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AMBLER HOUSE RUIN,

JAMESTOWN ISLAND.

By: Thor Borresen
October 4, 1939

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National Park Service
Southeast Regional Office

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
COLONIAL NATIONAL HISTORICAL PARK

OFFICE OF THE SUPERINTENDENT

YORKTOWN, VIRGINIA

October 4, 1939.

Memorandum for Superintendent Cox:

Having thoroughly examined the present condition of the Kabler House remains on Jamestown Island, according to your memorandum of July 20 to Project Superintendent VanDervoort, the accompanying plans have been prepared. You will note that the drawings have been prepared on a much larger scale and are more detailed than first contemplated.

The original plan during the first conference on July 17, at which were present Superintendent Cox, Senior Foreman (Engineer) Farthing, and the writer, called for temporary shoring in order to safeguard the men while archeological work was carried out near the present remains. Inquiry was made of Archeologist-in-Charge Harrington as to the approximate time it would require for his archeological examination, and being informed that due to the present program it might be several years, it was apparent that temporary wooden shores would not be satisfactory because of the length of time such repair would have to remain.

A letter, dated July 26, from Assistant Regional Director E. H. Lisle, advised against a "design-as-you-go" basis of construction, and suggested that preservation plans be carefully studied and prepared to provide unquestionable protection during

any archaeological work which might have to be done close to the building. This advice necessitated confining most of our construction and supports to the inside of the ruins.

In a conference held in the Superintendent's Office on July 31, at which were present Superintendent Cox, Resident Landscape Architect Wilhelm, Senior Foreman (Engineer) Farthing, and the writer, all these questions were considered. Mr. Wilhelm's suggestion was that a complete drawing of the structure in its present condition be made, in conjunction with the suggested repairs, even though this would require a greater amount of work. It was decided that I prepare the plans, subject to the approval of the Engineering Division, and that Mr. Wilhelm's assistant, Senior Landscape Foreman Joseph Thomas do all the tracing, plus the preparation of other architectural features which might be of interest to the Branch of Plans and Design. This arrangement has been carried out during the entire preparation of drawings and report.

The writer has no knowledge of any historical report on the Ambler House. There is none in the Jamestown or Yorktown files; neither has the writer taken time at present to do any research on the subject. The remarks which are made concerning different periods of construction are based entirely on what exists of the present remains. The building gives evidence of having gone through at least three construction periods, which may be classified as:

original; restoration; and modernization. The original construction appears to have taken place between 1750 and 1780; the restoration any time after this period (it follows closely to the original lines, a few changes having been made in the placing and spacing of floor joists, window lintels and sills; but the dimensions of timbers remain the same); the modernization must have taken place some time after 1880, as indicated by material used, both brick and lumber.

The Ambler House ruins being the third physical object on the island dating back to earlier generations, (the first, the old church tower; the second, several tombstones), and as it is our intention to protect and preserve the present remains, I would like to suggest that its story be recorded and a report written thereon so that correct information can be given to those who may make inquiry about its history. At present there are several opinions as to its original date. My statement previously made that it was built between 1750 and 1780 is based entirely on a study of the ruins, the material, and construction; it is not backed by any documentary proof.

The entire planning for the preservation of the present structure is based on permanent construction. All the work has been confined to the interior, with the exception of several iron plates, bolts, and nuts which have to extend through the wall. They have, however, been made as small as possible, so as not to destroy or deface the exterior.

Much of the contemplated work may seem to be rather heavily designed construction. This is not due to choice, but economy. We have on hand a large quantity of 1 inch, round, and 1 1/4 inch, square, iron rods that we wish to use. The shackles and clevises have been designed so that they can be made in our own GGC blacksmith shops. In fact, only a small part of the iron work needs to be done by skilled labor.

The plans forwarded with this report numbered NHP COL 10017, Sheets 1 to 6, have been prepared by the Historical Division, with the cooperation of the Branch of Plans and Design. The plans numbered NHP COL 2088, Sheets 1 and 2, have been prepared by the Branch of Plans and Design exclusively, under the supervision of Resident Landscape Architect Wilhelm, and are complete architectural details of various floor levels.

Following are explanatory details and method of treatment of each sheet prepared by the Historical Division:

DRAWING NHP COL 10017

Sheet 1 of 6:

The floor plan taken at the water table level, used here as an assembly sheet for the location of each segment represented on each of the other plans. Only the dimensions of the architectural features directly connected with the proposed reinforcement are placed hereon, leaving all the architectural dimensions to be placed on the plans prepared by the Branch of Plans and Design

(see Drawing NRP COL 2066, Sheets 1 and 2). It will be noted that the entire back wall and the extreme rear section of both east and west walls have fallen in down to the grade level, together with the two short sections of the partition walls. The main foundations as shown on the basement elevation are in excellent condition and quite substantial. But the partition walls extend only one and one-half bricks below the basement floor. Under the foundation of the two front partition walls marked Segment "D" will be placed one concrete support, as shown on Sheet 2 of 6. No excavation was made to examine the foundations under the chimneys, as their present condition would not permit doing so. However, this can be done after all shoring has been completed. The basement floor is made of excellent concrete and is part of the modernization. It is 1 inch thick, laid on a 3 inch cushion of sand.

The entire exterior dimension of the building measures 66 feet 7 1/2 inches by 39 feet 7 inches. All the elevations marked on the drawings are taken from an assumed elevation on the northeast corner of the building, at 10.00. The actual elevation above mean low tide at the same point is 14.26, but this figure was not available at the time the drawings were being made.

Sheet 2 of 6:

The front, or south, elevation in its present condition. During the modernization, the entire building was covered with a coating of cement plaster lined to represent stone. However, a large part of this material has now fallen off. The only part

which is still entirely covered is the section from the water table to the grade level.

To support the entire front, and to prevent the ends from separating, thus destroying the space between each of the windows, it is planned to place on the second floor level close behind the front wall a tie rod that will extend across the entire width of the building. Two U braces or clamps have been designed to tie the two partition walls to the front, with only a 9 inch by 9 inch plate and the ends of the bolts and nuts showing on the exterior surface of the building. (For detail see Sheet 5 of 6; for tying, Segments "C", "D", "E" and "F".) The window shown in segment "E" is the only one which still retains the complete arch in front of the lintel. (The lintels consisted of one 3 inch by 12 inch timber laid on the flat surface.)

During the fire which destroyed the building, these lintels, were, of course, destroyed. Consequently, the stone which rested on the wooden lintel has since fallen to the ground, leaving the entire back of the arch one single tier of bricks. To protect this arch and the wall column between the two windows, considerable work is involved, (see Sheet 5 of 6 for detail of this treatment).

Sheet 3 of 6:

The northeast chimney and wall, Segments "H" and "I".
The chimney stands entirely separated from the rest of the building.

