Stoney 1946:92-93).

Allston was further depicted as being "a keen judge of character" and with conversation "of an utterly uneducated man. His language was like a negro's, not only in pronunciation, but even in tone." Ben Horry, a former slave, recalled in the Federal Writer's Project interview,

> very FUSS girl--FUSS one I go with name was Teena . . . . Go there every Sunday after school. Oatland plantation belong to Marse Benjamin Allston. Stay till sunset (Joyner 1984:132.

Benjamin Allston, Sr. is buried in the Turkey Hill cemetery as are two of his daughters, Ann E. Allston and Mary Charlotte Allston and his wife, Mary Charlotte (Galbraith 1909).

A 1798 survey of Willbrook plantation shows that the river frontage and highland property directly to the north of that plantation belongs to William McCleod and the seashore section is owned by Benjamin Huger. Further research is needed to determine if they were intervening owners during this period and, if so, when and how they acquired the property (Colonial Plats C, p. 6 1).

Willbrook in the Eighteenth Century

Scattered records indicate that Willbrook remained in the Allston family through the children of William, Jr. of Brookgreen until 1876. However, missing records present difficulties in detailing the exact ownership of the plantation after John Allston's 1750 bequest to Benjamin and Martha Marion

until the latter part of the century. Ownership during this period has been attributed to Peter Simmons, based on a plat in possession of the Litchfield Company, but no legal documentation of the ownership has been found in the extant legal records. Peter Simmons did marry Eleanor Allston, second daughter of John Allston (Jr.). Simmons acquired lands between the Pee Dee and Waccamaw Rivers from the estate of his father-in-law and purchased others from his wife's sister and husband. Further documentation is needed to determine if he ever owned the Waccamaw Neck property.

A 1798 plat states that ownership is held by an Allston in-law, Thomas Young. Young married William, Jr.'s (of Brookgreen) daughter, Mary, (niece of Martha and Benjamin Marion). The plat establishes that Willbrook was an active working plantation in the eighteenth century. A boundary line is indicated between Oatland and Willbrook, eight defined rice producing lots, two groups of "Negro houses," three barns, and a main house with three out buildings. A drive from the main house leads to a public road (Rogers 1970:521; Colonial Wills 6, pp. 568-570; Colonial Memorials 9, p. 103; Colonial Plat Book C, p. 61) (Figure 6).

Turkey Hill and Oatland in the Nineteenth Century

The nineteenth century, especially the post-bellum period, brought significant changes in ownership to the three plantations. Turkey Hill was seized by the Freedmen's Bureau in 1865, Willbrook was sold at public auction and ownership passed outside the Allston family in 1878, and the Willbrook plantation house burned in 1895.

Turkey Hill and Oatland were retained by Allston relations throughout the nineteenth century. Joyner recounts a slave narrative about Turkey Hill. At Louisa Brown's parents' wedding at Turkey Hill plantation, the planter and his family joined the rest of the plantation community in wishing the new couple well and "the marriage was celebrated with wedding cakes baked in the kitchen of the Big House" (Joyner 1984:101).

When Martha H. Allston (1789-1869), Benjamin Allston, Sr.'s daughter by a first marriage, married John Francis Pyatt (1790-1829) in 1812, she brought both Oatland and Turkey Hill plantations to the marriage (Anonymous 1845). Among the first settlers on Waccamaw Neck, the Pyatt family owned two plantations near Georgetown at the time of the marriage (Rogers 1970:261-262).

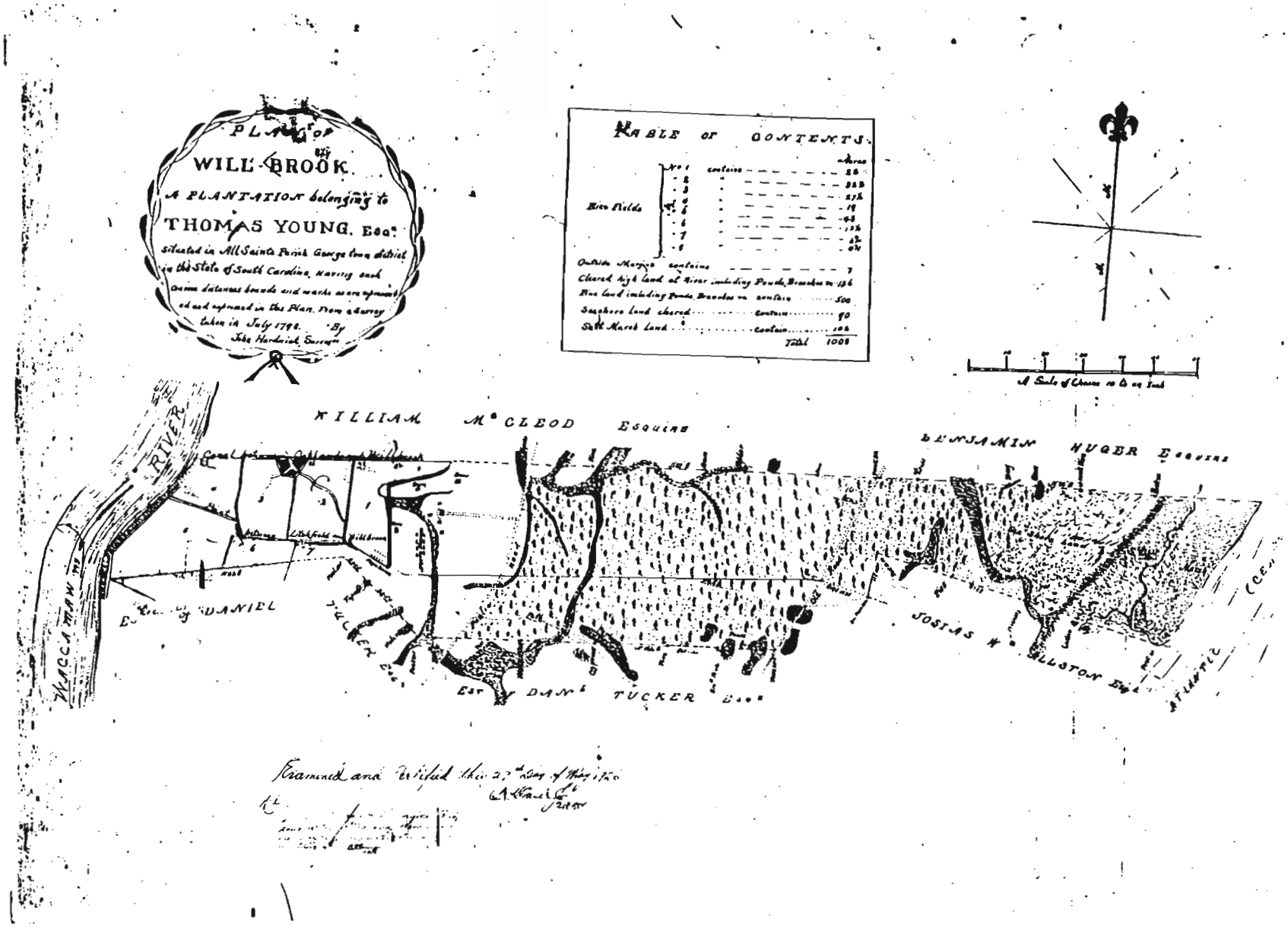


Figure 6. 1798 plat of Willbrook Plantation (Colonial Plat Book C, p. 61).

Martha Allston Pyatt was apparently a resilient person with strong management abilities. She managed both properties after her husband's early death in 1820. Their two sons, John Francis and Benjamin Joseph, managed the plantations brought to the marriage by her husband, Richmond and Rosemont.

In 1846, Martha's daughter, Charlotte Josephine Pyatt, married William Heyward Trapier at a wedding which her cousin, R. F. W. Allston called a "country fete." The Trapiers were also among the first settlers in Georgetown and William Heyward was a charter member of the Planters Club on the Pee Dee, attended Yale, and maintained a home in Charleston.

After the marriage, Martha Pyatt continued to manage Oatland and Trapier managed Turkey Hill. The 1850 Agricultural Census Lists M. Pyatt as head of household of a plantation valued at $109,800. Rice was the only crop produced and yielded 480,000 pounds that year. Martha Pyatt had a total of 247 slaves. William Trapier's property, probably Turkey Hill, was valued at $40,000. Rice, the only crop grown, produced 90,000 pounds. Trapier reported 114 slaves (1850 Agricultural and Slave Census, Georgetown District).

The 1860 Agricultural Census reports that W. H. Trapier's plantation in Lower All Saint's Parish produced 225,000 pounds of rice and now produced other crops including Indian corn (400 bushels), sweet potatoes (1,000 bushels), peas and beans (150 bushels), and fifty pounds of butter. The plantation had 87 slaves and twenty slave houses. Martha A. Pyatt's Oatland produced 675,000 pounds of rice and had also expanded its crops to Indian corn (1,500 bushels), sweet potatoes (1,000 bushels), peas and beans (318 bushels), and butter (75 pounds). Oatland had 212 slaves and forty slave houses (1860 Agricultural and Slave Census, Georgetown District).

Turkey Hill was apparently abandoned by its owner during the Civil War. Under the Freedmen's Bureau Act of March 3, 1865, freedmen were authorized to preempt forty acres of abandoned or confiscated land for a three-year period. Turkey Hill was among the Waccamaw plantations seized by the Freedmen's Bureau in 1865. The Bureau worked the lands until December 1865, when the rice crop was sold and divided the year's profits between the government and the freedmen. In 1866, the property was restored to Trapier. Oatland was apparently not confiscated, perhaps because it was owned and managed by a widow (Joyner 1984:235,334n.15; Rogers 1970:425).

Martha Allston Pyatt died in 1869 and Oatland also became the property of Charlotte and William H. Trapier. Trapier's death predated his wife's and at her death in 1906, Turkey Hill and Oatland became the property of the seven children of her two brothers, John Francis and Joseph Benjamin Pyatt, who

retained ownership until 1917 (Georgetown Deeds N-1, pp. 234-235).

Willbrook Plantation in the Nineteenth Century

Although John Hyrne Tucker included both Litchfield and Willbrook plantations in his 1859 will, no records of his acquisition of the property were found. Tucker married four times, the second time to Elizabeth Ann Allston, daughter of Benjamin, Jr., and granddaughter of William Allston, Jr. of Brookgreen. Thomas Young's wife, Mary Allston, was Benjamin's step-sister and Elizabeth Ann's aunt. Conceivably the property passed along family lines from Thomas and Mary Allston Young to Elizabeth Ann and John H. Tucker. The Tuckers were among Georgetown's early settlers. John Hyrne's father, Daniel, was a partner in the firm of Heriot and Tucker in Georgetown and acquired Litchfield before his death in 1797. Although the Tucker's roots, as well as the Trapier's, were in Georgetown commerce, both moved into the closed ranks of the Georgetown planting class by the 1850s. John H. Tucker was a successful rice planter, a graduate of Brown University and his sons were college educated, some earning doctoral degrees (Rogers 1970:262,300).

The 1850 Agricultural Census shows John Tucker with 375 improved acres and a plantation valued at $85,000. His crops included 2,800 bushels of Indian corn, 60 bushels oats, and 1,000 bushels sweet potatoes in addition to his major crop, 340,000 pounds of rice. According to the slave census for that year, Tucker had 149 slaves (1850 Agricultural and Slave Census, Georgetown District).

John Hyrne Tucker (1780-1859) willed both Litchfield and Willbrook to his two sons, William Alexander Hyrne and John Hyrne. A codicil revised this provision and left Glenmore, a Pee Dee plantation, to John Hyrne and Litchfield and Willbrook to William Alexander Hyrne and Henry Massingbird, "share and share alike." He also left them the "pounding mill and threshing machine . . . ." Julian Stevenson Bolick, in Waccamaw Plantations, states that a small house stood on the plantation when Hyrne Tucker inherited it and that he added to his house (Charleston Wills 48, pp. 466-472; Bolick 1946:44).

The 1860 Agricultural Census lists the Est. of J. H. Tucker, which probably includes both Litchfield and Willbrook. The plantation real value is et at $300,000. 1,530,000 pounds of rice were produced along with 4,360 bushels Indian corn, 5,000 bushels of peas and beans, and sweet potatoes. The estate registered a total of 188 slaves, one group of 90 and another of 98. The Manufacturing Census for 1860 records a steam powered rice mill in Tucker's estate. The capital

same and whereas the amount still due for principal and interest on said land is as much money as the said mortgaged premises in their present dilapidated condition are worth and more than they would bring at a forced sale . . . ." Baum was paid $500 for release of the property (Georgetown Deeds F, pp, 721-722).

Baum died and his executors sold the property in 1885 to Louis Breslauer and Louis Claude Lachicotte (Georgetown Deeds K, pp. 204-205). Breslauer and Lachicotte were partners in several commercial ventures including an oyster shucking operation and the production of a sauce, "Yan-kee Hot Sauce" (Robin Salmon, personal communication 1987). Breslauer deeded his half interest in Willbrook to Lachicotte in 1889 for $500. The 664 3/4 acre property is described as "butting and bounding to the east on the salt marsh, to the north on lands of Pyatt, to the south on lands of Dr. H. M. Tucker and to the west on the Waccamaw River . . . ." Later that year Claude Lachicotte transferred ownership to his wife, Ella S., and to his brother Clarence P. Lachicotte. Reportedly, Clarence Lachicotte lived on the premises and successfully truck farmed the plantation. Alberta Morel Lachicotte, in Georgetown Rice Plantations, describes the Willbrook residence as an "old, well-constructed, two-story house." In 1895 the rice plantation house burned and Clarence Lachicotte rebuilt the structure (Georgetown Deeds K, pp. 505-506,698; Bolick 1946:44; Lachicotte 1955:52).

Turkey Hill and Oatland in the Twentieth Century

At Martha Pyatt Trapier's death in 1906, Turkey Hill and Oatland became the property of her seven nieces and nephews: John S. Pyatt, Martha H. Heyward, Martha A. Pyatt, Penelope B. Parker, B. Allston Pyatt, Catherine W. Pyatt, and Maham W. Pyatt. These heirs granted a five-year timber deed to the Ward-Bate Co., Inc., a Georgetown business, in 1916 for $2500. The terms of the agreement permitted all pine timber of twelve inches diameter and upwards twelve inches from the ground to be cut, "saving and excepting thereupon the young trees which are situated in the old fields near Waccamaw River." The property was described as "Turkey Hill" and "Oatland" "containing 1200 acres of land, more or less," butting and bounding to the Oaks on the north, to salt marsh and a tract known as "Oaks Seashore" on the east, to the Willbrook plantation owned by Clarence Lachicotte on the south and by the Waccamaw River on the west (Georgetown Deeds M-1, pp. 234-235).

In 1917 the two properties were sold to W. J. Singleton for $5,000. The deed for 1250 acres gives the boundaries as follows: north on lands of the Oaks plantation, east on that part of the Oaks Plantation known as Turkey Hill Seashore and the salt marsh, south on Willbrook plantation and west on the

Waccamaw River. The deed stipulates that the grantors reserve "that certain part of the land . . . which has been set apart as a graveyard or cemetery with a right of way or easement from the most convenient landing to said cemetery. Which said reservation with the appurtenant right of way is reserved however only to the grantors herein and to their heirs" (Georgetown Deeds N-1, p. 237).

A 1919 plat gives the acreage of the two plantations as : 595 acres from rice fields to River Road, 596 acres from river road to King Road, 140 acres from King Road to Salt Marsh, 95 acres from salt marsh to sand beach. All the seashore portion of Turkey Hill and the northern section of the Oatland seashore had been sold (Georgetown Plats C, p. 61) (Figure 8).

From 1924-26, the properties changed ownership several times. In 1924, the Oatland Gun Club bought them from W. J. Singleton. In 1926 the properties were sold to V. F. Platt who transferred ownership to the Oatland Beach Company, a state corporation. In that same year Clarence Lachicotte sold the 636 acre Willbrook to the Oatland Beach Company also, thus reuniting the three properties under a single owner (Georgetown Deeds C-2, p. 13; E-2, p. 99; E-2 p. 97; D-1, p. 206).

Turkey Hill, Oatland, and Willbrook in the Twentieth Century

The Oatland Beach Company sold the three tracts in 1926 to William S. Ellis, a wealthy businessman from Bryn Mawr, Pennsylvania. The properties, used for duck and quail hunting, included two miles of ocean frontage along Magnolia Beach (formerly named Alston's Beach) (Georgetown Deeds X-1, p. 371; Rogers 1970:490; Lachicotte 1955:52).

A 1931 plat of Willbrook Plantation (including Turkey Hill and Oatland) shows that the Turkey Hill seashore property and the northern portion of Oatland seashore (475 acres) are owned by J. Ward Flagg (Georgetown Plats A-2, p. 27A) (Figure 9).

In 1931, the Fidelity Philadelphia Trust Company received the property and in 1938 sold it to Jesse Metcalf, a New York City millionaire. Metcalf bought a large number of properties in the area during the 1930s. After Metcalf's death, his widow, Kathleen, sold the property in 1941 to the Reed I. West family of Marion, South Carolina.

From 1945-1981, it was owned, in part, by the Hunter family. Luther P. Byars, A. M. Rose, and J. Thomas Hunter of Marion bought the plantation in 1945 and used it as a hunting preserve (Georgetown Deeds O-2, p. 93; D-3, p. 363; K-3, p. 137; Bolick 1946:94; Lachicotte 1955:54). Rose deeded his third interest to Hunter and Byars in 1948. Byars died in

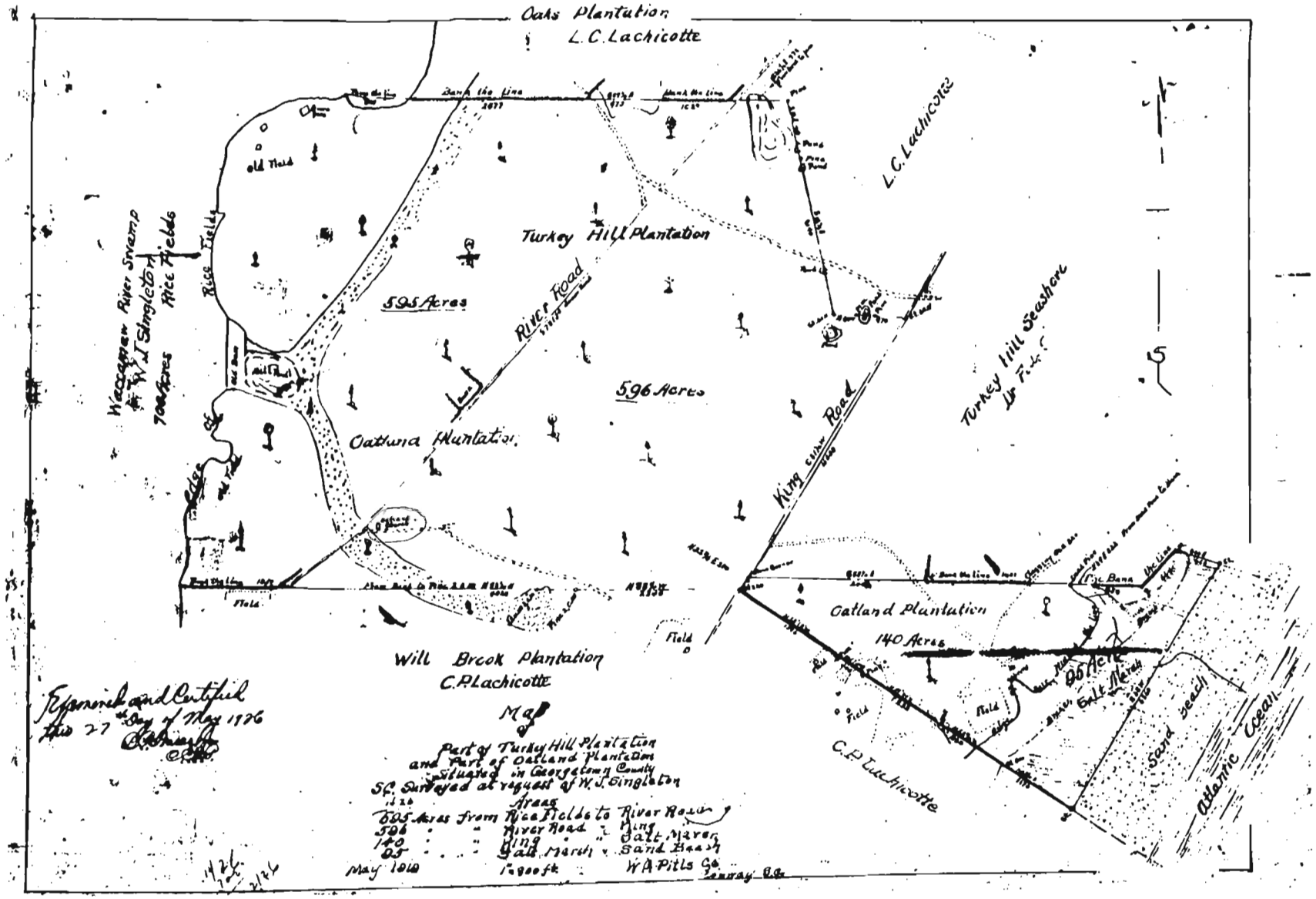


Figure 8. 1919 plat of Oatland and Turkey Hill plantations (Georgetown County RMC Plat Book C, p. 61).

1950, leaving his interest to Lurline Stedman, Lurline Byars, and John Byars who conveyed their interest to J. T. Hunter (Georgetown Deeds P-3, p. 305; Georgetown Probate Record Roll 84-ES-22-171; Georgetown Deeds Z-3, p. 175). When Hunter died in 1970, the property was inherited by his wife, Carolyn, and at her death in 1981, it was conveyed to their four children: J. Thomas Hunter, Jr., Adelle H. West, Hattie Costa Hunter King, and Dorothy H. Thomas (Georgetown County Probate Record Roll 83-ES-22-98). On October 31, 1984, they conveyed title to Litchfield by the Sea, the current owner.

Figure 9. 1931 plat of Willbrook, Oatland, and Turkey Hill plantations (Georgetown County RMC Plat Book A-2, p. 27A).

RESEARCH STRATEGY AND METHODS

Michael Trinkley

Introduction

As previously discussed, the primary goal of this survey was to review previous archaeological studies conducted at the development and produce a compliance report meeting common professional standards and, particularly, the requirements of the State Historic Preservation Officer and the Secretary of Interior's Standards. This work was required by both state (S.C. Coastal Council) and federal (Army Corps of Engineers, Charleston District) permitting agencies.

It was previously noted that the eligibility of sites for inclusion in the National Register of Historic Places would be assessed in terms of Glassow's (1977) five archaeological properties: site integrity, site clarity, artifactual variety, artifactual quantity, and site environment context. Integrity refers to the degree of preservation or potential to identify in situ remains. It relates to the site's condition and the likelihood that midden and features will be recovered and is perhaps the single, most often used criteria of site significance. While integrity is best determined by the excavation of 5-foot (1.5 meter) squares, sometimes shovel testing can contribute to a more complete understanding at a lower cost, and has consequently been extensively used during these studies. Assessing integrity is often no more simple than assessing site significance. While a site which has never been cultivated, or logged, or suffered from erosion has a high level of integrity, and, alternately while a site which has been subjected to deep subsoil tillage for many years,or has been clear cut with heavy rutting and subsequent erosion has a low level of integrity, most sites fall somewhere between these extremes. Simply because there is evidence of plowing or logging does not necessarily indicate significant loss of integrity (see, for example, Talmage and Chesler 1977). Clarity indicates how well strata or subsurface features may be distinguished. Variety refers to the qualitative variability in the archaeological remains found at a site. Subsurface investigations (either 5-foot squares or shallow shovel tests) provide a more thorough method of gauging variability than simple surface surveys. Quantity refers to the frequency or density of the artifacts and/or features. While this is the easiest criterion to quantify, it is the most difficult to

interpret since the quantity of artifacts is closely related to site function and temporal period. Finally, environmental context is useful when sites are found in a variety of ecological zones since it provides control of a potentially significant variable.

On a survey level this study is at least partially "mission-oriented," since it is conducted as a cultural resource study, and it suffers from some of the associated problems outlined by South (1977:23-24). In spite of these constraints, this study provides the first thorough examination of the project area and also provides basic description and classificatory data, the "basic foundation of historical [and prehistoric] archaeology" (South 1977:21). The research design proposed for this study, as discussed by Goodyear et al. (1979:1), is fundamentally exploratory and explicative. Although no major analytical hypotheses were created prior to the field work and associated analysis, this work is structured to collect data in such a way that a clearer perception of patterns and problems will result.

Secondary goals included first gathering a representative body of archaeological and historical data useful for the examination of eighteenth and nineteenth century plantation activities and economics in the Waccamaw Neck area. The Willbrook project is particularly well suited to this topic since the modern tract incorporates most of three adjacent historic plantations -- Willbrook, Oatland, and Turkey Hill. The proximity of these tracts allows comparison while holding geographic location as a constant. The survey phase, of course, is capable of providing only a generalized view. More specific research, such as on the comparative status and well-being of slaves on the three tracts, is possible only with additional, site specific study. This work, however, does allow the compilation of archaeological data to supplement the work of Rogers (1970) and Joyner (1984). Until recently (Drucker 1980; Michie 1984; Zierden and Calhoun 1983) our understanding of All Saints, Waccamaw Neck, and the slavery of the rice fields was dictated by the historical data. It is becoming possible to examine the area using a different perspective, with possibly different results.

Another secondary goal was to further explore historic and prehistoric settlement locations, examining the importance of "high ground and deep water," soils, and topography. Reviewing information on prehistoric site locations lead to the conclusion that prehistoric sites will be found in areas of moderately to well drained soils. It is also expected that the bulk of the site components will be Middle to Late Woodland since the higher sea level stands during these periods are thought to have restricted the dispersion of resources and the aboriginal populations. Finally, Brooks and Scurry (1978) also

suggest that sites are expected to be small and exhibit low artifact diversity since the use of extractive sites is brief, the sites represent a narrow range of activities, and group size was small. Previous research has also clearly exhibited a non-random pattern to prehistoric site settlement. Even when vast areas of well-drained soils are available for settlement, the sites will be found clustered on sandy ridges or terraces overlooking the swamp environment (see, for example, Ward 1978:56-58). Prehistoric sites were not, however, anticipated inland, away from the swamp biome. This situation is anticipated because of the "edge effect" where a variety of resources are brought into close proximity. Unfortunately, it was not possible to fully examine prehistoric site settlement constraints since the surveys conducted at Willbrook were not intensive and no pretext is made of finding all of the sites on this tract. As a consequence, it is possible to explore and characterize where sites are found, but it is not possible to exclude other areas from consideration.

Turning to historic site locations, previous research has suggested that the main house or major plantation complex will be situated in areas of "high ground and deep water," which incorporate the positive attributes of well drained soils and immediate access to water transport (Hartley 1984; South and Hartley 1980). Since rice cultivation was the most significant Georgetown crop during the late seventeenth and early eighteenth centuries (Carpenter 1973:12-14), it is expected that the settlement pattern will be constrained by the needs of this cash crop (see Singleton 1980:109-139). Once that pattern was established it is unlikely that it greatly changed, since tidal rice cultivation did not incorporate the features of rotation and land exhaustion seen with cotton (cf. Mason 1976:127-129). Requirements for rice production included locating slaves as close to the rice fields as possible (Singleton 1980:110) and in some cases the settlements were actually in the rice fields (Singleton 1980:114) or immediately adjacent to the lowlands (Zierden and Calhoun 1983:46). Many rice plantations contained several, separate slave rows, rather than one large settlement. Singleton (1980:110) suggests that this allowed slaves to be in close proximity to a number of field areas and the avoidance of large congregations of blacks also may have been viewed as a safety feature. It is expected, and supported by some historic accounts, that there were multiple slave rows at Willbrook, Oatland and Turkey Hill. The location of the rice plantation's "technical nucleus," including rice barns, wells, and equipment storage, is expected to be in close proximity to the rice fields and probably in the vicinity of a canal from the rice fields to allow transport of the rice by flats (see Joyner 1984:photographs between pp. 48-49). Finally, the "administrative nucleus," which included the planter's house, service buildings, and the dwellings of house servants, might be located in an area of "high ground and deep

water," but other considerations were certainly important, such as a central location. Although it is likely that a number of functional and cultural factors lead to the location of the administrative center, the weight given to each of the various attributes is unclear.

Another goal of this survey was to examine the aboriginal ceramics of the project area. Although considerable progress has been made in developing workable ceramic typologies for the North Carolina coast (see Phelps 1983 for a summary), there have been few opportunities to examine the applicability of these North Carolina typologies to the northern South Carolina coast. Work by Drucker and Jackson (1984) at the Minim Island site suggests that the Deep Creek-Mount Pleasant typologies can be applied at least north to the Santee River. The work at Willbrook provides an opportunity to examine a fairly large collection from a number of sites. This initial work was not expected to significantly refine the existing typological constructs, but was expected to reveal significant problems with the application of the type descriptions, if they existed. Further, site intensive work would be required to refine and elaborate the Middle and Late Woodland ceramic typologies.

Field Survey

The methodology of the 1984, 1985, and 1986 surveys by Lepionka, as understood from the literature, has been previously discussed. Briefly, the 1984 survey was clearly at a reconnaissance level and primarily sites known by a local informant were identified. The 1985 survey, while stating that an "intensive examination of the shoreline sector" was conducted, provides no further information and apparently no sites were discovered as the result of the investigations (three additional sites were discovered by examining additional land clearings). No field notes for this survey were maintained by Lepionka. The primary purpose of this work was to conduct test excavations at a number of the sites. The 1986 survey work involved an examination of new areas and a re-examination of previously investigated areas. The major areas of further survey involved the area southwest of Willbrook Plantation (38GE292), where posthole tests and probe rod tests were used in an unsuccessful effort to identify a second slave row shown on a 1798 plat; the area proposed for dredge spoil at the north central edge of the property, where posthole survey transects were excavated from Kings Highway west to the swamp drainage; the "interior and east extension of the property;" and the vicinity of a pond "in the southwest area," where shovel testing was conducted. No survey notes were maintained for these studies and no additional sites were identified.

An intensive survey is normally defined as "a systematic detailed field inspection" and "a systematic effort is made to

identify all properties within the area of concern that might qualify for the National Register" (36CFR66). The South Carolina Department of Archives and History, in the draft of their Preliminary Archaeological Guidelines indicate that compliance surveys,

> should be systematic. In addition to ground surface survey, we typically suggest that subsurface testing . . . be conducted in areas predicted to possess high site probability and at systematic intervals along transects in the remaining portions of the survey tract (South Carolina State Historic Preservation Office 1987:1-2).

Although some areas of the Willbrook tract may have been surveyed at an intensive level this is difficult to determine in the absence of field records. It seems likely that the bulk of the tract was surveyed at a reconnaissance level.

No intensive survey of the property was to be conducted by Chicora, although we were directed to conduct "spot checks" to determine, if possible, the level of confidence which should be placed on the previous surveys by Lepionka. Simply put, if upon this further survey few or no additional sites were encountered, a high level of confidence in the original surveys (i.e., they were fairly intensive) would be assumed. Alternatively, if the Chicora spot checks yielded a large number of sites, a low level of confidence in the original surveys (i.e., they were not intensive) would be assumed.

The Chicora survey examined areas outlined as having a "high archaeological probability," defined as well drained soils adjacent to low swampy areas. Specifically, the spot checks sought areas of high sandy ridges parallel to the swamp environment. No survey was conducted in traditional "low probability" areas, such as poorly drained areas and interior flatlands. Nor was any systematic subsurface testings such as transect testing, conducted to identify sites, except in targeted high probability areas. The locations examined during this additional survey are shown on Figure 10, in addition to the various identified sites. These spot checks also targeted two historic sites (a slave row and an early twentieth century church) shown on available plats.

The additional survey work largely utilized open ground and disturbed areas to identify the presence of sites in targeted high probability areas. Occasionally shovel tests were used, with the distance between the 1 foot (0.3 meter) square tests ranging from 15 to 50 feet (4.6 to 15.4

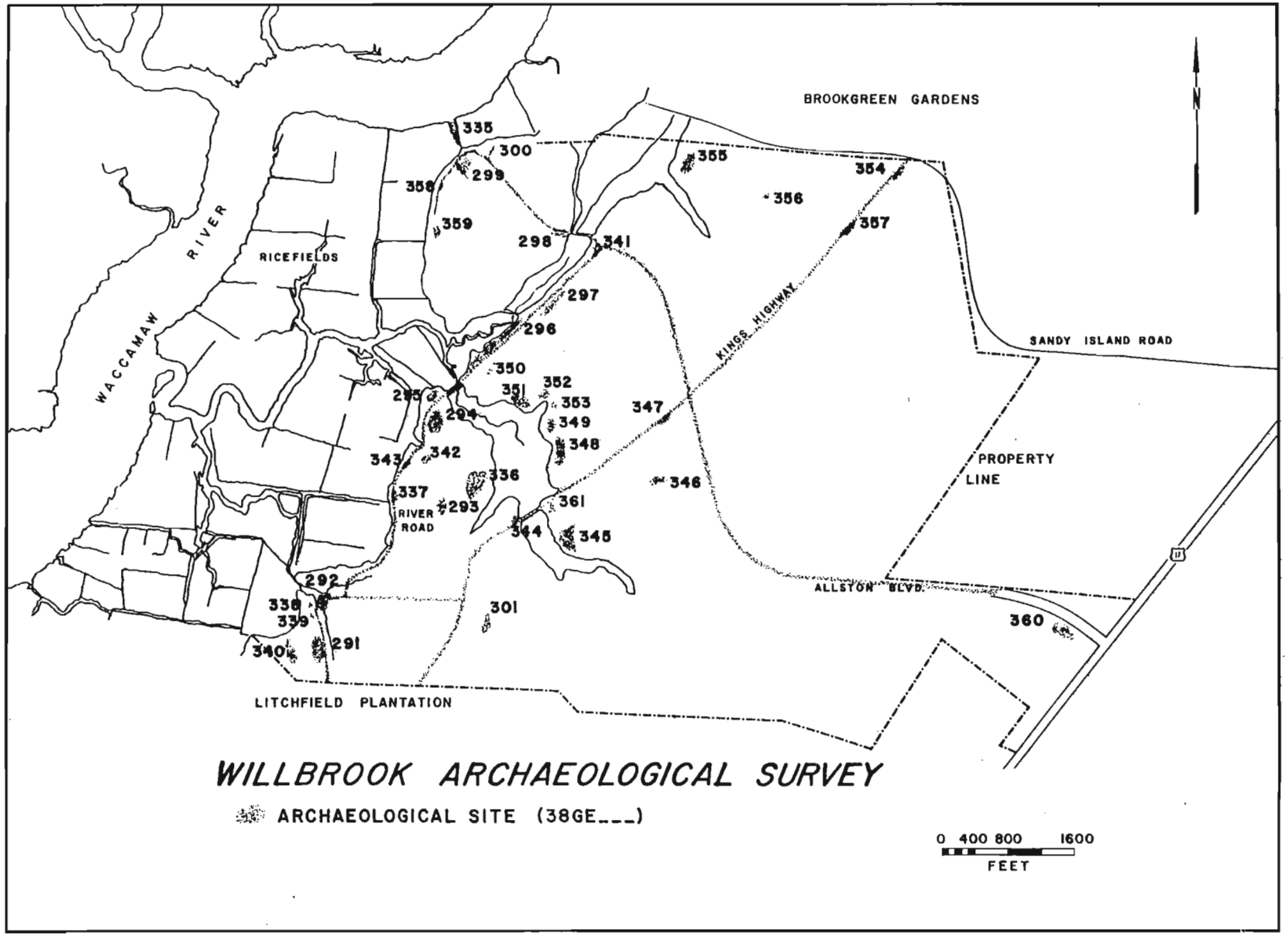


Figure 10. Willbrook survey tract showing identified sites and areas of "spot checks" by Chicora.

meters) depending on local conditions. In all cases the soil was screened through 1/4-inch mesh and the collections from shovel tests were bagged by the test number. During the two weeks of survey, 31.5 person hours were devoted to "spot checks" and a total of 26 additional sites were recorded, bringing the total number of sites identified on the Willbrook property to 37.

