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Castle Pinckney: An Archeological Assessment with Recommendations

Kenneth E. Lewis

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Castle Pinckney: An Archeological Assessment with Recommendations

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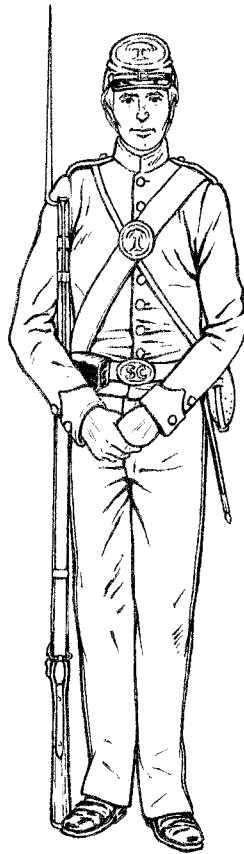
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*CASTLE PINCKNEY:
AN ARCHEOLOGICAL ASSESSMENT WITH RECOMMENDATIONS*

by

*Kenneth E. Lewis and William T. Langhorne, Jr.
Research Manuscript Series No. 128*



Prepared by the
INSTITUTE OF ARCHEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
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The drawing on the title page, by Darby Erd, is of a Charleston Zouave Cadet. The Cadets assumed command of Castle Pinckney in 1861, when the fort was used to imprison Federal troops captured at Bull Run.

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INTRODUCTION

Shute's Folly Island in Charleston Harbor, South Carolina has been the site of a military fortification since the second half of the eighteenth century. The focal point of the various occupations there has been a fortress named Castle Pinckney (38CH76), first erected in 1799 and later rebuilt in brick in 1809. In 1969 the site of Castle Pinckney was acquired by the Fort Sumter Camp 1269, Sons of Confederate Veterans with the intention of developing the fort as a restored historic site. In order to accomplish the proposed interpretive development of the site it is first necessary to compile and assess all pertinent forms of data relating to Castle Pinckney and its various occupations. It is the purpose of this report to provide an assessment of archeological resources at Castle Pinckney for the Sons of Confederate Veterans who have sponsored this work.

The archeological assessment of Castle Pinckney should provide several types of information useful in the investigation of this site. First, the assessment will formulate a research design for conducting archeological investigations at Castle Pinckney. The research design will define basic goals to be considered in the archeological investigations and will outline a methodology by which these goals may be accomplished in terms of the actual data collection.

Second, a schedule for conducting archeological research will be proposed. This schedule will outline the nature of each stage of the proposed archeological work required to investigate the site of Castle Pinckney. Approximate time and equipment requirements will be identified here.

Third, a preservation statement will be included to guide the sponsor in making adequate provision for the treatment and maintenance of the standing architectural remains, artifacts, and other archeological features located on or recovered from the site of Castle Pinckney.

Finally, a statement will be made regarding preliminary steps that should be taken prior to the commencement of any archeological work on the site.

This archeological assessment is intended to aid the Sons of Confederate Veterans in the preliminary phase of planning for the development of Castle Pinckney. The goals for future research recommended in this report will be based upon a consideration of all presently available evidence and will address the site's potential as both an historical and archeological resource. These goals will be formulated so as to elicit information helpful in the restoration and historical interpretation of the site as well as in the exploration of larger questions relating to the archeology of historic sites in general. The research design within which these goals are to be outlined should not only serve to generate archeological data capable of providing these types of information but should also in its execution, demonstrate the usefulness of employing a broad anthropological approach to the investigation of the historic past.

PHYSIOGRAPHIC SETTING

Castle Pinckney is situated at the southern end of Shute's Folly Island, a landform lying at the mouth of the Cooper River as it empties into Charleston Harbor (Figs. 1 & 2). The harbor and the lower portion of the Ashley and Cooper Rivers flowing into it form an estuary subject to the tidal action of the Atlantic Ocean (Colquhoun 1967). Shute's Folly Island is composed of tidal marsh, a landform created by the gradual deposition of marine sediments suspended in water entering the estuary at high tide (Johnson, et al. 1974: 68). Tidal marsh sediments consist generally of clays and fine sand. The soils of Shute's Folly Island are classified as Tidal marsh, soft soils, a miscellaneous land type (Miller 1971: 29). Tidal marsh, soft soils consist of a surface layer of water-saturated clay, clay-loam, or peat. These soils are usually covered by 6 to 24 inches of salt water at high tide but some patches are left dry (Bonsteel and Carr 1905: 9). The surface layer extends to a depth of 12 inches, below which a bluish silt and clay, also permanently saturated, is present. This is underlain at a depth of about 3 feet by a layer of dense, massive blue clay (Bonsteel and Carr 1905: 20; Miller 1971: 29). In general, Tidal marsh, soft soils have a low bearing strength when permanently saturated, however, when diked and drained they become harder and more compact (Bonsteel and Carr 1905: 21).

Geologically the tidal marshes comprise a portion of the Recent terrace, the lowest of the three terrace formations present in the Atlantic Coastal Plain in Charleston County. All of these terraces are composed of marine sediments of Pleistocene or more recent age and are underlain at a depth of 600 to 700 feet by Eocene marls of the Ashley and Cooper River beds (Bonsteel and Carr 1905: 10; Miller 1971: 74).

Shute's Folly Island is characterized by vegetation typical of tidal marshlands (Figs. 3 & 4). The species present here consist primarily of saltwater grasses capable of surviving in the saline environment of the tidal marsh. Among the species typically present are smooth cordgrass (Spartina alterniflora), occurring in the intertidal zone; saltmeadow cordgrass (S. patens); and sea oxeye (Borichia frutescans), present in the supratidal areas. Saltgrass (Distichlis spicata) and glasswort (Salicornia sp.) are also typical of tidal marshlands environments in general (Johnson, et al. 1974: 71-72; Hayes 1975: G-85).

The Cooper River estuary is characterized by fauna typical of estuarine environments along the Atlantic coast in South Carolina. The species present here include both resident and migratory inshore fish such as black drum (Pogonias cromis), flounder (Paralichthys lethostigma), sheepshead (Archosargus probatocephalus), shad (Alosa mediocris and A. sapidissima), and striped bass (Morone saxatilis). Oysters (Crassostrea virginica), shrimp (Penaeus setiferus), and blue crab (Callinectes sapidus) are also found in estuarine waters. In

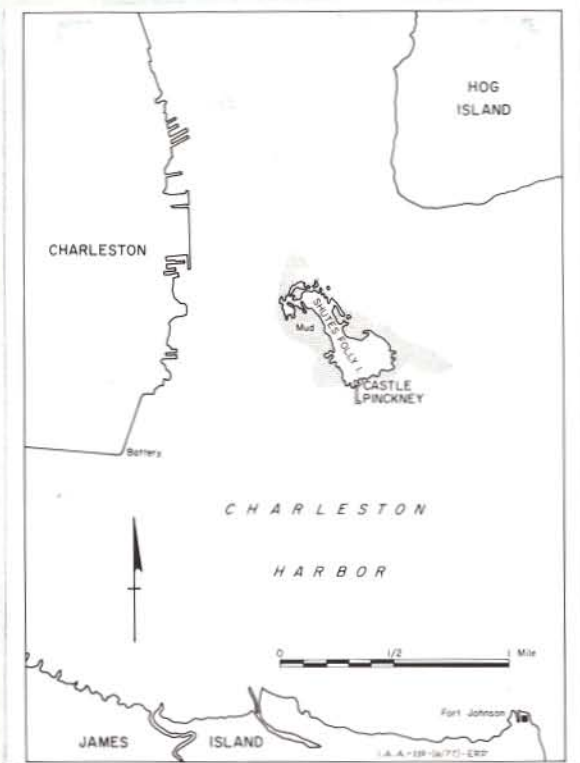


FIGURE 1. Map showing the location of Castle Pinckney (38CH76) on Shute's Folly Island in Charleston Harbor (Source: U. S. Department of the Interior 1971).



FIGURE 2. Southeastern approach to Castle Pinckney in the Cooper River.



FIGURE 3. Cooper River and vegetation on Shute's Folly Island.



FIGURE 4. Vegetation on Shute's Folly Island, facing northwest.

addition to fish and shellfish, the estuaries are also inhabited by surface users such as the American oystercatcher (Haematopus palliatus) and the brown pelican (Pelecanus occidentalis) (U.S. Army Corps of Engineers 1972: 10-11; Johnson, et al. 1974).

Tidal marsh, soft soils constitute an unstable landform that is susceptible to modification by tide and current (Miller 1971: 40). During the two and one half centuries that have passed since Shute's Folly Island was first mapped, it has been reduced markedly in size from 224 acres in 1711 to less than 64 acres at present (Petit 1969: 66). The natural process of erosion has had a destructive effect on the remains of past human occupations on the island. This process, because of its extent and relatively rapid rate of occurrence, constitutes the most significant environmental variable relating to the preservation of the archeological remains on Shute's Folly Island.

RESEARCH GOALS AND STRATEGIES

The overriding concern of this assessment is the creation of a research design capable of directing the study of all significant archeological resources relating to Castle Pinckney's past. The goals specified in this design will center around basic questions that may be formulated through an examination of existing information pertaining to Castle Pinckney. At present this information consists almost entirely of non-archeological data, namely documents, standing structural remains, and a few artifacts taken from the site. The questions derived from a consideration of this historical evidence will provide the foci for the archeological work at Castle Pinckney. The analysis of the archeological data should serve not only to confirm statements derived from an examination of nonarcheological sources but also to add new knowledge to our understanding of the historic past.

The ability of an investigator to employ archeological data to answer questions about past societies is based upon a series of assumptions regarding the relationship between human behavior and the nature of the material remains it generated. These assumptions may be summarized as follows.

1. Culture may be viewed as those learned patterns of human behavior by which man adapts to his physical and social environment (Kottak 1974: 4). Rather than a sum of traits, culture is a series of interacting components which are continually acting and reacting to one another, resulting in constant variation and change.
2. This interaction implies the existence of a system within which certain cultural mechanisms operate to regulate change or to maintain behavior within certain limits or boundaries (Rappaport 1968: 4). In order to deal with a phenomenon as complex as human culture it is necessary to adopt an approach which stresses the interrelationship of all variables in the system rather than between isolated characteristics of man and his environment (see Geertz 1963: 9-10; Buckley 1967: 41).
3. Just as human behavior may be seen as part of an interrelated system, separate activities not involving all parts of the system or all members of the society may be defined as subsystems. The number of subsystems increases with the level of complexity of the cultural system and, concomitantly, with the degree of specialization within it (Binford 1965: 205).
4. Because behavior is not random, it is possible to observe patterns in human activities. A recognizable structure may be seen to appear in the systemic organization of technology, economics, religion, social organization, and other specialized activities. Changes in these patterns may be traced through time and variation in systemic structure viewed as a historical phenomenon.
5. Of crucial importance is the final assumption that the archeological record will exhibit particular patterns reflecting those patterns in the cultural system which produced them (Longacre 1971:

131) and will reflect temporal changes occurring in those patterns and in the system. In order to understand more clearly the relationship between a living behavioral system and the material record it leaves behind, recent studies have investigated those processes governing the transfer of artifacts from the former state to the latter (Schiffer 1972, 1975).

The goals of the research design need not be confined to questions particular to the history of Castle Pinckney. Its status as one of the few remaining castle type fortresses in the United States makes its examination significant to the study of this type of structure in general. The relatively long occupation of Shute's Folly Island also makes the archeological exploration of Castle Pinckney important to the study of the periods during which it existed.

In that the reconstruction of Castle Pinckney for use as a museum is a prominent project goal, it is imperative that specific questions be addressed directly to the architecture and other structural elements of the site. The discovery, recording, and stabilization of archeological features for interpretive purposes should be an integral part of the Castle Pinckney research design.

A schedule for research forms the second aim of this assessment. This schedule will describe in sequential order the types of archeological work that will necessarily be carried out in order to obtain the data required to answer the questions put forth in the research design. Because of the nature and location of the site, special consideration must be made in scheduling archeological investigations at Castle Pinckney so as to permit the completion of each phase of research with the greatest efficiency.

Based upon the goals of the research design and our knowledge of Castle Pinckney and the larger social system within which it existed, it will be possible to determine the types of archeological data needed to investigate various past occupations of Shute's Folly Island. The physical requirements involved in obtaining these types of data will, in turn, determine the nature and location of archeological excavations to be carried out as well as the sequential order in which they are to be accomplished. It is impossible to estimate the actual costs for the archeological work beyond the initial phase of research at this time because the condition and extent of the archeological remains at Castle Pinckney are unknown. Realistic budgeting for each phase of archeological work must be done at the close of the preceding phase when the precise requirements of further research can be properly ascertained.

Because the archeological investigation of Castle Pinckney will undoubtedly result in the uncovering of numerous architectural and other cultural features that will be in danger of deterioration or destruction once revealed, it will be necessary that steps be taken to stabilize these features in order to ensure their preservation. A preliminary statement will be made outlining the probable stabilization techniques that must be considered, given the nature of the features

likely to be uncovered. In addition to archeological features, the presently exposed portion of Castle Pinckney will require stabilization work in order to protect it from further deterioration. A statement directed toward the stabilization of standing structures likely to be affected by the anticipated archeological work will also be included. It will outline those measures that may be taken to maintain such standing structures upon the completion of the archeological work.

A statement will be made recommending those preliminary steps that should be taken prior to the commencement of archeological work at Castle Pinckney. These recommendations will specify what each step is designed to accomplish and the order in which they should be undertaken. These preliminary steps refer to both the preparation of the Castle Pinckney site itself as well as the general steps that should be taken to set up the archeological project.

THE DATA SOURCES

The assessment of Castle Pinckney will be based upon the analysis of several types of data. Because the site has been occupied during the historic period the most extensive form of data relating to its past occupations is documentary evidence. Extensive primary sources are available concerning the military period of Castle Pinckney's history, including reports, plans, maps, and accounts. The significance of Charleston in both the War of American Independence and the American Civil War has resulted in the generation of a great deal of narrative and graphic material relating to the city and its defenses. The Confederate occupation of the site is especially well illustrated by photographs. The post-Civil War period is less well represented in documentary sources, although an increase in systematic cartography during this period has resulted in the production of a more complete succession of maps of Shute's Folly. The nonmilitary period of the site's history fell within the eighteenth century and is recorded in legal and other documents of this time.

Secondary documentary sources dealing with Castle Pinckney are numerous. Those offering the most detail generally relate to the Civil War period and the Confederate defense of Charleston Harbor. References to the site also appear in historical and descriptive accounts of Charleston and several articles and chapters are devoted exclusively to Castle Pinckney.

The second form of evidence relating to the Castle Pinckney site is archeological, in that it consists of the material remains left behind by past occupations there. Shute's Folly Island contains structural remains of both the military and post-military periods, including much of the Castle Pinckney fortifications, and these should serve to aid in the examination of several aspects of the site's past. This evidence has been recorded in photographs, maps, and recent field examination.

Comparative data will be extremely important in the study of Castle Pinckney because the military structures on the site are likely to incorporate many features common to other fortifications of the period. A study of documentary evidence relating to early nineteenth century military architecture in general and to specific examples of such architecture in other places should provide descriptive and explanatory information pertinent to Castle Pinckney. Structural evidence from comparable military sites will also be helpful in the interpretation of military features here.

Comparative documentary information should also be of use in the investigation of the pre-military occupation of Shute's Folly Island as well as to occupations occurring after the abandonment of Castle Pinckney as a defensive fortification. This information may provide clues to the types of settlements likely to have been found there and should add to the relatively scarce historical information relating to these periods at Shute's Folly Island.

Because Shute's Folly Island existed long prior to the time of European contact, it is possible that it was occupied or utilized by aboriginal inhabitants of the Coastal Plain. In order that the possibility of a pre-European occupation of the site be considered in the research design for Castle Pinckney, a review of pertinent archeological and ethnographic literature relating to the prehistory of this area will be made.

In the following section a summary of information contained in the types of sources listed above will be presented. These data will be organized in chronological order and should serve as an historical review of Castle Pinckney as well as a statement of current knowledge relating to the site.

SUMMARY OF CURRENT KNOWLEDGE

Introduction

Shute's Folly Island has been occupied by Europeans since the second decade of the eighteenth century. Prior to this time it is possible that the island was utilized or even inhabited by aboriginal groups of the Coastal Plain. The island lies in the Coastal biome of the Coastal Plain, an area rich in floral and faunal resources and occupied by man for at least 12,000 years (Larson 1970; Milanich 1972). The aboriginal groups inhabiting the coast, at least after 2500 B.C., exploited a wide variety of resources by hunting, fishing, and gathering, both year-round and, on a seasonal basis. The estuarine area in particular was capable of supporting a permanent population on this subsistence base (Milanich 1972: 110-112). The adoption of agriculture by the aboriginal inhabitants of the Coastal Plain appears to have been a relatively late development and at the time of European contact was employed in combination with a broad range of earlier subsistence techniques (Long, et al. 1897; South 1972: 7-8).

Prehistoric Occupations

Archeological evidence for an aboriginal reliance upon marine resources is present in coastal sites and ring-shaped middens of marine shell that are found on many of the coastal islands of Georgia and South Carolina (Hemmings 1972: 60-61). The earliest known, dated pottery manufactured north of Mexico (2500 B.C.) occurs on the Coastal Plain (Bullen 1961; Stoltman 1967) and is associated with shell ring sites in Georgia and South Carolina. In general, the prehistoric chronological sequence for the South Carolina Coastal Plain is not well known at present due to the absence of adequate stratigraphic data. In addition, the emphasis of most past archeological work on sites characterized by large shell middens has resulted in an absence of information regarding other, less spectacular, types of sites on the Coastal Plain (Widmer 1976: 3). Consequently it is important to investigate all potential areas of aboriginal activity in this area for evidence of early sites.

