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An Intensive Archeological Survey and Testing of the Proposed Lower Dorchester County Wastewater Facilities Project Area Near Summerville, South Carolina

Mark J. Brooks
University of South Carolina - Columbia, mjbrooks@mailbox.sc.edu

Michael A. Harmon

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An Intensive Archeological Survey and Testing of the Proposed Lower Dorchester County Wastewater Facilities Project Area Near Summerville, South Carolina

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AN INTENSIVE ARCHEOLOGICAL SURVEY AND TESTING
OF THE PROPOSED LOWER DORCHESTER COUNTY
WASTEWATER FACILITIES PROJECT AREA NEAR
SUMMERVILLE, SOUTH CAROLINA

by

Mark J. Brooks and Michael A. Harmon
Research Manuscript Series No. 183

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Prepared by the
INSTITUTE OF ARCHEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
December 1981
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS.</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF FIGURES.</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
<tr>
<td>INTRODUCTION.</td>
<td>1</td>
</tr>
<tr>
<td>Overview.</td>
<td>1</td>
</tr>
<tr>
<td>Organization of This Report.</td>
<td>2</td>
</tr>
<tr>
<td>BACKGROUND TO 38DR33 RESEARCH.</td>
<td>5</td>
</tr>
<tr>
<td>Introduction.</td>
<td>5</td>
</tr>
<tr>
<td>Archeological Background of Berkeley, Charleston and Dorchester Counties.</td>
<td>5</td>
</tr>
<tr>
<td>Historical Background of Baker's Plantation.</td>
<td>10</td>
</tr>
<tr>
<td>Early Historical Developments in South Carolina.</td>
<td>12</td>
</tr>
<tr>
<td>Baker's Plantation in the Colonial and Antebellum Periods.</td>
<td>12</td>
</tr>
<tr>
<td>Subsistence Activities at Baker's Plantation.</td>
<td>13</td>
</tr>
<tr>
<td>Postbellum Developments.</td>
<td>14</td>
</tr>
<tr>
<td>ARCHEOLOGICAL RESEARCH AT 38DR33: THEORETICAL CONSIDERATIONS</td>
<td>17</td>
</tr>
<tr>
<td>AND RESEARCH GOALS</td>
<td></td>
</tr>
<tr>
<td>Introduction.</td>
<td>17</td>
</tr>
<tr>
<td>Archeology, Cultural Systems and the Archeological Record.</td>
<td>17</td>
</tr>
<tr>
<td>Theoretical Framework for the 38DR33 Archeological Research.</td>
<td>18</td>
</tr>
<tr>
<td>Historic Research at 38DR33</td>
<td>19</td>
</tr>
<tr>
<td>Prehistoric Research at 38DR33</td>
<td>21</td>
</tr>
<tr>
<td>THE EFFECTIVE ENVIRONMENT.</td>
<td>25</td>
</tr>
<tr>
<td>Introduction.</td>
<td>25</td>
</tr>
<tr>
<td>Geology of the 38DR33 Areas: An Overview</td>
<td>25</td>
</tr>
<tr>
<td>Soil, Hydrologic, and Biotic Variability in the Vicinity of 38DR33 During the Late Prehistoric and Historic Periods</td>
<td>26</td>
</tr>
<tr>
<td>DATA COLLECTION METHODS.</td>
<td>29</td>
</tr>
<tr>
<td>Introduction.</td>
<td>29</td>
</tr>
<tr>
<td>Phase I</td>
<td>30</td>
</tr>
<tr>
<td>Phase II</td>
<td>31</td>
</tr>
<tr>
<td>Phase III</td>
<td>31</td>
</tr>
<tr>
<td>Phase IIIa</td>
<td>31</td>
</tr>
<tr>
<td>Phase IIIb</td>
<td>35</td>
</tr>
<tr>
<td>Evaluation of Methods</td>
<td>36</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS (CONTINUED)

ARCHEOLOGICAL SITE DATA.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>39</td>
</tr>
<tr>
<td>Historic Site Data</td>
<td>39</td>
</tr>
<tr>
<td>38DR10</td>
<td>39</td>
</tr>
<tr>
<td>38DR34</td>
<td>40</td>
</tr>
<tr>
<td>38DR33</td>
<td>41</td>
</tr>
<tr>
<td>Phase II</td>
<td>41</td>
</tr>
<tr>
<td>Phase IIIa</td>
<td>43</td>
</tr>
<tr>
<td>Phase IIIb - Unit 1</td>
<td>48</td>
</tr>
<tr>
<td>Phase IIIb - Unit 2</td>
<td>49</td>
</tr>
<tr>
<td>Prehistoric Site Data</td>
<td>54</td>
</tr>
<tr>
<td>38DR33</td>
<td>54</td>
</tr>
<tr>
<td>Phase I</td>
<td>54</td>
</tr>
<tr>
<td>Phase IIIa</td>
<td>57</td>
</tr>
<tr>
<td>Phase IIIb - Unit 1</td>
<td>69</td>
</tr>
<tr>
<td>Phase IIIb - Unit 2</td>
<td>69</td>
</tr>
</tbody>
</table>

RESEARCH CONCLUSIONS AND RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>77</td>
</tr>
<tr>
<td>Historic Period Research at 38DR33: Summary and Conclusions</td>
<td>77</td>
</tr>
<tr>
<td>Prehistoric Period Research at 38DR33: Summary and Conclusions</td>
<td>81</td>
</tr>
<tr>
<td>Management Summary and Recommendations</td>
<td>85</td>
</tr>
</tbody>
</table>

BIBLIOGRAPHY                                  | 87   |
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# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIGURE 1</td>
<td>Locator Map of Project Area, Dorchester County, South Carolina.</td>
<td>2</td>
</tr>
<tr>
<td>FIGURE 2</td>
<td>Location of Baker's Plantation.</td>
<td>11</td>
</tr>
<tr>
<td>FIGURE 3</td>
<td>Contour Map of Treatment Plant and Access Road.</td>
<td>15</td>
</tr>
<tr>
<td>FIGURE 4</td>
<td>Reconnaissance and Phase II Data Collection Units at 38DR33.</td>
<td>32</td>
</tr>
<tr>
<td>FIGURE 5</td>
<td>Phase IIIa and IIIb Data Collection Units at 38DR33.</td>
<td>34</td>
</tr>
<tr>
<td>FIGURE 6</td>
<td>Plan View of Earthen Dam at Site 38DR34.</td>
<td>41</td>
</tr>
<tr>
<td>FIGURE 7</td>
<td>Phase IIIa SYMAP Showing Distribution of Brick Rubble at 38DR33.</td>
<td>46</td>
</tr>
<tr>
<td>FIGURE 8</td>
<td>Phase IIIa SYMAP Showing Distribution of Historic Artifacts at 38DR33.</td>
<td>46</td>
</tr>
<tr>
<td>FIGURE 9</td>
<td>Phase IIIa SYMAP Showing Distribution of All Historic Artifacts at 38DR33.</td>
<td>47</td>
</tr>
<tr>
<td>FIGURE 10</td>
<td>Site 38DR33, Phase IIIb, Test Unit 1, Overview of Unit Looking Southeast.</td>
<td>48</td>
</tr>
<tr>
<td>FIGURE 11</td>
<td>Site 38DR33, Phase IIIb, Test Unit 1, Plan of Brick Floor in Unit 1-C.</td>
<td>49</td>
</tr>
<tr>
<td>FIGURE 12</td>
<td>Plan View and Profile of Brick Floor Section Uncovered by Test Unit 1 During Phase IIIb at 38DR33</td>
<td>50</td>
</tr>
<tr>
<td>FIGURE 13</td>
<td>Site 38DR33, Phase IIIb, Test Unit 2, Looking Southwest.</td>
<td>51</td>
</tr>
<tr>
<td>FIGURE 14</td>
<td>Site 38DR33, Phase IIIb, Test Unit 2, South Profile.</td>
<td>51</td>
</tr>
<tr>
<td>FIGURE 15</td>
<td>Phase IIIa Distributional Map of Brick and Historic Artifact Concentrations of 38DR33</td>
<td>55</td>
</tr>
<tr>
<td>FIGURE 16</td>
<td>Phase IIIa SYMAP of all Prehistoric Artifacts from 38DR33.</td>
<td>59</td>
</tr>
<tr>
<td>FIGURE 17</td>
<td>Phase IIIa SYMAP showing distribution of All Prehistoric Ceramics at 38DR33.</td>
<td>60</td>
</tr>
</tbody>
</table>
LIST OF FIGURES (CONTINUED)

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIGURE 18</td>
<td>Phase IIIa SYMAP Showing Distributions of Fabric Impressed Prehistoric Ceramics at 38DR33</td>
<td>61</td>
</tr>
<tr>
<td>FIGURE 19</td>
<td>Phase IIIa SYMAP Illustrating Distribution of Check Stamped Prehistoric Ceramics at 38DR33</td>
<td>62</td>
</tr>
<tr>
<td>FIGURE 20</td>
<td>Phase IIIa SYMAP Showing Distribution of Cordmarked Prehistoric Ceramics at 38DR33</td>
<td>63</td>
</tr>
<tr>
<td>FIGURE 21</td>
<td>Phase IIIa SYMAP Showing Distribution of Plain Prehistoric Ceramics at 38DR33</td>
<td>64</td>
</tr>
<tr>
<td>FIGURE 22</td>
<td>Phase IIIa SYMAP Showing Distribution of Simple Stamped Prehistoric Ceramics at 38DR33</td>
<td>65</td>
</tr>
<tr>
<td>FIGURE 23</td>
<td>Phase IIIa SYMAP Illustrating Distribution of Total Lithic Artifact Assemblages at 38DR33</td>
<td>66</td>
</tr>
<tr>
<td>FIGURE 24</td>
<td>Distribution of all Prehistoric Material and Chert Stamped, Cordmarked, and Fabric Impressed Ceramics From Phase IIIa Relative to the Location of Phase IIIb, Test Unit 2</td>
<td>73</td>
</tr>
<tr>
<td>TABLE</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>General Surface Collection From 38DR10 and 38DR34.</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>Historic Artifacts Recovered From Reconnaissance and Phase II Testing.</td>
<td>42</td>
</tr>
<tr>
<td>3</td>
<td>Historic Artifacts From Phase IIIa Shovel Tests at 38DR33.</td>
<td>44</td>
</tr>
<tr>
<td>4</td>
<td>Historic Artifacts From Phase IIIb Testing at 38DR33.</td>
<td>52</td>
</tr>
<tr>
<td>5</td>
<td>Tabulation and Measurement of Wrought Nails From Phase IIIb Testing at 38DR33</td>
<td>53</td>
</tr>
<tr>
<td>6</td>
<td>Prehistoric Artifacts Recovered From Reconnaissance and Phase II Testing.</td>
<td>56</td>
</tr>
<tr>
<td>7</td>
<td>Prehistoric Artifacts From Phase IIIa Shovel Tests at 38DR33.</td>
<td>58</td>
</tr>
<tr>
<td>8</td>
<td>Prehistoric Ceramic Artifacts From Phase IIIb Tests at 38DR33.</td>
<td>70</td>
</tr>
<tr>
<td>9</td>
<td>Prehistoric Lithic Artifacts from Phase IIIb Testing at 38DR33.</td>
<td>71</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

Overview

From August 17 through August 28, 1981, Mark J. Brooks and Michael A. Harmon of the Institute of Archeology and Anthropology, University of South Carolina, conducted a multiphase, intensive archeological survey and testing of the proposed Lower Dorchester County Wastewater Facilities project area. Claude M. Cupp and M. Pauline Brooks provided volunteer field and laboratory assistance.

The project area is located about 15 miles inland from Charleston in the vicinity of the Ashley River near Summerville, South Carolina (Fig. 1). The proposed project will involve: (1) the construction of 20 miles of sewer line within existing road rights-of-way; (2) the construction of 8.5 miles of sewer line in low, bottomland areas adjacent and parallel to stream channels and/or through vacant lots within or adjacent to existing housing developments; and (3) the construction of a 2.0 MGD Treatment Plant on ca. 4 acres near Coosaw Creek, a tributary of the Ashley River. In addition, seven small pumping stations are to be located along the proposed 28.5 mile sewer line route (Fig. 1).

This study was sponsored by the Harwood Beebe Company engineering firm in order to assess the nature and magnitude of possible impacts on cultural or archeological resources that would result from the proposed construction. Previous reconnaissance surveys indicated the existence of such resources within the project area, including substantial historic and prehistoric archeological remains at the proposed treatment plant location (38DR33). Consequently, additional, intensive archeological investigations were recommended for all areas of proposed construction, with the major emphasis to be directed toward site 38DR33 (Harmon 1980, 1981).

The three archeological sites (38DR10, 38DR33, 38DR34) that are known to exist within and/or adjacent to areas of proposed construction are considered in this study (Fig. 1). Site 38DR10 is outside the area of proposed construction and, therefore, will be considered only briefly. Similarly, because of low information potential and the minimal impact that will result from the proposed construction, a lengthy consideration of site 38DR34 is not warranted.

The major emphasis of the multiphase, intensive survey and testing program, and this report of those archeological investigations, was directed toward the third site, 38DR33. A substantial portion of this multi-component historic (Baker's Plantation—an early-to-mid-eighteenth-century British colonial plantation) and prehistoric (Middle-Late Woodland, ca. 1,000 to 3,000 years before present) site is within the proposed treatment plant area (Fig. 1).
FIGURE 1: Locator map of project area, Dorchester County, South Carolina
Based on the work of Harmon (1980, 1981), it was evident that 38DR33 had considerable potential for providing important single-site data relevant to regional-level, subsistence-settlement models for the historic (Lewis and Hardesty 1979) and late prehistoric periods (Brooks and Scurry 1978; Brooks et al. 1979; Brooks 1980; Brooks and Canouts 1980; Brooks and Canouts 1981). These models are derived from an integration of economic, ecological and systems theories and are expressions of what is considered to be relevant research endeavors by a large segment of the archaeological community (e.g., Smith 1975; Jochim 1976; Christensen 1980; Earle 1980). Relevant research, as determined by each scientific discipline, is the basis upon which information potential is assessed (Kuhn 1962). For the archaeological discipline, information potential is, or certainly should be, the major criterion for assessing site significance and, ultimately, for cultural resource management recommendations.

The subsistence-settlement models used in the 38DR33 research served, (1) to predict the archeological patterning, which defined relevant data sets and, in turn, strongly conditioned the selection of appropriate field methods for the collection of those data, (2) to provide an analytical framework within which to evaluate the data obtained (observed data) through a comparison with expected or predicted data sets. Conversely, site 38DR33 provided data useful for refining specific aspects of the models that could be addressed by single site data.

Specifically, through the use of multiphase field methods designed to refine information at each successive phase, it was possible to delineate the spatial extent of the archeological components at 38DR33 and to examine in detail their internal variability (e.g., spatial patterning of artifacts/activity areas, features, structural remains). From these intrasite data, in conjunction with archival data for the historic period, the function(s) of 38DR33 within its respective historic and prehistoric settlement systems (defined by the models) is reasonably inferred. In the process, the addition of site-specific functional data served to refine those aspects of the models pertaining to settlement variability, thereby expanding our knowledge of the history and prehistory of the region.

**Organization of this Report**

Data necessary for evaluating sites 38DR10, 38DR33 and 38DR34 are presented in Chapters II through VI. These data provide the basis for research conclusions and management recommendations summarized in Chapter VII.

Specifically, site 38DR33 is examined and evaluated using regional-level settlement models developed for the late prehistoric and early historic periods. In order to make possible a realistic evaluation of the present research effort, a discussion of previous archeological research conducted in the vicinity of the project area is included in Chapter II. Historical archival data are also considered in this background section.

Archival data pertaining to 38DR33 (Baker's plantation) are presented within a general, historical developmental framework for the area, emphasizing the economic trends specified in the historic period settlement model.
(Chapter III). These archival data complement the historic period archeological data obtained from site 38DR33 and serve to document historic land-use activities.

In addition to providing valuable information on site function(s), a knowledge of historic land-use is essential for understanding site formation processes. Both natural and cultural processes are involved in site formation and must be considered in any interpretation and evaluation of archeological data (Schiffer 1976).

The models and their theoretical basis are discussed briefly in Chapter III, stressing those aspects of the models that can be readily addressed with single-site data obtained from 38DR33. Assumptions about the archeological record necessary for interpreting those data are also considered.

The effective environment is discussed in Chapter IV. Because of the economic-ecological theoretical basis of the models, it is essential that those environmental variables thought to have strongly conditioned historic and prehistoric settlement at site 38DR33 be examined.

In Chapter V, the sites and multiphase data collection methods are described and the methods evaluated in terms of their success in obtaining the desired historic and prehistoric archeological data. The interactive field phases employed at site 38DR33 are emphasized in order to obtain increasingly refined intrasite data relevant to site function(s).

The archeological site data obtained by these methods are presented by site in Chapter VI, emphasizing the intrasite spatial patterning of functionally inferred artifact categories at 38DR33. In this manner, it is possible to derive the site's function(s) within the broader, early historic and late prehistoric settlement systems of which it was a part.

Archeological evidence of spatial and vertical disturbance at 38DR33, resulting primarily from historic and modern land-use, is also considered in Chapter VI. This information is essential for interpreting archeological patterning and, hence, for ascertaining site function(s). In addition, from the standpoint of site significance, which is assessed in large part on the basis of a site's potential for providing new, additional information relevant to on-going research, determination of the integrity of the archeological deposits is a major consideration.

In a final section (Chapter VII), research conclusions pertaining to the function(s) of 38DR33 are drawn through a consideration of the archeological, environmental-ecological and historical archival data sets in light of the analytical frameworks provided by the settlement models. Based on these research conclusions and an assessment of the integrity of the archeological deposits, the potential of 38DR33 to yield new, additional single-site data relevant to on-going, regional-level research is evaluated and management recommendations are presented. For reasons discussed earlier, sites 38DR10 and 38DR34 are considered briefly.

