

HISTORIC STRUCTURE REPORT

JAMES MORSE HOUSE
LINCOLN HOME NATIONAL HISTORIC SITE
SPRINGFIELD, ILLINOIS

HISTORICAL DATA SECTION
ARCHITECTURAL DATA SECTION
EXTERIOR RESTORATION PROPOSAL

ON MICROFILM

ALAN W. O'BRIGHT

PLEASE RETURN TO:
TECHNICAL INFORMATION CENTER
DENVER SERVICE CENTER
NATIONAL PARK SERVICE

B&W Scans
12.15.2003

1913

1914

1915

1916

1917

1918

1919

1920

1921

HISTORIC STRUCTURE REPORT
JAMES MORSE HOUSE
LINCOLN HOME NATIONAL HISTORIC SITE
SPRINGFIELD, ILLINOIS

BY

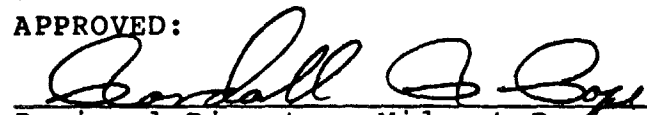
HISTORICAL ARCHITECT ALAN W. O'BRIGHT
OFFICE OF PLANNING AND RESOURCE PRESERVATION
DIVISION OF CULTURAL RESOURCES MANAGEMENT
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR
OMAHA, NEBRASKA

RECOMMENDED:

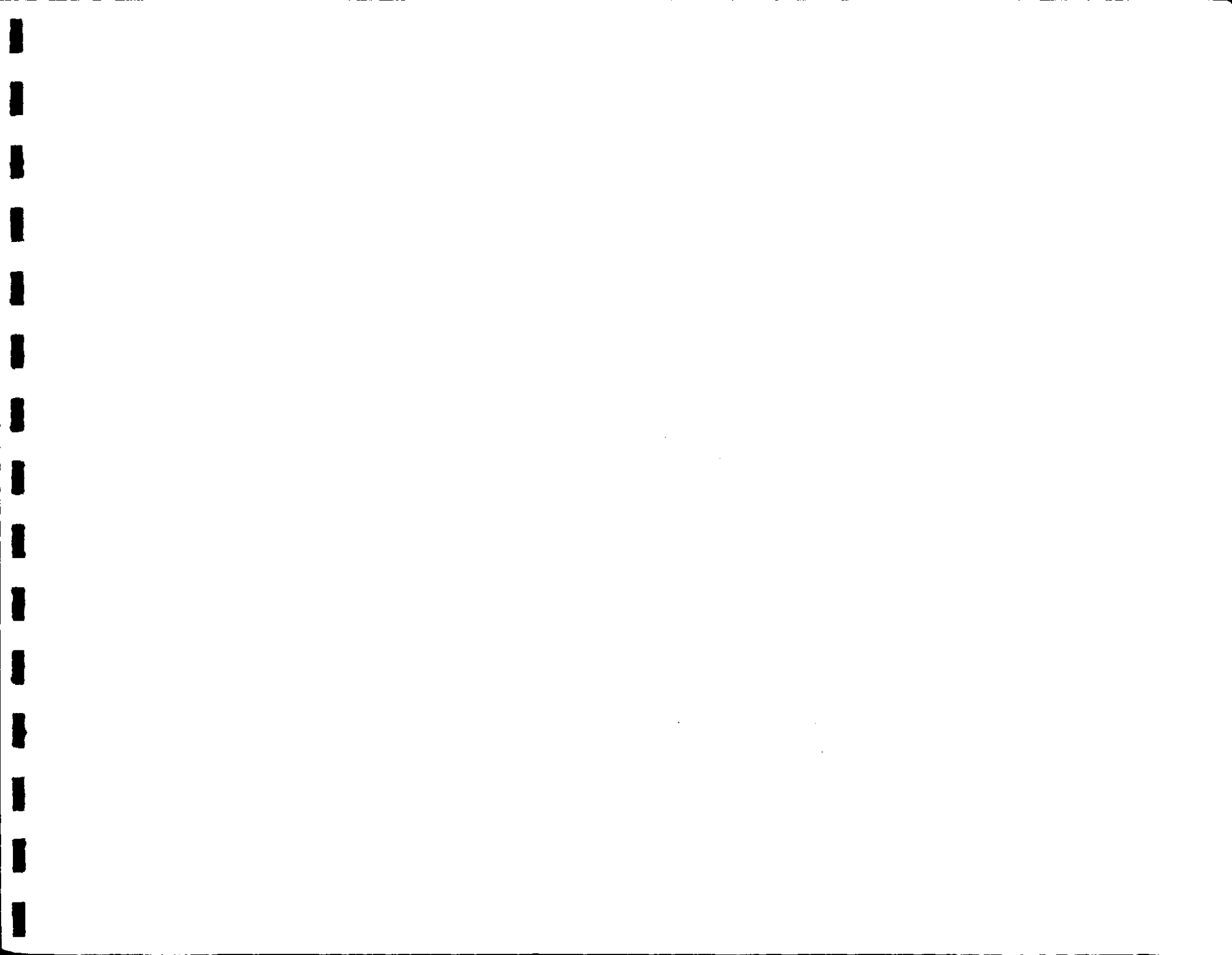

Superintendent, Lincoln Home NHS

8-29-85
Date

APPROVED:


Regional Director, Midwest Region

9-9-85
Date



I would like to extend my appreciation to the following people who helped in the development of this project:

Lincoln Home Superintendent Jim O'Toole for allowing me the chance research one of the historic site's buildings;

Former Lincoln Home Superintendent Al Banton for his assistance with the historical research;

Lincoln Home Facility Manager Dick Lusardi for his guidance in the physical investigation of the Morse House;

The maintenance staff at Lincoln home for their assistance with the physical investigation of the Morse House; and

Jill York for her editing and typing skills and her support throughout the project.



TABLE OF CONTENTS

Preface	
History	1
Building Chronology Drawings	17
Existing Conditions	21
Introduction	21
Siting	21
Landscape	22
Foundation	24
Floor/Ceiling Structural Systems	26
Wall Structural Systems	31
Insulation	33
Roof Systems	33
Building Envelope	37
Windows	39
Doors	42
Interior Finishes	43
Exterior Finishes	43
Plumbing Systems	44
Mechanical Systems	45
Electrical System	46
Communication System	48
Security Systems	48
Exterior Photographs	49
Existing Conditions Drawings	54
Design Development	79
Introduction	79

Recommendations	80
Treatment	83
Landscape	83
Foundation	85
Floor/Ceiling Structural Systems	85
Wall Structural Systems	86
Insulation	86
Roof Systems	87
Building Envelope	87
Windows	88
Doors	88
Interior Finishes	89
Exterior Finishes	89
Plumbing Systems	90
Mechanical Systems	90
Electrical System	91
Communication System	91
Security Systems	91
Design Development Drawings	93
Appendixes	98
A. 1975 Paint Analysis	99
B. Chronology, National Park Service work on the house, to date	101
C. Existing usable square footage	102
D. Proposed usable square footage	103
E. Cost estimate	104
Notes	105
Bibliography	107

LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Title</u>	<u>Page</u>
1	1855 Map of Springfield, Illinois	2
2	City of Springfield, 1858	3
3	Springfield, Illinois, 1867	5
4	Map of Springfield, circa 1872	6
5	Photograph, north wall, Room 204	8
6	Bird's-Eye View of Springfield, Illinois, circa 1872	9
7	Springfield, Illinois (Sanborn Map, 1884)	10
8	Springfield, Illinois (Sanborn Map, 1890)	11
9	Springfield, Illinois (Sanborn Map, 1896)	13
10	Springfield, Illinois (Sanborn Map, 1917)	14
11	Springfield, Illinois (Sanborn Map, 1941)	15
12	Photograph, south wall, Crawlspace 002	25
13	Photograph, exterior southwest corner, Room 107	27
14	Photograph, view to northeast, Crawlspace 002	27
15	Photograph, ceiling at east wall, Room 104	30
16	Photograph, ceiling at northwest corner, Room 102	30
17	Photograph, ceiling at north wall, Room 107	34
18	Photograph, view east from Attic 301	34
19	Photograph, view north from Attic 303	36
20	Photograph, east elevation beneath Porch 111	38
21	Photograph, exterior of Window 101-W1	40
22	Photograph, south wall, Kitchen 206	47
23	Photograph, north exterior elevation	50
24	Photograph, east exterior elevation	51
25	Photograph, south exterior elevation	52
26	Photograph, west exterior elevation	53

Preface

Lincoln Home National Historic Site was established for the purpose of preserving and interpreting the home of Abraham Lincoln. The site's boundary was made large enough to allow visitors a glimpse at the neighborhood Lincoln left behind when he became President of the United States. Although many of the structures dating to that historic period are gone, those which remain form a backdrop for Lincoln's home, and are essential to provide visitors with a sense of Lincoln's neighborhood. Therefore, an accurate presentation of the historic appearance of the district is a primary goal. Towards this end, the physical histories of the historic structures which contribute to the historic atmosphere of the district must be thoroughly documented before preservation treatment is accomplished.

The National Park Service's purpose in preparing Historic Structure Reports is to document the physical history of the structure. The Historic Structure Report identifies and analyzes any significant factors which will ultimately affect the preservation of that structure. Three disciplinary fields, architecture, history, and archeology, are involved in the physical research of a building. Each field complements and/or reinforces or verifies the findings of the others.

Architecture

The architectural data section describes the existing conditions of a

structure through measured drawings, photographs, and a written report of the existing conditions. This section also includes an analysis of the building and recommendations for preservation treatment.

History

This section involves historical documentation of a structure's past accomplished through research of manuscripts, historic photographs, maps, oral history interviews, and a variety of other written records. The historical research and analysis are very important in discovering or verifying significant events which may influence the structure's preservation.

Archeology

Archeology is necessary in the documentation and analysis of subsurface structural remains which may have a bearing on preservation treatment. Archeological research may also add important information about the physical structure or its history, as well as historical life styles or culture.

The intensity of the Historic Structure Report is predicated by the significance of the structure under examination. Buildings of national significance (such as the Lincoln Home) receive more attention than background or support structures. Since the Morse House, the subject of this report, is a background or scene-setting structure, the exterior appearance is the primary concern for preservation treatment. Unlike the nationally significant Lincoln Home, the Morse House's interior is not important to the visitors enjoyment of the national

historic site. Therefore, the investigation and preservation proposals for the Morse House concentrate on the exterior restoration, while the interior of the building will be adapted for modern use.

History

The structure presently known as the Morse House (HS-9), 818 Capitol Avenue, rests on property which originally comprised a portion of three lots, subdivided on Block 10. The property includes the west 58 feet of Lots 15, 16, and of the north half of Lot 14. The first recorded deed transaction shows that James M. Morse purchased Lots 13 through 16 from Elijah Iles on April 10, 1840, for a total of \$750.00.¹ Morse, an employee of the Office of the Illinois Secretary of State, moved his family to Springfield when the seat of government changed in 1839.² Morse constructed his residence on the corner of Market* and Ninth Streets, on Lot 15. The date of construction is not known, although an 1854 map of the city shows Morse's first Springfield residence, but not the existing structure known as the "Morse House" (see Figure No. 1).

Because Morse frequently ventured in real estate (he owned property throughout Springfield), his purpose in buying these lots may have been speculative. The 1859 Springfield City Directory lists Morse as a land agent with the firm Morse and Able. His office was located on the west side of Fifth Street between Washington and Adams, on the west edge of Old Post Office Square. The 1859 Directory shows Morse resided at the southwest corner of Market and Ninth Streets.³ An 1858 map of the city also shows the Morse residence on lot 15, and does not portray a structure at the site of the existing "Morse House" (HS-9). (See Figure No. 2.)

*Market Street was renamed Capitol Street, its present designation, in 1879.

FIGURE NO. 1

City of Springfield, Sangamon County, Ills.,
Published by Hart & Mapother, 1854,
Illinois State Historical Society,
Springfield.

This map indicates that the Morse House
(HS-09) had not been constructed by 1854
on Lot 16, but James Morse's house was
built by that time on Lot 15.

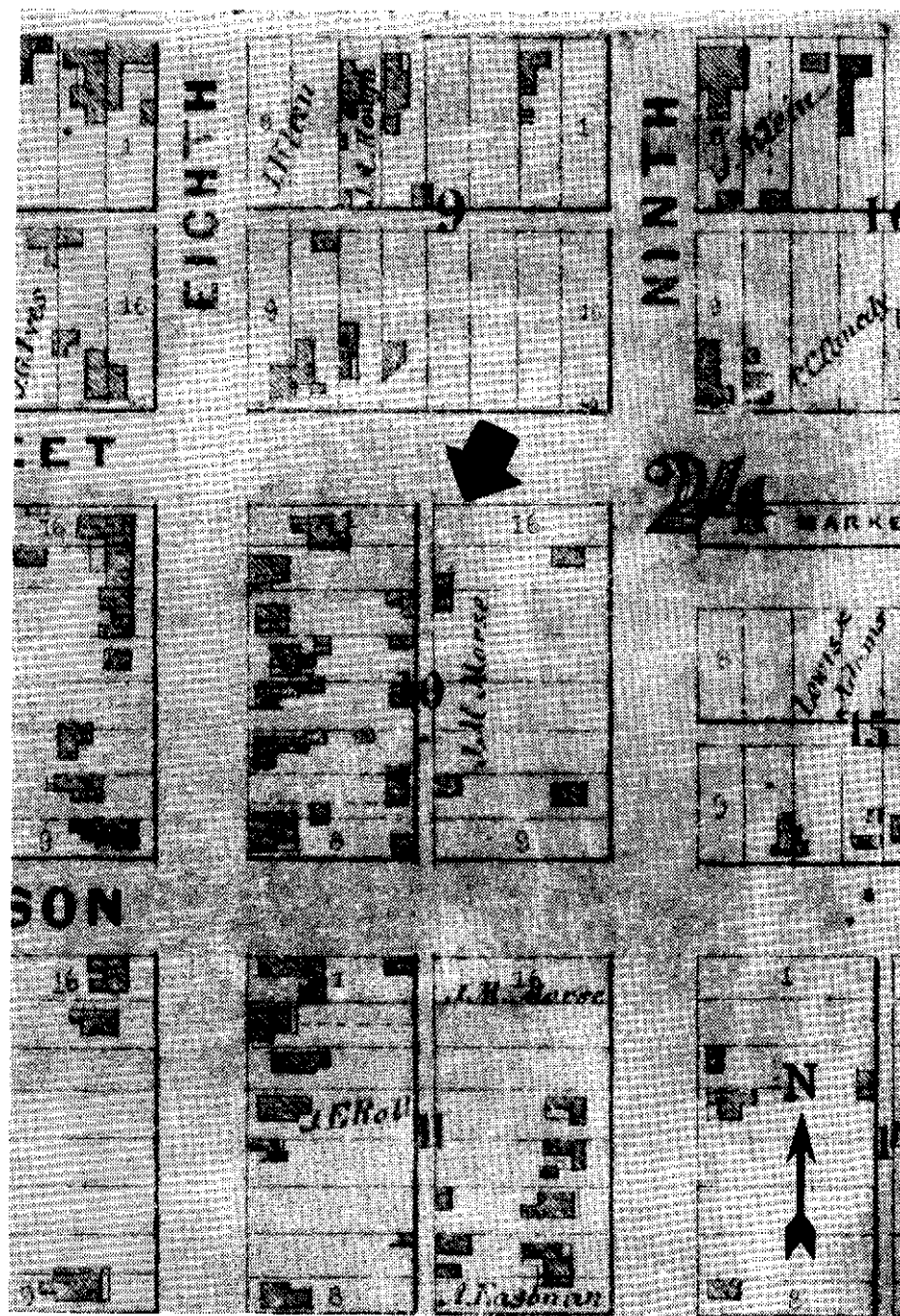
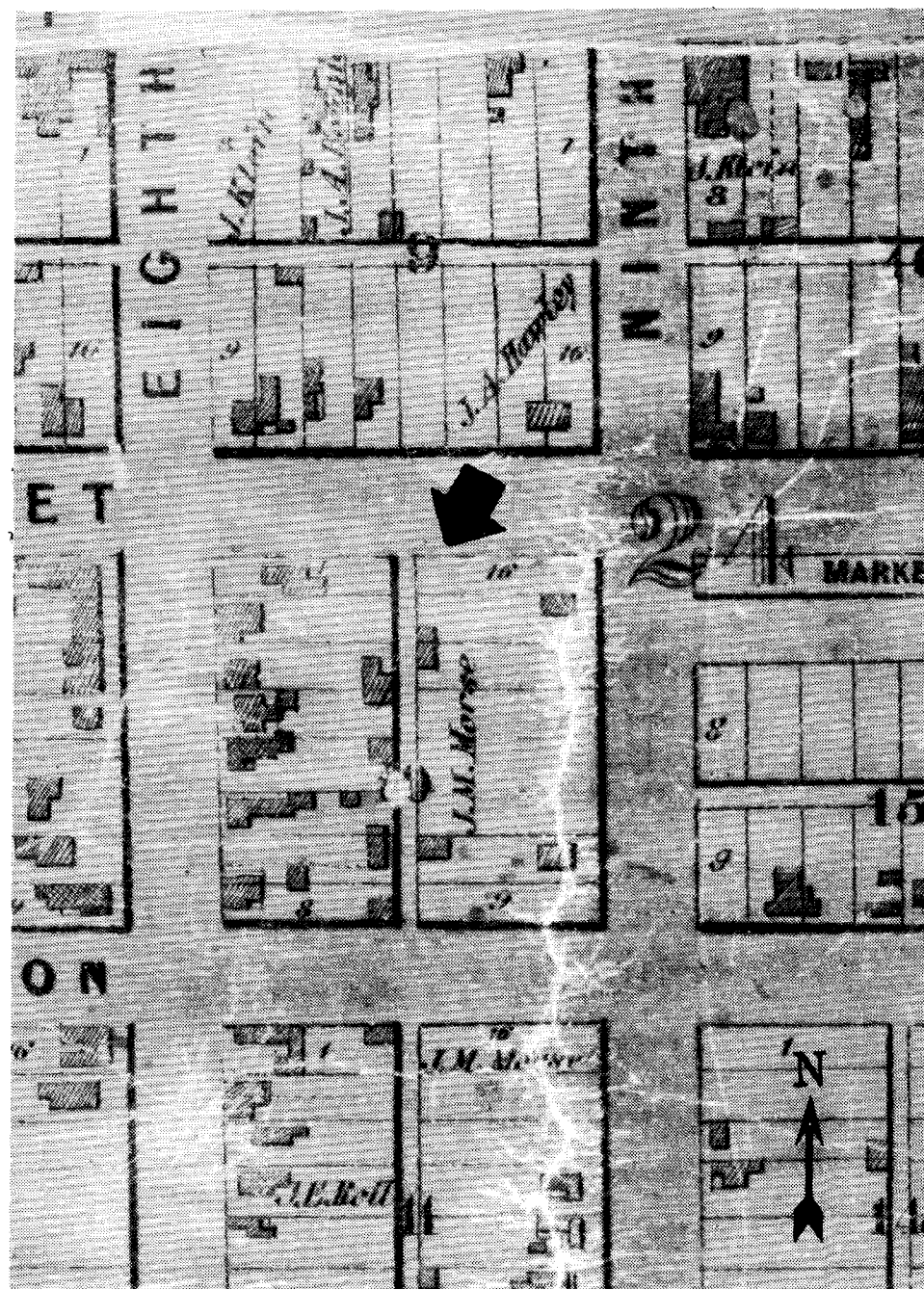