A number of the additional sites were subjected to more intensive shovel testing to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms was collected and photographs were taken, if warranted. Site locations were recorded on 1:2400 scale development maps and were later transferred to the 1:24000 scale U.S.G.S. topographic maps.

The number of additional sites, all found in targeted areas by the "spot checks," strongly suggests that the original surveys, while adequate as reconnaissance studies, do not represent an intensive investigation of sites on the Willbrook tract. It is naturally difficult to predict the effectiveness of any survey, especially one where there is such uneven coverage. At Belleview Plantation in Charleston County site density increased from 1 site per 44 acres to 1 site per 2.5 acres after the area was clear cut and grubbed (Scurry and Books 1980), which demonstrates that site density is dependent not only on survey thoroughness, but also on surface visibility.

Site Tests

The site tests conducted by Lepionka in 1985 were fairly standardized, although notes for the various sites are somewhat variable. Lepionka consistently used 3-foot (0.9 meter) squares with soil dry screened through 1/4-inch (0.6 centimeter) mesh. Units were usually set out on a N-S and E-W grid with a ON/S OE/W point and units were designated by the coordinates of the southwest corner. Thus, the southwest corner of square 100N100E was 100 feet north and 100 feet east of the site datum (usually referred to as a benchmark). Units at Willbrook Plantation (38GE292) and Turkey Hill East (38GE298) were not tied into any permanent site datum and do not appear to be recoverable. The units at Turkey Hill Plantation (38GE299), which were 1-foot (0.3 meter) squares, also lack horizontal control.

Vertical control was maintained either in reference to some site datum (at 38GE291, 38GE294, and 38GE295) or by notation of depth below ground level (at 38GE292, 38GE298, and 38GE299). Where a site datum was used, however, it has not

been possible to identify the datum in the notes or to ascertain what elevation was assigned to it. Elevations in the notes appear to represent stadia readings, but only occasionally is the height of the instrument recorded. As a consequence, many of the readings are of no more value than below surface readings.

At many sites (specifically 38GE291, 38GE244, and 38GE295) the units appear to be placed according to obvious surface artifact density; with units clustering in areas of high artifact concentration. At a few sites, such as 38GE298 and 38GE299, the units seem to be more randomly placed, or were placed to investigate specific site areas. Units at the Willbrook Plantation (38GE291) were placed to investigate specific features. In the vicinity of the kitchen a series of three irregular sized units were excavated (these include 3 x 12 feet [0.9 x 3.7 meters], 3 x 4 feet [0.9 x 1.2 meters], and 3 x 6 feet [0.9 x 1.8 meters] units according to Lepionka 1986:60, but the field notes indicate a 3 x 12 foot [0.9 x 3.7 meters] unit and a second trench of unspecified dimensions).

Features were occasionally drawn and were occasionally recognizable from unit narratives when no plot sheets were made. Features, however, were not usually excavated separately from the unit fill and no feature profiles are available. Soils samples were not retained from any of the excavations. No photographs were taken of the excavations, either in progress, or upon completion. Units were not usually drawn and profiles are found only for a minority of the tests.

In sum, it is unlikely that many of Lepionka's excavation units are recoverable, either because the site datum cannot be located or because the units lack horizontal control originally. The extant field notes only imprecisely document the work. As a result, these tests, while yielding quantities of artifacts useful for pattern studies and temporal analysis, may not be used as reliable guides for future excavation.

The only excavations conducted by Chicora involved shovel testing at 10 sites and extensive auger testing at another. The shovel tests were all 1-foot (0.3 meter) square and were dug to the base of the A horizon and frequently penetrated the yellow sand of the B horizon. Depths ranged from about 1.0 foot (0.3 meter) to 1.8 foot (0.6 meter). All soil was screened through 1/4-inch (0.6 centimeter) mesh. Chicora identified the approximate location of these tests at each site. Auger tests at 38GE299 were placed in using a two-person auger with a 1-foot (0.3 meter) bit. The tests were excavated from 1.0 (0.3 meter) to 2.8 feet (0.9 meter) in depth and usually penetrated into the yellow B horizon sand. The tests were placed according to a grid system tied into a site

datum. All soil was sifted through 1/4-inch (0.6 centimeter) mesh.

Laboratory Methods and Analysis

Lepionka's collections from Willbrook, transferred to Chicora in May and June 1987, were cleaned and bagged by provenience, although they had not been cataloged nor had any conservation measures been taken. The cleaning of specimens collected by Chicora was begun in the field lab and was continued at the Chicora laboratories in Columbia during May and June 1987. All recently collected artifacts except brass, lead, and bone were wet cleaned, while the excluded items were simply dry brushed and evaluated for conservation. As previously discussed, the specimens were cataloged using the Charleston Museum's lot provenience system and the artifacts were re-bagged in polyethylene zip-loc bags. The artifacts were cataloged in numerical site order, with similar proveniences (such as surface collections) from a single site given one catalog number. Insect control is maintained through the use of Vapona (Dichlorvos), which is not allowed to come into direct contact with the stored specimens. Because the artifacts are to be stored in a controlled museum environment, no items are packed with desiccants.

It is unfortunate that the collections from Lepionka's surveys and testing operations had received no conservation treatment. Many of the specimens, primarily the ferrous items, were considerably deteriorated, with probable loss, since initial excavation. The artifacts were evaluated for conservation during the cataloging process. The ferrous objects which were still identifiable were routinely isolated for conservation, except for nails, which were sampled. Large quantities of unidentifiable ferrous items (nail shank fragments, nail spalls, and miscellaneous corrosion fragments) were discarded after counting. Earlier conservation treatment might have been able to save many of these objects.

Brass items, if they exhibited active bronze disease, were subjected to electrolytic reduction in a sodium carbonate solution with up to 4.5 volts for periods of up to 4 hours. Hand cleaning with fine bronze wool or fiberglass brushes followed the electrolysis. Afterwards the surface chlorides were removed with deionized water baths and the items were dried in a series of alcohol baths. The conserved cuprous items were coated with a 50% solution of Incralac in toluene. Ferrous objects were treated in one of two ways. After the mechanical removal of gross encrustations the artifact was tested for sound metal by the use of a magnet. Items lacking sound metal were subjected to multiple baths of deionized water to remove chlorides. The baths were continued until a conductivity meter indicated a level of chlorides no greater

than 0.5 ppm. This technique was also used on fragile metal artifacts, such as tin can fragments. These items were eventually given a micro-crystalline wax coat, not only to seal out moisture (at which the wax may or may not be effective), but also to provide some additional strength. Items which contained sound metal were subjected to electrolytic reduction in a bath of sodium carbonate solution in currents up to 6 volts for periods of 5 to 20 days. When all visible corrosion was removed, the artifacts were wire brushed and placed in a series of deionized water soaks, identical to those described above, for the removal of chlorides. When the artifact tested free of chlorides, it was air dried and a series of phosphoric (10%) and tannic (20%) acid solutions were applied. The artifacts were oven dried at a temperature of 200°F (93°C) for 20 minutes, then dipped in a molten micro-crystalline wax solution and then placed back in the heated oven for 5 minutes to allow the excess wax to drip off.

The fieldnotes, including those provided by Lepionka, will also be curated at The Charleston Museum. Two copies of the Chicora fieldnotes (the originals and one archival copy) will be provided. Because Lepionka's notes appear to have been exposed to a mold-producing environment, Chicora will provide The Charleston Museum with two archival copies and will maintain the original notes on file. Chicora's photographic materials were processed to archival stability. Lepionka's color slides were taken using either Kodak 5247 or 5294 film (both of which use process ELN-II). At the present time we do not have access to information regarding the long-term stability of these films. The only treatment they received, to remove heavy deposits of visible air-borne contaminates, was cleaning with Kodak Film Cleaner (compound of heptane and 1,1,2 trichloro - 1,2,2 trifluoroethane).

Analysis of the collections followed professionally accepted standards with a level of intensity suitable to the quantity and quality of the remains. Prehistoric ceramics were classified using common Carolina types (e.g., Phelps 1983: Trinkley 1983a). The temporal, cultural, and topological classifications of the historic remains follow Noel Hume (1970), Miller (1980), Price (1970), and South (1977).

IDENTIFIED TERRESTRIAL SITES AND THEIR SIGNIFICANCE

Michael Trinkley

38GE291, Willbrook Slave Settlement

Site 38GE291 is situated on the west bank of the South Willbrook drainage about 300 feet north of the Willbrook property line and is largely contained on a north-south oriented sand ridge about 9 to 10 feet (2.8 to 3.1 meters) MSL. Lepionka estimates the site size to be about 425 feet by 225 feet (130 by 70 meters) and these dimensions closely resemble the findings of the 1987 survey. This site is believed to represent the easternmost "Negro Houses" shown as a double row of four structures (eight total) on the 1798 plat of Willbrook (Figures 6 and 11). This same plat identifies a second slave row about 11 chains (726 feet or 220 meters) to the west-southwest (see 38GE340). The areas suitable for slave rows were limited and since there would be few reasons to move the housing (for example, the crop location would not change), it is likely that these structures were occupied into the nineteenth century. In 1850 there were 149 slaves on Willbrook, or 8.3 slaves per structure (assuming the same number of structures continued to exist and that the structures are single units, not double pen construction).

Lepionka excavated a series of 21 3-foot squares at this site, shown on his "Survey Map 3" (Lepionka 1986:49). The units were located largely on the basis of surface scatters and Lepionka identified a simple stratigraphy of humic plowzone sand up to 1.1 feet (0.3 meter) overlying a leach zone of brownish-yellow sand. The benchmark for this site consisted of a blaze cut in a stump at ON/SOE/W; there is no information on vertical control and it has not been determined if this stump can be relocated. Although a number of the unit forms comment on the presence of charcoal in the level B leach zone, one square -- ca. 50S100W ("not surveyed in because of obscuring logging debris") -- yielded a possible posthole at the base of the leach zone. Artifact density ranged up to about 17 specimens per cubic foot (600 per cubic meter), with a site average of six artifacts per cubic foot (214 per cubic meter) (excluding two sterile units located at the site periphery).

The site was situated in an area of mixed hardwood and pine with understory vegetation in 1984. By the 1985 survey

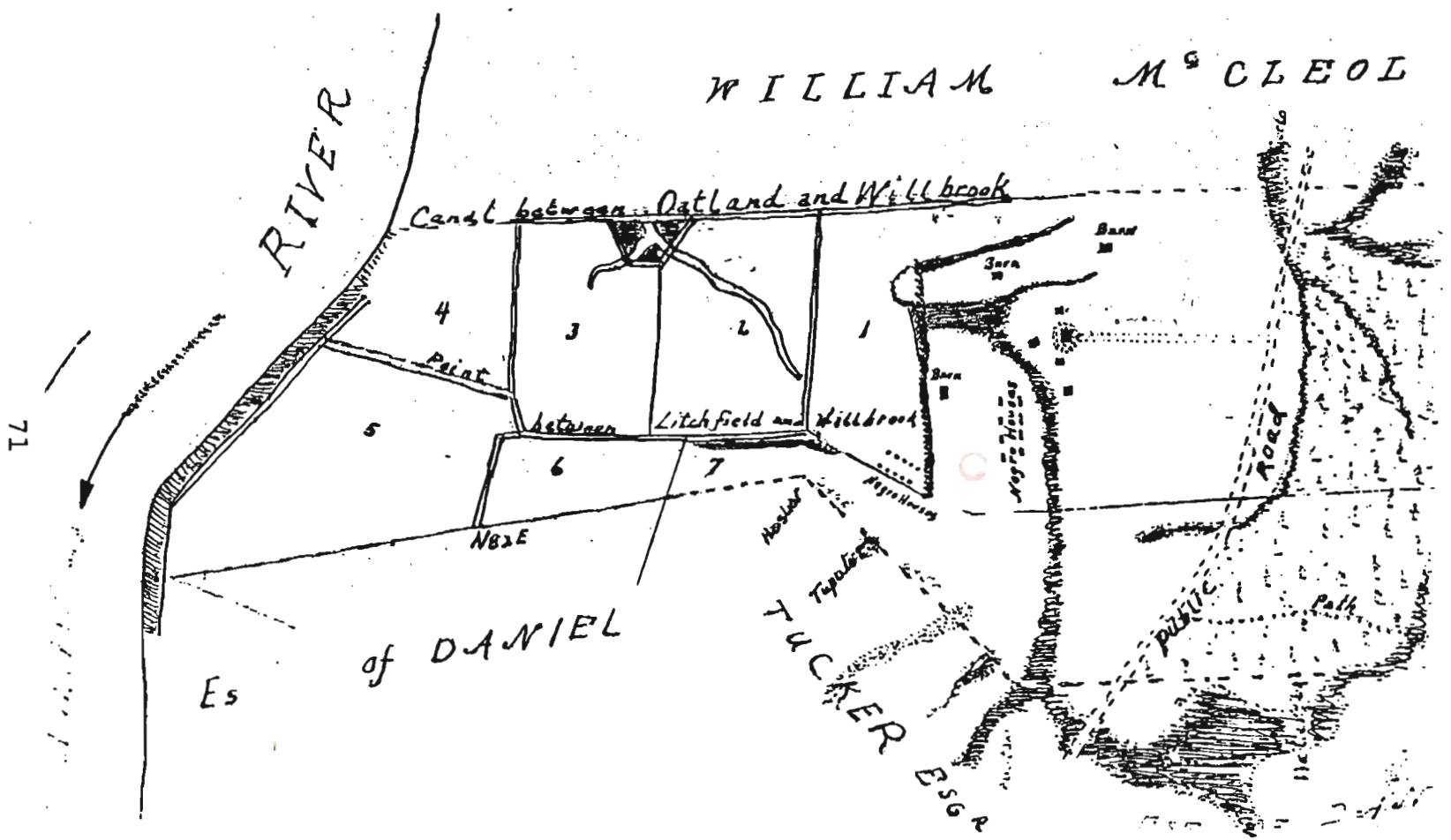


Figure 11. Enlarged view of the 1798 Willbrook Plantation complex (see Figure 6).

the site had been clear cut and logging debris had been bulldozed into push piles. It is likely, however, that the plowzone has served to protect subsurface features at the site. This site, which is to be incorporated into the 14th and 16th fairways, is expected to be completely destroyed by construction.

A pattern analysis of the materials recovered from the site is shown in Table 2. A comparison of this pattern to those shown in Table 3 reveals that site 38GE291 closely resembles the Carolina Slave Artifact pattern discussed by Garrow (1982). This patters may be more typical of earlier, poorly constructed slave housing, while Singleton's Georgia Slave Pattern may be more common at later, better constructed sites (see Zierden and Calhoun 1983:43). Table 4 calculates the mean ceramic date (South 1977) of the site to be 1789.6, although the presence of brown salt-glazed ware and whiteware indicate occupation into at least the early nineteenth century.

Lepionka (1986:56) notes that this site "retains a certain degree of integrity" and believes that "separate living areas" are archaeologically visible. He further comments on the presence of a possibly later "south loci" located south of the main slave row area and east of the dirt road. This site loci, unfortunately, has been destroyed by ground clearing subsequent to the 1986 work. The main site area, however, appears in good condition and I concur with Lepionka's earlier assessment that the site is eligible for inclusion in the National Register.

The level of testing conducted by Lepionka seems insufficient to determine the location of future excavations at the site. For that reason I recommend that the site should be extensively auger tested, perhaps at 25-foot intervals. Based on the computer generated site density maps, it will be possible to target specific site areas for intensive examination. Based on the site's previous heavy vegetation, there is reason to believe that the area may never have been plowed, so disturbance will be limited to the recent logging activities which are expected to have resulted in minimal horizontal displacement. Therefore, excavation should minimally examine several suspected structures to reveal intra-site patterning.

38GE292, Willbrook Plantation

This site incorporates a variety of components associated with the eighteenth through twentieth century. Willbrook Plantation, including the main house location(s), the kitchen site, two additional structural sites, and the location of several fairly recent additions. The plantation complex is situated on moderately well-drained Yauhannah soils in the fork of the Willbrook drainage and the boundaries to the north,

KITCHEN				
	Ceramics	120		
	Colono ware	394		
	Glass bottle	101		
	Kettle frag	3		
	Container frag	1		
			619	73.1%
ARCHITECTURE				
	Hand cut nails	33		
	Machine cut nails	16		
	UID nails	132		
	Spikes	1		
	Window glass	5		
	Latch catch	1		
			188	22.2%
CLOTHING				
	Buttons	6		
	Buckle	1		
			7	0.8%
PERSONAL				
	Mirror	1		
	Slate tablet frag	1		
	Glass bead	1		
			3	0.4%
TOBACCO				
	Kaolin tobacco pipes	24		
	Red clay tobacco pipe	1		
			25	2.9%
ACTIVITIES				
	UID lead	1		
	UID iron	3		
	UID copper	1		
			5	0.6%
	Total Artifacts		847	

Table 2. Artifact pattern analysis for 38GE291.

Artifact Group	Revised Carolina Artifact Pattern[a]	Revised Frontier Artifact Pattern[b]	Carolina Slave Artifact Pattern[c]	Georgia Slave Artifact Pattern[d]	Piedmont Tenant/ Yeoman Artifact Pattern[e]
Kitchen	51.8-65.0%	35.5-43.8%	70.9-84.2%	20.0-25.8%	45.6 (40.0-61.2)
Architectural	25.2-31.4%	41.6-43.0%	11.8-24.8%	67.9-73.2%	50.0 (35.8-56.3)
Furniture	0.2-0.6%	0.1-1.3%	0.1%	0.0-0.1%	0.4
Arms	0.1-0.3%	1.4-8.9%	0.1-0.3%	0.0-0.2%	-
Clothing	0.6-5.4%	0.3-1.6%	0.3-0.8%	0.3-1.7%	1.8
Personal	0.2-0.5%	0.1%	0.1%	0.1-0.2%	0.4
Tobacco	1.9-13.9%	1.3-14.0%	2.4-5.4%	0.3-9.7%	-
Activities	0.9-1.7%	0.5-5.4%	0.2-0.9%	0.2-0.4%	1.8

Sources:

[a]Garrow 1982

[b]Garrow 1982

[c]Garrow 1982

[d]Singleton 1980:216

[e]Drucker, et al. 1984:5-47 (no range was provided, but has been partially reconstructed for the Kitchen and Architectural Groups)

Table 3. Various archaeological pattern comparisons.

Ceramic Type	Mean Date (xi)	# (fi)	fi · xi
Porcelain, Canton	1815	3	5445
Brown salt glazed stoneware	1860	4	7440
Westerwald	1738	1	1738
Nottingham	1755	4	7020
White salt glazed stoneware	1763	3	5289
Lead glazed slipware	1733	24	41592
Tortoiseshell	1755	1	1755
Creamware, undecorated	1791	34	60894
Pearlware, undecorated	1805	9	16245
annular	1805	3	5415
blue hp	1800	4	7200
blue tp	1818	2	3636
Whiteware, undecorated	1860	7	13020
annular	1866	3	5598
edged	1853	1	1853
blue tp	1848	1	1848
Yellow ware	1853	2	3706
		106	189694

189694 divided by 106 = 1789.6

Table 4. Mean ceramic date for 38GE291.

west, and south are defined by Willbrook Creek. The boundary to the east, while somewhat artificial, also involves a gradual slope into a area of poorly-drained soils which serves to emphasize that the plantation complex was situated on a definite hill or rise. This is also on shown the 1798 plat of Willbrook (see Figures 11 and 12) and Gordon and McArthur (1979:184) note that plantation houses were frequently "on top of a hill to exemplify . . . authority." The plantation was situated at the end of an avenue off a "Public Road," more commonly known as River Road, which has been partially incorporated into the highway system as S.C. 392. The plantation complex is also situated adjacent to a deep water creek which is connected to the Waccamaw River; the site evidences a fairly typical "high ground and deep water" location. The site dimensions were estimated by Lepionka to be about 875 by 800 feet (300 by 250 meters), but this incorporates a "tenant house" to the west of the South Willbrook Creek which has been renumbered by this survey. As a consequence, the site, as currently defined, measures 700 by 500 feet (210 by 150 meters). Vegetation, at the time of Lepionka's surveys and during the work by Chicora, included grassed areas and light mixed hardwood and pine forest with very little understory vegetation. It is apparent that the vegetation has been greatly altered by human occupation.

Main House

The original Willbrook Plantation house burned in June, 1895, and a replacement structure was built that same year by the occupant and part owner, Clarence Lachicotte. The 1895 structure was present during the 1984 survey by Lepionka, but prior to his 1985 survey all but a one-story addition was torn down and the standing addition was subsequently removed from the site. Lepionka describes the 1895 house as,

> late Victorian architecture of frame construction with clapboard siding resting on brick piers; the roof was gabled and covered with tin sheeting. It faced east, somewhat off center (south of) the entrance road. The central portion was a narrow two-story structure with a bayed entrance extending out onto a small open porch; above this on the second floor was a single central window. The north wing, an integral part of the original construction, is two stories, set back from each facade and linked to it by an angled wall with a second floor window. The lower level is squared off at this northeast corner by a single story unit with a leanto roof. There is a one-story adjunct centered on

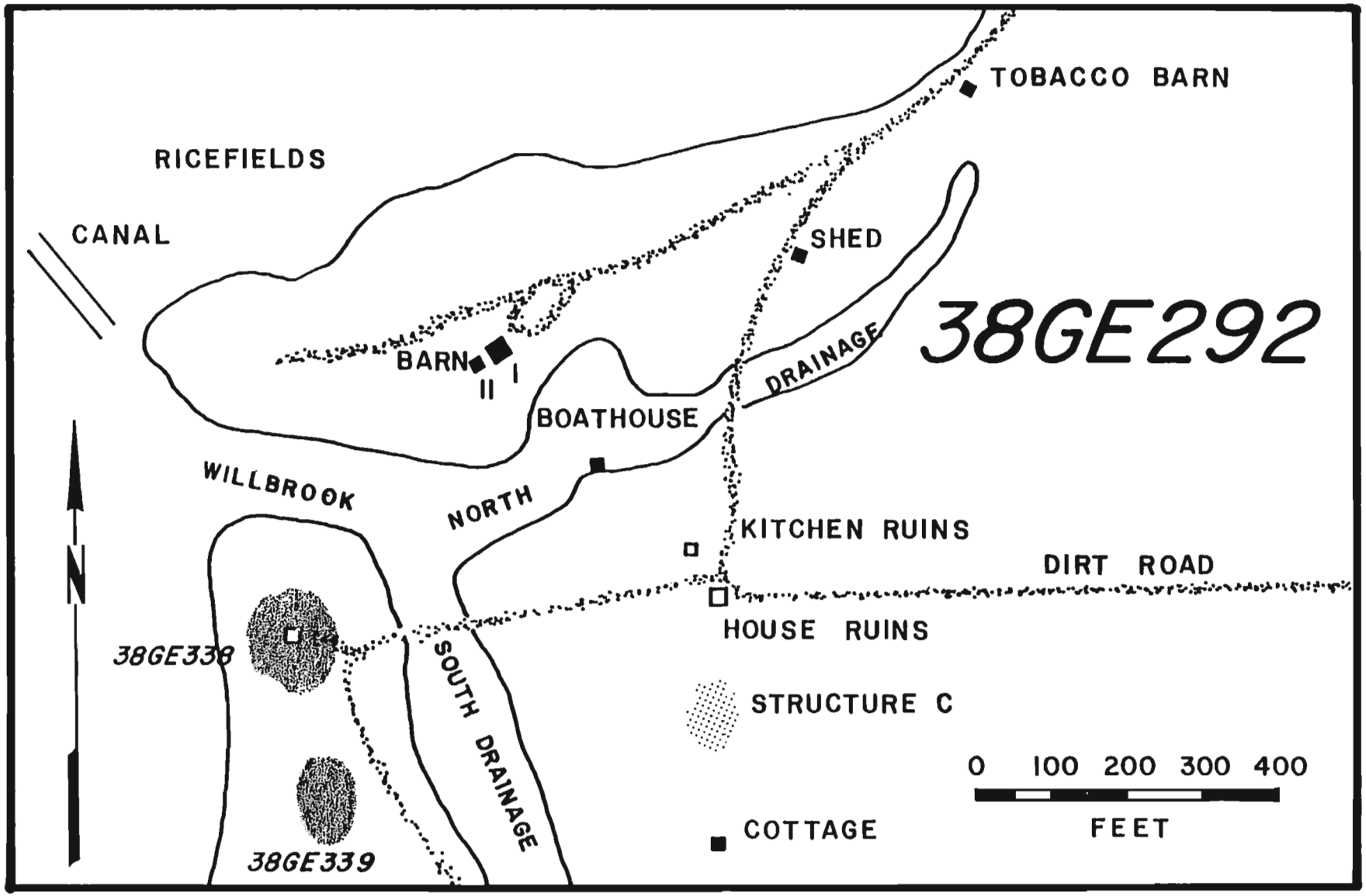


Figure 12. Willbrook Plantation complex, 38GE292.

> the south side (i.e., set in from both front and back of main sections) with separate entrance. A chimney lies between the two sections and there is another chimney centrally located in the main unit (i.e., excluding the north wing). There is also a one-story rectangular addition at the northwest corner of the house. Fenestration in the rear (west) elevation of the house was not centered, giving a rather lopsided appearance (Lepionka 1986:70).

The 1895 structure is illustrated in Figure 13. As a result of the 1984 survey, Lepionka (1984:34) recommended that the structure be preserved, although after its removal Lepionka commented that, "[l]oss of this 1895 building is not of major import" (Lepionka 1985:3). After demolition, the brick piers were plotted by Lepionka (1986:71) and eight tests (four 3-foot [0.9 meter] squares, one 3 by 5 foot [0.9 by 1.5 meters] square, one 1 by 15 foot [0.3 by 9.6 meter] trench, and two units of unspecified size) were excavated in and around this structure. As a result of this work, Lepionka identified a "blanket" of ash and charcoal under the 1895 structure. It seems likely that the 1895 house was built immediately over the ruins of the original, colonial structure. In addition, Lepionka identified a series of "rubble piles" at the edge of South Willbrook Creek, west of the structure, which appear to be debris from the burned structure. The artifact categories recovered from the structure and the rubble piles are compared in Table 5. The main house reveals a pattern which is expected when an occupied structure is destroyed. Although architectural remains dominate, a full range of specimens is present, including personal and kitchen items (see White and Kardulias 1985). The rubble piles reveal more abundant kitchen refuse than under the main house and a considerably reduced range of specimens. It may be that this area functioned as a refuse pile for the house prior to its burning, which would explain the inflated kitchen artifact category. Alternately, the architectural count may be artificially low since there was abundant brick, mortar, and plaster in the rubble piles which was not collected. The mean ceramic dates from the two loci are very similar (1814.5 for the house and 1832.0 for the rubble piles), although the sample is so small for the rubble piles that the date is suspect (Tables 6 and 7). Although a construction date for the Willbrook house is not known it was certain that it was present by 1798 and may well have been built by 1750. The 1798 date yields a mean historic date of 1846.5, while the 1750 date yields a mean historic date of 1822.5. The mean date of 1814.5 from the house test units may suggest an even earlier construction.

Figure 13. 1895 Willbrook Plantation house prior to demolition. View is to the southwest.

Figure 14. Tombstone of Albert Doctor, 38GE293, view is to the west.

	Willbrook House		Rubble Piles	
	#	%	#	%
Kitchen	426	32.2	303	51.4
Architecture	855	64.6	259	43.9
Furniture	3	0.2	---	----
Arms	8	0.6	---	----
Clothing	2	0.2	2	0.3
Personal	2	0.2	---	----
Tobacco	5	0.4	---	----
Activities	22	1.7	26	4.4
Totals	1,323		590	

Table 5. Willbrook house and rubble piles artifact patterns.

Ceramic Type	Mean Date xi	# (fi)	fi· xi
Porcelain, Canton	1815	9	16335
Brown salt-glazed stoneware	1860	1	1860
White salt-glazed stoneware	1763	7	12341
Lead-glazed slipware	1733	3	5199
Whieldon	1755	1	1755
Jackfield	1760	1	1760
Delft, plain	1720	1	1720
Creamware, undecorated	1791	11	19701
Pearlware, undecorated	1805	22	39710
edged	1805	6	10830
annular	1805	1	1805
blue hp	1800	4	7200
Whiteware, undecorated	1860	27	50220
annular	1865.5	1	1865.5
stamped	1853	1	1853
Yellow ware	1853	1	1853
		97	176007.5

176007.5 divided by 97 = 1814.5

Table 6. Mean ceramic date for the Willbrook Plantation house ruins.

Ceramic Type	Mean Date (xi)	# (fi)	fi · xi
Nottingham	1755	1	1755
Leadglazed shipware	1733	1	1733
Whiteware, undecorated	1860	4	7440
blue tp	1848	4	7392
		10	18320

18320 divided by 10 = 1832.0

Table 7. Mean ceramic date for the Willbrook Plantation rubble piles.

Kitchen

The kitchen loci in 1984 was marked by the presence of a brick chimney about 150 feet north of the main house; this location closely corresponds to an outbuilding shown north of the main structure on the 1798 plat (Figure 11). This chimney was torn down at the same time that the main house was removed, prior to Lepionka's 1985 investigations. In 1986 the kitchen remains were described,

> the fireplace faced east and on the west side was a domed oven above a barrel vaulted furnace. The eighteenth to early nineteenth century erection was obviously part of a kitchen structure, possibly with the fireplace/oven as a central element, analogous to the preserved kitchen at Brookgreen Gardens which consists of two rooms, on either side of the chimney with lateral passageways (Lepionka 1986:59).

This kitchen area was tested by Lepionka using a series of units forming a "T"-shaped trench. At least 54 square feet (5.0 square meters) were excavated, although the fieldnotes and Lepionka's 1986 report are not in agreement regarding unit sizes. Because no adequate site datum was established, it is unlikely that these units could be relocated except by extensive testing. The total excavations, however, probably represent only a small fraction of the original kitchen. Lepionka identified at least four postholes (three possibly forming a pattern) and a probable pit.

These excavations yielded 3401 artifacts, or a locus density of 42 specimens per cubic foot (1500 specimens per cubic meter). A pattern analysis (Table 8) reveals that while kitchen artifacts account for 48.4% of the total, architectural

KITCHEN				
	Ceramics	951		
	Colono ware	108		
	Glass bottle	579		
	Melted glass	5		
	Can fragments	4		
	Cup handle	1		
			1,648	48.4%
ARCHITECTURE				
	Window glass	127		
	Machine cut nails	116		
	UID nails	1,305		
	Roofing nails	14		
	Han cut nails	2		
	Spike	2		
	Wire cut nails	29		
			1,595	46.9%
FURNITURE				
	Tacks	3		
	Lamp chimney glass	4		
	Lamp part	1		
	Decorative elements	2		
	Lock	1		
			11	0.3%
ARMS				
	Rifle shells	10		
	Shotgun shells	4		
	Lead shot	1		
	Gun flint	1		
			16	0.5%
CLOTHING				
	Buttons	21		
	Buckles	3		
	Safety pin	2		
			26	0.8%
PERSONAL				
	Keys	2		
	Finger ring	1		
			3	0.1%
TOBACCO				
	Kaolin pipestems	37		
	Kaolin pipebowls	8		
			45	63%
ACTIVITIES				
	UID iron	32		
	UID lead	1		
	UID brass	3		
	Bolts	4		
	Washer	1		
	Iron strap	9		
	Stamped brass foil	1		
	Doll frag	2		
	Staple	1		
	Marble	1		
	Brass wire	1		
	Brass rivet & rove	1		
			57	1.7%
	Total Artifacts		3,401	

Table 8. Artifact pattern analysis for the Willbrook Plantation Kitchen test excavation.

Ceramic Type	Mean Date (xi)	# (fi)	fi · xi
Porcelain, Canton	1815	88	159720
Nottingham	1755	24	42120
Brown salt-glazed stoneware	1860	7	13020
White salt-glazed stoneware	1763	94	165722
Black basalt	1785	4	7140
Eler's ware	1733	1	1733
Leadglazed slipware	1733	76	131708
Jackfield	1760	4	7040
Tortoiseshell	1755	13	22815
Delft, undecorated	1720	11	18920
decorated	1750	11	19250
Debased Rouen faience	1788	1	1788
Creamware, undecorated	1791	145	259695
brown hp	1805	1	1805
Pearlware, undecorated	1805	48	86640
edged	1805	6	10830
blue hp	1800	21	37800
poly hp	1805	12	21660
blue tp	1818	17	30906
annular	1805	5	9025
Whiteware, undecorated	1860	180	334800
edged	1853	18	33354
annular	1865.5	8	14924
decalcomania	1925.5	1	1925.5
blue tp	1872.5	7	13107.5
blue hp	1840.5	3	5521.5
polychrome hp	1848	2	3696
sponged	1853	7	12971
		815	1469636.5

1469636.5 divided by 815 = 1803.2

Table 9. Mean ceramic date for the Willbrook Plantation kitchen.

KITCHEN			
Ceramics	14		
Colono ware	25		
Glass bottle	20		
Melted glass	1		
		60	48.4%
ARCHITECTURE			
Hand cut nails	1		
Machine cut nails	12		
UID nails	32		
Window glass	8		
Glazed tile	1		
		54	43.6%
FURNITURE			
Tack	1		
		1	0.8%
CLOTHING			
Button	1		
		1	0.8%
TOBACCO			
Kaolin pipe stems	2		
Kaolin pipe bowl	1		
		3	2.4%
ACTIVITIES			
UID iron	2		
Belt hook	1		
Wire	1		
Staple	1		
		5	4.0%
Total Artifacts		124	

Table 10. Artifact pattern analysis of Willbrook Plantation 38GE292, Structure C.