Finally, Chapter II and the historic period discussion in Chapters VI and VII were written by Harmon. The remainder of the report was written by Brooks.
CHAPTER II
BACKGROUND TO THE 38DR33 RESEARCH

Introduction

This chapter is presented in three sections. The first section considers the archeological background of Berkeley, Charleston, and Dorchester Counties. Although this section is not intended to be comprehensive, it does provide a basic context for the archeological research undertaken in the present study. This is accomplished through a consideration of the range of historic and prehistoric research that has been conducted in the general vicinity of the project area.

Sections two and three deal specifically with the project area. Archeological and historical background data relevant to this research are presented in sections two and three, respectively.

Archeological Background of Berkeley, Charleston and Dorchester Counties

This section contains a synthesis of archeological projects that have been conducted in the interior portions of Berkeley, Charleston, and Dorchester Counties. Available Institute publications and publications by other agencies (on file at the Institute of Archeology and Anthropology) were utilized to determine the extent of anthropological knowledge concerning past human adaptations in this area. Previous archeological studies range from surface surveys to site excavations in nature and level of intensity.

Several small-scale surveys, characterized by limited subsurface collecting, are included. These survey reports indicate the range of archeological site types that may be encountered during the present project, although their comparative value is generally restricted by the lack of intensive intrasite studies. These surveys include a transmission line survey (Kimmel 1974), two projects associated with highway modifications (Asreen 1975; Trinkley and Tippet 1979), and a wastewater treatment plant project (Lees and Michie 1978). Prehistoric sites of the Archaic, Woodland and Mississippian periods, and historic sites of the 18th through 20th centuries were recorded by these surveys.

A rather unique small-scale archeological project was undertaken at Windsor Hill plantation (South 1979). This plantation site, located north of the Ashley Phosphate Road in Charleston County, had an associated graveyard, which contained the remains of General William Moultrie, a Revolu-
tionary War hero. The poorly preserved remains of Moultrie and others were recovered and later reinterred at the Fort Moultrie National Monument on Sullivans Island near Charleston.

The development by the Amoco Corporation of a 1,949 acre tract of land adjacent to the Cooper River during the 1970s resulted in a series of archeological investigations, which apparently makes this the most intensively studied interriverine area in the three-county area. The Charleston Museum was responsible for studying historic period occupations in the area, and the Institute was responsible for the prehistoric components.

In 1975, the Charleston Museum surveyed the former locations of Grove and Flagg plantations, which were on land held under option by the Amoco Corporation at that time. This study involved a general historical background synthesis for that area and a detailed archival study of the Grove and Flagg plantations, followed by an archeological field survey. Ten archeological sites were found, which included portions of Grove and Flagg plantations, three boat landing sites, three Colonial period brickyards, three undocumented historic occupations and 38BK147, the Palm Tree site, which contained a substantial prehistoric component.

Site 38BK149 (the Flagg plantation settlement site) was tested (Herold 1976). This site included two caretaker houses and two sheds. The superstructures of the structures were removed and the topsoil was then stripped away. Additional portions of Flagg plantation, which included an old well, an additional house foundation, and a small brick patio, were recorded via this method.

A 1978 study by Herold, Knick and Liss of Amoco Corporation property contains an archival search and accompanying field survey to determine the range of historic period land ownership and use within the general project area. Four habitation sites, (including main house and slave quarters from the 18th and 19th centuries), two boat landing sites and one 19th/20th-century tar kiln site were recorded by these methods.

In 1975, the Institute undertook the first of a series of studies to locate archeological sites on the Amoco Chemical Corporation land. Hartley and Stephenson (1975) located five archeological sites on this property that spanned the Late Archaic through Mississippian periods. Only one site 38BK147 was threatened by plant construction.

Following the recommendations of the Institute, site 38BK147 was excavated (Widmer 1976). This study involved the investigation of prehistoric adaptive strategies within the context of the surrounding cultural and physical environment. Intrasite artifact analysis of subsistence items and features in comparison with other nearby sites was used to develop general regional models of prehistoric subsistence-settlement.

A comprehensive survey by Brooks and Scurry (1978) involved the random sampling of approximately 11% of the 1949 acre Amoco Realty tract. This survey was designed to locate, evaluate, and assess archeological resources within the area and also to test two settlement-subsistence hypotheses. Twenty-nine sites are considered in this study, including five recorded by
Herold (1978) and one site recorded by Hartley and Stephenson (1975). Five sites were also included that were located during a transmission line for the South Carolina Electric and Gas Company by Karen Wood of the University of Georgia (Wood 1977 in Brooks and Scurry 1978). These 29 sites included Late Archaic and Woodland prehistoric components and 18th and 19th century historic components.

The first of the two settlement-subsistence hypotheses (Brooks and Scurry 1978: 47) suggested that prehistoric occupation of the interriverine zone of the lower Coastal Plain was primarily aimed at exploitation of acorns, hickory nuts, and deer during the fall and early winter. The second hypotheses (Brooks and Scurry 1978: 49) suggested this exploitation was most intensive during the Middle and Late Woodland periods, partially due to a higher (though fluctuating) sea level than during earlier periods of prehistory. Both hypotheses were substantiated, pending refinement through future studies (Brooks and Scurry 1978: 68).

Finally, an underwater archeological survey was undertaken of a 7,000 foot stretch of the Cooper River adjacent to the proposed Chemical plant. This survey, which utilized electronic remote sensing devices and visual inspection, recovered only four isolated artifacts (Albright 1976: 2).

Archeological studies were also conducted to determine the nature of impacts caused by the construction of the 16 mile long East Cooper and Berkeley Railroad spurline designed to service the new Cooper River Amoco Chemical Plant. The prehistoric archeological research was conducted by the Institute and the historic by the Charleston Museum. Only one prehistoric site, 38BK211 (the Huger site), was located during Widmer's survey of the spurline (Widmer 1976). This Middle-Late Woodland period interriverine site was later tested by Green and Brooks (n.d.).

The historical survey (Herold and Scruggs 1976) recorded one site, 38BK223 (Limerick Plantation), which warranted further study. This 18th/19th-century rice plantation was tested and parts of it excavated by Lees (1980). Seven struture loci were explored in this study. Within an economic-oriented historical framework, archeological patterning and archival data were employed to study the development and change at Limerick plantation (Lees 1980: 140-154).

A second area that has received relatively intensive archeological investigation is the 10-mile route of the proposed Cooper River Rediversion Canal in Berkeley County. The canal route was first surveyed by Asreen (1974). Forty-four archeological sites were found, which included Archaic through Mississippian components and 18th through 20th century historic components. These sites were studied with reference to their positions in one of the three major environmental zones comprising the study area. These zones included a flatwoods zone, the Santee swamp zone, and the ecotone lying between the flatwoods and swamp zones. Several sites were recommended for additional study, but route changes by the U. S. Army Corps of Engineers necessitated a second archeological survey of the project area.

Brockington (1980) surveyed the new route sections and reassessed sites recommended for testing by Asreen. Twenty-three additional sites were
located at that time. Emphasis was once more placed on study of prehistoric and historic adaptations with respect to the three major environmental zones. An effort was also made to refine the culture-history of this area (Brockington 1980: 1-3). A number of these sites were subsequently recommended for additional testing and/or excavation. The results of these investigations by Soil Systems, Inc.; Commonwealth Associates, Inc.; and the Institute of Archeology and Anthropology, University of South Carolina, are pending.

Developments associated with the Alumax Corporation and the Wando River docking terminal have resulted in less intensive archeological studies in the three-county study area. A 6,000-acre tract in Berkeley County, near Goose Creek, owned by the Alumax Corporation, was sampled in 1978 (Poplin, et al. 1978). Seven sites ranging in time from the Early Archaic through the 20th century were recorded. None of these sites were located in areas slated for development at that time.

A survey of 561 acres bordering the Wando River was undertaken in 1979 (Scurry and Brooks 1980). This project involved surface reconnaissance of cleared areas and shovel testing along transects in selected portions of the tract. Thirty-eight prehistoric sites ranging from the Early Woodland to Mississippian periods were recorded. Three historic period sites were also recorded, including one 20th-century home place and two sites of Colonial shipbuilding. Shipbuilding was apparently important during the states' early history, although little research has been undertaken concerning this topic (Scurry and Brooks 1980: 81-83).

Side-scan sonar and a proton magnetometer device were used in an underwater reconnaissance of the Wando River in areas slated for dredging and development as docking facilities associated with the new Wando River terminal (Albright 1980). Although no sites were located, an extensive fossil bed was located and two old anchors were recovered.

The only study of the protohistoric period in the tri-county area was undertaken by Stanley South (South 1972). South lists and describes eight tribes once found in the coastal plains of North and South Carolina. Because the nature of protohistoric Indian occupations is poorly understood, this study contains a useful general record of late aboriginal occupation.

Archaeological investigations have been conducted at Fort Dorchester, immediately south of the present study area. In 1696, the town of Dorchester was laid out facing the Ashley River. The fort was built during the middle 18th century in order to protect the town. Both the town and fort were abandoned shortly after the end of the Revolutionary War. Archaeological investigations focusing on the fort and nearby church were designed primarily to aid in the development of this site for use as a state park (Carrillo 1973, 1976).

Middleton Place plantation borders the Ashley River near the proposed sewerline route. This site (38Drl6) was tested systematically in 1979 with two main research goals (Lewis and Hardesty 1979: 1). The first goal was to provide information concerning the plantation layout and operation, which would later be used to aid in the development of Middleton Place as an historic site exhibit. The second goal was the development of an anthro-
In 1979 and 1980, Hampton plantation was studied preceding development as a state park. The first study phase of this 18th and 19th century rice plantation on the Santee River was oriented toward research interest akin to those regarding Middleton Place (Lewis 1979). The second phase of study (Lewis and Haskell 1980) included excavation of additional areas surrounding the main house and the total excavation of a pit feature that was discovered in the 1979 excavations. The pit was probably originally used for either vegetable storage or for processing clay for brick manufacture. This pit was later used in the late 18th century as a receptacle for domestic refuse (Lewis and Haskell 1980: 78-79).

Finally, sites associated with famous persons and events have long been an important focus of historical archeology (South 1977). A rather unusual recent study by Drucker and Anthony (1979) at Spiers Landing near Lake Moultrie involved the excavation of a late 18th through early 19th century house. Archival and archeological research indicated that this was probably the site of a slave cabin associated with Fountainhead plantation. The socioeconomic patterns associated with this occupation were emphasized. The recognition of artifact patterns was a necessary step toward interpreting socioeconomic phenomena manifest in the archeological record.

Archeological Background of the Project Area

Archeological study of the project area began in 1977 when Dr. Paul Brockington of the Institute conducted a reconnaissance survey of an area lying west of the Dorchester Road-Ashley Phosphate Road intersection adjacent to the Ashley River. Site 38DR60 was located during this initial reconnaissance of the proposed Ashley River treatment plant site. The letter report submitted to the Berkeley, Charleston and Dorchester Council of Government Planning Office suggested that an additional, more intensive survey of this area be undertaken preceding plant construction.

In October, 1980, the Institute was contacted by the Harwood Beebe Company of Florence to provide an archeological assessment of the proposed Lower Dorchester County Wastewater Facilities Improvement Project (#5070). The project included the previously mentioned treatment plant construction (Brockington 1977) and the laying of a 28.5 mile long sewerline network near Summerville, South Carolina. This area was surveyed on October 7 and 10 by Michael A. Harmon of the Institute (Harmon 1980). The reconnaissance involved driving and partially traversing on foot the entire sewerline route on October 7. On October 10, additional data were recorded for site 38DR60. Areas along the west and east banks of Coosaw Creek near the proposed treatment plant location were also surveyed at this time.

Architectural remains, including the ruins of an old phosphate processing mill, the main house, and brick foundations of a second structure
were found associated with a partially intact avenue of live oaks. The
cemetery noted by Mr. Cecil Windham (property caretaker) was not relocated
at that time. Documentary research indicated that site 38DR60 denoted
the former location of Spring Farm plantation (Smith 1919: 35). Although
no additional archeological sites were located at this time, archival re­
search suggested the presence of a second plantation (Baker's plantation--
Smith 1919: 36) in the proposed treatment plant area.

It was recommended (Harmon 1980: 5-8) that the treatment plant be
located on the west rather than the east bank of Coosaw Creek in an effort
to avoid damaging either Spring Farm or Baker's plantation. Both sites
were potentially eligible for nomination to the National Register of His­
toric Places. If this was not feasible, it was recommended that an engineer
and archeologist visit the treatment plant site and finalize a location that
would not damage either site. Intensive archeological testing was recom­
mended for the plant site, if neither of these options were possible. It
was also recommended that the crossing of the Ashley River at Bacon's Bridge
(38DR10) should be examined by both parties from an engineering and archeo­
logical standpoint. Finally, an intensive archeological survey was recom­
mended for approximately 10 miles of the proposed sewerline route through
relatively undisturbed areas, after the project design had been finalized.

Following the archeological recommendations of October, 1980, the
Harwood Beebe Company provided the Institute with detailed plans of the
propose treatment plant site on the east bank of Coosaw Creek. Placement
of the plant on the west bank was not possible because of the visual impact
on Middleton Place plantation (38DR16) in the Ashley River Historic District.

On June 16, 1981, Michael Harmon met with Forrest Wittington (Project
Engineer with the Harwood Beebe Company) to test the treatment plant site.
The plant area had been surveyed previously by the Harwood Beebe Company
and a grid of 100-foot squares had been established. In an effort to locate
cultural remains within the treatment plant area, shovel testing was begun
at station 0+00, located near the southeast plant boundary and was continued
through station 8+00. Initially, the tests were placed at 100-foot inter­
vals; subsequently changed to 200-foot intervals because of time constraints.
In this way, 34 stations were tested; 4 with positive results (Harmon 1981).

Historical Background of Bakers Plantation (38DR33)

In this section, the documentary history of Baker's plantation is pre­
seunted in order to illustrate the changing role of this plantation through
time and to provide data useful for interpreting the archeological remains
recovered during the field study. This interpretation is hampered by a
dearth of historical records describing Baker's plantation and the asso­
ciated socioeconomic activities undertaken during its existence. The
plantations lying both east (Spring Farm) and west (Cedar Grove) of Baker's
plantation were once part of Middleton Place plantation (Fig. 2). This was
also possibly true for Baker's plantation at some time in the past. Middle­
ton Place will therefore be used as a comparative base from which general
FIGURE 2: Location of Baker's Plantation (after Smith 1919:map)
economic and social trends may be inferred for Baker's plantation, and also because the history of Middleton Place has been more thoroughly documented and researched. The study of Limerick plantation on the Cooper River will also serve as a comparative base for study of archeological patterns at site 38DR33.

Early Historical Developments in South Carolina

The coastal and interior portions of South Carolina were first settled following the 1670 landing at Charlestown. The earliest settlements in the state were generally restricted to the coastal plain areas between the Santee and Edisto Rivers. These early land allotments occurred primarily along the rivers and tidal inlets (Petty 1943: 23). Many of the earliest land grants were for property along the banks of the Ashley River (Smith 1919). Baker's plantation (38DR33) resulted from one of these early grants.

Baker's Plantation in the Colonial and Antebellum Periods (1670-1860)

On August 2, 1677, a 450-acre tract of land was laid out under warrant and issued to Thomas Thompson. On January 20, 1677, an adjoining tract of 30 acres was laid out and issued to Matthew English. No grants followed these warrants and the land was then transferred by grant to John Baker on March 5, 1704. Baker died around 1734, leaving a wife, Sarah, and six children (William, Elihu, Benjamin, Joseph, James and Sarah). Sometime between 1734 and 1759, this tract was divided between William and Elihu. William received the southeastern portion, which was later known as Spring Farm plantation. Elihu received the tract of land, which later was known as Baker's plantation (Smith 1919: 33-34, 36). On June 29, 1765, the South Carolina Gazette advertised the sale of a 250-acre plantation owned by the late Elihu Baker, for sale by his mother Sarah (Smith 1919: 36). Details concerning ownership by the Baker family are apparently limited to these references.

When Joseph Purcell surveyed Baker's plantation in 1787, he recorded a plantation of 248 acres under the ownership of Archibald Broun. Archibald may have acquired this land following the South Carolina Gazette advertisement of 1765. Archibald Broun was the son of Robert Broun (1714-1757), a physician and surgeon who moved to St. James Goose Creek parish in 1740. Robert fathered seven children by his 1738 marriage to Elizabeth Thomas. Two of his children, Archibald and Johanna, did not marry (Edgar and Bailey 1977: 105-106).

By 1802, Baker's plantation was owned by Dr. Samuel Wilson, a physician and noted ornithologist. John James Audubon makes reference to Wilson in his book, Birds of North America (Smith 1919: 36). Wilson's aviaries were apparently quite extensive, although no details are presently available concerning their construction or layout.

After 1802, Smith's thorough chronology of Baker's plantation ends, leaving a gap of approximately 150 years during which very little is known
of the ownership or activities at Baker's plantation. At this point, comparisons with Middleton Place and Limerick plantation become especially useful.

Subsistence Activities at Baker's Plantation

Rice cultivation was well established by 1690 in South Carolina (Salley 1919), remaining a major income source until the early 20th century (Lees 1980: 57-58). The establishment of a bounty on indigo in 1747 brought about a dual staple economy for the young colony. Indigo required a rich sandy soil, drier and sandier than that required of rice. This condition allowed the combination of rice production in the upland and river swamps with indigo production occurring in the nearby sandy uplands (Lees 1980: 46). Indigo was, however, extremely exhaustive of soil nutrients and thus required the frequent clearance of new land. This aspect of indigo, coupled with the loss of an indigo bounty and lower prices following the onset of the American Revolution, effectively ended indigo cultivation in South Carolina. This left rice as the main source of plantation income (Lees 1980: 46).

Baker's plantation contained environments suitable for cultivation of both rice and indigo. In fact, the proposed treatment plant will be situated on an ecotone such as that described. Rice was the primary cash crop at Middleton Place during this time (Lewis 1979: 11), although no reference to indigo production was observed in the literature.