FIGURE NO. 2

City of Springfield, Sangamon County,
Ills., Published by William Sides, 1858,
Illinois State Historical Society,
Springfield.

In comparing this 1858 map with the
1854 map (Figure No. 1), no changes
had taken place on the James Morse
property.



The 1860 Directory states that Morse still resided at the southwest corner of Market Street, but the location of his office had changed. The Directory incorrectly stated that the office was on the "west side" of Market Street; the original direction is inaccurate, as Market Street runs east/west, and it has no "west side."⁴ The 1864 and 1866 Springfield City Directories state that a surgeon, P. J. Wardner, had an office and residence on the south side of Market Street between Eighth and Ninth Streets.⁵ The Fire Underwriters Tariff of Rates, October 1866 issue, indicates that a dwelling located on Block 10, Lot 16, and a wooden "Office in the rear" of Lot 16 were both covered by insurance.⁶ Morse owned the property, but he may have leased all or part of the building or used it himself as a real estate office. Whether Morse leased the structure for office and/or residential purposes, or used it for his own office, or both, is unclear. Nevertheless, documentary evidence shows the "Morse House" was built sometime between 1860 and 1863.

Existing physical evidence shows that the original structure was a very small 25- by 16-foot (Rooms 102 and 103), single-story wood frame structure with a crawlspace beneath (see Chronology Drawings, Sheet 25). The "Morse House" underwent two additions prior to 1867 (see Figures No. 3 and 4); the exact dates of these alterations are unknown. The first modification was the addition of a second story, which probably occurred shortly after Morse sold Lot 13 and one-half of Lot 14 for \$800 in 1863.⁷ The carpenters attempted to supplement the first floor ceiling joists to accommodate the second floor loads. (See Existing Conditions Drawings, Sheet 22.) The second floor may have served as P. J. Wardner's residence and the first floor as Wardner's office from 1863 until 1866.

The second alteration was the construction of a south wing with a full

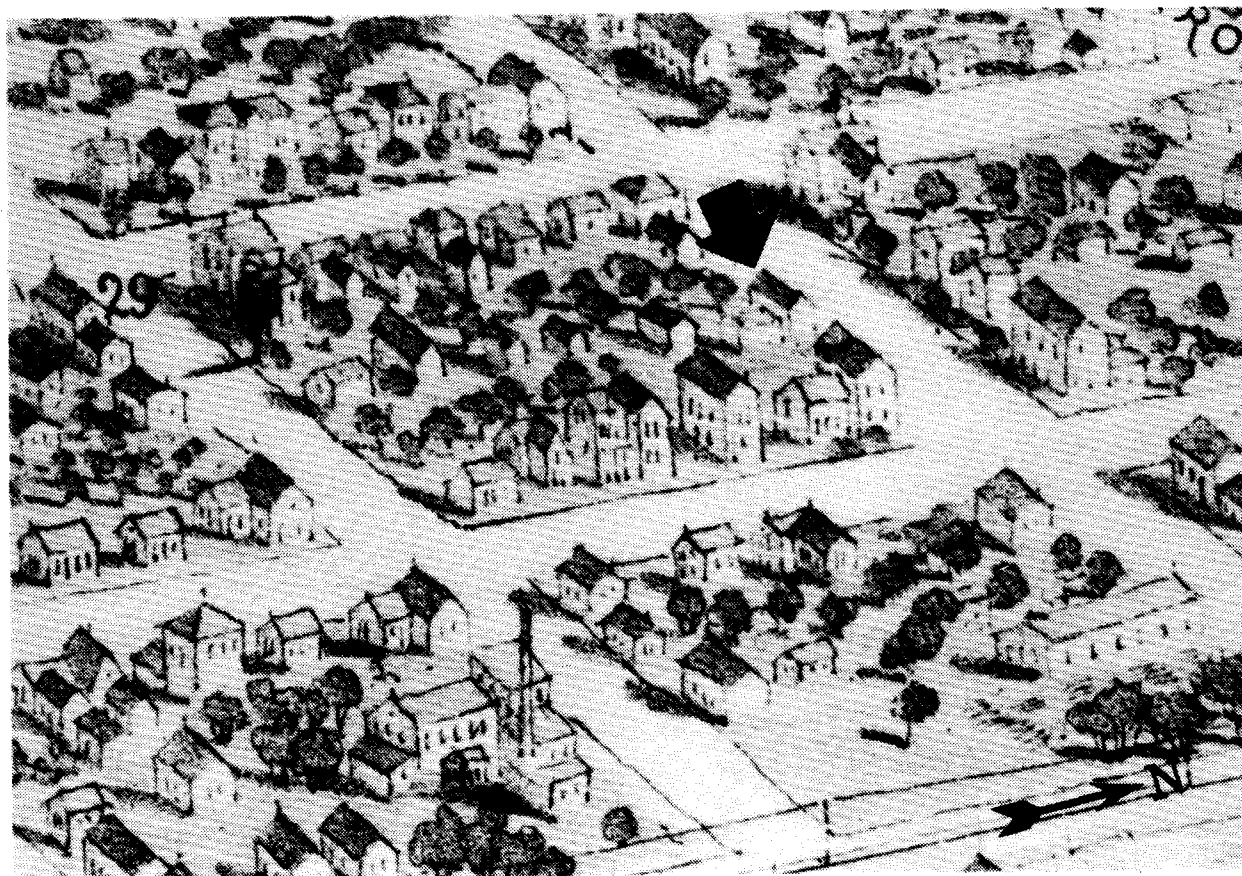


FIGURE NO. 3

Springfield, Illinois, 1867, Drawn from nature by A. Ruger,
Chicago, 1867, Illinois State Historical Society, Springfield.

This portion of an 1867 panorama of Springfield shows the
Morse House as a two story structure with a single floor south
wing. No porches, windows or doors are indicated.

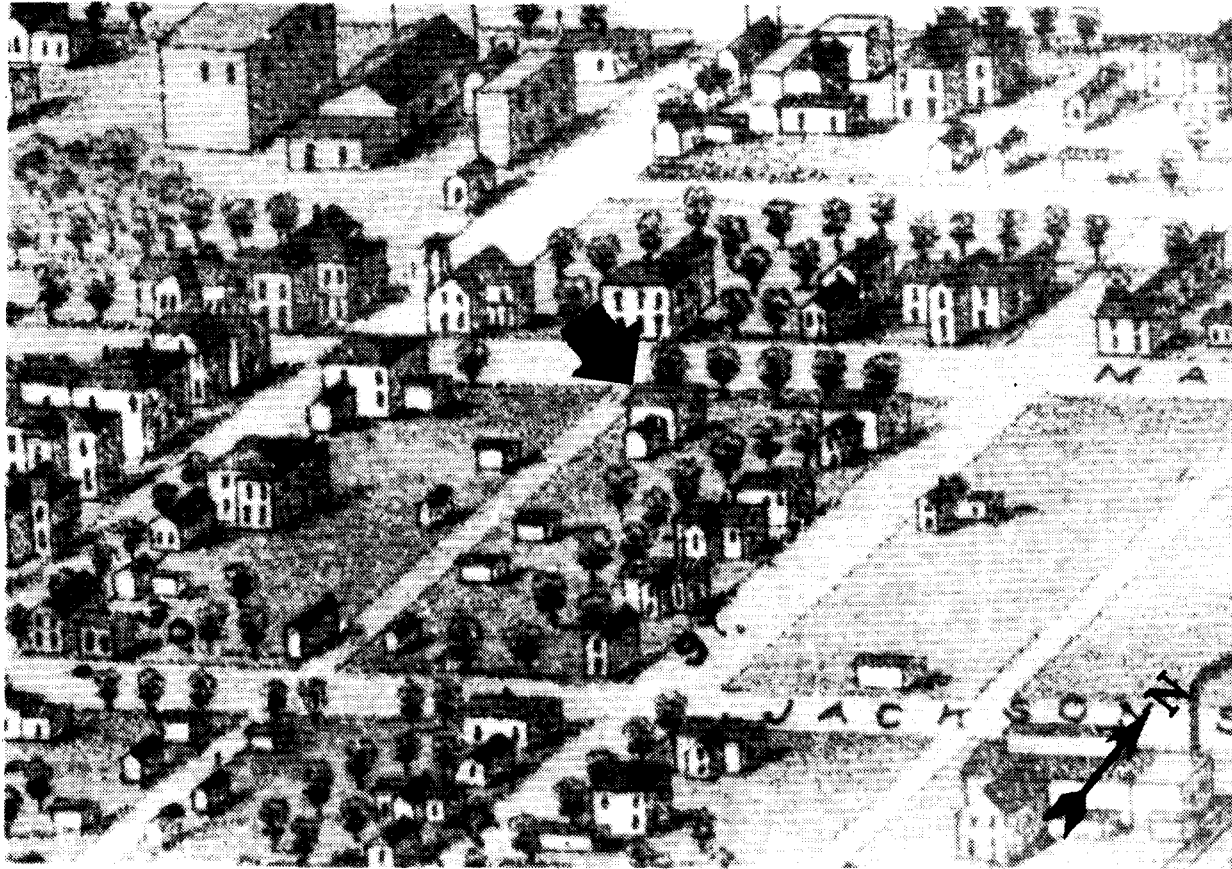


FIGURE NO. 4

Map of Springfield, circa 1872, Beck & Pauli, Milwaukee, Wis.,
Published by A. C. Gieseler & Co., Illinois State Historical
Society, Springfield.

This view from the southeast in a circa 1872 panorama shows
essentially the same information as with the 1867 panorama.

brick cellar. Physical evidence shows that a second floor window was removed and blocked so that a gable roof could be attached to the structure's south elevation (see Figure No. 5 and Existing Conditions Drawings, Sheet 18, Hall 204). A chimney was built into the addition's south wall, and there was probably a porch at the crux of the ell formed by the two building masses, although the first evidence of a porch dates to 1884. This south wing may have been added in 1865, when Morse took a \$500 mortgage on his property, perhaps to accomplish the improvements.⁸ Once the south wing was added, it is unclear whether the building continued to function as an office or rental housing. The massing of the "Morse House" remained relatively unchanged until the mid-1870s (see Figure No. 6).

In 1875, the Morse House property exchanged hands between James Morse and one John A. Hughes, and then back to Morse. Early in the year, Hughes acquired the property for \$2000, then Hughes sold the property back to Morse seven months later for twice his purchase amount.*⁹ This transaction was probably speculative; Hughes and his wife resided in the house for only one year.¹⁰ Hughes probably made some improvements on the property, such as an extension of the south wing and the concurrent installation of water and sewer service. Nevertheless, it is unlikely that such improvements would have cost \$2000 in 1875, so Mr. Hughes must have made a tidy profit on the exchange. There were no other major changes in the building's configuration until after 1890. (See Figures Nos. 7 and 8.)

*This transaction resulted in the fragmentation of Lots 14, 15, and 16 into their present delineations.

FIGURE NO. 5

Photo by author, Neg. No. 11/13, Midwest
Regional Office.

North wall of Room 204 showing pitch of the former
south wing roof line and sealed window.

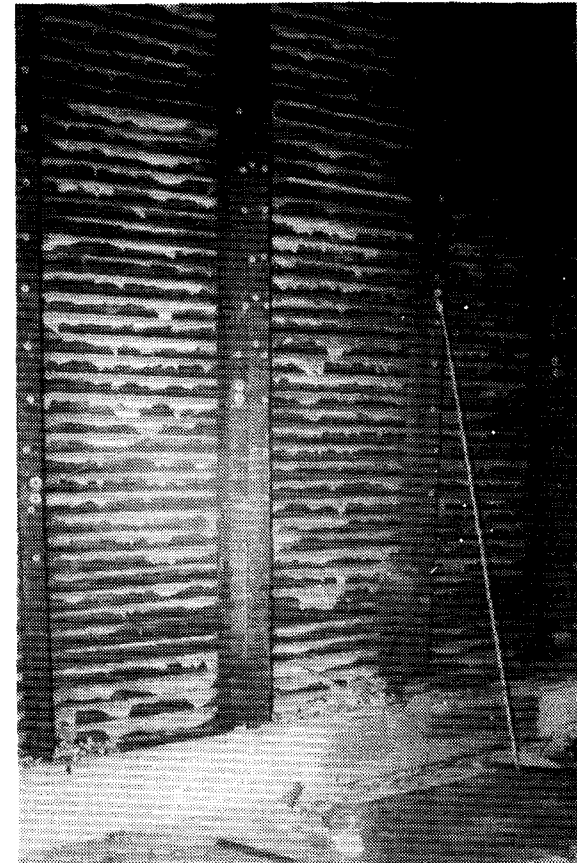




FIGURE NO. 6

"Bird's-Eye View of Springfield, Illinois, circa 1872," Drawn by Augustus Koch, Illinois State Historical Society, Springfield.

View from the northeast shows a two story structure with a south wing as with the previous panoramas. However, the front entry is shown on the north elevation and only one window is shown on the east elevation.