The wall Segment "H" is connected with the corner wall Segment "G" by four single courses of brick (see elevation). That both the wall and its foundation must be pretty sound is indicated by these four courses. Photographs taken of the building four years ago show the same four courses, ample evidence that very little vibration exists in this wall. The partition wall between the northeast wall and the chimney was removed during the modernization, together with 12 inches of the chimney, leaving only one course of bricks between the plaster line and flue. Presumably an arch was constructed between the two rooms. As can be seen, the 12 inch cut in the chimney did not extend to the full height of the first floor. A partition wall was then constructed from the basement to the under side of the first floor joist. On the west side of this same chimney (see Sheet 3 of 6, Sections "R-R" and "Q-Q"), an extra flue was cut partly in the partition wall and partly into the chimney, with the flue eventually turning into the main part of the chimney. This was probably done for the purpose of placing a stove in the basement. In order to support the wall and the chimney a truss was designed to tie the two units together and make them self-supporting (see Section "P-P"). The four angular rods will be placed on the west side of the chimney to prevent any side sway. They are good, sturdy 1 inch round rods, their initial tension placed at zero, to prevent any undue strain or pull. (For details of the truss see Sheet 5 of 6, detail Segments "H" and "I".)

Sheet 4 of 6:

The proposed treatment of the northwest chimney and main wall, Segments "A" and "J". Both the chimney and wall are in an unsafe condition. The chimney has deteriorated considerably where the first floor joists rested. This was due to the numerous cuts into the face of the wall for placing the ends of the joists. Three changes are to be made: the first two had joists of 8 inches by 9 inches and the third of 2 inches by 10 inches. This condition exists on both the north and south sides of the chimney. In some places, especially in the section where the fireplace is built (see Section "U-U"), the deterioration extends clear through. This condition also exists in the partition wall between the chimney and wall. (Segment "A" and Section "Y-V"). No attempt was made to fill in the old cuts when new ones were made.

It will be necessary to construct some supports to prevent any rocking or weaving action in high winds. To construct these supports, or cradles, we have proposed brick piers, made of common brick instead of any type of restoration. In other words, we want to make it obvious that the piers are constructed purely for the purpose of supporting the old walls.

The wall Segment "A" is already leaning at a slight angle; it is 5 1/16th inches out of plumb (see Sections "T-T" and "U-U"). Part of the partition on the second floor was removed

to install a doorway between the two rooms. That, and the deep basement stairwell cut on the exterior in the course of this, are in part responsible for the movement of the wall. We have proposed placing a spacer between the wall and the chimney, then using channel irons and tie bolts to hold the wall. Only an initial pull will be placed on the rods. No effort will be made to pull the wall back into line. The depth of the chimney east and west, together with the four angular braces, ought to be ample support to hold any strain which may develop from any further weakening of this wall.

Another small chimney was erected at some later date on the east side of the older one, the purpose of which is not apparent. There are no outlets on any part of the existing remains, unless they might have been where a few bricks are at present missing. (For details of the iron work see Sheet 5 of 6, Segments "J" and "A".)

The concrete anchor block for holding the angular rods or stays is 2 feet 6 inches by 2 feet 6 inches by 3 feet deep, set flush with the present concrete floor.

Sheets 5 of 6 and 6 of 6:

Large scale detail drawings which are referred to by marginal notes on the other four drawings. There is one feature detailed on Sheet 6 of 6 which appears on none of the other draw-

ings, and that is the method of treating the top of the present walls in order to prevent any further erosion. Now, the top bricks are loose, making it necessary to remove either three or four courses, in order to get down to the solid wall. The cap shown on the drawing is only usable where a comparative straight line can be followed. The two small reinforce rods are only there to prevent pieces from falling out when breaks in the cap occur. Wherever this type of cap cannot be used, the joints should be filled flush with cement mortar and a good coating of water proffing material placed over the cement.

In placing the structural support on the present building a considerable quantity of timber shoring will be needed, due to the condition of the walls. They must be shored temporarily before the scaffolding can be placed and drilling of holes commenced. All drilling ought to be done by hand to prevent any undue vibration, which often results by the use of a power drill.

One of the largest and most expensive jobs will be to prevent further erosion in the brickwork, especially on the inside, above and below the windows, and to stop further loosening of bricks in the various holes cut for floor joists, etc. This is necessary in order to keep the section between the windows from falling out, also to prevent the walls from being undermined at the floor levels. Photographs #'s 11, 12, 13, 19, 27, 28, and 29 give a

fairly good idea of the damage time has caused in these areas. It would be inadvisable to fill in any of the existing holes with brick. Cleaning out all loose mortar and replacing it with a good cement mortar will in most cases arrest any further deterioration. There may be some isolated places where a brick may have to be replaced, but it should not be made a general practise. There are also several places on the vertical walls and edges which need attention.

At present there is a considerable amount of debris covering the entire floor area, as a result of the caved-in walls. I suggest that this debris remain as it is part of the building. The concrete floor being only one inch thick may have suffered a great deal from the falling walls, and if cleared, may require a considerable amount of repair.

There is a heavy growth of vegetation in the interior among the fallen bricks and mortar. A suitable spray can be procured which will kill all this growth. This is an imperative measure because of the destructive force of the larger roots, which push the bricks and mortar out of place; such treatment is also necessary in the immediate vicinity of the exterior walls.

Large sections of the exterior walls are still covered by the cement plaster placed there to give the effect of a stone building. The whole has been squared off as dimensional trimmed stone, each square measuring 12 inches by 24 inches. This was

put on sometime after the building was constructed, as all joints under the surface have been struck, which would not have been done if built purposely for plaster covering; deep raked joints would then have been used. As this plaster in itself tells a story of the building, though of a later date, I think it should remain, although I do not recommend employing any method of preserving it.

Mr. Farthing, Senior Foreman (Engineer) and Resident Landscape Architect Wilhelm, have been closely associated with the entire planning of the contemplated preservation and I would like to suggest that this report be passed to them for comment before it is forwarded to other branches.

Following these pages, are twenty-nine photographs with explanatory text, and estimated material and work sheets.

Thor Borresen

Thor Borresen,
Junior Park Research Technician.

TB/OLD

cc:

(4 carbons transmitted with
original to Superintendent

Cox)

Historical Division

Mr. Borresen



Photograph #1 - Ambler House, Jamestown Island -
The south (front) wall, and the east wall. This is the
oldest photograph of the Ambler House in our files.

Date: May, 1911.

(CHMP No. 732)



Photograph #2 - Asbler House, Jamestown Island -
Showing the Asbler House in the left hand corner.

Date: June 11, 1934.

