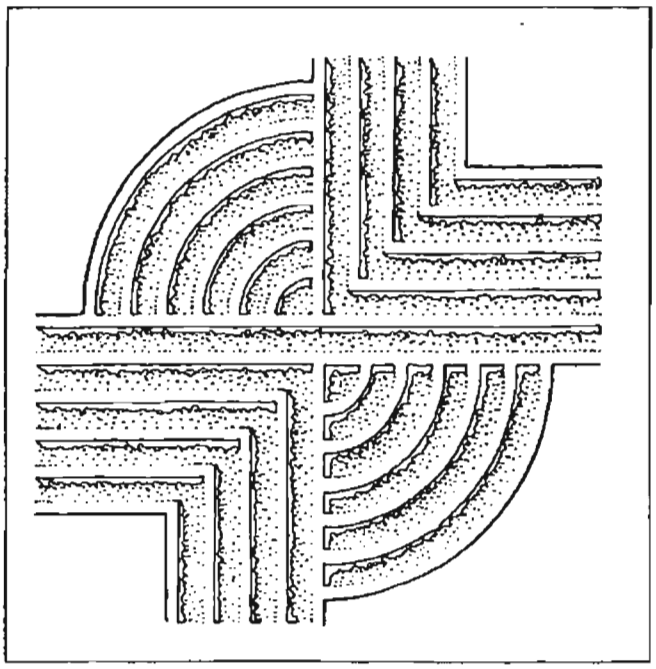
A BRIEF EXAMINATION OF THE MIDDLETON PLACE MILL, MIDDLETON PLACE PLANTATION (38DR16): PHASE ONE



RESEARCH CONTRIBUTION 114

A BRIEF EXAMINATION OF THE MIDDLETON PLACE MILL, MIDDLETON PLACE PLANTATION (38DR16): PHASE ONE

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Research Contribution 114

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Introduction

Chicora Foundation was requested on July 7, 1993 by Middleton Place Foundation to prepare a proposal addressing specific archaeological investigations requested by the South Carolina State Historic Preservation Office (SHPO) in a June 25, 1993 memo from Mr. Lee Tippet (Staff Archaeologist) to Mr. Dan Elswick (Staff Architect). The need for this archaeological study was necessitated by Middleton Place's grant to stabilize portions of the mill damaged in 1989 by Hurricane Hugo, although the exact nature of the work is further complicated by the stabilization requiring both Army Corps and Coastal Council permits (since the mill is situated on water and marsh). A letter proposal addressing the concerns of the SHPO was prepared on July 13 and approved by Middleton Place on July 15. It was reviewed and approved by the SHPO on July 22, 1993 (letter from Mr. Dan Elswick to Ms. Donna White at Middleton Place).

This initial phase of the proposed work was conducted on July 26 through July 28, 1993 by the author and Ms. Natalie Adams. A total of 48 person hours were devoted to the work. The artifacts recovered will be cataloged by Chicora Foundation for permanent curation with Middleton Place Foundation once accessioning information has been provided by Middleton Place. At the present time the artifacts are being stored at Chicora's Columbia offices.

The Proposed Goals and Methodology

The SHPO requested three basic tasks: (1) "a series of formal excavation units will be placed in those areas to be disturbed by project activities . . . one unit will be necessary along the external wall of the structure and . . . an additional unit will be required adjacent to the interior wall . . . [with both placed] to capture the maximum amount of information from the builder's trench and surrounding deposits," (2) the monitoring of the mill race draw down to identify and recovery significant artifacts, and (3) the monitoring of the recontouring of ground level around the structure. Accompanying this outline of tasks was the stipulation that the costs, paid for through the Archives and History grant program, should be about $5000. Consequently, the nature of the project was controlled both by the tasks outlined and the funds available. **This report covers only the first task -- the excavation of formal units adjacent to the interior and exterior walls of the structure.**

The goals of this work, while not explicitly outlined by the SHPO, are clear from the nature of the work proposed. Since so little was known about the structure, its function, its documentary references, its construction episodes, or its archaeological footprint, it was difficult to assess the necessary level of archaeological investigation. The SHPO's proposed outline, while conservative, was carefully drafted to insure that if significant archaeological deposits were present they would be identified prior to further ground disturbing activity. Presumably, if significant deposits are encountered during any of the three tasks, the stabilization work will be halted until the SHPO determines the level of additional work necessary to protect the below ground resources of the structure.

Chicora Foundation responded in the spirit of the SHPO's request, proposing the excavation of at least two five foot units during the initial phase of the work. One unit would be located on high ground along the outside of the structure, while another would be placed within the structure. Middleton Place would be responsible for determining, through consultation with the project architect, Ms. Amanda Herbert, the areas most likely to be damaged by the proposed work, as well as for removal of the concrete floor within the mill and associated structural precautions.

The goal of this initial work, beyond the procedural aspect of monitoring, was to explore the nature of the artifact deposits and examine construction features of the building. Questions to be posed were: what types of artifacts are present? Are remains from the previous use of the building still present, either as industrial or domestic refuse? Are either soil or architectural features present which can further contribute to an understanding of the structure and its past history? Can the builder's trench (if present) contribute toward dating the origin of the structure? We realized that many of these questions may be unanswerable on the basis of the limited excavations proposed (the work being only testing by anyone's definition). Yet, it should be possible to determine whether additional excavations would be likely to answer the questions. If, based on this initial research, additional work would be of assistance to understanding the structure and its function Chicora would make recommendations to that effect. The final decision to postpone the stabilization efforts and conduct additional research, however, would be left with the SHPO and those state and federal agencies permitting the work. One unresolved question was who would be responsible for the costs associated with any additional work possibly recommended.

Each of the two units would be 5 feet square. We proposed English measurements rather than metric as a matter of convenience since we were working with a structure built using English feet and inches. The 5 foot dimension was selected over a smaller unit since we did not know the maximum depth of the excavations and a 5 foot unit offers somewhat easier excavation. Units were to be excavated using natural stratigraphic levels, with all fill screened through ¼-inch mesh. All artifacts were to be bagged by provenience with soil samples collected for every zone. Horizontal control would be maintained in relationship to the standing structure. Vertical control would be maintained through the use of an assumed elevation point. Units would be trowelled at the base of excavations (or at various significant zones), photographed in b/w and color,. and drawn at a scale of 1 inch to 2 feet. Profiles would be drawn at this same horizontal scale and an exaggerated vertical scale of 1 inch to one foot. In other words, we proposed standard archaeological techniques which would allow the maximum amount of data be obtained for the possible time investment.

No significant alterations of this methodology were made in the field. Once in the field we informed that the major exterior disturbance would be on the northwest corner of the structure, in an area of sloping ground inundated at high tide. It was in this area that the stabilization procedure would require excavation along the foundation for repointing and other repairs. In spite of these planned disturbances, excavation in this area would have required water screening, filter fabric to prevent siltation of the creek, and possibly state and federal permits. Since none of these were factored into the proposed work, we selected an alternative location along the east elevation, at the northeast corner. In addition, we were concerned that excavations in the northwest corner, given the erosion, siltation, and daily tidal flow, would be less likely to clearly reveal the stratigraphy of the site. Another alteration or variation from the proposal was the excavation of two units, rather than one, within the structure. These units will be discussed in the following section. Finally, some additional time was spent in the field examining the architectural features of the structure (since there was no detailed historic structures report) and looking over historic information (since there was no detailed historic synopsis available).