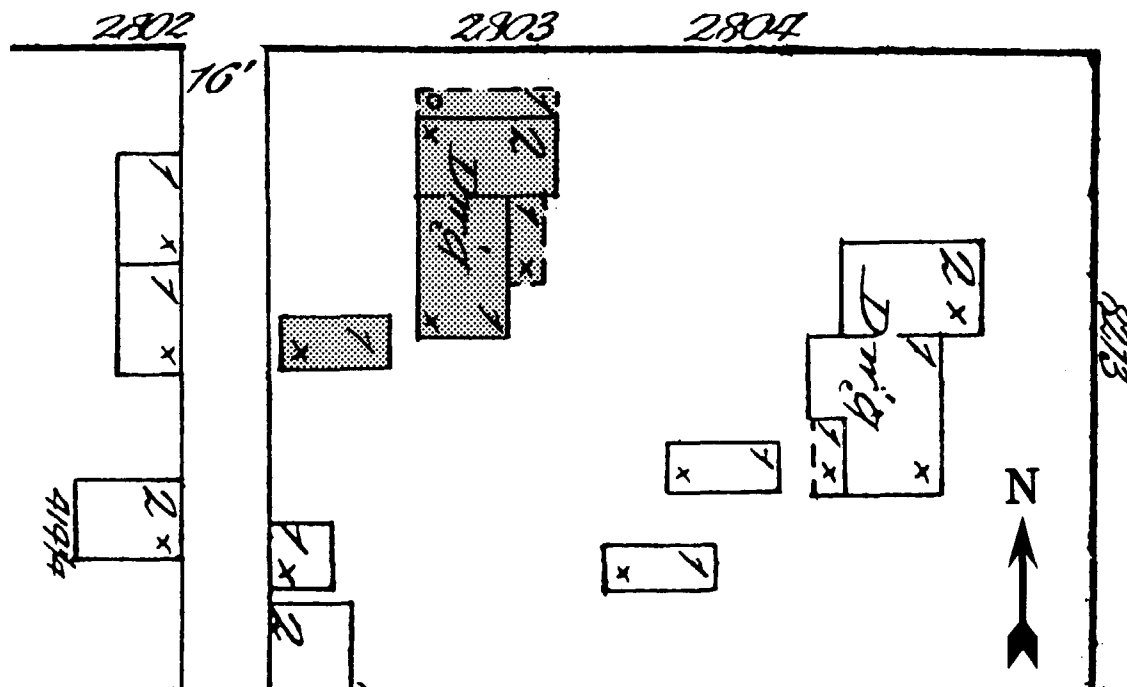


FIGURE NO. 7

Springfield, Illinois, Sanborn Map & Publishing Co.,
New York, 1884.

First map documentation showing all porches. Note the 1875
south wing extension past the east porch.

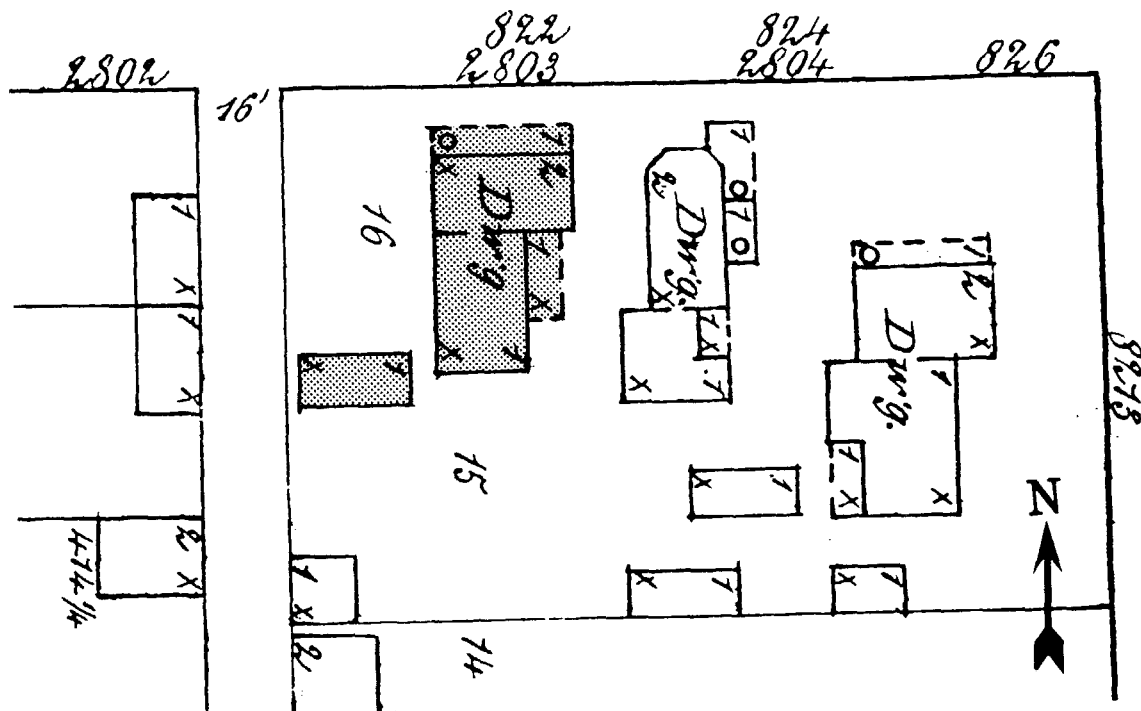


FIGURE NO. 8

Springfield, Illinois, Sanborn Map & Publishing Co.,
New York, 1890.

No changes in the structure had occurred since 1884.

James Morse sold the eastern 94 feet of Lots 15, 16 and the north half of Lot 14 to his granddaughter, Emma, in 1876.¹¹ Morse lived either at the house (HS-9) or on the corner of Market and Ninth Streets (826 East Capitol Avenue). Around 1879, James Morse became a permanent resident of what is known as the Morse House (818 East Capitol Avenue).^{*} James sold the house to another granddaughter, Julia G. McGrue, for \$1 in 1886.¹² Julia's husband, Harry O. McGrue, was a carpenter and a joiner by trade,¹³ may have constructed the last major additions to the house himself. These alterations took place sometime between 1890 and 1896 (see Figure No. 9), and provided separate living space on the second story, possibly to accommodate James Morse. James resided in the house until his death in 1899.

McGrue's alterations to the structure included the addition of a two-story west wing, a second floor over the south wing, and a small room (Bathroom 109) at the southeast corner of the house, all of which remain today. Other McGrue changes since removed (see Figures Nos. 10 and 11), included a west wing porch, a two-floored porch at the east side of the house where the interior stairwell now exits, and a covered walkway between the house and an outbuilding (a shed or washhouse).

In 1926, new owners Edward W. Payne and G. L. Lockhard engaged several tradesmen to remodel the Morse House. A multitude of stylistic changes to the interior and exterior resulted. French doors, large multi-paned exterior doors, a colonial revival front entry, and Greek revival pilasters at the exterior corners graced the simple house. Payne and

^{*}The Morse House (HS-9) address remained 822 East Capitol until shortly after its purchase by the National Park Service.

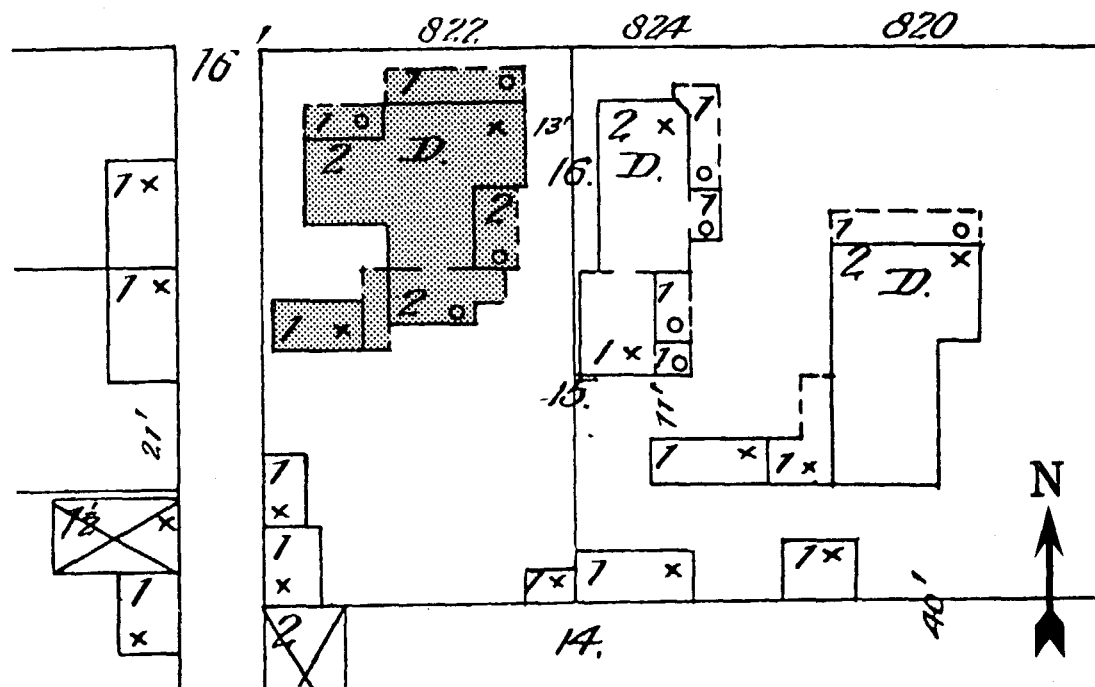


FIGURE NO. 9

Springfield, Illinois, Sanborn Map & Publishing Co.,
New York, 1896.

Extensive additions since 1890 included the west wing with a north porch, a two floor east porch, a small room to the southeast corner, and a link to the shed. The map indicates that a second floor existed over the south wing kitchen, but no physical evidence has been uncovered to support this documentation.

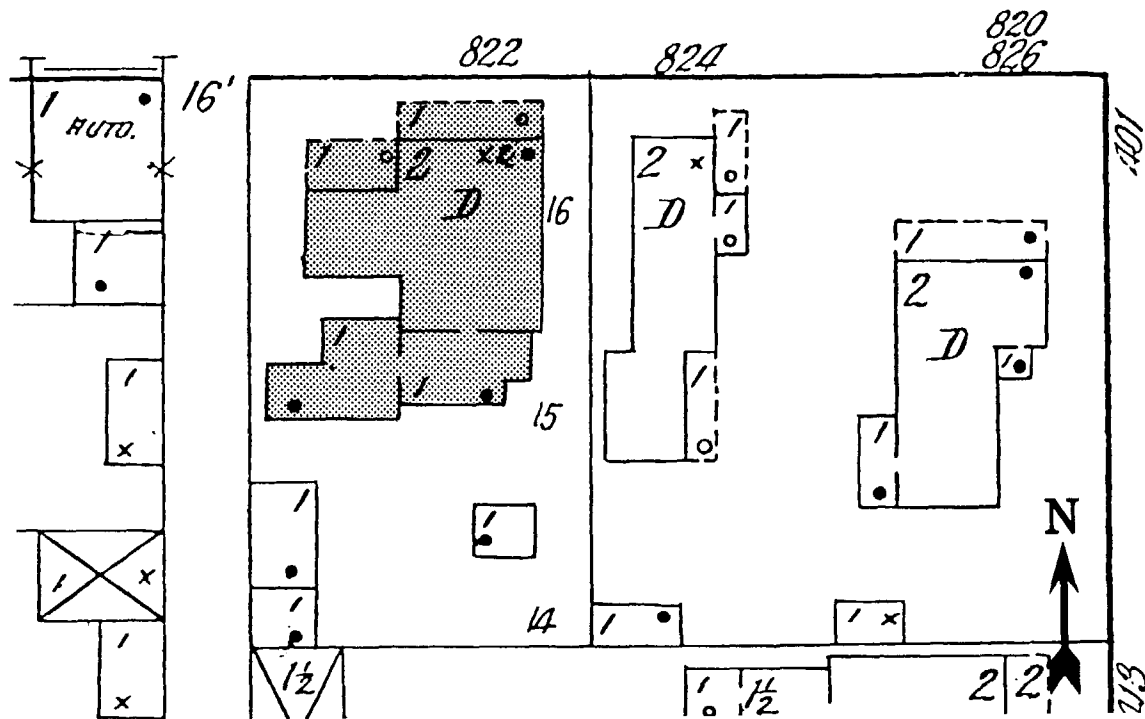


FIGURE NO. 10

Springfield, Illinois, Sanborn Map & Publishing Co.,
New York, 1917.

The map indicates that the link to the shed had grown slightly and the east porch had been completely enclosed by 1917.

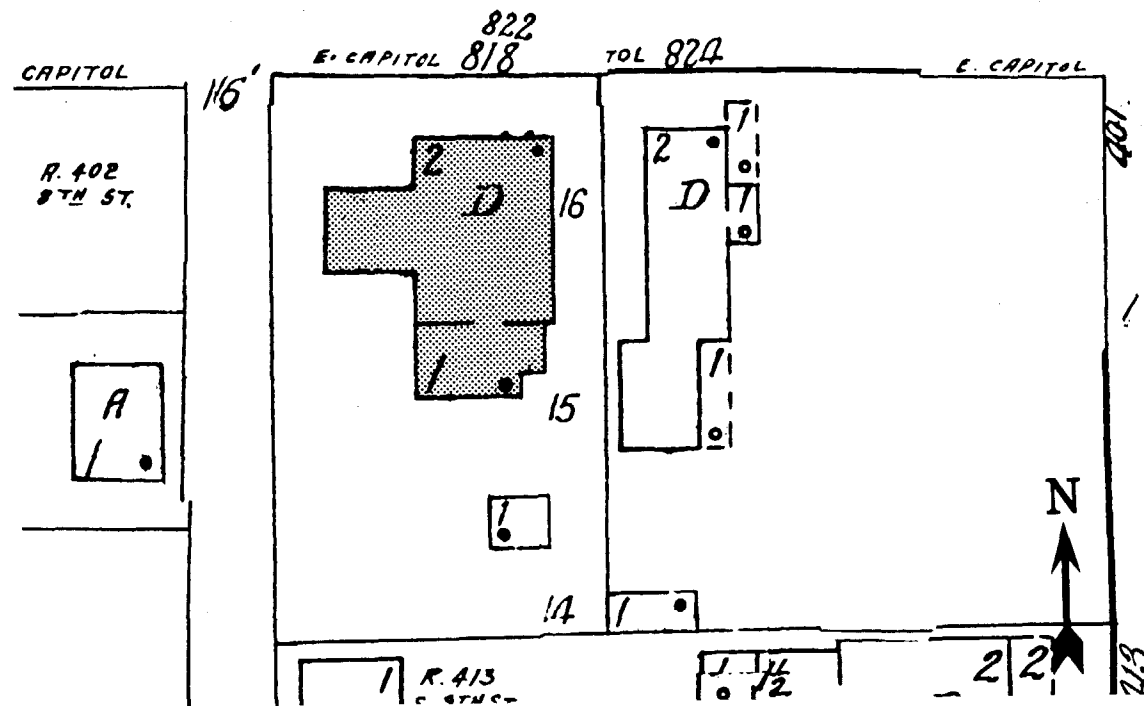


FIGURE NO. 11

Springfield, Illinois, Sanborn Map & Publishing Co.,
New York, 1941.

This map essentially indicates conditions as they exist
today.

Lockhard failed to pay for these changes, however, and the tradesmen filed a mechanics lien to receive payment for their supplies and services.¹⁴

The house remained vacant for two years, then James Woodland purchased the property in 1928.¹⁵ The property remained in the Woodland estate until 1967, and for an undetermined period, the lower floor was used as a beauty parlor and a lawyer's office, the upper story was leased for residential use. During this period, several minor alterations to the property were accomplished, including the addition of a second story bathroom, an exterior stair with a roof on the east side of the structure, a brick patio on the west side, and a louvered vestibule at the south side of the house. All of these modifications are still extant. The property was purchased by the United States government in 1974, and residential leasing of the upper story continued until 1983.

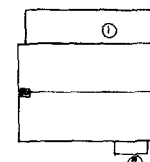
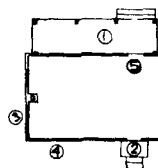
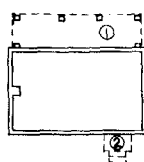
Perhaps the amazing fact in the history of the Morse House is that it managed to survive. From the time of James Morse's death in 1899, the property suffered at the hands of owners more interested in the home's investment potential than the house itself. Following the Second World War, the neighborhood rapidly changed from a residential area to a fast-paced commercial and industrial "strip." Morse's first Springfield residence was demolished to make room for a gasoline station. The homes once facing the Morse House were reduced to parking lots serving the county government offices. The streets were covered with asphalt. Fortunately, the Morse House survived to become a small part of the Lincoln Home National Historic Site.

Building Chronology Drawings

MORSE HOUSE ca. 1860

ORIGINAL BUILDING HAD A SINGLE FLOOR STRUCTURE WITH A GABLE ROOF AND BACK CHIMNEY-SPACE FOUNDATION. 1. LOCATION OF PORCH CONJECTURAL.

2. LOCATION OF REAR ENTRY & STOOP CONJECTURAL.
3. LOCATION OF WINDOW BASED ON EXISTING PHYSICAL EVIDENCE.
4. LOCATION OF WINDOW CONJECTURAL.
5. LOCATION OF DOOR BASED ON EXISTING PHYSICAL EVIDENCE.