The earliest rice cultivation occurred along upland swamps (Lees 1980: 44). By 1845, and probably earlier, tidal rice agriculture was the dominant rice cultivation method (Lees 1980: 52). Count Castiglione, an Italian nobleman visiting Middleton Place, mentioned tidal rice fields there as early as 1786 (Lewis and Hardesty 1979: 11). The change to tidal rice agriculture increased the desirability of land tracts such as Baker's plantation, which faced both the Ashley River and Coosaw Creek.

The use of tidal swamps and the resultant ponding of large bodies of standing water produced excellent conditions for the spread of malarial mosquitoes (Lees 1980: 53). During the 1790s, a seasonal occupation schedule developed, largely because of these malarial conditions. Planters and their families would generally leave these river-oriented plantations during the "sickly season," residing in Charleston or in any of the summer villages. Summerville was one such village that developed during this period (Lees 1980: 55).

The shift to tidal rice cultivation, the loss of the indigo bounty, and most importantly, the invention of the cotton gin in 1795, helped make cotton a very important crop throughout South Carolina. Cotton cultivation as a minor crop is recorded at Middleton Place as early as 1850 (Lewis and Hardesty 1979: 18). Rice, however, was the most important cash crop in the coastal counties of Beaufort, Charleston, Colleton and Georgetown until the Civil War (Lees 1980: 56).
The southern planters generally gave freely to the Confederate forces during the Civil War. Lewis and Hardesty (1979: 19) note that lumber, railroad ties and even slave laborers were provided by the owners of Middleton Place during this period. This is one reason why Sherman's destruction of Middleton Place and other southern plantations and farms was so thorough. If a plantation-oriented settlement was still existing as late as 1865 at Baker's plantation, it would probably have been destroyed by Sherman's troops. Smith (1919: 4-5) notes that only three residences, Archdale, "Jenys" and Drayton Hall, were still standing after 1865. It is interesting to note that "Jenys" was one of three distinct settlements of the immense Cedar Grove plantation bordering Baker's plantation on the west.

In the years immediately following the Civil War, attempts to cultivate rice, cotton and other agricultural staples were generally unsuccessful at both Middleton Place and Limerick plantation (Lewis and Hardesty 1979: 19; Lees 1980: 72-74). Many plantation owners along the Ashley and Cooper Rivers turned to non-agricultural sources of income during this period. Phosphate mining and lumbering became important economic pursuits at Middleton Place (Lewis and Hardesty 1979: 19). Phosphate beds were first recorded in 1843 by W. S. Holmes of nearby Ingleside plantation. It was not until 1867, however, that this fertilizer source came to be mined commercially (Woolson 1875: 23-24). From 1868 to 1870, Williams Middleton was a partner in the short-lived Ashley Mining and Phosphate Company. Phosphate mining occurred on Middleton property (at least intermittently) until 1915 (Lewis and Hardesty 1979: 19). Phosphate production in South Carolina reached a production peak in 1889 and ended by around 1925 (Cooke 1936: 13). Factors responsible for the termination of phosphate mining in this area include the exhaustion of accessible deposits (Cooke 1936: 139) and excessive taxation at the beginning of the First World War (Historic Preservation Plan 1972: 5).

Evidence of phosphate mining, in the form of pits, trenches and/or dredged spoil banks, occurs at Chatsworth, Spring Farm, Middleton Place and probably also at Baker's plantation. Mining was originally accomplished by digging large pits, although linear trenching later became the preferred excavation method (Holmes 1870: 75). A large pit at the proposed treatment plant's juncture with Coosaw Creek is possible evidence of such an operation (Fig. 3). Virtually all of the Ashley and Cooper River plantations were affected in some way by phosphate mining (Smith 1919).

A sawmill was established in 1866 at Middleton Place. Timber cutting and processing lasted into the early twentieth century and probably later on Middleton-owned lands (Lewis and Hardesty 1979: 19). A publication by the United States Forest Service (1977) notes that logging was heaviest in this general area from 1885 to 1905. During this time, many large tracts of land were purchased, clear-cut, and then resold.

As noted previously, cotton and rice production were important agricultural pursuits during much of the 19th century. However, rice cultivation was negligible in South Carolina after 1930 (Lees 1980: 58). As rice production declined, cotton production gradually increased. Never-
FIGURE 3: Contour map (with windrows) of treatment plant and access road

NOTE: The Contour Lines are based on a map provided by the Harwood Beebe Company. The earthen windrows were mapped during survey Phase II of this study.
theless, after the boll weevil in 1922 cotton was no longer "King" in the state.

Cotton had become the leading agricultural product of Dorchester County by 1880. Cotton production was also important in the early 20th century, although agriculture in Dorchester County was based upon cultivation of numerous crops. Corn, oats, cowpeas, subsistence crops, and open range cattle raising were also important pursuits at that time (Latimer, Snyder and Van Duyne 1919: 11-12, 43). Much of the treatment plant location would have been conducive to cultivation of cotton and other crops. Cotton requires a sandy, well drained soil and was grown mainly on the uplands (Latimer, Snyder and Van Duyne 1917: 9). Sweet potatoes, rye, and oats are also grown on upland soils.

That the plant area had been timbered, and/or under cultivation (probably in cotton) is suggested by information provided by Mr. Cecil Windham (property caretaker, personal communications). According to Mr. Windham, the "mature" trees that covered the proposed plant area when it was last cleared (ca. 1960) did not represent a virgin forest.

Finally, Smith (1919: 36) briefly notes that in 1919, there were "remains of an old settlement, a few bricks and some evidence of a former garden" on the site of Baker's plantation. Mr. Cecil Windham is our most direct link to the recent history of site 38DR33. Mr. Windham (personal communication) noted that he had helped clear the treatment plant area in the early 1960s. The tract was first logged and then cleared with bulldozers. Spoil (including old bricks, etc.) was then pushed into windrows (Fig. 3) that were burned. The area was then machine-planted with the pine trees visible on the site today. At present, the main portions of both Spring Farm (38DR60) and Baker's plantation (38DR33) are used as seasonal deer hunting reserves.
CHAPTER III

ARCHEOLOGICAL RESEARCH AT 38DR33:
THEORETICAL CONSIDERATIONS AND RESEARCH GOALS

Introduction

This chapter provides a brief overview of the theory, assumptions and data-based models operationalized in site 38DR33 research. First, culture will be defined in systemic terms, providing the basis for a series of operational assumptions linking the archeological record to past cultural systems. Following, the economic-ecological theoretical basis for this research is established and, appropriate to this theoretical perspective, subsistence-settlement models are constructed.

Models for the respective historic and prehistoric components represented at site 38DR33 serve as analytical frameworks within which to examine and evaluate the archeological data. Each of the two models is presented through a consideration of its underlying assumptions and a summary of the substantive data upon which it is based. Aspects of each model amenable to examination through a consideration of the archeological data obtained from site 38DR33 are the focus of this research and are therefore specified.

Archeology, Cultural Systems and the Archeological Record

This study focuses on site 38DR33 primarily through an examination of its archeological remains. In an attempt to understand both short- and long-term processes of cultural change, archeology seeks to relate past human behavior to the material remains or by-products of that behavior. To do so requires a set of basic operational assumptions. A detailed summary of these assumptions may be found in Lewis and Hardesty (1979: 5-7).

Briefly, culture may be viewed as learned patterns of human behavior reflecting man's adaptation(s) to his physical and social environment. These adaptions are through a series of continuously interacting components (subsystems) producing constant variation and change within a system operating over time and space, regulating change or maintaining behavior within limits or boundaries established by the system at any given point in time. Thus, in order to understand the broader aspects of human behavior within the context of a cultural system, the interrelationship of all the system's components or subsystems (e.g. technology, religion, economic, social organization) must be stressed (see Buckley 1967: 41).
The interrelationship of the components implies the existence of a recognizable structure and therefore non-random human behavior producing observable patterns in human activities. These patterns, it is assumed, are manifest in the archeological record and reflect temporal and functional variability within the cultural system that produced them (Longacre 1971: 131). Therefore, reconstructing human activities is contingent upon the ability to recognize artifact patterns and to relate specific patterns to different human activities. Unfortunately, the pattern of a particular activity is not always easy to identify.

Recent studies, however, have investigated those processes governing the transfer of artifacts from the living behavioral system to the material record it leaves behind (Schiffer 1972, 1977), making pattern recognition somewhat easier. Schiffer (1976: 14-16) defines two kinds of "transformation" processes that must be considered in interpreting the archeological record: natural and cultural. Natural processes include differential preservation and natural disturbances (e.g. root action, burrowing animals, erosion). The cultural processes involve discard, loss and abandonment. Discard is the deposition of waste material at its location of use as primary refuse or elsewhere as secondary refuse. Primary refuse usually consists of "smaller" items that tend to be trampled into the ground close to where they were originally used.

Secondary refuse, on the other hand, usually consists of "larger" items that are kicked or tossed aside or carried away from their original place of use to dump areas. The deposition of secondary refuse may vary in terms of distance from the location of use depending upon the size and the nature of the material deposited (South 1977: 179).

In terms of discard behavior, it should be noted that some things are treasured and/or curated and seldom, if ever, enter the archeological record. At the other extreme are items having little value and are, therefore, readily discarded, overrepresenting their importance. Most items that enter the archeological record, however, are those artifacts that ceased to be useful in a functional context, usually through breakage or use-life exhaustion (Schiffer 1976).

Loss refers to the inadvertent deposition of items and may vary with the objects' size, portability and function. Abandonment is the process by which artifacts remain in a given area following its abandonment and may include refuse of production or habitation that would be inefficient or impossible to remove to a new site, e.g. architectural remains (Schiffer 1976). Finally, to these cultural formation processes might be added man-induced disturbances of earlier archeological deposits (e.g. the effects of cultivation and lumbering on the historic and prehistoric deposits at site 38DR33).

Theoretical Framework for the 38DR33 Archeological Research

The historic and prehistoric components at site 38DR33 are being examined from an economic-ecological theoretical perspective (e.g. see Schneider 1974; Rapport and Turner 1977) via a subsistence-settlement
model analytical framework (e.g. see Smith 1975, 1978; Jochim 1976; Christenson 1980; Earle 1980). This approach stresses the changing interrelationships between man and his physical environment over time and space; maintaining that the processes governing these changing interrelationships assume explanatory primacy with respect to human behavior. These processes become understandable through isolating and examining those economic and ecological variables that strongly condition man-land relationships (adaptations) and their changes through time.

Subsistence-settlement variability through time can be seen as a function of these changing relationships on a broad, regional level. With reference to single-site studies (e.g. 38DR33) in regional-level research, Lewis and Hardesty (1979) cogently state that "by approaching the study of an individual settlement (site) in terms of a comparative context as well as in the broader historical and cultural milieu within which it existed, it should be possible not only to clarify that settlement's role but also to explain it in terms of the operation (or processes involved therein) of the larger system of which it was a part." In order to "clarify the settlement's role," its function(s) must be determined. Archeologically, this can be accomplished through an examination of intrasite variability in the patterning of artifact assemblages, structures, features, etc. Such is attempted in this research with site 38DR33.

From a broad, cultural evolutionary perspective, man-land relationships have changed dramatically over time, as reflected in socioeconomic and technological trends. Consequently, those ecological-economic variables that strongly conditioned the largely subsistence-oriented adaptations of late prehistoric populations to their environment are of little relevance to an examination of the historic plantation period emerged in an European-centered, market-based world economy, and vice versa. Thus, while an economic-ecological theoretical approach to the study of the historic and prehistoric components at site 38DR33 is generally appropriate, the respective models, their underlying assumptions and, therefore, relevant variables are necessarily different. It is to a consideration of these models that we now turn, beginning with the historic period.

**Historic Research at 38DR33**

The historic aspect of this study focused on the collection of archeological data from site 38DR33 (Baker's plantation) relevant to the plantations model developed by Lewis (1977). While this model views the plantation within the framework of the larger socioeconomic system of which it was a part, the emphasis is on the intrasite structure, and hence function, of the individual plantation. This makes possible the examination of the plantation system, as defined in the model, through a consideration of archeological data relevant to the function of its component parts (plantation sites). Thus, this regional-level model provides an analytical framework for examining the individual site. In turn, single-site archeological data serve to refine the model through site-specific functional data, which, in conjunction with archival data, provide information about the range of
site-functional variability represented by the various components (sites) in the plantation system.

In order to examine the role or function of site 38DR33 as a plantation, the plantation as an institution must first be defined and its major components determined. The activities that might be associated with the components of a plantation and the function of the plantation within the larger socioeconomic system must also be explored.

Briefly, the plantation's economic function is the production of agricultural subsistence commodities (Thompson 1959). It is directly tied to the expansion of a "world economy" through a network of functional relationships involving exchange between a core state within a market system and its peripheral areas (Wallerstein 1974). When plantations exist within this exchange system, the core state provides manufactured goods and services, whereas the plantation provides raw materials (Gould 1972).

Thus, the plantation has been defined as "a capitalistic type of agricultural organization in which a considerable number of unfree laborers were employed under unified direction and control in the production of a staple crop" (Mintz 1959). The plantation, therefore, is characterized by: (1) a relatively large territorial size and population, (2) the use of labor beyond the capability of the owner-family unit for the production of specialized cash crops, (3) the use of authority as the basis for collective action (Pan American Union 1959). The form of the plantation in the Antebellum United States reflects these characteristics through the spatial arrangement of agricultural activities intended to facilitate production. This form is the basis for Lewis' (1977) plantation model summarized below.

The occupancy form of the plantation was directly influenced by the necessity of managing a large labor force engaged in specialized agricultural work. On the antebellum plantation, management was the sole element in determining the manner in which all cultivating power was employed (Prunty 1955). This is reflected in the general layout of a plantation and should be recognizable in the archeological record.

While the plantation was usually areaely extensive, the occupation area was compact and seems generally to have followed a similar pattern from plantation to plantation in the Southeast. Eighteenth-century plantations usually centered around a main house and its dependencies, with the house and forecourt flanked by dependencies of various functions (e.g. offices, kitchens, overseer's quarters, libraries, servants' quarters) sometimes attached by passages to the main house. During the last quarter of the 18th century, the position of the dependencies shifted from locations on either side of the forecourt to locations in line with the orientation of the house (Waterman 1945; Waterman and Barrows 1969; Kimball 1966).

Plantation farm buildings were situated apart from the main house complex, usually in a separate unit arranged in a row or rectangle to the side of the main house (Waterman and Barrows 1969; Phillips 1929). The slave quarters, which were generally situated near the farm buildings, were commonly arranged in rows facing a cleared square with the main house and dependencies at one end. The size and construction of these quarters
varied from one-room huts to larger buildings of log, frame, or brick (Rawick 1972).

Typically, the entire plantation complex was situated along a branch road leading into the plantation lands, rather than directly on a main road linking settlements (Phillips 1929). Because of the often exhaustive effect of continuous cropping, there was a trend toward expanding cultivated lands outward from the site of the original plantation settlement (Hall 1940; Dodd 1921; Olmstead 1957).

In light of Lewis' plantation model outlined above, we will not turn to a consideration of the specific historic period research goals for site 38DR33. Preliminary archival research prior to this study indicated that this site is the former location of Baker's plantation (Smith 1919; Fig. 2). That research, however, failed to provide answers to basic questions concerning the length and intensity of occupation, plantation layout and types of activities. Archeologically, these questions may be addressed most effectively by investigating intrasite artifact patterns. As discussed earlier, artifacts and their associations reflect the nature of past occupations and activities. Information pertaining to site spatial extent, temporal and cultural affiliations, and the architectural nature of past structures may also be reflected by these patterns.

The multiphase fieldwork (discussed fully in Chapter V) conducted at site 38DR33 was designed specifically for obtaining data relevant to these questions. Activity areas and their associated functions, including domestic living areas, animal husbandry areas, and agricultural processing and storage areas, frequently found on 18th and 19th century plantations (Lewis and Hardesty 1979), may be isolated through considerations of intrasite artifact patterning. Comparisons of data generated from testing at Baker's plantation with data from the nearby and more intensively investigated Middleton plantation (Lewis and Hardesty 1979) should enable reliable identification of these activity areas and, in turn, should serve to refine our understanding of activities relevant to a plantation-oriented economy.

In summation, the historic period research at site 38DR33 was designed to collect data relevant to questions pertaining to intrasite variability at Baker's plantation. By studying similarities and differences in archeological patterning, we can expand our knowledge of the larger plantation system and, in the process, refine our understanding of the function of the individual components (e.g. Baker's plantation) in the settlement system.

Prehistoric Research at Site 38DR33

The prehistoric research at site 38DR33 was designed to collect specific, single-site archeological data pertinent to refining our knowledge of Middle-Late Woodland subsistence-settlement variability in the interior Lower Coastal Plain of South Carolina. Subsistence-settlement variability observed by Brooks and others (Brooks and Scurry 1978; Brooks et al.1979; Brooks 1980; Brooks and Canouts 1980; Brooks and Canouts 1981).
is the basis for the model briefly summarized here. The model serves as an analytical framework within which to evaluate the prehistoric component at site 38DR33. In turn, the single-site archeological data are appropriate for refining specific aspects of the regional-level model through comparisons of expected (predicted by the model) and observed (recovered from 38DR33) data sets.

Before presenting the model and aspects thereof that can be addressed by the prehistoric archeological data from site 38DR33, it is necessary first to discuss the underlying assumptions about prehistoric subsistence-settlement variability.

Two basic assumptions are made that provide a rationale for the model. First, throughout most of prehistory, human populations were predominantly hunter/gatherers, largely adapted to the seasonal availability of specific high density resources in various environmental and microenvironmental zones. That is, the natural spatial and temporal structure of resources directly conditioned human settlement (Schneider 1974; Jochim 1976; Binford 1977). This is not to discount the importance of other economic variables, or social and demographic variables, which must ultimately be considered if we are to understand the "total" adaptive system and its range of synchronous and diachronic variability. Second, given that subsistence was the primary prehistoric consideration, site-settlement patterning should most directly reflect adaptations to the subsistence resource base. Consequently, in large part, observed changes in settlement over time are taken as reflecting a continuous process of adaptation to this resource base, with environmental conditions and changes affecting resource variability, which strongly conditioned the behavioral strategies and direction(s) of the adaptive process(es).