The association of the estuary environment of the Coastal Plain with the sites of prehistoric hunting, fishing, and gathering societies presents the likelihood that Shute's Folly Island contains the remains of aboriginal occupations. For this reason it is necessary to consider the possibility of locating pre-European sites on the island during the investigation of historic sites there.

Historic Occupations

Early Occupations

The earliest mention of the island upon which Castle Pinckney was to be built occurred in 1711. On August 4th of that year a marshy island of approximately 224 acres (Fig. 5) was granted to Colonel Alexander Parris,



FIGURE 5. Thornton and Morden map of South Carolina in 1695, showing Shute's Folly as a marsh island.

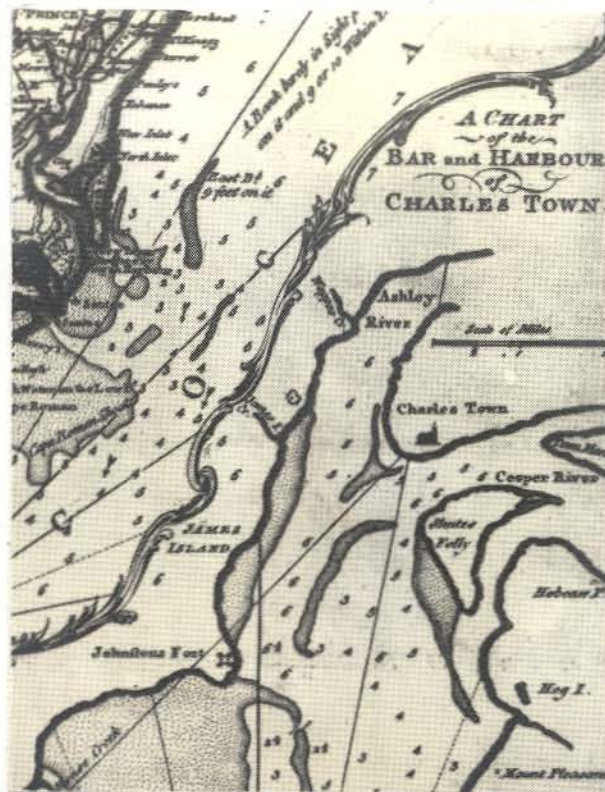


FIGURE 6. Detail of Cook map of South Carolina in 1773, showing Shute's Folly and Charleston Harbor.

commander of the South Carolina provincial militia. Upon his death his son, John, inherited the land. John Parris, however, died soon after leaving the land to his son, John Alexander Parris. John Alexander Parris died not long after his father and the land was passed to another John Alexander Parris, the nephew of John Parris. This John Alexander Parris then sold the land to Joseph Shute on May 28, 1746. It was from the latter that the name Shute's Folly was derived (Fig. 6) (Charleston County Deeds 1746 CC-440; Young 1938a: 2). Joseph Shute kept the land until his death, when it passed into the hands of his son John. John Shute sold the land to George Murray on April 9, 1763 (Charleston County Deeds 1763 ZZ-604).

The next record of land ownership is in 1805 when Alexander Robert Chisolm sold 50 acres of Shute's Folly Island to Jonathan Lucas. Two years later the State of South Carolina ceded to the United States three acres of land on the island where earlier fortifications had been located. These three acres bordered the property of Jonathan Lucas (Charleston County Deeds 1805 P7-71, 1807 C11-310). In 1846 the land was resurveyed and regranted to the United States by the State of South Carolina (Charleston County Deeds 1846 B12-102). From this time until recently the land remained under the control of the United States government (Young 1938a: 13). Early uses to which Shute's Folly Island was put are largely unknown. It is, however, the traditional site where convicted pirates were hanged as early as 1717 (Sass 1954; Petit, personal communication).

The first attempt to fortify the island occurred in 1736, when a European engineer, Gabriel Bernard, was hired by the province to develop plans for the fortification of the Charleston area. In May 1736, based on Bernard's recommendations, the South Carolina Assembly passed an act providing for the repair of existing fortifications in the Charleston area and the building of new ones. Very little was done under this act, however, except the construction of a battery in White Point Garden (Smith 1903: 198-205).

The 1742 Spanish raid into Georgia again caused concern about the defense of Charleston. After the initial danger was over, this concern soon died, and the assembly refused to appropriate additional funds until a competent engineer could be obtained. Captain Bruce, an engineer from the Bahamas, arrived in Charleston in January 1745. He recommended several improvements in the Charleston fortifications. Among these was that a horseshoe battery, of not more than 16 guns, should be constructed on the marsh island (Shute's Folly) south of Hog Island. It is fairly certain, however, that the horseshoe battery was not built at this time because of the expense of constructing the other, more important, fortifications (Smith 1903: 198-205).

The earliest fortification on Shute's Folly Island was built during the American Revolution. This fort was constructed of timber and earth and did not play an important role in the war until 1780. At this time the American General Benjamin Lincoln used the fort as the terminal anchor for 8 ships sunk to form a barrier against the British fleet (Petit 1969: 67) (Figs. 7 & 8).

In 1794 Congress approved the establishment of a system of port and harbor fortifications from Maine to Georgia. Charleston was one of the ports to be fortified, and Shute's Folly Island was one of the locations designated for fortification. Insufficient funds, however, precluded the establishment of all but an earth and timber works there. In 1797 the citizens of Charleston

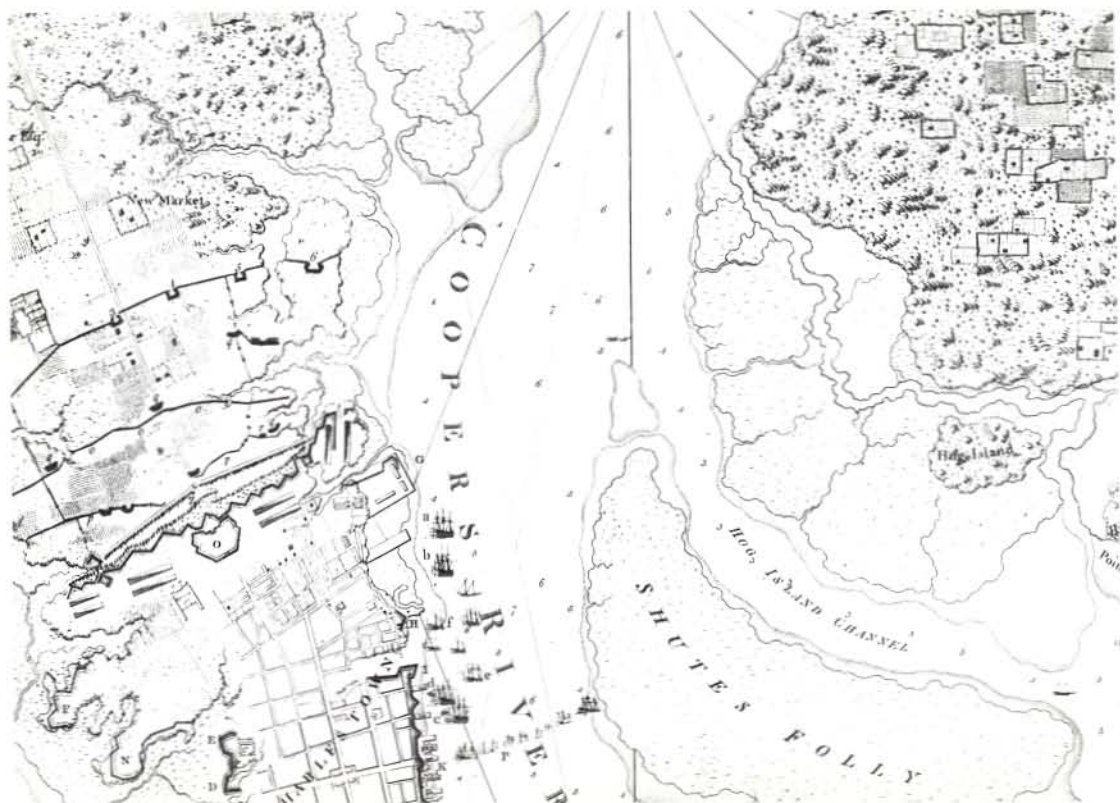


FIGURE 7. DesBarres map of Charleston in 1780, illustrating the Naval operations carried out at that time in the vicinity of Shute's Folly Island.

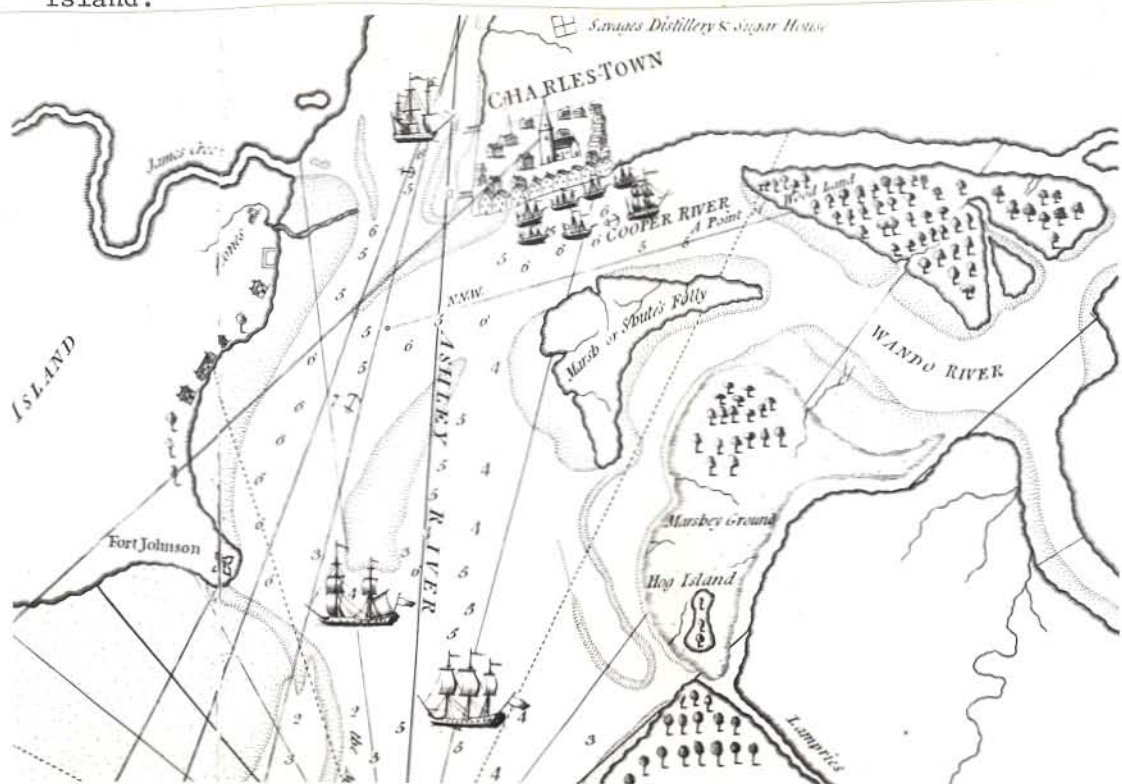


FIGURE 8. Sayer and Bennett map of 1776, illustrating Sir Peter Parker's attack on Charleston in June 1776.

made an effort to strengthen the defenses by subscribing funds for this purpose. At this time a fort was erected on the south shore of Shute's Folly Island, and named Castle Pinckney. It was constructed of logs and sand and was considered weak, but adequate, as a secondary defense (Young 1938a: 4-7).

This battery was shaped like a half hexagon, facing the southeast, and mounting eight guns on its parapet (Fig. 9). Directly behind it was a long structure, possibly quarters for the officers and men of the battery. Two smaller buildings flank the long structure. A structure is located in the northeast corner of the group of buildings and the battery. It is believed to have been a magazine because the dotted lines on the map indicate that it was of semi-subterranean construction as a magazine would have been to provide protection against incoming fire and internal explosion. A subsequent hand drawn addition to the 1806 map indicates that the 1809 Castle Pinckney was constructed on the ground occupied by the support structures, with the battery itself lying in front of the castle. The spatial relationship of these two fortifications cannot be accurately determined since the 1797 fort was severely damaged by a hurricane in 1804 and the tide line has since risen above the level upon which the early fortification was constructed (Young 1938a: 4-7).

After the hurricane of 1804, the site of the fort was deeded to the United States government (U.S. War Department 1807). This transfer was a rather lengthy process due to difficulties in obtaining the land by South Carolina and ceding it to the United States. Further defense studies delayed the work on rebuilding Castle Pinckney until 1808. By 1809 Castle Pinckney was near completion and considered a first rate defense work (Young 1938a: 7-8).

Castle Pinckney was a typical small fortification of the period and illustrates the American adoption of the ideas of the Frenchman Montalembert on fortification. It was a horseshoe-shaped fort, constructed of brick, with a recessed gorge on the north side, where the main gate and quarters were located (Fig. 10). The fort mounted two tiers of guns, one in the casemate and one in the barbette. The casemate design allowed each gun to have a large roomy area in which to be handled. Casemate construction also provided protection for the gun crew and allowed the area to be well ventilated during combat. The overall construction of the fort provided adequate protection for its occupants from the smoothbore guns of the period. Castle Pinckney had space for at least 21 (possibly 30) guns and a peacetime garrison of 50 men or 105 in war. At this time it was considered one of the most important fortifications in Charleston Harbor (Hughes 1974: 173, 178-180; Young 1938a: 7-8).

Shortly after the completion of Castle Pinckney, the War of 1812 broke out. Although the fort was apparently in a state of readiness, it saw no action during the war. Castle Pinckney was garrisoned only for the years in 1818-19, by elements of the First and Second Battalions of Artillery. By 1826 Castle Pinckney was considered to be a secondary defense work by the War Department. Efforts were made to maintain it during the 1820's and its foundations were banked by stone slabs to protect them from erosion. In 1831 Castle Pinckney was extensively repaired, a new sea wall was added, and it was made ready to receive a garrison. It was regarrisoned in January 1832 by 2nd U.S. Artillery (Young 1938a: 7-8).



FIGURE 9. United States War Department 1806 Plan of Charleston Harbor, with details showing Shute's Folly Island and the 1797 fortifications there.

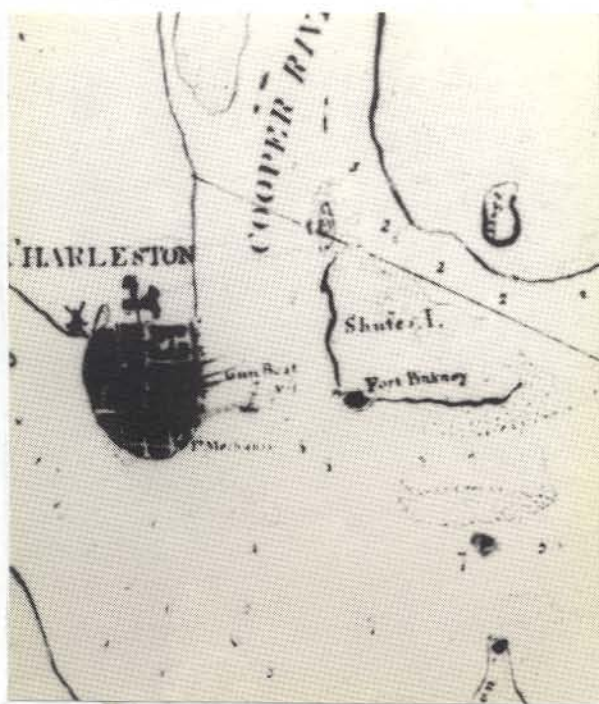


FIGURE 9A. Left detail.

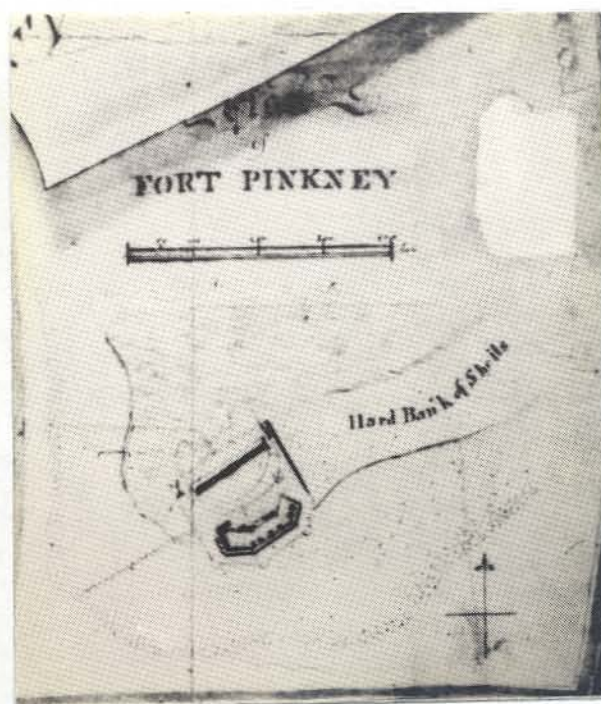


FIGURE 9B. Right detail.