1. EXISTING PHYSICAL EVIDENCE

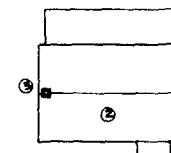
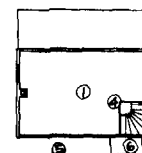
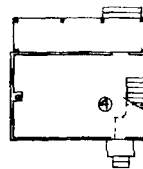
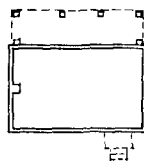
FOUNDATION

FIRST FLOOR

ROOF

MORSE HOUSE ca. 1863

1. SECOND FLOOR SPACE ADDED - SECOND FLOOR REINFORCED WITH A SECOND SET OF JOISTS INDEPENDENT OF FIRST FLOOR CEILING JOISTS.
2. NEW ROOF SHINGLES GABLE ROOF ADDED.
3. CHIMNEY EXTENDED (CONJECTURAL).
4. STAIRWELL CONSTRUCTED (FORM CONJECTURAL).
5. LOCATION OF WINDOW BASED ON EXISTING PHYSICAL EVIDENCE.
6. LOCATION OF WINDOW CONJECTURAL.



1. EXISTING PHYSICAL EVIDENCE

FOUNDATION

FIRST FLOOR

SECOND FLOOR

ROOF

NOT TO SCALE



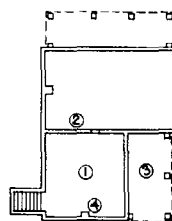
BUILDING CHRONOLOGY
JAMES MORSE HOUSE NS-B
LINCOLN HOME NHS

PREPARED	DRAWING NO.
REVIEWED	449
CHECKED	80017
DATE	SHEET
	25
	OF 27

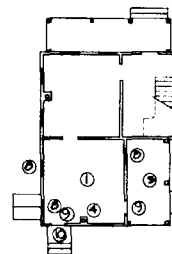
ON MICROFILM

MORSE HOUSE ca. 1867

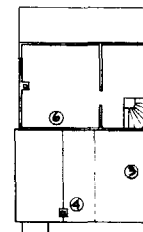
- ① SINGLE FLOOR, KITCHEN WING ADDED WITH
BRICK CELLAR, BELLOWS
- ② NEW CELLAR WALLS INTEGRATED INTO
ORIGINAL CRAMER SPACE WALLS
- ③ PORCH CONSTRUCTED (CONJECTURAL)
- ④ CHIMNEY CONSTRUCTED
- ⑤ SMALL SHED OR STABLE, BUILT ADJACENT TO
ALLEY (APPROXIMATE SIZE & LOCATION
AS INDICATED BY 1894 SANBORN MAP)
- ⑥ FOUNDATION COMPOSITION AND PENETRA-
TION UNKNOWN
- ⑦ SECOND FLOOR, WHICH REMOVED AND COVER-
ED FOR PLACEMENT OF KITCHEN WING ROOF
- ⑧ LOCATION OF ENTRY CONJECTURAL
- ⑨ LOCATION OF WINDOW CONJECTURAL
- ⑩ LOCATION OF DOOR BASED UPON EXISTING
PHYSICAL EVIDENCE
- ⑪ STAIR CONJECTURAL



FOUNDATION



FIRST FLOOR



SECOND FLOOR

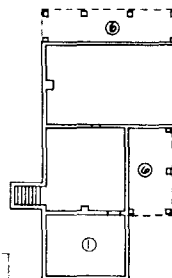


ROOF

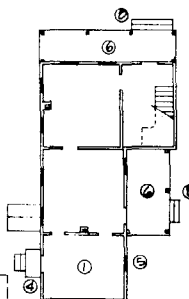
1 MAP OF SPRINGFIELD, ILLINOIS, 1867, CHICAGO
LITHOGRAPHING CO.
2 EXISTING PHYSICAL EVIDENCE

MORSE HOUSE ca. 1884

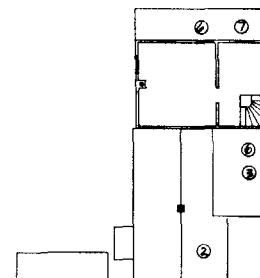
- ① ROOM ADDED TO SOUTH ELEVATION
- ② PORCH ROOF WITH NEW SHINGLES EXTENDED
- ③ PORCH ROOF WITH NEW SHINGLES
- ④ LOCATION OF ENTRY CONJECTURAL
- ⑤ LOCATION OF WINDOW CONJECTURAL
- ⑥ FIRST EVIDENCE PORCH INDICATED IN
1894 SANBORN MAP
- ⑦ METAL PORCH ROOF
- ⑧ PORCH STAIR CONJECTURAL



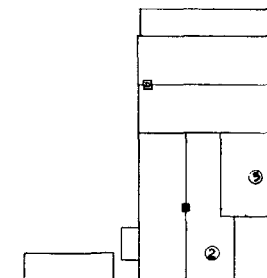
FOUNDATION



FIRST FLOOR



SECOND FLOOR



ROOF

1 NOT SANBORN MAP
2 EXISTING PHYSICAL EVIDENCE

NOT TO SCALE



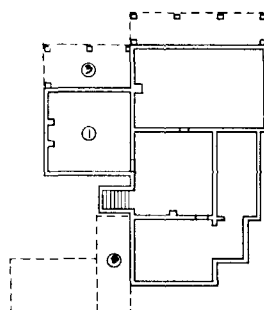
BUILDING CHRONOLOGY
JAMES MORSE HOUSE MS-9
LINCOLN HOME NHS

PREPARED	DRAWING NO.
DESIGNED	449
CONSTRUCTED	80017
CHECKED	SHEET 96
DATE	OF 27

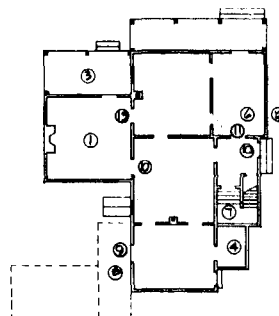
ON MICROFILM

MORSE HOUSE ca. 1884-1926

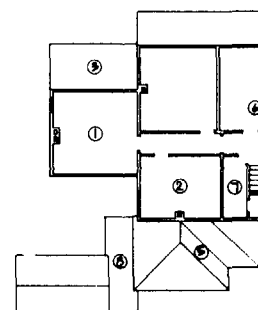
- ① TWO FLOOR WEST WING BUILT ca. 1896¹
- ② SECOND FLOOR OVER PINING ROOM BUILT AT SAME TIME WEST WING ADDED²
- ③ FRONT PORCH CONSTRUCTED³
- ④ ENTRY OR BATHROOM CONSTRUCTED ca. 1906⁴
- ⑤ HIP ROOF CONSTRUCTED OVER KITCHEN & ②
- ⑥ STAIRWELL REMOVED AND CEILING RE-CEILINGED⁵
- ⑦ PORCH EXTENDED TO TWO FLOOR PORCH BY 1896¹ FRAMED IN FOR STAIRWELL BY 1917⁵
- ⑧ COVERED PORCH EXTENDED TO ALLEY SHED¹ (SIZE & LOCATION APPROXIMATE)
- ⑨ PORCH ENCLOSED BY 1917⁵
- ⑩ LOCATION OF ROOF CONJECTURAL
- ⑪ 1925 AIR PHOTO ADDED⁶
- ⑫ KITCHEN ADDED³
- ⑬ PORCH CONSTRUCTED 11 TO DOOR WAY²



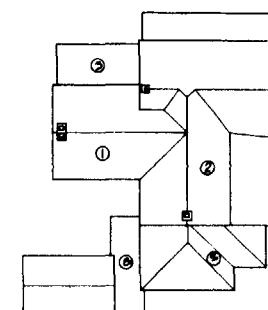
FOUNDATION



FIRST FLOOR



SECOND FLOOR

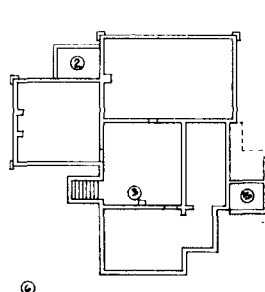


ROOF

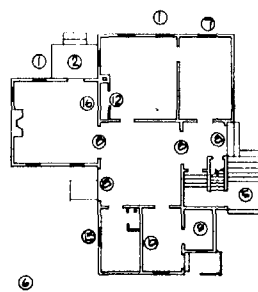
¹ 1896 SANBORN MAP
² EXISTING PHYSICAL EVIDENCE
³ 1917 SANBORN MAP

MORSE HOUSE ca. 1926-1984

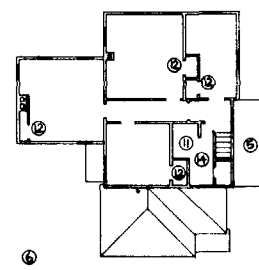
- ① FRONT PORCHES REMOVED PRIOR TO 1941²
- ② BRICK ROOF CONSTRUCTED³
- ③ CHIMNEY REMOVED TO FOUNDATION³
- ④ CHIMNEY REMOVED TO ATTIC³
- ⑤ STEPS, PORCH & ENTRY CONSTRUCTED
- ⑥ SHED AND PORCH REMOVED BY 1941²
- ⑦ EXTERIOR DOOR CHANGED TO WINDOW³
- ⑧ DOUBLE WIDE DOORS ADDED IN 1926¹
- ⑨ BATHROOM FIXTURES ADDED IN 1926¹
- ⑩ PARTITION ADDED³
- ⑪ PARTITION MOVED³
- ⑫ CLOSET ADDED³
- ⑬ CHIMNEY CROWN REBUILT³
- ⑭ SECOND FLOOR PLUMBING ADDED IN 1945³
- ⑮ LOBBYWAY CONVERTED INTO KITCHEN
- ⑯ LOBBYWAY CEILING³



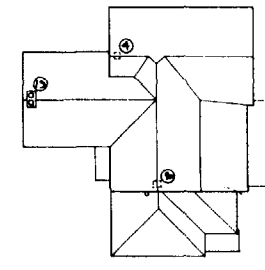
FOUNDATION



FIRST FLOOR



SECOND FLOOR



ROOF

¹ NEWARKS JOB FILED ON BEHALF OF SEVERAL "TRAVELERS ALPHABET" 11, LOGANST, 1927
² 1941 SANBORN MAP
³ EXISTING PHYSICAL EVIDENCE



BUILDING CHRONOLOGY
JAMES MORSE HOUSE HS-8
LINCOLN HOME NHS

PREPARED	DRAWING NO.
DESIGNED	449
CHECKED	80017
DATE	
SHEET	27
OF	27

600 MILLSTONE RD

Existing Conditions

INTRODUCTION

Use and abuse played a major role in creating the existing conditions of the Morse House. The rapid turnover in ownership and occupancy throughout its existence resulted in a deficiency of maintenance procedures which hastened the structure's deterioration. Prior to the Second World War, the structure served predominately as a residence. About 1890, the structure was divided into upper and lower dwelling units. The lower floor was later adapted for nonresidential uses such as a beauty salon and a lawyer's office. The house's decreased usage and subsequent elimination of heating and ventilation further accelerated the structure's deterioration.

SITING

The Morse House property, 818 East Capitol Avenue, includes the western 58 feet of Lots 15, 16, and the north half of Lot 14 of Block 10 of the Iles Addition within the city of Springfield, Sangamon County, Illinois. It is within the boundary of Lincoln Home National Historic Site. (See Existing Conditions Drawings, Sheet 1, Site Map.)

LANDSCAPE

Topography

The topography is level throughout the lot and immediate area, with a gentle slope toward the alley and Capitol Avenue, and a sharp decline of about 8 inches to the Capitol Avenue sidewalk. Soil drainage is moderately good; the absence of surrounding structures permits a larger drainage area. The existing downspouts, with the exception of the one on the southwest corner of the house, are tapped into the combination sewer via underground clay sewer pipe installed in 1926. The paths of these drain tiles are unknown, but they appear to function properly. The Lincoln Home area has a high water table.

Termite control poisons were injected into the soil around the building in 1974 (see Appendix B). The treatment was guaranteed for 5 years. Although no active infestations are apparent, there is extensive termite damage throughout the structure.

Vegetation

Three major deciduous trees grow along the alley and avenue. The red oak at the avenue is in good condition, as is the maple at the alley. The catalpa, however, shows signs of diminished growth at its crown and has many dead branches. The tree's crown has grown too close to the house, threatening the roof.

Yew shrubs at the north side of the structure are grossly overgrown and do not enhance the site. Shrub roots have grown beneath the east foundation wall and into the crawlspace, but damage to the foundation

is not evident. Juniper bushes dominate the northwest corner of the Morse House and scrub bushes have overrun the west side.

Pavements and Porches

Attempts by former owners to construct patios are evident. The nonhistoric brick patio on the southwest, which follows the ell of the house, has been undercut by erosion and is falling apart. This patio was constructed nearly adjacent to the foundation sill of the house, accelerating decay in the lower siding sections. It also blocks a crawlspace vent.

The nonhistoric flagstone patio at the southeast corner of the house is laid randomly in the earth and has no physical effect on the structure.

Neither the brick sidewalk leading to the north entry nor the concrete walk at the east side are historic. Both are in good condition.

Both porches are nonhistoric, and show signs of advanced deterioration. The east porch, constructed around 1945, served as access to a second floor apartment. The north porch was constructed about 1926.

Archeological Remains

Historic maps and bird's-eye views indicate that a shed-type structure once existed along the alley to the southwest of the Morse House (see Figure No. 7). The structure's precise location, composition of construction, and fenestration are unknown.

Two porches attached to the structure once existed on the north side of the building. Subgrade remnants of the porch piers may have survived the porches' removal.

The first plumbing systems (i.e., water supply and waste systems) were probably installed in 1875. The filled-in remains of cisterns, cesspools, or outhouses may exist on the site. The location of such structures (if indeed they existed) is not known.

FOUNDATION

The circa 1865 addition of the south wing included a full cellar, Basement 003. Evidence indicates that three-fourths of the south wall of Crawlspace 002 was removed to excavate and construct the full cellar. An attempt was made to unify the old and new brick walls, rather than butting them, to provide more strength. The consolidated areas on the walls show irregularities in the bond and course joints. All other foundation additions were butt joined, clearly demonstrating the chronology of the additions.

The existing red brick foundations are in no immediate danger of collapse. Although there are no major cracks or signs of settlement, areas of deterioration exist. Single course, triple wythe brick footings exist beneath all foundation walls which are all double wythe. (See Detail 2/20, p. 74). The damp condition of the soil and age have decayed the mortar joints, especially in the full cellar area. The mortar joints at the sill header course have failed in many places, especially along the south and north walls of Crawlspace 002. Some of the bricks have partially slipped out from beneath the wood mud sill (see Figure No. 12). Two top courses of foundation brick were removed

FIGURE NO. 12

Photo by author, Neg. No. 16/O-0A, Midwest
Regional Office.

View of the south wall of Crawlspace (002) at the
mud sill. Note the deteriorated joist end and sill
pocket. This condition is typical of nearly the
entire south wall.



at the north wall of Crawlspace 002, and a 4- by 4-inch wood member inserted beneath the mud sill as replacement for the brick. Apparently the brick deteriorated so badly this work was performed to halt the settlement of the entire north wall of the building. Many openings were punched through interior foundations to run utility lines and to gain access to crawlspace areas, adding more stress on the supporting brick walls.

Chimney B, once engaged to the foundation wall, was broken from the wall, leaving only one wythe of support. Most of the foundation walls are at or just below grade, making them vulnerable to ground movement caused by freezing and water absorption in the soil. Some areas in the crawlspaces were constructed at grade, and are not accessible for inspection.

Pargetting was troweled to all exposed surfaces of the foundation at the exterior. The mortar is very hard and is virtually impossible to remove without severely damaging the brick and mortar joints. Some has spalled at the exterior southwest corner of Crawlspace 006 due to an unrepaired downspout and freeze-thaw cycles. The mortar bonded so well that whole bricks have fallen out with sheets of the mortar still clinging (see Figure No. 13).

FLOOR/CEILING STRUCTURAL SYSTEMS

Conditions and composition of floors vary from room to room. In Basement 003, common brick forms the floor, which slopes toward a drain. The rest of the foundation floors are bare earth with no vapor barrier.

FIGURE NO. 13

Photo by author, Neg. No. 7/6,
Midwest Regional Office.

View of the exterior southwest corner
of Room 107 showing deteriorated brick
foundation and flaking of siding paint.