With these assumptions, the model is constructed using archeological survey (Brooks and Scurry 1978) and excavation (Brooks and Canouts n.d.) data from Berkeley County in the interior Lower Coastal Plain. These data are supplemented by geological, environmental-ecological and ethnohistoric data synthesized in Brooks et al. (1979), Brooks (1980) and Brooks and Canouts (1981).

Briefly, using these combined data sets, it is suggested that the interior Lower Coastal Plain was utilized on a year-round basis by Middle-Late Woodland populations. This utilization, however, varied according to riverine and interriverine environmental zones.

Relatively large, Middle-Late Woodland sites occur on terraces and ridgenoses overlooking, or in relatively close proximity to, riverine areas. These sites contain a relatively high density and diversity of archeological materials, including features and structures, indicating a broad range of activities involving the manufacture, use and maintenance of various tools. These archeological data are in agreement with environmental-ecological and ethnohistoric data suggesting the intensive utilization of high density seasonal (late winter through summer) and possibly year-round subsistence resources associated with the riverine zone and its microenvironments (see Chapter IV for a summary discussion of these resources). Existing data, though limited, indicate that the
multiseasonal usage of the riverine zone by Middle-Late Woodland populations may not be represented at any one site (Brooks and Canouts n.d.).

During the fall and early winter, Middle-Late Woodland populations, or at least certain segments of the populations, dispersed into upland, interriverine areas in order to exploit high densities of seasonally-associated acorns, hickory nuts and deer occurring on small patches of well- to moderately well-drained soils. In line with the short-term, seasonal exploitation of these resources, the sites are typically small and contain a low density and diversity of archeological materials (primarily ceramics, bifacial thinning/resharpening flakes and broken and exhausted bifaces), indicating tool use and maintenance, but not manufacture. The short-term usage of these sites is further suggested by an apparent absence of features or structures usually indicative of intensive habitation.

From a temporal perspective, sites attributable to the Middle-Late Woodland period are most highly represented in both the riverine and interriverine environmental zones (see Brooks and Scurry 1978; Brooks 1980; Brooks and Canouts 1981). In contrast with earlier periods, this is thought to reflect a more intensive utilization of the environment(s) due, in large part, to sea level changes that altered the distribution and productivity of subsistence resources occurring in riverine and interriverine areas (Brooks et al. 1979; Brooks and Canouts 1981). A general trend in human population growth is probably a major contributing factor (e.g. Binford 1968; Birdsell 1968; Coken 1977).

The Middle-Late Woodland component at site 38DR33 has considerable potential for clarifying or refining certain aspects of the model briefly outlined above. Those aspects addressed are: (1) intersite variability, (2) intrasite variability, (3) chronology. A detailed understanding of all these areas is essential for refining our knowledge of Middle-Late Woodland subsistence-settlement variability in the interior Lower Coastal Plain.

With respect to intersite variability, the Middle-Late Woodland data from site 38DR33 is important in at least two respects. First, it will enable us to determine the general applicability of the model beyond the Berkeley County area. It may be found, for example, that the model may not be entirely appropriate for those areas of Dorchester County containing estuarine-riverine habitats (e.g. the Ashley River), rather than purely freshwater habitats. Upland sites, on the other hand, might be expected to be similar in both areas. Similarly, beyond subsistence-resource variability between the two areas, clay and lithic raw material availability, and hence utilization, between the two areas must also be considered in evaluating the model at both the intersite and intrasite levels of analysis.

Second, 38DR33 may provide intrasite data useful for future determinations of intersite variability with respect to a site's interriverine or riverine status. Such determinations are often difficult based on location alone, especially for sites (e.g. 38DR33) that are situated on an "ecotone" between riverine and interriverine environments (see Brockington 1980). Only through a consideration of the intrasite patterning of specific sites can this intersite dilemma be addressed. Based on the
general patterning described in the model, which correlates archeological materials with resources utilized and intensity of site use, it should be possible to distinguish a site's riverine-estuarine or interriverine status through an examination of its internal variability.

At the intrasite level, site 38DR33 should provide a fairly detailed body of data relevant to specific Middle-Late Woodland activities indicative of site function(s). While general differences between Middle-Late Woodland riverine and interriverine sites are apparent, our knowledge of these sites rests largely on reconnaissance survey and very limited excavation data. Consequently, very little is known about the specific details of the internal variability of either riverine or interriverine sites. Therefore, regardless of site 38DR33's riverine-interriverine status, a valuable body of descriptive intrasite data may be obtained that is useful for refining specific aspects of the model dealing with site function(s).

Finally, 38DR33 may provide valuable spatial and/or stratigraphic data relevant to problems pertaining to ceramic variability within the Middle-Late Woodland period, defined here on the basis of Deptford and Cape Fear-Wilmington ceramics. It is unclear at present whether the occurrence of these ceramics in various combinations and proportions in riverine and interriverine sites represents largely functional, temporal or socio-ethnic variability (e.g. South 1976; Anderson 1975; Brooks and Scurry 1978; Brooks and Canouts 1981; Canouts et al. n.d.). Given a ca. 2,000 year time span for the Middle-Late Woodland period, such information is essential for refining our knowledge of Middle-Late Woodland subsistence-settlement variability over time and space and, ultimately, for explaining that variability in terms of short- and long-term cultural processes.
CHAPTER IV
THE EFFECTIVE ENVIRONMENT

Introduction

In light of the economic-ecological theoretical perspective guiding this research, the interactive effects of soil and hydrologic variability over time are seen as a major environmental factor that strongly conditioned prehistoric and historic subsistence-settlement in the interior Lower Coastal Plain (Brooks and Scurry 1978; Brooks et al. 1979; Brooks 1980; Brooks and Canouts 1981). Consequently, the following discussion will focus on (1) the geological basis for the observed soil and hydrologic variability in the vicinity of site 38DR33, and (2) the possible effects of temporal variability in soil and hydrologic conditions on upland and riverine-estuarine biotic communities, and hence human populations, in the vicinity of site 38DR33 during its historic and prehistoric occupations.

Geology of the 38DR33 Area: An Overview

Site 38DR33 is in the Atlantic Lower Coastal Zone physiographic province. This province is dominated by a primary topography composed of Cretaceous to recent sediments of Piedmont origin (Colquhoun 1969). These sediments consist of Cooper Marl of mostly Eocene age overlain by Miocene limestone and unconsolidated, water-deposited sands and clays of recent (Holocene) age (Miller 1971; Cooke 1936).

Six terraces, generally parallel to the coast and separated by scarps, cross the Lower Coastal Plain (Colquhoun 1969). These terraces resulted from sea level fluctuations associated with glacio-eustatic changes during the Pleistocene and were formed by cycles of "continental submergence and emergence with consequent disruption in erosion-deposition" (Colquhoun 1969: 6). Site 38DR33 lies on the edge of the Talbot terrace some 20-40 feet above sea level (Colquhoun 1969; Cooke 1936; Miller 1971).

Soils on the Talbot terrace are primarily of the Wando-Seabrook association, consisting of moderately well to excessively drained sandy soils occurring on level to gently sloping surfaces. Soils of the Bayboro-Wagram-Orangeburg-Quitman Association occur less frequently on the terrace and are well to very poorly drained loamy sandy soils with an underlying loamy to clayey subsoil occurring on the same kind of surfaces (Miller 1971).
Soil, Hydrologic and Biotic Variability in the Vicinity of 38DR33 during the Late Prehistoric and Historic Periods

Because the modern soil survey of Dorchester County will not be available until 1984 (U.S.D.A., Soil Conservation Service), it is necessary to rely on a study conducted in the early 20th century (Latimer, Snyder and Van Duyne 1917). According to this study, the soil at site 38DR33 is the well-drained phase of Coxville fine sandy loam. This soil occurs on a level to gently sloping surface and is characterized by a gray, light fine sandy loam to a depth of six to eight inches, grading into a friable, yellow fine sandy loam extending to a depth of about 15 inches. Below this depth, a mottled gray, yellow, red fine sandy clay subsoil is encountered (Latimer, Snyder, and Van Duyne 1917).

This soil description is generally confirmed by the stratigraphy observed at site 38DR33 during the archeological investigations. However, the soils along the gentle slopes of the site tend to be slightly deeper (see Chapter VI).

In 1910, most areas of Dorchester County characterized by Coxville fine sandy loam were cleared and under cultivation. Cotton was the leading crop, followed by corn. Forest growth on this soil consisted largely of longleaf pine (Latimer, Snyder, and Van Duyne 1917).

Currently, the dominant vegetation at site 38DR33 is loblolly-shortleaf pine. These trees were planted 20 years ago after the area had been clear-cut. The construction of one- to four-foot high earthen windrows (Fig. 3) accompanied that activity (Cecil Windham, property caretaker, personal communications).

The archeological evidence is in agreement with the above information and that presented in Chapter II (Historical Background), indicating that extensive cultivation and lumbering activities occurred at site 38DR33, probably during the late 19th and early 20th centuries. These activities substantially disturbed the archeological deposits (see Chapter VI).

As in the case of site 38DR33, loblolly-shortleaf pine is currently dominant in most areas of the Coastal Plain. It is probable that this is due in part to a long history of natural and man-induced burning, logging and planned forest management, resulting in a nearly total replacement of a southern mixed hardwood forest climax (Quarterman and Keever 1962). Various species of oak and hickory are significantly represented in these mesic-adapted, mixed hardwood associations. Mesic-adapted vegetation such as oak and hickory prefer the higher, well- to moderately well-drained soils situated on broad, flat to gently-sloping terrain. Soils in areas such as these lose relatively little precipitation to run-off, but by the same token, their permeability does not allow the soil to become saturated (Oosting 1942; Quarterman and Keever 1962; Camp et al. 1975).

It is likely, therefore, that the vegetation at site 38DR33 during the Middle-Late Woodland period was dominated by mixed hardwoods. This is especially likely if the soils were even better drained than present, which
is probable given lower sea levels. Archeological and geological data indicate that, at that time, sea level varied from about one to two meters lower than present (Brooks et al. 1979; Brooks and Canouts 1981; Colquhoun et al. 1981). During lower sea level stands, eustatic pressure is reduced and freshwater tables are lowered, effectively enhancing soil drainage (Brooks et al. 1979).

Of importance here is the likelihood that the well-drained soils at site 38DR33 supported high densities of oak and hickory during the Middle-Late Woodland period, and possibly up to early historic times. As discussed in the prehistoric model (Chapter III), upland interriverine areas with soils such as these are capable of producing high densities of acorns, hickory nuts and deer. These subsistence resources can be efficiently procured in the fall and early winter when the nuts ripen and the deer aggregate to feed on them (Smith 1975). Archeological and ethnographical data indicate that white-tailed deer, acorns and hickory nuts were highly preferred species, comprising extremely important components of prehistoric subsistence economies (Caldwell 1958; Lewis and Lewis 1961; Morse 1967; Parmalee 1969; DeJarnette, Kurjack and Cambran 1962; Fowler 1959; Smith 1973; Swanton 1946; Larson 1970; Canouts 1971; Hudson 1972; Hilton 1959; Ashe 1959; Lawson 1952).

In contrast, the riverine-estuarine microenvironments currently associated with the nearby Ashley River belong to a "Coastal Wetland" community (United States Army 1972). The vegetation includes salt-tolerant grasses and swamp/bottomland hardwoods (e.g. oak, tupelo gum, bald cypress). A variety of waterfowl and birds are in this community (e.g. ducks, geese, coot, heron, ibis, oyster catcher, marsh hawk, clapper rail, osprey). Also present is the American alligator and furbearing mammals such as muskrat, mink and otter.

While the existing biotic community associated with the Ashley River consists of freshwater and salt-tolerant species, this may not have been the case during the late prehistoric and early historic occupations at site 38DR33. With sea level being one to two meters lower than present during the Middle-Late Woodland period, the salt-freshwater boundary would have been seaward of its present location (Brooks, et al. 1979; Brooks and Canouts 1981; Colquhoun et al. 1981). It is likely, therefore, that at that time the Ashley River in the vicinity of site 38DR33 was entirely freshwater with no saltwater influence. Consequently, during the Middle-Late Woodland period the biotic community of the Ashley River adjacent to site 38DR33 was probably similar to that of existing riverine habitats further inland.

In line with the riverine aspect of the prehistoric model (Chapter III), a wide variety of subsistence resources would have been present in the interior, riverine microenvironments that probably existed near site 38DR33. Seasonally available resources are present primarily from winter through summer. They include migratory waterfowl, various species of ducks, geese, and teal; anadromous fish, i.e., striped bass, blue-back herring, American shad, hickory shad, alewife, sturgeon, American eels; and various plant resources, i.e., wild rice, arrowhead, etc. (Dames and Moore 1975; Interstate Commerce Commission 1977; Federal Power Commission 1977). All of these riverine zone resources are known to have been important
subsistence items to prehistoric populations in the coastal areas of the southeastern United States (Swanton 1946; Lawson 1952; Larson 1970).

Subsistence resources available year-round in the riverine zone include deer, beaver, otter, mink, alligator and various turtle, snake, mussel and snail species. Freshwater fish include bowfin and species of the sunfish, catfish and gar families (Dames and Moore 1975; Interstate Commerce Commission 1977; Federal Power Commission 1977).

Although the Ashley River near site 38DR33 probably had considerable resource potential during the Middle-Late Woodland period, lower sea level stands would have resulted in the river being narrower and more channelized than present. Consequently, relative to today, there would have been less microenvironmental diversity and, hence, generally lower subsistence resource productivity (Brooks and Canouts 1981).

While the above arguments are based on rather limited data, it is suggested that, during the Middle-Late Woodland period, site 38DR33 had greater on-site subsistence resource potential than present and that the nearby Ashley River had less. These environmental-ecological data presented, though limited, must be considered with the intrasite archeological data from 38DR33 when assessing that site's function within the framework of the riverine-interriverine subsistence-settlement model for the Middle-Late Woodland period.

With respect to the historic period, sea level was about one meter lower than present during the last quarter of the 18th century (Brooks et al. 1979; Brooks and Canouts 1981; Colquhoun et al. 1981). Tidewater rice agriculture was underway at this time in the vicinity of 38DR33 and continued at least until 1860 (Lewis and Hardesty 1979).

Rice agriculture requires a fluctuating freshwater level, produced in this case by tidal action. However, rice is not salt-tolerant. It must be grown landward of the effective saltwater range, but within the range of tidal influence (Carpenter 1973; Hilliard 1975).

From these data, it is apparent that the freshwater regime in this part of the Ashley River continued at least until 1860. Therefore, sometime between that date and the present, the salt-freshwater boundary moved landward with rising sea level, resulting in a "change-over" to the salt-tolerant, riverine-upper estuarine biotic community that exists today.

Finally, it should be emphasized that while the existing biotic community of the Ashley River near site 38DR33 is salt-tolerant, as indicated by the marsh grasses that fringe the river, the associated floral and faunal species are those adapted to largely freshwater conditions (United States Army 1972; Lewis and Hardesty 1979). The salt influence occurs only periodically, usually during spring tides (South Carolina Water Resources Commission 1972). Therefore, even with a generally rising Holocene sea level, it is probable that human utilization of this part of the Ashley River has always been oriented toward a primarily freshwater regime.
CHAPTER V

DATA COLLECTION METHODS

Introduction

The intensive archeological study of the Lower Dorchester County Wastewater Facilities Project area involved three field phases. Phase I included an on-the-ground survey and systematic shovel testing of the proposed 28.5 mile sewer line corridor and associated pumping stations.

Phases II, IIIa, and IIIb constituted the major thrust of the field work. These interactive field phases were designed specifically for obtaining successively refined intrasite data from 38DR33 (proposed treatment plant area) relevant to aspects of the historic and prehistoric models specified in Chapter III. Specifically, these field phases served as sampling designs for the systematic collection of spatial and stratigraphic data necessary for examining and evaluating the internal variability of site 38DR33 with respect to the models.

For directed, multiphase research to proceed most efficiently and effectively, time for laboratory analysis and planning should, ideally, be scheduled between field phases in order to collect increasingly refined data with each successive phase. Because of time and personnel constraints, however, this was not possible. Therefore, it was necessary to conduct preliminary, in-the-field analyses during the evening hours.

This labor-intensive strategy was reasonably effective. Upon completing one field phase, a preliminary analysis was conducted on the archeological materials recovered. In turn, this information was used in designing the specific aspects of the field phase to be implemented the following day.

More specifically, after field Phases II and IIIa, the historic and prehistoric archeological materials recovered were washed, sorted and tabulated according to "established types" considered to have temporal and/or functional significance. These tabulated data were then plotted on field maps as a means of approximating the relative spatial extent, distribution, density and diversity of various archeological materials over the site. The resulting spatial data enabled the delineation of probable historic and prehistoric activity areas that were more intensively investigated during Phase IIIb.

Field Phases I through IIIb are considered below, beginning with Phase I. The three phases will then be evaluated in terms of their effectiveness in recovering the desired data, as defined by the research goals. Only through an evaluation of the methods can the reliability of the data be assessed and the research conclusions based on these data be evaluated.
Phase I

An on-the-ground survey of the proposed 28.5 mile sewer line route (30' right-of-way) and associated pumping stations was conducted during Phase I (Fig. 1).* This survey phase was designed specifically for site discovery and involved systematic shovel testing and an examination of all exposed ground surface areas within the sewer line right-of-way. Additional, limited shovel testing and/or surface collections were conducted as needed at newly discovered sites in order to determine their extent, nature and integrity.

Approximately 10 miles of the proposed sewer line route is to be constructed through wooded areas, mostly in low bottomland adjacent to small streams. Because of dense vegetation, consisting primarily of water-tolerant hardwoods, vines and shrubs, subsurface testing was necessary.

Thirty centimeter cubed shovel tests were systematically excavated at survey stations (100' intervals) located along the center line of the wooded portion of the route. Based on previous field research, it was felt that units of this size and with this spacing would be sufficient for discovering most moderate to high artifact density sites in the time allotted (e.g. Brooks and Scurry 1978; Scurry and Brooks 1980). Soil excavated from these units was carefully trowelled for artifacts.