Ceramic Type	Mean Date (xi)	# (fi)	fi · xi
Brown salt-glazed stoneware	1860	1	1860
White salt-glazed stoneware	1763	3	5289
Nottingham	1755	1	1755
Whieldon ware	1755	1	1755
Pearlware, undecorated	1805	1	1805
poly hp	1805	1	1805
Whiteware, undecorated	1860	1	1860
		9	16129

16129 divided by 9 = 1792.1

Table 11. Mean ceramic date for Willbrook Plantation Structure C.

25'3" . . . built of recycled brick utilizing only stretchers" (Lepionka 1986:66). The structure was investigated by a 1.5 foot (0.4 meter) shovel test and two 3-foot (0.9 meter) squares. The units revealed dense brick and mortar rubble at the base of the humic zone inside the structure and continuing to sterile sand. A builder's trench is reported on the interior of the structure and wire nails were recovered. The structure is interpreted as a "utility shed" (Lepoinka 1986).

Ceramics are not common in the excavations (n=12), but appear to represent scatter from the plantation complex. Likewise, the container glass may represent general yard scatter pre-dating the structure's construction. While many of the items from the excavation, such as the South Carolina Dispensary bottle and the padlock, are suggestive of a late nineteenth or early twentieth century date, only the builder's trench may be used for a relatively secure date for the structure. This trench, according to Lepionka produced the wire nails, which post-date the 1850s (Nelson 1968:7).

Other Features

Lepionka (1986:68) briefly mentions the presence of a barbecue pit and a privy about 100 feet (31 meters) west and 45 feet (14 meters) north of Structure M. Both were constructed of machine made brick and probably date to the period of additions to the 1895 Willbrook house since similar brick are

found in the south chimney (see Brooker's architectural discussions in this volume).

Lepionka notes that he unsuccessfully attempted to locate the three barns and two additional structures (Lepionka 1986:58,15,78-79). It is possible that an intensive auger survey of the plantation complex area would reveal these structures although Lepionka contends that the barns, "used primarily for storage and processing of rice, would have left no mark in the ground and very few artifacts" (Lepionka 1986:79). Singleton (1980:118-121) discusses several structures which were part of a Georgia rice plantation's "technical nucleus" and which were identifiable in the archaeological record. On the other hand, Michie (1980:78-79, 88-89) discusses two rice barns on nearby Wachesaw and Richmond Hill plantations and notes finding very little evidence of either structure. Lepionka is probably correct in noting that even ubiquitous architectural remains like nails will be greatly reduced by the use of pegged carpentry work (Lepionka 1986:79). An alternative technique to locate these structures, however, would be combining an auger test survey with analysis of soil macronutrients.

Finally, Lepionka includes a number of standing structures in his discussions of 38GE292, including the "cottage," "Tenant House," "Barn I and II," "Tobacco Barn," "Equipment Shed," and "Boat House." All of these structures are discussed by Brooker (this volume) and further information is available from Lepionka (1985, 1986). It is sufficient to note that most of these structures, specifically the "cottage," "Tenant House," "Barn II," "Equipment Shed," and "Boat House," are clearly twentieth century additions to the property. These structures are not further examined in this section.

While the Tobacco Barn is discussed by Brooker, it is appropriate to briefly note that the construction, while traditional in basic form, may date to the twentieth century since the barn used kerosine heaters. The National Register Nomination Form for "Properties Related to the Production of Bright, or Flue-Cured, Tobacco in Marion and Dillon Counties" (Rogers n.d.) notes that fuel oil or kerosine began to be used in place of wood or coal in the 1950s, although the local county agent noted that he remembered kerosine being used in the 1940s (Nevil Cribb, personal communication 1987). In spite of this structure's posited recent age, Lepionka notes that similar structures "are rapidly disappearing with altered technology and shift in economic patterns" (Lepionka 1986:81). One example of this is the 35% decline from 1964 to 1987 in acreage devoted to tobacco in Georgetown County. In addition, there is no inventory data which provides much assistance in understanding the distribution or frequency of these structures. The study by Rogers (n.d.) unfortunately excluded

tobacco barns which used fuel oil or gas for heating. The Willbrook tract had a tobacco crop back at least to 1938, and the existing barn could have cured about three acres of tobacco (Nevil Cribb, personal communication 1987).

Summary

Lepionka indicated that the plantation complex was eligible for inclusion in the National Register since it "provides an unusual opportunity to examine rice plantation material culture in relatively undiluted form as it existed ca. 1800, and to study and compare that culture as it was possessed and experienced by both masters and slaves" (Lepionka 1986:79). He recommends additional testing around the main house and yard areas "to ascertain activity patterns," as well as extensive excavation in the vicinity of the kitchen and Structure C.

The recommendation of eligibility for the site appears sound. Willbrook, in spite of its continued occupation and episodes of rebuilding, evidences archaeological remains with considerable integrity. Both architectural and archaeological features were present and it is expected that the recent demolition activities did not extensively affect the archaeological record. Artifactual quantity and quality are both high from selected site areas.

Current plans call for the incorporation of a portion of the Willbrook Plantation complex into a park, although the kitchen may be destroyed by a wetland area. The two structures shown on the 1798 plat, but not identified by Lepionka, would be within the development and subjected to both direct and indirect impacts. The portion of the site preserved might also be subject to secondary impacts brought on by increased pedestrian traffic and increased access to the site by relic hunters.

The data recovery appropriate for the site will at least partially depend upon whether it is possible to incorporate the major components of the plantation into the green space and whether this will ensure the site's protection. The use of green space to preserve the main house area, Structure C, and the kitchen coupled with an auger survey, preliminary to more extensive excavation, of the areas to be impacted by development would be an economical and viable approach to this site. Evaluations and recommendations regarding the standing structures are discussed by Brooker (this volume).

38GE293, Oatland Cemetery

The Oatland Cemetery is located between River Road and Kings Highway, about 1100 feet (340 meters) northeast of the Willbrook Plantation house. The site is situated on the north

face of a sandy ridge slope to the east of poorly drained soils. The site was originally pointed out by an informant to Lepionka and the site area was marked by "the typical presence of fully mature live oaks" (Lepionka 1986:82). When first encountered there was,

> one concentrated row of interments marked by remnants of cypress crosses. However, other graves are disposed around this central area, identifiable only by linear depressions in the ground and occasionally by glassware left in the grave . . . . There is also said to be one stone marker (Hunter, personal communication) but this was not found (Lepionka 1984:25).

By the time of the 1985 survey Lepionka states that,

> [n]o particular maintenance [of this site] is required, as only one tombstone is present. The former cypress crosses are too rotten for preservation (Lepionka 1985:44).

The site limits, as observed in 1984 and 1985 based on grave depressions, were flagged by Lepionka and a caution was made that the limits of the cemetery could be "obscured if heavy equipment is used" in future clearing (Lepionka 1984:25). For unknown reasons heavy equipment was used to clear the property within the flag and limits, with the predicted ground disturbance. Bulldozer gouges and track marks were still visible at the time of the 1987 survey. This work made the identification of grave depressions very difficult, and most significantly, it destroyed the remains of the wooden crosses. This is unfortunate since documented, extant wooded markers are extremely rare and there is no question but the crosses could have been preserved and consolidated by a professional conservator.

The 1987 survey consisted of plotting the location of all features in the cemetery area (Figures 14 and 15). As a result of this work four grave stones were located, 36 probable grave depressions were identified, and five shell scatters were noted. The stones include a white marble headstone measuring 1.25 (height exposed) by 0.65 by 0.15 foot (40 by 20 by 5 centimeters) marked "ALBERT/DOCTOR/MAY 25, 1839/MAY 25, 1919/Gone, but not/forgotten" and a white marble footstone measuring 0.7 by 0.3 by 0.15 foot (22 by 9 by 5 centimeters) marked "A.D." A second footstone of white marble was marked "V.B." but the associated headstone has been removed from the cemetery (although its subsurface support is still present).

important archaeological resource (Rathbun 1985b:208).

Rathbun suggests that cemeteries are important bio-archaeological resources which contribute historical, demographic, morphological, dental, and medical information. Examination of cemeteries, then, can provide data important to history and hence cemeteries may be eligible under criteria D, as sites "that have yielded, or may be likely to yield, information important in prehistory or history (National Park Service 1986:1). Sites such as the Oatland Cemetery may be even more significant since they provide a major, important source for our understanding of a little known group. Information on the bio-history of southern blacks is largely limited to studies such as Rose (1985) and Rathbun (1987).

The Oatland Cemetery exhibits integrity and is judged to be eligible for the National Register since the information it contains is unique and can be obtained from no other source. Ideally, this entire site should be incorporated into a green space, although upkeep and some minimal level of security is necessary to protect the graves, stones, and associated grave goods. The boundaries should be defined based on Lepionka's original surveys and the 1987 plotting of depressions. The current plans appear to call for a reduction in the set aside for this cemetery. Any reduction should involve a concomitant testing program to ensure that no graves will be damaged by eventual construction.

38GE294, Oatland Settlement

Site 38GE294 is situated primarily on the west and north slope of the sand ridge which forms the peninsula west of the South Oatland Creek drainage and measures about 500 by 300 feet (150 by 100 meters). This is a larger site than recognized by Lepionka (who estimated the site size to be about 250 feet in diameter), but represents the total extent of current surface scatter. The site boundaries appear to conform to the River Road on the west and north, and the South Oatland drainage to the east (Figure 16). The site appears to gradually thin to the south. It is probable, as Lepionka (1986:92) observes, that concentrations of material are present. Lepionka excavated a series of 12 3-foot squares over an area about 200 feet in diameter, identifying three loci with densities of up to 20 artifacts per cubic foot. Remains were apparently recovered from the upper 1.5 foot of soil, 0.8 foot of which appears to represent an old plowzone. At least one unit (400S93E) contained a feature with abundant artifacts and good enthnobotanical preservation.

The site was situated in an area of second growth forest in 1984, but was previously a cultivated field. By 1985 the

area had been bulldozed into push piles and burned. It is likely, however, that the plowzone has served to protect subsurface features at the site, although considerable artifact fragmentation has already taken place. About 90% of the site will be within the 9th fairway of the golf course development, while the remaining 10% represents peripheral areas of little importance absent the larger site core.

Lepionka, based on the presence of Colono ware at this site, suggests that it is "a slave site," although no direct historical documentation is available. While this possibility cannot be rejected outright, a closer examination of the site's artifact pattern (Table 12) suggests that the site is dissimilar to both the Carolina Slave Artifact Pattern (Garrow 1982) and the Georgia Slave Artifact Pattern (Singleton 1980:216), but is almost identical to the Revised Carolina Artifact Pattern (Garrow 1982). It should be noted that Lepionka, in the SCIAA site form for this site, notes that the site represents a "settlement, possibly slave," certainly less definitive than suggested by the report. An examination of the ceramics found at the site tends to suggest a somewhat higher status than typical of slaves, based on Otto's (1984) work at Cannon's Point. Annular wares account for only 8.5% of the creamware, pearlware, and whiteware assemblage, while transfer print ceramics account for 21.9% of the collection and plain wares account for 51.2%. The mean ceramic date for the site is 1836.8 (Table 13), although a range from the late eighteenth through the mid-nineteenth centuries is suggested.

It is clear that this site is giving mixed "signals" regarding its status. While South's pattern analysis suggests a non-slave domestic site typical of the English, the ceramics, at best, are indicative of an overseer's status. Finally, Lepionka's tests fail to reveal the type of linear artifact distribution often associated with a "slave row." Zierden and Calhoun (1983), however, note that the Campfield Plantation slave row, north of Georgetown on the Black River, revealed a dispersed pattern and Singleton (1980:113) briefly mentions non-linear patterns elsewhere. The observed distribution appears, at present, more typical of a single structure. Unfortunately, Lepionka failed to excavate a dispersed series of tests, so there may be additional concentrations and a distribution more typical of slave sites may yet be identified.

Lepionka notes that 38GE294 represents "an interesting artifact assemblage . . . and it is probable that broad area excavation could define former house areas through analysis of remaining artifact concentrations, and could provide some information on changes in material culture through time [presumably through comparison with other slave sites on the property]" (Lepionka 1986:96). Yet, because of previous cultivation Lepionka recommends the site "as ineligible"

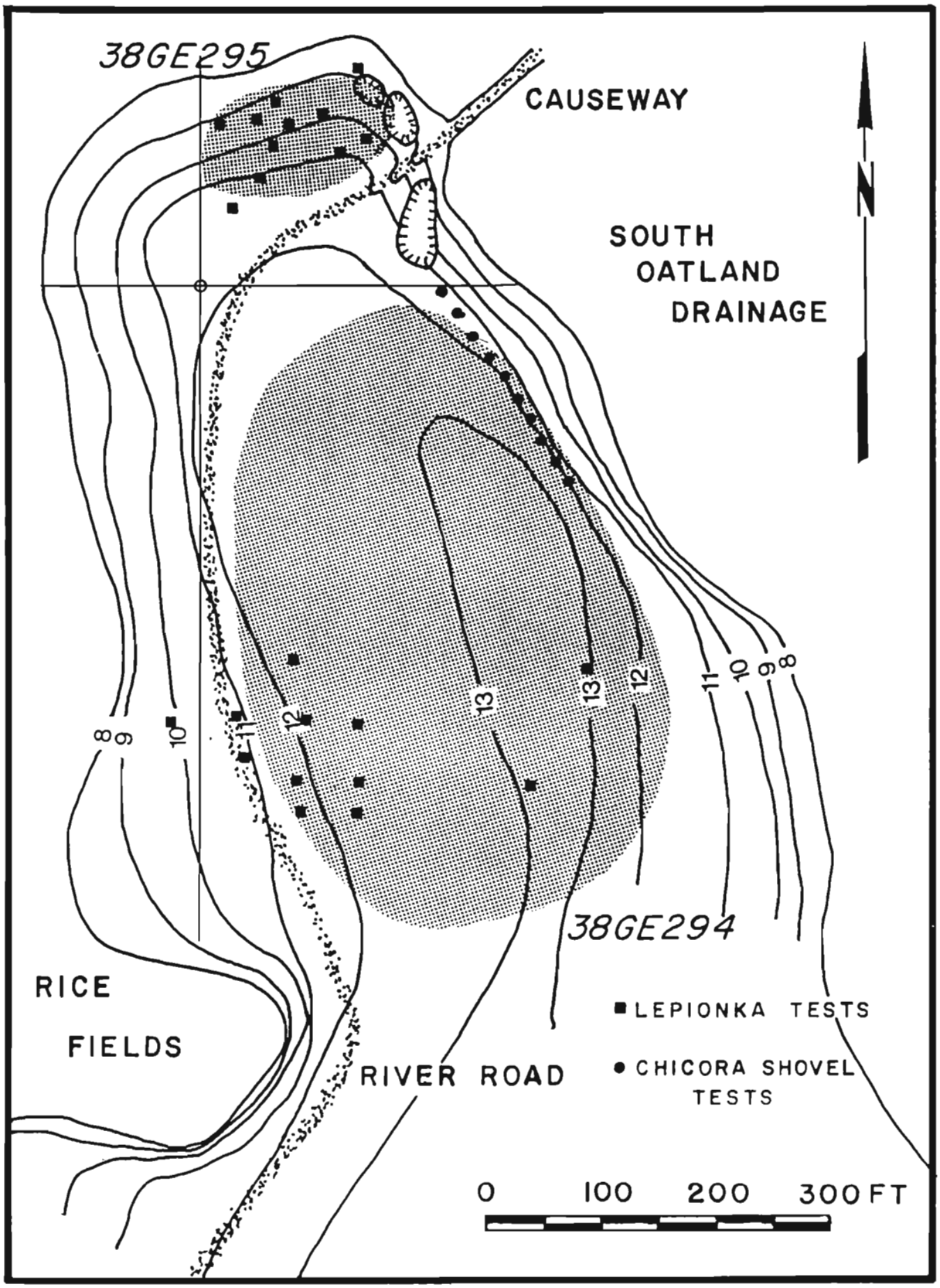


Figure 16. Archaeological sites 38GE294 and 38GE295.

KITCHEN				
	Ceramics	309		
	Colono ware	72		
	Glass bottle	129		
	Kettle frag	1		
	Utensil handle frag	1		
	Container frags	9		
			521	61.8%
ARCHITECTURE				
	Hand cut nails	10		
	Machine cut nails	101		
	UID nails	143		
	Window glass	31		
	Spikes	1		
			286	33.9%
FURNITURE				
	Tacks	2		
			2	0.2%
ARMS				
	Percussion cap	1		
	Lead shot	2		
			3	0.4%
CLOTHING				
	Buttons	3		
	Scissor frag	1		
			4	0.5%
PERSONAL				
	Decorative brass	2		
			2	0.2%
TOBACCO				
	Kaolin tobacco pipes	19		
			19	2.3%
ACTIVITIES				
	UID iron	3		
	Strap metal	1		
	Chain link	1		
	UID lead	1		
			6	0.7%
	Total Artifacts	843		

Table 12. Artifact pattern analysis of Oatland Settlement 38GE294.

(Lepionka 1986:96). Based on the excavation of the collection, the site's unexpected artifact pattern, and the presence of subsurface features and distinct artifact concentrations, I must respectfully disagree with this assessment. Artifact variety and quantity are high and some site integrity is obviously present. Further investigations seem warranted at this site, which I recommend as eligible for inclusion in the National Register of Historic Places.

Future work at the site should involve an auger survey of the entire 3.4 acre (1.4 hectare) site extent, perhaps at 25 foot (8 meter) intervals. Based on computer generated site density mapping, at least one block area should be excavated and one or two others briefly tested.

38GE295, Oatland Industrial Site

Site 38GE295 is situated on the north slope of the sand ridge which forms the peninsula west of the South Oatland Creek drainage and measures about 150 by 100 feet (46 by 30 meters) to the north of River Road. This is slightly larger than originally recognized by Lepionka (who estimated the site size to cover an area 100 feet in diameter), but the dimensions have been enlarged to ensure that all brick scatter is incorporated. The site boundaries are the Oatland drainage to the north, both the drainage and a borrow pit to the east, and River Road to the south. The western boundary is not tied to any geographic feature, but appears to be about 200 feet (60 meters) west of the borrow pit.

Lepionka excavated a series of 10 3-foot squares and a single irregular unit in 1985. Several concentrations, with densities of up to 26 artifacts per cubic foot, were noted. The artifacts were found in the dark humic sand overlying the lighter tan sand. It is possible that unit 165N67E contained one or more features, although they were not further examined.

This site, situated in an area of mixed hardwood forest during Lepionka's original survey, was not identified until 1985 when clearing operations exposed "several brick scatters" (Lepionka 1986:96). The site has suffered little, if any, disturbance since Lepionka's examination in 1985. During surface surveys in 1987 it became apparent that there was considerable brick in the A horizon soil and some of this brick appeared to be articulated. Lepionka excavated one irregular unit ("ca. 124N134E," of 27 square feet) in an area of "brick rubble." Although Lepionka notes that "[t]he brick are all disarticulated and never more than one deep," he also states that "the rubble was left in place." Reference to the Unit Forms, which are the only fieldnotes available for this work, also suggests that the brick rubble was not removed. Consequently, it does not seem possible to rule out the

Ceramic Type	Mean Date (xi)	# (fi)	fi · xi
Porcelain, Canton	1815	6	10890
Nottingham	1755	1	1755
Westerwald	1738	2	3476
White salt-glazed stoneware	1763	1	1763
Leadglazed slipware	1733	1	1733
Jackfield	1760	1	1760
Delft	1750	2	3500
Creamware, undecorated	1791	30	53730
annular	1798	1	1798
Pearlware, undecorated	1805	23	41515
edged	1805	7	12635
blue tp	1818	8	14544
poly hp	1805	1	1805
blue hp	1800	3	5400
annular	1805	1	1805
Whiteware, undecorated	1860	78	145080
edged	1853	23	42619
blue tp	1848	40	73920
nonblue tp	1851	8	14808
blue hp	1841	2	3682
poly hp	1848	7	12936
annular	1866	20	37320
Yellow ware	1853	7	12971
		273	501445

501445 divided by 273 = 1836.8

Table 13. Mean ceramic date for the Oatland Settlement 38GE294.

Consequently, it does not seem possible to rule out the possibility that an intact wall, or builder's trench, lies below the rubble.

Lepionka, based on the presumed non-domestic nature of the assemblage and the large metal artifacts recovered from testing, combined with the "mill pond" shown on the 1919 plat, suggests that the site represents an "industrial site" and possibly a rice mill. It seems likely that the "mill pond" was incorrectly located on the 1919 plat and that it correctly should be placed about 300 feet southeast of the site , behind the River Road causeway or dam. At the present time it has not been possible to develop historical documentation for this site. The archaeological documentation, unfortunately, is far from clear. An examination of a pattern analysis for the site (Table 14) reveals that there is some similarity between 38GE295 and the Georgia Slave Artifact Pattern (Singleton

1980:216) and the pattern is very similar to that observed at the Campfield Slave Settlement, situated in Georgetown County on the Black River (Zierden and Calhoun 1983:42). It is only generally similar to the "industrial pattern" observed at the nineteenth century Reed Gold Mine in North Carolina (Trinkley 1986). As a consequence, it is not possible to state that the site is "not a residential site characterized by a domestic assemblage" (Lepionka 1986:101). At the present time no definite assessment of site function may be offered. It is clear that at least one structure was located at this site which possessed window glass and which used shutters and brick. Some domestic activities took place at the site, based on the quantity of kitchen refuse. Further work will be necessary to determine the site's function and relationship to 38GE294. The mean ceramic date for the site (Table 15) places it at 1845.9, only 9.1 years later than 38GE294.

In his 1985 report Lepionka notes that there are several areas of the site, such as the southeastern and southwestern areas, which deserve further investigation. Further, he concludes that additional work should be conducted to locate "brick concentrations" and determine if structures are present (Lepionka 1985:15). By 1986, however, Lepionka assured the site as ineligible because the mill machinery, considered to be the "most significant and meaningful elements" of the site, "[has] been stripped from the site" (Lepionka 1986:105).

Again, I must disagree with this assessment. First, it has not been documented that the site represents a mill, thus, reference to the mill machinery being the most important aspect of the site is inappropriate. Second, if indeed the site represents a mill, the loss of the machinery does not destroy the site's significance any more than the loss of furniture from a standing structure destroys the structure's significance or than the salvaging, stripping, and demolition of a structure eliminates its archaeological significance. All archaeological sites are affected by a variety of "transformations," including salvage and disassembly, but the archaeological manifestations of the human activity which took place at the site are usually still discernible and worthy of study. Such is the case at 38GE295. There is a varied and abundant artifact distribution at the site and there is the possibility of identifying both architectural and other feature types. The site appears to possess good site integrity and is recommended as eligible for the National Register of Historic Places.

The site may be impacted by the golf course development since it lies between the 9th green and the 1st tee. It is possible, however, that careful planning and site avoidance could ensure the site's integrity and that it could be incorporated into the development as green space. Should this

KITCHEN				
	Ceramics	31		
	Colono ware	10		
	Glass bottle	72		
	Container frags	107		
			220	23.5%
ARCHITECTURAL				
	UID nails	482		
	Machine cut nails	92		
	Hand cut nails	5		
	Window glass	64		
	Staples	1		
	Spikes	3		
	Hooks	3		
			650	69.5%
ARMS				
	Rifle barrel	1		
	Percussion cap	3		
	Lead shot	1		
	.38 shell	1		
	Shotgun shell	1		
			7	0.8%
CLOTHING				
	Buttons	3		
	Thimble	1		
			4	0.4%
TOBACCO				
	Kaolin pipe	8		
	Red clay pipe	1		
			9	1.0%
ACTIVITIES				
	Bolts/rods	20		
	Nuts	2		
	Washer	1		
	Brass grommet	1		
	UID brass	2		
	Brass rivet	1		
	Chain link	1		
	UID iron	9		
	Iron strap	3		
	Wire	4		
	Sickle	1		
	Hoe blade	1		
			46	4.8%
	Total Artifacts		936	

Table 14. Artifact pattern analysis of the Oatland Industrial Site, 38GE295.

Ceramic Type	Mean Date (xi)	# (fi)	fi · xi
Pearlware, undecorated	1805	4	7220
edged	1805	1	1805
blue tp	1818	1	1818
Whiteware, undecorated	1860	15	27900
annular	1866	1	1866
		22	40609

40609 divided by 22 = 1845.9

Table 15. Mean ceramic date for the Oatland Industrial Site, 38GE295.

not be possible, it is probable that site investigation would involve data recovery.

38GE296, Oatland Prehistoric Site

Site 38GE296 has generated considerable comment by the State Historic Preservation Officer since it is widely dispersed and Lepionka has reassigned artifacts from 38GE294 and 38GE295 to this site. A careful examination of the original reports (Lepionka 1985, 1986) and the site forms on file at the South Carolina Institute of Archaeology and Anthropology reveal that essentially 38GE294 and 38GE295 are multicomponent with the historic and prehistoric assemblages being only partially discontinuous. The prehistoric assemblage is concentrated toward the South Oatland drainage bluff edge, while the historic remains are found somewhat further inland. To simplify this situation, Chicora has revised the site boundaries at 38GE294 and 38GE295 to incorporate the prehistoric remains and to use 38GE296 only to refer to the site north of the River Road causeway and adjacent to the North Oatland drainage. First, it will be helpful to briefly review Lepionka's survey results.

The prehistoric component, eventually defined as 38GE296, was noted by Lepionka during his 1984 survey, at which time prehistoric sherds were found eroding from a borrow pit wall. Subsequently, Tom Hunter informed Lepionka that a "pot" had been found during dike repairs. Although the accounts are sketchy and Lepionka (1984:27) places the pot in the swamp, it seems more reasonable to believe that the vessel came from one of the borrow pits. Lepionka (1985:26-27) does not specify what became of the vessel. Although only 17 sherds were

collected from the site, Lepionka notes that the area "definitely deserves consideration for intensive study" (Lepionka 1984:27). By 1985, the Oatland Settlement (38GE294) and Oatland Industrial (38GE245) sites had been identified through further development clearing, but little was added to the previous comments. Lepionka briefly mentions, "that a sizeable prehistoric site is present bordering the slough back of the [Oatland Settlement] site area" (Lepionka 1985:23).

The 1986 study notes that little work was conducted in the site area and that "the prehistoric element is in general rather thinly dispersed, hence not readily ascertainable in posthole or small shovel tests" (Lepionka 1986:105). Lepionka notes that prehistoric material was eventually found on the study peninsula (associated with 38GE294 and 38GE295), on the shoreline north of the causeway over South Oatland drainage, and on the east and west shores of Turkey Hill Island (Lepionka 1986:106). Curiously, Lepionka recognizes that the prehistoric material is associated with bluff edges overlooking the various swamps, but chooses to lump all of these dispersed loci into one site encompassing over 3200 linear feet (1985 linear meters) of non-contiguous shoreline. The justification for this approach is stated as,

> [t]here is no unequivocal evidence, however, that these narrow waterways are separating culturally or temporally distinct occupations, and all known loci clearly indicate an adaptation to the same general landscape. The known loci represent a common research problem that is best addressed as a single unit, including the determination of spatial continuity between them (Lepionka 1986:106).

Lepionka then proceeds to consider the prehistoric material from all of these areas as one site, 38GE296 (Lepionka 1986:106-110). The result of Lepionka's consolidation is that the site, 38GE296, is eligible for inclusion in the National Register.

I have chosen to limit the definition of 38GE296 to only the area of about 1200 feet along the bank of the North Oatland drainage, north of the River Road causeway over the South Oatland drainage. Prehistoric assemblages at other loci are considered as part of previously defined sites. Consequently, site 38GE296 does not occur on the peninsula west of South Oatland Creek. Since the prehistoric components of sites 38GE294 and 38GE295 have not been previously considered, they will be briefly detailed at this time.

At site 38GE294 the prehistoric component is found from the borrow pit south of River Road southward for about 500 feet with the density perhaps increasing to the south (referred to as the "East Locus" by Lepionka 1986:84 and incorrectly as the "West Locus" by Lepionka 1986:83). This site has produced 73 sherds and 10 lithic specimens, including examples of Refuge, Deep Creek, Deptford, Mount Pleasant, and Pee Dee sherds (Table 16). This collection suggests occupation ranging from about 1000 B.C. (Refuge) to about A.D. 1400 (Pee Dee), with a relatively strong late Early Woodland Deep Creek occupation (ca. 500 B.C. - A.D. 500). Lithic specimens include two rhyolite flakes, one quartz flake, two chert flakes, and five quartz cobble fragments. Based on Lepionka's concern that significant deposits of prehistoric material might be adjacent to the South Oatland drainage, these investigations excavated a series of 10 shovel tests beginning at the borrow pit south of River Road and continuing southward at 20 foot intervals. Only six sherds were encountered in these tests. While 38GE294 is eligible because of its historic component, the prehistoric component does not appear to be a significant aspect of the site.

At site 38GE295 the prehistoric component,based on surface collections, is somewhat more concentrated, with 68 sherds recovered (58.8% of which are identifiable), although the identified types are very similar to those from 38GE294. Prehistoric pottery includes Refuge, Deep Creek, Mount Pleasant, and Pee Dee series (see Table 5). At this site, again, the prehistoric remains do not appear to be sufficiently dense to suggest a significant prehistoric component.

As previously discussed, site 38GE296 is now defined as that area along the edge of the swamp adjacent to North Oatland Creek, north of the River Road causeway over South Oatland Creek. The site, which incorporates about 5.5 acres (2.2 hectares) of land, is situated on the somewhat excessively drained Wakulla sandy soils immediately overlooking the swamp environment. The site, when originally discovered by Lepionka, was divided into three loci (south, central, and north) with these areas generally correlating with slightly higher elevations and intermediate areas of slightly less well drained soil. Over the entire area was a very thin scatter of historic remains, although Lepionka noted several brick piles at the south end of the site, adjacent to the South Oatland drainage (Lepionka 1986:110). Associated with the prehistoric remains were small quantities of clam (Mercinaria mercinaria).

The prehistoric remains recovered from the site are Early Woodland Deptford and Deep Creek, although small quantities of both the Middle Woodland Mount Pleasant and South Appalachian Mississippian Pee Dee series are present (Table 17).

	38GE294		38GE295	
Refuge Plain	3		3	
Simple Stamped	3		-	
	6	8.2%	3	4.4%
Deep Creek Plain	6		15	
Cord Marked	3		2	
Fabric Impressed	19		2	
Simple Stamped	--		1	
UID	3		2	
	31	42.5%	22	32.4%
Deptford Check Stamped	7		--	
	7	9.6%	--	---
Mount Pleasant Plain	4		2	
Cord Marked	1		9	
Simple Stamped	--		1	
	5	6.8%	12	17.6%
Pee Dee Complicated Stamped	1		3	
	1	1.4%	3	4.4%
UID/Small	23		28	
	23	31.5%	28	41.2%
Totals	73		68	

Table 16. Prehistoric sherds from 38GE294 and 38GE295.

Lithics at the site include 11 rhyolitic flakes, one quartz flake, one battered rhyolitic core, and two quartz cobble fragments. The rhyolitic materials are probably from the upper coastal plain or piedmont, while the quartz cobbles appear to have been collected from nearby river sources and were used to produce core tools. Finished bifaces occasionally occur which retain the cobble cortex on one or both faces and this manufacturing technique, ideally suited to a stone-poor area, is very common at southeastern coastal North Carolina sites (cf. Loftfield 1979:68).

The historic component includes creamware, pearlware, whiteware, yellow ware, Jackfield, Kaolin pipe stems, bottle glass, window glass, and kettle fragments. The quantity of remains is too small and the distribution is too dispersed to definitely indicate the presence of any intensive, domes

Deptford Check Stamped	7		
		7	3.0%
Deep Creek Cord Marked	4		
Fabric Impressed	50		
Simple Stamped	1		
UID (eroded)	6		
Plain	15		
		76	41.8%
Mount Pleasant Cord Marked	4		
Fabric Impressed	7		
Simple Stamped	3		
Plain	9		
		21	11/5%
Pee Dee Complicated Stamped	23		
		23	12.6%
UID	55		
		55	30.2%
Total	182		

Table 17. Prehistoric sherds from 38GE296.

site. There are at least two possibilities to explain this scatter. It may be refuse associated with 38GE297, or there may have been a single structure, perhaps representing a floodgate tender, at the edge of the marsh in the vicinity of the brick rubble reported by Lepionka from his earlier surveys.

Lepionka considered the central loci of this site to represent a concentration of particular note and indicated that further work should be conducted along the bank. Subsequent to Lepionka's 1986 survey, but prior to the 1987 work by Chicora, the logging debris on this site had been bulldozed into three piles roughly centered on the three site loci and had been burned. As a consequence, the site has suffered major damage from equipment operation and erosion resulting from the ground clearing operations. While the quantity and quality of the remains coming from this site tend to support Lepionka's original significance assessment, the damage to the site's integrity is so severe that the site is not judged to be eligible for inclusion in the National Register.

Turkey Hill Mainland Site, 38GE297

This site is situated on a sandy ridge running parallel to the North Oatland Creek and about 1600 feet (500 meters) north of the River Road causeway over South Oatland Creek (Figure 17). The site is located immediately north of the posited dike and ditch property boundary between Willbrook (to the south) and Oatland plantations. The site was located about 300 feet (90 meters) too far to the north by Lepionka (1986) who assumed that the property ditch ran E-W. The correct orientation, however, is N50° W, which places the boundary about 400 feet (120 meters) further to the south. The site measures about 500 by 175 feet (150 by 50 meters), somewhat larger than Lepionka's (1986:111) 200 by 200 feet (60 by 60 meters) estimate. The current site size incorporates the complete scatter of the site, which is clearly linear, tending northeast-southwest. The site boundaries closely correlate to the 10-foot (3-meter) MSL elevation.

Lepionka, during his 1986 survey, noted "[t]wo brick rubble piles (ca. 6' x 6', 1 foot high)" which were "purposely avoided in clearing" (Lepionka 1986:111). These piles were tested using unspecified techniques and unit sizes, and a series of posthole tests were excavated at 50-foot intervals. Based on this limited work, Lepionka claimed that the brick piles "are destroyed" and that the area "had been cleared and plowed, with loss of much of its integrity" (Lepionka 1986:111). Unfortunately, there are no fieldnotes from this work and Lepionka offers no basis for his conclusions.