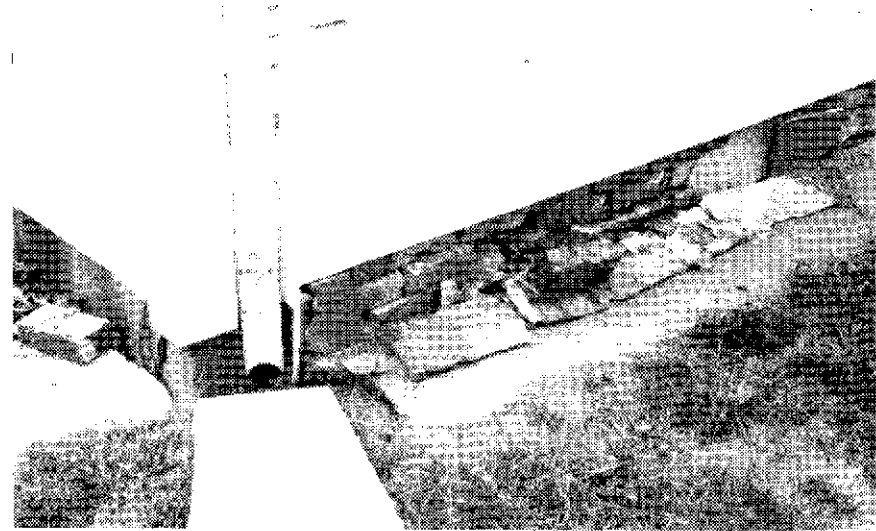


FIGURE NO. 14

Photo by author, Neg. No. 12/3,
Midwest Regional Office.

View to the northeast in Crawlspace (002)
showing termite damage to floor joists,
beam supported by mechanical pipe, and
brick piers supporting a single floor
joist.



The 2- by 8-inch oak joists beneath Rooms 102 and 103 have been damaged by termites over their entire length (see Figure No. 14). The termite damage, an added interior partition, a concrete topping to the floors, and 16-foot joist spans have added an immense strain on the floor's structural system. The termite damage emanates from the north foundation wall of Crawlspace 002. The materials' advanced age may be responsible for mortar joint failure at the mud sill along the south foundation wall of Room 002 (see Figure No. 12). Previous owners attempted to shore up the joists at mid-span. Dry-laid brick and concrete block piers were constructed beneath the partition separating Room 102 from Room 103. A 4- by 4-inch beam in Room 002 at mid-span is supported at both ends by mechanical system piping (see Figure No. 14). Similar measures were taken in Crawlspace 001. The remainder of the joists on the first floor are in good condition.

Most first floor joists are pocketed into a 4- by 6-inch or 6- by 6-inch sill, except at the north end of Room 006, where the joist ends are butt toenailed into a header joist nailed to the mud sill. Some of the pocket joints were poorly joined and have pulled partially out of their pockets. Many of the joist ends in Crawlspace 002 are nearly gone due to rotting and termite damage. No bridging exists between the first floor joists.

All first floor joist spans exceed recommended distances, except those at Crawlspaces 006 and 007. Glass batt insulation was improperly installed between all first floor joists, causing some surface mildewing to the wood joists and underside of the subfloor. The insulation was removed in the summer of 1983.

The floor above Crawlspace 005 may have originally been a porch. The top of the joists are approximately 3-inches below the level of the

rest of the structure's first floor joists. The floor was furred up to the existing floor level in the foyer only.

The second floor joists are not as deteriorated as those on the first floor, but the somewhat chaotic arrangement of these joists in some areas bears discussion. When a second floor was added to the initial structure (Rooms 102 and 103), a separate second floor floor system was constructed independent of the first floor ceiling joists. Why the builders did not simply double up the joists for reinforcement is unclear. In any event, even with all of diversity of extra lumber, the second floor has an uncomfortable deflection in Rooms 202 and 203. Dangling joist ends spliced to non-original joists in the ceiling of Room 103 reveal that an opening once existed, possibly to accommodate a stairwell (see Existing Condition Drawing, Sheet 22).

The ceiling joists above Room 104 have been doubled to form one solid floor/ceiling system. This was accomplished when a gable roof was removed and a second floor added above, requiring the floor to be raised to the height of the existing floor. The floor deflection in Room 206 is still uncomfortable, due in part to the 16-foot span of the joists. The joists are also subject to undue live loads from plumbing fixtures and pipes in Room 207 (see Figure No. 15), kitchen appliances and cupboards in Room 206, and an unsupported partition (the south wall of the second floor hall). Attempts were made to fortify the floor against these loads by adding triple joists beneath them, but the second floor in Room 204 has a very perceivable slope.

The floor system at Room 201 is of consistent construction, yet has a serious deflection problem due to the undersized framing materials.

The ceiling joists above Rooms 107 and 108 are rotted at their ends due

FIGURE NO. 15

Photo by author, Neg. No. 10/9,
Midwest Regional Office.

View of the ceiling at the east wall of Room 104 showing the plumbing tree to the second floor bathroom, and the poorly constructed header over Door 104-D1. Note also the wall plate cut to accommodate the waste stack.

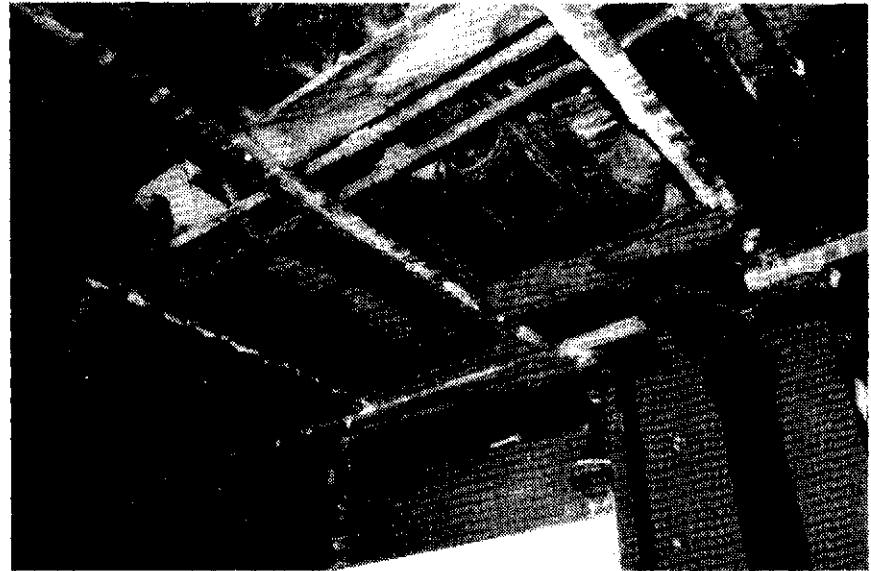


FIGURE NO. 16

Photo by author, Neg. No. 18/4,
Midwest Regional Office.

View at the ceiling of the northwest corner of Room 102 (ceiling finishes removed) showing the rotted condition of the wall plate. Note the 3-inch blade of the pocket knife fully extended into the plate.



to water infiltration from faultily constructed built-in gutters. Water has also damaged the joists in the northwest corner of Room 107. Most subflooring is of tongue-and-groove lumber and is in good condition.

Cross bridging exists in the ceiling joists above Room 101, and make-shift bridging exists in the joists in Rooms 102 and 103. Bridging exists nowhere else in the structure.

Second floor ceiling joists are generally in sound condition. The National Park Service inserted glass batt insulation between all attic joists in 1980.

The existing stairs (installed around the turn of the century) are in good condition for normal traffic. Existing ceiling framing suggests that the original stairway was at the southeast corner of Room 103 (See Existing Conditions Drawings, Sheet 22). The stair may have been a steeply inclined ell or "U" stair with an intermediate landing. The historic stair was probably removed at the time the existing stair was installed.

WALL STRUCTURAL SYSTEMS

All walls are of the wood stud platform type framing. Spacings and dimensions of the studs vary according to the age of construction. The studs are generally in good condition throughout, except at the north and south sides of the house. None of the walls are insulated.

The mud sill at the north wall of Crawlspace 002 is in very poor condition due to termite damage. A 4- by 4-inch sill replaced two top

courses of foundation brick for a length of 16-feet along the north wall of Crawlspace 002. The double sill arrangement may have been used to support the entire north wall, which was threatened by extensive termite damage. Settlement in this wall has applied compressive loads to the lower portion of the exterior siding at the northeast corner, buckling them.

The entire east wall of Room 103 was replaced, probably at the same time the stairway against it was removed. The framing and plaster and lath materials all differ in size and construction techniques compared to the rest of the circa 1860 structure. Wall settlement caused by termite damage may be the reason these materials were replaced.

The mud sill at the eastern half of the south wall of Room 002 is decayed. Water probably infiltrated the wall before the adjacent porch was enclosed to form a foyer and stairhall. Many of the joist pockets and ends are gone (see Figure No. 12).

Severe rotting, probably caused by a leaky cast iron radiator and termites, has occurred at the plate in the northwest corner of the ceiling in Room 102. Virtually no compressive strength remains in the 4- by 4-inch plate from Chimney A north to the corner then two feet to the east. (See Figure No. 16.) This has resulted in the settlement of the second floor at the northwest corner in Room 202, and perceivably bowed siding at the exterior. Termites have also infested the south walls of Rooms 107 and 108. Major portions of the walls' sheathing and studs have been removed and replaced, probably due to deterioration caused by termite infestation.

An unusual and unwise construction practice is exhibited at the ceiling plate along the north walls of Rooms 107 and 108. Presumably to

compensate for a 3-inch offset in the north wall of Room 109, the builder shifted the entire second floor wall south by 2 1/2-inches, framing it flush with the existing Room 109 wall. This action left all the studs in the second floor south wall bearing on only one inch of their bottom surfaces (see Figure No. 17). No structural problems have been detected in the existing structure at this location to date.

In 1926, French and double doors were added to Rooms 104 and 105. The builder neglected to construct adequate headers above the 6-foot span of these doors, which no longer properly function because of the second floor loads pressing the frames against the door heads. Doors 104-D1A and -D1B are unintentional but nonetheless essential structural components in supporting the bearing wall above.

INSULATION

Glass batt insulation exists in Attics 301, 302, and 303. Similar batting was removed from the first floor joists during the summer of 1983. None of the walls have insulation or vapor barriers.

ROOF SYSTEMS

The roof structural systems of the main portion of the Morse House are generally in good condition (see Roof Rafter System, Sheet 24). The rafters in the hip roofs at the southern portion of the building are in good condition although rafter ends concealed from view may be rotted, as are their companion joists. The main roof over the second floor (Roofs 1, 2, and 3) exhibits little buckling, bowing, or water damage to the 2- by -4-inch rafters. The porch roofs, possibly built in 1926,

FIGURE NO. 17

Photo by author, Neg. No. 13/17,
Midwest Regional Office.

View at the ceiling of the north wall
of Room 107 (ceiling finishes removed)
showing the poor bearing surface of
the second floor stud on the wall plate.
This condition occurs at the entire
north wall of Rooms 107 and 108.

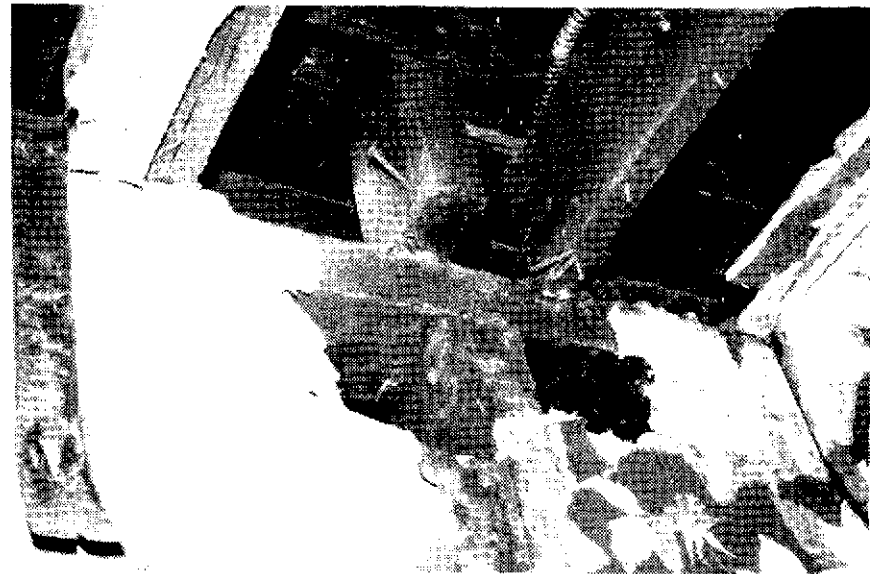
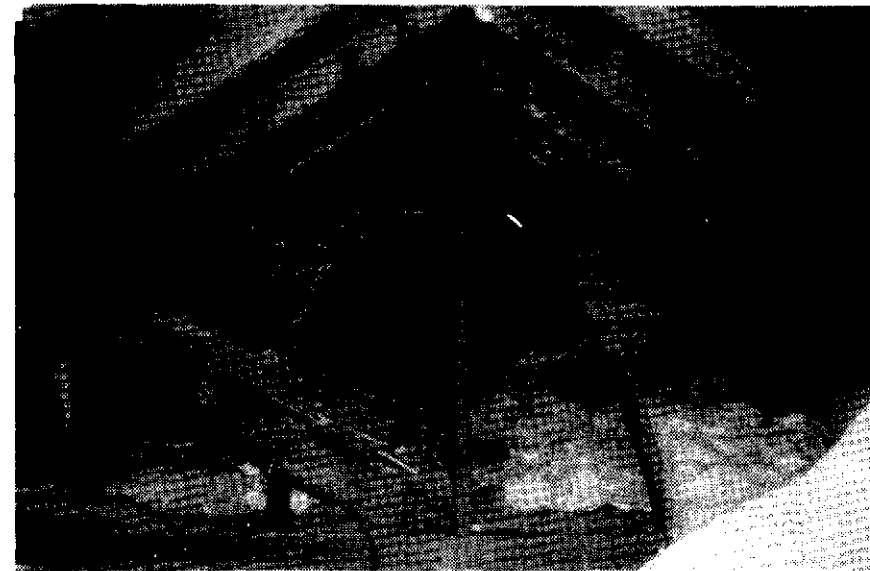


FIGURE NO. 18

Photo by author, Neg. No. 12/18,
Midwest Regional Office.

View east from Attic (301) showing Roof 2
rafters supported by Roof 1 sheathing,
and Roof 3 rafters supported by Roofs
1 and 2 sheathing. No nail holes in
the exposed sheathing of Roof 2 indicates
Roofs 2 and 3 were built at the same time
time.



were poorly constructed, and are now near collapse.

Evidence indicates that Roofs 2 and 3 were constructed at the same time. Sheathing was extended over the northern portion of Roof 2A rafters merely to form a bearing surface for the Roof 3 rafters (see Figure No. 18). These circa 1896 roof additions formed a protective canopy over the original circa 1863 Roof 1. The original wooden shingles remain intact (see Figure No. 19). The change in roof pitches between the new and old roofs necessitated the construction of a small hip gable at the intersection of Roofs 1 and 2, which is barely perceivable from the street.

Roof sheathing, spaced as wood shingle lath, appears to be in good condition throughout the second floor roof system. The roof sheathing over Roof 1 is of random width 1-inch stock without planed edges. The remainder of the roofs are of nominally dimensioned 1-inch lumber.

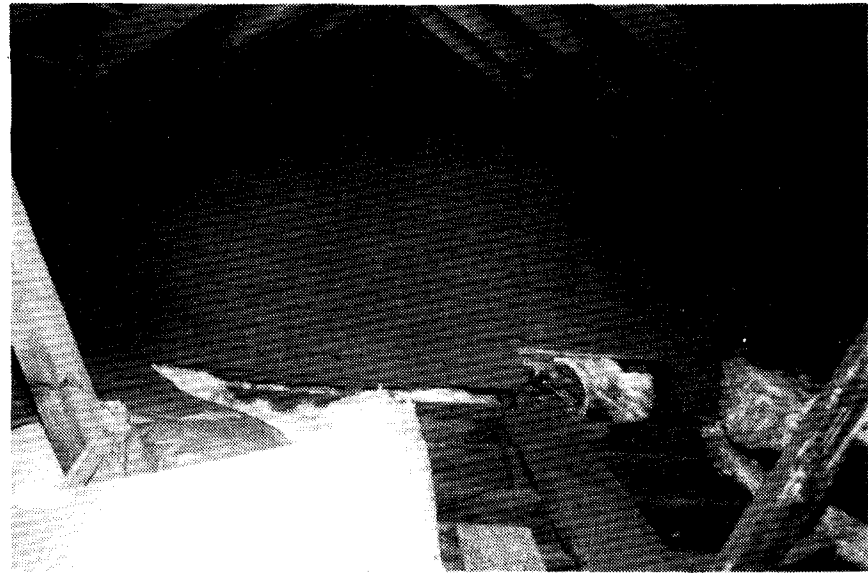
Asphalt shingles were applied over wood shingles on Roofs 1, 2, and 3 sometime prior to the structure's purchase by the Federal government in 1974. There are no apparent leaks. The National Park Service applied asphaltic roofing over tin plate in 1980, covering the gently sloped shed Roof 4. This inadequately sloped roof, constructed of top side tapered 2- by 8-inch joists, leaks profusely.