Because of susceptibility to flooding, low bottomland areas generally have low potential for most types of historic and prehistoric sites. Such sites, even if they existed, would likely be deeply buried by over-bank deposition, as indicated by the fine silt clays observed in the shovel tests. Therefore, it is not surprising that the only site discovered in the wooded portion of the sewer line route was a historic dam (38DR34, Fig. 1), possibly associated with upland rice agriculture during the 18th century. The site was mapped and general surface collections were made (see Chapter VI).

The remaining ca. 18.5 miles of proposed sewer line route is within existing road rights-of-way through rural areas containing sporadic housing developments. These rights-of-way were largely disturbed by previous road construction activities.

Nevertheless, all exposed ground surfaces (ditches, cut-banks, etc.) were examined. Only modern, 20th century materials were discovered within the road rights-of-way. Previously discovered Site 38DR10 (Fig. 1), though outside the road right-of-way, was briefly examined (see Chapter VI).

Finally, the seven small pumping stations (ca. 1,000 sq. feet each) are adjacent to existing road rights-of-way. Four, 30 centimeter cubed shovel tests were systematically excavated (100' intervals) at each station. The soils excavated from these units were carefully trowelled for artifacts. However, no sites were discovered.

*The Harwood Beebe Company employed the English system of measurement for surveying the proposed sewer line corridor and treatment plant area. For convenience, therefore, this system was used to locate the Phase I-IIb data collection units. However, the metric system, which is generally more acceptable to the archeological community, was employed in the actual collection of the archeological data.
**Phase II**

During the reconnaissance survey of the project area, Harmon (1981) initiated the systematic shovel testing of site 38DR33; a substantial portion of which is in the proposed treatment plant area (Fig. 4; also see Fig. 3 and Chapter II). Survey Phase II of this study involved, in part, the completion of the systematic shovel testing begun by Harmon at site 38DR33.

The work undertaken at site 38DR33 during the Reconnaissance and Phase II surveys is graphically summarized in Figure 4. Briefly, Harmon (1981) initiated the subsurface testing of the plant area by systematically excavating thirty centimeter cubed units at the 100-foot grid intervals established by the Harwood Beebe surveyors. The soil removed from these units was carefully trowelled for artifacts.

Because of insufficient time during the 1-day reconnaissance survey, it was necessary to increase the subsurface testing interval to 200-foot intervals within each loci and the presence or absence of brick contact was recorded.

Although the Reconnaissance and Phase II survey methods did not enable the collection of entirely comparable data, the combined data served their intended purpose. First, these historic and prehistoric spatial data were sufficient for designing the Phase IIIa sampling strategy intended to recover a body of comparable, more detailed intrasite data. Second, in the process of recovering these data, preliminary information relevant to site condition was obtained, making possible an initial assessment of the probable degree to which historic and modern disturbances have adversely effected the integrity of the archeological deposits.

**Phase III**

Phase III of the survey was divided into parts a and b. Essentially, Phase IIIa served to delineate the historic and prehistoric activity areas at site 38DR33 in some detail. In order to refine our understanding of the activities, relatively large units were excavated within these areas during Phase IIIb. Each of these subphases are considered in turn, beginning with Phase IIIa.

**Phase IIIa**

The combined reconnaissance and Phase II data enabled the areal extent of the historic and prehistoric materials at site 38DR33 to be reasonably delineated. These spatial data determined the specific area to be examined during Phase IIIa (Fig. 5).

With the one day allotted for Phase IIIa, it was estimated that approximately thirty-five 30 centimeter cubed units could be excavated and screened.
FIGURE 4: Reconnaissance and Phase II data collection units at 38DR33

NOTE: Data collection units are not to scale.
with the available crew of four. Given these time/personnel limitations, and the necessity for the maximum dispersion of sample points, a systematic, stratified random sampling strategy was selected (Fig. 5). This strategy insured that all portions of the area to be sampled would be represented and that they would receive the relatively close-interval coverage necessary for obtaining the detailed spatial data desired.

Specifically, the Phase IIIa sampling frame consisted of 12 arbitrarily defined strata (I-XII), each consisting of 5 contiguous 50-foot square blocks. A potential sample point (subsurface testing unit) was centrally located within each block (Fig. 5).

Because of the incomparable data collected during the reconnaissance and Phase II surveys, there was no reason to weight differentially the sampling strata based on prior spatial data. The sole purpose of the strata was for obtaining the maximum dispersion of sample points.

Within each of the 12 strata, 3 of the 5 sample points were randomly selected for testing. In this way, a total of 36 units were selected, insuring a fairly uniform coverage of the area investigated (Fig. 5).

The Phase IIIa potential subsurface testing units are not along the 100-foot grid interval survey lines, but rather systematically placed between them at 50-foot intervals. The relatively close sampling interval and the staggered effect produced by the random selection of units enhanced the areal coverage (Fig. 5).

It was to avoid possible repetition with the reconnaissance and Phase II surveys that the 100-foot grid interval survey lines were not employed in the Phase IIIa sampling design (Fig. 5). However, the survey lines (transects) were used to locate accurately the Phase IIIa units selected for testing.

At appropriate intervals along the transects, a 90° angle was turned with a Brunton compass. The resulting compass line was followed for the necessary 25 and/or 50 feet to the unit location(s), using premeasured, standardized 3-foot paces.

In order to collect the comparable intrasite data needed, it was essential that all subsurface testing units be the same size and the methods of recovery be identical. Consequently, 30 centimeter cubed units were excavated and the soil removed was screened through 6-inch mesh hardware cloth.

Because the emphasis of Phase IIIa was on the collection of detailed historic and prehistoric spatial data, the units were not excavated by natural strata or by arbitrary levels. However, general stratigraphic-artifact correlations were observed and recorded. These observations indicated that most historic and prehistoric materials were between 10 and 25 cm below ground surface in Soil Horizon A (mottled gray and light yellow-tan fine sand). Substantial vertical mixing of the historic and prehistoric materials was also suggested.
FIGURE 5: Phase IIIa and IIIb data collection units at 38DR33

NOTE: Data collection units are not to scale.
Phase IIIb

Phase IIIb excavations were necessarily selective because of time and personnel limitations. The focus was on the historic and prehistoric activity areas delineated at site 38DR33 during Phase IIIa that would most likely produce data relevant to our historic and prehistoric research (see Chapter III). Consequently, two relatively large units were excavated during Phase IIIb; one unit each in the respective historic and prehistoric area indicated by Phase IIIa to exhibit the most intensive activity (Fig. 5).

Unit 1 was a 0.5 x 6.0 m trench, consisting of 6 contiguous 0.5 x 1.0 m subunits (1a-f), located in the area of probable sur-surface, historic structural remains (brick floor--there are no apparent intact historic surface remains). The exact location of the unit (S.W. corner at 31.5' L 118'--Fig. 5) was determined through probe rod testing that suggested a partially intact brick floor about 10 cm below the existing ground surface. The size of the unit represents a balance between time and the need to identify and partially define a reasonable segment of the floor. Floor identification and definition is necessary in order to obtain sufficient structural and artifactual data for temporal/functional interpretations relative to the plantation model.

Subunits 1a-f were shovel-excavated separately by a ca.10 cm level down to within 1 cm of the brick floor. The last centimeter was trowelled, leaving floor-contact artifacts in situ. The brick floor and associated artifacts were mapped and photographed (see Chapter VI). Undisturbed portions of the floor were left intact. Only in subunit 1a (northernmost subunit) was there no discernible floor/brick pattern due to disturbance. This unit was excavated below floor level by 10 cm arbitrary levels to a depth of 30 cm, into the upper portion of the Soil Horizon B.

The soil removed by level from each subunit was screened through 1/4-inch mesh hardware cloth. The trench (Unit 1a-f), brick floor segment exposed, floor-contact artifacts and profiles were mapped and photographed (see Chapter VI).

Unit 2 was a 2.0 x 2.0 m block excavation. It was located (S.W. corner at 80' R 21'--Fig. 5), as indicated by the in-the-field evaluation of the Phase IIIa data, within the area of moderate to high density prehistoric materials and within the area of Deptford and Cape Fear-Wilmington Ceramic spatial overlap.

This area of site 38DR33 was optimal for obtaining the desired prehistoric research data (see Chapter III). First, data obtained from this area could be used to address the temporal/functional problems surrounding various Middle-Late Woodland ceramics.

Second, the relatively high density and diversity of prehistoric materials in this area suggested that data relevant to prehistoric site func-
tions(s) could be obtained. Previous Middle-Late Woodland period research in the interior Lower Coastal Plain (e.g. Green and Brooks n.d.; Brooks and Canouts 1981; Brooks and Canouts n.d.) indicates that high artifact density and diversity is often correlated with intensive habitation. The broad range of specialized activities usually associated with intensive habitation are more likely to produce "distinctive" artifact patterns and specialized features that are particularly amenable to reasonable functional interpretations (e.g. Schiffer 1976; House and Wogaman 1978; Brooks and Canouts 1981).

The size of Unit 2 was determined through balancing time and personnel considerations against the necessity for a relatively large unit. A fairly large unit is necessary for obtaining detailed, small-scale spatial and stratigraphic data. A larger unit also increases the likelihood of discovering features, if they exist.

Unit 2 was excavated by natural soil strata and, in order to increase vertical control within the lower, thicker strata, by arbitrary levels. Excavation was to a total depth of 68 cm below ground surface. Because of a notable decrease in artifact density below ca. 30 cm, only the southeast quadrant (1 x 1 m) of Unit 2 was excavated below 45 cm (Level 4).

Each level was carefully excavated through 1-2 cm horizontal shovel-cuts. The excavated soil was screened through 1/4-inch mesh hardware cloth. During excavation, special attention was given to observations of stratigraphy, horizontal and vertical distributions of artifacts, and indications of cultural and natural formation processes. The excavated unit was photographed and the profiles drawn (see Chapter VI).

**Evaluation of Methods**

Survey Phases I-III are evaluated in terms of their adequacy for obtaining the research data specified in the historic and prehistoric models presented in Chapter III. Such considerations are essential for deriving and evaluating the research conclusions upon which site significance is assessed and management recommendations are made (Chapter VII).

Phase I of the survey was directed primarily toward site discovery. The failure to discover sites through subsurface testing is probably due largely, though not exclusively, to factors other than the adequacy of the Phase I survey methods. First, most of the proposed sewer line route is within existing road rights-of-way. Any sites within the rights-of-way, if they existed, would have been heavily disturbed or completely destroyed by road construction. Second, previous field research indicates that most types of historic and prehistoric sites are not likely to exist in the low bottomland areas characteristic of the remaining portion of the proposed sewer line route (e.g. Brooks and Scurry 1978). However, if sites do exist, they would be deeply buried by sediments from over-bank, stream deposition.
Clearly, the Phase I survey methods were inadequate for discovering these hypothetical sites. From a practical standpoint, the time, money, personnel and equipment necessary for discovering and adequately investigating such "possible" deeply buried sites would be prohibitive.

It can also be reasonably argued that the small, widely spaced shovel tests employed during Phase I are inadequate for discovering the typically small, low artifact density prehistoric sites that are generally most common in interriverine areas. Previous field research tends to substantiate this argument, indicating that the Phase I methods would be more effective for discovering moderate to high artifact density sites (e.g. Brooks and Scurry 1978; Scurry and Brooks 1980). Again, alternative survey methods that would be adequate for consistently discovering small, low artifact density sites on an areally extensive basis would be exceedingly labor-intensive.

While the various Phase II methods used at site 38DR33 did not facilitate the collection of comparable data, these data were sufficient for providing the necessary "first approximation" of the spatial and vertical extent of the historic and prehistoric deposits and their internal variability. Preliminary insights into the site formation processes operative at 38DR33 were also obtained.

Phase IIIa was highly successful. The methods used enabled the collection of comparable data that confirmed and refined the basic intrasite patterning suggested by the Phase II data. More important, these Phase IIIa spatial artifact data served, as intended, to isolate specific historic and prehistoric activity areas to be examined in greater detail during Phase IIIb. Refined site formation data essential for interpreting the archaeological record was also obtained during Phase IIIa.

Finally, Phase IIIb was moderately successful. The data recovered are of primary importance to aspects of our research attempting to relate the site function(s) of site 38DR33 to the broader historic and prehistoric settlement systems of which it was a component.

As intended, Unit 1 of Phase IIIb located and partially defined the extent and nature of the subsurface historic structural remains; the existence of which had been suggested by previous survey phases. The condition and temporal period of the remains were determined and the necessary functional data were obtained.

Excavation Unit 2 of Phase IIIb was not as successful. This, however, was due to site condition and not the methods.

Unit 2 confirmed, as indicated by earlier survey phases, that site 38DR33 exhibits heavy vertical disturbances, probably from past cultivation. As a consequence of this disturbance, the historic and prehistoric deposits are severely mixed, effectively precluding both the recovery of the definitive prehistoric ceramic data desired and the discovery of features that could be related to site function(s).

In summary, it is difficult to assess the effectiveness of Phase I for site discovery. However, when considering all aspects of the Phase I
discussion, it seems reasonable to conclude that the more refined methods probably necessary for discovering low artifact density sites, if they exist in the sewer line corridor, would be extremely labor-intensive and likely as unsuccessful as the Phase I methods.

Survey Phases II-IIIb conducted at site 38DR33 were, overall, successful for their intended purposes. The condition of the site, and not the methods, is largely responsible for perceived failure to recover the desired research data. Therefore, the condition of site 38DR33 becomes a major factor when considering its future research potential. Research potential, in turn, is the primary basis for assessing site significance and for making management recommendations (see Chapter VII).
CHAPTER VI

ARCHAEOLOGICAL SITE DATA

Introduction

The historic and prehistoric research undertaken in this study defined the relevant data sets and largely determined the methods used in their collection. These data are described here, emphasizing those intrasite data recovered from site 38DR33. In Chapter VII, the data are integrated and research conclusions are drawn.

First, the historic site data are presented, beginning with a brief consideration of sites 38DR10 and 38DR34 that were discovered and/or examined during Phase I. The Phase II through Phase IIIb intrasite historic data from 38DR33 are then considered by phase.

Following, the prehistoric site data are summarized. No prehistoric data were recovered by the Phase I survey of the proposed sewer line corridor. Therefore, the prehistoric data are limited to those obtained from site 38DR33 during survey Phases II through IIIb. The prehistoric data recovered via each of these phases are considered in turn.

Historic Site Data

38DR10

Site 38DR10 is a historic period site situated on a terrace overlooking the north bank of the Ashley River, just east of Bacon's Bridge. Vegetation is presently characterized by a mature, mixed hardwood and pine forest that borders the river and its associated tidal marsh. A 5-meter section of a brick wall was found approximately 30 m east of S. C. Highway 165 by surface inspection. Approximately 7 m south of this wall remnant is a 10 square meter concrete platform of unknown function. Adjacent to the river side of this platform is a small, eroded shell midden.

A general surface collection was undertaken (Table 1), biased toward recovery of non-20th century artifacts. Modern trash was not collected. Recovered artifacts included delft, lead-glazed slipware, British brown and molded white stonewares of the 18th century, as well as 19th- and early 20th-century whiteware fragments. Olive green glass fragments, a brass tack and a kaolin pipe fragment probably represent occupation during the 18th and early 19th centuries. Collectively, these artifacts suggest that this site was occupied primarily during the 18th century.
The site is only in fair condition because a modern roadbed and proximity to a major highway have caused gullying and the discard of recent trash in the area. The shell midden has been partially eroded by tidal fluctuations. More intact portions of the probable brick structure foundation may exist in adjacent wooded areas. Because the site is several meters east of the proposed sewer line route, no testing or subsurface probing was undertaken to verify this possibility.

<table>
<thead>
<tr>
<th>Historic Artifacts</th>
<th>38DR10</th>
<th>38DR34</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delft</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lead glazed slipware</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Plain whiteware</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Polychrome hand-painted whiteware</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fingerpainted whiteware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown salt-glazed stoneware</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Molded white salt-glazed stoneware</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Albany slip stoneware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olive green glass</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Brass tack</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Kaolin pipestem</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>13</td>
<td>2</td>
</tr>
</tbody>
</table>

Site 38DR34 is situated on stream terraces that overlook the channel of Rumph's Hill Creek (Fig. 6). The creek channel has apparently been straightened and/or dredged in the vicinity of the site. A young bottomland hardwood forest with hickory, oak, cypress, sweet gum, and cabbage palmetto presently characterizes the area.

Site 38DR34 represents a probable dam that was located during Phase I of the survey. A general surface collection was undertaken (Table 1) and one loose, wooden stake was recovered from the stream channel. Two ceramic sherds of whiteware and Albany slip stoneware were recovered. The wooden stake was made from hand-hewn cypress that had been partially destroyed by fire. The ceramic fragments indicate a 19th-century occupation, although the absence of nails or other diagnostic artifacts with the wooden remains, make a temporal association of the dam with the ceramics tenuous at best. Site 38DR34 probably represents a wood and earth coffer dam that was partially destroyed by fire. This dam probably produced a dependable water source for either a water-powered mill or upland rice-cultivation fields. The dam is presently in good condition, except for those portions on either side of the creek channel that are being eroded. Submerged wooden portions of the coffer dam are also in relatively good condition.
Phase II

The artifacts recovered from Phase II are included in Table 2 (compare with Fig. 4). Only two small brick fragments were recovered from the shovel tests placed at 100-foot intervals. The close interval tests, placed in response to results from the 100-foot interval tests, recovered brick fragments, mortar, wrought nails, Colono Indian pottery fragments, and one kaolin pipestem fragment. Shovel test #2 produced an extremely high density of brick fragments relative to the other tests (400 total) with several sizeable brick bats and numerous smaller fragments being recovered.

The stratigraphy was not recorded for individual test units. However, a fine light brown loamy sand characterized tests in the upland area, and a fine dark grey mucky sandy loam characterized tests near the Coosaw Creek.
channel. None of these tests were deeper than 30 cm. Both prehistoric and historic period artifacts were found in several units with no apparent vertical separation of the two types of materials. This suggests that the artifact deposits had been mixed by cultivation and logging activities.