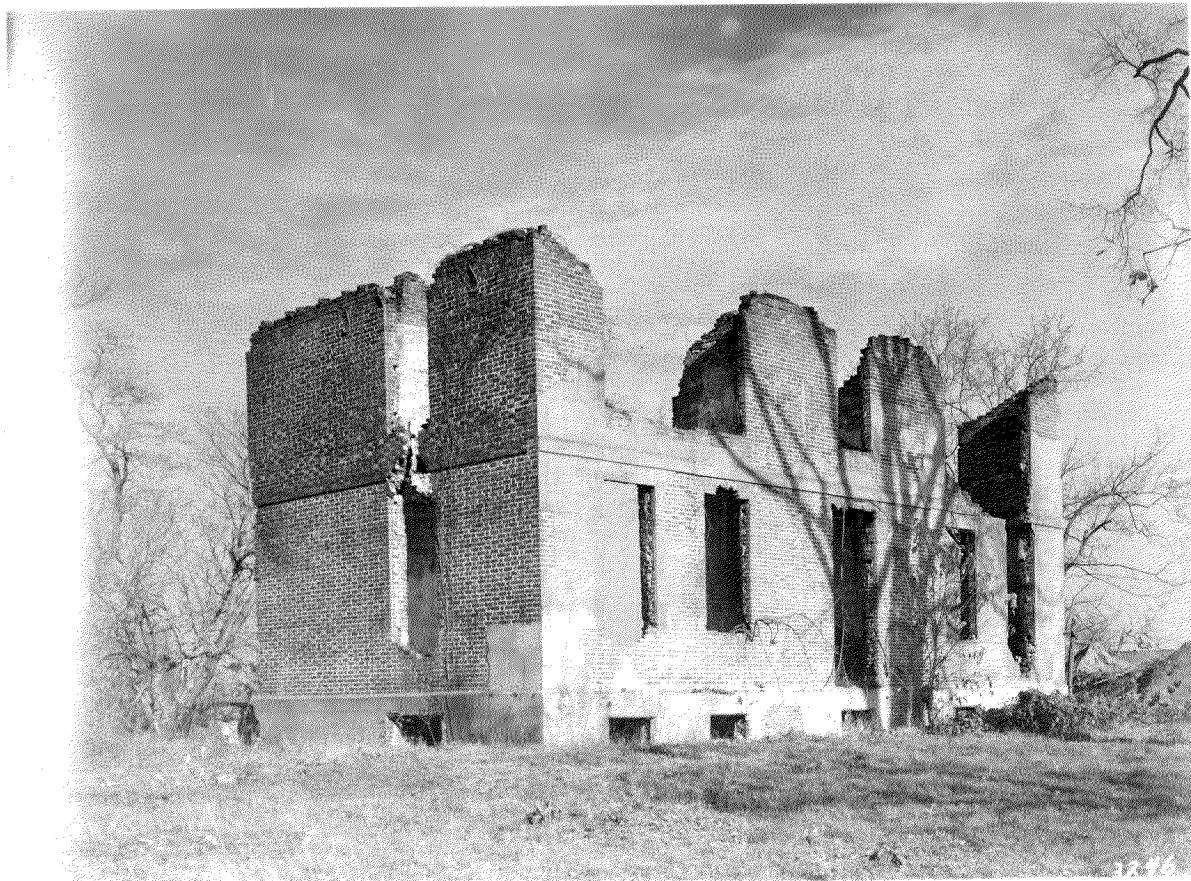
(ONHP #730)



Photograph #3 - Ambler House, Jamestown Island -
South, or front, elevation of building.

Date: November 22, 1938.

(GNHP No. 3247)



Photograph #4 - Ambler House, Jamestown Island -
South (front) wall and southwest end.

Date: November 22, 1935.

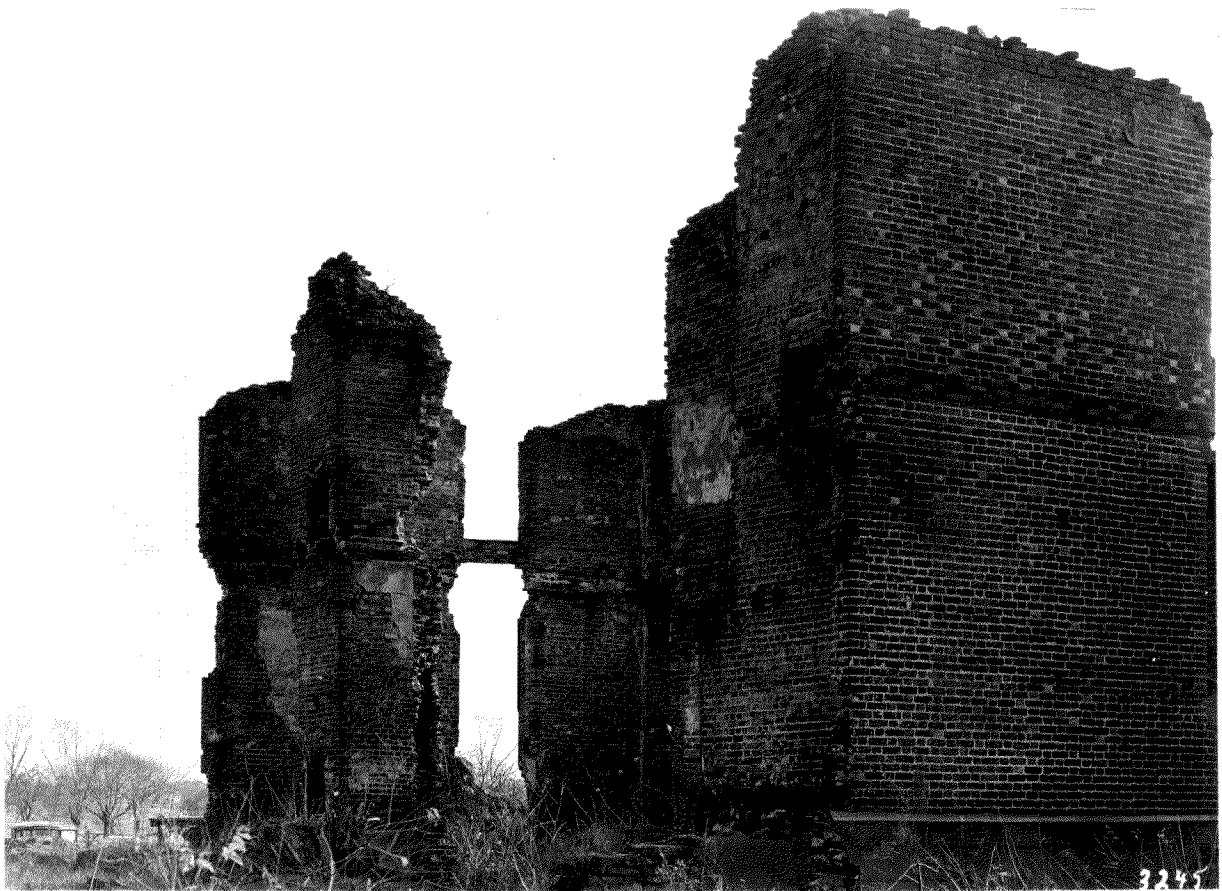
(GNHP No. 3246)



Photograph #8 - Ambler House, Jamestown Island -
East wall. Notice the four and one-half courses of
brick connecting the two sections of wall, and see photo-
graph #1 taken in 1911. The window on the first floor was
made into a doorway during the modernisation.

Date: November 22, 1935.

(CHSP No. 3242)



Photograph #6 - Ambler House, Jamestown Island -
The west wall, showing northeast chimney left of center.
This wall leans $6\frac{1}{16}$ th inches west.

Date: November 22, 1935.

(CHHP #3245)



Photograph #7 - Ambler House, Jamestown Island -
Interior view of rear. Taken from northwest corner.

Date: November 22, 1935.