The hip roofs, Roofs 5 and 6, are covered with roll roofing, and also exhibit leaks, especially in the northwest corner of Room 107. Evidence shows that these hip roofs at the southern portion of the structure are not original to the house. The second floor wall sheathing to which the roof is joined exhibits no siding nail holes; thus indicating the roof was constructed at the same time the second floor above Room 104 was built.

FIGURE NO. 19

Photo by author, Neg. No. 14/2,
Midwest Regional Office.

View north from Attic (303) showing
the original wood shingles of Roof 1
sheltered by Roof 2.



All gutters at the second floor eaves are ogee type, 6-inch wide galvanized steel. Most function adequately at present except at Roof 4, where the gutters have fallen off. The 4-inch diameter downspouts which serve these gutters are functioning adequately at present. The downspouts empty into clay tile linked to the city combination sewer system.

Roofs 5 and 6 have wood cased, built-in gutters lined with roll roofing. Most of this roof's rotting problems can be attributed to the failure of its built-in gutters to function properly. The entire roof drains to a single 3-inch round downspout terminating at a grade-level splash block. Inadequate maintenance of this downspout allowed water to flow uncontrollably over the structure. This eventually caused severe damage to the brick foundation and exterior siding, allowing the paint to deteriorate (see Figure No. 13).

BUILDING ENVELOPE

Exterior wall sheathing covers every portion of the structure built after approximately 1863. It consists of random width 1-inch nominal lumber. That portion of the house without sheathing includes the exterior exposed walls of Rooms 102, 103, 202, 203 and 302.

The structure's exterior siding is beveled 1/2- by 6-inch siding with 4 1/2-inch average exposure. The paint on the house has peeled and alligatored, which allowed water penetration that soaked the unsheathed siding to the interior face. The combination of a poorly constructed east porch roof and a missing gutter has permitted soaking of the siding beneath the roof (see Figure No. 20). Overall, approximately 50

FIGURE NO. 20

Photo by author, Neg. No. 17/11,
Midwest Regional Office.

View of the east exterior elevation beneath
Porch (111) roof showing water damaged paint
finish and siding.



to 60 percent of the building's siding is split, cupped, cracked or rotted. Any attempt to remove portions of the siding for replacement would cause adjacent siding to split due to its embrittled age.

A physical investigation in November 1984, has revealed that the existing siding on the pre-1863 portions of the structure is not original. A second set of nail holes bearing the remains of cut nails was discovered beneath the existing siding. The holes are spaced 1/4- to 1/2-inch closer than the existing functional nails indicating that the original siding exposure may have been 4- to 4 1/4-inches. The false pilaster corner trim is also not original to the structure. The unexposed siding ends beneath the pilaster trim are not cut uniformly and the pilasters are fastened to the siding with wire nails. Most of the pilaster bases have rotted due to direct contact with the textured brick plinths. The remainder of the corner trim on the house remains intact though subject to constant water attraction caused by deteriorated paint.

The design of the cornice and frieze trim varies with the date at which they were constructed. Most of the cornice trim at the second floor roofs appear to be in good condition although eave lines were modified with 2- by 4-inch lumber to provide a more stable nailer base for the gutters. The second floor shed roof cornice does show signs of wood rot. The cornice at Roofs 5 and 6 has experienced internal water damage and rotting due to the failure of the built-in gutter.

WINDOWS

Most of the wooden windows throughout the Morse House are in an advance state of disrepair and decay. The problems with frames and sash

FIGURE NO. 21

Photo by author, Neg. No. 17/8,
Midwest Regional Office.

Exterior view of Window 101-W1 showing extensive
deterioration of sill and jamb. Most windows
throughout the structure are in poor condition,
similar to the one shown.



include rotting at all wood components, sash painted shut, dried out and cracked putty, misaligned sash, and weak or totally rotted joints (see Figure No. 21). Other than sash weights and spring loaded sash pins, no historic window hardware remains. Factory built aluminum triple track storm and screen units have been installed by contractors at the interior frames of all windows. No wood screen or storm windows exist.

Inoperative exterior wood shutters were installed at most of the windows with nails or screws driven through the shutter frames into the window frames and siding. These shutters are in a state of disrepair and are nonhistoric.

Practically all of the window sashes were replaced by one-over-one glazed sash. The frames and interior and exterior trim may be original. The historic glazing pattern for the original two-story portion of the house is unknown, but probably consisted of nine-over-nines for the tall north elevation windows and six-over-sixes for the remainder.

Evidence suggests that window 103-W2 is not original to the house; a stairwell once existed against the wall in which it is framed. The window is also out of scale with the rest of the structure's windows.

A sealed opening in the west wall of Closet 102-A may have been a window in the original structure. Stud framing is very similar to the existing windows along the north walls of Rooms 102 and 103.

Investigative demolition of plaster and lath on the north wall of Room 204 uncovered the existence of a former window, removed and framed shut (see Figure No. 5). The window was probably sealed when a gable roof

was constructed over Room 104, circa 1867.

The installation of French and double doors in 1926 destroyed all evidence of the location and size of the original windows in Room 104.

DOORS

Most of the interior doors remain in good operating condition. It is unknown which, if any, of the single leaf panel doors are original to the house. The glazed double leaf French doors, installed in 1926, no longer operate properly due to pressure exerted by the headerless stud walls above them. Precise locations of the original doors replaced by the French doors is unknown.

Window 103-W1 was once the front entry to the original portion of the structure (see Figure No. 6). Base moulding at 103-W1 has been butted flush with adjacent moulding and its dimensions are not consistent with other windows in the house.

The circa 1872 panorama (see Figure No. 6) indicates that a door was located on the east wall near the northeast corner of Room 104 leading to the east porch. However, a wood door sill and the irregularity in stud framing indicates that an exterior door was located along the east wall of Room 104 near the southeast corner. A wood door sill was also found beneath the finished floor between the jambs of door 107-W1. The door may have been a rear entry into the circa 1867 kitchen wing.

All of the exterior doors are in poor to fair operating condition and repair; none are original to the 1860s portion of the house. During

wet weather, problems arise in opening Doors 105-D1 A and B due to wood swelling caused by improper water drainage. The formal north entry, Door 101-D1, including the factory built frame; and the double doors, 104-D2A and -D2B and 105-D1A and -D1B, were all installed in 1926.

INTERIOR FINISHES

The walls and ceilings over most of the first floor are gypsum board, although the original split wood lath and plaster remain over most of the outside walls of Rooms 102 and 103. Most of the walls and ceilings in the second floor are of original wood lath and plaster, although there are isolated areas of gypsum board. About 60 percent of the first floor finishes and 10 percent of the second floor finishes have been removed for the purpose of structural investigation.

Wood strip flooring prevails throughout the first floor except in Room 102 and the northern half of Room 103, where a 1/2-inch concrete topping has been poured over the subfloor. All the wood strip floors are in poor condition, having worn or water-damaged finishes. All floors in the second story are carpeted, except the Bathroom 207, which has a resilient floor surface. Most of the carpeting has been applied over wood strip floors and/or plywood, and has been nailed down with carpet tacks. The Kitchen 206 carpeting was glued down.

Most of the base, window, and door mouldings are in good condition. The painted wood fireplace mantle in Room 101 is in good condition; its installation date is unknown.

EXTERIOR FINISHES

A cursory paint analysis was performed on the Morse House by a private firm in 1974 before the building was scraped and painted. The results indicate that the building had always been painted white, except for the nonhistoric shutters. (See Appendix A.) However, a detailed paint analysis does not support this claim. Paint samples removed from selected areas of the Morse House indicate a variety of early paint colors. The earliest color uncovered by this analysis was a light chalky brown. A more extensive and detailed paint analysis should be performed before construction work begins.

Paint was removed and the house repainted in 1979. That paint has peeled and alligatored badly, due in part to the damp condition of the siding, and possibly to the type of paint used, and the method of its application.

PLUMBING SYSTEMS

Plumbing systems were provided to the house in approximately 1875, when a kitchen extension was added to the south wing. The condition of the existing water and sewer service lines is unknown. New fixtures were installed for the bathroom in 1926, and a second floor bathroom was constructed around 1945. The water is now turned off at a meter at the street.

The water supply system of galvanized and copper pipe is in very poor condition. Most valves do not operate and corroded pipes indicate several leaks. Some pipes have been broken or disconnected. The gas water heater is outdated and in poor condition. All kitchen and

bathroom fixtures are outdated, with the exception of the second floor bathroom fixtures, which were installed by the National Park Service around 1980. The exposed waste lines are of cast iron and lead and are apparently in good condition.

The structure's gasline is tapped into a main line which runs beneath the alley. The meter is at the west wall of Room 001. Gas pipes were found running through walls, ceilings, and into the fire box of the fireplace, indicating that gas service was probably installed at the time the west wing was constructed, circa 1896. Gas service lines run to both kitchens and to the furnace. Service is currently shutoff at the meter.

MECHANICAL SYSTEMS

The current heating system is a steam, natural gas-fired type boiler furnace with a two pipe distribution system terminating in cast iron radiators of various sizes. The boiler furnace is fairly old; its efficiency is unknown. The distribution system is of severely rusted insulated steel pipe. Most of the system's valves are inoperative. The second floor radiators are fed by 1-inch steel pipe exposed at the first floor level. The system is shut down.

There is no central air-conditioning system in the Morse House, although cooling was provided by electric window units between 1980 and 1983.

Boiler and water heater gases were vented to a double walled galvanized steel chimney, Chimney D, which courses through Closet 107-A and penetrates Roof 5.

Chimney A has been dismantled to just below the roof ridge. This brick chimney was likely the first to be installed on the structure. It was extended when the second story was added, circa 1863. It is structurally in fair condition, and contains no flue liner.

Little remains of Chimney B other than several brick courses at its base. Framing evidence in Attic 303 indicates that the chimney extended past the existing gabled roof ridge. The chimney was demolished sometime during or after 1945.

Chimney C is double flued and has no flue liner. Its crown is not original to its construction; the brick is of a different size and color than the brick at the chimney's base. Water has badly damaged the masonry from just below the roof ridge to the attic joist level. The fireplace base, including the concrete trimmer arch, base piers, and the brick arch spanning the piers, are in stable condition. The fireplace, including hearth and breast, are in good condition. The firebox is lined with an extremely rusted sheet metal and cast iron insert. The appearance of any of the historic chimney crowns is unknown.

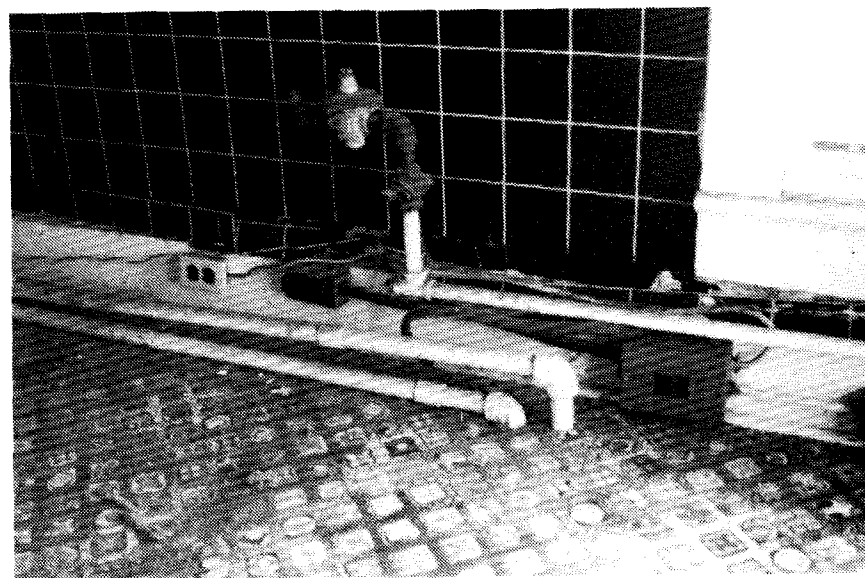
ELECTRICAL SYSTEM

Electrical service is provided by buried cable, installed in 1968, emanating from service transformers located approximately 90-feet to the south of the Morse House. The condition of the underground cable is unknown. The meter is at the southeast corner of the structure. The main 200-ampere breaker panel, is at the south wall of Basement 003 and a secondary panel box is within a small cabinet in Bathroom 109.

FIGURE NO. 22

Photo by author, Neg. No. 17/19,
Midwest Regional Office.

View along the south wall of
Kitchen (206) showing the dangerous
condition of the electrical system.
Also shown are mechanical pipes, and
a gas supply pipe with valve.



The meter and breaker panel replaced fuse boxes in 1978. Insulated branch circuit cable was installed at various times since 1926 and is in a dangerous operational state (see Figure No. 22). There are a variety of receptacle types, few of which appear to meet current code standards. There are a variety of types and ages of light fixtures, wall and ceiling mounted, none of which is noteworthy. General service to the house is currently shutdown to reduce the chance for fire, although one receptacle in the basement remains active and the fire detection system is switched on at the main breaker panel box.

COMMUNICATION SYSTEM

The existing underground telephone line enters the building on the west side. The line is linked to a surface mounted junction box at the west side of the alley. Although there are several phone jacks throughout the building, no telephones are hooked into the system. The fire alarm system is, however, dependent upon the existing phone line.

Cable for television reception was installed by the National Park Service around 1978 to eliminate roof antennae. The cable was laid at the grass line east of the alley pavement. The branch cable enters the house at the west side of the structure.

SECURITY SYSTEMS

A fire detection and alarm system was installed in 1976. The main panel, located in the south wall of Basement 003, is hooked directly into the electrical and telephone systems. An alarm gong is located in Closet 107-A. Heat detectors are situated throughout the structure,

roughly one for each major room, including the attic. Cables are surface mounted, some exposed, some concealed. The system's detectors are antiquated.

There is presently no intrusion detection system in the Morse House.

Exterior Photographs



FIGURE NO. 23

Photo by author, Neg. No. 19/13, Midwest Regional Office.

North exterior elevation.



FIGURE NO. 24

Photo by author, Neg. No. 19/20, Midwest Regional Office.

East exterior elevation.

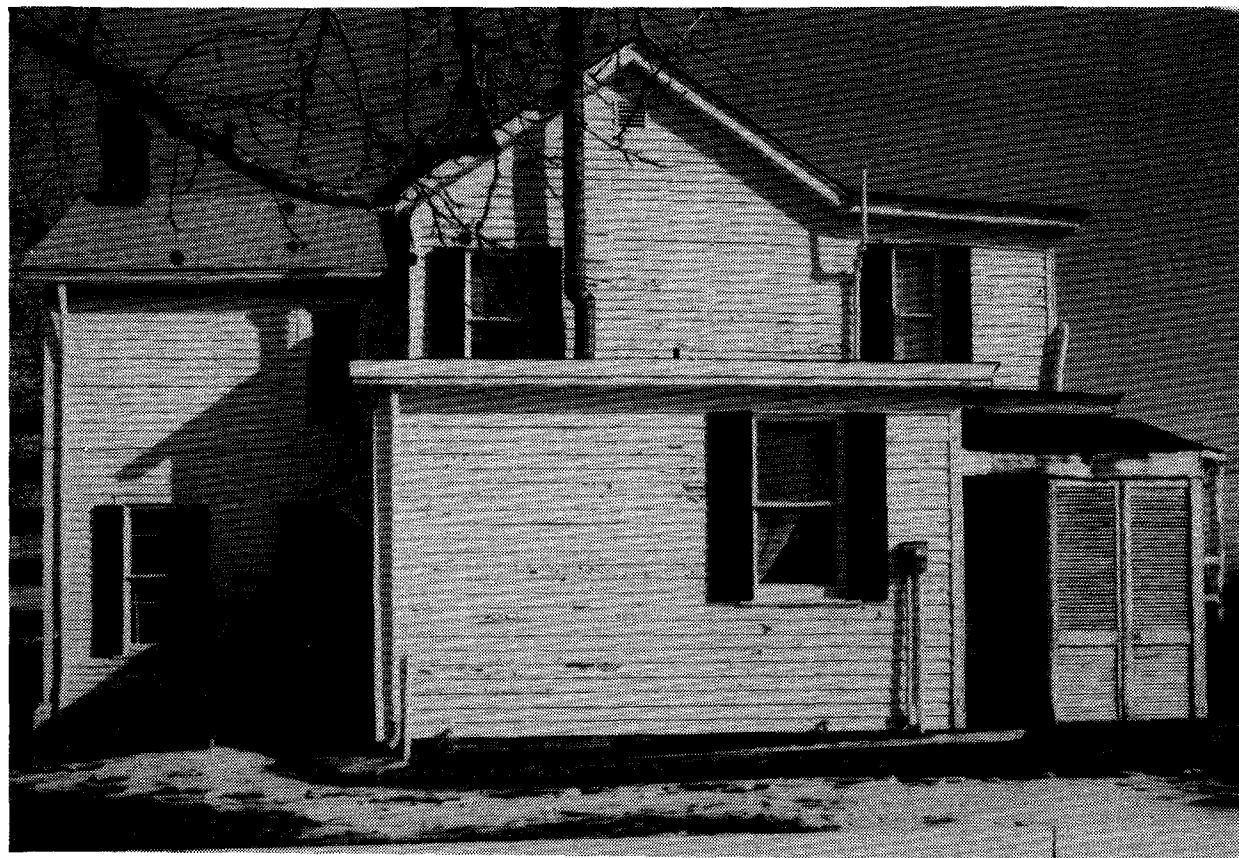


FIGURE NO. 25

Photo by author, Neg. No. 19/20, Midwest Regional Office.