By the time of the 1987 survey, this site evidences considerable construction related damage. Not only had the area been cleared of understory vegetation, but push piles had been created and the debris was burned in several areas. There was considerable evidence of equipment operation and there was a heavily disturbed area running through the long dimension of the site. There was a considerable surface exposure of artifacts, and it was clear that whatever might have been present in this central area was probably destroyed. A series of 15 shovel tests were excavated southwest-northeast just west (toward the road) of this centrally disturbed area (Figure 17). The tests were placed at 25-foot intervals and soil was screened through 1/4-inch mesh. These tests revealed considerable soil disturbance, typical of bulldozer activity, with organic debris found deep in the profile and the soil considerably compacted. A shell scatter and a brick and shell scatter found in this transect were both heavily disturbed. The area east of the central disturbance was tested with six shovel tests, all of which revealed a dense, relatively undisturbed site. There was no evidence of plowing and disturbance from clearing was entirely superficial. There was evidence of a brick pile in this area that had been spread out

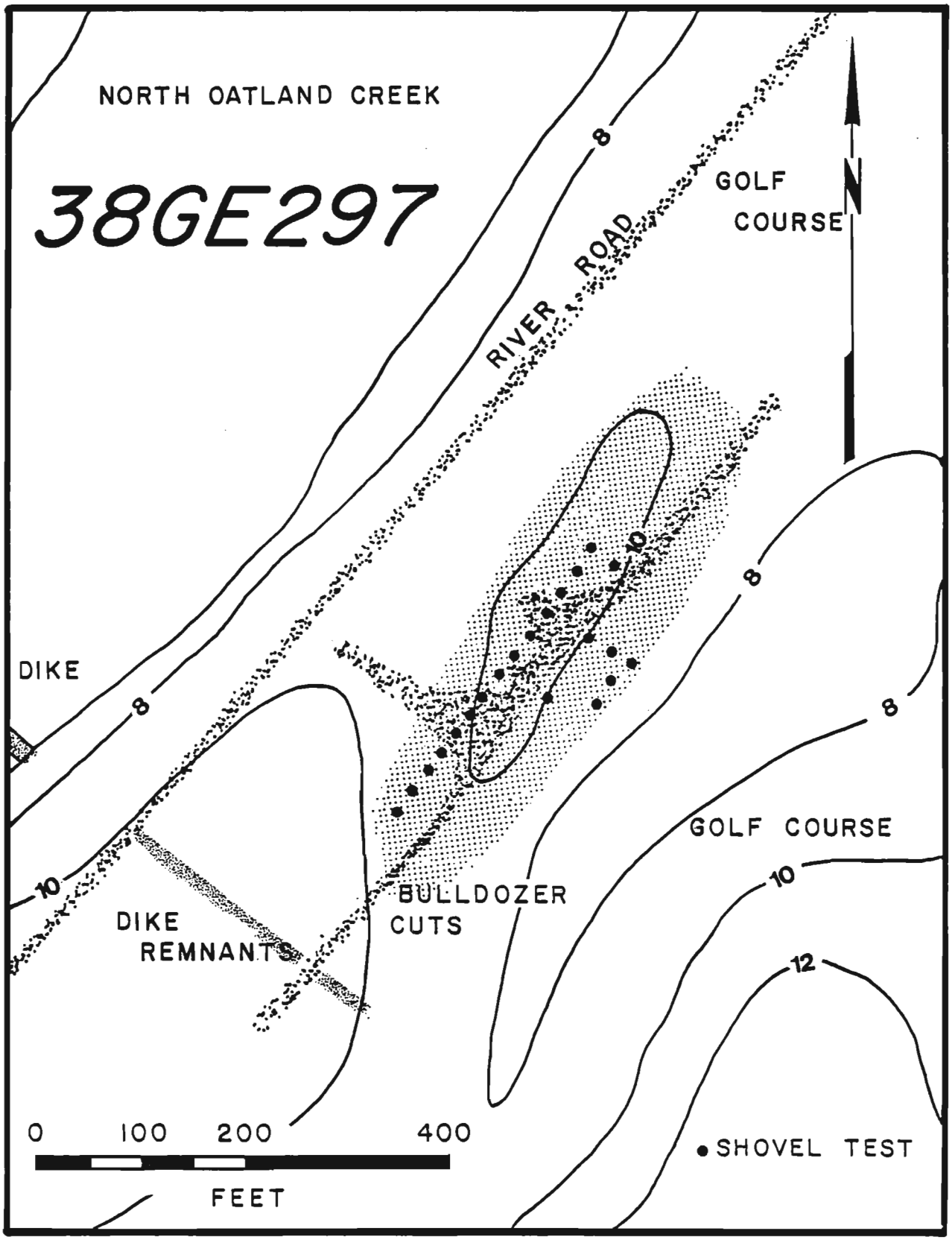


Figure 17. Turkey Hill Mainland site, 38GE297.

by bulldozer activity. Articulated brick and abundant mortar with brick fragments were observed.

The artifacts from both the shovel tests and surface collections are listed in Table 18. Although the large proportion of items from the surface collection in the sample from this site shows the pattern analysis, the entire collection is similar in composition to a slave site. An examination of the ceramics recovered (Table 19) reveals a predominance of undecorated, annular, and edge decorated wares, all typical of nineteenth century slave settlements. The mean ceramic date (South 1977) for this site is 1848.6, earlier than speculated by Lepionka (1986:112) , and clearly antebellum.

This site appears to represent a nineteenth century slave row associated with Turkey Hill Plantation, based on its date and assemblage. The small quantity of Colono ware is consistent with the site function and relatively late date. The site can be correlated with the historical record; the 1850 slave schedule reveals that Turkey Hill contained 114 slaves, and, by 1860, there were 87 slaves and 20 slave houses. There is no question that the site integrity has diminished since Lepionka's 1986 work, although his study is insufficient to

KITCHEN				
	Ceramics	129		
	Colono ware	12		
	Glass bottle	35		
	Container (can)	1		
	Stove part	1		
	Kettle part	4		
			182	93.8%
ARCHITECTURE				
	UID nails	5		
	Machine cut nails	3		
			8	4.1%
ARMS				
	Rifle trigger and guard	1		
			1	0.5%
TOBACCO				
	Kaolin pipebowls	2		
			2	1.0%
ACTIVITIES				
	UID iron	1		
			1	0.5%
	Total Artifacts		194	

Table 18. Artifacts recovered from the Turkey Hill Mainland Site, 38GE297.

Ceramic Type	Mean Date (xi)	# (fi)	fi · xi
Brown salt-glazed stoneware	1860	4	7440
Jackfield	1760	1	1760
Creamware, undecorated	1791	4	7164
Pearlware, undecorated	1805	7	12635
annular	1805	2	3610
edged	1805	1	1805
cable	1805	1	1805
blue hp	1800	1	1800
blue tp	1818	1	1818
Whiteware, undecorated	1860	40	74400
annular	1866	15	27990
edged	1853	28	51884
poly hp	1848	3	5544
blue tp	1848	3	5544
		111	205199

207199 divided by 111 = 1848.6

Table 19. Mean ceramic date for the Turkey Hill Mainland Site, 38GE297.

establish integrity at that time. An area, representing perhaps 30-40% of the original site, has been identified which still exhibits integrity and which has a varied and dense artifact distribution. This site is significant in understanding the range and diversity of slave lifestyles through time and between nearby plantations. As a consequence, in spite of damage to the site, it is recommended as eligible for inclusion in the National Register.

Since there is a relatively small area of this site still intact, it seems more reasonable to recommend mitigation than to suggest an attempt at green spacing or preserving through restrictive easements. The remnant of this site may be expediently examined using dispersed 5-foot units designed to locate the most undisturbed section of the site and block excavations to obtain a representative sample of the site.

38GE298, Turkey Hill Island East Settlement

This site is situated immediately west of the causeway entrance to Turkey Hill Island and, according to Lepionka (38GE298 site form, on file at the South Carolina Institute of Archaeology and Anthropology), covers an area of about 400 by 250 feet (125 by 75 meters). The site seems to be confined to

a broad flat area just south of the dirt road leading to the rice fields on the northwest edge of the island. Artifacts were originally found in the road and in a small borrow pit (presumably used for construction of the causeway), but Lepionka excavated a series of 9 (numbered 1-8,11) 3-foot (0.9 meter) squares in the site area. These units were not tied to any horizontal or vertical control and unit forms can be found for only eight of the tests. Excavation depths varied from 0.7 to 1.2 feet (0.2 to 0.4 meter) in depth and the historic artifacts were largely the upper foot (0.3 meter) of the soil. One test (Unit 1) contained an intrusion which might be a feature or a tree stain. Other units, particularly in the broad flat area, produced bricks and light shell remains. Because of time limitations no additional survey work was conducted at this site by Chicora.

Lepionka (1986:114) indicates that at least three brick rubble clusters are present at this site and each of these is assumed to represent a specific structure (Tests 3 and 5 are in the vicinity of Structure 1, Test 8 is in the vicinity of Structure 2, and Test 11 is adjacent to Structure 3). It appears that these structures form a row parallel to the existing dirt road and oriented northwest-southeast. The artifact pattern analysis reveals, curiously, a pattern not dissimilar to the Carolina Artifact Pattern (South 1977) (Table 20), although the sample is very small. The specimens, including the plain and annular wares (Table 21) and the blue faceted glass bead, are indicative of a slave assemblage and it seems likely that a larger, more representative, collection would resemble a slave pattern. The mean ceramic date for the site is 1853; there is only a 4.2 year difference in the mean ceramic dates for the Turkey Hill Mainland Settlement (38GE297) and this site, which suggests that the two sites were contemporaneous. With the 1860 slave schedule indicating a total of 20 houses, it is possible that there were two slave rows.

The prehistoric collection from this site includes primarily the Early Woodland Deptford and Deep Creek ceramic series (n=9) although small quantities of the early Refuge (n=6) and later Mount Pleasant (n=2) wares are also present. Small, unidentifiable sherds account for 53% of the collection (n=19). Lithic specimens include 33 rhyolitic flakes.

Lepionka recommended the site as not eligible because it was thought to represent,

> a poorly preserved example of a common type of site. Structural remains have been largely destroyed or totally removed . . .

KITCHEN				
	Ceramics	84		
	Glass bottle	32		
	Container (can)	5		
	Kettle frag	1		
	Colono ware	2		
			124	56.1%
ARCHITECTURE				
	Window glass	9		
	UID nails	54		
	Machine cut nails	12		
	Spike	1		
			76	34.4%
ARMS				
	Lead shot	1		
			1	0.5%
CLOTHING				
	Buttons	4		
			4	1.8%
PERSONAL				
	Bead	1		
			1	0.5%
TOBACCO				
	Kaolin pipestem	4		
	Kaolin pipebowl	1		
			5	2.3%
ACTIVITIES				
	UID iron	6		
	UID brass	1		
	Hoe	1		
	Gig	1		
			10	4.5%
	Total Artifacts		221	

Table 20. Artifact Pattern analysis of the Turkey Hill Island East site, 38GE298.

Ceramic Type	Mean Date (xi)	# (fi)	fi · xi
Brown salt-glazed stoneware	1860	3	5580
Creamware, undecorated	1791	1	1791
overglaze hp	1788	1	1788
Pearlware, undecorated	1805	4	7220
annular	1805	2	3610
Whiteware, undecorated	1860	48	89280
annular	1865.5	5	9327.5
edged	1853	5	9265
non-blue tp	1850.5	1	1850.5
poly hp	1848	3	5544
sponge	1853	1	1853
Yellow ware	1853	4	7412
		78	144521

144521 divided by 78 = 1852.8

Table 21. Mean ceramic date for the Turkey Hill Island East Site, 38GE298.

> there is a generic artifact scatter throughout the tested part of the site area, and part of the natural soil stratigraphy has been removed by earlier land clearing or possible by erosion when under cultivation (Lepionka 1986:118).

It is worthwhile to examine each of these comments as part of this reassessment. First, it is unlikely that the structures predicted at this site will evidence significant structural remains; many slave cabins, even in the nineteenth century, were poorly constructed and contained a minimal amount of durable material. More to the point, testing (as mentioned by Lepionka in his 1985 study) at the site has been limited, probably too limited to indicate the integrity of structural remains or the site in general. Second, although it is difficult to interpret the meaning of Lepionka's phrase "a generic artifact scatter," it seems clear that there are clusters of both domestic and architectural refuse, so "scatter" insofar as it implies a lack of discrete loci, is probably incorrect. Likewise, as previously discussed, the specimens resemble the assemblage expected from an antebellum slave site, not a postbellum site as suggested by Lepionka (1986:117). Finally, the fieldnotes for this site suggest that the units lacking a humic A zone are all in the vicinity of the borrow pit at the southeast edge of this site and the notes offer the suggestion that the lack of humic soil may be related to the borrow activities. Elsewhere the site seems to exhibit a normal soil profile and there is no evidence in the notes of stripping or erosion. Examination of U. S. Department of

Agriculture aerial photographs back to November 1939, have failed to reveal any agricultural activity on Turkey Hill Island. The vegetation in the photographs remains unchanged and it is likely that no cultivation or logging took place on the island in the twentieth century.

Based on this limited review, I must respectfully disagree with Lepionka's assessment and recommend the site eligible for inclusion in the National Register. The historic component at the site is thought to represent a second late antebellum slave row associated with Turkey Hill. This site appears to be contemporaneous with the Turkey Hill Mainland Settlement (38GE297) and also exhibits a greater degree of integrity. While both sites are recommended as eligible, 38GE297 deserves less intensive investigation than this site.

The Turkey Hill Island East site (38GE298) would be destroyed by the construction of the Willbrook Island marina and there appears, based on the Conceptual PUD Master Plan, no way to preserve this site. Because the testing at 38GE298 has thus far been limited, I recommend an intensive auger testing program at the site area, followed by the block excavation of two structures to allow a better understanding of intrasite patterning.

38GE299, Turkey Hill Plantation

This site, referred to by Lepionka as "Turkey Hill Island West," is situated on a broad, flat terrace overlooking the rice fields at the northwest edge of Turkey Hill Island. There is a short canal from the bank of the island running northwestward which provides direct access not only to other rice field ditch systems, but also to the Waccamaw River (see the section of this study by Watts and Hall). Elevations at the site range from about 14 to 19 feet (4.3 to 5.8 meters) MSL and the vegetation includes a mixed hardwood stand at least 50 years old, and probably up to 75 years in age. Because of bush-hogging by The Litchfield Company over the past two years there is little herbaceous understory vegetation.

Lepionka (1984:31) identified the site through information provided by a local informant, who "noted that his father had said that at one time there were remnants of a brick stairway up the bluff." Lepionka found no evidence of these stairs, but did identify a scatter of artifacts in the dirt road. No structural remains were noted during this survey. The artifacts collected, according to Lepionka (1984:32), represented a "rather mixed batch . . . best placed at mid-nineteenth century." The site was recommended for more extensive testing. The 1985 study reiterated the earlier assessment. In the 1986 study Lepionka reports further work, including the excavation of,

> [s]ix . . . 18" x 18" shovel tests . . . made at random across an area approximately 150' x 150' centered between the positions of the two known structures . . . . A posthole transect at 25 foot intervals along the line of the canal and a second one perpendicular to the first (see survey Map 11) were made, with no results except for occasional shell and small brick fragments (Lepionka 1986:119).

Lepionka's (1986:113) Survey Map 11 illustrates the work with Tests 1-3 in a row southwest of the canal's extension onto the highland and Test 4-6 in a row to the northeast. The June 27 and September 27, 1985 field notes, however, provide a different account of the work, which included one posthole test southeast of the road opposite the canal, three 1-foot shovel tests northeast of the road and south of the canal, and a single surface collection area in the vicinity of a brick pile. This disparity between the published record and the field notes is of considerable concern; based on Chicora's 1987 study it appears that the field notes are a more accurate indication of the work performed than is the final study.

Lepionka attempted to transpose the two structures shown on the 1919 plat (Figure 8) to the survey base map, although he fails to note that the plat is inaccurate in a number of features. Because the north structure is shown "on the steep slope of the bluff" Lepionka concludes that there has been "serious erosion at the bluff edge" and that "part of the house area has been lost" (Lepionka 1986:120-121). This does not seem to be the case. The rice fields, not being normally flooded, provide no erosive effects and it is more likely that the structures are shown on the 1919 plat in only approximate locations. There are, in fact, brick rubble piles which represent these two structures, although it is very unlikely that either one was the main plantation house (they probably represent subsidiary structures, which tend to stand longer than plantation houses).

Because of the limited surface visibility, the large potential site area, and the significance of the Turkey Hill Plantation complex, it was decided in 1987 to conduct an auger survey of the posited site area. A permanent datum was established inland from the centerline of the Willbrook Canal and the auger test grid was oriented 90 to the canal and roughly parallel to the bank. Although Lepionka (1986:119) suggested that the complex had "for aesthetic purposes been built in a location where it faced directly down the canal," the topography of the area revealed a more suitable location to the southwest of the canal. As a consequence, the auger tests, at 25 foot intervals, were excavated 100 feet to the northeast

and 200 feet to the southwest. They were continued 200 feet inland. This grid incorporated a total of 118 tests over an area of 1.4 acres. The tests were conducted with a two-person power auger fitted with a 12-inch (30 centimeter) bit. As a consequence, the sample fraction is 0.002%. Figure 18 indicates the placement of these tests, while Figures 19 and 20 plot the density of historic artifacts and brick rubble weights.

This work reveals that the plantation complex is, as thought, southwest of the canal, although the auger tests did not extend far enough to the southwest to incorporate the entire site. There is a single, dense scatter of artifacts at the southwest edge of the examined area which correlates with one, possibly two, brick concentrations. Two additional brick concentrations are also found to the north and northeast, each probably representing a small support structure. This mapping clearly reveals areas worthy of future investigation and also that additional survey to the southwest is warranted.

The artifacts recovered from this work are presented in Table 22. The artifact pattern analysis bears no resemblance to any known archaeological pattern probably because the collection represents an artificial assemblage collected from over a variety of site areas. The collection, however, can reveal some information concerning the nature of the site. It is clear that it represents a domestic assemblage associated with fairly substantial structures. It is possible that a small Afro-American component (perhaps representing house servants) may be present, based on the Colono ceramics and bead. The Colono pottery, however, would also be expected in a kitchen context. The Activity artifacts, if the 11 unidentified iron objects are not included, represent only 1.9% of the collection; this plantation complex may not have included a "technical nucleus." Examination of Table 23 reveals primarily higher status ceramics; only two annular wares are included.

The mean ceramic date for this site is 1806.5 (Table 23), although there is evidence of occupation into the late antebellum. The absence of metallic banded, tinted or decalcomania whiteware suggests that the site was not occupied into the last decade of the nineteenth century. The historical data for this site indicates that it was occupied by 1784 and possibly as early as 1766. Based on the historical events surrounding the tract, it seems possible that the plantation was not settled again after the Civil War, which would yield a mean historic date between 1813 and 1822. The mean ceramic date suggests that the site was first occupied even earlier than 1766.

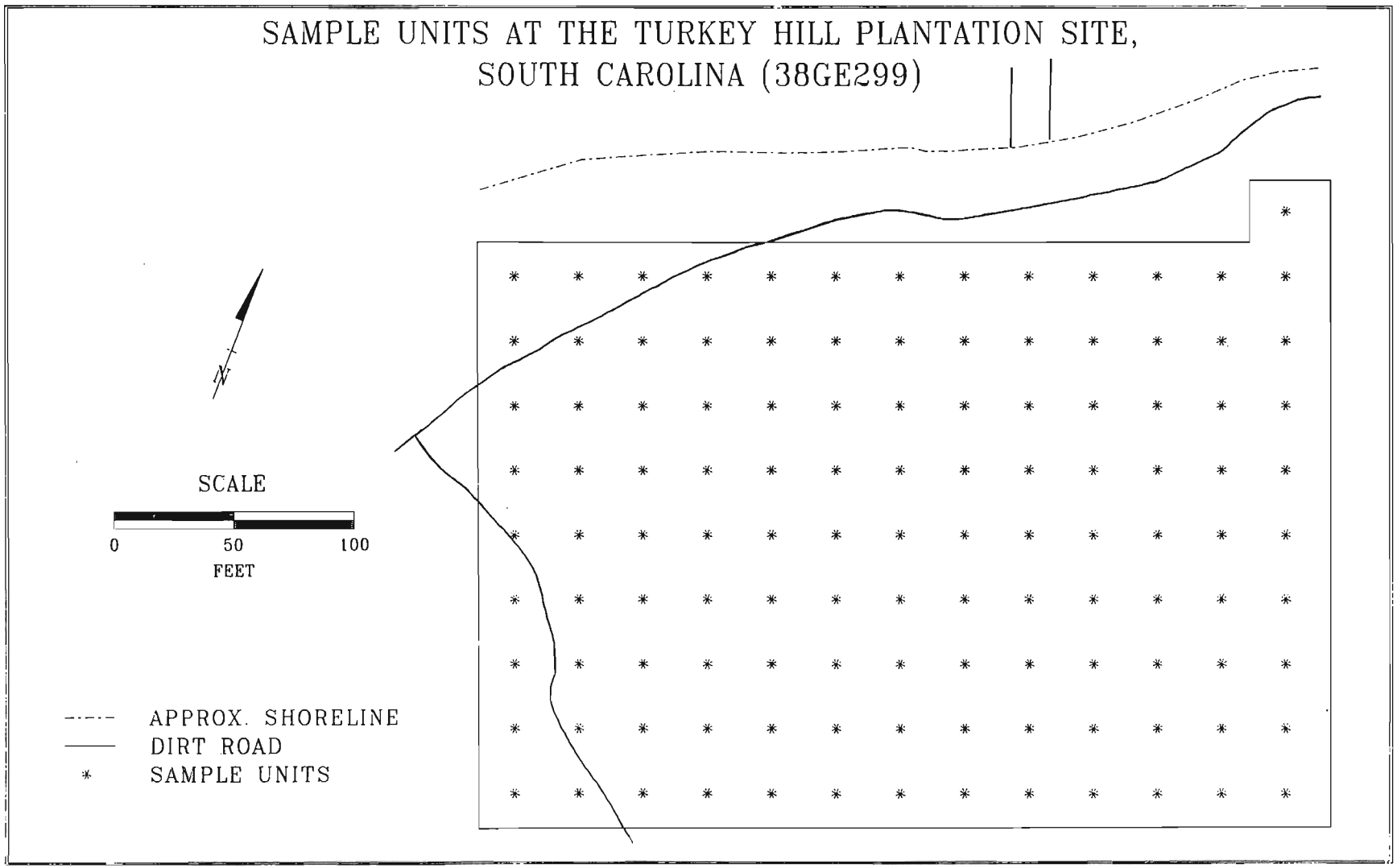


Figure 18. Turkey Hill Plantation auger tests, 38GE299.

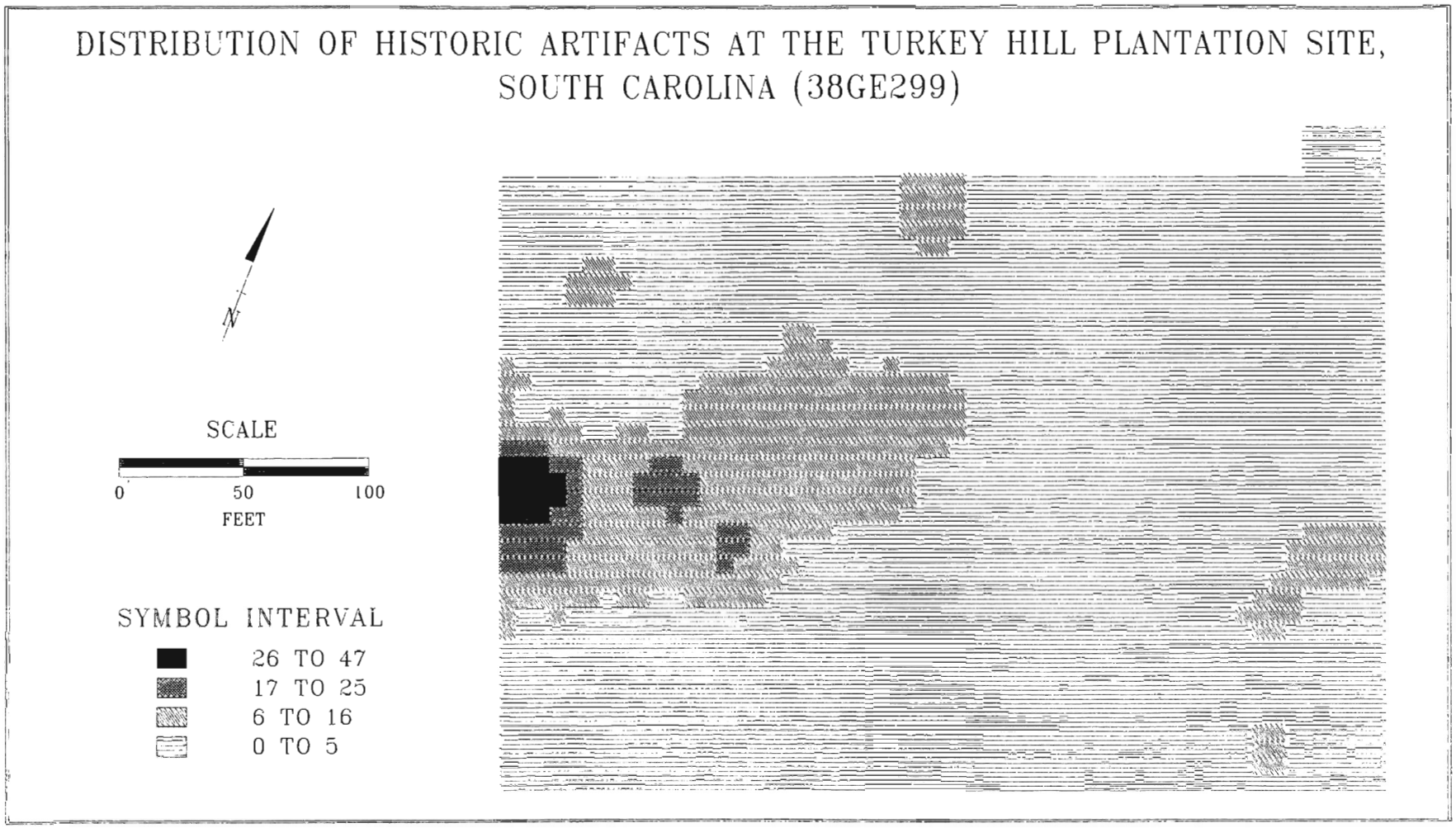


Figure 19. Distribution of historic artifacts at Turkey Hill Plantation, 38GE299.

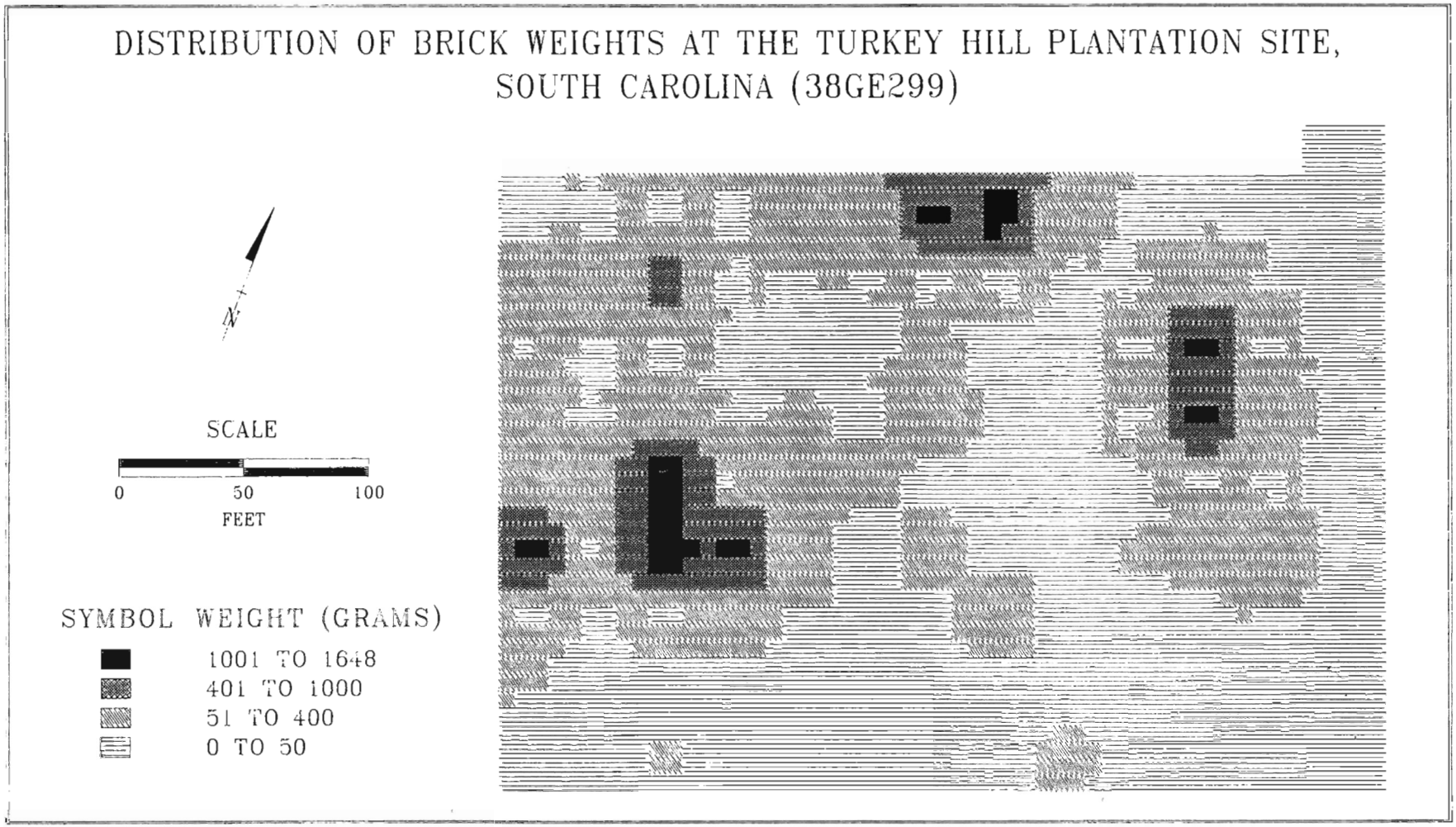


Figure 20. Distribution of brick at Turkey Hill Plantation, 38GE299.

The auger tests at Turkey Hill Plantation also revealed a fairly uniform scatter of prehistoric ceramics and lithics, including Refuge (n=2), Thom's Creek (n=2), Deep Creek (n=6), Hanover (n=1), and Mount Pleasant (n=7) wares.

This site appears to possess excellent integrity, in fact the auger tests identified one area of articulated, subsurface brick and another area of poured tabby plaster flooring. The density maps clearly reveal that the site has not been subjected to significant erosion or cultivation; in fact, it is unlikely that this site was ever plowed. The artifacts appear to represent a plantation complex, including the high status main house, which was occupied in the eighteenth and nineteenth centuries, but which was abandoned sometime shortly after the Civil War. The site is eligible for inclusion in the National Register.

The Conceptual PUD Master Plan shows this portion of Willbrook Island used for single family lots. Since the site covers at least 3 acres of marsh front property, it seems unlikely that preservation through either green spacing orprotective easements will be possible. Excavation of this site will probably be necessary and this work should be proceeded by a more extensive auger survey. With this survey completed it will be possible to further explore support structures and conduct a block excavation of the main house area in a cost effective manner.

38GE300, Allston Cemetery

This site is situated on a small, level terrace overlooking the rice fields at the north edge of Turkey Hill Island. The soils are the excessively drained Lakeland sands and the site elevation is about 12 feet (3.7 meters) MSL. There is a dirt road running to the cemetery off the main Turkey Hill Island access road. The vegetation is primarily live oak, although there are a few pines and other hardwood. The understory vegetation has largely been removed by the developers, although the cemetery had been allowed to grow up in saplings and herbaceous vegetation (including poison ivy).

Lepionka, while recording the cemetery, had largely relied on Galbraith's (1909) study of the cemetery, which was oriented toward the collection of genealogical information. As a result, Chicora's study incorporated the complete clearing of the cemetery, accurate transcription of all readable stones, general photographic recordation, production of a cemetery map (Figure 21), and measuring the various stones. Most of this information is not included in this report, but is on file at the curatorial facility.

KITCHEN		
Ceramics	56	
Colono ware	85	
Glass bottle	79	
Melted Glass	1	
Pot Lid	1	
Container	2	
	224	45.8%
ARCHITECTURE		
Screws	3	
Window glass	41	
UID nails	93	
Machine cut nails	69	
Hand cut nails	10	
Wire cut nails	2	
	218	44.6%
FURNITURE		
Brass tack	1	
	1	0.2%
ARMS		
Gunflint	1	
	1	0.2%
CLOTHING		
Button	1	
Buckle	1	
	2	0.4%
PERSONAL		
Bead	1	
	1	0.2%
TOBACCO		
Kaolin pipestem	18	
Kaolin pipebowl	4	
	22	4.5%
ACTIVITIES		
Drainage tile	1	
Decorative brass	1	
Drive hook	1	
Iron rod	1	
Nut	1	
Bolt	1	
Strap metal	3	
UID iron	11	
	20	4.1%
TOTAL ARTIFACTS	489	

Table 22. Artifact pattern analysis of Turkey Hill Plantation, 38GE299.

Ceramic Type	Mean Date (xi)	# (fi)	fi·xi
Porcelain, Canton	1815	11	11965
Brown salt-glazed stoneware	1860	6	11160
Westerwald stoneware	1738	1	1738
White salt-glazed stoneware	1763	4	7052
Black basalt stoneware	1785	1	1785
Nottingham	1755	1	1755
Jackfield	1760	1	1760
Whieldon, tortoiseshell	1755	2	3510
Leadglazed slipware	1733	10	17330
Delft, undecorated	1720	8	13760
decorated	1750	2	3500
Creamware, undecorated	1791	22	39402
, hp overglaze	1788	3	5364
Pearlware, undecorated	1805	8	14440
blue hp	1800	4	7200
polychrome hp	1805	2	3610
edged	1805	5	9025
Whiteware, undecorated	1860	30	55800
blue tp	1872.5	4	7490
edged	1853	1	1853
annular	1865.5	2	3731
		128	231230

231230 divided by 128 = 1806.5

Table 23. Mean ceramic date for Turkey Hill Plantation, 38GE299.

The cemetery is enclosed by a brick wall measuring 75.3 feet (23.2 meters) north-south by 56.9 feet (17.5 meters) east-west, oriented N77 W. The entrance, 5.8 feet (1.8 meters) in width is roughly centered on the south wall. There are two columns at this entrance and evidence that an outward opening gate was mounted on the east column. The wall is constructed to a level height, varying from about 3 feet (0.9 meter) to included three flakes, one quartz cobble tool, and a small Savannah River Stemmed projectile point. The bricks are hand made, with shell mortar in generally good condition, although the wall, and particulary the capping, is very poorly repointed with a hard portland cement. The wall evidences American Common Bond, found rarely in the eighteenth century, being more common in the nineteenth century.

Inside the walls there is a central row of graves representing two families: Benjamin Allston, Sr., and William Allston, Jr. At the gate is a cluster of four graves, including the most impressive in the cemetery, an obelisk to Benjamin Allston, Sr. (1765-1847), and stones to his wife (Mary Charlotte Allston) and two daughters (Ann E. Allston, d. 1814; Mary Charlotte Allston, d. 1802). Beginning just past the last grave of the Benjamin Allston family is a series of 11 graves (eight adults, two children), of the William Allston, Jr. family in strict order by date of death, beginning with the grave of William Allston, Jr. (d. 1780). Following are Benjamin Allston, Jr. (d. 1809), Elizabeth Ann [Allston] Tucker and her two infants (d. 1822), William Washington Allston (d. 1823), Charlotte Ann Allston (d. 1824), Charlotte Mary Allston (d. 1831), Mary Pyatt [Allston] Jones (d. 1836), and Charlotte A. [Allston] Coachman (d. 1847). To the east of this primary row are the graves of two children, presumed to be part of the William Allston, Jr. lineage. Also buried in the cemetery is Mary Latin Ward (d. 1806), the daughter of Josias and Elizabeth Ward. Along the east wall, separate from the other burials, is a brick barrel vault made from the same bricks as the wall, but with no markings. The cemetery contains few individuals who are directly associated with either Oatland or Willbrook; most are more closely related to the Brookgreen properties through William Allston, Jr. ("Gentleman Billy").