Location and Extant Environmental Conditions

Middleton Place is situated about 10 miles southeast of Summerville, South Carolina in Dorchester County on S.C. 61. It is about 15 miles northwest of Charleston on the west (or south) bank of the Ashley River (Figure 1). It lies in the Atlantic Lower Coastal Zone physiographic provience, dominated by primary topography and made up of sediments dating from the Cretaceous to Recent period (Colquhoun 1969:4-5). The sediments, typical of the region, are water laid and unconsolidated sands and clays, underlaid by marl (Eppinette 1990; Miller 1971:79). The soils in the vicinity of the main settlement are Wagram loamy fine sands, while the mill is reported to be situated on excessively

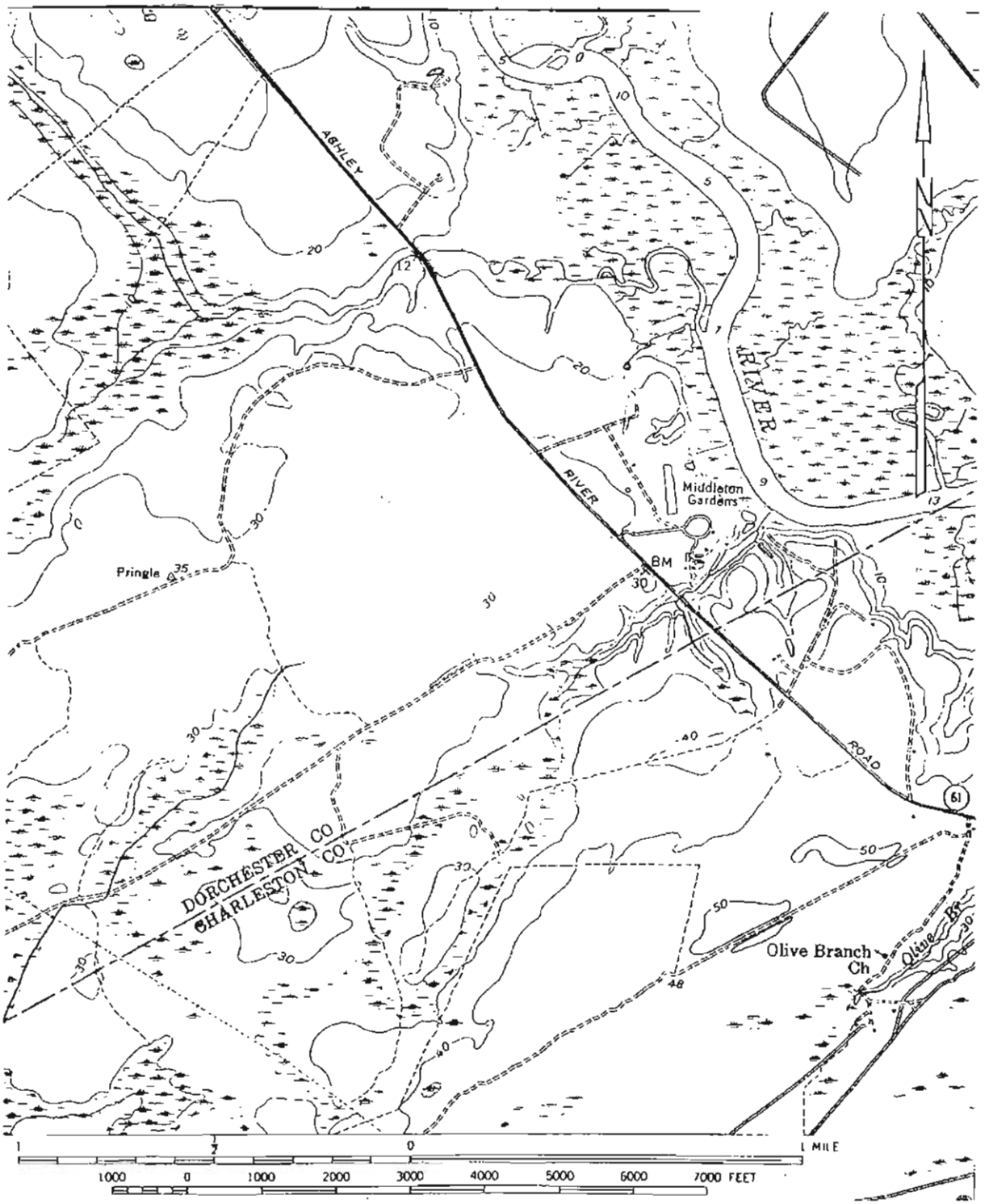


Figure 1. Vicinity of Middleton Place (Stallsville 7.5' USGS, 1957, PR71).

drained Wando sands (Miller 1971:Map 32). In actuality, the soils are more similar to the Wagram series with its loamy clay subsoils.

The mill is situated on a relatively flat terrace at the edge of the marsh overlooking the Ashley River (Figure 2). A tidal pond has been created to the southwest to feed into the raceway, while a more natural, spring fed water source is found to the south. To the west are the "butterfly" ponds and garden area of Middleton Place. The mill pond empties into a tidal slough which appears, superficially, to have been widened and deepen at some point, perhaps for the transport of rice barges to the mill for off-loading. While originally the pond at the end of this slough would have been filled at high tide, only to be emptied at low tide for operation of the mill, it is today stable, the tidal action being stopped at the spillway.

The topography is steeply sloping to the east, where today the elevation quickly ascends about 10 to 15 feet. Photographs from the early twentieth century illustrate tremendous landscape changes, including the reworking of the mill dam and spillway, and the creation (and later abandonment) of a road crossing the spillway. More recently, this area has been cut down about a foot and drainages have been cut in an effort to prevent runoff from entering the mill building (Sidney Fraser, person communication 1993).

The vegetation has been aptly described by Lewis and Hardesty as best being "explained by human interference on the one hand and by wetlands on the other" (Lewis and Hardesty 1979:3). In the vicinity of the mill are a variety of bottomland hardwoods, such as oak, gum, and cypress. In the more upland areas are primarily pines and sweetgums. The marsh slough, of course, is dominated by