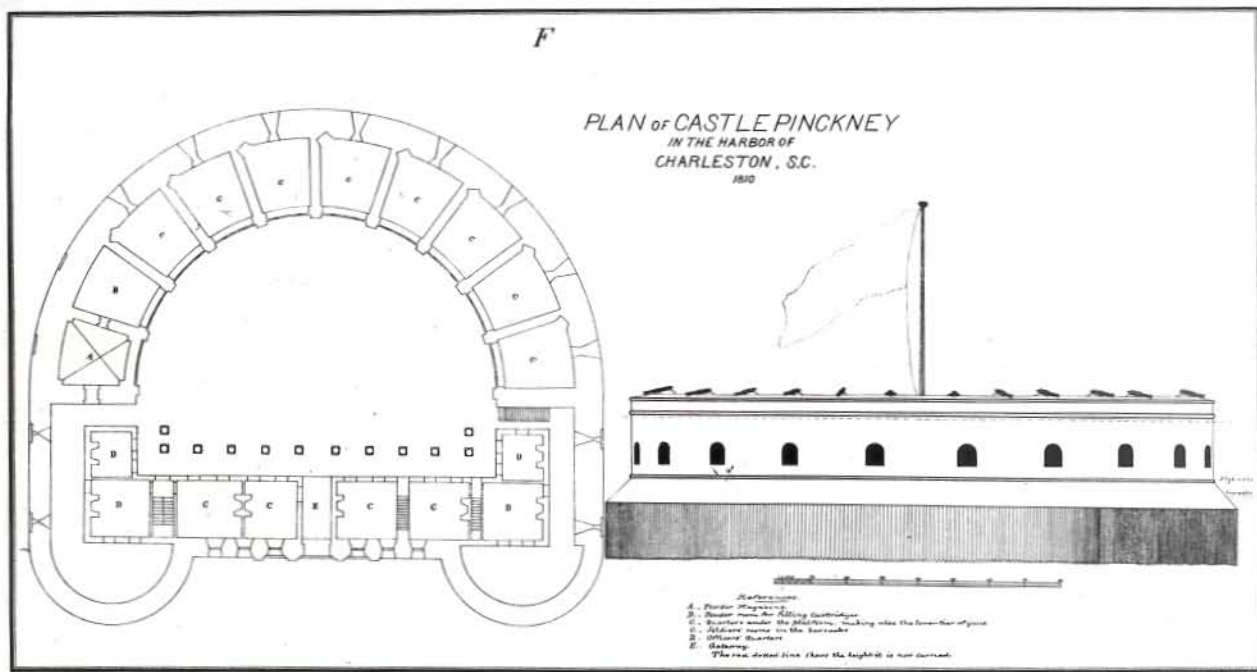


FIGURE 10. United States Department Plan of Castle Pinckney, as constructed in 1808-10. Note the front elevation with tide lines, the floor plan, and room function at the fort.

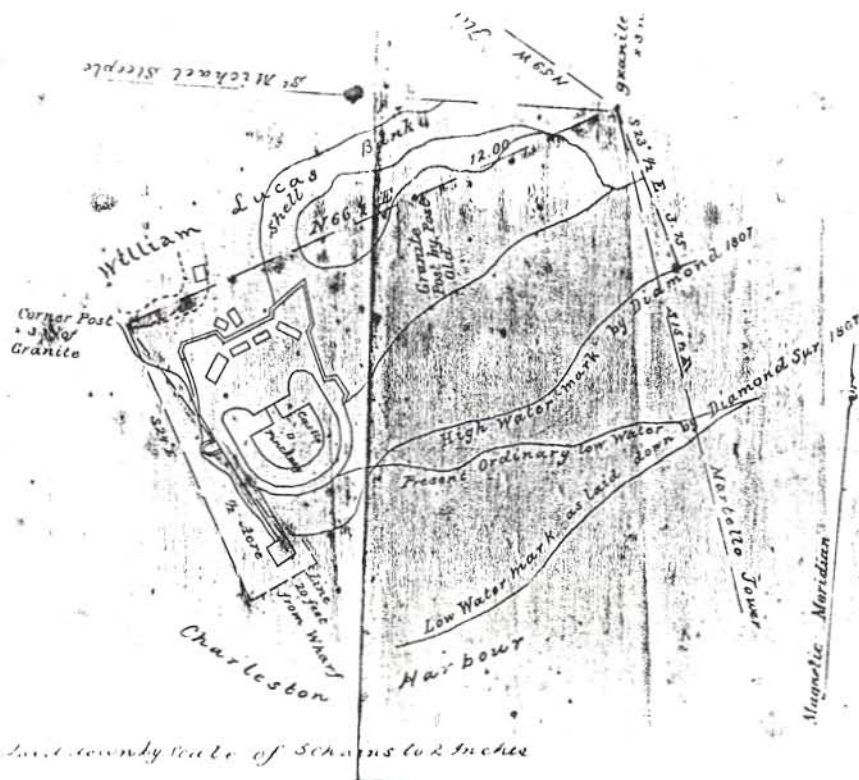


FIGURE 11. Unidentified plat of Castle Pinckney showing palisade wall and buildings located to the rear of the Fort.

In 1833 a battery of 24 pound guns was moved into Castle Pinckney. A timber palisade was also built at this time to protect the gorge of the fort (Fig. 11). The 24 pound cannon mounted in Castle Pinckney were of one of the two types of standard seacoast artillery used during the first part of the nineteenth century. By the 1840's these had become obsolete, having been superseded by 32 pound and 42 pound guns as the main artillery pieces for seacoast defenses (Peterson 1969: 101; Young 1938a: 10-11).

Castle Pinckney was maintained with a garrison and post hospital throughout the early 1830's, however, with the outbreak of the second Seminole War in 1835 the garrison at Castle Pinckney was transferred to St. Augustine early in 1836 and Castle Pinckney was not regarrisoned. Castle Pinckney was not garrisoned in the latter half of the 1830's and did not contain its full complement of cannon. By this time, however, it had definitely been rated as a secondary defense work (Young 1938a: 11-12, 14).

During the mid 1850's the Secretary of War requested funds from Congress to repair Castle Pinckney, which had been damaged by storms and was frequently flooded. Congress appropriated money for this purpose and, in addition, had a navigation light installed on the eastern sector of the island in 1855. Castle Pinckney continued as a partially armed and un-garrisoned fort under the supervision of an ordnance sergeant and served as the city powder storehouse until 1860 (Young 1938a: 13-14) (Fig. 12).



FIGURE 12. 1856 Coast Survey of Charleston Harbor, showing Shute's Folly, Castle Pinckney, and harbor soundings (Source: United State's Coast Survey 1856).

The Civil War Prison

At the beginning of 1860, Castle Pinckney was partially armed but ungarrisoned. The reports of its armament are conflicting but most sources agree that it mounted four 42 pound guns, fourteen 24 pound guns and four 8 inch howitzers. In addition, Gillmore (1865: 9) maintains that it had a 10 inch mortar, an 8 inch mortar and four light pieces. Because some of these guns were not in working condition (three "guns" in the barbette tier and one 42 pound gun in the casemate) the fort was not as fully armed as it appeared (U.S. Congress House 1860-61; Gillmore 1865: 9; Young 1938b: 53).

In December of 1860, preparations were under way for the regarrisoning of Castle Pinckney with United States troops. A lieutenant, an ordnance sergeant, four mechanics, and 30 laborers were engaged in cleaning up Castle Pinckney. At this time, however, United States troops stationed at Fort Moultrie spiked the guns there and retreated to a more protected position at Fort Sumter. This action aroused the South Carolinians, and they began to seize other fortifications in Charleston; among them, Castle Pinckney. At 4:00 p.m. on December 27, a detachment of the First Regiment of Rifles of the South Carolina militia under the command of Colonel J. J. Pettigrew and Major E. Capers boarded the steamship *Nina* to occupy Castle Pinckney. Lieutenant Meade turned over Castle Pinckney to the rebel forces and was allowed to go to Fort Sumter to rejoin the United States forces. The rebel forces garrisoned Castle Pinckney and maintained it as an armed fort throughout the first half of 1861 (Fig. 13). During this time two 8 inch seacoast howitzers and five 24 pound guns were taken from Castle Pinckney to batteries on Morris and James Islands (Burton 1970: 13; Young 1938b: 52-54).

During the latter half of 1861, Castle Pinckney served as a prison for United States soldiers captured during the First Battle of Manassas. These prisoners were from four regiments, the 11th New York Zouaves, the 69th Irish Regiment (Fig. 15), the 79th Highlanders, and the 8th Michigan Regiment. The total complement of prisoners was 130. The enlisted men were quartered in the casemates, which had been bricked up and fitted with heavy doors (Figs. 15 and 16), and the officers were quartered in the eastern half of the officers' quarters, which were also fitted with heavy doors for the occasion. The hot shot furnace (Fig. 17), located in the center of the parade, was fitted with grates to allow for the preparation of meals within the fort. At this time the fort was garrisoned by the Charleston Zouave Cadets (Fig. 18). The prisoners remained at Castle Pinckney until October 1861, when they were exchanged (Young 1938b: 54-55; Chichester 1895: 1-3).

The Civil War Defense Work

After the prisoners were removed from the fort, it was reconverted to a defensive work. The brickwork, doors, etc. were torn out of the casemates and guns were mounted in them. Guns were also mounted on the

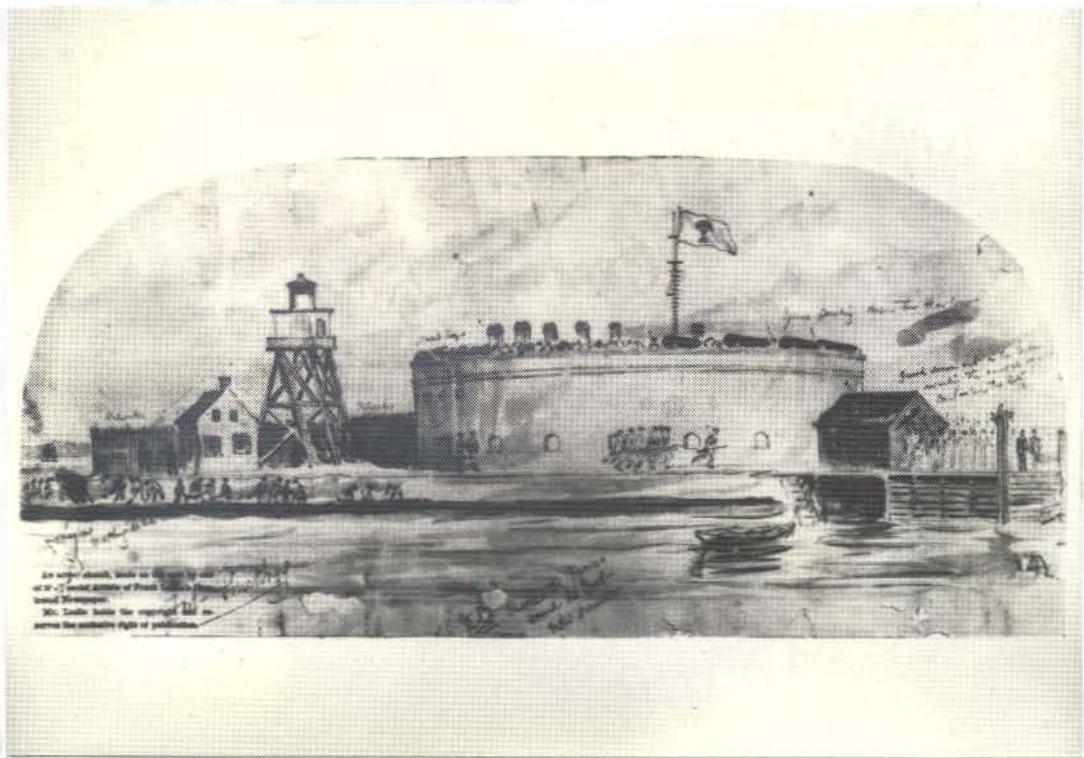


FIGURE 13. Sketch of Castle Pinckney showing the location of the light tower. (Source: Frank Lesley's Illustrated Newspaper).

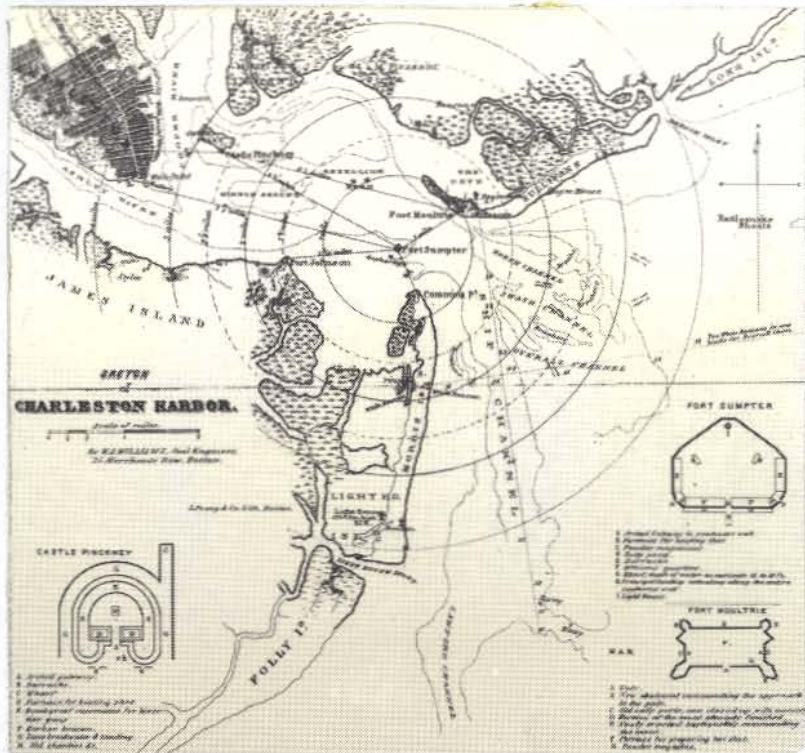


FIGURE 14. 1861 map of Charleston Harbor showing the location of major fortifications, land masses, and the plans of three Confederate forts. (Source: Williams 1861).



FIGURE 15. Photograph of prisoners from the United States 69th Regiment outside one of the bricked up casemates at Castle Pinckney (Courtesy Charleston Evening Post - The News and Courier).



FIGURE 16. Photograph of prisoners and guards at Castle Pinckney. Note the bricked up casemates, shanty porches and absence of armament (Courtesy Charleston Evening Post - The News and Courier).

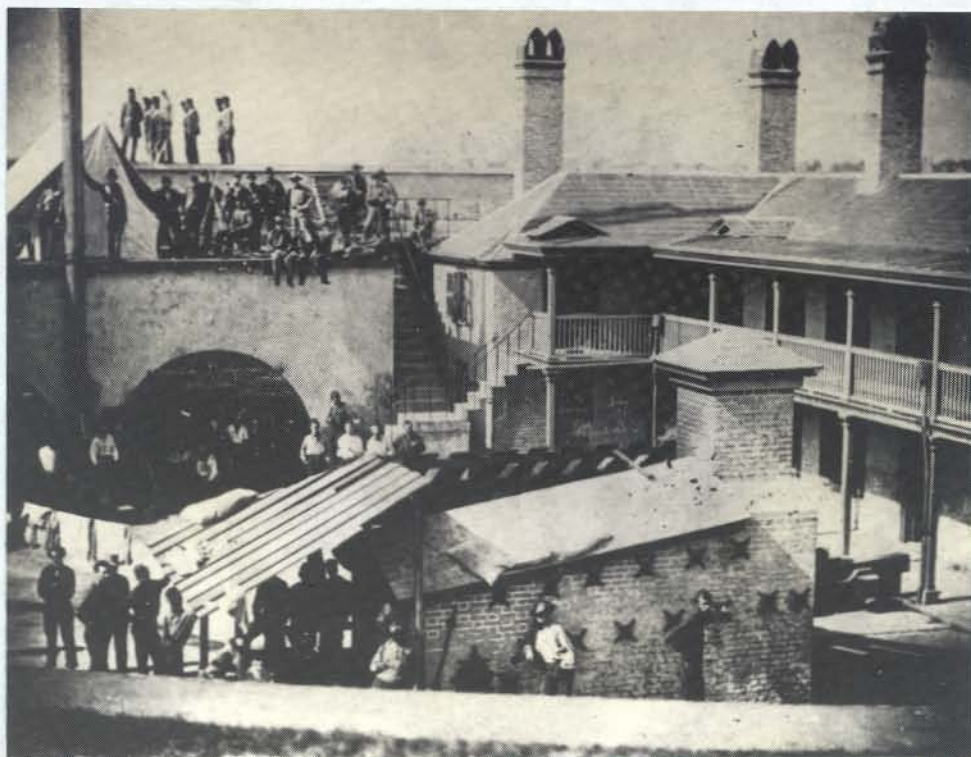


FIGURE 17. Photograph of the interior of Castle Pinckney during its use as a rebel prison. Note the hot shot furnace, bricked up casemates and brick construction of the barracks. Also note prisoners and guards. (Courtesy Charleston Evening Post - The News and Courier).