The monument to Benjamin Allston, Sr., erected shortly after his death in 1847 was engraved by the Charleston stonecutter W. T. White, who operated from at least 1829 to 1870 (Trinkley 1987a:39-40). The obelisk at Turkey Hill is very similar to a monument erected ca. 1854 at Hobcaw, just outside of Charleston in the Mount Pleasant area. This Hobcaw monument is estimated to have cost about $2000 (Trinkley 1987a:29-31). The other monuments include upright stones, stone slabs set on brick crypts, a stone slab set on six carved stone supports, and one crypt made from stone slabs which fit into grooves on four corner posts. In addition to W. T. White,

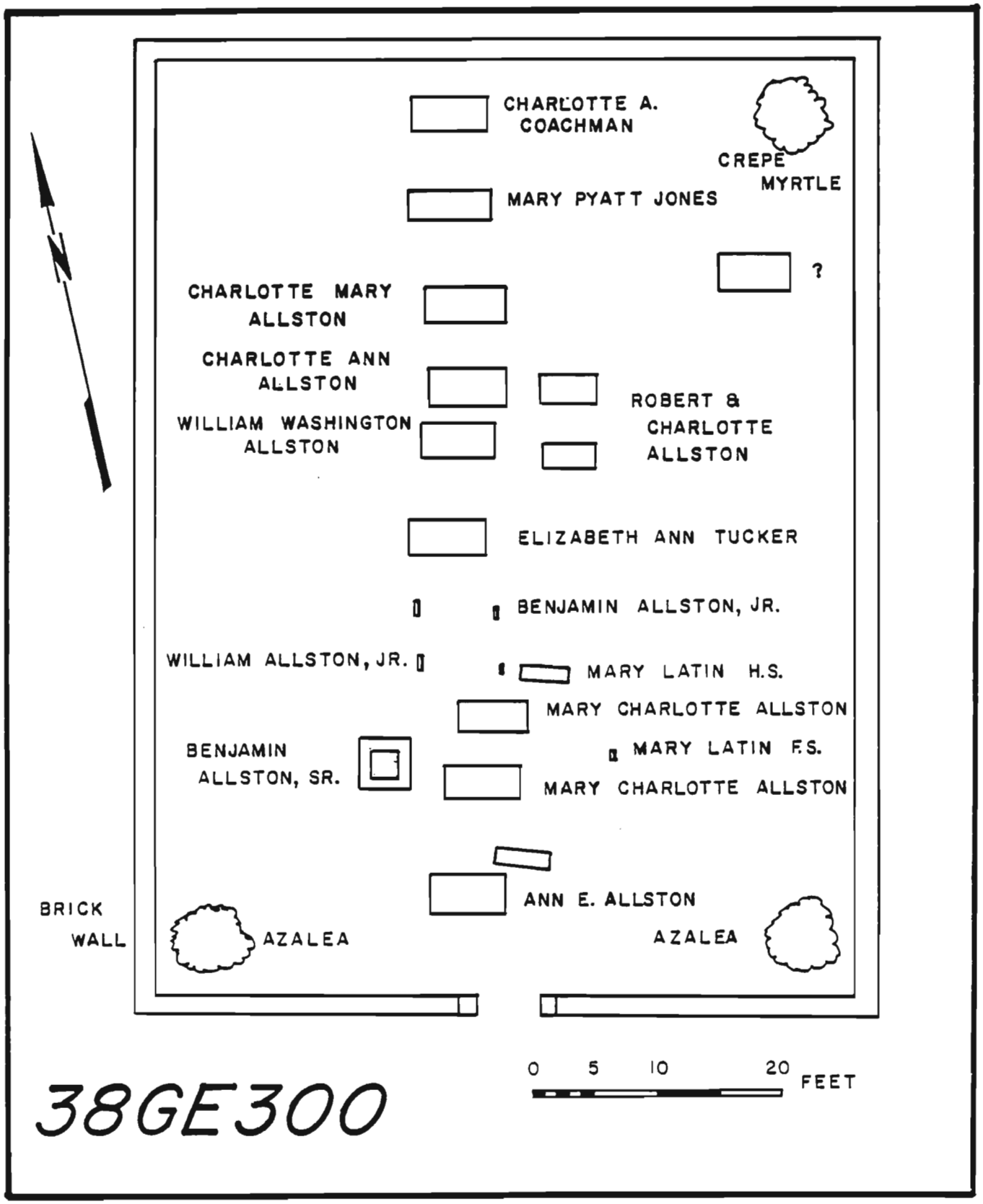


Figure 21. Allston Cemetery on Turkey Hill Island, 38GE300.

the Anne E. Allston (d. 1814) stone is marked simply "WHITE," probably John White of Charleston. If so, this is the earliest stone recorded for White, whose earliest advertisement found so far is in 1822 (Trinkley 1987a:38). The Charlotte Mary Allston (d. 1831) stone is signed by "JOHN WHITE." The use of his first name correlates with increased advertising on his part in Charleston as well as increased competition from both W. T. White and Thomas Walker. Also recorded in this cemetery is the work of James Traquair of Philadelphia (Mary Charlotte Allston, d. 18--stone and possibly the Charlotte Ann Allston, d. 1824 stone).

Lepionka (1986:121) commented that this site was not eligible because it is a cemetery. I have previously indicated that cemeteries can, in fact, be eligible to the National Register as bio-archaeological sites since they contain significant bio-archaeological and bio-historical data which cannot be obtained from any other source (see 38GE293, Oatland Cemetery). Consequently, it is my recommendation that this site is eligible for inclusion in the National Register. The preferred mitigation, of course, is preservation in place. Coupled with that, however, is the need to conserve the various stones, perhaps using a stone consolident and water-proofing compound, and repair those which have been damaged. This work should be conducted only by a professional conservator who is a member of the American Institute for Conservation. In addition, any future repairs to the cemetery wall should be more historically and architecturally sensitive. Reference should be made to the Association for Preservation Technology's repointing specifications, which outline proper procedures for historic masonry repair.

38GE301, Willbrook Tenant Site

This site is situated on the north end of a sand ridge, and is about 700 feet north of the southern Willbrook property boundary and about 500 feet east of Kings Highway. The area has been largely clear cut in the process of logging, although previously there was a mixed hardwood and pine stand with relatively little understory vegetation.

Lepionka (1984:28) notes that this site was found east of the powerline easement and was perhaps noted because of its association with two "sizeable brick falls, probably derived from foundation piers and possible chimneys." Surface collections were made (Lepionka 1984:28; see also Lepionka 1986:122) and Lepionka recommended that the site loci be tested "to determine their extent and to obtain a representative sample of contents" (Lepionka 1984:28). The site was not discussed in the 1985 survey and no further work was conducted in 1986, although by then Lepionka stated that the site was disturbed "by general land management," lacked integrity, and

represented "a very common species" of late nineteenth century tenant site (Lepionka 1986:122, 126).

I have previously emphasized the importance of sites such as this to fully document the postbellum era of the South (Trinkley 1983b). These sites were occupied by individuals largely forgotten by history and archaeological studies are our best hope for documenting the experiences of the common agricultural tenant during the late nineteenth century (see also McDaniel 1982; Owsley 1949). Unlike the Charleston and Beaufort areas, there is little known about the Reconstruction and postbellum agricultural reorganization of the Georgetown area, except as it relates to rice cultivation. Since 38GE301 was the only such site located by Lepionka on the entire tract, it might well have assumed considerable significance. This, however, has been made a moot point by the extensive heavy equipment operation which took place on the site subsequent to Lepionka's 1986 survey. The site has been extensively damaged and the brick piles noted by Lepionka have been pushed together in one large burn pile. In an attempt to locate any portion of the site still exhibiting integrity a series of 15 shovel tests were placed in an area 100 feet (30.8 meters) in diameter, centered on the brick pile area. These tests revealed no evidence of intact deposits, although the artifact density on the surface is very heavy.

The artifacts recovered from this site are detailed in Table 24. The collections from this site, however, are composed entirely of surface collections, so a pattern analysis is not appropriate. The recovered items are indicative of a fairly extensive domestic occupation, and the original spatial distribution tends to support the presence of at least two structures. The assemblage is too small to allow any clear conclusions to be drawn, but the presence of two flat irons and a millstone may indicate a fairly substantial and well equipped agricultural settlement. The ceramics from the site are typical of low status yeoman or tenant sites and Table 25 reveals a mean ceramic date of 1897.5. It was during this period that Clarence Lachicotte was living at Willbrook and was engaged in truck farming. No structures in the vicinity of this site are shown on the 1872 plat (Figure 7) and the 1939 aerial photography of the property (CDW-1-74; on file at the University of South Carolina Map Library) fails to reveal any structures. It seems likely that the Willbrook Tenant site was of short duration and may relate to Lachicotte's farming efforts from 1889 to 1926.

KITCHEN		
Ceramics	94	
Glass	62	
Melted glass	1	
Kettle	1	
Stove parts	8	
	166	89.7%
ARCHITECTURE		
Window glass	5	
UID nails	4	
Machine cut nails	3	
Hinge	1	
Lock box	1	
	14	7.6%
ACTIVITIES		
Irons	2	
Millstone frag	1	
Iron disk	1	
Sledge hammer head	1	
	5	2.7%
TOTAL ARTIFACTS	185	

Table 24. Artifacts recovered from the Willbrook Tenant site, 38GE301.

Although this archaeological site is no longer able to provide data on the late postbellum economic activities of Willbrook Plantation, and is not considered eligible for inclusion in the National Register, the future historical research conducted on the plantation, should explore these late activities through both written records and oral history. The importance of these tracts does not cease with the Civil War, but continues through the economic transformations of the mid-twentieth century. To date almost no information has been gathered on late nineteenth or early twentieth century sites of potential importance to the local black community, such as this "tenant" occupation (38GE301), the Oatland Cemetery (38GE293), or the Oatland Church (38GE361).

Ceramic Type	Mean Date (xi)	# (fi)	fi·xi
Porcelain, white	1883	7	13181
Whiteware, undecorated	1897.5	64	121440
later style tp	1885.5	1	1885.5
decalcomania	1925.5	1	1925.5
Ironstone/Whiteware, undecorated	1897.5	3	5692.5
decalcomania	1925.5	3	5776.5
		79	149901

149901 divided by 79 = 1897.5

Table 25. Mean ceramic date for the Willbrook Tenant Site, 38GE301 (mean dates are those suggested by Bartovics 1978:213).

38GE336

This site, identified during the 1987 studies, is situated on a broad, flat terrace overlooking South Oatland Creek to the east and a small tributary to the south. The soils are the well drained Chipley Series and site elevation is about 9 feet (2.8 meters) MSL. The vegetation is thought to have originally been a mixed hardwood forest, although it has now been completely stripped and the area largely grubbed. There is evidence of surface sheet erosion on the slope toward Oatland Creek and a recent drainage ditch has been cut east-west through the site to the creek. A north-south dirt road bisects the site. Based on the surface scatter of artifacts the site measures about 400 feet (123 meters) north-south and 300 feet (90 meters) east-west.

Materials recovered from this site include late eighteenth through mid-nineteenth century ceramics (creamware, pearlware, and whiteware), Colono ware (n=3), stoneware (n=1), and kaolin pipestems (n=2). The Mean Ceramic Date is 1803.1. This assemblage lacks both common low and high status ceramics (i.e., annular, transfer printed) and no other kitchen artifacts (such as glass) or architectural remains were present. As a consequence it is difficult to understand the function of this scatter, although it may represent an early nineteenth century domestic site, perhaps an overseer's structure. Unfortunately ownership and use of Oatland Plantation during this period is poorly understood. Also found on the site was a single eroded Deep Creek sherd.

Ceramic Type	Mean Date (xi)	# (fi)	fi·xi
Creamware, undecorated	1791	14	25074
Pearlware, undecorated	1805	56	101080
edged	1805	1	1805
blue hp	1800	1	1800
polychrome hp	1805	3	5415
Whiteware, undecorated	1860	1	1860
		76	137034

137034 divided by 76 = 1803.1

Table 26. Mean Ceramic Date for 38GE336.

This site, had it been found prior to he extensive construction disturbance, might have been a significant resource since it seems to be midway in status, is from a period with little documentary evidence on Oatland, and is somewhat isolated. The site, however, has been heavily damaged and there is little, if any, site integrity remaining. As a consequence, this site is recommended as not eligible.

38GE337

This site is situated on a pronounced, but small, sand ridge immediately adjacent to the rice fields and situated just south of a major trunk canal. The elevation is 10 to 11 feet (3.1 to 3.4 meters) MSL in an area of Chipley soils where the elevations are about 8 feet (2.5 meters). The site measures about 250 feet (75 meters) north-south and 100 feet (30 meters) east-west, based on both the initial surface collection and subsequent shovel tests. The vegetation is mixed hardwoods, although this has been altered by recent logging. The site consists of a thin prehistoric scatter, probably associated with the high sandy ridge, and an early eighteenth century historic site which served an unknown function on the Oatland Plantation.

The site is bisected by the dirt River Road, which provided the first evidence of cultural remains. To further explore the integrity of the site and establish site boundaries, a series of 13 shovel tests were excavated north-south, parallel to the bluff edge west of the road and a series of seven tests were excavated north-south, parallel to the bluff, but on the east side of River Road. These tests

revealed a thin scatter of prehistoric remains west of the road, including 10 small, unidentifiable sherds, two Mount Pleasant Plain, one Mount Pleasant Fabric Impressed, one Mount Pleasant Cord Marked, and two flakes. The surface collection included an additional flake and small sherd, as well as Deep Creek (n=2), Deptford (n=2), and Hanover (n=1) sherds. A single Small Savannah River Stemmed projectile point was also identified.

The historic remains are listed in Table 27. While the assemblage is spartan, it suggests a domestic site with some kind of permanent architecture. The low density, however, suggests a single, small occupation and the site's proximity to the canal may be related to its function. The Mean Ceramic Date is 1759.9 (Table 28), although it seems likely that the single sherd of whiteware may be a late introduction at the site. This site dates from the early period of Allston ownership when the three tracts were united under one owner. The absence of a greater quantity of Colono ware tends to suggest something other than a slave dwelling, although the data are insufficient to offer any explanations for the site's existence or function.

The shovel tests, not surprisingly, failed to identify any subsurface features, although they also failed to find evidence of disturbance. The site appears to have a humic zone of gray sand up to 0.9 foot (0.3 meter) overlying a yellow sand subsoil. All of the specimens were recovered from this humic soil and while plow scars were not noted in the shovel tests, it is possible that cultivation may have affected the site inthe nineteenth or early twentieth century (there is no evidence of cultivation from the 1930s to the present time). Site integrity is moderately high, although artifact quantity and diversity are both low. This is an intriguing site and one that is poorly understood. It seems unlikely, however, that further archaeological investigations will be able to shed much additional light on its purpose or place in the plantation complex. As a result, it is recommended not eligible.

38GE338

This site represents the limited structural and archaeological remains of the Willbrook "tenant house," to be discussed in the following section by Brooker, who viewed the house while it was still standing. The site, originally incorporated into the Willbrook Plantation Site (38GE292) by Lepionka (1986), is situated about 600 feet (185 meters) due west of the Willbrook main house ruins. The site was apparently built in the early twentieth century, perhaps during the occupancy of Willbrook by Lachicotte and was most recently

	Shovel Tests	Surface	Total
KITCHEN			
Ceramics	8	7	15
Colono ware	3	-	3
Glass	2	8	10
ARCHITECTURAL			
UID nails	2	-	2
Window glass	5	-	5
TOBACCO			
Kaolin pipestem	1	-	1
TOTAL ARTIFACTS	21	15	36

Table 27. Historic artifacts recovered from 38GE337.

Ceramic Type	Mean Date (xi)	# (fi)	fi·xi
Porcelain, Canton	1815	3	5445
White salt-glazed stoneware	1758	2	3516
Lead glazed slipware	1733	3	5199
Delft, plain	1720	5	8600
Creamware, undecorated	1791	1	1791
Whiteware, blue tp	1848	1	1848
		15	26399

26399 divided by 15 = 1759.9

Table 28. Mean ceramic date for 38GE337.

used by a caretaker and his family during Hunter's ownership from 1945 to 1970 (Lepionka 1984:17).

The site is situated on a peninsula with the rice fields to the west and Willbrook Creek to the north and east. The area's vegetation includes primarily mature live oaks and the house was situated to have a view of the other plantation properties. There was a pump house located about 100 feet to the northeast of the house and it is likely that a privy was previously located in the yard area, possibly to the west or northwest.

The site area was very clean and few archaeological specimens were noted during this survey (see 38GE339), except for the abundant structural remains. Most noticeable of those remains include the bricks used to construct the fireplace, which are impressed "R.M. STORK, ATLANTA" and "B. MIFFLIN HOOD, COLUMBIA, S.C." The B. Mifflin Hood Brick Company operated in Columbia only during 1930 and is not found in either earlier or later city directories. This dates the structure, therefore, to 1930.

This site, because of its recent construction and probable association, does not appear to be eligible for inclusion in the National Register. It has, however, in conjunction with site 38GE339 provided information on rural, middle class refuse disposal patterns in the early twentieth century.

38GE339

This site is situated about 200 feet south of 38GE338 and represents a dump area, probably associated with the "tenant house." The site is in an area of mixed hardwoods and herbaceous understory vegetation. Site dimensions, estimated on the bases of scatter, measure about 100 feet (30 meters) north-south and 65 feet (20 meters) east-west. Although the site has been impacted by clearing and bulldozer activity, it is still possible to observe discrete refuse piles in the woods. The site reflects the middle class early twentieth century rural pattern of taking trash into the woods and dumping it in a particular, confined location. Items observed, but not collected, include clear glass containers, large quantities of heavily corroded tin can fragments, leather items (such as shoes and boot fragments), and occasional ceramics. Collected items include one unidentified metal specimen, one milk glass bowl rim, and 48 fragments of a single 10 inch (25 centimeter) undecorated whiteware plate. This site is not recommended as eligible because of its recent date and extent of land clearing disturbances.

38GE340

This site is situated on a flat sandy interior plain about 200 feet inland from the rice fields and 100 feet from Willbrook's southwestern property boundary. Site size, based on surface indications, is about 400 feet (120 meters) northwest-southeast and 150 feet (50 meters) southwest-northeast. The site is situated on moderately well drained Yauhannah soils at an elevation of 7 feet (2.2 meters) MSL and the original vegetation was probably a mixed hardwood and pine forest.

This site is thought to represent the second slave row shown on the 1798 plat of Willbrook (Figure 6) and previously searched for by Lepionka (1986:48) without success. Not only is its location reasonably close to the platted location, but the recovered assemblage is clearly from a slave occupation. Like nearby 38GE291, this site has been logged and the remaining debris were pushed into piles and burned. These activities resulted in damage to the site, perhaps more than noted for the other Willbrook slave settlement, 38GE291. The surface exhibits a thin scatter of both oyster and clam, and artifacts are observed at a very low density. It seems likely that the density correlates with the early date for these slave settlements and an impoverished material culture. A series of nine shovel tests were excavated bisecting the site through its long axis (northwest-southeast) and examining the area closer to the property line. The tests yielded artifacts similar to the surface collection, although no evidence of subsurface features was encountered. The site core appears to co-occur with a denser surface distribution of shell.

The recovered specimens are shown in Table 29. The early date for the site is not only supported by the Mean Ceramic Date of 1814.9 (Table 30), but by the abundance of Colono Ware and the presence of only "black" wine bottle glass. The absence of pearlwares (Table 30) suggests that the site may have two temporally discrete occupations -- one in the late eighteenth century (ca.1777) and another in the mid nineteenth century. While not discussed in any of the previous survey reports, Lepionka notes that there was some sort of nineteenth century settlement "on the Litchfield side of the boundary" south of 38GE340 (Larry Lepionka, personal communication 1987).

Although this site has been damaged by recent land clearing operations the site appears to maintain some degree of integrity and is considered eligible for inclusion in the National Register. Although this site is clearly distinct from 38GE291, the sites are in close proximity (500 feet or 150 meters) and may be best investigated using similar techniques.

	Shovel Tests	Surface	Total
KITCHEN			
Ceramics	2	13	15
Colono ware	8	12	20
Bottle glass	3	2	5
ARCHITECTURAL			
Cut nails	1	-	1
TOBACCO			
Kaolin pipestems	1	3	4
TOTAL ARTIFACTS	15	30	45

Table 29. Historic artifacts recovered from 38GE340.

Ceramic Type	Mean Date (xi)	# (fi)	fi·xi
Westerwald	1738	1	1738
Lead glazed slipware	1733	1	1733
Creamware, undecorated	1791	6	10746
Whiteware, undecorated	1860	4	7440
annular	1866	1	1866
blue tp	1848	1	1848
edged	1853	1	1853
		15	27224

27224 divided by 15 = 1814.9

Table 30. Mean ceramic date for 38GE340.

This site should also be auger tested, with block excavation location detailed by this preliminary exploration. The level of investigative intensity at 38GE340 need not be equal to that at 38GE292, but should be sufficient to allow comparative statements.

38GE341

This site is situated on a broad, flat terrace overlooking the North Oatland drainage, just south of the dirt road leading onto Turkey Hill Island. Elevations range from 9 to 10 feet (2.8 to 3.1 meters) MSL and the soils are poorly drained Leon sands. Based on the surface scatter, this site is estimated to measure 200 feet (60 meters) northeast-southwest and 150 feet (30 meters) northwest-southeast. Vegetation would probably have been water-tolerant hardwoods, although construction activity has largely clearcut the area. In addition, construction related activities, such as an equipment staging area and a sediment holding pond, have seriously impacted this site.

Materials were first noticed at the site by Lepionka in 1984, but apparently because of the low density no site was defined for the area and no shovel testing was conducted. The site was very visible in 1987, but unfortunately it has been largely destroyed. Recovered aboriginal materials include Refuge (n=2), Deptford (n=3), Deep Creek (n=6), Mount Pleasant (n=1), Oak Island (n=1), and small or unidentifiable sherds (n=6)as well as a quartz cobble fragment. In addition, a small quantity of historic specimens were identified, including two pearlware ceramics and a brown salt glazed stoneware ceramic. The prehistoric occupation dates from the Early Woodland through Late Woodland and this site provides one of the few shell tempered Oak Island ceramic specimens from this survey.

38GE341 has been heavily damaged by clearing and grubbing activities. Other construction activities have even more seriously affected certain, limited site areas. While it is difficult to evaluate the site's level of integrity prior to construction, it currently is so altered that it is not eligible for inclusion in the National Register.

38GE342

This site is situated on a small knoll about 500 feet (150 meters) east of the rice fields and 1200 feet (370 meters) south of the peninsula formed by the rice fields and South Oatland Creek. The site is bisected by a recently graded construction road and is about 200 feet (60 meters) east of River Road. Like many other areas of the plantation, this location has been extensively altered over the past several years. The vegetation has been largely removed through clearing and grubbing, although a few hardwoods are still present. In addition, a large portion of the knoll has been graded off as a result of road and other construction. Site size is currently judged to be about 100 by 100 feet (30 by 30 meters).

Recovered items include 24 undecorated whiteware ceramics, seven glass fragments, a porcelain electrical insulator, a shotgun shell, a single modern clear glass marble, and a porcelain statue or doll's finger. The collection appears to be mid-twentieth century, although none of the specimens have very great temporal sensitivity. These remains may relate to a dilapidated wood frame structure vaguely remembered by Grunden to be in this vicinity, although the structure was not recorded during previous surveys.

This site has been so damaged by construction activities that it lacks any integrity. This site is therefore not eligible for inclusion in the National Register.

38GE343

This site, bisected by River Road, represents a very small loci of both aboriginal and historic remains situated about 1300 feet (400 meters) south of the peninsula formed by the rice fields and South Oatland Creek. The site is on moderately well drained soils about 200 feet (60 meters) inland from the rice fields and measures about 50 feet (15 meters) in diameter. Site vegetation includes sparse mixed hardwoods with almost no understory vegetation; this area has been cleared and grubbed over the course of development.

Artifacts, which include an abrading stone, one Pee Dee Complicated Stamped sherd, one edged pearlware ceramic, and one undecorated whiteware ceramic, were found scattered along the road cut. A series of three shovel tests were placed 20 feet (6 meters) west of River Road and about 20 feet (6 meters) apart, but produced no specimens

This site evidences an unusual environmental situation since it is not situated on a ridge terrace overlooking the rice fields. The location, being atypical, is of some interest. Site integrity and artifactual quantity, however, are both low. Given the extensive damage to the site it seems unlikely that it is capable of yielding significant, contextual information. This site is not eligible for the National Register.

38GE344

Situated on a sandy ridge of moderately well drained Chipley soils overlooking South Oatland Creek, this site is located immediately north of King's Highway and east of a recently constructed dirt road on the west bank of South Oatland Creek. Vegetation has been altered by recent construction activity, and consists of widely scattered hardwoods. Clearing and grubbing activities have increased surface visibility, but have also seriously compromised site

integrity. The site elevation is 9 feet (2.8 meters) and the size is expected to be no greater than 100 feet (30 meters) in diameter. This estimate, however, is based only on the recovery of two rhyolitic flakes. No other artifacts could be found and the site appears to be largely destroyed by construction activities. 38GE344 is recommended as not eligible.

38GE345

This site is situated on a southwest facing ridge and terrace on the east bank of South Oatland Creek about 800 feet (250 meters) southeast of King's Highway. The site is on the south edge of the recently completed Phase I 15th green and is bisected by a dirt road running northeastwardly to Allston Boulevard. The site is also in the immediate vicinity of the pumphouse for the golf course development. Elevations range from 11 to 13 feet (3.4 to 4.0 meters) MSL and the soils are excessively drained Lakeland sands. Site size, based on the distribution of surface finds, is about 350 feet (110 meters) north-south by 200 feet (60 meters) east-west. Shell is observed over the site area, with a few areas of somewhat heavier distribution.

The site is located in an area of high archaeological probability and the initial surface collections suggested a dense site. During several brief periods of surface survey 76 specimens were collected from the site (see Table 31) which suggested a fairly intensive occupation during the Early Woodland Deep Creek phase, although items from at least 1800 B.C. through about A.D. 1000 were recovered. As a result, the site, southeast of the bisecting road, was subjected to shovel testing at a 50 foot (15 meter) interval over a 200 by 200 foot

Thom's Creek Reed Punctate	1
Refuge Plain	1
Deep Creek Cord Marked	12
Fabric Impressed	21
UID/eroded	1
Hanover/Deptford Check Stamped	2
Hanover Fabric Impressed	1
Mount Pleasant Plain	3
Cord Marked	5
Small/UID sherds	20
Clay ball fragment	1
Flakes	7
Quartz hammerstone	1

Table 31. Artifacts recovered from surface collections at 38GE345.

(60 by 60 meter) area. Of the 20 tests excavated and screened through 1/4-inch (0.6 centimeter) mesh, only three yielded artifacts (including one Deep Creek Fabric Impressed sherd, one Deptford Check Stamped sherd, and one rhyolite flake). The tests revealed localized areas of heavy disturbance from bulldozer activity and much of the shell may be from small pits that have been scattered by construction and land clearing operations.

It appears that the prehistoric components at this site were largely confined to the upper foot (0.3 meter) of soil and that this zone has been heavily disturbed. While there may have been horizontal site patterning and intact features prior to construction, the site's integrity has been compromised by recent work. As a result, this site is recommended as not eligible.

38GE346

Site 38GE346 is bisected by the dirt road which runs north-eastwardly from South Oatland Creek to Allston Boulevard and is about 1700 feet (520 meters) northeast of the creek. The site, situated on moderately well drained Centenary soil, is at a terrace edge overlooking a small gum pond to the north which has recently been enlarged and incorporated into a water hazard for the 15th hole of the golf course development. The vegetation in the site vicinity has largely been clear cut, although it previously would have included lowland hardwoods and a mixed hardwood-pine forest. The area to the south of the site has not yet been cleared, although it appears that the site does not extend further away from the gum pond than currently plotted. Site size is estimated to be about 100 feet (30 meters) along the road cut (east-west) and 50 feet (15 meters) north-south.

The surface collection yielded Refuge (n=1), Deptford (n=1), Deep Creek (n=4), and three unidentifiable sherds, as well as a single calcined bone fragment. Based on the unusual environmental context of this site (adjacent to a gum pond), a series of five shovel tests were excavated parallel to and south of the dirt road. It was hoped that these tests would reveal the presence of intact, subsurface deposits in the wooded area which had received little or no disturbance. Such was not the case; only one test was positive and it yielded a single Deep Creek sherd.

This site, while situated in a different environmental context than most sites, has produced sparse remains and has failed to demonstrate a high degree of integrity. In fact, it appears that the core of the site lay to the north, toward the pond, and that this core has largely been destroyed by

construction activities. This site does not appear to be eligible for inclusion in the National Register.

38GE347

This site is situated on a north facing ridge overlooking a backwater swamp area of South Oatland Creek at an elevation of 17 feet (5.2 meters). The site, which is bisected by King's Highway, is located 1700 feet (520 meters) northeast of the causeway across South Oatland Creek. While the area to the north and east of the site has been extensively altered by construction associated with the 17th hole, the site has been primarily impacted by the use of the King's Highway road. Site vegetation is mixed hardwoods and there is a moderate understory of herbaceous vegetation. The remains were found scattered over an area of 150 by 80 feet (45 by 25 meters).

Specimens, including two flakes, one Deep Creek sherd, and three small sherds, were recovered from the road cut. Examination of open ground areas to the north revealed no additional cultural deposits. While additional deposits might be found on the woods to the south of the site, previous experience has shown that sites tend to decrease in size as you move away from the swamp edge.

This site is recommended not eligible because of the extensive construction disturbance and the probability that the site core has been removed by the King's Highway.

38GE348

This is a major concentration of prehistoric remains situated on a pronounced ridge parallel to the South Oatland Creek swamp. The site is found on the east bank of the creek, about 200 feet (60 meters) to the north of King's Highway, and covers an area about 430 feet (135 meters) north-south by 100 feet (30 meters) east west. Elevation of the ridge rises from 9 to 14 feet (2.8 to 4.3 meters) MSL and the site is found above 11 feet (3.4 meters). Soils are the somewhat excessively drained Wakulla fine sands. The ridge has been damaged by clearing and grubbing operations and the use of heavy equipment. While it was probably vegetated in a mixed hardwood forest with an herbaceous understory, the ridge has been clear cut and grasses are beginning to be established. During the surface survey several areas of extensive shell scatter were observed and one shell pit with charcoal was observed in a bulldozer cut.

The artifacts recovered are shown in Table 32. The primary occupation at this site, as with several previous examples, was during the Early Woodland Deep Creek phase, although both slightly earlier (Refuge) and slightly later

(Mount Pleasant) pottery is present. A series of 10 shovel tests were excavated at this site, including six parallel to the ridge just below the crest toward the creek, one on the lower slope, and three on the crest of the ridge line. These tests, combined with surface collection observation, revealed little transport of materials downslope and indicated that in spite of the damaged caused by construction, there were areas of high site integrity.

	Surface	Shovel Tests	Total
Refuge Plain	1	1	2
Simple Stamped	1	-	1
Deep Creek Plain	14	4	18
Cord Marked	2	3	5
Fabric Impressed	16	-	16
Mount Pleasant Plain	5	-	5
Cord Marked	7	-	7
Fabric Impressed	2	-	2
Small/UID sherds	9	2	11
Flakes	4	4	8
Quartz cobbles	3	-	3
Slate/Rhyolite raw material	2	-	2
Baked Clay Object	-	1	1

Table 32. Artifacts recovered from 38GE348.

Although this ridge is southwest of the 16th fairway, there has been an unfortunate amount of bulldozer activity on the site and eventually it will be incorporated into single family housing (based on the Phase I Willbrook Plantation Country Club plan sheet). Consequently, the site will be destroyed by lot grading and house construction. Based on the evidence of remnant site integrity, the presence of features, and the fairly dense artifact scatter, this site is recommended to be eligible for inclusion in the National Register. Mitigation should include the excavation of a block area, based on further testing, in the hopes of recovering data useful for further typological study, subsistence reconstruction, and radiometric dating.

38GE349

This site is situated on a west facing ridge side slope overlooking the South Oatland Creek Swamp about 100 feet (30 meters) immediately north of 38GE348. Two site numbers have been assigned because of both the topographic and cultural discontinuity. The soils are somewhat excessively drained Wakulla sands and site elevation is 12 feet (3.7 meters) MSL.

This ridge has been cleared and grubbed leaving only scrub vegetation and a few hardwoods. A very thin scatter of shell probably originating from destroyed pits, is present on the surface.

Recovered items include Deptford (n=4), Deep Creek (n=10), Mount Pleasant (n=2), and small or unidentifiable sherds (n=3), as well as a quartz biface produced from a quartz cobble. This assemblage was recovered as a result of surface collections over an area measuring 200 feet (60 meters) north-south by 80 feet (25 meters) east-west.

While it is possible that this site, prior to its extensive disturbance, may have been significant, it is still a thin scatter smaller than 38GE348. Based on the extent of damage and comparison to other sites on the Willbrook property, this site is recommended as not eligible for the National Register. Sufficient mitigation has been achieved by recordation and surface collections.

38GE350

Situated on a broad, flat terrace on the peninsula between the north and south branches of Oatland Creek (38GE350), is about 100 feet (30 meters) southeast of River Road and 400 feet (120 meters) northeast of the south branch. This environmental context is somewhat different from most of the other recovered sites since it is not adjacent to either the swamp or inland pond area. The soils, however, are the somewhat excessively drained Wakulla sands and the elevation is 10 feet (3.1 meters) MSL. Based on both surface collections and shovel tests the site dimensions are placed at 150 feet (45 meters) northeast-southwest by 80 feet (25 meters) southeast-northeast.

The site, first discovered because of surface finds in an area of a construction trench backfill, was further examined by nine shovel tests. Six of these were excavated through the center of the site along its long axis at 25 foot (8 meter) intervals, one was excavated 25 feet (8 meters) to the southeast to establish a preliminary boundary, and two were excavated to the northwest, toward River Road. The results of the surface survey and shovel tests are shown in Table 33. There is a clear mix of both aboriginal and historic components, all occurring in the upper 1.3 foot (0.4 meter) of the soil, although the most common pottery is the relatively uncommon Pee Dee Complicated Stamped ware. The site may actually be an inland extension of 38GE296, although River Road forms an artificial boundary. The different proportions of the Pee Dee ware at the two sites (50.0% of the identified pottery at 38GE350 compared to 18.1% at 38GE296) may be related to the more inland location.