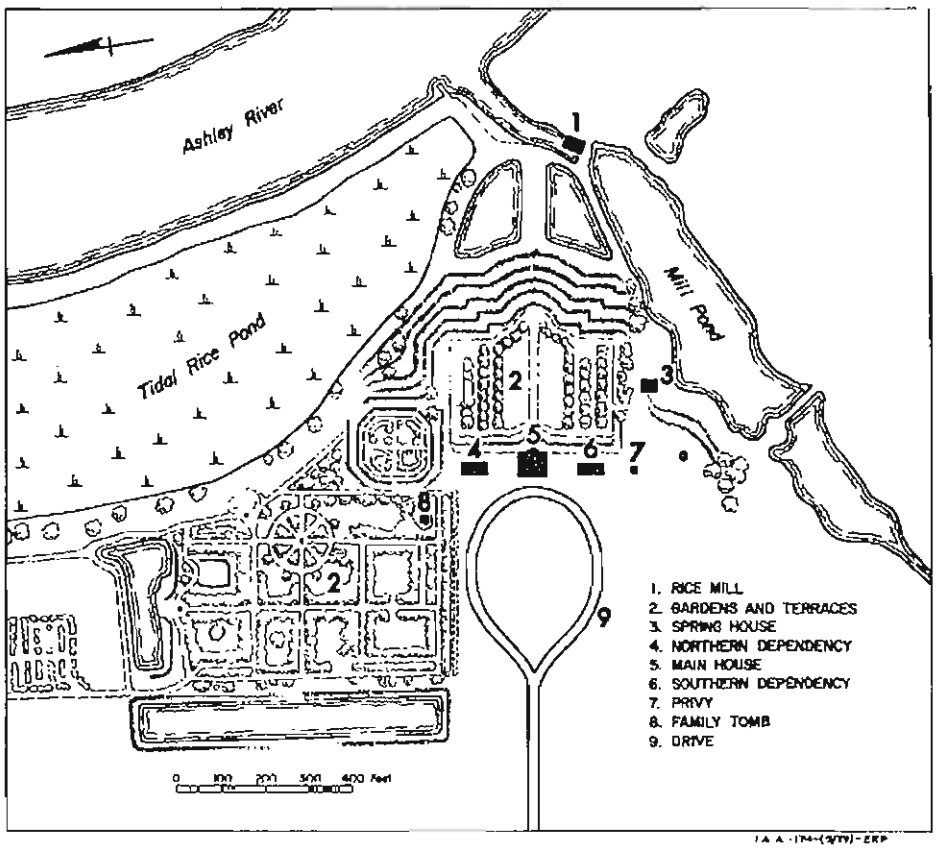


Figure 2. Middleton Place, adapted from Lewis and Hardesty (1979:Figure 4).

salt-tolerant grasses, while the freshwater ponds have a very different vegetation pattern. Most of the public area, however, is heavily manicured and it is difficult to separate original eighteenth and early nineteenth century plantings (such as the camellias introduced in the eighteenth century by the French botanist Andre Michaux and the azaleas introduced in the nineteenth century by the Reverend John Grimke-Drayton) from the extensive revisionist gardening efforts of the early twentieth century.

Climate in this part of South Carolina can be characterized as mild, with a well distributed rainfall -- features which certainly assisted the development of Middleton's gardens. The summers are subtropical, while the winters often consist of cold damp weather. The growing season is about 266 days, although major droughts are not unusual, occurring twice every 50 years (Kronberg 1971:72-74).

Historical Overview

Brief Synopsis

The only synthesis of Middleton Place history is the brief description offered by Lewis and Hardesty (1979) as an introduction to their testing of the main plantation complex in 1979. As might be expected, their review concentrated on the main settlement, rather than the various out buildings, and consequently offers very little information useful to this study. In addition, it appears that no detailed historic structure report, synthesizing available architectural and historical information, has been prepared. We fortunately had the pleasure of speaking at length with Ms. Barbara Doyle, Middleton Place's archivist. She was kind enough to search through her records, pulling out items that she thought (correctly) might be of interest to our studies. Without her assistance we would have known virtually nothing about the structure or its documented history. Obviously, neither Chicora nor Ms. Doyle represent this work as anything but superficial. There are undoubtedly additional references and accounts of the mill in the vast holdings of Middleton Place and it seems unnecessary to mention that these resources should be carefully reviewed before any additional research efforts are devoted on the mill.

The site of Middleton Place was originally part of a 764 acre Royal grant to Jacob Waight in 1675, although the tract apparently reverted to the Crown since 600 acres were regranted in 1699/1700 to Richard Godfrey. In 1729 the property was passed to John Williams. Williams owned vast tracts of land on the south side of the Ashley, including 825 acres to the west of Godfrey's tract and 200 acres to the east (Smith 1919:116). These 1600 acres were passed by Williams to his daughter, Mary, who in turn married Henry Middleton in 1741 (Smith 1919:118).

Henry Middleton I was both wealthy (owning over 20 plantations totalling 20,000 acres and 800 slaves in South Carolina alone) and politically active. He made his Ashley River estate his principal residence, which some have suggested elevated the plantation out of the category of a working farm, ranking it as a "country villa." Lewis and Hardesty suggest that he modified the existing mansion and built two dependencies in 1755. Relatively little, however, appears to be known about Henry Middleton's activities at the plantation and there seems to be little documented evidence that Middleton was a very active or financially productive plantation during this period.

Henry Middleton died in 1784 and his son, Arthur Middleton II inherited the plantation, retaining it until his death only three years later. Although Lewis and Hardesty observe that relatively little is known about Arthur Middleton II's tenure at the plantation, it seems that his impact would have been, at best, minimal considering his short ownership and busy political life. There is a brief mention of tidal rice being produced at Middleton in 1786 -- offering a tantalizing glimpse of the agricultural history of the tract. Arthur Middleton's inventory reveals the presence of 50 slaves in 1793 (Lewis and Hardesty 1979:11), suggesting that if all were employed in rice production perhaps

as many as 150 acres could have been under cultivation. A 1798 account by the Duke de la Rochefoucault-Liancourt reveals that the out buildings are "capacious" and "calls to recollection the ancient English country seats." And while the garden was beautiful, the "soil is very bad," causing some historians to question the agricultural productivity of the tract (see Lewis and Hardesty 1979:11).

Henry Middleton II, Arthur's heir, obtained the property, although it seems likely that he spent much time on the plantation. His mother, however, continued to reside on the tract. Henry "retired" to the plantation about 1830, dying there in 1846. He left the plantation to his younger son, Williams. Based on the best information currently available, it is during this late antebellum period that the mill was conceived, or at least constructed. For example, a December 15, 1850 letter from Williams Middleton to his sister, Eliza Fisher explained, "I am devoting myself to the completion of my mill and the adjoining bridge." By December 19, 1854 it seems the mill and mill pond was built, as Williams Middleton wrote his brother-in-law, J.F. Fisher, "I have seen my mill pond seven or eight mornings this autumn coated with ice." Beyond these brief comments there seems to be little information. An August 26, 1846 letter from an overseer on a Santee plantation to Middleton requesting information on water wheels and putting up a "tide mill for thrashing" suggests that the Middleton Place mill was tidal and intended for rice, although there is no firm or clear documentary evidence to support this supposition.

If it was a tidal mill it was almost certainly intended to do little more than mill the rice needed on the plantation since it seems unlikely that it could economically compete with the larger mills operating in nearby Charleston. Perhaps the best account of a tidal rice mill, albeit slightly earlier than Middleton's, is that provided in Drayton's 1801 *History of South Carolina*. Using tidal power it was clearly possible to grind the rice, to free the grain from its husk using a common mill stone. Following this procedure a pounding mill was used to "free it from its thick skin." After this it would be screened to separate the marketable rice from the flour and the broken kernels. The former would be packed and shipped to Charleston, while the remainder would typically be used on the plantation.

In February 1865 much of the plantation was burned, although the slave houses located on the hill south of the mill pond were not disturbed (letter quoted in Lewis and Hardesty 1979:13). No mention is apparently made of the mill itself. Following the Civil War, however, Middleton Place sunk into inactivity for several years during which time the tract was rented.