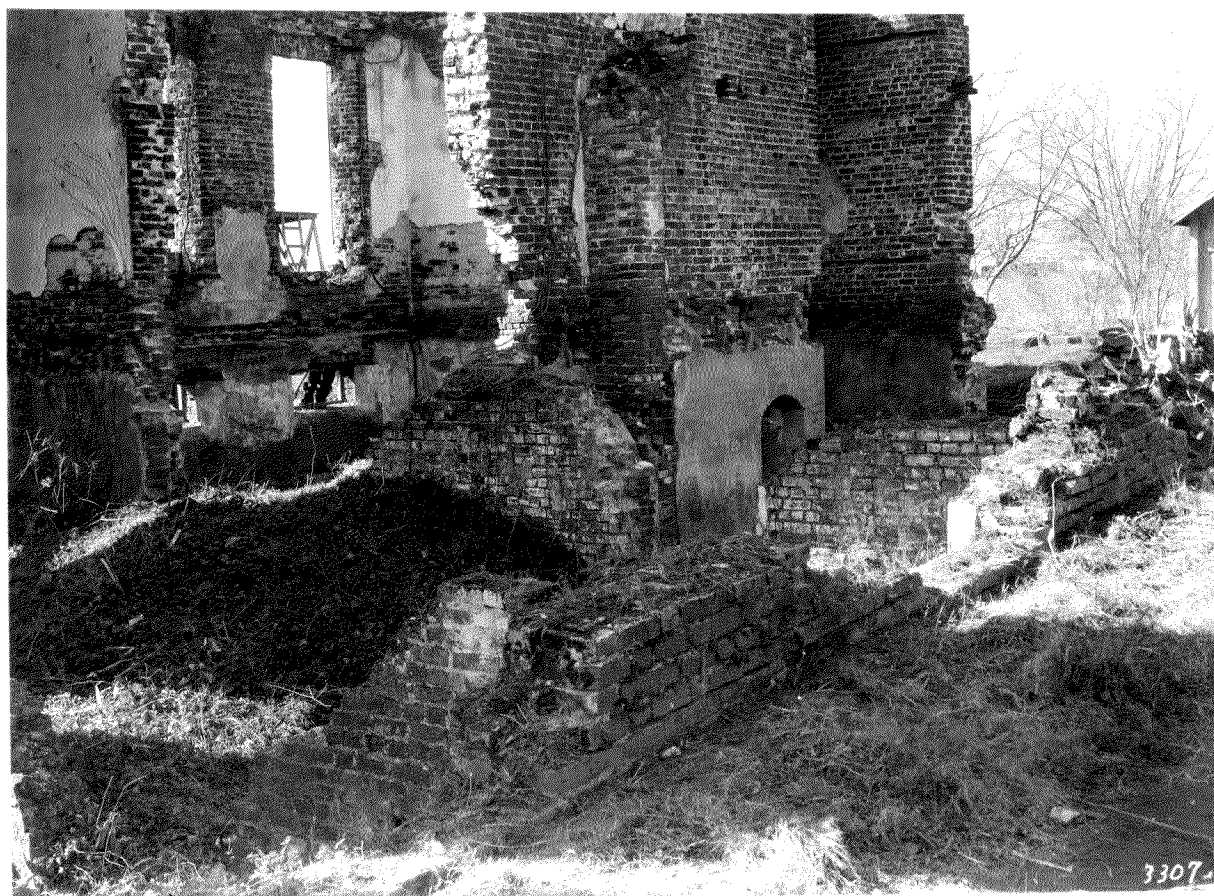
(CHDP #3244)



Photograph #8 - Ambler House, Jamestown Island.
Interior view of rear. Taken from northeast corner.

Date: November 22, 1935

(CHHP #3243)



Photograph #9 - Ambler House, Jamestown Island -
The rear wall in its present condition.

Date: December 6, 1936.

(CHHP No. 3307)



Photograph #10 - Ambler House, Jamestown Island -
Detail of window, showing the cement plaster in imitation
stone effect. For preservation, see Drawing NHP COL 10017,
Sheet 2 of 6, and detail Sheet 6 of 6.

Date: August 8, 1939.

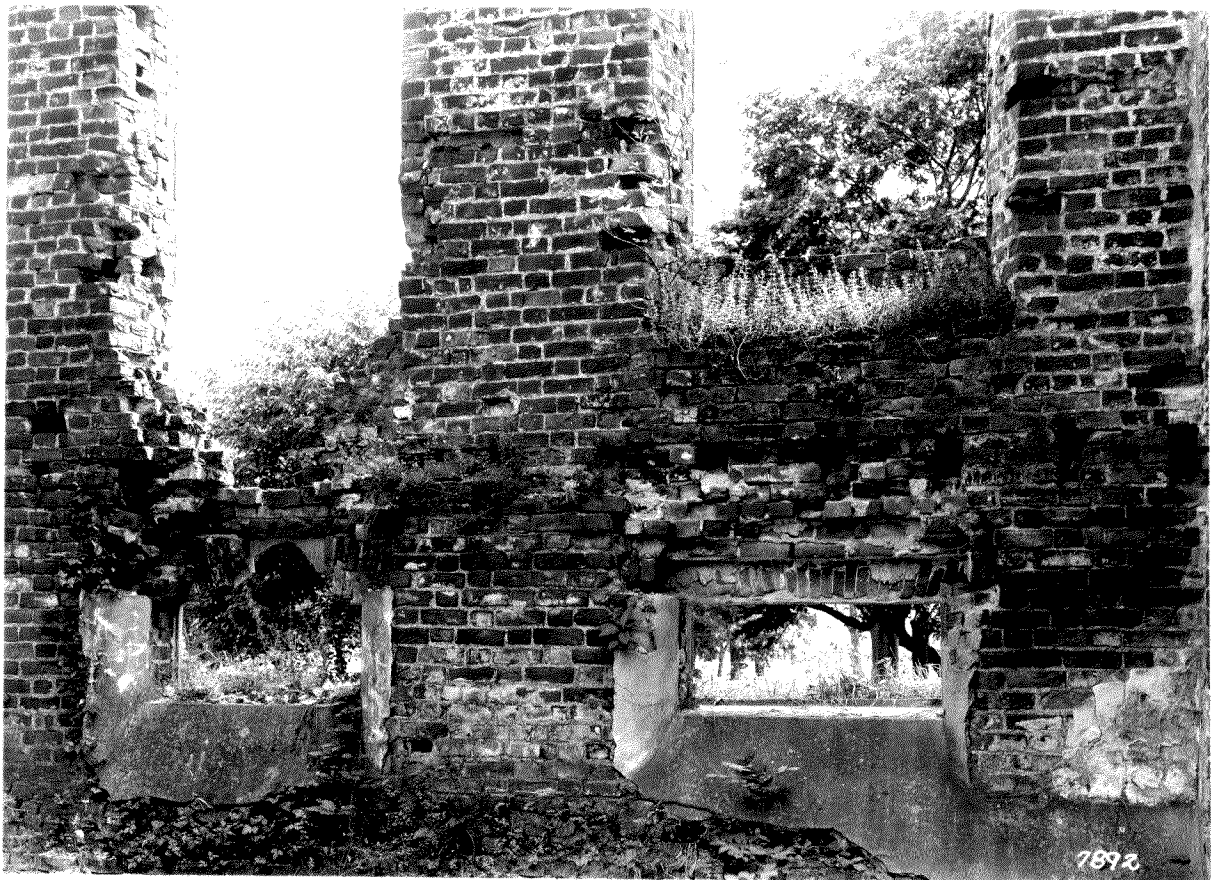
(NHP No. 7690)



Photograph #11 - Ambler House, Jamestown Island -
Interior of window in photograph #10, showing the first
floor joist ledge and basement floor.