	Surface	Shovel Tests	Total
Deptford Check Stamped	1	-	1
Deep Creek Plain	-	4	4
Fabric Impressed	-	1	1
Mount Pleasant Plain	-	1	1
Cord Marked	-	2	2
Stamped	-	1	1
Pee Dee Complicated Stamped	4	6	10
Small/UID sherds	3	21	24
Flakes	1	1	2
Colono ware	-	1	1
White salt glazed stoneware	1	-	1
Kaolin pipestem	1	-	1

Table 33. Artifacts recovered from 38GE350.

This site is found in an area of the primary development intended to be used for a club house, with the expected complete destruction of this site. Current disturbances include primarily surface scrapings and a single, narrow ditch. The presence of shell suggests the possibility of pits and the shovel tests have revealed a high degree of site integrity. The unique environmental context and unusual occurrence of Pee Dee pottery increase the significance of this relatively small site. As a consequence, 38GE350 is recommended as eligible for inclusion in the National Register. Site mitigation, however, should be phased since information on site integrity is limited to the data provided by only nine shovel tests. An efficient approach would incorporate site tests using 5-foot (1.5 meter) units with further excavation only if subsurface features or high artifact density are encountered.

38GE351

This site, situated on a sandy terrace of Wakulla soils overlooking the South Oatland Creek swamp, is located north of and adjacent to the drainage about 1000 feet (300 meters) east of the River Road causeway. Based on surface collections this site measures 300 feet (100 meters) northwest-southeast by 150 feet (45 meters) southwest-northeast. The vegetation has been completely removed, but was originally a hardwood forest grading into the lowland swamp. Elevations range from 6.5 to 8 feet (2.0 to 2.5 meters) MSL.

A dense concentration of prehistoric artifacts is present and shell was observed thinly scattered over the site area. Human skeletal remains were found scattered over an area of about 100 square feet (9.6 square meters) and probably represent a disturbed prehistoric primary or secondary inhumation. Only one individual is present and the few

because of construction activity. Materials include one Refuge Simple Stamped, one Deptford Check Stamped, four Deep Creek Plain with a red wash, four Deep Creek Plain, 12 Deep Creek Cord marked, five Deep Creek Fabric Impressed, two eroded Deep Creek, five Mount Pleasant Plain, three Mount Pleasant Cord Marked, two Mount Pleasant Fabric Impressed, and one Pee Dee Complicated Stamped. In addition, 43 small sherds, two rhyolitic flakes and two projectile point tips were recovered.

Given the presence of human skeletal remains and dense prehistoric remains (represented by a primary Early Woodland component) this site probably represented a significant occupation worthy of study. Unfortunately this site has been largely destroyed by the construction of the 18th fairway. The associated clearing, grubbing, and grading has left little if any site area untouched. As a consequence, this site is not eligible for inclusion in the National Register.

38GE352

Like 38GE351 discussed above, this site is situated on the south slope of a small knoll overlooking the headwaters of South Oatland drainage about 300 feet (100 meters) inland and northeast of 38GE351. Site elevation is about 12 feet (3.7 meters) east-west and the dimensions are 200 feet (60 meters) north-south by 250 feet (75 meters). Site vegetation has been extensively altered, but a somewhat intact mixed hardwood forest is still present to the north. Shell debris were observed scattered over the site and a small shell pit, about 2 feet (0.6 meter) in diameter, was exposed on the surface after being truncated by earth moving equipment.

This site yielded a small quantity of historic remains (including a black lead glazed coarse red earthenware and an undecorated whiteware ceramic), although the most abundant remains were aboriginal. Recovered were Deep Creek (n=15), Mount Pleasant (n=4), and small or unidentifiable (n=6) sherds; flakes (n=2); a quartz hammerstone; and two quartz cobble fragments.

Also like 38GE351 this site has been extensively damaged by construction of the golf course. This activity has destroyed the site's integrity and, as a consequence, this site is recommended as not eligible.

38GE353

This site is a small midden situated about 1500 feet (460 meters) east of the River Road causeway and at the head of a small slough of South Oatland Creek. The site is found on a southwest facing side slope at an elevation of 8 feet (2.5 meters) MSL. The soils are somewhat excessively drained

Wakulla sands and the surface scatter was found disturbed over an area of 100 feet (30 meters) northwest-southeast by 50 feet (15 meters) southwest-northeast. The vegetation had been largely cleared and the site was incorporated into landscaping for the 18th hole of the golf course.

Recovered items include a single Deptford Check Stamped sherd, 11 Deep Creek sherds, two Mount Pleasant Plain sherds, eight unidentifiable sherds, a single flake, and a quartz hammerstone. Like nearby sites 38GE351 and 38GE352 this represents a fairly dense Early Woodland Deep Creek occupation. The site, however, has been extensively damaged and it is unlikely that any site integrity remains. As a consequence, this site is recommended as not eligible.

38GE354

This site, bisected by River Road, is situated on a sandy knoll 400 feet (120 meters) southwest of Sandy Island Road and the northern boundary of the Willbrook tract. The site is found primarily on the east and northeast face of this knoll, overlooking a freshwater pond. The soils are excessively drained Lakeland sands and the site elevation is about 27 feet (8.3 meters) MSL. Vegetation includes mixed hardwoods and pine and appears to be second growth succession following the early twentieth century logging of the tract. This environmental situation is very similar to site 38GE346 and suggests that prehistoric sites will be found near pond depressions on high sandy soils.

The surface collection, which revealed a site size of about 250 feet (75 meters) north-south and 100 feet (30 meters) east west, included four Refuge Plain and one Deptford Check Stamped sherds, two unidentifiable sherds, five flakes, and two fragments of calcined bone. Two shovel tests placed west of the dirt road revealed that the site did not extend any further away from the pond than King's Highway. Four shovel tests, which extended 100 feet east from King's Road revealed sparse remains, which appeared to be correlated with a hard pan level about 0.9 foot (0.3 meter) below the surface. Recovered from these shovel tests were nine flakes and two Refuge Plain sherds.

This site evidences good integrity, is in an environmental context which has received little attention, and exhibits an Early Woodland Refuge assemblage. As a consequence, this site is suggested to be eligible for inclusion in the National Register. Since planning for this area of Willbrook is not beyond the conceptual stage it may be possible to include this relatively small site into a green space, or perhaps protect it through a system of easements.

38GE355

This site is situated on a west facing ridge slope, at an elevation of 12 feet (3.7 meters) MSL, overlooking the east branch of the North Oatland drainage. The site is located on Lakeland sands immediately west of the existing spoil area and within the area which has been clear cut for intended spoil area expansion. The site measures 300 feet (100 meters) north-south and 150 feet (50 meters) east-west. A thin scatter of clam shell is observed throughout the area, although intact deposits were observed.

This site yielded a single Refuge Random Punctate sherd, two Deptford Check Stamped sherds, 28 Deep Creek Cord Marked sherds, two Mount Pleasant Plain sherds, nine small or unidentifiable sherds, one flake, and one calcined bone fragment. Much of this collection, unfortunately, was derived from a north-south windrow of pushed soil and logging debris found along the east edge of the site.

This survey revealed little evidence of site integrity. In fact, the clearing and grubbing of the site has resulted in depositing much of the site material along a windrow and has left the remaining site area exposed to both gully and sheet erosion. As a result, this site appears to be not eligible.

38GE356

This site represents the isolated find of a quartz Caraway projectile point in a dirt road running west off King's Highway about 1400 feet (430 meters) southwest of Sandy Island Road. The site, which is in the area of a broad interior plain, is about 900 feet (380 meters) to the west of King's Highway. An intensive surface survey of the open dirt road revealed no additional remains. This site, because it represents an isolated occurrence, is recommended as not eligible.

38GE357

This site is found in a cleared area on the west side of King's Highway about 1400 feet (430 meters) southwest of Sandy Island Road and is situated on a north facing ridge nose of Lakeland soils. The site has been cleared and was previously used as a staging area for logging operations immediately prior to the Willbrook development. As a result the ground has been extensively disturbed. Site dimensions are estimated to be 325 feet (100 meters) north-south by 100 feet (30 meters) east-west, although this survey collected only two flakes, one eroded sherd, and a white salt glazed stoneware ceramic.

This site is not situated in close proximity to any water source, and thus is somewhat unusual. Its integrity, however,

has been destroyed by logging operations and the site is not eligible for the National Register.

38GE358

This site is situated on a small ridge on the west side of Turkey Hill Island adjacent to the rice field swamp. The soils are excessively drained Lakeland sands. The elevation is 18 feet (5.5 meters) MSL. Vegetation is mixed hardwoods and the site bisected by the dirt Turkey Hill Island road. Site size, based on three shovel tests, is estimated to be about 50 feet (15 meters) north-south and 25 feet (8 meters) east-west.

This site was located through shovel testing conducted along the periphery of Turkey Hill Island in areas judged, because of topography, to be high probability areas. Three shovel tests were placed in this knoll, two of which produced artifacts, including a kaolin pipebowl fragment, three Deep Creek sherds, and a quartz flake.

Although artifactual density is high, this site is judged not eligible because of its small size, common topographic position, and the failure to observe aboriginal features. There are other, similar sites on the Willbrook property which are expected to be able to yield more information than 38GE358.

38GE359

This site is situated on Turkey Hill Island at a point between the Waccamaw rice fields to the west and a low slough or swamp extension to the south. The site is about 1200 feet (370 meters) southwest of 38GE299 and is on a south facing ridge of Lakeland sands at an elevation of 16 feet (4.9 meters). The six shovel tests conducted in the site area have revealed site dimensions of about 325 feet (100 meters) north-south and 100 feet (30 meters) east-west.

Like 38GE358, this area was shovel tested because it appeared to represent high archaeological probability. A series of six shovel tests were placed off the road at random intervals; three produced artifacts, including three flakes and a slate cobble fragment. The density of this site is low, although testing did not extend eastward to where there is a more level area with better swamp access.

This site, although intact, does not seem of sufficient importance to warrant further investigations. The site's artifactual density is low, as is artifactual variety. As a consequence, this site is tentatively recommended not eligible for the National Register although further testing (particularly to the east) may be in order.

38GE360

Site 38GE360, located south of Allston Boulevard about 600 feet (185 meters) northwest of U.S. 17, is situated on a terrace overlooking an unnamed swamp drainage. The soils are moderately well drained Centenary sands and the site elevation is 16 feet (4.9 meters) MSL. Although the vegetation has been extensively altered by the property's development, there are remnants of mixed hardwood and pine forest. The site area has been heavily disturbed by the construction of Allston Boulevard, a nearby staging area, and clearing. The recovered items include a single Refuge Random Punctate sherd and two eroded Deep Creek sherds. These remains were scattered over an area about 325 feet (100 meters) northwest-southeast and 250 feet (75 meters) northeast-southwest. Because of the extensive ground disturbance and the thin scatter of cultural remains this site is recommended as not eligible for inclusion in the National Register.

38GE361, Oatland Church

This site is shown on the 1919 plat of Turkey Hill and Oatland as being at the intersection of "River Road" and an eastward tending dirt road called "Beach Road" (Figure 8). It is likely that this was a postbellum church for the local black population (probably the same individuals who were using the nearby Oatland Cemetery). Lepionka (1986:42) briefly mentions searching for this site, without success, south of the modern River Road as it crosses the causeway over Oatland Creek. Being unable to find the site to the south of the road, Lepionka (1986:110) draws on the brick piles found north of the road and suggests that the road might have changed location or that the church might have been placed on the wrong side. Lepionka, however, failed to realize the extent of the errors in the plat, or how these errors might affect the plat's overall reliability. For example, there are actually two sloughs between Turkey Hill Island and the mainland, not one as shown on the plat. In addition, as previously discussed, the "mill pond" is located about 300 feet (100 meters) further southeast, behind the River Road causeway or dam; there is no evidence of any dam, pond, or remnants of a pond shown on a 1939 aerial photograph of the property (CDW-1-40, on file at the University of South Carolina Map Library).

Another previously unrecognized problem involves the location of the "King's Highway" and the less well documented "River Road." Lepionka has called the road paralleling the swamp edge and providing access to Turkey Hill Island "River Road," while the "more substantial" county road passing by All Saints Church and roughly bisecting the Willbrook tract is called "King's Highway." This usage corresponds to Smith (1913) and probably denotes the approximate location of the

original King's Road. By comparing Figures 1 and 8 it is clear that the "River Road" shown on the 1919 plat is actually King's Road and that the "King Road" on the plat is actually an unnamed dirt trail further to the east. Apparently the public perception of "King's Road" gradually moved to the east (see the 1930 Jordan map in Drucker 1980:27) and today U.S. 17 is generally thought to follow the "Old King's Road."

Thus, Oatland Church is actually off King's Highway to the south, just past Oatland Creek. It was at this location that a small quantity of brick rubble was found. Unfortunately, by the time of this survey the area had been extensively graded and bulldozed as part of nearby golf course development and no other specimens could be identified. An examination of a 1939 aerial photograph (CDW-1-40, on file at the University of South Carolina Map Library) revealed that there was an open area at the church site, probably representing a yard or parking lot around the structure. The photograph quality was insufficient to reveal evidence of the structure.

Had this site been identified prior to construction it is likely that it would have been recommended as eligible. The church might have represented a postbellum (or possibly even antebellum) black "praise house," of which there are very few examples still known. The site would have been a significant site of black communal activity and combined archaeological and oral history studies would have been appropriate. The Oatland Church, however, no longer exists as archaeological remains with any degree of integrity and cannot, therefore, be considered eligible. In spite of this, I recommend oral history among Sandy Island blacks to more fully document this known site, the Oatland Cemetery, and other possible sites on the plantation. The likelihood of success seems high since Joyner (1984:104) noted that Sandy Island residents, such as John Beese, whose father was a slave carpenter at Oatland, maintain an oral history of the Waccamaw Neck.

PRELIMINARY ARCHITECTURAL SURVEY

Colin Brooker

Introduction

During June and July 1985, at the request of Larry Lepionka (acting on behalf of the Litchfield Company), I undertook an examination of buildings located at Willbrook Plantation, Georgetown County, South Carolina, with the object of determining preservation priorities for the site. Lepionka (1984, 1985) had previously (as part of a wider archaeological survey) reported on the structures in question and provided summary descriptions.

For Lepionka's 1985 report, all buildings were systematically re-examined and provisional documentation prepared in the form of photographs, sketch plans, etc. Recommendations for preservation are developed from:

1. An assessment of individual building significance; and,

2. A determination of building condition and structural integrity.

Although necessarily subjective, the most commonly accepted statement governing assessment of architectural significance is contained within the National Historic Preservation Act (1966). In this report, criteria established regarding eligibility to the National Historic Register form a guideline; however, it is recognized that vernacular buildings and twentieth century structures are currently under-represented on the National Register of Historic Places for South Carolina.

Experience elsewhere in the State has demonstrated the utility of regional historic inventories as a data base. To my knowledge, such a publication has yet to appear for Georgetown County and therefore some difficulty is experienced in assessing architectural significance beyond a strictly local level. Further, a prevalence of vernacular buildings at Willbrook Plantation presents problems concerning chronology and typological affinity which, given the inherent conservatism of traditional rural buildings, cannot be judged on purely stylistic grounds.

During the field investigation, an emphasis was placed on constructional analysis as a process offering a basis for both a temporal and a qualitative determination. Information so gathered has subsequently been compared (where possible) with documented architectural parallels from outside Georgetown County.

In the following report, individual structures at Willbrook are described and their constructional elements noted. Comments regarding structural condition are introduced and architectural affinities discussed. An assessment of architectural significance is followed by presentation of preservation recommendations. Concluding remarks address the merits of conservation as an assemblage for all surviving buildings. This report has previously been included in Lepionka's (1986) study as an appendix and photographs of the various structures are available in that publication.

Survey of Buildings

Main House

According to Lepionka (1984) the Willbrook Plantation House was constructed ca. 1895 on or near the site of an earlier building depicted by plats dated 1794 and 1798. During 1985 land clearing crews almost completely demolished the main house, built during the Victorian period, leaving only supporting piers, two brick chimney stacks and a timber-framed kitchen extension in place (Figure 13 shows the house before being torn down). Subsequently, Lepionka (1985) amplified his initial site description to include notes concerning various building phases and a plan of surviving pier arrangements. Structures visible to the present writer in June - July 1985 are described below.

Two chimney stacks, each approximately 32 feet (10 meters) high, survive from the house. The southern most of the pair is built from a dark brown, handmade brick laid up in American (stretcher) bond and vents a single fireplace, opening at first floor level. Somewhat below an original second floor level, the stack corbels to form a narrow chimney, which is crowned by a simple brick cap, three courses high. Located slightly to the northeast, the second stack is furnished with an opening at first floor level and receives remnants of a stove flue from the second floor. Construction is of a light red, machine made brick, the stack being corbelled at (or slightly below) floor levels. Again, chimney capping consists of three simply corbelled brick courses.

Difference in material and quality of craftsmanship clearly indicate distinct building phases. The north stack presumably related to ca. 1895 construction; the south (where

brick are perhaps re-used) to a later, undated process of addition.

Although of some value as indicators of otherwise unrecorded vertical house dimensions, both features deprived of their original surrounding framing are inherently unstable, constituting a serious hazard under conditions of wind loading. Preservation is considered impractical.

Brick foundation piers seem to have suffered further attrition since mapped by Lepionka (1986:71), however, the general accuracy of his plan can still be confirmed. Original construction was for the most part of inferior quality, piers being slender and provided with slender foundations. Under weathering, mortar joints have substantially deteriorated, many bricks are loose, others are lost. Given the present degree of impairment, coupled with some uncertainty concerning pier arrangement for additions, we consider little is now to be gained from preservation.

Originally constructed as an addition to the Willbrook Plantation House, the kitchen extension is preserved incompletely. Evidence for junctions and connections with the main block is lost, the east side of the structure is now partially open and window sashes are mostly missing. Surviving elements make up a simple framed structure measuring 14 feet, 4 inches by 17 feet, 10 inches (4.4 by 5.5 meters) on plan. The building, elevated 21 inches (0.5 meter) above present ground level on brick piers, has a gabled roof and a single chimney at its western end.

The kitchen extension is constructed with a sill 8 inches wide by 4 inches (0.6 by 0.3 meter) deep, machine wrought, lapped and tennoned at junctions. Floor joists are 9 1/2 inches by 1 1/2 inches (24 by 4 centimeters) arranged on 19 inch (0.5 meters) centers, machine wrought and cross braced with diagonal strutting. Interior roof structure is not visible; the rafters extend over the top plate to form an overhang. The exterior cladding consists of weather boards with 5 1/2 inch (14 centimeter) exposure. The interior is almost entirely lined with vertical tongued and grooved board sheathing. The roof finish is tin.

Construction details suggest a date ca. 1918 - 1930. Generally surviving elements are in good condition, however, the building now stands as a truncated remnant of a large structure with little significance for site interpretation. The structure has been removed from the house site and is being used by The Litchfield Company as a field office. The chimney and foundation pier remains are essentially ruins lacking architectural significance. Consequently, these remains are not eligible for the National Register. The kitchen extension

also is not eligible because it has lost its integrity through its removal from the original site and structural assocation.

Cottage

The cottage is a derelict single story house with a rear shed and a porch extending across the entrance facade. The original phase incorporates one end chimney and has a gabled roof. The extension is equipped with a modern stove flue and the roof is mono-pitched.

The first phase measures 23 feet, 11 inch by 15 feet, 2 inch (7.4 by 4.7 meters) and contains two living cells arranged on a central hall plan. The main room is furnished with a fireplace; there are front and rear doors and one front window. Traces of a rear window, blocked by the addition, survive. This addition measures 23 feet, 11 inches by 9 feet, 6 inches (7.4 by 2.9 meters) and was originally divided into two unequal spaces.

The main structure is timber framed with continuous hand-hewn sills 7 inches wide by 6 inches (18 by 15 centimeters) deep, lap jointed at corners and raised about 16 inches (0.4 meter) above the present ground level on brick piers. The floor joists are 8 1/2 inches by 1 inch (21 by 3 centimeters) spaced 17 inches (0.4 meter) on center; they are sewn and show circular saw scars. All of the joists are nailed to the sills. Studs which measure 4 1/2 inches by 1 3/4 inches (11 by 4 centimeters) are machine wrought and diagonal corner braces are nailed to sills. The structure is not visible, although the roof finish is tin. The windows are simple sliding sashes (without counter-weights) 2 over 2 standard pre-manufactured units. The exterior cladding is lapped weatherboard showing 7 inch (28 centimeters) on face. Internal cladding to the walls and ceilings consists of narrow timber boards, tongued and grooved. The floor boards are 3 1/2 inches (9 centimeters) wide. Internal trim (architraves, window surrounds, etc.) consists of simple flat molding crudely nailed to the structural frame. The porch ceiling is boarded and covered at the ends. One porch column survives and is 6 1/2 inches (16 centimeters) square with bevelled corners. The remainder have been replaced with reused power poles. The chimney is of brick, measuring 3 feet, 10 inches by 1 foot, 11 inches (1.2 by 0.6 meters) in plan at the base, and is corbelled to form a 1 foot, 11 inch (0.6 meter) square flue.

In the main house, the sills show evidence of extensive termite infestation, however, the joists appear less extensively damaged. The roof is in poor condition with some decay also noted in wall framing. Porch sills, joists, and floor boards are substantially impaired and close to collapse.

The addition is in similar condition with the floor joists fractured, the sills almost completely decayed and the partition disassociated.

Construction and finish details indicate a twentieth century date for the building, which should probably be assigned to a period between 1914 and 1930. Structural elements include both standardized pre-manufactured items (such as windows, doors, trim and finish feature) and components derived from earlier building traditions. Hand-hewn sills (although perhaps re-used) demonstrate a late survival of pre-industrial technology in a rural setting; the use of nailed rather than tennoned and pegged joints represent a degeneration of earlier craft standards. The central-hall plan has eighteenth century antecedents and appears to have persisted in rural contexts well into the twentieth century.

Similar houses of relatively low social status, while poorly documented, are widespread, even commonplace throughout the State. Beyond interest to the social historian, the present example, with its predominantly standardized, manufactured elements is of little individual architectural significance and is not considered eligible. Restoration (owing to extensive termite damage) would require considerable replacement of framing; the porch and rear extension are unsafe and would also need to be reconstructed.

Barn I

An aisleless barn measuring 41 feet, 6 inches by 28 feet, 3 inches (12.7 by 8.7 meters) constitutes a major surviving agricultural component of the Willbrook settlement. Originally the building appears to have been three bays long and two bays wide with framing arranged to furnish roof and floor support about a central long axis. Alterations have drastically modified the original structural configuration, central bays are now open. The sills, posts and flooring having been cut to allow passage of mechanical equipment. Above the main plate level all roofing members are renewed.

The structure is timber framed with a gabled roof. The sills are hand hewn, 10 1/2 inches (26 centimeters) side by 9 1/2 inches (24 centimeters) deep and are raised on brick piers. The bricks are handmade and the joints are lime mortared. The sills are continuous, without scarfing; long sills were perhaps formerly so, with sections subsequently removed for the entire width of middle bay. The corner and main posts are 9 inches square (23 centimeters) and the central posts are 6 1/2 inches square (16 centimeters). The top plate (6 1/2 inches square) supports transverse joists (not measured). Intermediate framing, measuring 4 1/2 inches by 4 inches (11 by 10

centimeters), is organized as two studs per bay, strutted by intermediate rails morticed and tenoned into studs.

All exterior posts are braced diagonally top and bottom; the central posts are braced at the top only. The original floor is largely removed, although remnants consist of 9 inch by 4 inch (23 by 10 centimeters) planks (at about 2 feet, 3 inches [0.7 meter] centers) spanning between the exterior and center sills and supporting 8 inch (20 centimeter) wide boards. Rafters and all other roof members have been replaced with modern timbers and evidence for possible transverse ties between main posts is destroyed. The most visible frame joints are morticed, tenoned, and pegged.

The exterior cladding is made up from vertical planks, 11 1/2 inches (29 centimeters) wide with 3 3/4 inch (9 centimeter) timber cover strips at the corners. Cladding is nailed directly to the frame and the nails are generally cut with some handmade. The roof finish is modern metal.

Early plats of Willbrook and Litchfield plantations show the immediate vicinity of the present structure to have been occupied by large scale agricultural buildings since the end of the eighteenth century. A plat dated 1798 notes three barns on the location, raising questions concerning the existing barn's identity with one of the documented features.

While continuity of function at the site seems evident, survival of early architectural elements is difficult to establish. Utilitarian structures built in vernacular style must be dated through comparative analysis. For South Carolina, literature on vernacular construction is deficient, few investigators having systematically examined either plan forms or framing technologies. Chronological discussion is further complicated by an observed tendency for pre-industrial methods (frequently medieval in origin) to persist into the late nineteenth and twentieth centuries. An example of this phenomenon from Willbrook has already been described. Outside the region, Cummings (1979) illustrates a barn photographed during assembly at Granby, Connecticut in 1902, where construction is both late-medieval in concept and closely allied to the present structure.

On the basis of comparison with domestic framing, the Willbrook barn's massive and probably continuous hewn sills; heavy corner and intermediate posts; and carefully morticed, tenoned, and pegged joints are consistent with eighteenth century practice. Top and bottom bracing of exterior posts, though undocumented in local house farms, has been observed in English late-medieval contexts. This tension framing appeared in England during the mid-fifteenth century (see Mercer 1975:116). Under normal conditions however, nineteenth century

bracing is more substantial than seen here, gradually becoming shallower in section and reduced in height over the course of the nineteenth century.

Studs are almost eliminated in the Willbrook barn, again a feature unrecorded for local eighteenth century houses, although clearly, the use of vertical plank cladding obviates a need for heavy framing. A similar reduction of intermediate wall elements associated with plank cladding is described for Story House (ca. 1684), in Essex, Massachusetts which has been demolished (Cummings 1979). An English medieval barn at Fridsbury, Kent, has vertical cladding fixed to horizontal rail in an analogous fashion (Rigold 1966:11). Cut nails indicate a post 1820 period for cladding which may have been renewed.

Taking structural evidence as a whole, eighteenth century parallels can be drawn for a proportion of construction details, but not unequivocally for the building in its entirety. Potentially diagnostic roof junctions are unfortunately lost, nevertheless the bracing form seems to indicate a process of technological innovation or modification that excludes an eighteenth century date. Construction is therefore tentatively assigned to the second quarter of the nineteenth century, however, given apparent similarities with the Grandby, Connecticut barn, a construction phase associated with renewed activities at Willbrook during the 1890s cannot be wholly discounted.

Regardless of date, an exceptionally scaled building of this type assumes a significance for further temporal and technological investigation, offering an opportunity to augment the range of published architectural materials for the State. The site appears to be eligible for inclusion in the National Register.

Structural impairment has reached an advanced stage; the barn is in failure and close to collapse. Major framing elements (including sills and main posts) have either been mutilated or partially destroyed, all plates are fractured, flooring is almost entirely lost, while more than two thirds of remaining original fabric shows evidence for heavy termite infestation.

In my opinion, the process of decay cannot at this point either be arrested or reversed. Restoration would involve dismantling followed by extensive reconstruction and replication of decayed members. Owing to loss of significant details reconstruction must be based on hypothetical model, a procedure strongly discouraged under the Secretary of Interiors' Rehabilitation Standards.

I therefore suggest that mitigation include a full measured survey and photographs of the building (placing an emphasis on the recording of structural form and jointing technique) and, that consideration be given to the future use of the barn.

Barn II

This framed structure is adjacent to the main barn with its long axis parallel to the main barn's eastern end. It measures 28 feet, 8 inches by 14 feet, 3 inches (8.8 by 9.4 meters) on plan; it has a single entrance on the north side approached by modern timber steps. The roof is gabled. The structure was perhaps intended as a grain or feed store.

The sills are 5 1/2 inches (13 centimeters) deep by 6 inches (15 centimeters) wide, circular sawn, lapped at corner junctions, and raised on unhewn log piles. The joists are 7 3/4 inches by 2 inches (19 by 5 centimeters), machine wrought. Stud details are not visible. The roof is made up from simple timber trusses; the scantling is light weight; and the joints are nailed. External cladding consists of vertical planks between 5 inches and 8 3/4 inches (12-22 centimeters) wide and 7/8 inch (2 centimeter) thick. No corner cover strips are present. The roof finish is corrugated metal.

Although superficially traditional in form, the use of milled structural timbers (showing circular saw marks), nailed joints, and the details of roof-truss construction indicate this barn to be relatively recent in date. The building appears in serviceable condition, but has no architectural significance and is not eligible for inclusion in the National Register.

Tobacco Barn

This is a tall, single story structure which measures 17 feet by 17 feet (5.2 meters) on plan. The walls are constructed of unhewn logs, between 4 and 6 inches (10-15 centimeters) in diameter and saddle notched at corners. The chinking is mostly clay with small areas of recent repair; the exterior joints are masked by narrow timber covered strips nailed to the logs. The roof members are rectangular in section, circular sawn boards fixed to lightweight rectangular studs. Drying racks are arranged as a series of unhewn logs spanning across the building, with their ends roughly morticed into the log walls. At the upper level these form a base for trusses supporting the roof purlins. The roof finish is corrugated metal. A later, open lean-to structure is built against the exterior.

Log constructed tobacco barns were formerly widely distributed in the southeastern United States, being particularly abundant in parts of Virginia, North Carolina, South Carolina, and Georgia. Weslager (1969) considers the building type to be indigenous to the region (perhaps originating in the mid-eighteenth century), however, beyond a log barn illustrated in a treatise on tobacco culture published in 1800, little evidence for early examples survives.

Circular saw scars on rectangular roof members of the Willbrook building indicate a relatively recent construction, while the roof form itself shows a departure from a traditional log-purlin system, suggesting a twentieth century date (see Brooker 1980). Although of slight individual significance, the structure is preserved in its entirety and represents a now redundant constructional type rapidly disappearing from the area. As a result, the structure is recommended eligible for the National Register. Documentation, including full measured drawing and photogrraphs, is merited and rehabilitation should be considered.

Rehabilitation would require jacking, partial replacement of decayed logs, and preferably, introduction of new foundations. These procedures demand skill, experience, and specialized knowledge of log construction. The recommended techniques are summarized in Goodall and Freidman (1980).

Equipment Shed

This is a modern timber framed storage building, provided with a gabled roof and paired doors at its eastern end. In plan it measures 20 feet by 15 feet, 3 inches (6.1 by 4.7 meters); framing is poorly executed and inadequately sectioned. The studs are 4 inches by 2 inches (10 by 5 centimeters) at 2 feet, 6 inches (0.8 meter) centers, and the structure is built without ground sills. The roof is raftered and members are lightweighted and deflecting. Two ties were added as an apparent afterthought. There is a corrugated metal roof finish and the wall cladding is of weatherboards. All structural joints are crudely nailed.

The framing is extensively damaged by termites and close to collapse. The relatively recent construction has no integrity and the site is not eligible for inclusion in the National Register.

Boat Shed

The construction is entirely modern. Re-used telephone poles function as piers and the roof is lightweight timber structure with a sheet metal finish. The building is of no architectural significance and is not eligible.

Tenant House

This structure, while present during the original study, was torn down prior to the May 1987 field work by Chicora. The building was a single story framed structure raised on brick piers and fronted by a pedimented porch. Excluding the porches added to west and north-east faces, the house measured 42 feet, 6 inches by 25 feet, 6 inches (13.1 by 1.8 meters) on plan. The roof was gabled with a tin finish. The main rooms were located on the building's south side, being backed by service spaces (including kitchen and bathrooms) to north. A central living space (entered directly from the main porch) communicated with further principal rooms to the east and west. Each was furnished with a brick fireplace and dado of vertical tongued and grooved boards. The remainder of internal cladding consisted of plaster on lath.

Windows were factory manufactured with panes organized in a six over six arrangement. On the east elevation, windows employed two standard frames positioned side by side. External cladding was weatherboarded with an exposure of 7 inches (18 centimeters). The main porch extended across a single bay and its pediment was supported on four equally spaced columns 7 1/2 inches (19 centimeters) square. A roof fan exhaust pierced the boarded pediment.

The structure's construction was mostly concealed at time of inspection, although sills 6 inches by 8 1/2 inches (15 by 20 centimeters) and studs 2 inches by 4 1/2 inches (5 by 11 centimeters) were noted. All structural timber appeared to be machine wrought and the majority of joints were nailed.

A recent fire had extensively damaged the southwest principal room. Framing (including floor, roof and sill) elements were badly charred. Elsewhere internal plaster finishes had cracked and spalled.

On constructional evidence the house was to be dated ca. 1914-1925. Its plan represented an adaptation of a local central hall type, however, the disposition of service accommodation destroyed the advantage of through ventilation assured by traditional forms. Internal and external treatment was strictly utilitarian in character and pre-manufactured elements had been incorporated throughout.

An overscaled entrance porch somewhat clumsily recalled historic precedent; however, architecturally the building possessed little aesthetic originality and would have been considered of marginal significance. Since the structure has been torn down, it is no longer necessary to consider its eligibility.

Conclusion

For regions rich in historic resources, such as the Carolina Low County, I believe that until preservation priorities are established at a County level, there is a danger of uncoordinated expenditure of limited funds on projects marginal to overriding area needs.

In my opinion, this factor should be recognized when considering future preservation plans at Willbrook Plantation. Land settlement, the initiation and decline of plantation systems, shifts in economic base and land utilization over recent time are examples of historic processes only partially understood at Waccamaw Neck. With a preponderance of late nineteenth and early twentieth century buildings and documented eighteenth century antecedents, the present site might be expected to illustrate facets of these investigative concerns.

At Willbrook, the later, extant structures demonstrate both survival of traditional forms and adaptation of pre-industrial technologies to modern mass-produced materials. In quality, buildings range from carefully executed vernacular elements to frankly make-shift, utilitarian features. However, overall the integrity of the late nineteenth and early twentieth century site components is seriously compromised. Demolition of the main house has destroyed tangible evidence for a historic focus of agricultural activity, while almost every surviving construction is structurally impaired. Scattered foundation remnants and disassociated framing fragments indicate that attrition (involving complete building loss) has continued perhaps for decades.

Given such circumstances, buildings remaining at the site can no longer be considered to give an undistorted picture of late nineteenth and early twentieth century settlement form, and their preservation or eligibility as a group cannot be justified. From a regional perspective, apart from exceptions noted for Barn I and the Tobacco Barn, the individual structures have little architectural or historic significance. For Barn I and the Tobacco Barn I therefore suggest data recovery (rather than extensive building conservation) as a preservation priority.