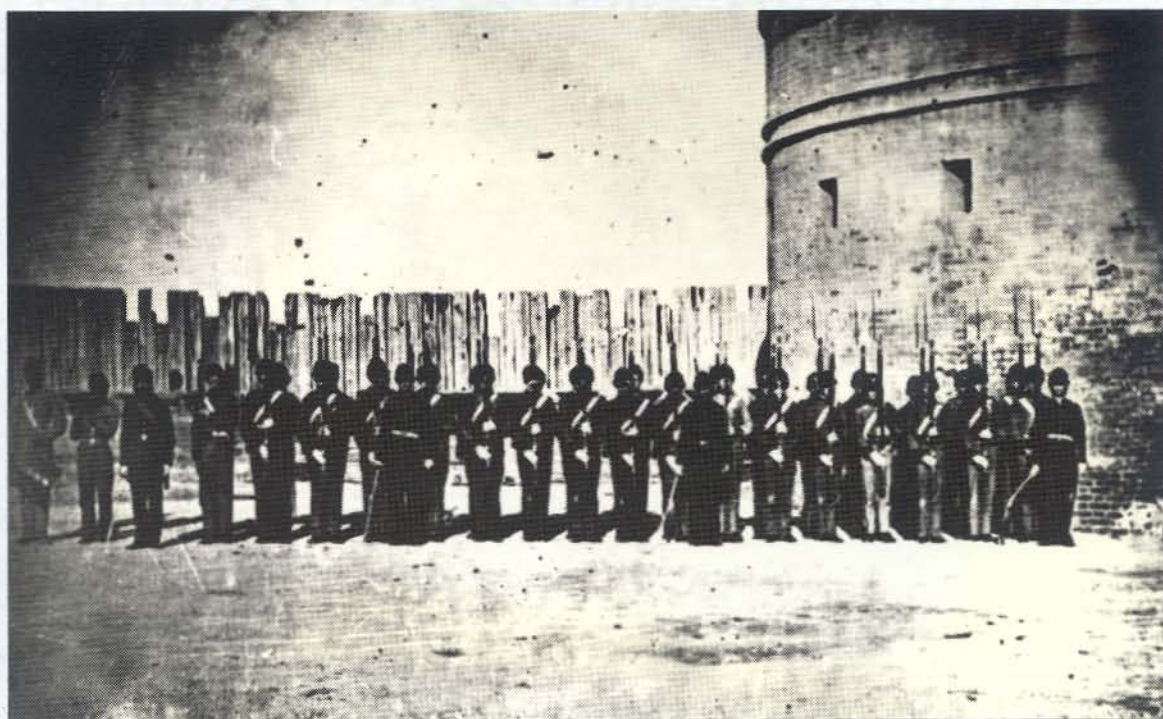


FIGURE 18. 1861 photograph of the Charleston Zouave Cadets at Castle Pinckney. The Zouaves were responsible for garrisoning the fort during its period of use as a prison. Note the palisade and high walls of Castle Pinckney, which were later shortened. (Courtesy Charleston Evening Post - The News and Courier).

parapet at this time. In addition, the officers quarters were renovated prior to their occupation the rebel officers. During this time the wife of the garrison's commander, Mrs. C. E. Chichester lived in a frame building located to the rear of the fort. This building was formerly used as a post hospital. No further mention is made of this building after Mrs. Chichester left it to move into the fort in late 1861 (Chichester 1895: 3-5).

In 1862 the fortifications in the rest of the harbor were strengthened, resulting in the further reduction in armaments at Castle Pinckney. During the latter part of the year, Castle Pinckney mounted only 10 guns, nine 24 pound cannon and one 24 pound rifled cannon. At this time the garrison was changed and the First South Carolina Artillery came to the fort. The fort apparently remained in this state until early in 1864 (Young 1938b: 54-59; Beauregard 1886: 2) (Figs. 19 and 20).

Around the spring of 1864, the status of Castle Pinckney changed again as the result of the weakened or captured status of the other Confederate fortifications in Charleston harbor. The casements were apparently disarmed and the interior was filled with sand and turf. In addition, an exterior wall of sand and turf was built up against the walls of Castle Pinckney. The ramparts of this exterior earth wall were constructed with merlons and traverses. At this time, armament was reduced to four guns, placed on the top of the parapet in individual circular positions (Figs. 21, 22, and 23). These guns, a 7 inch Brooke rifle and three 10 inch Columbiads, were of larger caliber, greater range and greater power than the former armament at the fort and reflected the developments in weapons that had occurred during the war (Peterson 1969: 101-107; Young 1938b: 54-59; Johnson 1890: 21) (Figs. 24 and 25).

The rebuilding of Castle Pinckney illustrates on a broader scale the development of weaponry during the Civil War, and the effect this had when it was anticipated that Castle Pinckney would become a first line of defense. During the late 1850's and during the Civil War, the rifled cannon was developed, an innovation that greatly increased the destructive power of the projectile fired by the gun. Rifling enabled greater accuracy because of the gyroscope effect obtained from the twisting projectile. In addition, projectiles could be made larger, and therefore carried a greater explosive charge than the previous round shot. With increased accuracy and explosive charge, and with developments in gun design, the powder charge used to propel the projectile could also be increased, resulting in an overall improvement in the firepower of the rifled cannon over smoothbore cannon. In addition to these new weapons, successful attempts were made to rifle older smoothbore cannon. These guns had to be reinforced with a breech band, but did function successfully throughout the war (Peterson 1969: 101-107).

The use of rifled cannon made older forts, such as Castle Pinckney, obsolete. Brick forts had been quite adequate protection against the guns of the first quarter of the nineteenth century, however, they were no match for the rifled guns. This is evidenced by the seige of Fort Sumter by United States forces, in which the fort was almost completely



FIGURE 19. 1863 newspaper map of Charleston Harbor, showing the location of fortifications and the United States advance on the area. Fort Ripley appears to the south of Castle Pinckney (Waters and Son 1863).

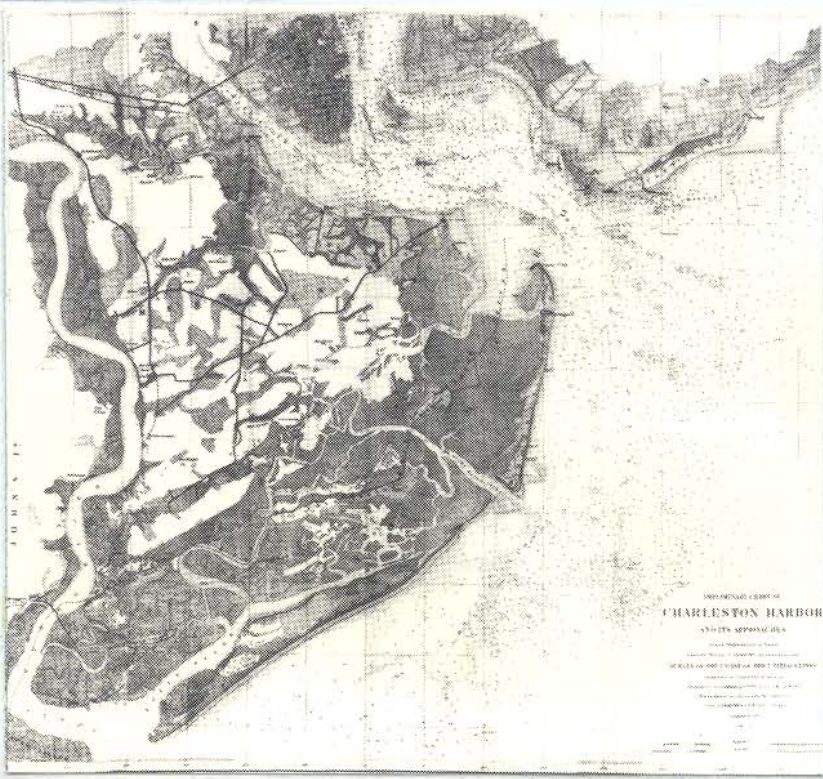


FIGURE 20. Map of Charleston Harbor showing United States and rebel fortifications (Gillmore 1865).

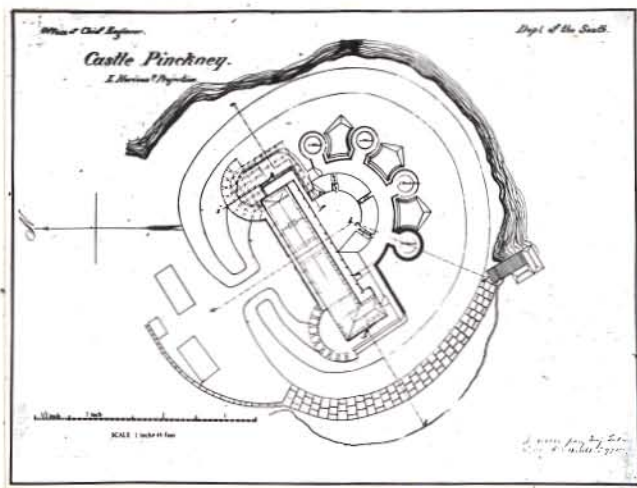


FIGURE 21. U. S. War Department Plan of Castle Pinckney as it appeared in 1865.

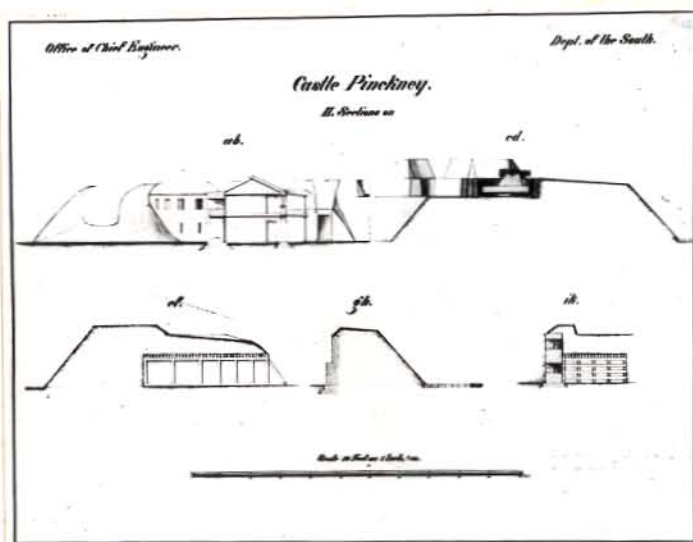


FIGURE 22. U. S. War Department cross section of Castle Pinckney as it appeared in 1865.



FIGURE 23. Post Civil War view of Castle Pinckney showing earthworks, gun mounts and barracks chimneys.



FIGURE 24. Gun Number Four at Castle Pinckney, after the construction of earthworks 1864-65. Shells for both the Brooke rifle and the Columbiads are present, as are ammunition transports used to carry projectiles to guns. (Courtesy *Charleston Evening Post - The News and Courier*).

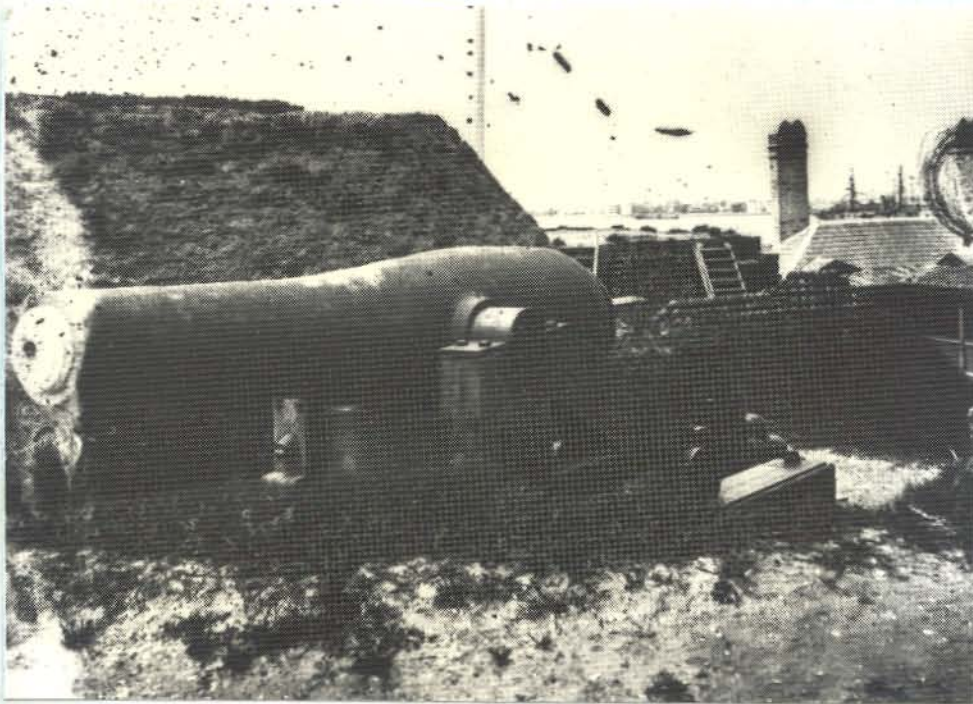


FIGURE 25. Photograph of one of the Columbiads at Castle Pinckney (Courtesy J. V. Brandt III).

destroyed. The mounding of dirt inside and outside of Castle Pinckney was a response to the new conditions of warfare. The earth offered greater protection against rifled projectiles and it enabled four powerful guns to be mounted in a safe position, whereas the original fort would have afforded no such safety (Hughes 1974: 173, 178-180; Peterson 1969: 101-107).

Thus, the last wartime role for Castle Pinckney was to have been part of the final line of defense against invading United States forces (Fig. 26). Castle Pinckney, however, never saw action. It was abandoned by the rebel forces on February 17-18, 1865 and immediately occupied by incoming United States troops under Lieutenant Colonel A. G. Bennett (Burton 1970: 318; Young 1938b: 58-59). Figure 27 illustrates the condition of Castle Pinckney immediately after it was abandoned by Rebel troops;

The Post-War Prison

After the United States military occupation of Castle Pinckney it was used for a short time as a prison. During this time it housed captured blockade runners, vagrants and other civilian prisoners. There is also evidence that approximately 23 Negro soldiers were executed at Castle Pinckney, for participating in a mutiny. Their bodies may have been interred on the island, possibly in the fort structure (Ravenel 1865). After Castle Pinckney was no longer used as a prison, the fort lapsed into disuse until the late 1870's (Petit 1969: 75).

The Light Station and Supply Depot

On April 24, 1878 Castle Pinckney was transferred to the control of the Treasury Department, so that a light station and supply depot might be built there (Fig. 28). By 1880 a new harbor light had been completed on the south side of the island and it can be assumed that the construction of the supply depot and keeper's house had proceeded accordingly. In building these latter, the remaining open space in the fort was presumably filled in with some of the dirt from the outer fortification wall, and three structures were built on top of this fill. The depot was a long narrow building, running across the entire front portion of the fort. A smaller structure was built at the eastern end of the depot, perpendicular to the eastern flank of the fort. The keeper's house fronted on the western flank and a steel staircase extended over the parapet and onto the ground outside the fort (Fig. 29). Inspection reports from the 1880's indicate that the fort itself was rapidly becoming dilapidated, while the light station buildings were kept up fairly well. Also, during the 1890's, the remainder of the merlons and traverses against the exterior wall of the fort were levelled to provide easier access to the light station and depot (Young 1938b: 60-64).

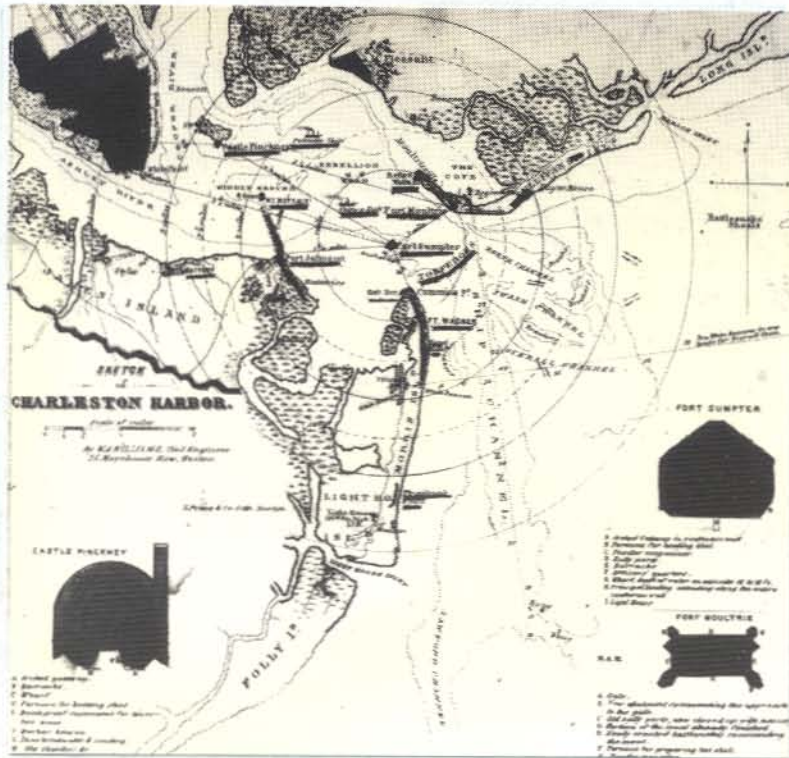


FIGURE 26. 1865 Map of Charleston showing location of fortifications and ranges between them (Williams 1865).



FIGURE 27. Post war photograph of gorge wall of Castle Pinckney showing the earthworks in cross section. The deteriorating condition of the brickwork can be seen. The embrasures had not been bricked up at this point. (Courtesy Charleston Evening Post - The News and Courier).



FIGURE 28. 1886 map of Charleston Harbor showing Castle Pinckney and the Fort Ripley light (Charleston Yearbook 1886).