By the late 1860s and early 1870s Williams Middleton had begun rebuilding the plantation. A March 10, 1867 letter from Williams Middleton to Eliza Fisher reveals that he was "endeavoring to put a roof on the walls of the mill, as I must have some shelter for my crop when it comes in." This letter has probably been taken to support a burning of the structure, although reroofing may simply imply decay. Regardless, it seems unlikely that "reroofing" would have been used had there been wholesale damage requiring "rebuilding." Further, the sentence only mentions providing "shelter" for the crop, not actual use of the milling apparatus. These are admittedly subtle observations, but they are, at present, all the evidence we have.

There is an undated item in the Middleton archives, representing a draft contract written by Middleton, which is worthy of extensive quotation:

> The undersigned hereby agrees and undertakes to rebuild & reestablish the brick mill at the foot of the terraces of Mr. Middleton's garden in complete and workmanlike style in finish & solidity in pretty much the same form as it was originally (i.e.) with stair case, doors and windows as before, but changing the roof to a mansard roof shingled and adding two courses of bricks to the height of the walls & adding a trimmer for the joists of the lower floor, the whole of the above work to be finished

> in [blank] weeks from the present date. Mr. M on the other side hereby binds himself upon the fulfillment of the above conditions to pay to the undersigned 2d party of this agreement duly performed the full & just sum -- (Middleton Place Archives, Box 26, Folder 6).

Some have assumed that this paper, associated with at least one other item from 1882, dates from that same year. This is an untested assumption. The handwriting is that of Williams Middleton, although clearly later in his life -- this indicates that the blank agreement was written prior to 1883 (the year of Williams death). It seems unlikely that the contract was to rebuild the mill from Civil War damage, since a clearly dated 1867 letter reveals that only a roof was needed. At some point during the last quarter of the nineteenth century the mill, having fallen in considerable ruin, was rebuilt.

Most important are the construction clues revealed by this letter:

- the original roof was likely either gabled or, more likely given the dimensions of the building, hipped;
- the vast majority of the wood (doors, windows, roof framing) was replaced, leaving little of the original fabric;
- the structure was originally two floors, supporting a milling function (since the grain is typically loaded into the grinding stones from above), but the equipment needed to be largely replaced or refurbished;
- the ground level floor was of joist construction; and
- at least the upper parts of the brick walls were significantly altered.

This information, of course, would take on much greater significance in the context of a historic structure report, but it does provide this study with some baseline information.

In 1884 Lily M. Heyward wrote to her mother, Mrs. Williams Middleton, that the mill raceway "out to be repaired as soon as we can manage it . . . [since] if the wall falls in, we could not cross the creek to Ashley Hall." This is apparently the first indication that the mill and associated mill dam or raceway, also supported a carriage road, much in the same fashion as the one present today, linking Middleton Place with Ashley Hill to the south. An August 24, 1884 letter also mentions "crossing the creek by the old carriage bridge," providing further evidence of the landscape modifications present in the area.

Lewis and Hardesty (1979:19-20) suggest that about 1880 Williams Middleton deserted Middleton Place for upstate, leaving the plantation in a state of relative inactivity. As previously mentioned, Williams died in 1883, leaving the plantation to his wife and two children. The Charleston earthquake occurred on August 31, 1886, causing extensive damage throughout the area. At Middleton we know that the standing ruins of the main house and north dependency were brought down. In addition, the ponds were drained and the terraces were damaged. There is a tremendous amount of material generated by geologists of the period reviewing the earthquake damage and there has been no concerted effort to review these documents for any information which may be present concerning Middleton. A brief review of the notes of Earle Sloan, however, reveal that he visited "Middleton Hall" finding walls "strained apart," "plastering of ceilings severely cracked," "chimneys generally badly damaged," and "cracks in earth." He remarked that the "earth [was] severely disturbed [with] . . . vast numbers of craterlets some being yet active" (Peters and Herrmann 1986:60). It seems clear that the damage would have been extensive, especially to structures (such as the mill) which rested on marl

in tidal areas.

In the twentieth century the property passed from Williams wife, Susan Pringle Middleton to her children, Henry and Elizabeth, in 1900. Henry sold his moitity to Elizabeth, who left the plantation to her husband Julius H. Heyward until his death or remarriage, at which time it would pass to her cousin, J.J. Pringle Smith. Heyward sold the property to Smith in 1916. Smith moved back to the plantation and began efforts to restore the tract. Major efforts apparently occurred in the 1930s (Lewis and Hardesty 1979:20).

The "butterfly" ponds at Middleton were cleaned about 1925 according to a letter dated January 23, 1926 from the Charleston *News and Courier* to J.J. Pringle Smith concerning advertising the plantation. Fortunately this dates the photograph reproduced as Figure 3, which shows the ponds recently cleaned, providing a full view of the west elevation. Clearly shown is the structure with shuttered (not glassed) windows absent fans in the dormer windows and walls absent earthquake rods. Also shown is a narrow cart path along the south elevation, apparently in the area of the spillway for the mill, as well as the remains of the iron wheel rod in the race.

By the late 1920s the building changed character dramatically. A February 26, 1930 Charleston *News and Courier* article reveals that the Junior League had been operating a seasonal tea room out of the rice mill "kindly lent" by Mr. and Mrs. Pringle Smith since 1928. The 1930 article shows a drawing of the mill, with windows, fan lights, and earthquake rods. This drawing is supported by two photographs. The first, Figure 4, reveals all of these details on the north and west elevations, in addition to the improvements to the spillway. Figure 5, showing the east elevation, reveals additional landscaping, as well as the curtains from the tea house operation. Although the 1930 newspaper article mentions a roof of tile, "weathered through many years into beautiful soft tones," it is likely that the

Figure 3. Photograph of the mill from lower terraces, view to the southeast, ca. 1925.

Figure 4. View of the mill from the north bank of the slough toward the southwest, ca. 1928.

Figure 5. View of the mill taken from the carriage road showing the east elevation.

asbestos shingles[1] currently on the structure (and shown in Figures 4 and 5) were mistaken for tiles by a reporter obviously covering the "social circle" of Charleston. The article also mentions that the walls were painted "Nile green," which can still be seen under the peeling paint of the exposed second floor joists and flooring today.

It seems likely that the Smiths, or the Junior League, spent considerable effort preparing the mill for the tea room. It was during this period that the earthquake rods were installed and the windows replaced the earlier shutters. The concrete floor was also laid during this period, apparently replacing the earlier joist floor.

The tea room remained at the mill until 1949, when it was moved into what is today the Middleton Place restaurant that spring. In 1941 Mrs. Louisa T. Rivers of the Junior League wrote Mrs. Smith at Middleton, thanking her "for what you have done to the tea room. The fireplace and the andirons add so much to the charm and comfort." The letter goes on to also mention the presence of a dumbwaiter, apparently to transfer food from the second floor kitchen to the first floor eating area. By 1956 the mill had been converted into a "museum" imaginatively reconstructing a "pioneer" house, complete with spinning wheel and "Brown Bess" over the fireplace (Figure 6).