Date: November 22, 1936.

(GNHP No. 3252)



Photograph #12 - Ambler House, Jamestown Island -
The same as photograph #11, showing deterioration over a
period of four years.

Date: August 8, 1939.

(CHHP #7692)



Photograph #13 - Ambler House, Jamestown Island -

This is the same window as shown in photographs #'s 10, 11 and 12. Picture taken to show the condition above the first floor window.

Date: November 22, 1935.

(CHHP No. 3248)



Photograph #14 - Ambler House, Jamestown Island -
Detail of arch above the window and the lower part of
the second floor window.

Date: December 6, 1935.

(GNHP No. 3311)

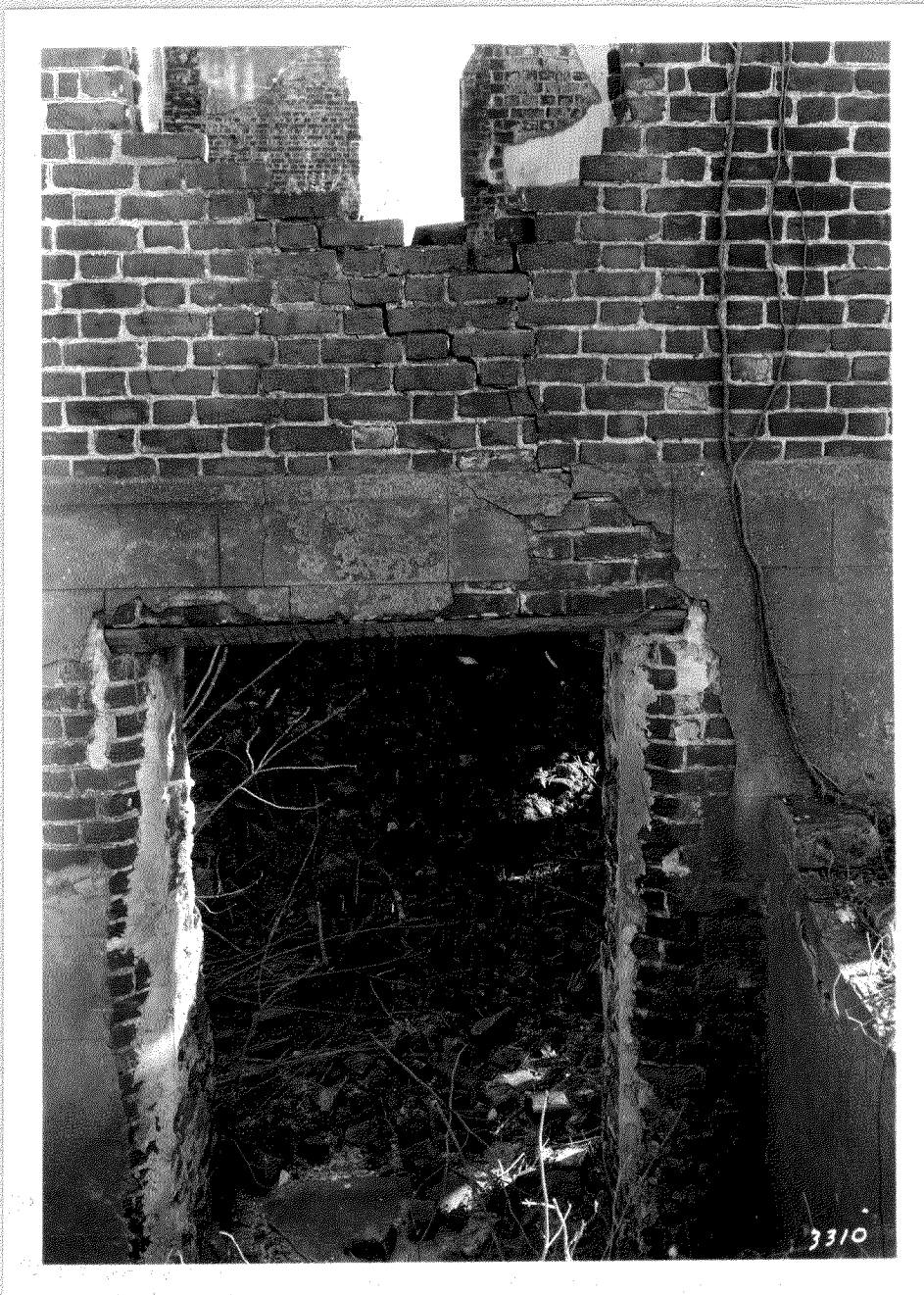


Photograph #15 - Ambler House, Jamestown Island -

What is left of the arch above the main door; also, the detail of brickwork around the window jambs.

Date: December 6, 1936.

(GNHP No. 3312)



Photograph #16 - Ambler House, Jamestown Island -

The basement door in the west end wall, southwest corner. Shows bricks cut in order to form a round corner for the door jamb. Note 3 inch by 22 inch oak header which existed above all basement doors. This lintel or header was placed behind the arch of doors and windows on the main floors.

Date: December 6, 1935.

(CHSP No. 3310)



Photograph #17 - Ambler House, Jamestown Island -
Steps leading down into the basement on the west side of
building. The doorway showing is the basement door at the
northwest corner of the building.

Date: December 6, 1938.

(CHRP No. 3309)



Photograph #18 - Ashler House, Jamestown Island -

The interior at the first floor level. Taken at the central hallway. Notice deterioration where floor joists were inserted into the wall; the first set of floor joists ran north and south, the second, east and west. Imprints of ends of joists left in the plaster show a 3 inch by 9 inch joist was used.

Date: November 22, 1935.

(CWHF No. 3251)



Photograph #19 - Ambler House, Jamestown Island -

Another photograph showing the deterioration which has taken place. Where floor joists were formerly located; the original holes were only 3 inches by 9 inches x 4 inches. It also shows how bricks have been cut to permit rounding corners of window jambs for the basement windows. This cutting of brick happened at a later date.

Date: November 22, 1936.

(CWEP No. 3253)