Shovel testing coupled with systematic subsurface probing indicates the probable main area of historical occupation was centered near the south-eastern plant boundary. Artifact variability was minimal at this time, due largely to the small size of this test sample. The form and effect of site disturbance was documented by mapping the several linear spoil piles (Fig. 3) in the area and by the combined subsurface testing methods. The absence of subsurface brick deposits around the spoil pile that contained the majority of brick rubble (Fig. 4), and the disjointed and fragmented nature of this rubble indicated that this pile was an area of secondary deposition. The location of abundant brick fragments in subsurface tests west of this area (in the vicinity of shovel test #2--Fig. 4) suggested this was the original source of the rubble.

### TABLE 2

<table>
<thead>
<tr>
<th>Shovel Test</th>
<th>Brick Fragments #</th>
<th>g</th>
<th>Mortar Fragments #</th>
<th>g</th>
<th>Wrought Nail Fragments</th>
<th>Colono Pottery</th>
<th>Indian Pipestem</th>
<th>Kaolin Pipestem</th>
</tr>
</thead>
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<tr>
<td>Tests at 100' intervals</td>
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<td></td>
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<td>2 and 200R</td>
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<td>11.1</td>
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<td>4 and 000R</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Close interval tests:</td>
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<tr>
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<td>7</td>
<td>13.1</td>
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<td>1</td>
<td>1</td>
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<tr>
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<td>1</td>
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<td>1</td>
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<td>6</td>
<td>1</td>
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<td>7</td>
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<tr>
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<td>1.6</td>
<td>4</td>
<td>3</td>
<td>1</td>
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</tbody>
</table>
Phase IIIa

Shovel testing implemented during Phase IIIa recovered a range and density of artifacts roughly comparable to those recovered during Phase II (Table 3, compare with Fig. 5). No Kaolin pipe fragments or mortar were recovered in this test series, however. New types of recovered artifacts included one aqua window pane fragment and a fragment of lead-glazed earthenware (1670-1795). This ceramic fragment indicated an 18th-century occupation for the site, consistent with that suggested by archival research (Smith 1919: 36).

A typical test unit profile contained 15 cm of a fine grey, sandy loam grading into 15 cm or more of a fine, tannish-yellow, sandy loam. Historic artifacts were found throughout both levels, being frequently mixed with prehistoric material. Subsurface disturbance was indicated by this artifact mixing and the frequent occurrence of spoil piles. The results of this test phase generally confirmed and refined the information obtained during Phase II.

Using the Phase IIIa sampling frame (Fig. 5), computer SYMAPS were made for three categories of artifacts recovered during Phase IIIa, including: brick fragments (Fig. 7), all non-brick artifacts (Fig. 8), and all combined historic artifacts (Fig. 9). Bricks were used as a separate mapping category because of their comparative abundance and proven value as structure indicators (Levis and Hardesty 1979: 36). Brick count, rather than weight, served as a comparative base because the frequent occurrence of isolated brickbats tended to distort the actual patterns or relative brick density.

Brick density was greatest in an area of approximately 40 m east-west by 45 m north-south (Fig. 7). Non-structural artifact density was greatest within this brick concentration and covered approximately 25 m east-west by 35 m north-south (Fig. 8). The SYMAP for all combined historic artifacts (Fig. 9) was essentially analogous to that for brick artifacts. Figures 7-9 indicated that very little spatial artifact variability was present. The overlap of brick and non-brick artifacts indicated a definite spatial, and probably temporal, correlation.

The greatest density of historic artifacts occurred in Phase IIIa sampling strata X, XI and XII (Fig. 5), thus affirming and refining the spatial data from earlier phases. The greater artifact density occurred in units west of the brick rubble pile (Fig. 4), suggesting this area as their origin. This apparent pattern was substantiated, when it was learned that the linear rubble pile represented bulldozer-formed windrows (Cecil Windham, personal communication). The rubble pile lying east of this artifact concentration was formed by pushing dirt to the east. These strata (X, XI and XII) contained materials that had not been displaced by the bulldozer. The lead-glazed slipware fragment suggested these shovel tests were near the main house of Baker's plantation. Finally, this test phase allowed the effective placement of the trench (Unit 1) designed to determine the presence or absence of intact structural remains.
### TABLE 3

HISTORIC ARTIFACTS FROM PHASE IIIa SHOVEL TESTS AT 38DR33

<table>
<thead>
<tr>
<th>Shovel Test</th>
<th>Bricks #</th>
<th>Broken Wrought Nails</th>
<th>Window Pane</th>
<th>Colono Indian Pottery</th>
<th>Lead-Glazed Slipware</th>
<th>Charcoal #</th>
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<tr>
<td>I-2</td>
<td>NHA</td>
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<tr>
<td>I-5</td>
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<td><strong>Total</strong></td>
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<td></td>
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<td>1</td>
<td>28.6</td>
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Key: NHA = No historic artifacts
     NA = No artifacts
FIGURE 7: Phase IIIa SYMAP showing distribution of brick rubble at 38DR33
FIGURE 8: Phase IIIa SYMAP showing distribution of historic artifacts (excluding brick rubble) at 38DR33
FIGURE 9: Phase IIIa SYMAP showing distribution of all historic artifacts (including brick rubble and non-structural artifacts) at 38DR33
Test Unit 1 (Figs. 10, 11) contained the greatest diversity and range of historic artifacts exhibited by any test method (Tables 4, 5). All previously recorded artifact types were present, with the addition of five types of 18th-century ceramics, aqua and clear glass fragments, a brass button, an English gunflint, sheet lead and miscellaneous iron fragments.

The top soil varied from 5 to 12 cm in depth and was characterized by a fine grey loamy sand with a lens of compact, mottled orange clay, occurring in Units 1c through 1f (Fig. 12). A brick floor section (Fig. 10-12), varying in degree of integrity, was beneath these upper soil layers. Bricks were removed only from Unit 1a, which was then excavated to 30 cm below ground surface (Fig. 12). A mottled, medium grey-tan, silty clay, containing prehistoric artifacts and only one clear glass fragment, was found in the bottom level of Unit 1a. Artifact density and variability was basically homogeneous throughout the trench, with the majority of historic artifacts occurring in the clay lens. Quantities of charcoal fragments and burned brick fragments suggested this structure had been burned. The disjointed nature of the brick floor section indicated substantial bulldozer damage. Subsurface probing and shovel testing during previous survey phases enabled the accurate placement of this unit within the probable structure loci indicated.

This unit is probably located within the former main house of Baker's plantation, as indicated by the presence of 18th century European ceramics, the paucity of Colono ceramics and the range of diversity of nonceramic artifacts. Surface remains were apparently removed by bulldozing, leaving a partially intact basement floor. Many plantation houses in this area had subsurface basements (Ken Lewis, personal communication). No apparent pattern was observed in the bricks comprising the floor, (Figs. 11, 12), although they did tend to run in a north-south direction. This lack of patterning is consistent with a personal observation of the cellar floor of the Mulberry house, built around 1820 near Camden, which exhibited similar irregularities apparently caused by the use of "odds and ends" of bricks and brickbats in both the floor construction and subsequent repairs necessitated by usage.

The clay lens, which contained most of the historic artifacts and some prehistoric artifacts, presumably represents erosional deposition. The
quantity of charcoal, charred bricks, and large nail fragments (suggestive of wall fall) indicate that the structure had burned. This may have occurred during or following the Civil War (Smith 1919: 4). However, the total absence of non-18th century artifacts suggest that the structure burned, or was at least abandoned, prior to that time.

**FIGURE 11: 38DR33, Phase IIIB, Test Unit 1, Plan of brick floor in Unit 1-C**

**Phase IIIB - Unit 2**

The location of Unit 2 (Fig. 5) was determined by prehistoric period research considerations (see Chapter V). The ranges and types of historic artifacts (Tables 4 and 5) recovered from this unit (Figs. 13, 14) are generally similar to those recovered during Phases II and IIIA (Tables 2, 3 respectively), except for the presence of three kaolin pipe fragments and several unidentifiable pieces of iron. With some notable exceptions, the artifact assemblages from Units 1 and 2 of Phase IIIB were also similar. In comparison with Unit 1, Unit 2 contained: (1) no European ceramics, (2) a greater density of Colono ceramics, (3) generally smaller wrought nails (Tables 4, 5).

Unit 2 was excavated in four levels. Level 1 extended for approximately 14 cm below ground surface and was characterized by a loose, medium grey, loamy sand. Level 2 extended from 14 to 34 cm below surface and contained a mottled grey and yellow-tan, loamy sand. Prehistoric and historic artifacts occurred in both of these levels, although the density of historic artifacts decreased and that of the prehistoric materials increased
FIGURE 12: Plan view and profile of brick floor section uncovered by Test Unit 1 during Phase IIIb at 38DR33

KEY:
A. FINE, GREY LOAMY SAND
B. YELLOWISH ORANGE CLAY WITH CHARCOAL FRAGMENTS
C. BRICK FLOOR (GENERALIZED VIEW)
D. MOTTLED, MEDIUM GREY TAN, SILTY CLAY

PLAN VIEW OF BRICK FLOOR AND ASSOCIATED ARTIFACTS
1- UNDERGLAZE BLUE CHINESE PORCELAIN
2- BROWN SALT-GLAZED STONEWARE
FIGURE 13: 38DR33, Phase IIIb, Test Unit 2, overview looking Southwest

FIGURE 14: 38DR33, Phase IIIb, Test Unit 2, view of south profile
<table>
<thead>
<tr>
<th>Provenience</th>
<th>Culture</th>
<th>Indian Factory</th>
<th>Bucley Ware</th>
<th>Bulif</th>
<th>Slip-Decorated Northern ware</th>
<th>Lead Glass</th>
<th>Slip Glass</th>
<th>Chinese Porcelain</th>
<th>Brown S.G. Enameless</th>
<th>Area Glass</th>
<th>Area Glazed Face</th>
<th>Glass</th>
<th>Glass Cream Glass</th>
<th>Bronze bullet</th>
<th>Sheet Lead</th>
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<th>Brick Fragments</th>
<th>Mortar Fragments</th>
<th>English Oen Pint Fragments</th>
<th>Keeling Pipe Fragments</th>
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Key: #1 = surface of brick floor (ca. 10cm below ground surface)  
#2 = rim sherds  
S.G. = semi-gloss
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<th>1 1/2&quot;</th>
<th>1 5/8&quot;</th>
<th>2 1/8&quot;</th>
<th>2 1/4&quot;</th>
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</table>
toward the bottom of level 2. Level 3, extending from 34 to 45 cm below ground surface, was characterized by a yellow-tan, sandy loam, which contained a single historic period artifact: a Colono sherd. No historic artifacts were recovered from the light yellow-tan loamy sand of level 4 (45 to 68).

Unit 2 exhibited a greater overall density of historic artifacts than was expected prior to excavation. The artifact assemblage from Unit 2 suggests a second structure loci, probably a dependency of the structure represented by Unit 1. As indicated by the lack of "status artifacts" and the density of Colono ceramics, this may have served as a food processing or slave house area. The generally small nails and the low overall density of brick fragments suggest a smaller, less substantial structure than that indicated by Unit 1.

In summary, Figure 15 (based on Figures 7 and 8) indicates three discrete artifact clusters at site 38DR33. Unit 1 located a partially intact brick floor within the area of greatest subsurface brick density. The single greatest concentration of nonstructural historic artifacts occurs north of this structure loci. This concentration is suggestive of the plantation refuse disposal pattern (South 1979: 213). British-American site occupants of the late 18th century (and other periods) often discarded refuse adjacent to the main house. This deposition was primarily around the back entrance. A third activity area is denoted by Unit 2 (Fig. 5), which denotes a probable dependency of the main structure located in Unit 1. The placement of this dependency is consistent with the plantation settlement pattern noted by Lewis and Hardesty (1979: 41) in which the main house was typically flanked by dependencies such as kitchens and slave quarters.

Prehistoric Site Data

38DR33

Phase II

The combined reconnaissance and Phase II prehistoric artifact data are summarized in Table 6 by data collection unit. The spatial location(s) of these units is shown in Figure 4.

Because of incomparability, the various reconnaissance and Phase II data were not suitable for computer mapping. However, a comparison of Table 6 with Figures 3 and 4 does indicate that the prehistoric material is distributed over the high, flat to gently sloping portion of the site. The artifact assemblage data presented in Table 6 are limited. Nevertheless, some general observations may be made and tentative inferences drawn.

From a temporal perspective all of the ceramics are as defined in Chapter III, attributable to the Middle-Late Woodland period. Unfortunately, because of the ca. 2,000 year duration of this period, the contemporaneity
38DR33
INTENSIVE TESTING PHASES IIIa AND IIIb
MODERATE AND HIGH DENSITY AREAS OF:
----- BRICK
------------ NON-STRUCTURAL HISTORIC ARTIFACTS
| PHASE III b, UNIT I (0.5x6.0M)

FIGURE 15: Phase IIIa distributional map of brick and historic artifact concentrations of 38DR33 (based on Figures 7 and 8)
TABLE 6.
PREHISTORIC ARTIFACTS RECOVERED FROM RECONNAISSANCE AND PHASE II TESTING

<table>
<thead>
<tr>
<th>Shovel Test</th>
<th>Check Fabric</th>
<th>Cord Marked</th>
<th>Eroded</th>
<th>Daub</th>
<th>Chert</th>
</tr>
</thead>
<tbody>
<tr>
<td>g.t.</td>
<td>m.q.s.</td>
<td>m.q.s.</td>
<td>g.t.</td>
<td>m.q.s.</td>
<td>c.q.s.</td>
</tr>
</tbody>
</table>

Tests at 100' intervals:

- 1 and 000
- 2 and 000
- 2 and 200R
- 3 and 100R
- 3 and 300R
- 4 and 200R
- 5 and 300R

Close interval tests:

- 1
- 5
- 6
- 7
- 8
- 2
- 10
- 12
- 13
- 15

Surface finds:

| Totals | 1 | 2 | 3 | *11 | 1 | 25 | 1 | 2 | 1.0 | 2 |

Key:
- f.g.s. = fine quartz sand temper
- m.q.s. = medium quartz sand temper
- c.q.s. = coarse quartz sand temper
- g.t. = grog tempered
- * = one rim sherd
- FBR = flake of bifacial retouch
of the various ceramic types present is questionable. Inadequate temporal control, in turn, hinders synchronic functional interpretations.

Although the absolute number of reconnaissance and Phase II prehistoric artifacts from site 38DR33 is small (Table 6), the overall density of archeological material seems to be relatively high in comparison with most interior Lower Coastal Plain sites (e.g. Brooks and Scurry 1978; Scurry and Brooks 1980). If the materials are contemporaneous, then the relatively high artifact density may reflect intensive habitation. The two daub fragments (Table 6), possibly indicative of structural remains, would tend to support such an interpretation (see Chapter III).

Conversely, the relatively low overall artifact diversity, the particular artifact types present (various ceramics and chert flakes of bifacial retouch), and the specific low density of the chert flakes (two—the chert is probably of Allendale County origin—Tommy Charles, Institute of Archeology and Anthropology, personal communication) suggest a relatively narrow range of functions involving tool use and maintenance. This general pattern implies a short-term, seasonal occupation of 38DR33 most similar to that indicated for interriverine sites (e.g. Brooks and Scurry 1978).

If the interriverine site interpretation for 38DR33 is substantially correct, then the "atypically" high overall density of prehistoric material may be the result of frequent seasonal reoccupation over a considerable span of time. While fairly large, multicomponent interriverine sites do occur, those containing artifact densities comparable to 38DR33 are seemingly rare (see Brooks and Scurry 1978).

Finally, with reference to site formation processes, a knowledge of which is ultimately essential for interpreting the archeological record, the relatively high frequency of ceramics with eroded/indeterminate surfaces should be noted (45% of the reconnaissance and Phase II prehistoric artifact assemblage—Table 6). These typically small, rounded sherds are indicative of intensive modern and/or historic period cultivation. In addition to vertically mixing archeological deposits, cultivation also tends to break artifacts. One consequence of this breakage is the probable exaggeration of density estimates based on numbers of artifacts (Roper 1976; Brooks and Scurry 1980). Taking this factor into consideration, the likelihood that 38DR33 represents an interriverine site is substantially increased.

**Phase IIIa**

The prehistoric artifact data obtained from site 38DR33 during Phase IIIa are summarized in Table 7 by data collection unit. The unit locations are shown in Figure 5. Using the sampling frame depicted in Figure 5, computer mapping is employed to examine spatially the artifact data (Figs. 16-22).

Quantitatively, the Phase IIIa prehistoric artifact assemblage is, overall, nearly twice as large as the reconnaissance/Phase II prehistoric assemblage (compare Tables 6 and 7). Qualitatively, however, the two
<TABLE 7

PREHISTORIC ARTIFACTS FROM PHASE IIIa SHOVEL TESTS AT 38DR33

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<th>Cord</th>
<th>Marked</th>
<th>Check</th>
<th>Stamped</th>
<th>Simple</th>
<th>Stamped</th>
<th>Eroded/Indeterminate</th>
<th>Daub?</th>
<th>Chert</th>
<th>Primary</th>
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<th>Flake</th>
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Key: F.Q.S. = fine quartz sand temper
M.Q.S. = medium quartz sand temper
C.Q.S. = coarse quartz sand temper
G.T. = grog temper
* = one rim sherd
FBR = flake of bifacial retouch
FIGURE 17: Phase IIIa SYMAP showing distribution of all prehistoric ceramics from 38DR33
FIGURE 18: Phase IIIa SYMAP showing distribution of fabric impressed prehistoric ceramics at 38DR33
FIGURE 19: Phase IIIa SYMAP illustrating distribution of check stamped prehistoric ceramics at 38DR33
FIGURE 20: Phase IIIa SYMAP showing distribution of cord marked prehistoric ceramics at 38DR33
FIGURE 21: Phase IIIa SYMAP showing distribution of plain prehistoric ceramics at 38DR33
FIGURE 22: Phase IIIa SYMAP showing distribution of simple stamped prehistoric ceramics at 38DR33
assemblages are nearly identical.