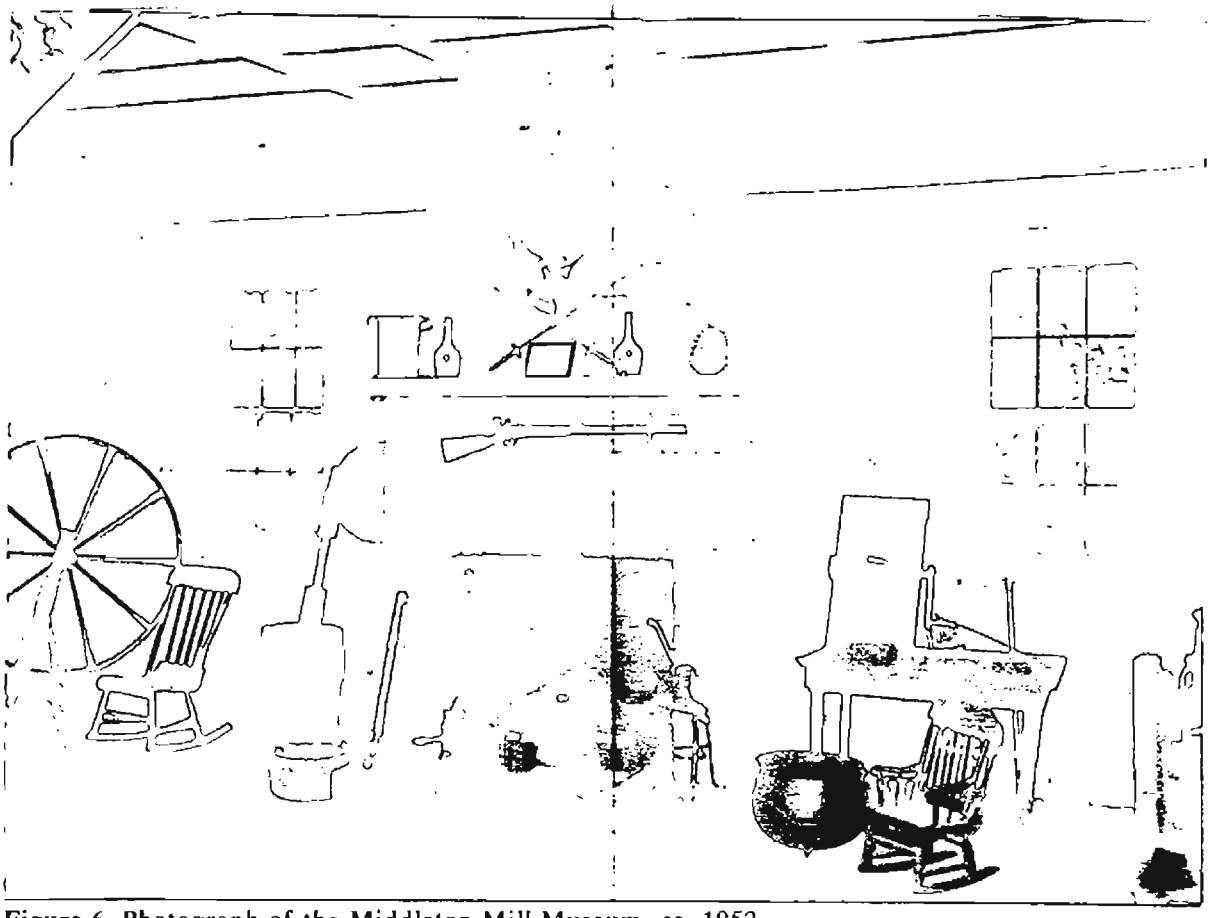


Figure 6. Photograph of the Middleton Mill Museum, ca. 1952.

[1] Asbestos roofing, shingles, and siding were developed after World War I and became widely available in the 1920s and 1930s. It seems likely that the current roof was placed on during the renovations for the tea room.

Summary

This brief synopsis reveals considerable documentary evidence of damage, repair, and modification to the mill. Originally constructed in the decade before the Civil War, the building is clearly a late addition to the Middleton Plantation. There is good evidence that the building was in need of repair after the Civil War, although there is no documentary evidence that it was either burned or destroyed. However, by the 1870s the building had deteriorated to the point that rebuilding was necessary and this probably represents the first **major** rebuild. There was likely damage after the 1886 earthquake, although the Middleton Place records are so far quiet on the extent of the repairs undertaken, although clearly the building was put in some semblance of order by the 1920s, marking the second **major** rebuild. The third episode of **major** alterations came in the late 1920s, when the building was converted to a "tea room."

With episodes of structural renewal and alteration in the 1870s, the late 1880s or early 1890s, and again in the 1920s, it appears that very little of the original building fabric may still exist unaltered. This historical reconstruction is at least partially supported by the physical condition of the structure and evidence of multi-rejointing attempts. Examination of construction details reveal little which appears original, but much which bears evidence of circular saw blade marks, wire nails, and industrial milling.

The historic documentation also reveals that the structure was apparently used as a mill during the late antebellum, but saw a period of inactivity while being used only for storage during the early postbellum. For a brief period in the late postbellum the mill was apparently restored, seeing activity (although it is uncertain what was being milled).