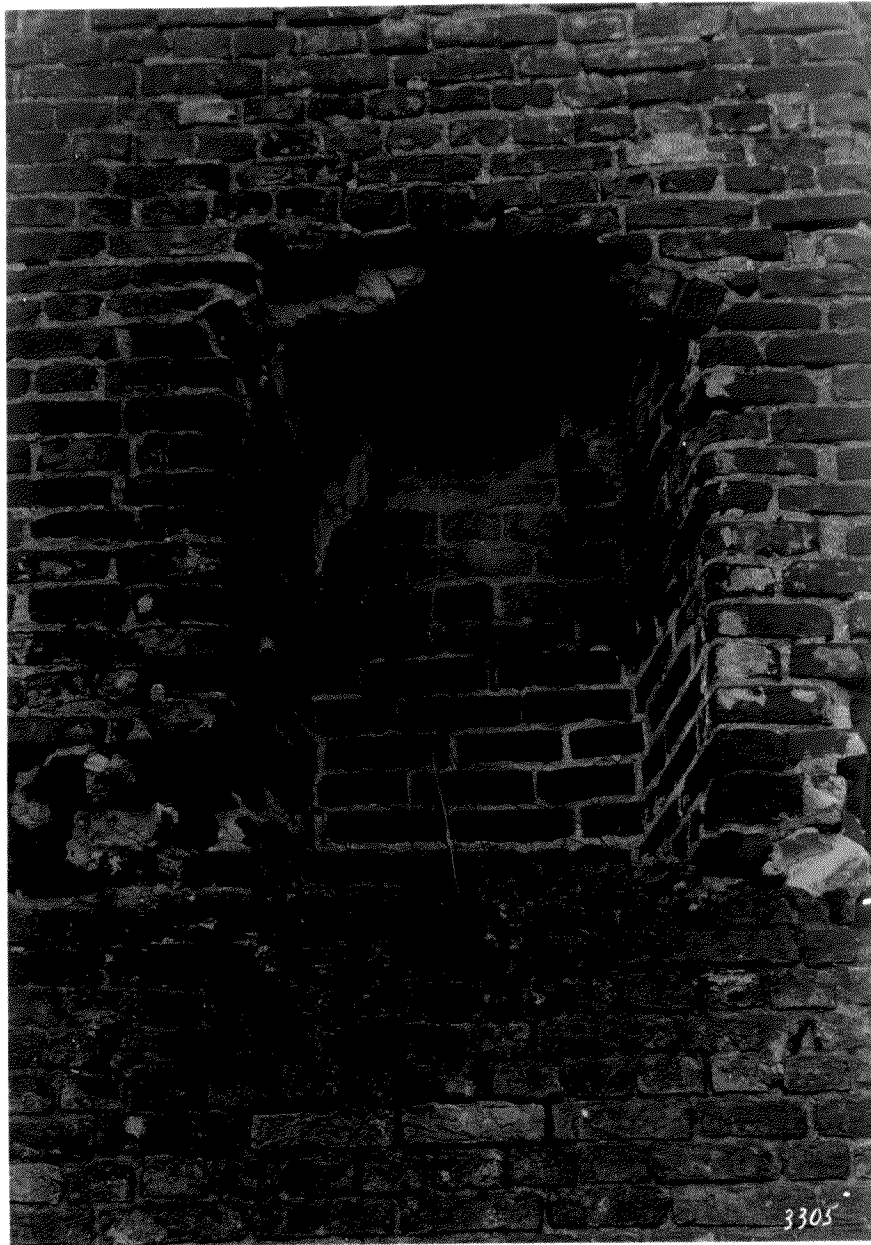


Photograph #20 - Ambler House, Jamestown Island -

The northeast chimney. This photograph shows how nearly 12 inches of the chimney was removed to permit a wider opening between the two rooms. A door was also cut through at the second floor.

Date: August 16, 1939.

(CNHP No. 7908)



Photograph #21 - Abler House, Jamestown Island -
Second floor fireplace, northeast chimney. Note deterioration which has taken place where floor joists were located.

Date: December 6, 1935.

(CHHP No. 3305)



Photograph #22 - Aubler House, Jamestown Island -

The south side of the northeast chimney. The cut made for wider opening between the north and south rooms left only 3/4ths of a brick for protection against fire. The flue turns slightly to the right (east) to clear second floor fireplace.

Date: August 16, 1939.

(CHHP 7909)

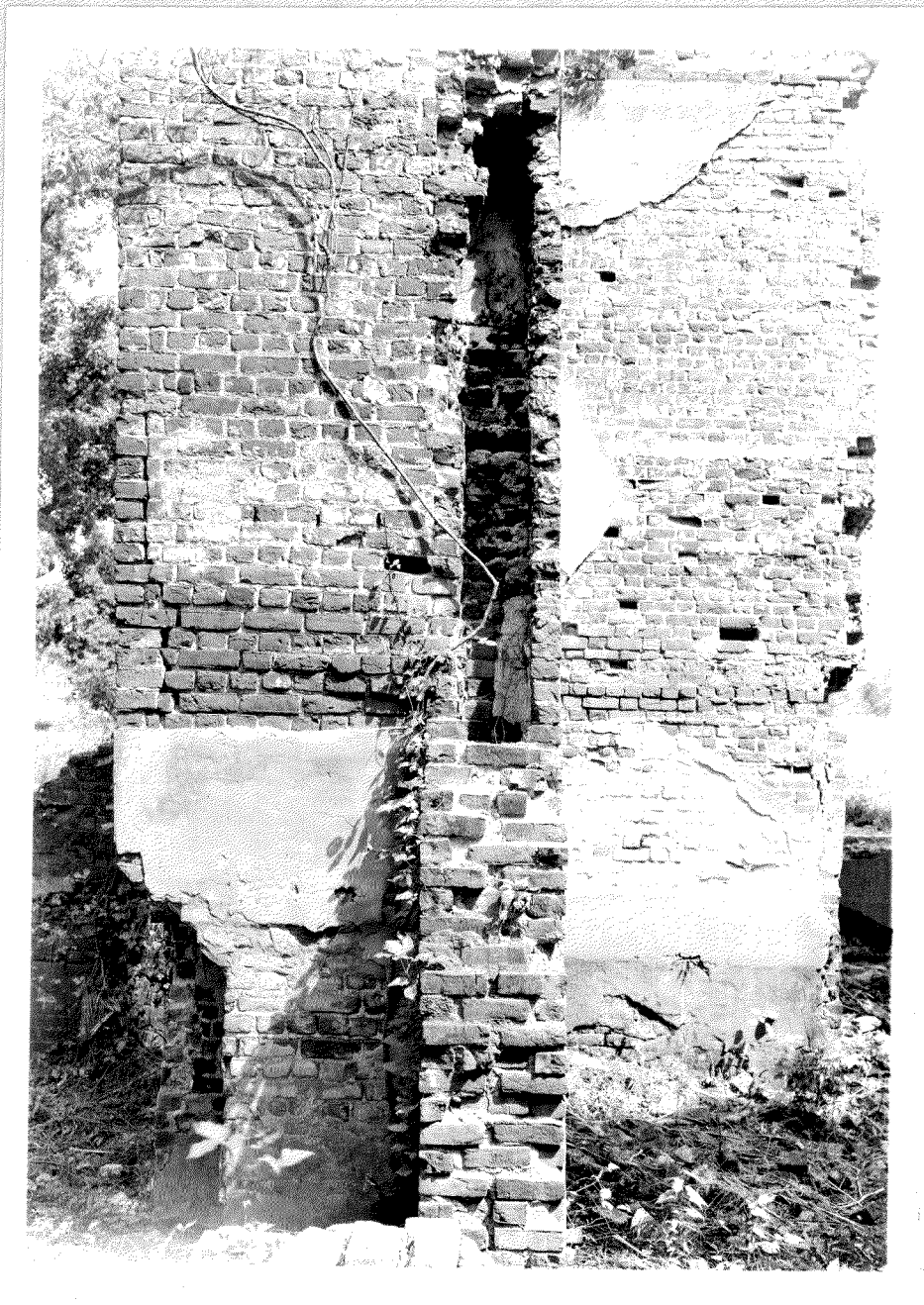


Photograph #23 - Ambler House, Jamestown Island -

The basement section of the south side of northeast chimney; also, fireplace, first floor. Arrow points to new flue and outlet for stove which was cut at a later date. Only 1/2 course of brick protects the building against fire.