In addition to the artifact categories represented in the reconnaissance/Phase II assemblage, the Phase IIIa assemblage also contains linear punctate and simple stamped ceramics. A quartz primary decortication flake is also present in the Phase IIIa assemblage.

The single linear punctate sherd may indicate an earlier Woodland occupation. The two simple stamped sherds, however, fit well with the other Middle-Late Woodland ceramics (South 1976).

Of particular interest is the quartz primary decortication flake. Quartz is of Piedmont rather than Lower Coastal Plain origin. Artifacts and debitage of quartz are encountered occasionally in the Lower Coastal Plain. The artifacts are usually broken and/or exhausted from use. The debitage, on the other hand, generally reflects late-stage biface reduction (e.g. flakes of bifacial retouch, resharpening flakes, etc.), rather than initial core reduction (e.g. primary decortication flakes) usually associated with raw material source areas.

Recent research, however, indicates that "golf ball-sized," river-worn quartz cobbles, ultimately of Piedmont origin, do occur in the Lower Coastal Plain portion of Piedmont-draining rivers (Tommy Charles, Institute of Archeology and Anthropology, personal communications). It is probable, therefore, that the single quartz primary decortication flake represents the relatively local procurement of raw material.

Not all artifact categories indicated in Table 7 were computer mapped. The linear punctate sherd and the daub were not mapped because of their low frequencies. The eroded/indeterminate ceramic category was not mapped because of the questionable temporal/functional significance of a "catch-all" category that includes those ceramics that could not be identified as to specific surface treatment.

For those ceramic categories that were mapped, surface treatment was the sole criterion. While temper types may have functional and/or temporal implications (South 1976; Anderson 1975), subdivisions based on temper would have resulted, in most instances, in frequencies that would be too low for meaningful mapping.

The lithic debitage categories (chert flakes of bifacial retouch and the single quartz primary decortication flake) were combined for mapping. Although the combined sample is small, it was hoped that insight into the general spatial/functional relationship(s) between the lithic debitage and the various ceramic categories might be obtained.

A number of observations, and hence inferences, can be made by examining and comparing the various artifact spatial patterns represented by Figures 16-23. Figure 16 (total prehistoric artifacts), compared with Figure 3 (38DR33 contour map), shows a general linear distribution of the prehistoric materials that is parallel to, and just above, the 20-foot contour line. This distribution corresponds with the well-drained soils located on the high, flat to gently sloping portion of the site.
These spatial data confirm and substantially refine the general spatial patterning indicated by the reconnaissance and Phase II data. In addition, with respect to elevation, slope, soils, and orientation of the archeological deposits, the overall spatial distribution of the prehistoric materials at site 38DR33 is very similar to the patterning observed at the Huger Site (38BK211, an interriverine site—Green and Brooks n.d.; Green, Brooks, and Perlman 1980).

Beyond possible implications for the general site function of site 38DR33 (riverine vs. interriverine), the overall similarity in spatial patterning with the Huger site indicates that there was little spatial displacement of the archeological deposits at site 38DR33 due to windrow construction. The differential spatial clustering by density of the various Phase IIIa artifact categories tends to substantiate this interpretation.

A consideration of the spatial distribution of the total prehistoric artifacts indicates that the highest densities of material within the distribution occur in the central and western portions (Fig. 16). Because most of the total prehistoric artifacts are ceramics, an examination of Figure 17 (total prehistoric ceramics) shows a nearly identical distribution. Presumably, the central and western portions of the area of total prehistoric artifact distribution were the loci of greatest Middle-Late Woodland activity at site 38DR33.

Within the area of prehistoric material, the distinct spatial patterning (clustering) of the moderate to high densities of specific artifact categories is evident. Generally, as indicated by Figures 18-23, fabric impressed (Fig. 18), check stamped (Fig. 19), and cord marked (Fig. 20) ceramics are concentrated within the eastern portion of the prehistoric material distribution. The central portion of the distribution contains concentrations of plain (Fig. 21), simple stamped (Fig. 22), and fabric impressed ceramics (Fig. 18). In the western portion, plain, simple stamped, and cord marked ceramics are concentrated with the lithic debitage (Fig. 23, compare with Figs. 20-22).

If these various spatially associated artifact concentrations are contemporaneous, then functionally specific activity areas are suggested. Following, those artifacts categories exhibiting spatial overlap would be, presumably, functionally related.

As with the reconnaissance/Phase II assemblage, the Phase IIIa assemblage itself provides little additional functional data. If it is assumed that the various prehistoric artifact categories are contemporaneous, then the intrasite patterning resulting from their various spatial distributions likely represents a number of rather discrete/specialized activity areas. This would suggest intensive habitation most common at riverine sites.

If, however, the various spatial distributions represent generalized activity areas that were used repeatedly over time for the same narrow range of activities, then an interriverine site function is more probable. The low artifact diversity and the specific types of artifacts present, as
FIGURE 23: Phase IIIa SYMAP illustrating distribution of total lithic artifact assemblage at 38DR33
indicated by the reconnaissance/Phase II and Phase IIIa artifact assemblage data, tend to favor this latter possibility.

Ultimately, establishing the contemporaneity, or lack thereof, of the various artifact spatial distributions is critical to a definitive evaluation of the Middle-Late Woodland site function of 38DR33. The question of contemporaneity may be addressed with detailed stratigraphic data. In part, the intent of Phase IIIb, Unit 2, was to address this question.

**Phase IIIb - Unit 1**

While Unit 1 was excavated in light of historic period research considerations (see earlier discussion this chapter), a small amount of prehistoric material was recovered from this unit (Table 8, 9). The eroded/indeterminate ceramics, chert flake of bifacial retouch, quartz primary decortication flake, and quartzite "fire-cracker" rock stratigraphically above the early 18th-century brick floor indicate secondary deposition via erosion. This deposition necessarily occurred during or after the historic occupation. The prehistoric material (cord marked, simple stamped and eroded/indeterminate ceramics; daub?) below the brick floor in subunit la is apparently in situ.

As indicated by the Phase IIIa spatial data, Unit 1 is just outside the area of moderate to high density prehistoric material. Nevertheless, the relatively sparse amount of prehistoric material from Unit 1 is qualitatively consistent with the other prehistoric material recovered from site 38DR33.

**Phase IIIb - Unit 2**

In line with the prehistoric research focus at 38DR33, the intent of excavation Unit 2 was (1) to examine small-scale intrasite patterning within an area of the site exhibiting evidence of substantial Middle-Late Woodland activity, (2) to discover features within the general activity area indicative of specific intrasite functions, (3) to obtain stratigraphic data relevant to temporal/functional problems involving specific Middle-Late Woodland ceramic "types."

As discussed earlier, obtaining these ceramic/stratigraphic data is essential for determining whether synchronic or diachronic variability is largely represented by the spatial patterning of ceramics observed in the Phase IIIa data. Ascertaining the nature of this ceramic spatial variability is critical for interpreting the Middle-Late Woodland site function of 38DR33 within the broader settlement system.

Using the Phase IIIa prehistoric spatial data, in light of the specific research objectives outlined above, Unit 2 was located within the general area containing a moderate to high density of prehistoric material. More specifically, the unit was located within the area where cord marked, check stamped, and fabric impressed ceramics overlap spatially (Fig. 24, derived from Figs. 16, 18, 19, 20).
**TABLE 8**  
Prehistoric Ceramic Artifacts from  
Phase IIIb Testing at 38 DR 33

<table>
<thead>
<tr>
<th>Provenience</th>
<th>Plain</th>
<th>Cord Marked</th>
<th>Simple Stamped</th>
<th>Linear Jab. and Drag. Punctate</th>
<th>Linear Fingernail Impressed Punctate</th>
<th>Check Stamped</th>
<th>Linear Check Stamped</th>
<th>Fabric Impressed</th>
<th>Eroded Indeterminate</th>
<th>Daub?</th>
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Key:  
SBF = surface of brick floor - (ca. 10cm below ground surface)  
F.Q.S. = fine quartz sand temper  
M.Q.S. = medium quartz sand temper  
C.Q.S. = coarse quartz sand temper  
G.T. = grog temper  
A = rim sherd
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<tr>
<th>Chert Primary Decortication Flake</th>
<th>Chert Utilized Blade-like Flake</th>
<th>Chert Utilized FBR</th>
<th>Chert Exhausted Core Nucleus</th>
<th>Quartz Primary Decortication Flake</th>
<th>Quartzite Fire-cracked Rock</th>
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Key: FRB = flakes of bifacial retouch  
SBF = surface of brick floor — (ca. 10 cm below ground surface)
The specific location of Unit 2 was determined by Phase IIIa in-the-field data. Figure 24 indicates that Unit 2 missed the intersection of the cord marked, fabric impressed, and check stamped ceramic spatial distributions. This, however, was not the case. Not only was Unit 2 located within the area of spatial overlap of these ceramics, but also these ceramics were, after the eroded/indeterminate ceramic category, among the most abundant (Table 8). Thus, the apparent discrepancy is due only to the relative density scaling employed in the computer maps upon which Figure 24 is based.

Before considering the specific artifactual data from Unit 2, it is necessary first to place these data within the general context of the vertical disturbance indicated (see the Historic Site Data section of this chapter for a discussion of the Unit 2 soil/stratigraphic data). An examination of Tables 4 and 5 (Historic artifacts from Unit 2) indicates that historic materials occur down into Level 3 (34-45 cm below ground surface). Most of the historic material, however, is concentrated in Levels 1 and 2 (0-34 cm below ground surface).

Levels 1 and 2 also contain the highest density of prehistoric material (Tables 8 and 9). Only Level 4 (45-68 cm below ground surface) is undisturbed. Unfortunately, this level contained only two chert flakes of bifacial retouch, which are not temporally diagnostic.

The considerable number of eroded/indeterminate ceramics from Unit 2 (Table 8) also suggest substantial disturbance of the deposits, most likely, as discussed earlier, from historic/modern cultivation and tree planting. Possible historic period domestic activities in the vicinity of Unit 2 (see the Historic Site Data section of this chapter) may also have contributed significantly to the disturbance.

Direct evidence of vertical disturbance (e.g. plow scars), however, was not observed. The "mature" soil profiles suggest that cultivation has not occurred recently. House and Wogaman (1978) note that it takes approximately 30 years for plow scars to leach-out. As discussed earlier, site 38DR33 was last "cultivated" about 20 years ago when the existing loblolly-shortleaf pines were planted. Apparently, the leaching process is accelerated in areas such as site 38DR33 that contain well-drained soils.

The temporal/stratigraphic and functional aspects of the Unit 2 artifact assemblage will not be examined (Tables 8, 9). Clearly, the greatest overall density of prehistoric material, including the cord marked, fabric impressed, and check stamped ceramics, occurs in Level 2. Presumably, Level 2 represents the greatest Middle-Late Woodland occupation. Due to vertical displacement through cultivation, it is also probable that Level 2 is the origin of most materials occurring in Level 1 above and Level 3 below.

Because of the obvious vertical disturbance, nothing can be said conclusively about temporal/stratigraphic variability. However, some of the data are suggestive.
FIGURE 24: 38DR33, Distribution of all prehistoric material and check stamped, cord marked and fabric impressed ceramics from Phase IIIa relative to the location of Phase IIIb, Test Unit 2 (based on Figures 16, 18, 19 and 20)
Check stamped ceramics occur exclusively in Level 2. Both fabric impressed and cord marked ceramics are most frequent in Level 2, but have their second greatest frequencies in Level 1. This may indicate that the check stamped ceramics are relatively older than the fabric impressed and cord marked ceramics. Such an interpretation is in general agreement with the relative ceramic chronology established by South (1976) for the South Carolina coast.

However, ceramics of the two linear punctate categories, which are generally considered to be earlier than the fabric impressed, check stamped and cord marked ceramics, are confined to Levels 1 and 2, respectively. This reaffirms the problematical nature of any temporal/stratigraphic interpretations based on Unit 2 data from Levels 1-3. The two chert flakes of bifacial retouch occurring in the undisturbed deposits of Level 4 presumably relate to an earlier, less intensive utilization of the site.

From the perspective of intrasite activities and interpretations of Middle-Late Woodland site function, little additional insight is provided by the Unit 2 data. Because of the vertical mixing of the deposits, it is impossible to determine with any degree of reliability which artifact categories are functionally related.

The overall high density of material (compare with the interriverine site artifact density indices in Brooks and Scurry 1978) suggests fairly intensive habitation. However, because the contemporaneity of the various materials is questionable, it is quite possible that the relatively high density of archaeological material is due, not to intra-assemblage functional variability (e.g. various cooking, storage, collecting and serving functions of the ceramics), but rather to the gradual accretion of functionally similar materials over time. The low artifact diversity (compare with the interriverine site artifact diversity indices in Brooks and Scurry 1978) tends to substantiate this interpretation, suggesting a narrow range of activities associated with intermittent occupation.

Only the possible daub in Level 2 is suggestive of structures or features that, if present, could indicate intensive habitation. Based on the data from Unit 2, however, any such remains have likely been destroyed. It is also possible that the daub from Unit 2 relates to the historic structural remains that probably existed in that area (see the Historic Site Data section of this chapter).

Although the lithic assemblage from Unit 2 is small, it is probably the most functionally informative. The relatively low density and diversity of the lithic assemblage, and, the particular artifact categories represented, are most similar to the lithic variability observed at interriverine sites (Brooks and Scurry 1978). This variability is attributable to a relatively narrow range of short-term, deer hunting and butchering activities involving tool use (e.g. hafted bifaces, utilized flakes) and tool maintenance (e.g. flakes of bifacial retouch and/or resharpennng flakes), but generally not tool manufacture (Brooks and Scurry 1978).

Finally, if the above interpretation of the lithic data is substantially correct, then, by extension, it can be reasonably inferred that
much of the ceramic variability at site 38DR33 is due not to functional differences associated with intensive habitation, but rather temporal differences associated with repeated, short-term occupations.
CHAPTER VII
RESEARCH CONCLUSIONS AND RECOMMENDATIONS

Introduction

In Chapter III, historic and prehistoric models were presented as analytical frameworks within which to evaluate site 38DR33. Aspects of the respective models amenable to examination via data relevant to site 38DR33 were specified.

The relevant historic archival, environmental-ecological, and archeological data sets presented in previous sections are integrated in this final chapter. These combined data sets are the basis for research conclusions, beginning with the historic period. From the respective historic and prehistoric period research conclusions, management recommendations are then presented.

Historic Period Research at 38DR33:
Summary and Conclusions

The multiphase archeological testing program implemented at site 38DR33 in conjunction with Lewis' anthropological model of plantation agriculture (Lewis and Hardesty 1979) enabled the effective interpretation of historic archeological remains relevant to the study and evaluation of Baker's plantation (38DR33). Each test phase served to expand our knowledge of activities by systematically refining the test results and questions of each preceding phase and positing new questions and answers within the framework of a plantation-oriented economy.

Site 38DR33 was located during reconnaissance field investigations (Harmon 1981). The area of historic occupation was delimited by the systematic 100-foot interval shovel testing implemented during the reconnaissance and Phase II surveys. While undertaking these shovel tests, a number of linear spoil piles were recorded in the proposed treatment plant area. One of these spoil piles contained a substantial number of loose brick fragments. An interview with Mr. Cecil Windham, the property caretaker, indicated that these numerous linear spoil piles were windrows constructed when the area was logged and cleared of all brush preceding the machine planting of pine trees in the proposed treatment plant area in ca. 1960. Any surface historic structural remains were destroyed during this process. Implementation of systematic subsurface probing during survey Phase II indicated that, if intact subsurface structural remains were still present, they would be in the vicinity of the proposed plant access road near its
entrance into the treatment plant area. In Phase III, a 6.0 m x 0.5 m trench (Unit 1) was initiated in the area indicated by the combined results of earlier test phases as having the greatest potential for containing intact subsurface structural remains. Excavation of this trench revealed a brick floor section that was basically continuous even though this area had been disturbed by logging, bulldozing, and pine tree planting.

The excavation of a 2 x 2 m block unit (Unit 2) concluded Phase III and the field study of site 38DR33. This unit also contained a moderately high density of historic period artifacts. Thus, the field investigations conducted at site 38DR33 yielded artifactual evidence of an 18th-century historic period occupation. The brick floor section located in Test Unit 1 (Phase IIIb) indicated the former presence of a relatively substantial structure.

Archival research implemented in conjunction with the field investigations indicated that site 38DR33 represented the site of Baker's plantation. Smith (1919: 36) noted that Baker's plantation was occupied in the 18th and early 19th centuries and that only scattered bricks and evidence of an old garden were visible when he visited the plantation site in the early 20th century. The presence of numerous charcoal and brick fragments, fire-damaged artifacts, and a second notation by Smith (1919: 4) indicate this structure was probably burned near the end of the Civil War. The lack of non-18th-century artifacts in all test units suggests, however, that the house was abandoned long before this time. The superstructure and much of the surrounding topsoil had apparently been removed by bulldozing prior to tree planting in this area (Cecil Windham, personal communication).

Given the constraints imposed by the disturbed physical condition of the site and the general scantiness of archival records, it was determined that the most effective method for studying the archeological manifestations at site 38DR33 lay in the analysis and interpretation of artifact assemblages, patterns, and their associations. The subsistence-settlement orientation outlined in the research design was effectively addressed by studying the artifact assemblage of Baker's plantation in relation to data derived from the study of Middleton Place plantation (Lewis and Hardesty 1979). The archeological and archival record of this more thoroughly studied and better preserved plantation site was examined by use of an anthropological model of plantation agriculture. That research focused on the activities that occurred at Middleton Place within the larger plantation-oriented economy of the coastal southeastern United States during the 18th and 19th centuries.