Additional Research

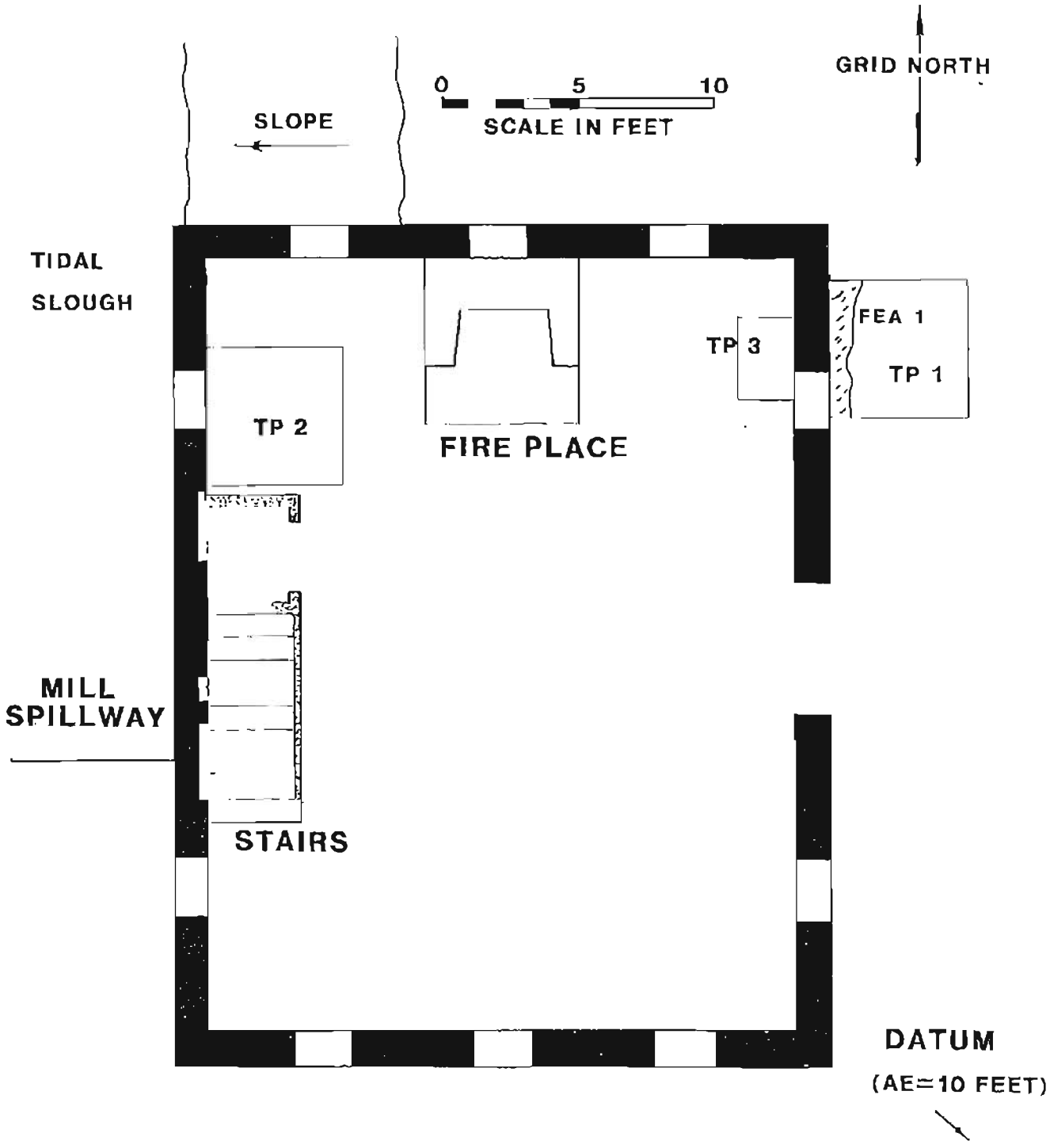
The Middleton Place archives offer a fertile field for additional historic research. Letters with even a brief mention of the mill, or milling operations, would help further our understanding of the building. Letters, receipts, or contracts for the various periods of rebuilding and repair would provide crucial evidence for alterations. Letters outlining the fabrication of the ironwork, or bills of sale to a foundry, would help our interpretation of the industrial component of the site. In addition, more general research on the antebellum and postbellum activities on Middleton Plantation would be useful in understanding the place of this structure, and its possible function, within the broader economic context of plantation activities. Even receipts for milling and processing of rice by Charleston factors in the late antebellum might be taken as evidence that the mill was either not operating, was providing only limited service to Middleton's one plantation, or was being used for grain other than rice.

Excavations

As previously discussed, horizontal control was maintained by reference to the standing structure and is shown in Figure 7. Vertical control was maintained through an assumed elevation (AE) of 10.00 feet established on the south end of the lowest brick stair on the path to Middleton Inn and the garden tour. This point has been marked by red paint. It was not possible for us to tie the current work into previous research which used a 1936 mean sea level datum established by the John McCrady Company since we did not have access to a plan showing that datum.

Test Pit 1

Test Pit 1, as previously mentioned, was located on the exterior of the structure, 2 feet south of the building's northeast corner (Figure 7). This unit was in an area of extensive vegetation, removed by Middleton Place, as well as a ditch paralleling the structure to drain water away from the


GRID NORTH
0
5
10
SCALE IN FEET
SLOPE
TIDAL
SLOUGH
TP 2
FIRE PLACE
TP 3
FEA 1
TP 1
MILL
SPILLWAY
STAIRS
DATUM
(AE=10 FEET)

door opening. Although in retrospect slightly more complex than excavated, a series of two zones (one with two levels) were used to excavate this unit. Zone 1 consisted of mottled brown sand interpreted to represent recent landscape fill and was about 0.6 foot in depth. Underlying Zone 1 was a dark brown to black humic loam excavated as Zone 2, level 1. The excavation revealed this to be fill from a ditch running north-south through the unit. The maximum depth of this fill was 0.9 foot. On either side of the ditch were remnants of the site's original A horizon, removed as Zone 2, level 2 and found to be about 0.8 foot in depth. Underlying the ditch (Zone 2, level 1) and old A horizon (Zone 2, level 2) is firm tan sandy clay subsoil. Against the building, along the western edge of the unit, was found a builder's trench ranging from 0.8 to 1.8 foot in width. Identified as Feature 1, this trench was found to slope toward the building for a depth of 1.1 feet. This profile indicates that the builder's trench was excavated from within the structure and that the wall itself was most likely laid up from the inside. There was no evidence of a spread footer on the exterior of the building.

Zone 1 has a mix of probable nineteenth and twentieth century materials, clearly revealing its origin as fill brought it (or moved from elsewhere on the site) in an effort to channel water away from the building. Zone 2, including the ditch fill and old A horizon contains very sparse nineteenth century remains, with most of the materials representing architectural debris -- window glass, lead (possibly from lead cames), machine cut nails, and brick rubble. Only two ceramics were recovered -- a small fragment of porcelain and an undecorated whiteware. All of the available evidence from this excavation suggests that the structure was built in an area with no previous occupation or use during the mid-nineteenth century -- completely in harmony with the historic evidence suggesting a construction date of ca. 1850. The general lack of refuse around the structure may indicate either a lack of activity or extensive cleaning episodes. The earlier ditch is good evidence that the mill was always bothered by poor siting and flooding.

Test Pit 2

This unit, also 5 feet square, was placed inside the mill, adjacent to the west wall, 3.2 feet south of the northwest corner. The concrete flooring was found to be about 0.15 foot in depth. Absent reinforcement or aggregate this was barely sufficient for flooring and suggests that the efforts were driven by a constrained budget or little building skill. Below the floor was found 0.6 foot of dense clinkers and slag, apparently the spoil from a blacksmith operation, perhaps on the plantation. Designated Zone 1, this is obviously fill brought in to raise and level the floor for the concrete. Curiously, relatively little effort was made to either compact this fill or level it, resulting in a floor with noticeable irregularities. This material was all screened, although the only artifacts recovered were occasional fragments of iron stock or melted metal, also apparently discards from the forging operations. Below this was Zone 2, level 1, about 0.5 to 0.6 foot of lensed tan and white sandy fill. Screening revealed that while occasional nail fragments (all heavily corroded and unidentifiable as to type), the only common artifacts were fossils, indicating that this fill came from somewhere in the immediate vicinity of the Ashley River. Zone 2, level 2 is a continuation of this fill, absent the lensing, for 1.5 feet. About a third of this fill was screened, with decreasing artifacts (excepting fossils). Eventually screening was discontinued. At the base of the unit was a heavily mottled brown to tan clay sloping down to the west, representing the original marsh surface. During the excavations high tide resulted in this unit flooding to a depth of about 0.2 foot.

This unit provided some exceptional construction details, although it was virtually devoid of cultural material. Apparently the building was laid out on the edge, or just within the marsh, with the excavation cutting back into the high ground for walls. The excavations revealed patched joist seatings in the west wall, indicating that originally the floor was spanned east-west by joists to support a wood floor. Given the extensive disturbance to the building fabric it is difficult to reconstruct the original seatings, but they appear to have been 18 to 24 inches on center with a floor level at about 7.00 feet AE.

Figure 8. Test Pit 1, view to the north showing stratigraphy.