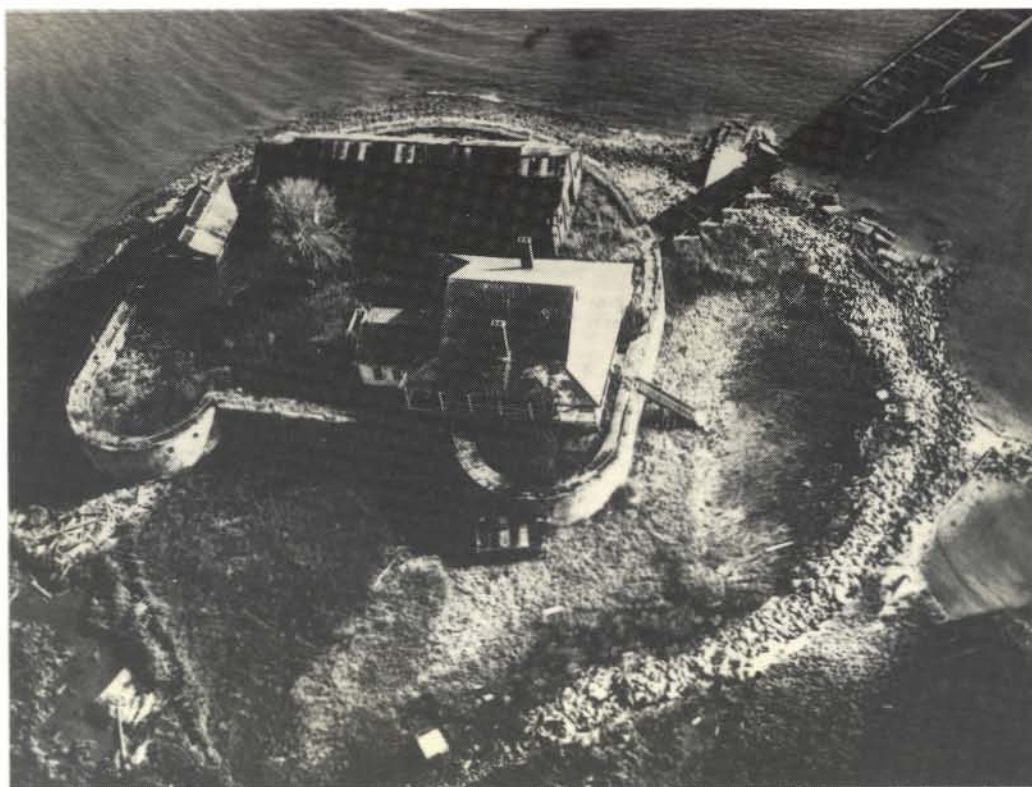


FIGURE 29. 1967 aerial photograph of Castle Pinckney showing the light house depot buildings, prior to their burning (Courtesy J. V. Brandt III).

Castle Pinckney was maintained as a lighthouse depot into the first part of the twentieth century. The fort and the associated light station buildings were apparently badly damaged in the 1911 hurricane, and at this time the government began to search for a more suitable location for the depot. In 1917 Castle Pinckney was turned over to the United States Army Corps of Engineers, for use as a warehouse (Anon 1913: 18-19, 26; Young 1938b: 64).

Recent History

Since 1917 Castle Pinckney has gone through a series of jurisdictional transfers. In 1924 it was designated a National Monument by President Calvin Coolidge and in 1933 the control of Castle Pinckney and all other National Monuments was placed in the hands of the National Park Service. In the mid 1950's it was declassified as a National Monument, since it was not considered significant enough to merit such a classification. It then became the property of the General Services Administration. In 1958 the General Services Administration sold Castle Pinckney to the South Carolina State Ports Authority for the purpose of establishing a museum on the site. These plans, however, were never carried out. On December 23, 1967 a fire broke out at Castle Pinckney and destroyed most of the wooden structures formerly associated with the light station and depot. In 1968 the Sons of Confederate Veterans (Fort Sumter Camp 1269) purchased Castle Pinckney with plans to make it a memorial museum. To this date it has remained in their ownership and they have undertaken some clearing and stabilization. They are currently involved in the first stages of the interpretive development of Castle Pinckney (Charleston Evening Post 1967; Department of the Interior, National Parks Service 1972: 429; Young 1938b: 64-67; Wilcox 1967). Castle Pinckney also appears on the National Register of Historic Places.

EVALUATION

Based upon the summary of current knowledge presented above, it is possible to outline several general research topics regarding Castle Pinckney that should be addressed in the course of archeological investigations there. These research topics reflect those aspects of the site's past that are most relevant to an understanding of its development and for this reason will constitute the goals of the archeological research design.

1. The first question to be considered concerns the likelihood of pre-European habitation of Shute's Folly Island. Given the extent to which the coastal marshes were utilized by aboriginal peoples it is possible that the archeological record will reveal that prehistoric occupations occurred on this island. In the course of archeological investigations it will be necessary to determine if such occupations took place and the extent and nature of the sites they left behind.

2. Because Shute's Folly Island was owned for nearly 70 years before the first fortifications were constructed there, the possibility of an early historic civilian occupation on the island exists. The existence of such a pre-military presence here should be ascertained in the course of the archeological investigations.

3. During and after the American Revolution two palisade forts were constructed on Shute's Folly Island prior to the building of the permanent brick fortress in 1809. Both were damaged or destroyed by hurricanes and their precise locations are unknown. Archeological investigations should be directed at discovering the locations as well as the form and extent of these two forts.

4. The brick fortress of Castle Pinckney was completed in 1809 and garrisoned from that time until 1835. Apart from standing structural remains there is little visible evidence of this occupation. It will be necessary to conduct archeological investigations aimed at revealing the nature and extent of both the fort structure and its associated 1809-1835 occupation. The definition of the occupied area relating to the early fort is crucial to the interpretation of other remains at Castle Pinckney because the 1809 fort forms the architectural basis for all subsequent military occupations at this site.

5. In the period prior to the Civil War several additions were made to Castle Pinckney. These included the construction of a harbor light tower in 1854, as well as the erection of a palisade work and several structures to the rear of the fort at an unspecified time. The identification of these features and the temporal affiliations of the occupations associated with them should be a goal of the archeological investigations at this site.

6. The Civil War period of Castle Pinckney's existence witnessed perhaps the most extensive modification of the structure there. Two stages of wartime modification should be determined archeologically based on an examination of standing structures and subsurface evidence. The first stage is that associated with the prison period when captured Federal soldiers were interned there from 1861 to the fall of 1862. Presumably the subsequent Confederate occupation of the fort resulted in slight modification of the existing structure prior to 1864, when the entire fort was reinforced with an embankment of sand and turf and converted into a barbette battery for four heavy guns. This massive physical transformation is likely to have buried material evidence of all previous occupations of the site and may have enhanced the preservation of those immediately preceding the construction of the earth battery. Several buildings to the immediate rear of the fort appear to have been in use at this time and should be identified and explored as part of an investigation of the form and extent of the Civil War occupation at Castle Pinckney.

7. At the close of the Civil War, Castle Pinckney was used briefly as a Federal prison. It is uncertain if modifications were made to the fort during this brief period, and little evidence for the modifications may be present in the archeological record. The documentary suggestion that burials of executed prisoners took place at Castle Pinckney, however, raises the possibility that a type of archeological evidence not known to be associated with other occupations exists. The presence of such burials must be considered in the archeological investigation of this site.

8. The final occupation of Castle Pinckney lasted from 1880 until 1917 when the fort served as a government light station and supply depot. Changes associated with this occupation include the filling of the fort's interior with sand (possibly from the outside wall), the erection of several structures on top of the fort, and the placement of a new harbor light on the southern tip of Shute's Folly Island. Although the last two modifications have been destroyed in recent years, archeological evidence of this period is significant to the historical development of Castle Pinckney and should be investigated.

These eight areas of inquiry will serve as the basis for the archeological research design for Castle Pinckney. In the following section this design will be spelled out in detail, outlining both the order in which the goals of the project should be approached as well as the methodology and techniques by which these goals may be accomplished.

RECOMMENDATIONS

Research Design for Castle Pinckney

The available information on Castle Pinckney indicates that the site of this fort has undergone at least six and perhaps as many as eight separate occupations in the past. Evidence for these may be discernible in the archeological record depending upon the volume of their material outputs and the extent to which the site has been disturbed by natural forces, as well as by each succeeding occupation. These factors, of course, cannot be determined until the archeological record is examined. For this reason it will be necessary to conduct archeological excavations designed first to explore the site and establish the presence of archeological evidence related to specific occupations. Contingent on the discovery of identifiable occupations, further work may then be conducted to investigate specific aspects of and answer particular questions concerning each of these occupations.

The site of Castle Pinckney may, for purposes of exploration, be divided into two parts, the fortress structure and the inhabited and sometimes fortified area adjacent to its northern side (Fig. 11). The most intensively utilized portion of the site and that containing the greatest amount of overburden is the fort itself. Because the early fort was gradually filled with earth through time, it is likely that earlier zones of occupation were literally buried beneath those that were laid down subsequent to them. For this reason it will be necessary to excavate through, and consequently destroy, evidence of later occupations in order to reach those of an earlier date. This condition requires that the exploration of each zone of occupation in the fort be completed before the next is begun. Once the level at the base of the massive Civil War deposits is reached it is likely that continuous occupation zones will not exist over the entire fort area and that several such zones in different areas may be exposed simultaneously.

The portion of the Castle Pinckney site lying above the high water line outside of the fort area does not seem to be extensively eroded or disturbed. In the vicinity of the fort the level of this ground appears to be several feet above that upon which the fort was constructed (Fig. 30). It is likely that although massive soil deposits and extensive sealed archeological contexts will not be found, discrete occupational zones representing the various occupations of the site will probably be present here as inside the fort and it will be possible to concentrate archeological work on the remains of different periods in the area outside of the fort.

Several general types of archeological techniques will be mentioned in this research design. Each is intended to produce specific types of data and the use of each is mandated by the particular problem under consideration and the physical conditions encountered at the site. Trenching, the first, is an exploration technique that is used primarily to locate large architectural features (such as walls, ditches, and



FIGURE 30. Photograph of Castle Pinckney gate from the outside showing ground level, vegetation and Castle Pinckney's subsidence.

structural remains) and other massive objects with substantial linear dimensions. Trenching may also be used to investigate the vertical relationship of cultural contexts in the ground. With a minimum of disruption to the site it permits the investigator to observe the sequential relationship of occupational zones there before more intensive work is begun.

A second archeological technique is sampling. Sampling allows the investigator to predict the form and structure of an entire population, in this case the archeological record, on the basis of an examination of only a small portion of this whole. At Castle Pinckney sampling could most usefully be employed to measure material variability within given areas such as the fort interior. Stratified unaligned systematic sampling has been shown to yield accurate results in situations in which diverse elements in the archeological record are concentrated in spatially discrete parts of the site area examined (Mueller 1974: 65; Redman and Watson 1970: 281-282). This technique has permitted the recognition of structure and activity area locations on historic period sites in America (Lewis 1976) and it should prove to be extremely useful in discerning similar phenomena at the site of Castle Pinckney.

Finally, intensive archeological excavations are usually employed to expose and investigate large contiguous portions of a site. This technique involves the excavation of units of various sizes in order to explore areas and features defined through the use of sampling or trenching. Intensive excavations would be used, for example, in the complete excavation of structures, palisade trenches and wall foundations, yard areas, trash pits, and various other phenomena associated with past occupations at a site.

In addition to the use of these archeological techniques it is sometimes expedient to employ mechanical means of earthmoving to remove overburden that contains no useable archeological information, to ease the time and labor requirements involved in exploratory trenching, and to stabilize archeological features for preservation and interpretation (see South 1971: 48). If, for example, the massive amount of fill within the walls of Castle Pinckney is shown by exploratory work to contain no archeological materials relevant to the study of past occupations of the site, then there is no reason to prevent its being removed mechanically providing that the use of such equipment does not damage the structure of the fort itself.

Although the site of Castle Pinckney may be divided into two parts for purposes of exploration, the analysis of the site may be organized into phases that reflect the development of the site as a whole. In the following discussion seven phases of archeological research will be presented together with the type of archeological work that is required to answer the questions put forth in each of them. Because of the assumed superposition of zones containing progressively more recent cultural deposits at the site and the obvious necessity of dealing with the most recent material first, the research phases will be organized in the reverse order to their chronological occurrence. Those questions related to the latest phase will consequently be asked first and those dealing with the earliest period, last.

This research design is primarily concerned with the problem orientation of the fieldwork and the sequential order in which it is conducted, however, the materials collected and the observations made during the work will be meaningless unless they are properly analyzed at the conclusion of each phase of research. The analysis will require the cleaning, recording, cataloging, conservation, and subsequent storage of artifacts; the examination of these materials together with maps, photographs, documents, field notes, and other pertinent data by the archeologist; the quantitative treatment of the artifacts, perhaps through the use of a computer; the consideration of significant comparative data, both documentary and archeological; the completion of a full report of the archeological analysis for each phase; and the publication of these reports.

The conclusions arrived at and the questions derived from each phase of research will, in part, guide the investigations conducted during subsequent phases. Thus, the archeological work is not tied to a "blind" course of action, but rather may follow a more flexible schedule in which "feedback" from preceding research is always considered before the next phase of work is begun. The following schedule of research,

therefore, must necessarily be general in nature because it is limited by the extent of our current knowledge of Castle Pinckney. It will describe the basic kinds of archeological work that are anticipated to be necessary to investigate each of the developmental stages discussed in the evaluation. Its implementation by the archeologist in charge may vary according to his personal judgment and available resources, and as the fieldwork progresses, new and often unanticipated questions will be generated. With these qualifications in mind the archeological research design for Castle Pinckney may now be presented.

Phase 1 - The Post 1880 Period

The most recent occupation of Castle Pinckney is associated with the light station that existed there from 1880 to 1917. Evidence of this occupation should consist of two types: the structural remains that lie atop the fill inside of the fort (Figs. 31 & 32) or are situated adjacent to it, and artifacts from this period that are contained in the ground. Light station activities may be evidenced also in the area directly north of the fort where the servicing and repair of harbor buoys took place, and on the southern tip of the island where the light tower was situated (Fig. 33).

Although the primary interest of this project centers around the Civil War era fortress, the archeological resources of subsequent periods should not be ignored. The period during which the site was occupied as a light station depot is one of the most interesting at the site with regard to scientific research. Not only does it contain the remains of a domestic occupation by both men and women and the associated activity areas, but it also contains structures and activity areas related to the specialized tasks and activities of the light depot. Problems related to the spatial organization of a variety of human activities can be addressed through the material remains of the light station occupation. The fact that the site lies on an island helps, rather than hinders investigations of this sort, because contamination from adjacent and subsequent occupations is largely eliminated by the relative isolation of the island and the clear definition of site boundaries by the island shoreline.

Since the archeological record from the light station occupation will be destroyed, it would be negligent to disregard the data available from this resource. The current emphasis on conserving our archeological resources contends that if a sufficient quantity of quality resources are to remain for the future, a parsimonious use of our archeological data base must be made. The utilization of the light station occupation for the study of scientific and historical problems exemplifies this use.

Architectural details associated with the light station occupation should be mapped and the entire interior of the fort examined by means of archeological sampling. The light tower area should also be sampled and light station features found here should be excavated. An initial stratified unaligned systematic sample of the area north of the fort should also be carried out at this time. Significant archeological features associated with the light station period should be intensively excavated upon the completion of the sampling.



FIGURE 31. Photograph of light station ruins.



FIGURE 32. Chimney of light station building.

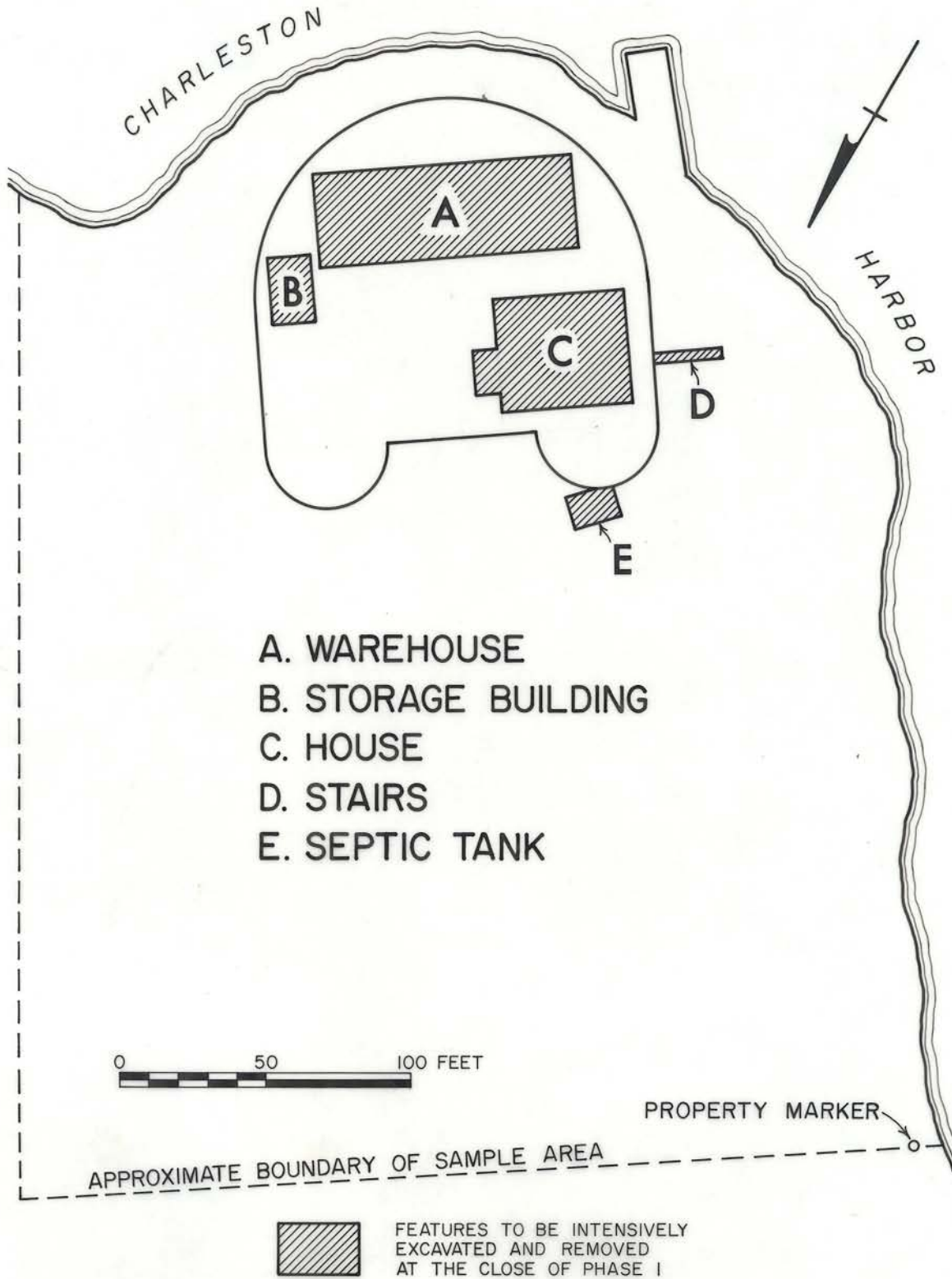


FIGURE 33. Map of potential features of the light station phase.