Date: August 8, 1939.

(ONHP No. 7888)



Photograph #24 - Ambler House, Jamestown Island -
Flue cut during the modernization. This flue was cut
partly in the chimney and partly into the partition wall.
See photograph #23.

Date: August 8, 1939.

(CNHP No. 7893)

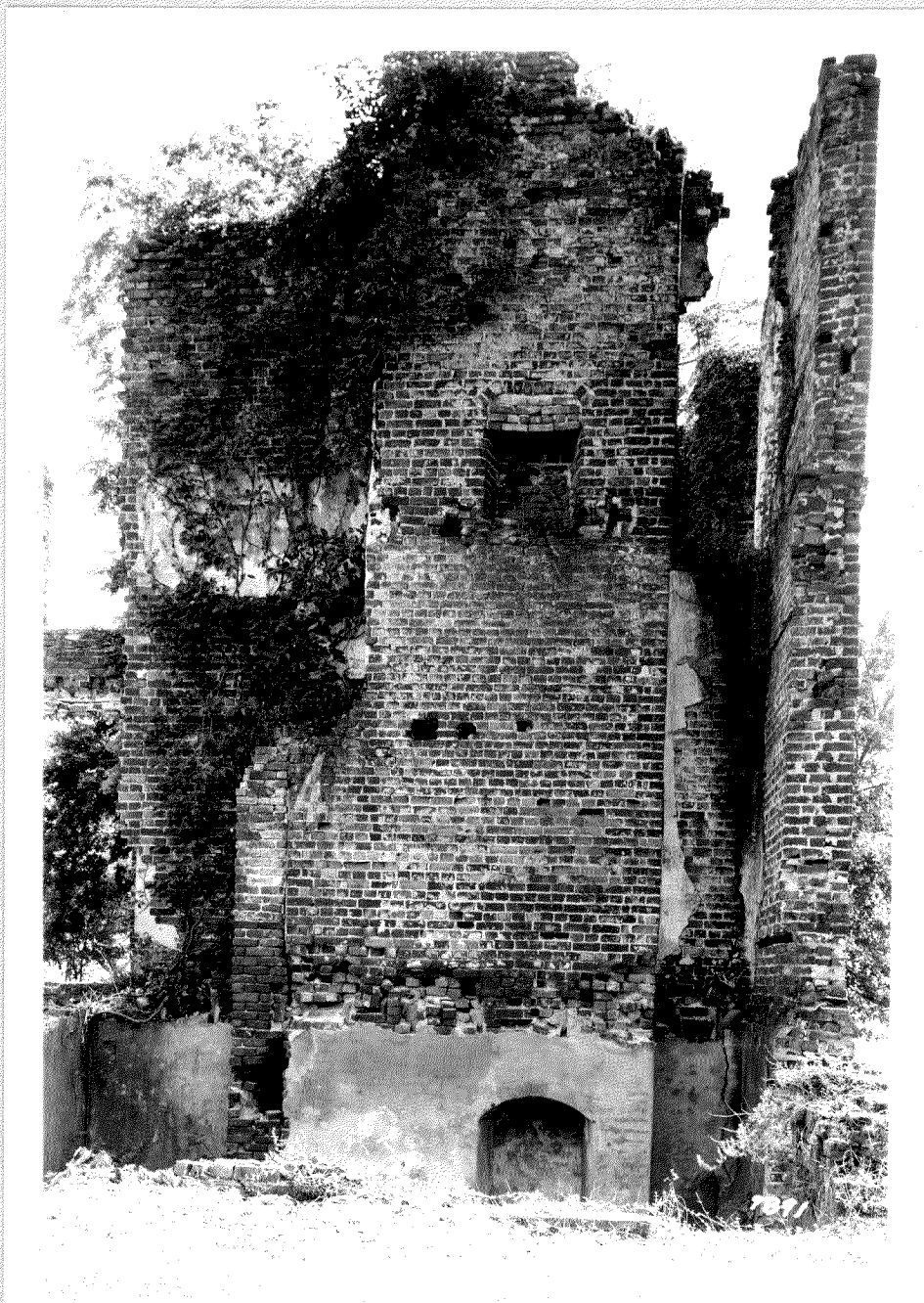


Photograph #25 - Ambler House, Jamestown Island -

The top of the northeast chimney, south side. The vertical course of headers extends around the entire chimney and is probably the plate line of the building. See photograph #7.

Date: December 6, 1936.

(GNHP No. 3313)



Photograph #26 - Ambler House, Jamestown Island -

The north side of the northwest chimney. Notice opening cut at a later date through partition wall between chimney and wall; also, extra chimney placed side of main chimney (left). Notice the outward leaning of exterior wall, which is $3 \frac{1}{16}$ inches out of plumb.

Date: August 8, 1939.

(CHNP #7891)



Photograph #27 - Ambler House, Jamestown Island -

The lower part of the north side of the northeast chimney. Notice the deterioration where floor joists were placed. Many of the holes shown go through the chimney. Three different periods of floor joists are discernible. Notice additional chimney on the left.

Date: August 8, 1939.

(CHNP No. 7867)