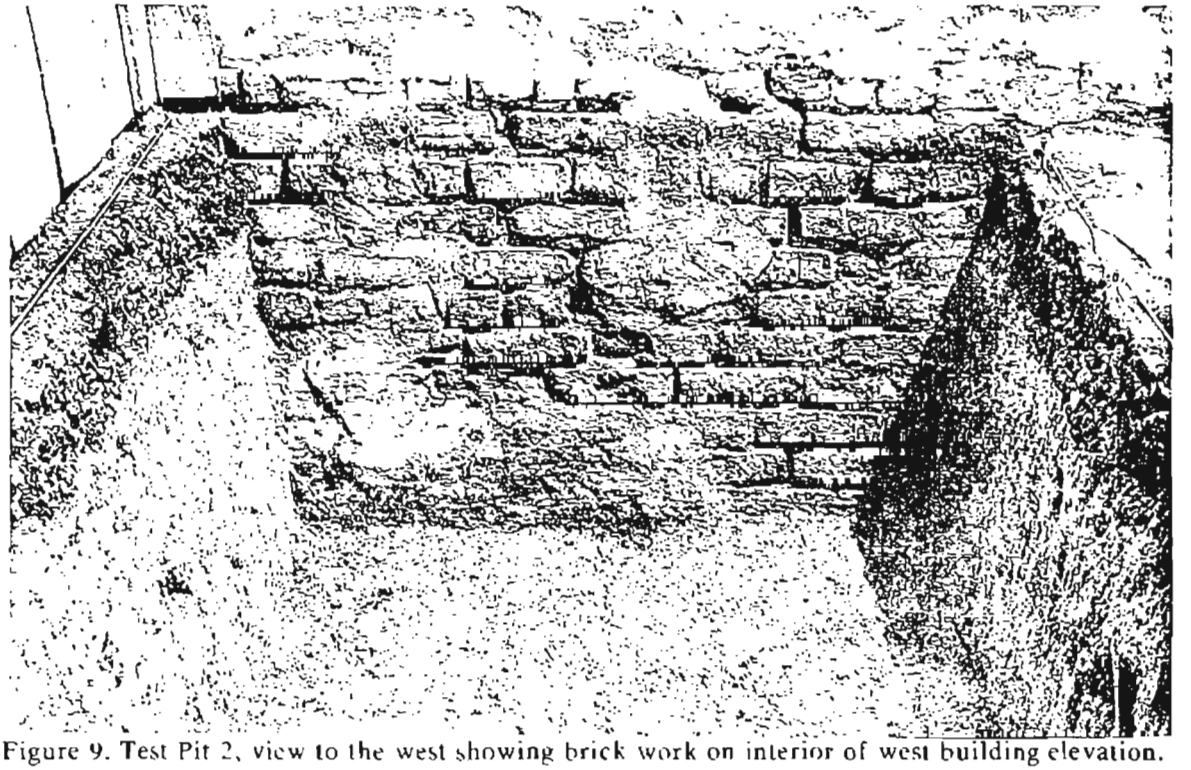


Figure 9. Test Pit 2, view to the west showing brick work on interior of west building elevation.

When the Zone 2 fill was deposited cannot be determined from the current work, although it is clear that both levels 1 and 2 are from the same source and probably represent the same initial deposition episode. The lensing present in Zone 2, level 1 probably represents water movement of the fill. It may be that the fill was placed in the structure after it was constructed and before the floor was laid in. The reason for this, however, is not clear. There seems to be no structural reason for the fill, especially if the walls are well maintained with hydraulic cement. Alternatively the fill may all date from the removal of the wood floor and joists, perhaps in the late 1920s to prepare the mill for use as the "tea room." The fill is so clean that this latter interpretation seems the most likely, but without additional work a more conclusive statement is impossible.

Test Pit 3

Given some of the unanswered questions from Test Pit 2, it was decided to excavate a second unit within the structure. Test Pit 3, measuring 2 feet east-west and 3 feet north-south, was situated on the east wall, 2.15 feet south of the northeast building corner. Excavation revealed that the concrete floor in this area was less than 0.1 foot thick, overlying the same Zone 1 fill found in Test Pit 2. Here, however, the Zone 1 clinkers and slag were only 0.3 foot in depth. Underlying Zone 1 was the Zone 2 fossiliferous tan sand fill. Beginning at an elevation of about 7.15, this zone continued to nearly 6 feet AE, considerably more shallow than that in Test Pit 2 (where it continued to about 4.4 feet AE). This change in elevation indicates the slope from the east to the west. Below Zone 2 was a third zone consisting of 0.7 foot of brown sand and dense building rubble, including brick bats and slate fragments. Zone 3 represents the builder's trench within the structure and revealed that the foundation, terminating at an elevation of 5.40 feet AE, did not have a stepped footer on the interior or exterior. Nor was there, in this area, any noticeable amount of bedding mortar. The east wall of the structure evidenced the same poor repairs covering the original joist seatings.

Like all of the other units artifacts are uncommon and consist almost exclusively of construction materials, such as sparse window glass, occasional nail fragments, brick fragments, and slate. It is likely that the slate recovered from the site, all dark gray-black similar to the Buckingham slates from Virginia, represents the earliest roof for the structure.

This unit confirmed much of the information developed in Test Pit 2, including the presence of the wood joist floor and the sequence of filling. Since, in Test Pit 2, the tan sand fill of Zone 2 partially covers the joist repairs it seems likely that this fill episode took place after the removal of the wood floor. If this interpretation is correct then virtually all of the fill within the structure dates from the first quarter of the twentieth century. The only soil zone likely to provide information on the structure is Zone 3 (representing building rubble) and possibly an interface between Zone 2 and the clay subsoil.

Synthesis

These excavations, while producing very low densities of artifacts, were very valuable at better documenting the nature of the site and its construction episodes. Some of the major findings have already been mentioned and will only be briefly recounted.

The structure was likely built in the late antebellum, based on the single recovered whiteware ceramic. More importantly, these excavations reveal that this particular portion of the plantation had not been previously used during the eighteenth or early nineteenth centuries (or at least had not been used for any activity leaving behind archaeological remains). It was, in effect, a virgin area of the plantation, although carefully located to take advantage of what was probably a pre-existing slough. Although these studies did not conduct any research in the vicinity of the slough, it has the appearance of being "improved" as part of the overall project. Even today there is evidence at low tide

of log retaining walls and additional brick work which may date to the original use of the building. The widening and deepening of the slough may have allowed it to be used by rice barges delivering crops to the mill.

The mill was located on the very edge of the marsh slough, in much of the same environmental condition as today. The builders apparently excavated into the side of the slope down to the slough for the construction of the walls, with the brick work being done from the structure's interior. This original work, even below grade evidences generally good workmanship. Joists, perhaps about 3 by 6 inches, were built into the east and west walls (minimizing their span) of the structure every 18 to 24 inches on center, at an elevation of about 7 feet AE.

Unfortunately, the excavations revealed little concerning the function of the building, although the revealed construction details can allow some inferences. Artifacts are uniformly sparse both inside and outside the building. This, however, is not surprising given the extensive post-depositional disturbances (erosion, ditching, and filling on the outside, and eventual filling on the inside) and the nature of industrial sites. As discussed below, it is more likely that archaeological research can reveal significant details of the industrial function through large scale excavation of the structure interior.