It is recommended that:

1. Measured drawings and photographs be made of main and tobacco barns, with the drawings to emphasize structural and constructional details, and

2. All records be placed on deposit with a suitable State or Federal agency.

In addition, I recommend that:

1. Consideration be given to the future use of the main barn, and

2. Rehabilitation of the tobacco barn be considered.

REMOTE SENSING RECONNAISSANCE AND ASSESSMENT OF THE WILLBROOK CANAL

Gordon P. Watts, Jr.
Wesley K. Hall

Introduction

From October 15 through 17, 1986, Tidewater Atlantic Research of Washington, North Carolina, under contract with the Litchfield Company of South Carolina, carried out an archaeological reconnaissance survey of a historic canal alignment that connected property originally developed by John Allston with the Waccamaw River. The purpose of the study was to locate and assess potential cultural resources in and around the historic canal in anticipation of dredging that would deepen and widen the waterway to provide access to the residential community currently being developed on the Willbrook Plantation property. The Litchfield Company proposes to widen the historic canal to 113 feet (35 meters) and dredge to a depth of 6 feet (1.8 meters) at mean low water.

Tidewater Atlantic Research carried out a remote sensing reconnaissance survey designed to identify engineering features of the canal and locate submerged cultural resources in the area that could be associated with its use as a plantation waterway. The remote sensing survey of the canal alignment was carried out using a proton precession magnetometer to identify cultural material generating a detectable magnetic signature. In addition to magnetic remote sensing, the entire alignment of the canal was systematically probed in an effort to identify submerged cultural material that would not generate a magnetic signature. Although extensive probing failed to identify either non-magnetic cultural material or the source of several magnetic anomalies, a number of engineering features of the canal were located and recorded.

Site Locations and Conditions

The Willbrook Plantation development is situated on a 2400 acre (960 hectare) tract known as Willbrook Plantation located along the Waccamaw River towards the north end of Waccamaw Neck, in Georgetown County, South Carolina. The historic canal being investigated was apparently used as both an access waterway to Turkey Hill Plantation and as an irrigation canal to supply adjacent rice fields. The canal is located on a gradual bend

on the east side of the Waccamaw River, 3800 feet (1170 meters) south of Brookgreen Creek and 3000 feet (923 meters) east across the river from Thoroughfare Creek. The historic canal was constructed at a point which represented the shortest distance between high ground and navigatable water along approximately eight miles of the Waccamaw River (see Figure 1). Today the canal alignment has reverted to wetlands and is almost completely filled with sediment and organic debris. While 97 feet (30 meters) of the north end of the canal is navigable at high tide the remainder of the alignment is overgrown by dense marsh grasses and briars. The area around the canal that once was rice fields has been reclaimed by a combination of cypress forest and fresh water marsh grass. During normal periods of high tide, the water level is approximately 0.5 to 1.0 feet (15 to 30 centimeters) above a soft humus covered mud (Hobonny muck) that originally constituted the rice fields surrounding the canal.

Research Methods

Tidewater Atlantic Research proposed to use a proton precession magnetometer to detect ferrous material associated with vessels and terrestrial structures associated with the historic canal. Three lanes parallel to and running the length of the canal were to be investigated and a magnetic contour map produced. All significant anomalies were to be probed to determine the nature and scope of cultural material generating the magnetic signature. In addition, four lanes along the historic canal alignment were to be probed to a depth of eight feet (2.5 meters) below mean low water to increase the possibility of identifying non-magnetic cultural material. All targets identified by probing would be examined to determine the scope and nature of cultural material.

Operating from a survey vessel suitable for supporting remote sensing and target assessment operations, Tidewater Atlantic Research planned to systematically survey the study areas using a proton precession magnetometer capable of + or- 1 gamma resolution. To maximize the magnetic signature, the magnetometer sensor was to be mounted on a spar on the bow of the survey vessel and a 120 gamma scale would be employed unless the strength of a signature required a shift to 1200 gammas. Magnetic data generated during the survey would be contour plotted for analysis and the position of each target established on a map of each survey segment.

Probing would be carried out using a 10 foot (3 meter) hydraulic probe powered by a 5 horsepower pump. At 200 points along the historic canal, the bottom sediments were to be probed to locate non-ferrous cultural material. Probe contact sites that appeared indicative of submerged cultural resources would be tested to assess the potential significance of each

target and determine the necessity for additional investigation and mitigation. Exposed material would be documented in situ and each target location identified on a site map.

Upon arrival on the site, it became apparent that the survey would be conducted on foot instead of from a survey vessel because only the northern extremity of the canal was navigable at high tide and the southern portion was entirely overgrown. A magnetometer equipped with a terrestrial sensor and capable of + or - 1 gamma resolution was transported along the three longitudinal survey lanes. The three survey lanes were cut through vegetation along the length of the canal, one through the center and one along each canal shoulder. Across the canal alignment, eleven, 100 foot (30 meter) long lanes were cut to facilitate positioning during the remote sensing survey and provide avenues for systematic probing (Figure 21). At each intersection the magnetometer record was annotated with positioning data and each anomaly was noted. This data was contour plotted during the field investigation to identify targets for additional investigation. Exposed cultural material was precisely located and documented using both photography and conventional surveying and drafting techniques. Target sites generating a magnetic signature were probed in an effort to identify the source of the signature. Additional systematic probing was carried out to identify non-magnetic submerged cultural material. Using the lanes cleared for magnetometry, the entire canal alignment was probed at 5 foot intervals (1.5 meters) to a depth of 8 feet (2.5 meters) along both the longitudinal lanes and the cross reference lanes. In addition, extensive random probing was conducted where vegetation permitted between survey lanes. When a subsurface object was encountered, additional probes were made in an attempt to identify size and configuration.

Findings

Analysis of the data indicated that eight magnetic anomalies were located by the survey. The most intense target (WB-1) has been tentatively identified as a portion of a floodgate located near the canal entrance. The second most intense target signature (WB-7) was identified following magnetic contouring (Figure 22). In comparing the magnetic contour data and site map, this anomaly was found to be located directly across the canal from an irrigation ditch and trunk located by visual survey. While not evident on the ground, the 7.5 U.S.G.S. topographic map of the area indicates an irrigation ditch on both sides of the canal at the point where the magnetic anomally is indicated on the west side of the canal. Although the exposed trunk produced no magnetic signature, the anomally WB-7 may indicate the presence of another trunk structure. Probing in the areas of the remaining

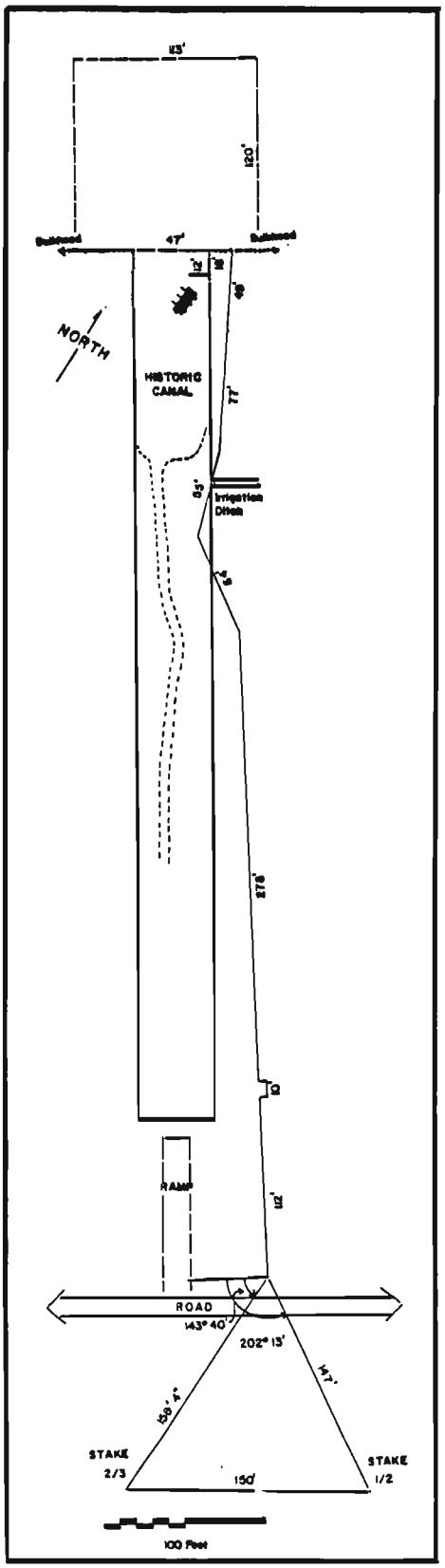


Figure 22. Willbrook Canal, 38GE335.

magnetic anomalies produced no insight into the source of their signatures.

A visual examination of the historic canal during low tide identified at least four construction features associated with the historic canal. The most prominent of these was a bulkhead constructed of vertical cypress poles or stakes. The bulkhead runs approximately 300 feet (92 meters) along the Waccamaw River on both sides of the canal entrance and turns 90 degrees to form a 47 foot (14.5 meter) wide entrance channel. After turning into the canal, the eastern bulkhead runs 15 feet (4.6 meters) then turns 90 degrees into the canal alignment again to form what is possibly part of an entrance gate. There is no visible evidence that the western bulkhead is constructed in a like manner. The western bulkhead appears to turn 90 degrees at the entrance then runs a short way into the canal before it stops (Figure 21). Just inside the entrance and near the eastern bank of the canal is what has been tentatively identified as a portion of the canal's floodgate (Figure 23). It is constructed of random width, 2-inch (5 centimeter) cypress planks, 18 feet (5.5 meter) in length attached to three, 6 by 8 inch (15 by 20 centimeter) cross members with 6 inch (15 centimeter), rose headed iron spikes. The edge of each plank has been grooved for 3/8 inch by 3 inch (0.9 by 8 centimeter) splines that fit between each plank. An approximately 5/8 inch (1.6 centimeter) drift pin is also visible but its purpose is not readily evident (Figure 23).

Approximately 150 feet (46 meters) from the entrance bulkhead on the east side of the canal is the only irrigation ditch and "trunk" positively identified in association with the main canal. The ditch has silted in and only a slight depression remains. A few stubs of vertical 2-inch (5 centimeter) plants are all that is visible of the ditch gate or trunk above ground at low tide. Probing and hand excavation around the gate indicates that most of the gate is still intact below mud level (Figure 24). At the head of the canal, extending down from high ground (elevation 16 feet [4.9 meters] at MLW) are the remains of an approximately 18 foot (5.5 meters) wide dirt ramp. The presence of the ramp and the high grounds' relative proximity to the river suggests that the canal was used as a water access to the Waccamaw River and perhaps the main landing for the Turkey Hill Plantation tract.

Conclusions

The canal which is the subject of this report once linked Turkey Hill Plantation to the Waccamaw River. It is potentially the earliest, if not the most important, historic canal associated with the Willbrook property. Construction features found in association with the canal may represent early canal engineering techniques or at least early

WB-1 A negative 38 gamma magnetic signature of 25 pulse duration. It has been visually examined and tentatively identified as a portion of a canal floodgate or structure associated with the canal entrance.

WB-2 A 45 gamma dipolar magnetic signature of 6 pulse duration. The signature indicates a single source object detected over a distance of approximately 8 feet. Unidentified by probing.

WB-3 A negative 23 gamma monopolar magnetic signature of 7 pulse duration. The signature indicates a small single source object detectable over a distance of approximately 10 feet. Unidentified by probing.

WB-4 A negative 14 gamma monopolar magnetic signature of 5 pulse duration. The signature indicates a small single source object detectable over a distance of approximately 8 feet. Unidentified by probing.

WB-5 A positive 24 gamma monopolar magnetic signature of 10 pulse duration. The signature indicates a small single source object detectable over a distance of 12 feet. Unidentified by probing.

WB-6 A negative 15 gamma monopolar magnetic signature of 4 pulse duration. The signature indicates a small single source object detectable over a distance of 7 feet. Unidentified by probing.

WB-7 A 50 gama overall dipolar magnetic signature of 8 pulse duration. The signature indicates a single source object detectable over 12 feet. Although not identified by probing, the position of the signature is directly across the canal from an irrigation ditch and trunk identified by visual examination and may be the remains of another trunk gate.

WB-8 A negative 12 gamma monopolar magnetic signature of 4 pulse duration. The signature indicates a small single source object detectable over 8 feet. Unidentified by probing.

Table 34. Magnetic anomalies at the Willbrook Canal, 38GE355.

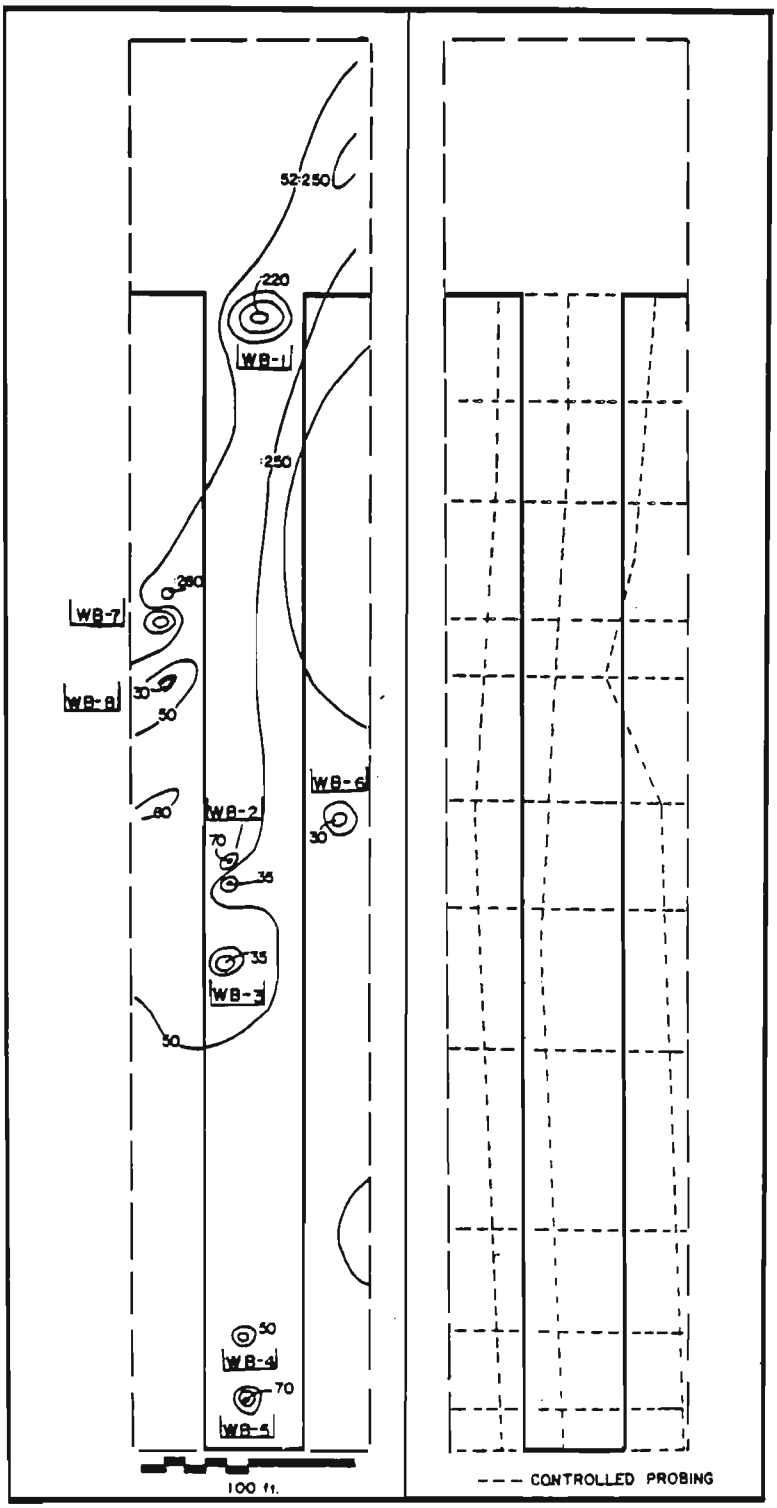


Figure 23. Magnetic contour and probe maps of Willbrook Canal, 38GE335.

efforts of John Allston or his son, Josias Allston, to provide water access to Turkey Hill and control irrigation to adjacent rice fields. While canals of this type are common to the rice plantations of the area, there are only two floodgates documented in the state of South Carolina. These floodgate remains "are of a type not previously documented and, therefore, would appear to be a valuable part of the South Carolina heritage" (Steven Smith, personal communication 1987).

As such, the Willbrook Plantation canal and its associated engineering structures which are defined here as a single site (38GE355), appear to be eligible for inclusion in the National Register of Historic Places. Because of the significance of rice agriculture in colonial and antebellum South Carolina, the canal appears to be regionally significant and associated with important patterns of Low Country development. Both integrity of location and the state of preservation of the engineering features associated with the canal can be considered to contribute to the significance of the site. Additional investigation could produce information important in reconstructing the distinctive engineering developments associated with early rice agriculture. Finally, the Turkey Hill Plantation site is associated with the families of John and William Allston, prominent early planters who were among the wealthiest and most influential early Georgetown County residents.

No submerged cultural resources were identified by probing at the magnetic target sites. However, due to the limited duration of the unidentified magnetic signatures, it is unlikely that they represent historically or archaeologically significant material deposits. With the exception of targets WB-5 and WB-7 which possess slightly more signature duration and intensity, the remaining targets are probably generated by small, modern, high intensity signature sources such as metal cans or containers that have floated into the canal alignment. These materials could easily have deteriorated to the point that probes passed through the object without detectable resistance, yet they retain detectable magnetism. Identification of material generating the target signatures was also frustrated by a thick mat of logs, tree limbs and other organic debris at a depth of five to seven feet in the middle of the canal and two to five feet near the sides. As the mat of debris effectively covers the historic bottom of the canal, cultural material associated with periods of use would be virtually impossible to locate and examine. Only roots of existing trees were encountered during probing of areas outside the historic canal alignment.

In addition to recommending the Willbrook Plantation canal as eligible for inclusion in the National Register of Historic Places, consideration should be given to additional research

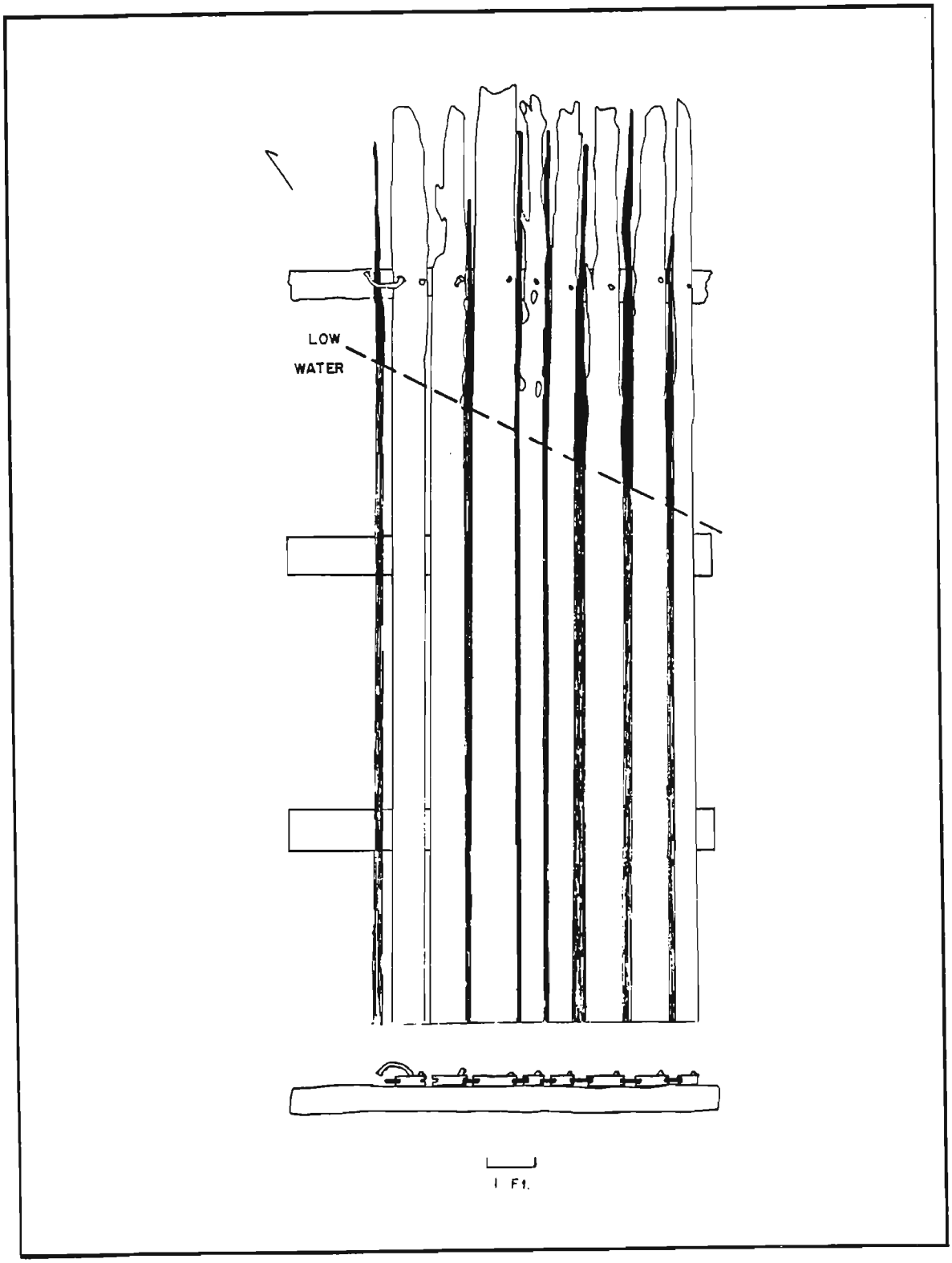


Figure 24. Willbrook Canal floodgate, 38GE355.

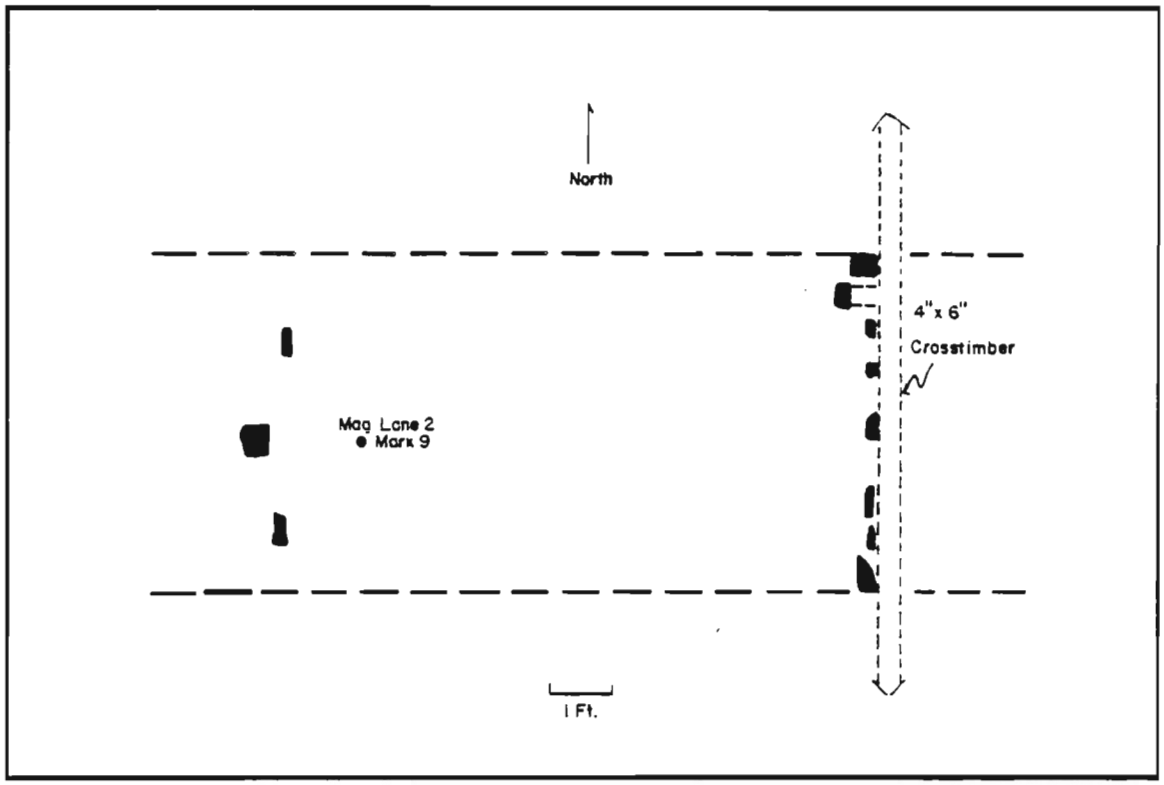


Figure 25. Willbrook Canak trunk, 38GE355.

and investigation. In order to develop an adequate historical context for assessing the historical significance of the canal, a survey of primary and secondary historical source materials should be undertaken. This research should be designed to shed light on the Allston family, Turkey Hill Plantation, and the development of rice agriculture in the South Carolina Low Country.

On-site mitigation is also recommended in light of proposed dredging activities. This research should be carried out to thoroughly document both the previously documented engineering structures and identify targets WB-5 and WB-7. The remains of the floodgate, trunks, and bulkheads at the north end of the canal should be exposed in situ, if possible, and design and construction features recorded using photography and engineering drawings. In the event that in situ documentation is not practical due to environmental constraints, the structures should be removed for documentation. As excavation will expose the structures to accelerated deterioration, the research design should include plans for reburial or removal and conservation of the structures. While the floodgate and trunks should be exposed and documented in their entirety, only junctions with the floodgate and trunks, corners, and sections of the bulkhead should be exposed and examined unless on-site evidence suggests otherwise. As the environment of the site makes excavation difficult, serious consideration should be given to the use of shoring and perhaps the systematic disassembly of the engineering features of the canal. Similar excavations should be carried out to permit identification and assessment of anomalies WB-5 and WB-7.

CONCLUSIONS

Michael Trinkley

The primary goal of this study involves the production of a revised compliance report, the proper curation of the recovered materials, and the inclusion of information on the "spot checks" of Lepionka's survey. All of these primary goals have been met with this publication. These investigations re-examined, at varying levels of intensity, all of Lepionka's recorded sites. Additional data were collected from most of the sites and revised recommendations of eligibility and treatments were offered (Table 35). The 1987 survey by Chicora identified an additional 26 archaeological sites, bringing the total at Willbrook up to 37 (see Table 35). All the recovered items have been professionally conserved and are curated at The Charleston Museum.

Of the 37 sites, 14 are recommended as eligible for inclusion in the National Register. In addition, Brooker recommends two standing structures, the tobacco barn and Barn I, as eligible, and the Willbrook canal is recommended as eligible by Watts and Hall. These eligible sites include two historic cemeteries, nine plantation loci, and three prehistoric sites. While not all sites exhibit equal levels of site integrity or artifactual quantity, each site does possess a combination of Glassow's (1977) archaeological properties which overall indicate a high level of significance. Not all sites, however, are recommended to receive the same level of treatment.

The cemetery sites (38GE293, 38GE300), specifically, are recommended for green spacing, although it is important to carefully outline their boundaries and ensure their protection. In addition, the stones in the Allston Cemetery 38GE300 will require the attention of a professional conservator, preferably one who is either a Professional Associate or Fellow of the American Institute for Conservation of Historic and Artistic Works. In addition, other sites, such as the Willbrook Plantation (38GE292), Oatland Industrial (38GE295), and 38GE354, may be suitable for preservation through green spaces or easements, although in each case it is important to adequately define the boundaries.

Most sites, because of their location relative to the proposed or current development activities, appear to require data recovery or excavation. Even in some of these cases,

Site	Site Name	Determination of Eligibility	Suggested Mitigation
38GE291	Willbrook Slave Settlement	eligible	auger tests; mapping; block excavation of a sample
38GE292	Willbrook Plantation	eligible	green space and easements to assure preservation of the kitchen, main house and Structure C
38GE293	Oatland Cemetery	eligible	green space and easements to assure preservation of the entire cemetery area
38GE294	Oatland Settlement	eligible	auger tests; mapping; block excavation of a sample
38GE295	Oatland Industrial	eligible	green space and easements to assure preservation
38GE296	Oatland Prehistoric	not eligible	none
39GE297	Turkey Hill Mainland	eligible	site tests and limited excavations
38GE298	Turkey Hill Island East	eligible	auger tests; mapping; block excavation of a sample
38GE299	Turkey Hill Plantation	eligible	auger tests; mapping; extensive block excavation or green space and easements
38GE300	Allston Cemetery	eligible	green space and easements to assure preservation of the entire cemetery area conservation treatment of the stones
38GE301	Willbrook Tenant Site	not eligible	none
38GE335	Willbrook Canal	eligible	documentation of engineering structures with reburial or conservation of the features
38GE336	----	not eligible	none
38GE337	----	not eligible	none
38GE338	----	not eligible	none
38GE339	----	not eligible	none
38GE340	----	eligible	auger tests; mapping; block excavation of a sample
38GE341	----	not eligible	none
38GE342	----	not eligible	none
38GE343	----	not eligible	none
38GE344	----	not eligible	none
38GE345	----	not eligible	none
38GE346	----	not eligible	none
38GE347	----	not eligible	none
38GE348	----	eligible	site tests and block excavation
38GE349	----	not eligible	none
38GE350	----	eligible	phased approach using site tests to further explore intensity; additional excavation depending on the findings
38GE351	----	not eligible	none
38GE352	----	not eligible	none
38GE353	----	not eligible	none
38GE354	----	eligible	green space and easements to assure preservation
38GE355	----	not eligible	none
38GE356	isolated find	not eligible	none
38GE357	----	not eligible	none
38GE358	----	not eligible	none
38GE359	----	not eligible	none
38GE360	----	not eligible	none
38GE361	Oatland Church	not eligible	none

Table 35. Summary of identified archaeological sites.

however, it may be possible to redesign or ensure site protection through protective easements. Decisions of this nature should be made by The Litchfield Company in consultation with the State Historic Preservation Officer.

In those cases where excavation has been recommended, I have offered a brief assessment of the extent of work which might reasonably be expected (see individual site descriptions and Table 35). Many sites have been recommended to receive additional preliminary study in the form of auger testing. This investigative technique has been found very successful at other sites, including Turkey Hill Plantation (38GE299). It provides a quick, thorough, and highly reliable view of the total site complex, and combined in the computer mapping of artifactual density, is an excellent guide to areas which deserve further study. Not all sites need receive, or require, the same degree of attention after the auger survey. For example, I have recommended four posited slave rows (38GE291, 38GE294, 38GE297, and 38GE298) as eligible for the National Register. All of these sites are significant because they each are capable of answering important research questions. Because all four sites are on adjacent plantations it is possible to control for geographic variability. Since I expect that all of the sites can be eventually documented through historical sources it will be possible to control for other factors, such as historic dates, and owner wealth and treatment of slaves. The four sites offer the potential to examine the range of variation in slave lifeways and material culture from a very small geographic area of Waccamaw Neck. The identification of two contemporaneous slave rows for both the Willbrook and Turkey Hill plantations, allows intra-plantation comparisons, perhaps between different classes of slaves. The research at Willbrook has the potential to offer a major advance in our understanding of Afro-American slavery in the Waccamaw Neck region, expanding the limited work conducted at the Heritage slave row by Garrow and Associates and the survey work from the Wachesaw area by Michie (1984). In spite of this, to avoid redundancy of data, I am recommending that only a portion of each site be intensively studied, which in effect will provide a sample of data from a variety of locations. This approach, which emphasizes understanding the diversity and range of variation over an intensive understanding of a single site, seems appropriate given how little archaeological research has been conducted in the region (see Joyner 1984:118).

One site, 38GE335, represents submerged engineering features, which Watts and Hall recommend for complete documentation through both engineering drawings and photography. They rightly point out that since this documentation will require complete exposure of the wooden members and metal hardware, the features will be exposed to accelerated biodeterioration. Consequently, before this work

is begun it is important to determine whether recordation will be the only requirement of mitigation or whether reburial elsewhere or conservation may be necessary.

Finally, one site (38GE350) has received the recommendation that work be conducted as a phased approach. Although the site appears to be eligible, the extent of construction disturbance could not be assessed during this work. As a result, as work progresses at this site it shoould be determined whether study is warranted beyond the testing phase.

Brooker has developed a series of recommendations for the standing structures at Willbrook, none of which have been given site numbers. Of the seven standing structures, two (the tobacco barn and Barn I) are recommended as eligible for inclusion in the National Register; since they appear to be intact examples of local, vernacular architecture. Brooker recommends that measured drawings (to the standards of the Historic American Buildings Survey) be made of these structures and then, if possible, the tobacco barn be preserved in place (with necessary rehabilitation) and that future use of the barn be considered. Both of these recommendations, of course, represent long term commitments and involve rehabilitation and conservation by professional architects and conservators.

The additional survey conducted by Chicora, as previously discussed, was not intended to represent a thorough compliance investigation, but was only designed to allow a judgment to be made on the effectiveness of the previous surveys by Lepionka. Based on this study, Lepionka's previous surveys cannot be considered to represent an intensive survey of the Willbrook tract. Undoubtedly additional sites, not found by Chicora, exist and will be impacted by future development.

Of the secondary goals, the most general was the desire to gather a representative body of archaeological and historical data useful for the examination of eighteenth and nineteenth century plantation activities and economics on the Waccamaw Neck. This study has developed basic historic sources, and has located a number of the most significant plantation loci, laying a foundation for future, plantation specific studies. Detailed archaeological studies are recommended for a number of plantation sites and more intensive historical analysis will be required. In addition, a very significant, but untapped resource, is the oral history of the local black population, particularly on Sandy Island. The future historical studies will not only need to further explore land ownership, but will need to concentrate on the economics of the individual plantations, perhaps through the examination of family papers and a more intensive study of the available government documents.

This survey phase was better able to offer conclusions on prehistoric settlement locations, although even here our conclusions are limited by the absence of an intensive survey. Of the 17 sites which can be considered to have a distinct prehistoric component, all are located on either Centenary (n=3), Chipley (n=1), Lakeland (n=6), or Wakulla (n=7) soils. These four soil series account for only 35% of the soils in the project area and the Wakulla soils, on which 41.2% of the sites are situated, account for only 0.7% of the soils in the Willbrook development. No sites are located on the well drained Youhannah soils and no sites were found on any of the poorly drained soils. Although this study emphasized the survey of better soils, some areas of poorly drained soils were examined during the general survey and in the process of traveling to isolated areas of well drained soils. Although not statistically supportable, I believe that there is a clear aboriginal preference for the well drained soils.
Further research in the Georgetown area should further explore this tendency in more depth.

Based on work by Brooks and Scurry (1978) I speculated that most of the prehistoric sites on the Willbrook tract would be Middle or Late Woodland occupations. This was not the case. In fact, of the sites assignable to specific temporal periods, only one (38GE350) yielded any significant amount of Middle or Late Woodland pottery. Most of the sites exhibit a dominance of Early Woodland phase Deep Creek pottery although one yielded a primary Refuge occupation (also Early Woodland). None of these produced a significant Middle Woodland occupation.