The accurate mapping of archeological features and the execution of a stratified unaligned systematic sampling design is contingent upon the previous construction of an accurate site map and the placement of a grid, with permanent markers at regular intervals, over the entire site. In order to anticipate the possibility of past occupations extending beyond the limits of the area known to have been inhabited, the site grid should be extended over the entire property owned by the Sons of Confederate Veterans. The site grid should also include the interior of the fort. It will provide constant horizontal control for artifacts and features uncovered there as progressive layers of fill are removed. At the time this grid is laid out, a search should be made for the permanent granite markers placed at the boundaries of the site in the nineteenth century (Fig. 11). These will serve as key reference points in the investigation of military period occupations at Castle Pinckney.

The excavations associated with the light station period will essentially provide two types of information. First, they will gather data relating to the last of Castle Pinckney's occupations. The archeological investigation of the fort's interior should reveal not only the distribution of structures there but also that of activities carried out during that time. Although not directly aimed at discerning the earlier military uses of the site, this sampling will permit us to gain a knowledge of the structure of the fill that was placed over them to form the base of the light station.

Secondly, the sampling of areas outside the fort will provide the first subsurface look at the site as a whole. Because the deposition over most of the site is expected to be much less than that within the fort, it is likely that this sample will reveal the entire stratigraphic sequence of remains of past occupations in this part of the site. The analysis of the evidence obtained in the sampling may be used as a guide for further archeological work by indicating those areas that are associated with particular occupations, as well as those that were not occupied at all.

The stratigraphy revealed by the sampling inside the fort may serve as a guide for the removal of light station period fill as well as an indication of the location of contemporary structural remains and other features at the close of this phase of the archeological investigations. If a complicated stratigraphic profile is revealed inside the fort by the sample pits, it may be desirable to excavate slot trenches at regular intervals across the fort's interior to accurately ascertain the structure of the light station fill.

If the layer of fill was placed directly over earlier structures, such as the barracks and the hot shot oven, that extended well above the surface upon which they were constructed, then the sample pits or trenches should reveal the presence of such structures and guide the design of future intensive excavations on them. The initial excavations should also reveal the slope of the 1864 earthen wall inside Castle Pinckney.

Questions to be considered in this first phase of research should be confined to the light station period settlement, its size, form, and the nature and distribution of activities that took place there. At the close of this phase the remains of all late period structures on or adjacent to the fort should be removed. These include the foundations of the house, warehouse, and storage building, the cistern, the septic tank, railings, and stairs (Fig. 33).

In addition to the archeological work associated with the terrestrial site of Castle Pinckney, it will be necessary to conduct underwater investigations off the southern end of Shute's Folly Island in order to determine the extent to which remains of eroded portions of the island settlement, particularly the 1797 battery, are present. In particular, the area adjacent to the old wharf on the south side of the fort should be examined intensively because of the likelihood of encountering deposits of artifacts that accumulated there as a result of loss and discarded in a high traffic area such as this. This underwater work must be completed prior to the undertaking of stabilization work on the island and may be conducted separately from the land excavations at Castle Pinckney.

Phase 2 - The 1864-1880 Period

Upon the completion of the investigations relating to the light station occupation it will be possible to concentrate on the second phase of the Castle Pinckney research, the identification of the post-1864 Civil War fort and the subsequent post-Civil War prison occupation of the site. Little information is available concerning the latter period, perhaps due to its short duration. The only documented event that might have resulted in a modification to the site is the execution of 23 mutinous soldiers there in the spring of 1865. It is possible that because of the extenuating circumstances surrounding the executions and the relative isolation of Castle Pinckney, the bodies may have been buried on the island or even within the fort itself. It is likely that if the structure of the fort itself was used to house prisoners the filling of its interior would have taken place following the prison occupation. If this is true then evidence of the prison occupation should occur at the base of the fill layer, perhaps mixed with debris from the Civil War occupation of Castle Pinckney.

The Civil War period of Castle Pinckney's history will be the most complex to examine archeologically because it involves an early occupation with the fort, as it existed prior to the war and a later occupation on the fort, as extensively modified in 1864. The second occupation is associated with the sand and turf embankment erected over three sides and a portion of the fort's interior to form the base of a barbette battery. Following the war the earthen wall outside of the fort was removed, exposing the original brick wall. The interior embankment, however, was apparently left in place to form a portion of the surface upon which the light station buildings were constructed. The actual gun positions do not seem to have been disturbed and the guns sank into the sand below when their wooden carriages disintegrated. The protecting merlons were later removed.

After the removal of fill following the excavation of features associated with the light station occupation, the 1864 earthen wall and the ground level of the fort's interior at the time the fill was added should be discernible (Fig. 34). The fill should be removed to the level of these surfaces and a stratified unaligned systematic sampling made of the interior. Features at this level containing post-Civil War materials should be excavated at this time. Horizontal areas at the top of the earthen wall may be sampled again if the previous excavations associated with the investigation of the light station occupation did not reveal clear patterns of structures or activities dating from the post-Civil War period. Intensive excavations of post-Civil War features should also be conducted here at this time.

If present, evidence of burials in the earth wall, or elsewhere on the site, should be discernible in the form of grave pit outlines when the surface in which they were dug is exposed. As post-Civil War features they should be excavated before the further removal of fill is attempted. Because skeletal material will need to be examined with regard to sex, age, and other forms of genetic variation, as well as for the occurrence of pathological or other abnormal conditions, a physical anthropologist should be consulted prior to exposing any human remains and should be present during their excavation. It may also be necessary to clear the removal of historic burials with those government agencies responsible for the maintenance and identification of graves.

The excavations conducted to uncover the post-Civil War occupation surface should have exposed the intact portion of the interior earthen wall. In order to examine the archeological remains of the Civil War earth fort and to investigate architectural features associated with the gun positions there, it will be necessary to excavate the remaining portions of the top of the earthen wall and locate and map all features and record their contents.

The interior of the fort will have already been sampled so that the distribution of features and deposits related to various periods there should be known at this time. If this patterning is still unclear, additional sampling may be required. If a stratum containing Civil War period material is found it should be completely excavated at this time. All features dating from this period should also be exposed, recorded, and excavated. The results of this work should permit the identification of activity patterning within the fort during the final period of its military occupation.

The barracks situated along the northern face of Castle Pinckney were used during the Civil War and remained intact after the 1864 modifications (Fig. 34). For this reason the excavation of these structures should begin during this phase of the archeological work. Because these buildings are likely to contain sealed archeological contexts, their excavation may have to proceed in several stages. At present, these structures are buried and their condition is uncertain. A partial removal of the interior fort fill just inside the gate has revealed that the barracks walls adjacent to either side of the gate were demolished as was that portion of the structure that was built

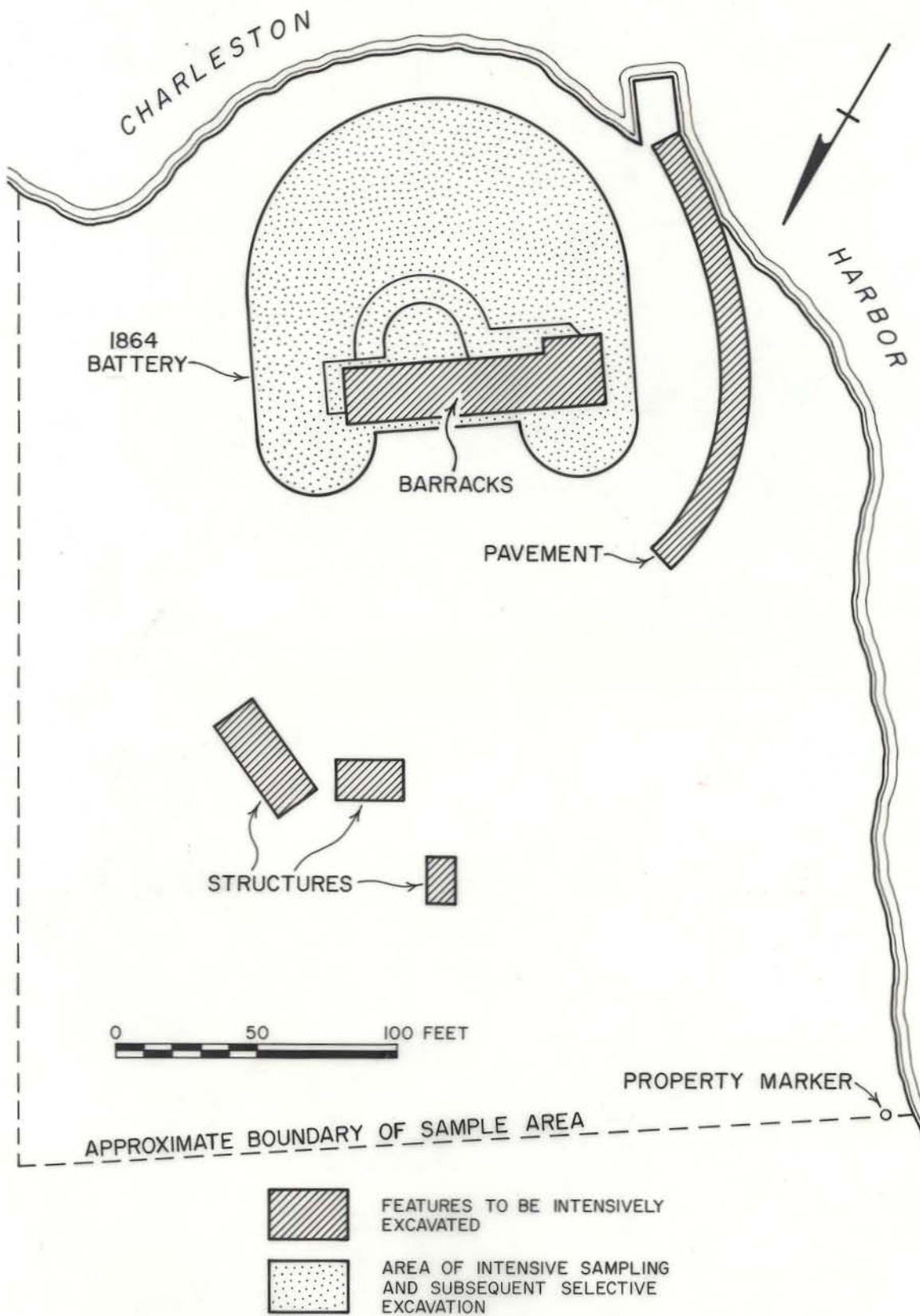


FIGURE 34. Map of potential features during the Post 1864 Civil War phase.

over the gate itself (Fig. 35). That portion of the upper story of these buildings that reached the level of the parapet is also missing, suggesting that at least parts of the barracks buildings were destroyed. It is possible that this occurred when the interior of the fort was filled in order to prevent the collapse of the structures under the weight of the overburden.

Although it will be necessary to conduct an intensive investigation of these structures, the nature and sequence of the excavations cannot be determined until after the exteriors of the structures are exposed and the condition of their remains known. It is likely that, if intact, the structures will be unstable and will require extensive stabilization during and after the archeological work.

The only other portion of the fort's interior that was used after Castle Pinckney was converted into a barbette battery consists of the casemates located at the rear of the fort. These were apparently used as powder magazines and were reached by means of wood braced tunnels from the ground level of the fort's interior (Figs. 21 & 22). Because it is unlikely that these entrances have survived, the exploration of the magazines will be impossible to undertake until the interior earth wall has been removed.

At this time the archeological excavations will concentrate upon the remains of those portions of Castle Pinckney that formed parts of the 1864 battery. The analysis of these data may be used in the study and interpretation of occupations dating from this period. If it is decided that the 1864 fort should be maintained as an interpretive exhibit then the remains uncovered should be stabilized and no further archeological work pursued within the interior of the fort.

In the area outside the fort all cultural features dating after 1860 that have not previously been examined should be excavated during this phase of research. An early Civil War map (Williams 1861) indicates the presence of structures to the rear of the fort in 1861. A photograph taken near the end of the Civil War (Fig. 23) shows three structures located directly behind the much modified fort. Although it is not known if they were still in use at that time, the investigation of these features should be conducted during this phase of the archeological work. It is likely that the structural remains themselves or the deposits of living debris associated with them will have been located by the sample pits, and the results of the sampling should serve as a guide for the intensive excavations to be conducted at this time. The early light tower and other known pre-war structures (see Fig. 34) should be located and excavated also.

Because the structures whose use-life extended into the post-Civil War period existed for some time prior to the war, the excavation of such buildings and their associated areas will involve the investigation of remains that fall outside of the period considered in this phase of research. It is, however, not feasible to interrupt the excavation of discrete units of limited size, such as structures, once it has begun and it would be best to complete the excavation of such units



FIGURE 35. Close up photograph of rear barracks wall and a portion of the main gate.



FIGURE 36. Photograph of remains of stone wharf.

within a single phase of research. Structures that were used during several periods of the site's occupation should be investigated entirely in that phase of research that relates to the period in which the structures were last occupied. During the course of the excavations it may be possible to isolate archeological data associated with different periods in the structure's existence. Analysis of these data may reveal the nature of activities carried out there through time as well as dates of construction, modification, and abandonment.

In addition to the structures, several other features outside the fort should be investigated thoroughly in this phase of research. The first is the stone wharf, a portion of which is still present (Fig. 36). This wharf was in existence as early as 1860 (See Fig. 13) and is clearly shown on the 1865 plan (Fig. 21). Presumably, it or a predecessor was built to permit access to the 1809 fort over the shoal on the south end of Shute's Folly Island. The second feature is a pavement extending from the wharf along the west side of the 1864 fort to a point at the rear of Castle Pinckney. The pavement is also illustrated on the 1865 plan (Fig. 21), however, its date of construction is unknown.

During the second phase of archeological research at Castle Pinckney a number of questions may be considered. Pertinent questions for the post-1864 occupation should relate to: (1) the architectural form and construction techniques used in the 1864 earthen wall, (2) the settlement pattern on Shute's Folly Island at this time, (3) the functional variation of structures both inside and outside the fort, (4) the use-spans of structures on the island, (5) the nature of wartime modifications to the site apart from the addition of the earthen wall, (6) the spatial extent of the wartime and post-war occupations, (7) the use of the fort for the burial of executed prisoners, (8) the identification of military units at Castle Pinckney both during and after the war, (9) the nature of armaments used in the last fort, and (10) the distribution of specialized activities within and outside of the fort after 1864.

Phase 3 - The 1860-1864 Period

The pre-1864 Civil War occupation of Castle Pinckney, although closely related to that which followed it, may be treated as a separate research phase because it involves a large portion of the fort that lies beneath the massive earthen wall erected in 1864. This occupation includes the brief prison period in 1861 and the subsequent use of the fort as a defensive position after that time.

When the Confederates occupied Castle Pinckney at the end of 1860, the fort looked much as it did when originally built. The first purpose to which it was put during the Civil War was that of a military prison for captured Federal troops. During this period modifications were made to accommodate the prisoners and these should be discernible archeologically. The most obvious change was the conversion of many or all of the casemates into cellrooms. Although the flooring, furniture, brick fronts, and doors were later removed when the fort

was returned to a defensive role, it is likely that some evidence of the prison period habitation will be present in the form of architectural or artifactual remains. In addition to the casemates, cooking and storage structures were erected in the yard and around the hot shot oven. Evidence of these structures and the activities carried out there should be discernible in the archeological record. It is uncertain what changes, if any, were made following the prison period. Apart from the remounting or ordnance, the only modification may have been the removal of the hot shot oven which does not appear in the 1865 plan of Castle Pinckney (Fig. 21).

In order to investigate the early Civil War occupation (Fig. 37), the earthen embankment covering the remainder of the fort's interior must be removed. Because of its great bulk, the remainder of this massive layer of fill may necessitate the use of heavy equipment. The fill may be removed in sections after appropriate exploratory excavations have been carried out to ascertain the manner in which it was constructed and to test for the presence of cultural features in the embankment. The tunnels leading from the interior of the fort to the magazines should be investigated at this time. Before beginning the removal of fill it will be necessary to provide an adequate dumping area for the fill. This may be an area on the island which archeological sampling has shown to contain no cultural remains or a similar area in the Cooper River adjacent to the island. It is possible that the fill could be used in the stabilization of the site or in the construction of a wharf or breakwater.