Examination of the brick work on the exposed portions of the below grade east and west walls reveals the extensive reworking which the building has suffered. It seems clear that little of the original fabric remains except below grade. Below grade it is possible to distinguish original workmanship from later repairs, repointing, and replacement. In fact, it appears that much of the above grade brick work may be reworked when compared to that below grade.

The investigations also clearly indicate that sometime late in the building's history, probably during the early 1920s, the wooden floor, already decayed, was removed and a large quantity of fill was placed in the building to support a rather thin concrete floor, raised above the original by perhaps as much as 0.5 foot.

Artifacts

As previously discussed, the artifacts recovered from these excavations are sparse, consisting primarily of materials incorporated in the posited early twentieth fill brought into the structure or architectural materials dating from the various repair episodes. Diagnostic materials, suitable either for dating of various zones or gross dating of construction and/or repairs, are not present. Only one dateable ceramic was found in the excavations -- a plain whiteware ceramic. Metal artifacts, such as nails and spikes, which are present are highly corroded and offer, even after conservation treatments, little if any additional information. Window glass, not surprisingly indicates at least two episodes of replacement, with some specimens being relatively modern and others clearly representing nineteenth century material.

It is perhaps worthy of mention that while there were some materials (primarily lead and glass) which evidenced some fire, we failed to find indications of a major, destructive fire. This would refute the idea that the mill was burned during the Civil War. The evidence indicates that if there was a fire, it was of a very limited nature, doing relatively little damage to the building. These conclusions, like others presented here, are drawn from a small and biased sample of the total building site and must be interpreted cautiously.

These materials will be cataloged and curated at Middleton Place Foundation as soon as a cataloging system is devised. Lacking diagnostic materials, conservation treatments will be undertaken on only a very few specimens, with most unidentifiable metal being discarded.

Summary and Recommendations

Returning for a moment to the underlying goals of this project, the reader will recall that one was to insure that the stabilization work proposed would not destroy significant archaeological remains. Another goal was to better understand construction details and episodes of the mill. Both have been accomplished.

Analysis of the Potential of Stabilization to Damage Significant Remains

Significance means many things to many people. To some it means unique, rare, and spectacular. To others it means esoteric research, perhaps into the ordinary and everyday. In terms of artifacts, it seems unlikely that the proposed stabilization, within and around the structure on high ground[2], will cause any major loss in either objects or information. **There may, however, be exceptions.** Most notably, **there may be archaeological materials of significance found associated with either the Zone 3 building rubble deposits or at the Zone 2/subsoil interface. Both of these areas may be destroyed during the proposed work within the mill.**

It was not possible, within the limitations of funding on this project to open additional areas to explore the extent of these deposits. At the present time we are basing our judgements on a 5% sample of the structure interior. This is an adequate sample to observe that there is a good likelihood of finding additional material, but not sufficiently adequate to predict more precisely the value of that material. Perhaps more important than the size of the sample, is its placement. Both units were placed against the structure wall, in order to answer a variety of questions. This, unfortunately, serves to bias the sample, since we failed to explore the central areas of the buildings and these are precisely the areas most likely to contain evidence (if it exists) of the industrial activities present on site.

While not precisely an artifact in the traditional sense, the excavations reveal that the building itself can contribute much significant information concerning its construction and use. For example, the presence of the joist seatings, the presence of old hydraulic cement on the interior of the walls, and the distinction between original brickwork and later repairs). **This information, however, is likely to be damaged or destroyed in the process of the stabilization.** The loss of this information, relating to the original building fabric and its use, would be tragic.

Ability of the Structure to Contribute Additional Details Regarding Function and History

The previous discussions have outlined two areas where additional archaeological research may be able to make contributions to our understanding of this particular building, its place in the history of Middleton Plantation, and its place in the techno-functional history of rice production along the South Carolina coast. Archaeological research expanded into additional areas of the structure interior may be able to isolate evidence of the industrial nature of the structure. This evidence may include differential joist placement on the east and west walls to carry heavier loads, the existence of additional load bearing foundation wall segments, differential areas of compaction, or areas of differing artifact concentrations in either Zone 3 or the Zone 2/subsoil interface.

For such work to be successful, it will be necessary to excavate most, if not all of the structure interior. This is based on extensive work at other industrial sites and a recognition of the complexities

[2] This statement is qualified as applying **only to the high ground areas** since we have not yet examined in the slough areas to be exposed later in the project.

they present. It is simply not possible to "sample" such sites and arrive at anything approaching a reasonable understanding of their organization. This need, however, is not particularly arduous at the mill since the building incorporates only 600 square feet (the equivalent of 6 ten foot units).

In addition, the work would require the complete exposure of the various interior walls, which may require assessment by a structural engineer. This would allow the recordation of brick work patterns, exposure of cement stucco areas, and examination of joist seatings -- all features which will be destroyed by the proposed stabilization. This work, either conducted or reviewed by an architectural conservator, is likely to assist in a much better understanding of the site's "structural history."

Recommendations

Obviously, the mill has the potential to address many more questions -- some of rather limited research interest and some of larger regional interest. Further, the realization that there are structural details below ground, associated with original building fabric, raise additional ethical questions regarding how the structure should be treated as an object undergoing what is basically emergency conservation treatment. It seems that the standard should be "to do no harm[3]," which would require careful recordation of materials being exposed.

With this new information in hand, it seems appropriate to re-evaluate the proposed stabilization and develop mechanisms to incorporate additional archaeological research and architectural conservation concerns into the program. It may be possible, for example, to adopt an approach to stabilization which will avoid the need to excavate within the structure. This would avoid damage to the archaeological and architectural remains and, therefore, avoid the need for additional archaeological research and archtiectural recordation. The draw-back to this approach is that it will not contribute additional information on structure function and construction; this may, however, be an acceptable trade-off if cost is a primary concern.

In contrast, additional archaeological excavation would allow better examination of structure function and content, while also allowing further architectural conservation and recordation of below grade work. Such work is likely to allow a better, and more accurate, interpretation of the building and its history. This approach, however, will be more costly since it involves both the expense of archaeologists and an architectural conservator.

Obviously a number of complex issues are involved, involving the needs of the client, the requirements of federal and state permits, the ethics of conservation, and the costs of various approaches. It is our experience that "the easy answer is often neither the right one nor the cheapest one," and it seems likely that further review and consideration of alternatives may result in a solution which satifies most, if not all, of the needs involved. The Middleton Place mill is a unique archaeological and architectural site is certainly worthy of the best possible protection and investigation.

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[3] One discussion of this topic is provided by Ian Bristow in "An Introduction to the Restoration, Conservation and Repair of Stone," in Ashurst and Dimes' *Conservation of Building and Decorative Stone*. What are known as the Ellis's Principles in England follow this same general line (for example, "no process of repair shall be allowed top remove, diminish or obscure . . . value as evidence"). The American Institute for Conservation sets forth similar concerns in their Code of Ethics, while returning to buildings Gersil Newmark Kay's 1992 work *Mechanical and Electrical Systems for Historic Buildings* offers nearly identical advice.

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