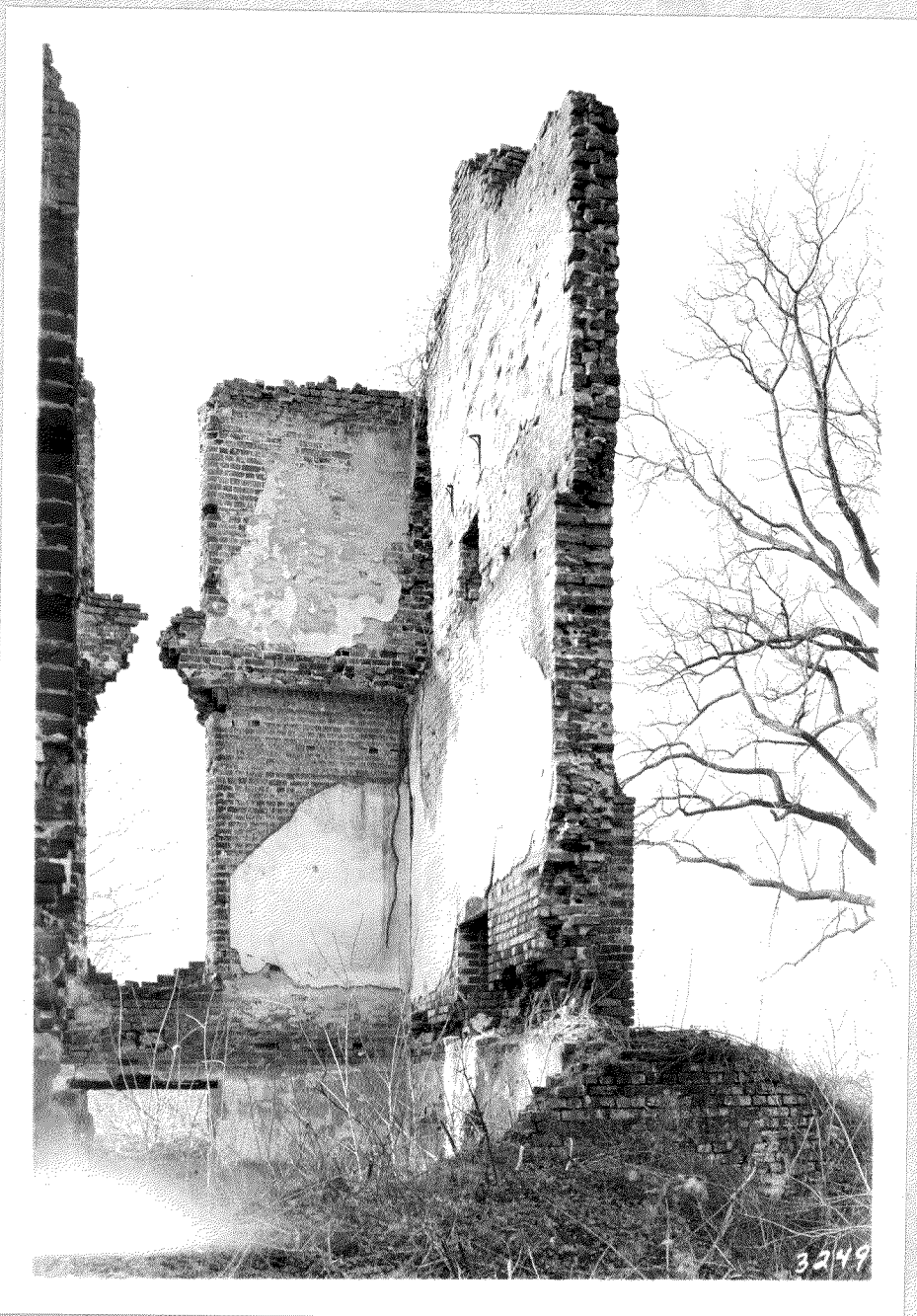


Photograph #28 - Ambler House, Jamestown Island -

The south side of the northwest chimney. Here, the deterioration is plainly shown where floor joists were formerly located. Many of these holes go through the partition walls and chimney.

Date: November 22, 1935.

(CHP No. 3250)



Photograph #23 - Ambler House, Jamestown Island -
Practically the same view as shown in photograph #26.
The west wall, here shown, leans $3 \frac{1}{16}$ inches to the west.

Date: November 22, 1935.

(CHHP No. 3249)

Mild Steel needed in preservation of Ambler House

8 pieces	1/2" x 6" x 8"	Mild steel plates
23 "	1/2" x 9" x 9"	" " "
4 "	5/8" x 4" x 20'	Flat iron
1 "	5/8" x 4" x 9'	" "
1 "	3/8" x 2 1/2" x 14'	" "
4 "	1/2" x 4" x 4" x 16'	Angle iron
2 "	3/8" x 3" x 3" x 10'	" "
2 "	5" x 1 3/4" x 11' (9 lbs. per foot)	Channel iron
2 "	5" x 1 3/4" x 13' (9 lbs. per foot)	" "
1 "	6" x 2" x 18' (10 1/2 lbs. per foot)	" "
1 "	6" x 2" x 15' (10 1/2 lbs. per foot)	" "
8 "	5/8" round, 18'	
8 -	1" x 12" turn buckles	
8 -	1" x 2" left hand tread studs	
4 -	1" x 9" turn buckles	
4 -	1" x 2" left hand tread studs	
8 -	5/8" x 6" turn buckles	
8 -	5/8" x 1' 6" left hand tread studs	
46 -	1" hexagon nuts	
26 -	1 1/8" hexagon nuts	

Work Sheet for preservation of Ambler House

Nuts: Hexagon - 1" - 46
Hexagon - 1 1/8" - 25

Turn buckles: 1" x 9" - 4
1" x 12" - 11

Plates: 8" x 6" x 1/2" - 8 with 1 1/16" hole
9" x 9" x 1/2" - 15 with 1 1/16" hole
9" x 9" x 1/2" - 8 with 1 3/16" hole

Channel Iron: 6" #2 pieces 11' - 2 pieces 13'
6" #1 pieces 18' 1 1/2" - 1 piece 15'

Angle Irons: 4" x 4" x 1/2" x 16' - 4 pieces

Flat Iron (mild steel): 5/8" x 4" x 9' - 1 piece
5/8" x 4" x 18' - 4 pieces
3/8" x 2 1/2" x 14' - 1 piece

Ambler House Preservation -
Material Needed and Approximate Cost

Steel, nuts, turn buckles, etc.	-----	\$145.00
6 yards of washed sand @ 2.75 per yard	-----	16.50
4 yards of washed gravel @ 2.75 per yard	-----	11.00
40 sacks of cement @ .75 per sack	-----	27.50
Labor		
Blacksmith, 14 days @ 6.80 per day	-----	95.20
Mason, 22 days @ 12.00 per day	-----	264.00
Carpenter, 8 days @ 8.00 per day	-----	64.00
	Total	\$423.20
	Plus 20 percent.	126.05
		\$549.25
3 kegs of common nails @ 3.50 per keg	-----	9.50
		\$558.75

The 20 percent. added is for miscellaneous expenses which may develop, due to the condition of the walls. The percentage cost may be applied to both material and labor.

For temporary shores:

24 pieces of 6" x 6" x 24' for shoring west wall and chimney (1,728 sq. ft.)
 20 pieces of 6" x 6" x 18' (720 square feet)
 20 pieces of 4" x 4" x 16' (440 square feet)

For scaffolding one-half of inside and outside of building is needed: 61 pieces 4" x 4" x 32' long, each upright consisting of four 2" x 4" x 10' and two 2" x 4" x 12' - a total of 204 pieces of 2" x 4" x 10' and 102 pieces of 2" x 4" x 12'.

150 pieces of 2" x 8" x 6' for cross trees.

50 pieces of 2" x 10" x 14' sound spruce or spruce pine planks.

500 square feet of 1" x 4" square edge boards for braces.

1 1/2 kegs of tennypenny nails - common

2 kegs of twentypenny nails - common

TB

Property of
National Park Service
Southeast Regional Office

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

October 20, 1939.

Memorandum for the Regional Director, Region One:

Attention: Regional Landscape Architect.

I am handing you herewith a set of original tracings for the Ambler House Ruin, Jamestown Island, Colonial National Historical Park. The plans are in two sections: Plan No. NHP-CCL-2066, 2 sheets, Basement Plan (Architectural) Ambler House Ruin, Sheet one; First and Second Floor Plans (Architectural) Ambler House Ruin, Sheet two; The second set prepared by the Branch of Historic Sites in cooperation with the Branch of Plans and Design, drawing No. NHP-CCL-10,017, 6 sheets, indicating methods of bracing the ruin.

These plans have been reviewed and approved by the historical and engineering staff of Colonial National Historical Park and are approved by them, the Superintendent, and myself, although all approvals are not indicated on the original tracings.

In order to expedite approval of the work, Superintendent Cox is submitting these originals prior to the preparation of the job application to give the Regional Office ample time in which to review the job.

R. A. Wilhelm,
Resident Landscape Architect.

Enclosure 1734C19
cc
Superintendent Cox

75 Plans attached