South exterior elevation.



FIGURE NO. 26

Photo by author, Neg. No. 18/16, Midwest Regional Office.

West exterior elevation.

Existing Conditions Drawings

1 ABBREVIATIONS

A	AREA	LG	LONG
ABBRV	ABBREVIATION	LIN FT	LINEAR FEET
ACI	ACTUAL	M	METER
ADD	ADDITION	METL	METAL
AGGR	AGGREGATE	MEI	METAL
AIR COND	AIR CONDITIONING	NATL	NATIONAL
ALW	ALUM	NIC	NICKEL
AMT	AMOUNT	NOM	NOMINAL
ASPH	ASPHALT	NOT IN CONTRACT	
AVG	AVERAGE	OC	ON CENTER
BD	BOARD	OD	OUTSIDE DIAMETER
BET	BETWEEN	OPNG	OPENING
BLDG	BUILDING	OPP	OPPOSITE
BM	BEAM	PLAS	PLASTER
BRK	BRICK	PRE	PRESERVE
C CONC	CASI CONCRETE	PREFAB	PREFABRICATED
CEM	CEMENT	PTD	PAINTED
CI	CAST IRON	QTY	QUANTITY
CIP	CAST IRON PIPE	R	RISER
CIR SKR	CIRCUIT BREAKER	RAD	RADIATOR
CL	CLEANOUT	RD	ROUND
COL	COLUMN	REC	RECONSTRUCT
CONC	CONCRETE	REMOV	REMOVE
CONC B	CONCRETE BLOCK	REP	REPAIR
CONTA	CONTRACTOR	RES	RESTORE
CU FT	CUBIC FEET	RET	RETAIN
CU YD	CUBIC YARDS	REV	REVISION
DEM	DEMOLISH	RF	ROOF
DET	DETAIL	RGH	ROUGH
DIA	DIAMETER	RIN	REPLACE IN KIND
DIM	DIMENSION	SAL	SALVAGE
DN	DRAIN	SB	SPLASH BLOCK
DS	DOWNSPOUT	SC	SILL COOK
EA	EACH	SH	SHEET
EL	ELEVATION	SM	SURFACE MOUNT
EXT	EXTERIOR	SP	STEAM PIPE
FF	FINISHED FLOOR	SPEC	SPECIFICATION
H-X	FLOOR	SQ	SQUARE
FL	FLOOR	STL	STEEL
FND	FOUNDATION	THK	THICK
FR	FRAME	T&G	TONGUE AND GROOVE
FT	FEET	TOL	TOP OF JOIST
GAL	GALLON	TR	TREAD
GL	GLASS	TRP	TYPICAL
GOVT	GOVERNMENT	V	VENT
GP	GAS PIPE	WC	WATER CLOSET
GYP	GYPSON	WD	WIDTH
HDM	HARDWARE	WL	WASTE LINE
HT	HEIGHT	WS	WATER SUPPLY
IWH	HOT WATER HEATER	W	WITH
ID	INSIDE DIAMETER	W/O	WITHOUT
INS	INSULATION	WP	WOOD POST
INT	INTERIOR	YD	YARDS

2 MATERIALS

	EARTH/COMPACT FILL
	POROUS FILL/GRAVEL
	ROCK
	CAST-IN-PLACE CONCRETE
	LIGHTWEIGHT CONCRETE
	SAND/MORTAR/PLASTER
	COMMON/FACE BRICK
	FIRE BRICK
	CONCRETE BLOCK
	RUBBLE
	MARBLE
	ALUMINUM
	BRASS/BRONZE
	STEEL
	FINISHED WOOD
	ROUGH WOOD
	WOOD BLOCKING
	HARDBOARD
	PLYWOOD
	GLASS
	BATT INSULATION
	RIGID INSULATION
	TERRAZZO
	CLAY TILE

3 SYMBOLS

	SEWER LINE
	WATER LINE
	GAS LINE
	PROPERTY LINE
	ELECTRICAL LINE (OVERHEAD)
	ELECTRICAL LINE (BURIED)
	TELEPHONE LINE (OVERHEAD)
	TELEPHONE LINE (BURIED)
	SECURITY SYSTEM LINE
	VALVE
	METER
	ROOM MARK
	DOOR MARK
	WINDOW MARK
	REVISION MARK
	ELEVATION
	BUILDING SECTION
	WALL SECTION
	DETAIL

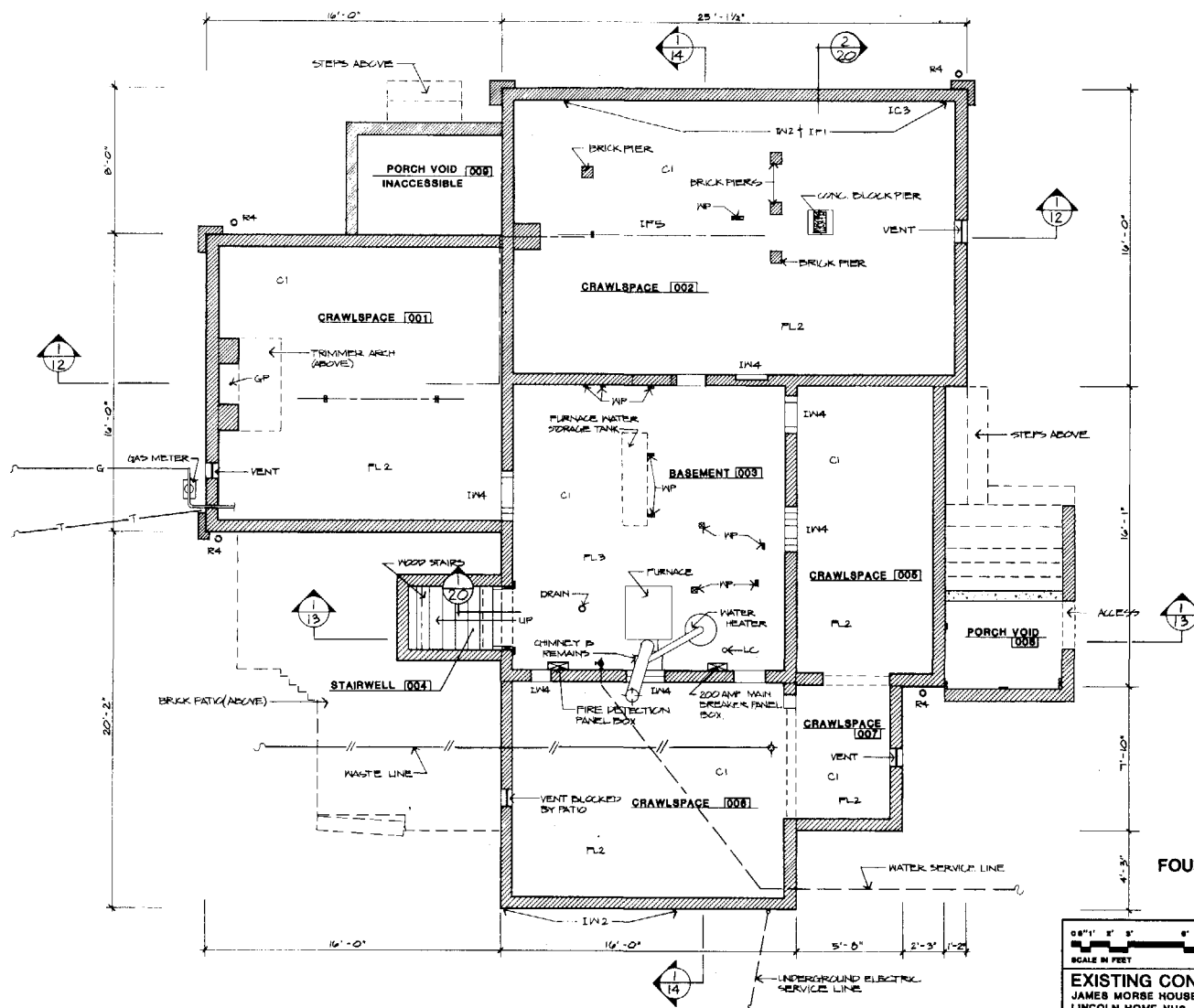
4 SYSTEMS NOTES

FLOORS	FL 1 EXPOSED STRUCTURE
	FL 2 EARTH
	FL 3 BRICK
	FL 4 STONE
	FL 5 1/2 CONCRETE
	FL 6 CONCRETE
	FL 7 CERAMIC
	FL 8 RESILIENT
	FL 9 WOODSTRIP 1/8"
	FL 10 CARPET
	FL 11 CARPET OVER WOOD STRIP
	FL 12 CARPET OVER PLYWOOD
	FL 13 1X SUBFLOOR PLANK
	FL 14 BATT INSULATION
WALLS	W 1 EXPOSED STRUCTURE
	W 2 BRICK
	W 3 PLASTER OVER WOOD LATH
	W 4 PLASTER OVER BRICK
	W 5 MORTAR PARGET
	W 6 GYPSUM BOARD
	W 7 MASONITE
	W 8 GYPSUM BOARD OVER PLASTER
	W 9 PLYWOOD
	W 10 CONCRETE BLOCK
	W 11 CONCRETE
	W 12 BRICK INFILL
	W 13 MIRROR
CEILINGS	C 1 EXPOSED STRUCTURE
	C 2 PLASTER OVER WOOD LATH
	C 3 GYPSUM BOARD
ROOF	R 1 ASPHALT SHINGLES
	R 2 ROLL ROOFING
	R 3 DOWNSPOUT
	R 4 DOWNSPOUT DRAIN
	R 5 WOOD SHINGLES
	R 6 1X RANDOM WIDTH SHEATHING

5 EXISTING CONDITIONS NOTES

FLOORS	IF 1 TERMITE DAMAGE TO JOIST/SILL
	IF 2 RODENT DAMAGE
	IF 3 WATER DAMAGE
	IF 4 WORN FINISH
	IF 5 4X4 SUPPORTED BY MECHANICAL PIPES
	IF 6 FLOOR SETTLING
	IF 7 CARPET WORN/DIRTY
	IF 8 FIRST FLOOR PARTITION POORLY SUPPORTED
	IF 9 HALL PARTITION POORLY SUPPORTED
WALLS	INTERIOR
	IW 1 WATER DAMAGE
	IW 2 DETERIORATED BRICK
	IW 3 STUD SEVERED
	IW 4 PORTION OF BRICK WALL REMOVED
	IW 5 INADEQUATE HEADER ABOVE DOOR/WINDOW
	IW 6 SECOND FLOOR STUDS INADEQUATELY SUPPORTED
	IW 7 WALL PLATE NOT SUPPORTED FROM BELOW
	IW 8 TERMITE DAMAGE TO STUDS
	IW 9 STUDS NOT ORIGINAL TO INITIAL CONSTRUCTION
	EXTERIOR
	EW 1 SPALLED BRICK
	EW 2 MORTAR JOINTS FAILING
	EW 3 ROTTED SIDING
CEILINGS	IC 1 WATER DAMAGE
	IC 2 PLATE CUT FOR WASTE VENT
	IC 3 ROTTED SILL/PLATE
	IC 4 ROTTED JOIST END
ROOF	ER 1 SHINGLES FADED
	ER 2 ROTTED CORNICE
	ER 3 DETERIORATED SHEATHING

PREPARED		DRAWING NO.	
DESIGNED		449	
DRAWN		80017	
CHECKED		SHEET 2	
DATE		OF 27	
EXISTING CONDITIONS JAMES MORSE HOUSE HS-8 LINCOLN HOME NHS			



FOUNDATION PLAN



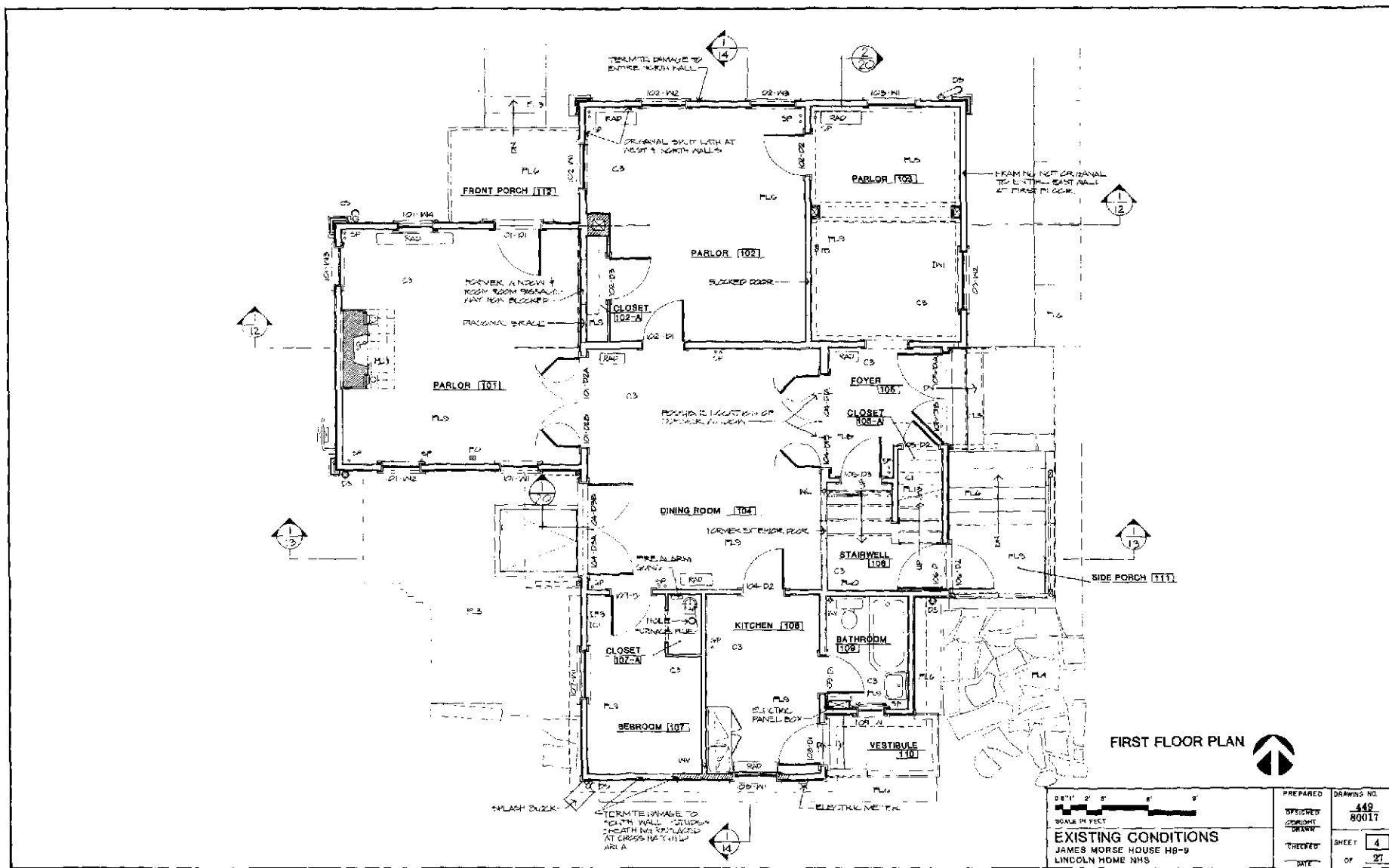
0 5' 10' 15' 20' 25' 30'