Once the fill is removed the site grid established in the interior of the fort should be extended to cover the newly exposed area. The stratified sampling employed to explore the fort should be expanded in this area to ascertain the chronological position and spatial distribution of archeological deposits here. Intensive excavation of Civil War period deposits may reveal the nature and distribution of activities associated with that occupation.

Following the exploration of the interior of the fort the casemates should be intensively excavated as separate units. As in the case of the barracks and other buildings inside the fort, the condition of these structures is unknown and will impose limits on the nature of this work. The remains of other interior features should also be excavated as separate units during this phase of research.

The area outside of the fort has been sampled in previous phases of research and those features post-dating 1864 or whose use spans extended into that period should have been excavated in Phase 2. For this reason many of the archeological contexts dating from the early part of the war may have already been investigated. The continuous use of the area and the short time span encompassed by the war will make it difficult to distinguish contexts occupied before and after 1864. As a result it may not be possible to recognize two periods of occupation outside of the fort and the Civil War occupation here may have been fully dealt with in the second research phase. The likelihood of discovering remains generated by the early war occupation (such as the presence of dumps of the prison period) does exist, however, and deposits dating from this time should be intensively excavated during this phase of the archeological work.

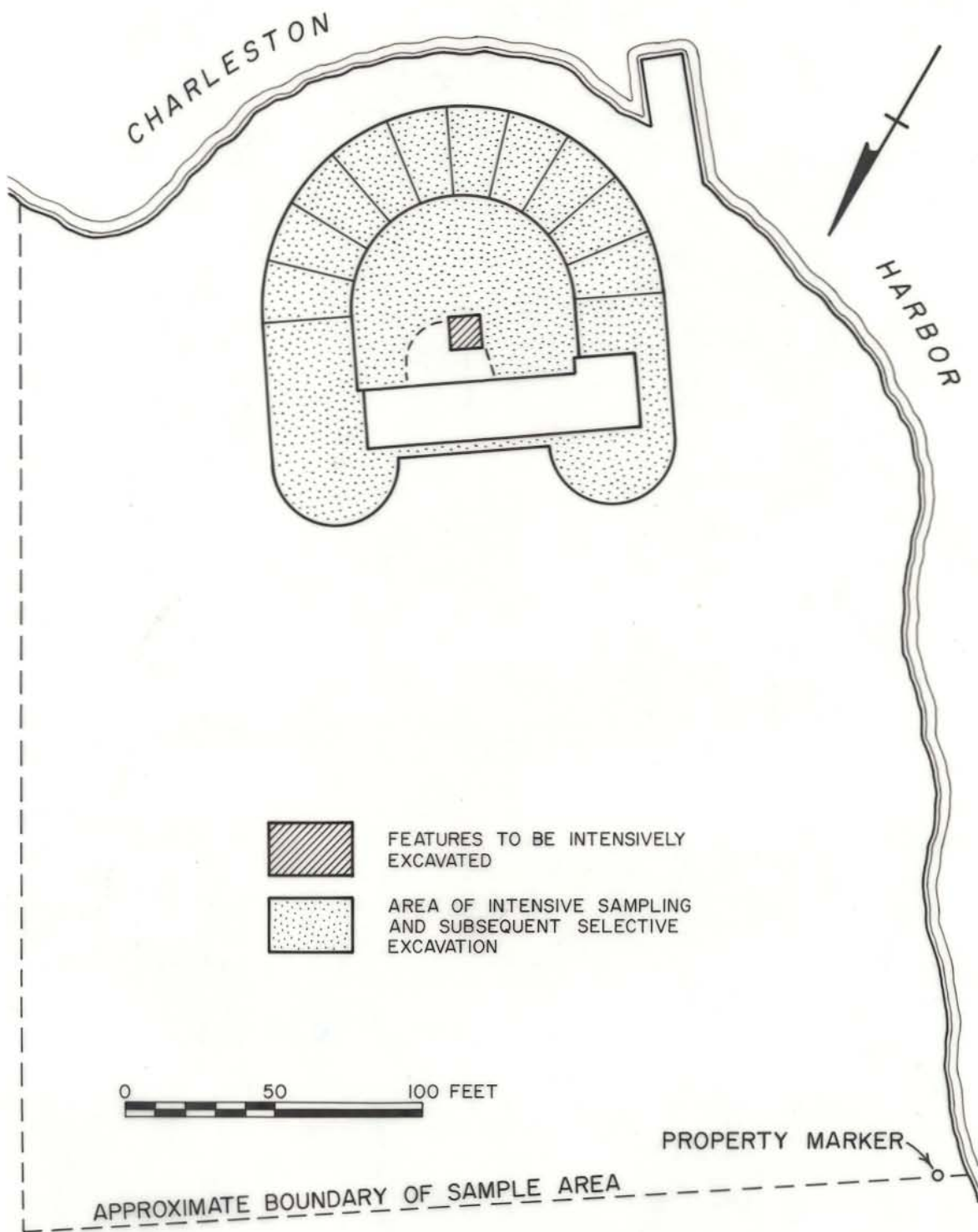


FIGURE 37. Map of potential features during the pre 1864 Civil War phase.

Questions to be approached in the investigation of the pre-1864 Civil War occupation of Castle Pinckney should relate to: (1) the form and extent of the prison occupation, (2) architectural modifications resulting from this occupation and the subsequent rearmament of the fort, (3) the nature and distribution of specialized activities during these two occupations, (4) the identification of military units there, (5) the types of armaments employed at that time, and (6) the significance of the settlement pattern outside the fort.

Phase 4 - The 1809-1860 Period

This phase of research is directed at exploring the original 1809 fortress and those modifications made to it prior to the Civil War (Fig. 38). Documentary information indicates that during this period both the interior of the fort and the area to the rear of it were extensively used. The archeological investigation of this period of Castle Pinckney's existence will involve the exploration of those portions of the site that date after 1809. Significant aspects of the pre-Civil War occupation outside the fort to be investigated are the fortification wall with the single bastion (Fig. 11). In addition, other structures and their associated activity areas that were not used into the Civil War period should be investigated. These may include a hospital constructed in the 1830's and later used as quarters during the 1861 prison occupation, the quarters occupied by the ordnance sergeant during the period when the fort was ungarrisoned, and other activity areas dating from the 1809-1860 period.

It is likely that those features of contiguous construction will have been located by the initial or subsequent samplings of the island or by intensive excavations conducted to uncover cultural features associated with later occupations. Because the fortification wall is a linear feature, it may be more easily located through the use of slot trenching. These trenches should be aligned with the site grid and excavated at regular intervals across the area to the rear and to the sides of the fort. Care must be taken in digging these trenches, however, so that channels are not opened into the site from the harbor that would accelerate the rate of erosion on the island. The initial trenches should be extended to the boundaries of the Sons of Confederate Veterans property. Once the alignment of the wall is ascertained, subsequent trenches may be limited so as to cross-cut only those areas where the wall line is expected to run. In addition to uncovering traces of the wall, the trenches may also reveal the form and extent of other linear features on the site. Each of the linear features discovered at this time should be sampled at the points intersected by the exploratory trenches in an attempt to determine the dates of their construction. Those features relating to the early fort should then be completely excavated during this phase of research. Those of pre-1809 date should be mapped and set aside for excavation during a later phase. It is possible that more recent linear features will also be revealed by the exploratory trenching. These should be completely investigated at this time.

In addition to those features located outside the fort, it will be necessary to investigate the seawall, pavements, and other architectural features related to or contiguous with the brick fortress structure. These should be examined to determine their architectural relationship to the fort and, if possible, their functions and dates of construction.

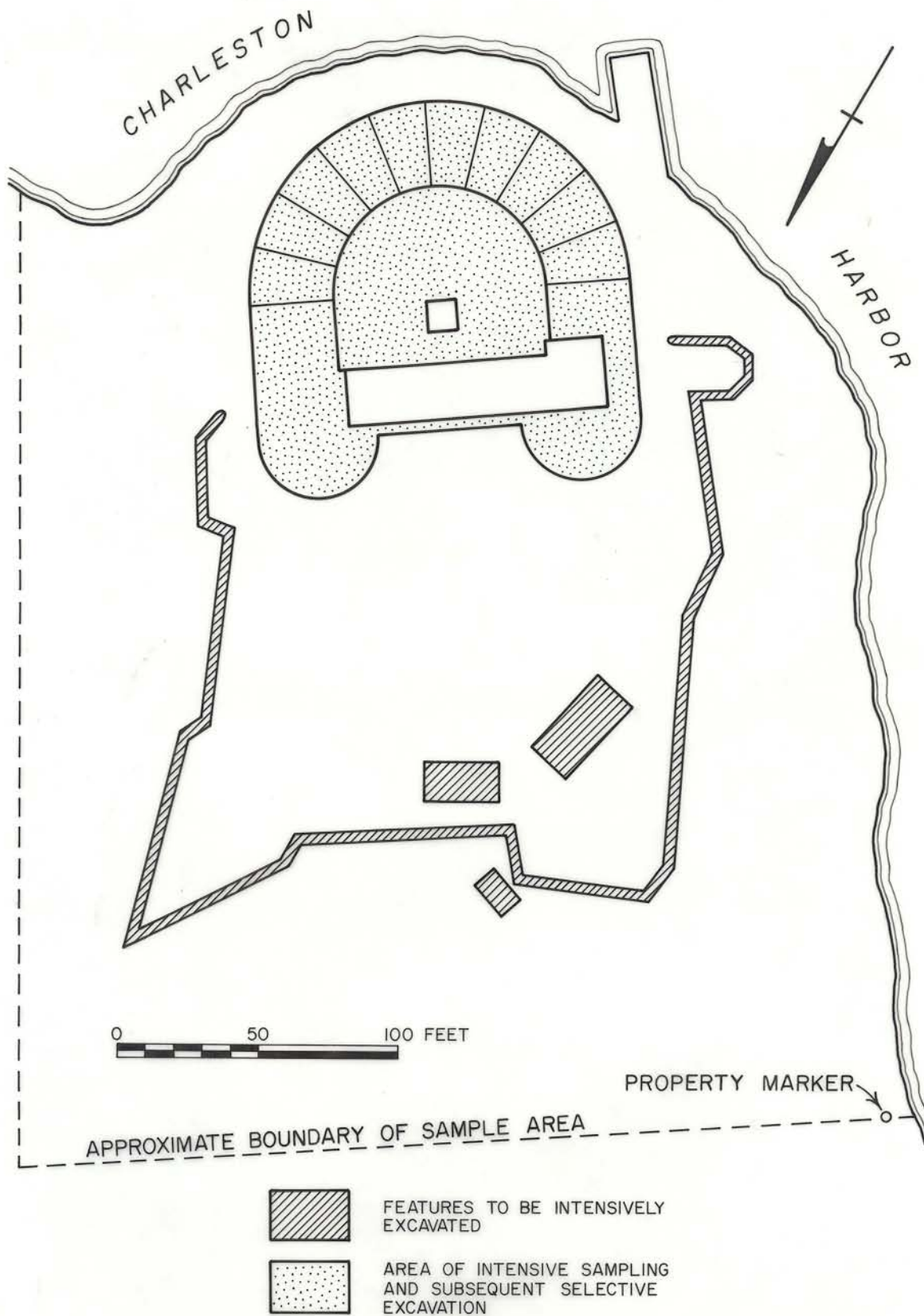


FIGURE 38. Map of potential features during the 1809 fortress phase.

In the interior of the fort, the study of the pre-Civil War period will involve the excavation of those contexts shown to date from 1809 to 1860 and an examination of all architectural details of Castle Pinckney in order to determine the extent to which the original structure was repaired or otherwise modified before 1860. During this phase of the investigations the foundation details of the fort should be examined to obtain information relating to methods of construction and repair as well as the extent to which the foundations have been affected by time and natural forces. It will now be possible to complete, in accurate detail, a plan of Castle Pinckney illustrating the form of the original structure and additions and modifications made on it through time. Because this phase of archeological investigation effectively terminates work on the fort structure, final stabilization of the fort may begin after the archeological work is completed unless earlier, unexcavated archeological contexts are still present.

Questions pertinent to this period of Castle Pinckney's occupation and which may be addressed in the archeological research relate to: (1) the nature of nineteenth century military architecture, (2) the nature and distribution of artifacts and activities relating to the hospital, as well as domestic and other living areas, (3) patterns of discard within military settlements of this period, (4) the evolving settlement pattern of Castle Pinckney during the pre-Civil War period, (5) the development and sequential use of ordnance and other armaments in this period, (6) the nature and distribution of other specialized activities at the site, and (7) the technology associated with specialized activities such as the maintenance of the harbor light.

Phase 5 - The 1780-1809 Period

Comparatively little documentary information is available concerning the early forts on Shute's Folly Island, apart from the 1806 plan (Fig. 9). All that is known about the first fort built in 1780 is that it was constructed on or near the site of the 1809 castle and that it was constructed of earth and timber. The 1797 fort was an earth and timber crescent-shaped battery built at the south end of the island. Behind the battery were several structures and a magazine. A sketch of the 1809 fort over the plan of the 1797 fort suggests that much of the latter was located on land to the south of Castle Pinckney that has since eroded away. The buildings of the 1797 fort, however, would seem to lie beneath the present fortress. Because neither of the first two forts was continuously occupied and were in existence for a relatively short period of time, it is likely that, apart from archeological evidence, there will not be substantial archeological deposits associated with these early forts.

If portions of these forts extended onto the ground adjacent to the 1809 fort then the remains of these fortifications would have been revealed by the extensive cross-trenching conducted during the previous phase of research. Pre-1809 features within the fort itself would also have been located at this time. Such features should now be fully exposed and excavated in order to determine the size, form, and con-

struction details of these early fortifications as well as any modifications to them. If sufficient remains are located it may be possible to trace the development of the early fortifications through time and to recognize spatial and functional relationships between them.

The possibility exists that earlier fortifications were incorporated into the 1809 fort. For this reason it will be necessary to examine the spatial relationships among fortification features as well as the temporal proximity of their construction. Datable artifacts present in the fill of such features will help to establish contemporaneity or at least the occurrence of overlapping use ranges.

Features related in time to, but not an integral part of, the early fortifications should also be completely excavated during this phase of the archeological research. Such features are likely to include trash dumps, latrine pits, and other nonstructural evidence as well as the buildings associated with the forts.

Questions to be considered in this phase of research may refer to: (1) the relationship of domestic activity to military activity in a sporadically occupied garrison context, (2) the architecture of eighteenth century fortifications, (3) the nature of the military garrisons at these forts, (4) the settlement patterns associated with these forts, and (5) the presence, distribution, and significance of specialized activities there.

This phase of the investigations deals with the earliest documented occupation of Shute's Folly Island. Although not recorded, earlier occupations, both historic and prehistoric, may have taken place there and are significant enough to warrant continued research if the exploratory excavations conducted in the previous archeological work indicate their existence. Because they are not a part of the military occupations, however, it may be decided at this point to suspend further work until a later time and stabilize the features relating to the military period. If a decision is made to delay further archeological investigations, the presence of earlier occupation remains must be considered in the plan for site interpretation and stabilization, and care must be taken so that the latter activities do not endanger the preservation of these occupations and will not impede the future exploration of pre-military archeological deposits.

Phase 6 - The 1711-1780 Period

The extent of a historic occupation on Shute's Folly Island prior to the construction of the first fort is unknown. Between 1711 and 1780 the entire island was owned by various members of several families, however, there is no record of their activities, if any, here. For this reason it is not possible to predict either the nature of a pre-military occupation or even its existence. The presence of a structure on the boundary of the military area on the 1846 map (Fig. 11) suggests that some activity may have taken place on William Lucas' land. Because no maps dating from the pre-military period have been found, and presumably do not exist, it is impossible to determine if this structure existed before the first fort and thus represents an earlier historic occupation.

The presence of a pre-military historic occupation must be determined on the basis of archeological evidence alone. In previous phases of research extensive sampling of the entire site has been conducted in order to ascertain the form and extent of various past occupations there. The deposits and features associated with these periods have, in turn, each been examined archeologically in those phases concerned with their respective periods. If a pre-military occupation is present it should have been identified on the basis of the sample results. Those archeological deposits so identified should be completely excavated during this phase of research.

Questions to be asked of this hypothesized occupation are general. They may include: (1) the dates of the site's occupation, (2) its size and settlement pattern, and (3) the presence and distribution of specialized activities that might indicate the function of the early historic settlement.

Phase 7 - The Pre-1711 Period

Prehistoric occupations on Shute's Folly Island, if present are also likely to be found during the sampling of the site. The association of estuarine habitation sites with the presence of shell midden deposits suggests that the occurrence of such deposits may indicate the presence of an aboriginal occupation on an island. The indication of shell deposits on both the 1806 and 1846 maps of Shute's Folly Island (Figs. 9 & 11) suggests the presence of a midden here at least in the early nineteenth century. Because the form and extent of prehistoric coastal settlements are not well known at present, potential sites may be found on any or all parts of the island. During this phase of the archeological research those zones and features containing prehistoric materials should be exposed, recorded, and excavated.

Significant questions to be addressed regarding a prehistoric occupation of Shute's Folly Island relate to: (1) its size, temporal range, and function; (2) the presence and spatial distribution of specialized activities; (3) subsistence practices and resources exploited; (4) technology; (5) seasonality of occupation; (6) construction details of structures; (7) settlement pattern; and (8) its similarity or dissimilarity with and its relationship to sites occupied by contemporary peoples.