This pattern is strikingly similar to that reported by Phelps from North Carolina, where site density along the smaller tributary streams in the interior decreases from the Early Woodland Deep Creek to the Middle Woodland Mount Pleasant Phase. It appears that the Willbrook area, while attractive to the Early Woodland Deep Creek phase people, was largely deserted in the Middle Woodland.

The 17 prehistoric sites are found above 8 feet (2.5 meters) MSL and 14 sites (82.3%) are associated with swamp edge terraces. Two sites are clearly associated with interior ponds while one site (38GE347) is situated midway between a swamp slough and an inland bog or pond. These data present a fairly detailed picture of prehistoric site settlement in the Willbrook area. While inland ponds apparently presented resources attractive to prehistoric groups, larger sites are found adjacent to swamp sloughs on high, sandy terraces. Mahan et al. (1975:66) note that swamp areas, such as those associated with these prehistoric sties, have the highest carrying capacity for deer of all the coastal plain environments. This suggests that these small sites, with sparse Early Woodland Deep Creek pottery and only occasional

shell deposits, may have been briefly occupied hunting camps. In fact, these data, considered in light of the probable seasonal occupation at the nearby Minim Island shell midden (39GE46) (see Drucker and Jackson 1984), may reveal another segment of a complex Deep Creek subsistence and settlement round.

The recorded historic site locations largely correspond to previous expectations. The archaeological remains of the Willbrook Plantation reveal a series of structures constructed on high, well-drained ground overlooking a creek which provided water access to the Waccamaw River and to the various rice fields. In addition, the plantation had easy access to the King's Highway Public Road (which ran south to Charleston and north to the North Carolina line). A 1798 plat (Figure 6) reveals a clearly discernible "administrative nucleus" (detectable archaeologically), although the plantation lacks evidence of a "technical nucleus" and the barns appear to be fairly dispersed. Two slave rows are documented and have been identified in the archaeological record. The sites, which are found in close proximity to one another, are on high, well drained soils. The length of their occupation cannot be clearly determined, but at least one appears to evidence continuous occupation into the mid-nineteenth century.

While less work has been conducted at Turkey Hill, there are suggestions of a clustered "administrative nucleus" situated on the high, well drained soils of Turkey Hill Island. To gain access to the Waccamaw River a major canal was excavated from the vicinity of the plantation house to the river; access to the King's Highway is probable, but not clearly documented. Two slave rows are again present and both are situated on well drained soils, although farther apart than at Wellbrook. While there is no known plantation settlement at Oatland, at least one locus (38GE337) appears to represent a mid-eighteenth century high status occupation. This site, not unexpectedly, is situated on a ridge of well drained sand overlooking the rice fields. Another locus (38GE294) may represent a slave row or a middling-status occupation. A probable slave row is found nearby, again situated close to the rice fields, but on high, well drained soil.

At this early stage, it appears that all three plantations located their slave settlements adjacent to the rice fields, but on relatively healthful locations. In the case of Willbrook and Turkey Hill the plantations are located on coastal plain "hills" in close proximity to deep water. The locations, in both cases, are clearly the best locations and no real compromises appear to have been made by their builders.

The final goal of this study was to further examine the aboriginal ceramics from the Waccamaw Neck. The collections

were not large and many contain a considerable proportion of very small or eroded sherds. Those which are capable of typological identification, however, are predominately Deep Creek. These ceramics have been discussed in some detail by Phelps (1981:vi, 77, 79; 1983: 29-32) although he has never published a formal type description. Drucker (1983) has offered a provisional description from an inner coastal plain collection. Somewhat more detailed provisional type descriptions for Deep Creek were developed as a result of these collections and are presented as Appendix 1 of this study. I should not need to emphasize that these type descriptions, based on small surface collections from a variety of sites, need to be considered as a working paper to be revised as additional data are available.

The Refuge, Deptford, Mount Pleasant, Hanover, Oak Island, and Pee Dee wares all have been previously described in the literature and require no further discussion based on this study, with but two exceptions. First, a very few sherds clearly demonstrated hybridization between Deptford and Hanover, such as check stamping on a paste of sherd tempering. This, however, is not unusual and has been noted by other researchers (see, for example, Ward 1978). Second, only a single shell tempered Oak Island sherd was found in the survey area. It appears clear that whatever group this pottery may be associated with failed to extend their territory into Georgetown County. The density of Oak Island increases to the north into Horry County, but the ware is not significant until the vicinity of the White Oak River in North Carolina.

This initial research at the Willbrook tract has not only produced a compliance report detailing identified sites and their eligibility to the National Register, it has also indicated that important opportunities to examine a variety of issues concerning both slave and aboriginal lifeways exist. The number, geographic proximity, and temporal span of slave sites allow both diachronic and synchronic studies of Afro-American slave culture in the Waccamaw Neck region. The presence of intact Deep Creek phase sites will permit the more detailed examination of this group than has been previously possible. The rich cultural heritage of the Waccamaw Neck is clearly exemplified by the Willbrook development findings.

APPENDIX 1. DEEP CREEK POTTERY TYPE DESCRIPTIONS

Michael Trinkley

Deep Creek Plain

Method of Manufacture: This pottery was built by a coiling technique or by the use of annular rings. Depending on the individual potter the clay may be either well or poorly kneaded, with the result that coil fractures may be more or less common. At least some vessels were started from slabs of clay laid on a fiber or wicker mat; other vessels were constructed in a conoidal shape with an obvious teat.

Paste: Temper: The paste contains abundant quantities of sand temper which ranges in size from fine to coarse sand. Occasional large pebbles of quartz may be observed and in a few instances (primarily in the inner coastal plain) the pebbles may be quite common, composing 30 to 40% of the paste.

Hardness: 2.5 to 3.5

Texture: This pottery is commonly quite sandy to the touch, although it is usually fairly compact. No contortions or laminations are noted.

Color: Color varies from a light brown or reddish buff to brown-black. Incompletely fired darker colored cores are not uncommon.

Firing: The pottery appears to have been fired in an oxidizing atmosphere, although darker colored cores suggest that the vessels were incompletely fired.

Surface Treatment: The exterior of the vessels was usually smoothed with the hand or some other soft, yielding tool, although no surfaces were either burnished or polished. The interior was less carefully finished, although the coils were obliterated and there is evidence of rough smoothing. Occasionally the bottom of the vessel was left in a very rough condition.

Decoration: Usually no decoration is found, although a very few vessels were incised. Incising may be done with either a pointed or flat instrument. The design motifs vary from a single scratched line to

several parallel wavy lines around the rim of the vessel.

Form: Lip: The lip may be either rounded or flattened. The flat, unmodified lip appears to be most common at inner coastal plain sites.

Rim: Rims are usually straight but may be slightly everted.

Body: Frequently conoidal jars, occasionally large bowls. Vessel diameter may range up to 40 cm.

Base: Either conoidal or flattened.

Thickness: Wall sherds range in thickness from 4 to 10 mm with basal sherds frequently as thick as 14 mm.

Deep Creek Cord Marked

Surface Treatment: The exterior of these vessels was malleated with a cord-wrapped paddle, the cords of which show considerable variability. The cordage averages 1 to 3 mm in diameter. The tightness of the twist varies considerably and both final right and left twists have been observed. The paddle is usually applied perpendicular or at a slight angle to the rim. Overstamping is not uncommon, but does not appear to have been intentional in spite of a cross-hatch motif on some sherds. Occasionally the stamping extended into the interior of the vessel, otherwise the interior was roughly smoothed.

Deep Creek Fabric Impressed

Surface Treatment: The exterior surface of the vessels was stamped with a plaited wicker fabric composed of a fairly large diameter rigid warp and a loose, pliable weave. There is considerable variability of warp and weave diameter, which is a very crude chronological indicator, with the diameter decreasing through time. The warp rods average 3 mm in diameter and the weft about 1 mm or less. Phelps (1981:79) has suggested this type is actually "cord-dowel" impressed with a "cylinder-like tool wrapped with cord" rolled along the wet clay surface. Loftfield (1976:153-154) has suggested that plaited wicker fabric was rolled into a tube and that this tube was applied to the vessel surface with the warp rods parallel to the

rim. In either event there is little overstamping. The interior vessel surface was roughly smoothed with a soft tool, or occasionally the stamping extended into the interior of the vessel.

Deep Creek Simple Stamped

Surface Treatment: This pottery was malleated with a thong-wrapped paddle, or occasionally a carved paddle. The thongs are usually 2 to 4 mm wide, the carved lands and grooves 2 to 3 mm wide. Overstamping is common and there does not appear to be any orientation of the stamping. The interior of the vessel was roughly smoothed with a soft object.

Deep Creek Net Impressed

Surface Treatment: The exterior surfaces are stamped with paddle wrapped with a knotted net. A few sherds appear to have been impressed with a wad of netting. The fabric is composed of twisted fiber cords 1.5 to 3 mm in diameter with knots up to 5 mm in diameter. Overstamping is common. The interior surfaces are usually roughly smoothed.

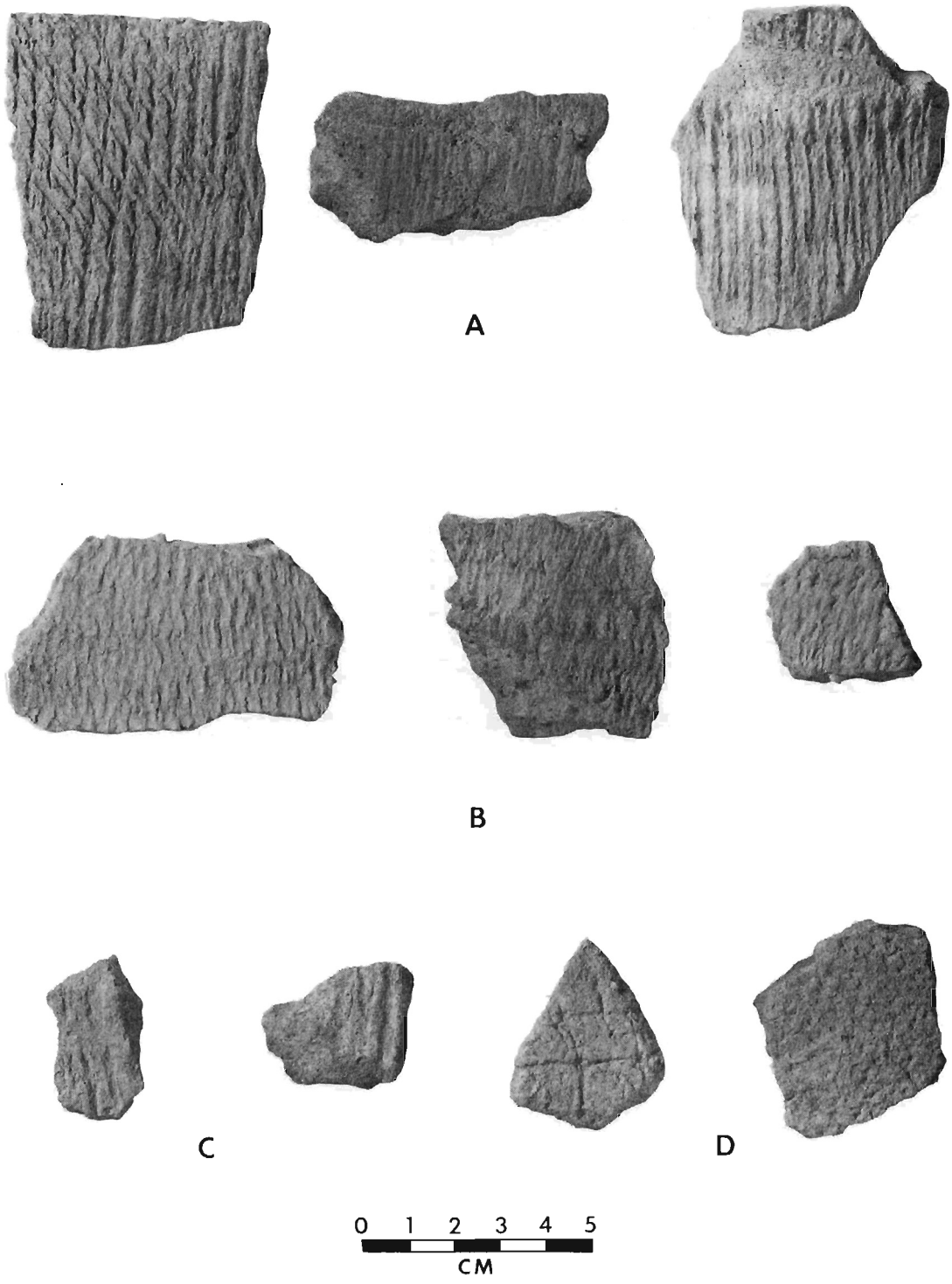


Figure 26. Deep Creek Series. A, Deep Creek Cord Marked; B, Deep Creek Fabric Impressed; C, Deep Creek Simple Stamped; D, Deep Creek Net Impressed.

APPENDIX 2. METRIC ANALYSIS OF PROJECTILE POINTS

Small Savannah River Stemmed

	ARL-38800	ARL-38880
Max. Length	46 mm*	43 mm
Max. Stem Width	16 mm	17 mm
Max. Thickness	9 mm	14 mm
Shoulder Width	25 mm	24 mm
Blade Length	32 mm	35 mm

Yadkin

	ARL-38618
Max. Length	30 mm*
Max. Thickness	5 mm
Max. Width	22 mm

Caraway Triangular

	ARL-38925
Max. Length	20 mm
Max. Thickness	4 mm
Max. Width	18 mm

*Tip is broken, measurement is estimated

REFERENCES

Allston, Elizabeth Deas
1936 Allstons and Alstons of Waccamaw. n.p., n.p.

Anderson, David G. and Trisha Logan
1981 Francis Marion National Forest: Cultural Resources Overview. U. S. Department of Agriculture, Forest Service, Columbia.

Anonymous
1845 The Genealogical Tree. Simms' Magazine 2:51-58.

Bailey, N. Louise (editor)
1986 Biographical Directory of the Senate, 1776-1985, vol. 1. University of South Carolina Press, Columbia.

Bartovics, Albert
1978 The Archaeology of Daniels Village: An Experiment in Settlement Archaeology. Ms. on file, Department of Anthropology, Brown University, Providence.

Bevill, Vernon
1978 Wild Turkey. In Game on Your Land, part 2, edited by Cassie Griffin, pp. 21-59. S.C. Wildlife and Marine Resources Department, Columbia.

Bolick, Julian Stevenson
1946 Waccamaw Plantations. Jacobs Press, Clinton, South Carolina.

Brooks, Mark J. and James D. Scurry
1978 An Intensive Archaeological Survey of Amoco Reality Property in Berkeley County, South Carolina with a Test of Two Subsistence-Settlement Hypotheses for the Prehistoric Period. Research Manuscript Series 147. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Brown, Paul J.
1975 Coastal Morphology of South Carolina. Unpublished M.S. thesis, Department of Geology, University of South Carolina, Columbia.

Cain, Ronald L.
1973 The Annual Occurrence, Abundance and Diversity of Fishes in an Intertidal Creek. Unpublished Master's thesis, Department of Biology, University of South Carolina, Columbia.

Calhoun, Jeanne A.
1983 The Scourging Wrath of God: Early Hurricanes in Charleston, 1700-1804. Leaflet Number 29. The Charleston Museum, Charleston, South Carolina.

Carpenter, James G.
1973 The Rice Plantation Lands of Georgetown County, South Carolina: A Historical Geographic Study. Unpublished Master's thesis, Department of Geography, University of South Carolina, Columbia.

Coe, Joffre L.
1964 The Formative Cultures of the Carolina Piedmont. Transactions of the American Philosophical Society 54(5).

Cooke, C. Wythe
1936 Geology of the Coastal Plain of South Carolina. Bulletin 867. U.S. Geological Survey, Washington, D.C.

Crawford, Robert G.
1966 An Archaeological Survey of Lenoir County, North Carolina. Unpublished Master's thesis, Department of Anthropology, University of Florida, Gainesville.

Doar, David
1936 Rice and Rice Planting in the South Carolina Low Country. Contributions 8. The Charleston Museum, Charleston, South Carolina.

Drucker, Lesley
1980 A Cultural Resources Inventory of Selected Areas of the Oaks and Laurel Hill Plantations, Brookgreen Gardens, Georgetown County, South Carolina. Carolina Archaeological Services, Columbia. Submitted to Brookgreen Gardens and S.C. Department of Archives and History, Columbia.

1983 Deep Creek Ceramics from Two Sites of the Inner Coastal Plain of South Carolina. South Carolina Antiquities 15:55-60.

Drucker, Lesley and Ronald Anthony
1980 A Cultural Resources Inventory of Myrtle Beach Air Force Base, Myrtle Beach, South Carolina. Carolina Archaeological Services, Columbia. Prepared for National Park Service, Interagency Archaeological Services, Atlanta.

Drucker, Lesley and Susan Jackson
1984 Shell in Motion: An Archaeological Study of the Minim Island National Register Site, Georgetown County, South Carolina. Carolina Archaeological Services, Columbia, South Carolina. Submitted to Charleston District, U.S. Army Corps of Engineers, Charleston.

Drucker, Lesley, Ronald Anthony, Susan Jackson, Susan Krantz, and Carl Steen
1984 An Archaeological Study of the Little River-Buffalo Creek Special Land Disposal Tract. Carolina Archaeological Services, Columbia, South Carolina. Submitted to U.S. Army Corps of Engineers, Savannah District, Savannah, Georgia.

Edgar, Walter B. and N. Louise Bailey (editors)
1977 Biographical Directory of the South Carolina House of Representatives, vol. 2. University of South Carolina Press, Columbia.

Engelmayer, Reinhold
1980 Final Report of an Archaeological Survey of Rum Bluff. Archaeological Field Research Company, Conway, South Carolina. Prepared for Rum Bluff Partnership, North Myrtle Beach, South Carolina.

Flint, Richard F.
1971 Glacial and Quaternary Geology. John Wiley and Sons, New York.

Fogg-Amed, Erika
1980 Notes on Archaeological Work Done on the Northeast Coast of South Carolina, 1963-1965. Ms. on file, S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Gailbraith, J.E.H.
1909 Inscriptions from the Allston Burying Ground at Turkey Hill Plantation Near Waccamaw. South Carolina Historical Magazine 10:181-183.

Garrow, Patrick H. (editor)
1982 Archaeological Investigations on the Washington, D.C. Civic Center Site. Soil Systems, Inc., n.p. Submitted to Historic Preservation Office, Department of Housing and Community Development, Government of the District of Columbia.

Georgetown County Historical Society
1980 Georgetown County, South Carolina Tombstone Inscriptions. Georgetown County Historical Society, Georgetown.

Glassow, Michael A.
1977 Issues in Evaluating the Significance of Archaeological Resources. American Antiquity 42:413-420.

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

Gordon, Jean and Jan McArthur
1979 Living Patterns in Antebellum Rural America as Depicted by Nineteenth-Century Women Writers. Winterthur Portfolio 19:177-192.

Gregorie, Anne King
1926 Indian Trade of Carolina in the Seventeenth Century. Unpublished Master's thesis, Department of History, University of South Carolina, Columbia.

Hartley, Michael O.
1984 The Ashley River: A Survey of Seventeenth Century Sites. Research Manuscript Series 192. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Hilliard, Sam B.
1975 The Tidewater Rice Plantation: An Ingenious Adaptation to Nature. Geoscience and Man 12:57-66.

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

Hodge, Fredrick W. (editor)
1910 Handbook of American Indians North of Mexico. Bulletin 30. Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.

Huneycutt, Dwight J.
1949 The Economics of the Indigo Industry in South Carolina. Unpublished Master's thesis, Department of Economics, University of South Carolina, Columbia.

Joyner, Charles
1984 Down by the Riverside: A South Carolina Slave Community. University of Illinois Press, Urbana.

Keel, Bennie
1985 Peer Review. In Gone to a Better Land: A Biohistory of a Rural Black Cemetery in the Post-Reconstruction South, edited by Jerome C. Rose, pp. 214-215. Research Series 25. Arkansas Archaeological Survey, Fayetteville.

Kuchler, A.W.
1964 Potential Natural Vegetation of the Conterminous United States. Special Publication 36. American Geographical Society.

Kurz, Herman and Kenneth Wagner
1957 Tidal Marshes of the Gulf and Atlantic Coasts of Northern Florida and Charleston, South Carolina. Florida State University Studies 24. The Florida State University, Tallahassee.

Lachicotte, Alberta Morel
1955 Georgetown Rice Plantations. State Commercial Printing, Columbia.

Larsen, Clark S. and David H. Thomas
1982 The Anthropology of St. Catherines Island 4: The St. Catherines Period Mortuary Complex. Anthropological Papers 57(4). The American Museum of Natural History, New York.

Lee, E. Lawrence
1963 Indian Wars in North Carolina, 1663-1763. The Carolina Charter Tercentenary Commission, Raleigh.

Lees, William B.
1980 Old and In the Way: Archaeological Investigations at Limerick Plantation, Berkeley County, South Carolina. Anthropological Studies 3. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Lefler, Hugh Talmage (editor)
1967 A New Voyage to Carolina. University of North Carolina Press, Chapel Hill.

Lepionka, Larry
1984 Preliminary Archaeological Reconnaissance of Willbrook Plantation, Waccamaw Neck, Georgetown County, South Carolina. Submitted to The Litchfield Company, Pawleys Island, South Carolina.

1985 Archaeological Reconnaissance Survey, Willbrook Plantation, Waccamaw Neck, Georgetown County, South Carolina. Submitted to The Litchfield Company, Pawleys Island, South Carolina.

1986 Archaeological Survey of Willbrook Plantation, Waccamaw, Georgetown County, South Carolina. Submitted to The Litchfield Company, Pawleys Island, South Carolina.

Lepionka, Larry, Donald Colquhoun, Rochelle Marrinan, David McCollum, Mark Brooks, John Foss, William Abbott, and Ramona Grunden
1983 The Second Refuge Site: Location 22 (38JA61), Savannah National Wildlife Refuge, Jasper County, South Carolina. University of South Carolina-Beaufort. Submitted to National Park Service, Interagency Archaeological Service, Atlanta.

Loftfield, Thomas C.
1976 "A Briefe and True Report . . .": An Archaeological Interpretation of the Southern North Carolina Coast. Unpublished Ph.D. dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

Loftfield, Thomas C.
1979 Excavations at On v33, A Late Woodland Seasonal Village. University of North Carolina, Wilmington. Prepared for the Heritage Conservation and Recreation Service, National Park Service, Washington, D.C.

Lynch, P.N., J.F.M. Geddings, and C.U. Shepard
1882 Artesian Wells - 1823-1879. Yearbook - City of Charleston, Charleston, S.C.

Mahan, William E., Mark O. Bara, Tommy Strange, Jr., and Miller G. White
1985 Santee Swamp Wildlife Resources Report. In Interim Report of the Taskforce, edited by Frank P. Nelson, pp. 52-76. S.C. Water Resources Commission, Columbia.

Mason, Robert E.
1976 A Historical Geography of South Carolina's Sea Island Cotton Industry. Unpublished Master's thesis, Department of Geography, University of South Carolina, Columbia.

Mathews, Thomas D., Frank W. Stapor, Jr., Charles R. Richter, John V. Miglarese, Michael D. McKenzie, and Lee R. Barclay
1980 Ecological Characterization of the Sea Island Coastal Region of South Carolina and Georgia, vol. 1. Office of Biological Services, Fish and Wildlife Service, Washington, D.C.

McDaniel, George W.
1982 Hearth and Home: Preserving a People's Culture. Temple University Press, Philadelphia.

McDowell, W. L. (editor)
1955 Journals of the Commissioners of the Indian Trade, September 20, 1710 - August 29, 1718. South Carolina Archives Department, Columbia.

Michie, James
1977 The Late Pleistocene Human Occupation of South Carolina. Unpublished Honor's thesis, Department of Anthropology, University of South Carolina, Columbia.

1984 An Initial Archaeological Survey of The Wachesaw/Richmond Plantation Property, Georgetown County, South Carolina. Research Manuscript Series 191. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Milanich, Jerald T.
1971 The Deptford Phase: An Archaeological Reconstruction. Ph.D. dissertation, University of Florida. University Microfilms, Ann Arbor.

Miller, George C.
1980 Classification and Economic Scaling of 19th Century Ceramics. Historical Archaeology 14:1-40.

Milling, Chapman J.
1969 Red Carolinians. University of South Carolina Press, Columbia.

Mooney, James
1894 The Siouan Tribes of the East. Bulletin 22. Bureau of American Ethnology, Washington, D.C.

Moore, Gerald
1978 White-Tailed Deer. In Game on Your Land, part 2, edited by Cassie Griffin, pp. 4-18. S.C. Wildlife and Marine Resources Department, Columbia.

National Park Service
1986 Guidelines for Completing National Register of Historic Places Forms. National Register Bulletin 16. National Park Service, Interagency Resources Division, Washington, D.C.

Nelson, Lee H.
1968 Nail Chronology as an Aid to Dating Old Buildings. Technical Leaflet 48. American Association for State and Local History, Nashville, Tennessee.

Noel Hume, Ivor
1970 A Guide to Artifacts of Colonial America. Alfred A. Knopf, New York.

Ogg, David
1958 New College, Oxford, and South Carolina: A Personal Link. South Carolina Historical Magazine 59:61-63.

Owsley, Frank L.
1949 Plain Folk of the Old South. Louisiana State University Press, Baton Rouge.

Peterson, Drexel
1971 Time and Settlement in the Archaeology of Groton Plantation, South Carolina. Unpublished Ph.D.dissertation, Department of Anthropology, Harvard University, Cambridge.

Phelps, David S.
1978 Archaeological Studies in the Northern Coastal Zone of North Carolina. Publication No. 6. North Carolina Archaeological Council, Raleigh.

1980 Archaeological Salvage of an Ossuary at the Baum Site. Archaeological Laboratory, East Carolina University, Greenville, North Carolina.

1981 The Archaeology of Colington Island. Archaeological Research Report 3. Archaeology Laboratory, East Carolina University, Greenville, North Carolina.

1982 A Summary of Colington Phase Sites in the Tidewater Zone of North Carolina. Archaeology Laboratory, East Carolina University, Greenville, North Carolina.

1983 Archaeology of the North Carolina Coast and Coastal Plain: Problems and Hypotheses. In The Prehistory of North Carolina, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 1-51. North Carolina Division of Archives and History, Raleigh.

1984 Archaeology of the Tillett Site: The First Fishing Community at Wanchese, Roanoke Island. Archaeological Research Report 6. Department of Sociology, Anthropology and Economics, East Carolina University, Greenville, North Carolina.

Postell, William D.
1970 The Health of Slaves on Southern Plantations. Peter Smith, Glouster.

Price, Cynthia R.
1979 19th Century Ceramics in the Eastern Ozark Border Region. Monograph Series 1. Center for Archaeological Research, Southwest Missouri University, Springfield.

Quitmyer, Irvey
1985a Aboriginal Subsistence Activities in the Kings Bay Locality. In Aboriginal Subsistence and Settlement Archaeology of the Kings Bay Locality, vol. 2, edited by William H. Adams, pp. 73-91. Reports of Investigations 2. Department of Anthropology, University of Florida, Gainesville.

1985b The Environment of the Kings Bay Locality. In Aboriginal Subsistence and Settlement Archaeology of the Kings Bay Locality, vol. 2, edited by William H. Adams, pp. 1-32. Reports of Investigations 2. Department of Anthropology, University of Florida, Gainesville.

Rathbun, Ted
1985a Current Research - University of South Carolina. COSCAPA Newsletter 5(4):3-4.

1985b Peer Review. In Gone to a Better Land: A Biohistory of a Rural Black Cemetery in the Post Reconstruction South, edited by Jerome C. Rose, pp. 208-211. Research Series 25. Arkansas Archaeological Survey, Fayetteville.

1987 Health and disease at a South Carolina Plantation: 1840-1870. American Journal of Physical Anthropology, in press.

Rights, Douglas L.
1957 The American Indian in North Carolina. John F. Blair, Winston-Salem, North Carolina.

Rivers, William J.
1874 A Chapter in the Early History of South CarolinaWalker, Evans and Cogswell, Charleston, South Carolina.

Rogers, Edwin P., Jr.
n.d. Properties Related to the Production of Bright, or Flue-Cured, Tobacco in Marion and Dillon Counties -- National Register of Eligibility Nomination Form. Ms. on file; South Carolina Department of Archives and History, Columbia.

Rogers, George C., Jr.
1970 The History of Georgetown County, South Carolina. University of South Carolina Press, Columbia.

Rose, Jerome C. (editor)
1985 Gone to a Better Land: A Biohistory of a Rural Black Cemetery in the Post-Reconstruction South. Research Series 25. Arkansas Archaeological Survey, Fayetteville.

Salley, A.S.
1905 John Alston. South Carolina Historical Magazine 6:114-116.

Sandifer, Paul A., John V. Miglarese, Dale R. Calder, John J. Manzi, and Lee A. Barclay
1980 Ecological Characterization of the Sea Island Coastal Region of South Carolina and Georgia, vol. 3. Office of Biological Services, Fish and Wildlife Service, Washington, D.C.

Scurry, James D. and Mark J. Brooks
1980 An Intensive Archaeological Survey of the South Carolina State Ports Authority's Belleview Plantation, Charleston, South Carolina. Research Manuscript Series 158. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Service, E. R.
1966 The Hunters. Prentice-Hall, Englewood Cliffs.

Singleton, Theresa A.
1980 The Archaeology of Afro-American Slavery in Coastal Georgia: A Regional Perception of Slave Household and Community Patterns. Ph.D. dissertation, University of Florida. University Microfilms, Ann Arbor.

Smith, Henry A.M.
1913 The Baronies of South Carolina. South Carolina Historical Magazine 14:61-80.

South Carolina State Historic Preservation Office
1987 Draft Preliminary Archaeological Guidelines. S.C. Department of Archives and History, Columbia.

South Carolina Water Resources Commission
1973 Wando River Environmental Quality Studies, An Interim Report. Columbia, S.C.

South, Stanley
1960a An Archaeological Survey of Southeastern North Carolina. Ms. on file, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1960b An Archaeological Survey of Two Islands on the White Oak River. Ms. on file, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1962 Exploratory Excavation of the McFayden Mound. Ms. on file, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1977 Method and Theory in Historical Archaeology. Academic Press, New York.

South, Stanley and Mike Hartley
1980 Deep Water and High Ground: Seventeenth Century Low Country Settlement. Research Manuscript Series 166. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Stoney, Samuel Gaillard (editor)
1946 Memoirs of Frederick Adolphus Porcher (1838-1848). South Carolina Historical Magazine 48:92-93.

Stuckey, Benjamin N.
1982 Soil Survey of Georgetown County, South Carolina. Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C.

Swanton, John R.
1952 The Indian Tribes of North America. Bulletin 145. Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.

Talmage, Valerie and Olga Chesler
1977 The Importance of Small, Surface and Disturbed Sites as Sources of Significant Archaeological Data. National Park Service, Department of the Interior, Washington, D.C.

Thom, Bruce G.
1967 Coastal and Fluvial Landforms: Horry and Marion Counties, S.C. Coastal Studies Series 19. Louisiana State University, Baton Rouge.

Trinkley, Michael
1980 Investigations of the Woodland Period Along the South Carolina Coast. Ph.D. dissertation, University of North Carolina at Chapel Hill. University Microfilms, Ann Arbor.

1981 Studies of Three Woodland Period Sites in Beaufort County, South Carolina. S.C. Department of Highways and Public Transportation, Columbia.

1982 A Summary Report of the Excavations at Alligator Creek, Charleston County, S.C. U.S. Department of Agriculture, Forest Service, Columbia.

1983 Ceramics of the Central South Carolina Coast. South Carolina Antiquities 15:43-54.

1983b "Let Us Now Praise Famous Men" - If Only We Can Find Them. Southeastern Archaeology 2:30-36.

1984 Archaeological Testing of 38HR133, Horry County, South Carolina. South Carolina Department of Highways and Public Transportation, Columbia.

1986 Archaeological Investigations at the Reed Gold Mine Engine Mill House (38CA18**1). Research Series 6. Chicora Foundation, Columbia, South Carolina.

1987a An Archaeological Reconnaissance of Hobcaw Plantation, Charleston County, South Carolina. Research Series 10. Chicora Foundation, Columbia.

1987b An Archaeological Survey of Longpoint Development, Charleston County, South Carolina: Palmetto Grove Plantation. Research Series 8. Chicora Foundation, Columbia.

1987c Management Summary of an Archaeological Survey of a Portion of the Willbrook Development, Georgetown County, South Carolina. Research Contribution 16. Chicora Foundation, Columbia.

Trinkley, Michael and Olga Caballero
1983 Additional Archaeological, Historical, and Architectural Evaluation of 38HR127 and 38HR131, Horry County, South Carolina. South Carolina Department of Highways and Public Transportation, Columbia.

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

Wann, E. V.
1977 Sweet Corn. In The Yearbook of Agriculture: Gardening for Food and Fun, pp. 181-186. U.S. Department of Agriculture, Washington, D.C.

Ward, Trawick
1978 The Archaeology of Whites Creek, Marlboro County, S.C. Research Laboratories of Anthropology, University of North Carolina, Chapel Hill. Prepared for Carolina Power and Light, Raleigh.

Watts, W. A.
1979 A Pollen-Analytical Study of White Pond, Elgin, Near Columbia. In An Archaeological Survey of the U.S. 151 Widening. Ms. on file, S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

White, John R. and P. Nick Kardulias
1985 The Dynamics of Razing: Lessons from the Barnhisel House. Historical Archaeology 19:65-75.

Williams, Stephen (editor)
1968 The Waring Papers: The Collected Works of Antonio J. Waring, Jr. Archaeology and Ethnology, Harvard University, Cambridge.

Wilson, Homes Hogue
1982 An Analysis of Skeletal Material from Bw*67, Brunswick County, North Carolina. Unpublished Master's thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

Wilson, Jack H., Jr.
1983 A Study of the Late Prehistoric, Protohistoric, and Historic Indians of the Carolina and Virginia Peidmont. Unpublished Ph.D. dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

Winberry, John J.
1979 Indigo in South Carolina: A Historic Geography. Southeastern Geographer 19.

Wright, H. E., Jr.
n.d. Environmental Change and the Origin of Agriculture in the Old and New Worlds. Ms. on file, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Zierden, Martha and Jeanne Calhoun
1983 An Archaeological Assessment of the Greenfield Borrow Pit. The Charleston Museum, Charleston, South Carolina.

Zierden, Martha A., Lesley M. Drucker, Jeanne Calhoun (editors)
1986 Home Upriver: Rural Life on Daniel's Island, Berkeley County, South Carolina. Carolina Archaeological Services, Columbia, and The Charleston Museum, Charleston. Submitted to the S.C. Department of Highways and Public Transportation, Columbia.

ARCHAEOLOGICAL RESEARCH

HISTORICAL STUDIES

MUSEUM SUPPORT PROGRAMS

PRESERVATION

EDUCATION

CHICORA FOUNDATION, INC.
P.O. Box 8664 • 861 Arbutus Drive
Columbia, South Carolina 29202
(803) 787-6910