Lewis' model outlines several general characteristics of plantations frequently observable in the patterning of the archeological record of Baker's plantation:

1. The plantation settlement pattern will be characterized by a cluster of buildings and associated activity areas. These buildings will have been laid out in a symmetrical fashion characterized by a mainhouse flanked by dependencies of various functions, such as kitchens, offices, servants' quarters, libraries, etc. (Waterman 1945: 61, 259, 341).
Generally, farm buildings and field slave quarters will be located further from the main house complex to one side of the manor house. Plantation complexes will not usually be situated on main roads, but will instead be situated on one or more branch roads that lead from the main road into the plantation lands (Phillips 1929: 335; Lewis and Hardesty 1979: 40-42).

2. The main house will be identifiable as living quarters by archaeological markers of high social status (Lewis and Hardesty 1979: 42).

3. Secondary dependency buildings, together will associated activity loci, should also be present, detached from the main house. They will normally be arranged in a line perpendicular to the long axis of the main house and will have evidence of specialized domestic activities and possibly lower status occupation. The buildings may or may not be architecturally similar to the main house (Lewis and Hardesty 1979: 42).

4. Buildings used for animal husbandry, manufacturing and maintenance activities, and storage should be situated to the side of the main house. They may be arranged in a line or in a rectangle with animal accommodation structures furthest from the main house. There should be archaeological evidence for a variety of different activities related to plantation production and maintenance. It is possible that lower status living quarters may be the same as, or close to, manufacturing, maintenance, and storage facilities (Lewis and Hardesty 1979: 42-44).

5. There may be archaeological evidence of specialized production systems: for example, the rice mills, rice storage barns and the lake at Middleton Place (Lewis and Hardesty 1979: 43).

The observed historical archeological data from site 38DR33 will now be compared with the above predictions, respectively, generated by Lewis's plantation model. We believe site 38DR33 denotes the remains of a plantation (i.e. Baker's plantation) for the following reasons:

1. Site 38DR33 is located between the Ashley River and the Old Dorchester Road (State highway 642). Therefore, it probably had one or more roads leading from the highway to the plantation complex. Phase IIIb, test units 1 and 2, located two distinctly different activity areas. Test Unit 1 presumably denotes a substantial structure loci, as evidenced by the brick floor section and associated artifact assemblage. The bricks in this floor exhibit a north to south trend in their orientation, suggesting the structure was oriented with respect to the four cardinal directions. Test Unit 2 presumably denotes a dependency of the structure evidenced in Test Unit 1. It flanks the structure denoted by Unit 1, consistent with the generally symmetrical layout of 18th-century plantations.

The actual layout of these two probable structures associated with Baker's plantation, i.e. the main house and associated dependency, can be more firmly established by a consideration of intra-site artifact patterning relative to the structure locations (refer to Figs. 7-9, 15). Three concentrations of nonstructural artifacts occurred in this area. These three loci probably reflect trash disposal by occupants of the two structures.
The orientation of these artifact concentrations is generally consistent with the pattern of refuse found associated with plantation main houses and their associated dependencies (South 1979: 213). South suggests that refuse deposition will be greatest around the back sides of the main house and kitchen (dependency). A similar general pattern is noticeable at site 38DR33. From this, in conjunction with the archeological data, it is suggested that Baker's plantation faced the Ashley River and was generally oriented with respect to the four cardinal directions. Trash disposal primarily in the back and side yard areas is also inferred.

2. The main house location of Baker's plantation should be identifiable by both domestic debris and archeological markers of high social status. The European and Colono ceramic fragments, brass button, gun flint and kaolin pipe fragment indicate the structure represented by Unit 1 served a domestic purpose. A single Oriental porcelain fragment was also recovered. This probably reflects tea ceremony activity, thereby providing a reliable status indicator (Lewis and Hardesty 1979: 47). The brick floor section in this unit combined with the quantity of associated brick refuse suggest a substantial structure. The floor section presumably denotes the basement of the house, as all superstructural remains and much of the surrounding topsoil were removed by bulldozer action. Near ground level, cellars were common in 18th-century plantation houses (Kenneth Lewis, personal communication). It is, therefore, reasonable to conclude that Unit 1 represents the former main house of Baker's plantation.

3. The artifact assemblage from Test Unit 2 apparently reflects the general location of a dependency of the main house. For the following reasons, this dependency probably served as either a kitchen or house slave quarters.

The generally smaller whole nails and the apparent absence of a brick floor suggest a less substantial and less expensive structure than that reflected by Unit 1. The absence of European ceramics and status artifacts, coupled with the presence and relative abundance of Colono ceramic fragments, suggest occupation by individuals of low socio-economic standing. Also, the suggested orientation of this second probable structure relative to the brick structure is consistent with the symmetrical layout of 18th-century plantations in which the main house was normally flanked by dependencies of various functions (Kimball 1922: 79; Lewis and Hardesty 1979: 41).

4. The lack of additional concentrations in the main house and adjacent areas indicate that animal husbandry, manufacturing and maintenance dependencies, if present, were probably not within the area investigated. Farm buildings and field slave quarters (as opposed to house servant quarters) were generally situated at some distance from the main house complex (Lewis and Hardesty 1979: 41). Draft animal equipment, riding and vehicular equipment, farming tools, storage, shipping and packing containers represent activities associated with such areas. No archeological evidence of these activities was recovered.

5. Archeological evidence for specialized production systems, such as rice mills and rice barns, was not recovered. If specialized produc-
tion activities occurred at site 38DR33, they were apparently not conducted within the proposed treatment plant area.

In conclusion, the archeological study of Baker's plantation, site 38DR33, utilized a synthesis of archeological and historical data in order to interpret patterns predicted in the archeological record by an anthropological model of plantation agriculture. Two probable 18th-century structure locations were recorded, representing the main house and a kitchen or house slave quarters dependency. By considering the relationships of these architectural remains and their associated artifact concentrations, it has been possible to infer that Baker's plantation was probably laid out in a symmetrical fashion in the early 18th century facing the Ashley River. The post-18th-century history of Baker's plantation probably exhibits trends similar to those recorded for Middleton Place plantation. Baker's plantation quite possibly was assimilated into the Middleton property holdings, as were the adjoining plantations of Cedar Grove and Spring Farm (see Chapter II).

The use of a plantation-oriented, subsistence-settlement model facilitated the interpretation of the archeological remains at site 38DR33. In turn, the archeological data from 38DR33 have provided support for the interpretive value of this model.

Finally, the interactive field phases and archival research have effectively gleaned archeological information from a site that has been substantially disturbed by fire, bulldozing, logging and pine tree cultivation. The value of this study lies in the effective use of archeological data from a disturbed site within the framework of a regional predictive model to reconstruct details concerning the historical record of Baker's plantation.

Prehistoric Period Research at 38DR33: Summary and Conclusions

From the work of Harmon (1981), it was evident that site 38DR33 had considerable potential for providing a body of intrasite data relevant to specific aspects of the Middle-Late Woodland period subsistence-settlement model summarized in Chapter III. In turn, the model served as an analytical framework within which to direct the collections of relevant data and to evaluate the data obtained. Survey Phases II-IIIb were designed for collecting these data (see Chapters V and VI).

The model is based largely on Middle-Late Woodland period subsistence-settlement variability that has been observed for the riverine and inter-riverine environmental zones of Berkeley County (e.g. Brooks and Scurry 1978; Brooks et al. 1979; Brooks 1980; Brooks and Canouts 1981; Green and Brooks n.d.). However, the general applicability of the model in other interior Lower Coastal Plain areas has not been established. The model may be evaluated and refined on a regional basis only through an examination of its specific aspects or components.
Site 38DR33 provided an opportunity to examine certain aspects of the model that could be addressed only with a detailed body of intrasite data. Specifically, site 38DR33 has the potential for yielding data relevant to:

(1) the future determinations of general riverine or interriverine site function. Based on site locational data alone, such determinations are not always possible for sites (e.g. 38DR33) located on the "ecotone" between these two broad environmental zones. Determining a site's riverine vs. interriverine status is critical for evaluating subsistence-settlement variability.

(2) the range of specific activities associated with a general riverine or interriverine site function. While general differences between Middle-Late Woodland riverine and interriverine sites are apparent, our knowledge of these sites rests largely on reconnaissance survey and limited excavation data. Consequently, very little is known about the specific details of the internal variability of either riverine or interriverine sites. Therefore, regardless of site 38DR33's riverine-interriverine status, a valuable body of descriptive, intrasite data useful for refining specific aspects of the model pertaining to site function should be obtainable.

(3) ceramic variability within the Middle-Late Woodland period. It is unclear at present whether Deptford and Wilmington-Cape Fear ceramics (e.g. check stamped, fabric impressed and cord marked) that occur in various combinations and proportions in riverine and interriverine sites represent largely functional, temporal or socioethnic variability (e.g. South 1976; Anderson 1975; Brooks and Scurry 1978; Brooks and Canouts 1981; Canouts et al. n.d.). Given a ca. 2,000 year time span for the Middle-Late Woodland period, such data are essential for refining our knowledge of Middle-Late Woodland subsistence-settlement variability over time and space.

In the following discussion, each of the above research objectives is addressed in order of their presentation. This is accomplished through a brief summary of the relevant intrasite data recovered from site 38DR33. Where appropriate, available supportive data are also presented.

(1) The combined archeological data presented in Chapter VI strongly indicate an interriverine site function for 38DR33. The relatively low artifact diversity and the particular lithic and ceramic artifact categories present suggest an interriverine site artifact assemblage (e.g. Brooks and Scurry 1978). As discussed in Chapter III (the Middle-Late Woodland period model), interriverine sites are thought to represent short-term, fall and early winter occupations involving a narrow range of subsistence-oriented activities associated primarily with deer hunting/butchering and nut procurement.

Other lines of data support an interriverine site interpretation. The Huger Site (38BK211, a Middle-Late Woodland interriverine site--Green and Brooks n.d.), for example, and site 38DR33 are situated within generally similar environmental settings. Specifically, both sites are located 1) on high, flat to gently sloping areas characterized by well-drained soils, and 2) overlooking substantial interriverine drainages.
(e.g. 38DR33--Coosaw Creek). In addition, there is a linear distribution of archeological materials parallel to the slope at both sides.

Non-archeological data also support an interriverine site interpretation for 38DR33. Sea level was generally about one to two meters lower than present during the Middle-Late Woodland period (see Chapter IV). Consequently, the nearby Ashley River may have been little more than a "trickle" at that time. Correspondingly, unlike the larger Piedmont-draining rivers (e.g. the Santee River), the subsistence resource productivity of the Ashley River would probably have been insufficient to support intensive, multiseasonal riverine habitation (Brooks and Canouts 1981).

Conversely, with lower sea levels the freshwater table would also have been lower. The soils at 38DR33, therefore, would likely have been even better drained and more extensive than present. The potential fall and early winter nut and deer productivity would, correspondingly, have also been higher. As discussed below, this may, in part, account for the frequent Middle-Late Woodland reoccupation indicated for this probable interriverine site.

(2) The vertical disturbance at site 38DR33 (see Chapter VI) precluded the recovery of contextual data necessary for examining and evaluating in detail specific intrasite activities. However, the intrasite data obtained do indicate that differential densities of the various artifact categories (particularly the Middle-Late Woodland ceramic "types") cluster spatially. Presumably, these clusters (see Chapter VI) represent intrasite activity areas. Unfortunately, because of the vertical disturbance, it is unclear whether the relationship(s) between the various spatial clusters are largely of a functional or temporal nature. Data presented below suggest that the latter is most probable.

(3) As with the analysis of intrasite activities, the vertical disturbance at site 38DR33 precluded the direct determination of the temporal/functional relationship(s) of the specific Middle-Late Woodland ceramic "types." Obviously, this problem is intimately related to #2 above. While the stratigraphic data from 38DR33 are not considered reliable for ascertaining the temporal/functional relationship(s) between the specific ceramic "types," or for their respective spatial distributions, much of the spatial and ceramic variability observed can be attributed to temporal factors.

Prior studies of Middle-Late Woodland interriverine site variability indicate that most interriverine sites are relatively small, generalized scatters containing a low density and diversity of archeological materials. Presumably, this reflects the narrow range of short-term activities thought to be involved (Brooks and Scurry 1978; Brooks 1980; Brooks et al. 1979; Scurry and Brooks 1980; Brooks and Canouts 1981).

Site 38DR33 varies from the "typical" Middle-Late Woodland interriverine site in at least three ways. Comparatively, site 38DR33 (1) is relatively larger, (2) contains a much higher overall density of archeological material, (3) contains definable spatial concentrations of various artifact categories.
These differences, ultimately, may be related to environmental factors. From the standpoint of sea level change, areas occurring at the higher elevations (e.g. 38DR33) have remained environmentally stable throughout the Holocene. Therefore, the areally extensive well-drained soils at site 38DR33 likely produced high densities of acorns, hickory nuts and deer on a relatively consistent (fall and early winter) basis throughout the Middle-Late Woodland period (Brooks and Scurry 1978; Brooks et al. 1979; Brooks 1980; Brooks and Canouts 1981).

Thus, the relatively large areal extent and high overall density of archeological material at 38DR33 can best be attributed to frequent, short-term occupations over a considerable span of time. Presumably, then, the differential densities (spatial clusters) of the specific artifact categories (principally the Middle-Late Woodland ceramic "types") likely correspond with specific, fall and early winter occupations.

If the above interpretation of the data is substantially correct, then much of the spatial and artifact assemblage variability observed at 38DR33 is temporal. Essentially, as indicated by the particular artifacts present and the low artifact diversity, the observed variability suggests that a relatively narrow range of similar activities were performed at site 38DR33 over time.

In conclusion, the prehistoric research conducted at 38DR33 was, overall, successful in terms of the stated research objectives. It has been demonstrated that intrasite data obtained at the multiphase, intensive survey level, in conjunction with environmental-ecological data, are adequate for reasonably determining a site's general function (riverine vs. interriverine) within the broader, subsistence-settlement system.

Unfortunately, because of the extensive vertical disturbance at 38DR33, it was not possible to obtain the contextual data necessary for examining specific, intra-artifact assemblage temporal and functional relationships. Nevertheless, the intrasite spatial data obtained from 38DR33 has greatly expanded our knowledge of interriverine site variability.

It is now known that at least some interriverine sites (1) are areally extensive, (2) contain relatively high overall densities of archeological material, (3) have a definite internal structure (spatial patterning of artifacts). Non-stratigraphic data were presented suggesting that much of this observed variability at 38DR33 is probably of a temporal nature.

Finally, the Middle-Late Woodland subsistence-settlement model used to direct the prehistoric period research cannot be fully evaluated in terms of its general applicability to the interior Lower Coastal Plain. Clearly, the single-site data obtained from 38DR33 are, in themselves, insufficient for this purpose. However, the 38DR33 intrasite data generally support, and have substantially refined, specific aspects of the model pertaining to interriverine site variability.
Three archeological sites are located within and/or adjacent to areas of proposed construction. Site 38DR10 is situated adjacent to Bacon's Bridge on the north bank of the Ashley River immediately east of Highway 165. Brick, concrete and shell midden remains are located in excess of 30 m from the highway. Associated artifacts indicate an 18th- through 20th-century occupation of the site. The proposed sewer line route is outside the site area and within the existing highway right-of-way.

Site 38DR34 represents an earthen dam across Rumphs Hill Creek, approximately 100 m south of survey station 60+75. Partially intact hewn wooden remains (dam gate) and associated ceramics in and immediately adjacent to the creek may indicate a 19th-century origin.

From the creek, the dam extends about 200 m west and 20 m east up to the high ground overlooking the creek bottomland. Adjacent to the creek, the dam varies from 4-5 m high and from 10-12 m wide. The dam becomes lower and narrower as it approaches the high ground to the east and west.

The proposed sewer line will cut a ca. 3-m wide trench (to be back-filled) through the earthen portion of the dam about 40 m west of the creek. This will have a minimal impact on the dam and will not affect the associated wooden structural remains.

Ideally, of course, the dam should be avoided entirely. To do so, however, would require moving the sewer line to high ground where more substantial archeological remains are likely to be encountered. It is felt, therefore, that construction of the sewer line at the proposed location will have the least impact on archeological resources.

Site 38DR33 is located north of the Ashley River and on the east side of Coosaw Creek. A substantial portion of this fairly extensive multicomponent historic (Baker's plantation--early-to mid-18th century) and prehistoric (Middle-Late Woodland) site is within the area of the proposed 4-acre treatment plant and associated access road.

The major emphasis of the intensive archeological survey and testing program was directed toward 38DR33 in an attempt to delineate the spatial extent of the archeological components and to examine in detail their internal variability. Particular attention was given to the discovery of features and structural remains.

While the research was successful in obtaining detailed spatial information from 38DR33, the surface and subsurface data strongly indicate that few intact archeological deposits exist within the proposed construction area. Because of intensive cultivation and timbering activities during the 19th and 20th centuries, there is no vertical integrity to a depth of ca. 45 cm below ground surface. The highest density of archeological material is within this depth range.
Although there are apparently undisturbed prehistoric deposits between 45 and 68 cm below ground surface, the extremely low artifact density indicates a low intensity of site utilization during the earlier phases of prehistoric site occupation. Consequently, the presence of features or structural remains in the undisturbed prehistoric deposits is highly unlikely. Because of the low density of material and the low probability of features or structural remains, these deposits have little potential for yielding additional data.

A small portion of an 18th-century brick floor was discovered through subsurface testing at 38DR33 about 30 m southeast of the proposed construction area. A .5 x 6 m section of the floor was exposed. Most of the floor and all of the superstructure were destroyed, probably 20 years ago during the most recent timbering activities (Mr. Cecil Windham, property caretaker--personal communications).

In summary, site 38DR10 is outside the area of proposed construction and does not warrant further consideration at this time. Portions of sites 38DR33 and 38DR34, however, are within proposed construction areas. While information important to our understanding of history and prehistory was recovered from these sites, their potential for yielding additional archeological data is minimal. For this reason, sites 38DR33 and 38DR34 are not considered eligible for nomination to the National Register of Historic Places.

Therefore, it is recommended that no additional archeological work be conducted at sites 38DR33 and 38DR34 and that construction be allowed to proceed as planned. Nevertheless, it is requested that a professional archeologist be contacted immediately should unexpected archeological remains be discovered during construction.
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