Summary

In summary, seven phases of archeological research have been presented in a design for the investigation of the material remains of the occupations on the site of Castle Pinckney. Each phase is intended to investigate completely a significant period in the occupation of the Castle Pinckney site while at the time revealing the presence and general distribution of the remains of earlier occupations. Because each phase is essentially a complete operation, it will be possible to suspend the archeological investigations and stabilize the site at the close of any phase if it is

decided for financial, interpretive, engineering, or scientific reasons that further work should not or cannot be attempted. This research design is intended to provide a scheme for the investigation of all potential occupations of Shute's Folly Island in addition to those occupations supported directly by historical documentation. The use of theoretically grounded archeology in the consideration of research problems relating to Castle Pinckney's past should not only quantitatively enhance our present knowledge of the site and its various occupations, but also qualitatively increase the scope of this knowledge for the entire east coast of North America through the exploration of a virtually untapped source of data.

SCHEDULE OF ARCHEOLOGICAL WORK

The section presents a general schedule of archeological work to be carried out at Castle Pinckney. It is designed to provide the Sons of Confederate Veterans with a guideline of procedures that should be followed in the archeological examination of this site. Only in the first phase can time requirements be specified, as the scope of each succeeding phase of work will be in part based upon the results of previous phases.

Phase 1 - Light Station Period

	<u>Personnel</u>	<u>Time</u>	<u>Equipment</u>
Research Design Preparation	Archeologist	6 wks.	
Set up facilities on island(a)	Archeologist Assist.Archeologist 4 crew	1 wk.	Shelter bldg., storage bldg., supplies
Lab Set up	Archeologist Assist.Archeologist Lab supervisor 2 lab crew	2 wks.	building, utilities, Lab equipment
Mapping, gridding of site intensive photography, brush clearing	Archeologist Assist.Archeologist 4 crew	4 wks.	mapping equipment, photographic equipment, hand tools
Underwater archeology survey	Underwater archeologist 1 diver	2 wks.	
Survey-sample excavation of 4% of site	Archeologist Assist.Archeologist Lab supervisor 8 crew 2 lab crew	6 wks.	mapping equipment digging tools, lab equipment, mechanical sifter, misc. equipment
Excavation of features inside and outside of fort (b,c)	Archeologist Assist.Archeologist Lab supervisor 8 crew 2 lab crew back hoe operator	3 months 1 wk.	mapping equipment digging tools, mechanical sifter, lab equipment, misc. field equipment, backhoe

Phase 1 - Light Station Period

	<u>Personnel</u>	<u>Time</u>	<u>Equipment</u>
Lab analysis, report writing, etc.	Archeologist Assist.Archeologist Lab supervisor	12 months	laboratory supplies, photographic supplies, secretarial supplies, art supplies, printing
	Editorial Assist.	6 wks.	
	2 lab crew	2 months	
	8 crew	1 wk.	
	Secretary	3 months	
	Illustrator	2 months	
	Photographer	2 months	

Engineering requirements

- (a) Transportation of equipment to island.
- (b) Removal of fill from fort.
- (c) Stabilization of earth embankment.

Phase 2 - Post 1864 Civil War

	<u>Personnel</u>	<u>Equipment</u>
Research Design Preparation	Archeologist Asst.Archeologist	
Mapping and gridding of fort interior	Archeologist Asst.Archeologist	mapping equipment
Sampling and intensive excavation of fort walls*	Archeologist Asst.Archeologist crew Lab supervisor lab crew	digging tools, mechanical sifter, lab equipment, misc. equipment
Excavations of features & significant archeological deposits inside and outside the fort **(a)	Archeologist Asst.Archeologist crew Lab supervisor lab crew	same

	<u>Personnel</u>	<u>Equipment</u>
Excavation of structures, inside and outside the fort(b).	Archeologist Asst.Archeologist Crew Lab supervisor Lab crew	same
Lab analysis and report writing	Archeologist Asst.Archeologist Lab supervisor Lab crew Secretary Illustrator Photographer Editorial Asst.	laboratory supplies, photographic supplies, secretarial supplies, art supplies, printing

Engineering Requirements

- (a) Removal and/or movement of cannon and other large equipment.
 (b) Stabilization of standing structures or ruins.

* If the discovery of live ammunition is made, it will be necessary to contact the proper authorities for its removal and detonation.

** If burials are encountered, the services of a physical anthropologist will be required. If required by law, the presence of proper civil authorities during the removal of the graves may also be necessary.

Phase 3 - Pre 1864 Civil War

	<u>Personnel</u>	<u>Equipment</u>
Research design preparation	Archeologist	
Exploratory excavations in the earthen wall (a,b)	Archeologist Asst.Archeologist Crew Lab supervisor Lab crew	digging tools, mechanical sifter, lab equipment and supplies, misc. supplies
Excavation of features and significant archeological deposits inside and outside the fort	Archeologist Asst.Archeologist Crew Lab supervisor Lab crew	same

	<u>Personnel</u>	<u>Equipment</u>
Excavation of structures inside and outside the fort (c)	same	same
Excavation of casemates (d)	same	same
Lab analysis and report writing	Archeologist Asst. Archeologist Lab supervisor Lab crew Secretary Illustrator Editorial Assistant Photographer	Secretarial supplies, lab supplies, art supplies, photographic supplies, printing

Engineering requirements

- (a) Mechanical exploration of wall
 - (b) Removal of earthen wall fill
 - (c) Stabilization of structural remains
 - (d) Stabilization of fort
-

Phase 4 - The 1809 Fort

	<u>Personnel</u>	<u>Equipment</u>
Research Design Preparation	Archeologist	
Exploratory excavation (a)	Archeologist Asst. Archeologist Crew Lab supervisor Lab crew	digging tools, mechanical sifter, lab supplies, misc. supplies
Excavation of linear features (fortification wall, etc.)	same	same
Excavation of other structures, features, and significant archeological deposits, inside and outside the fort (b)	same	same

	<u>Personnel</u>	<u>Equipment</u>
Final mapping of military structures and features at the Castle Pinckney site	same Photographer	same, mapping and photographic equipment/supplies
Lab analysis and report writing	Archeologist Asst.Archeologist Lab supervisor Lab crew Secretary Illustrator Editorial Assistant Photographer	lab supplies, photographic supplies, secretarial supplies, art supplies, printing

Engineering Requirements

- (a) Use of mechanical trenching tool
- (b) Stabilization of fort

Phase 5 - The Early Fort

	<u>Personnel</u>	<u>Equipment</u>
Research design preparation	Archeologist	
Excavation of features and significant archeological deposits	Archeologist Assist.Archeologist Crew Lab supervisor Lab crew	digging tools, mechanical sifter, lab supplies, misc. equipment/supplies
Lab analysis and report writing	Archeologist Asst.Archeologist Lab supervisor Lab crew Illustrator Photographer Secretary Editorial Assistant	secretarial supplies, lab supplies, art supplies, photographic supplies, printing

Engineering requirements

- (a) Stabilization of structural features identified

Phase 6 - Early Historic Occupations

	<u>Personnel</u>	<u>Equipment</u>
Research design preparation	Archeologist	
Excavation of features and significant archeological deposits (a)	Archeologist Assist.Archeologist Crew Lab supervisor Lab crew	digging tools, mechanical sifter, lab supplies, misc. supplies/equipment
Lab analysis and report writing	Archeologist Assist.Archeologist Lab supervisor Lab crew Illustrator Photographer Secretary Editorial Assistant	art supplies, photographic supplies, secretarial supplies, lab supplies, printing

Engineering requirements

- (a) stabilization of structural features identified

Phase 7 - Prehistoric occupation

	<u>Personnel</u>	<u>Equipment</u>
Research design preparation	Archeologist	
Excavation of features and significant archeological deposits (a)	Archeologist Asst.Archeologist Crew Lab supervisor Lab crew	digging tools lab supplies, mechanical sifter, misc. supplies/equipment
Lab analysis and report writing	Archeologist Assist.Archeologist Lab supervisor Lab crew Editorial Assistant Illustrator Secretary Photographer	secretarial supplies, art supplies, photographic supplies, lab supplies printing

	<u>Personnel</u>	<u>Equipment</u>
Dismantle lab and field facilities(b)	Archeologist Assist.Archeologist Lab supervisor Lab crew Crew	all
Storage of artifacts	Archeologist Assist.Archeologist Lab supervisor Lab crew	artifacts, vehicle

Engineering requirements*

- (a) Stabilization of structural features identified
- (b) Transportation of equipment

* these steps may be undertaken as early as the close of Phase IV, if sampling has indicated the presence of no earlier archeological remains.

PRESERVATION STATEMENT

Introduction

The purpose of this section is to discuss some general considerations for the preservation of architectural and artifactual remains at Castle Pinckney.

The architectural discussion will focus on the state of the structure of Castle Pinckney as ascertained from an examination of the site by the archeologists. General statements about the status of preservation of the fort and the procedures for further stabilization will be presented to provide a general guide for the Sons of Confederate Veterans.

The artifactual section will be devoted to three large classes of artifacts that are found at historic sites. These classes are defined from a conservation viewpoint. General recommendations about the types of decay and the appropriate treatment for each of the three classes will be discussed. This section is designed to provide general guidelines for the Sons of Confederate Veterans in approaching the problem of artifactual conservation at Castle Pinckney. An architect and an artifact conservator should be employed to formulate comprehensive plans for the stabilization of archeological materials and architectural features at the site of Castle Pinckney.

Architecture

The preservation of the structural remains is necessary both for the archeological interpretation of architectural features at Castle Pinckney, as well as for the maintenance of the site as an exhibit and museum. In order to preserve the structure of Castle Pinckney it will be necessary to consider first its present condition and then recommend steps to be taken to reverse those processes of deterioration that are occurring here.

Based upon observation and other investigations, the brickwork at Castle Pinckney seems to be deteriorating in the following manner.

First, efflorescence has occurred throughout most of the brickwork (Figs. 35, 39 and 40). This is an indication of the presence of moisture, from both rain water and water drawn up by capillary action from the marshy ground upon which Castle Pinckney sits, in the brickwork. The moisture needs to be removed from the brickwork and the associated physio-chemical processes of decay halted if the fort is to be stabilized (Bullock 1976: 133; Torraca 1976: 143-150).



FIGURE 39. Wall of Castle Pinckney showing bricked up embrasures and efflorescence.



Secondly, with the presence of scrub type vegetation on the island and within and against the fort, it can be assumed that the root networks of these plants have penetrated the mortar and brickwork of the fort (Figs. 41 & 42). These would further hasten the decay of the fort, and should be removed or otherwise treated to prevent further decay (Torraca 1976: 143-150).

A third factor to be considered is the weight of the fort. General reports indicate that the soil at Shute's Folly is unstable and unable to support heavy weights (Miller 1971: 29). It is probable, therefore, that the fort may have sunk during the past 160 years, due to the weight of the fill; however the weight of the fort is also a contributing factor. Steps recommended by the engineering consultants should be taken to stabilize the island before any archeological work is done at Castle Pinckney.

Fourthly, when the fill is removed from inside the fort its walls may need to be further supported to keep them from falling. The extent to which the fill is supporting the walls should be ascertained before extensive amounts of fill are removed. Appropriate measures should then be taken to support the walls from both inside and outside.

Artifacts

More than likely, many of the artifacts recovered from the site will have to undergo some form of preservation-conservation process to stabilize them and make them suitable for study and display. A brief discussion of the general classes of artifacts and possible preservation techniques will be presented below.

Metals undergo various processes of decay (rust, etc.) when in archeological context. Removing them from the ground in itself usually does nothing to improve their condition, and in some cases may speed up the decay process.

Metal decay can be reversed or stopped by a variety of means. One of these is electrolysis, an electro-chemical process in which the oxidized ions are replaced with ions of stable metal similar to electroplating. Subsequent to performing this process, the material is cleaned with boiling distilled water, to remove harmful salt by-products of the electrolysis process. The metal object is then sealed from air to prevent further decay. This is done by spraying it with a clear sealant or by impregnating it with a sealant under conditions of reduced or increased atmospheric pressure.

Another way to preserve or stabilize metal is to clean it with a sandblasting type apparatus, such as the Penwalt/S.S. White Air Abrasive. This removes the decay and leaves a clean surface. The artifact should then be coated as described above, to prevent further deterioration.



FIGURE 41. Vegetation in and around Castle Pinckney.



FIGURE 42. Vegetation associated with Castle Pinckney.

The category of non-metallic objects includes items such as bone, cloth, wood, leather, paper, etc. that are basically porous. Items of this type are usually dried to prevent cracking and shrinkage and then impregnated with a solution that prevents further decay. Drying can be done chemically, or with applied heat, or with both. The impregnation is usually done under conditions of increased or decreased atmospheric pressure.

Other items, such as ceramics and stone may also require preservation, however, this is usually of a minimal nature. These items are usually sufficiently strong and undecayed to be preserved merely by cleaning them and placing them in a safe place. There are exceptions to this, however, and these materials should be examined to determine if they are, in fact, stable.

PRELIMINARY STEPS TO THE ARCHEOLOGICAL INVESTIGATION

In order to adequately carry out the archeological investigations at Castle Pinckney, several preliminary steps must be taken. These steps relate both to information needed by the archeologist and to organizational procedures involved in carrying out the project. It should be noted that the steps outlined below are general ones, based on our current knowledge of Castle Pinckney.

- I. A. An archeologist should be contracted as principal investigator for the Castle Pinckney project. This person should have experience in historic sites research and in the direction of large scale archeological projects.
 - B. More information about the geology of the area needs to be obtained before further recommendations and the actual work can begin. Areas of critical importance are the rates of erosion and subsidence and shrinkage of the island in the past 300 years. It is possible that the location of some earlier occupations may now lie under water.
 - C. If erosion is great, immediate steps should be taken to stabilize the island and prevent further erosion. In doing this, care should be taken that too much weight not be put on the island causing it to sink further. Because stabilization will disturb underwater sites associated with Castle Pinckney it will be necessary first to conduct an underwater survey of those areas where stabilization is planned and mitigate the effect of stabilization on archeological resources there.
 - D. Consultation with the engineers who will be reconstructing Castle Pinckney to ascertain how their operations will disturb the site should be undertaken. This should be taken to mean all areas of the island and not just those within the fort. Also, it should be ascertained if any stabilization of standing structures is necessary before starting the archeological work. If this is the case, these operations should be carried out under the supervision of an archeologist, prior to beginning the archeological work.
 - E. A more complete documentary search should be performed. There are several gaps in our present knowledge about the occupations and activities at Castle Pinckney. These need to be filled before the research can proceed in a meaningful fashion.
- II. A. Set up the Charleston base. The location should be accessible to the site and to other facilities that would be used during the course of the field work. This could also include quarters for the crew and a laboratory for processing incoming material, and storage space for specimens and equipment.

- B. Transportation to and from the site must be established on a permanent basis. Options include a boat, helicopter, or amphibious vehicle. These modes of transportation should be large enough to transport the crew and necessary equipment to the site in one trip.
 - C. If necessary, arrangements should be made to provide electricity, clean water, shelter, plumbing and sanitation at the site. An appropriate amount of safety and first aid equipment should be available for use.
 - D. Arrangements should be made to have pumps transported to the site. These will be used to pump out excavation units and to set up a water screen.
 - E. Measures should be taken to protect the site from trespassers and vandals. These might include fencing in the site and, if necessary, posting a guard.
 - F. An assistant archeologist and crew should be hired.
- III. A. Clear brush from that part of the island where the investigations will take place.
- B. Grid and map the site as it appears before any work has begun.
 - C. Possibly have some of the larger features removed before excavations begin, but after they have been mapped and photographed.

CONCLUSIONS

This assessment of the site of Castle Pinckney on Shute's Folly Island has attempted to outline a scope of archeological research for this site that will permit the investigation of significant historic occupations here. The fortress of Castle Pinckney is the principal cultural feature on the island and has dominated all of the human occupations there since the late eighteenth century. It is for this reason that the architectural study of the surviving brick fort, together with the remains of its predecessors, must be an integral part of the investigation of past settlement on Shute's Folly Island. Because of the manner in which the fortress grew by accretion, resulting in the placement of later living and activity areas above those that preceded them, the investigation of this central feature must be conducted as a series of phases that correspond to the major periods of its construction and occupation, beginning with the latest period which lies closest to the surface. The investigation of the areas outside of the fort should generally follow the same chronological sequence as that of the fortress excavations.

The organization of the archeological work by occupation period offers the advantage of examining the site in terms of developmental stages, permitting questions relating to settlement size and pattern, activity distribution, architectural form, fortification technique, and settlement function to be examined for each period at the close of each phase of the archeology. The investigation of the site by stages also permits the archeological work to be terminated and the site stabilized at the close of nearly any phase of research without jeopardizing the safety of the in-place archeological data relating to earlier occupations.

The questions to be addressed during each phase of the archeological work are purposefully general because they seek to explore broad patterns of behavior in the archeological record. Within the framework of these questions it will be possible to make inquiries regarding specific problems generated by the archeologist who is in charge of the project. His input is desirable because he will be most familiar with the site as the investigations progress and may be able to examine specific problems that are developed as the result of the interaction of his own research interests and the data recovered at the site. The plan of research at Castle Pinckney is intended to establish a structural framework within which to conduct the archeological study of past occupations there as well as elsewhere on the island. It should not be viewed as a rigid schedule, but rather one that permits adequate flexibility in developing research on a stage by stage basis. With the implementation of this research design it should be possible to systematically explore Castle Pinckney's past, providing information not only for the restoration and interpretive development of the fort and other military features there but also to aid in our understanding of past lifeways and culture processes as these pertain to the societies whose inhabitants occupied Shute's Folly Island.

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