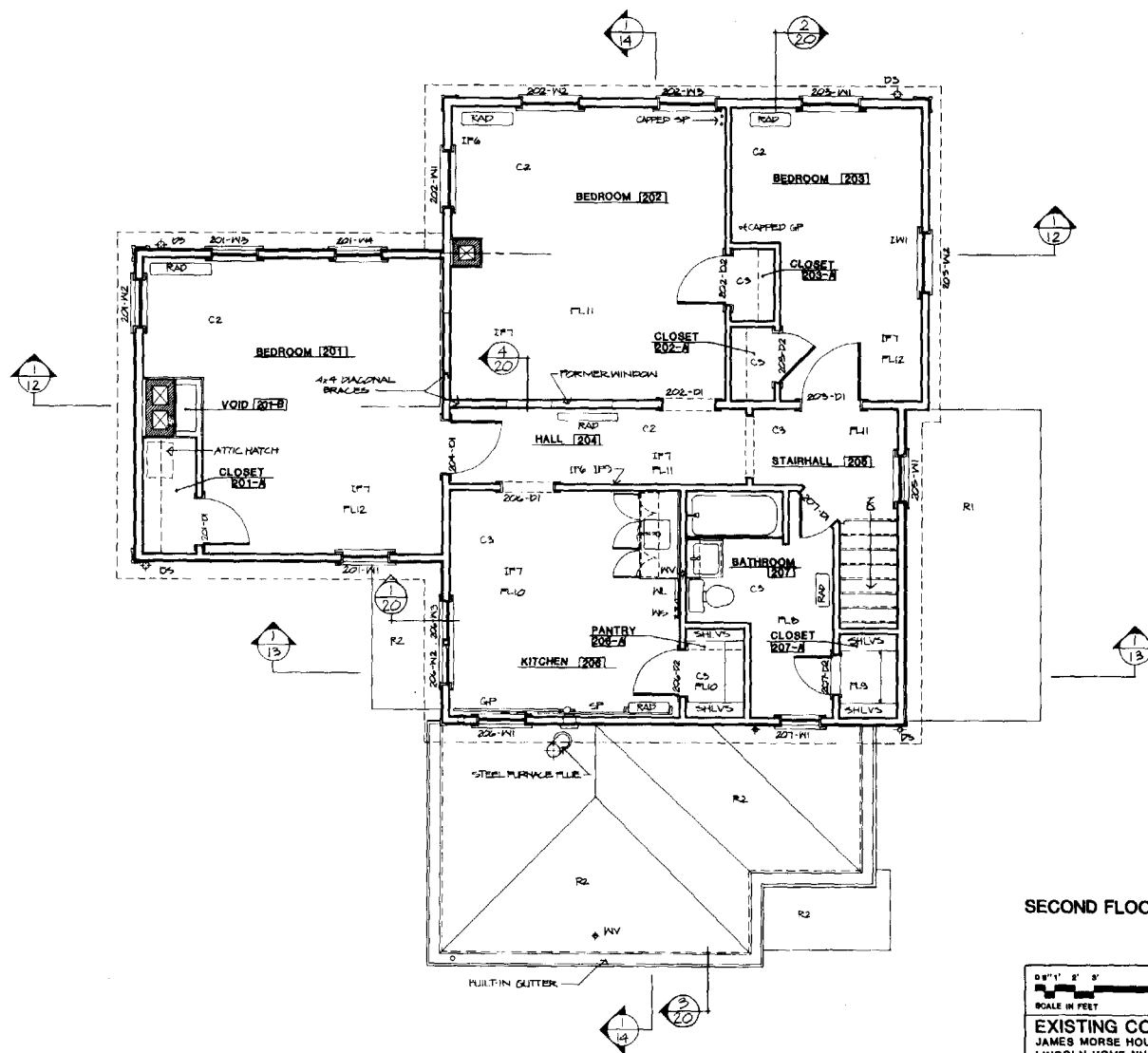
SCALE IN FEET

EXISTING CONDITIONS
JAMES MORSE HOUSE HS-9
LINCOLN HOME NHS

PREPARED	DRAWING NO.
DESIGNED	449
DRAWN	80017
CHECKED	SHEET
DATE	OF
	3
	27

ON MICROFILM





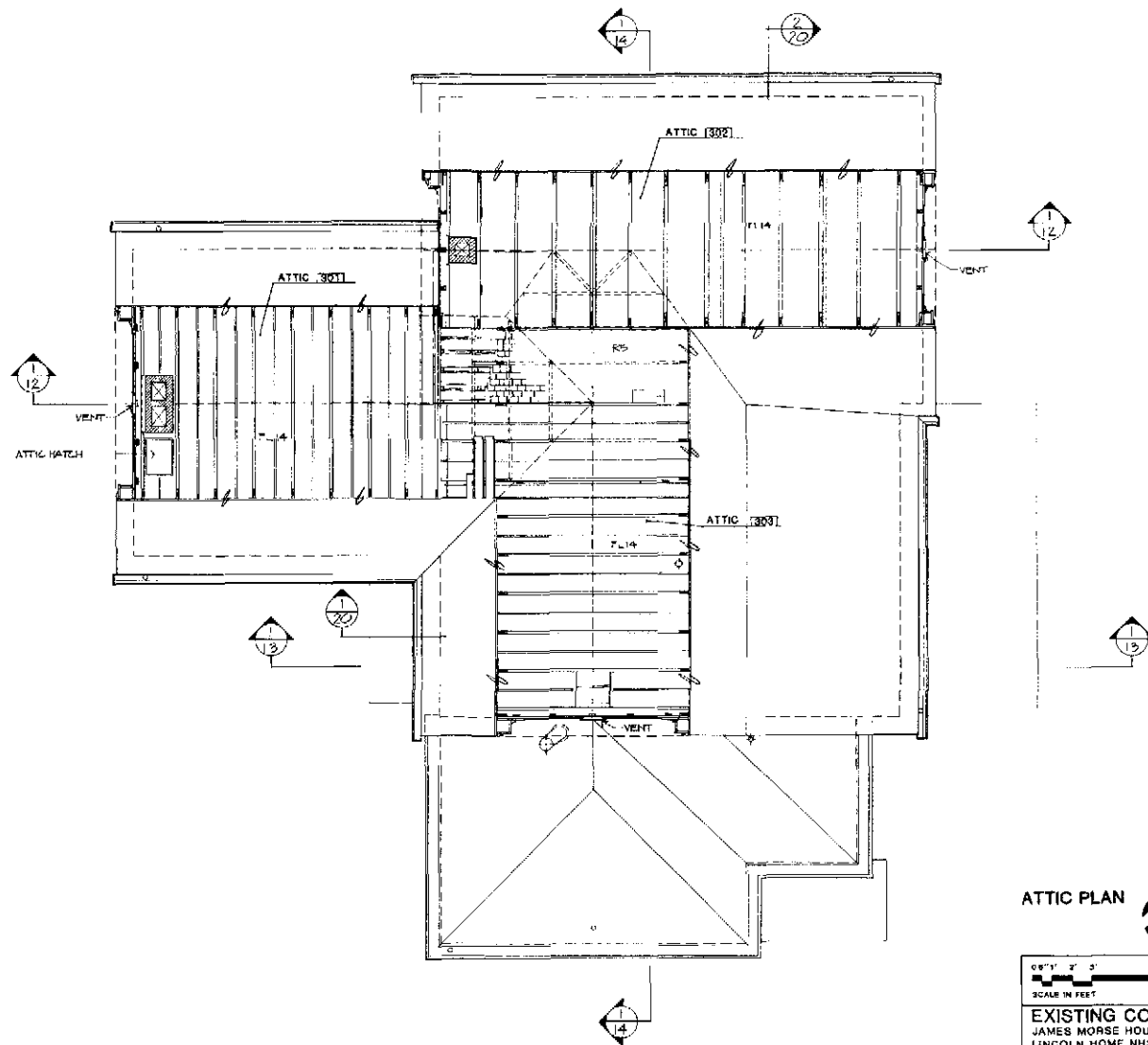
SECOND FLOOR PLAN 

0" 1" 2" 3" 4" 5"
SCALE IN FEET

EXISTING CONDITIONS
JAMES MORSE HOUSE HS-9
LINCOLN HOME NHS

PREPARED	DRAWING NO.
DESIGNED	449
CONCEPT	80017
DRAWN	
CHECKED	SHEET 5
DATE	OF 21

ON 11/15/14



ATTIC PLAN



0' 1" 2" 3" 4" 5" 6" 7" 8" 9" 10"

SCALE IN FEET

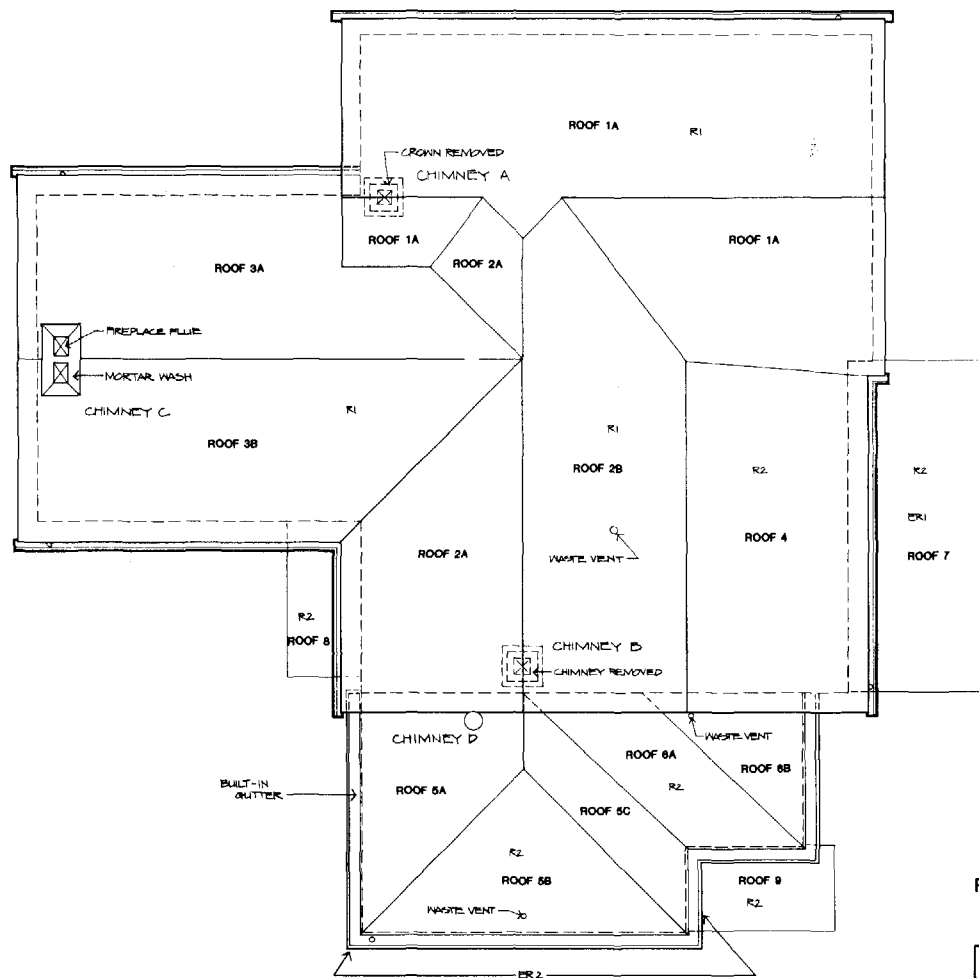
EXISTING CONDITIONS

JAMES MORSE HOUSE HS-9

LINCOLN HOME NHS

PREPARED	DRAWING NO.
DESIGNED	449
CHECKED	80017
DATE	SHEET 6
	OF 27

ON



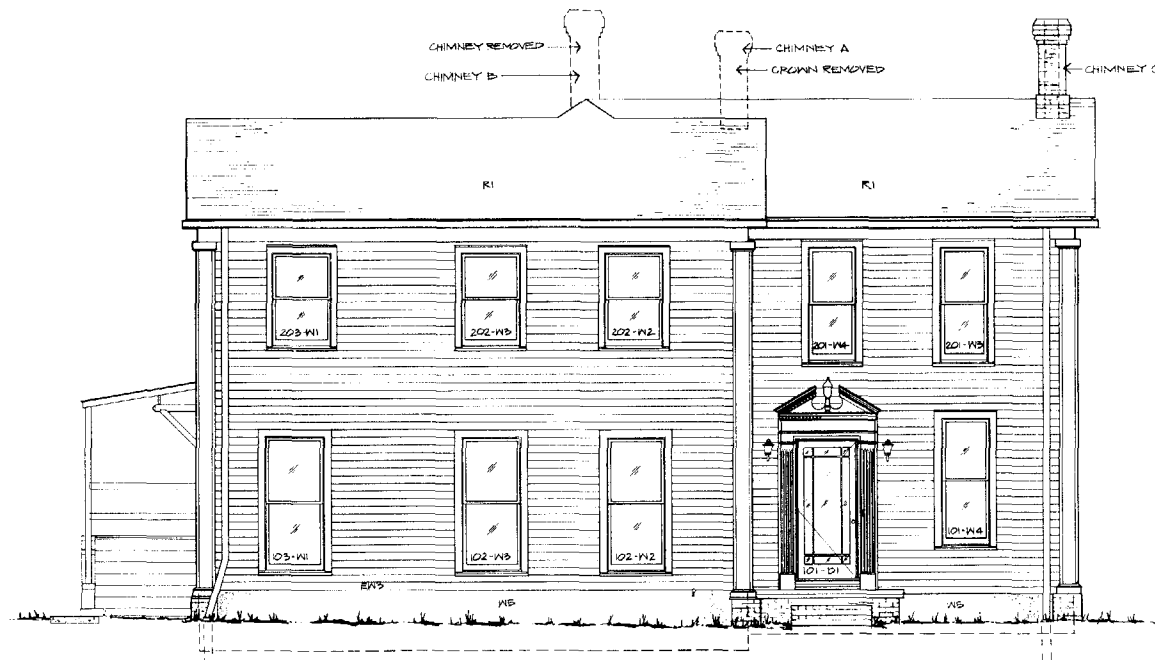
ROOF PLAN



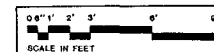
SCALE IN FEET
0 8' 1' 2' 3' 4' 5'

EXISTING CONDITIONS
JAMES MORSE HOUSE HS-9
LINCOLN HOME NHS

PREPARED	DRAWING NO.
DESIGNED	449
CHECKED	80017
DRAWN	
CHECKED	SHEET 7
DATE	OF 27

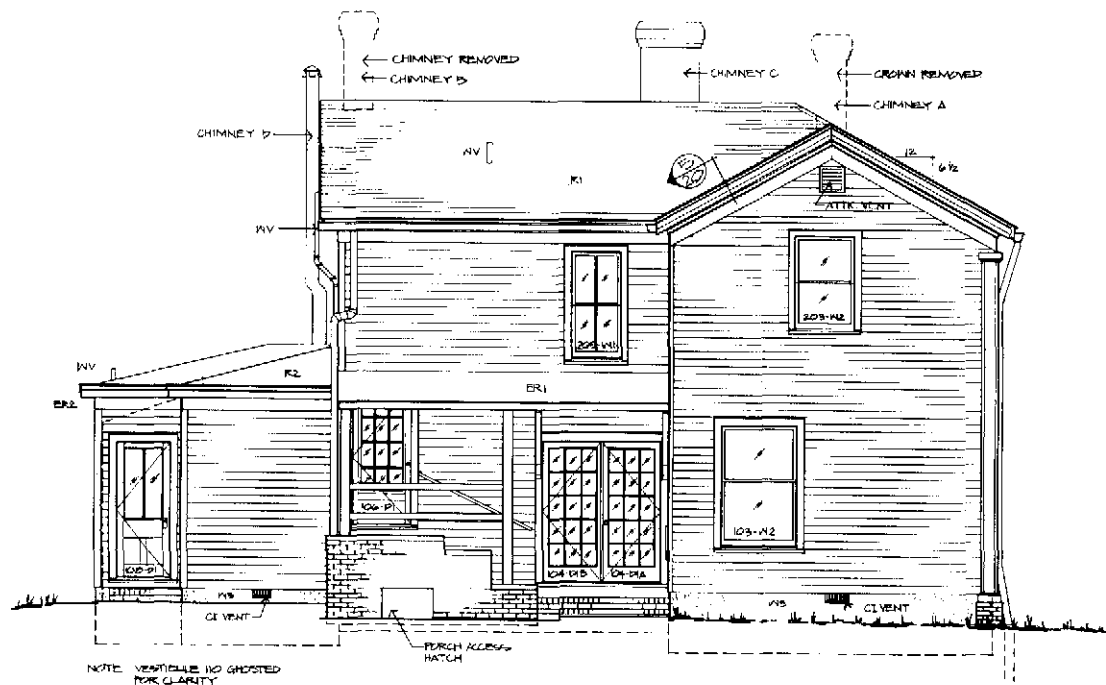


NORTH ELEVATION

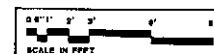


EXISTING CONDITIONS
JAMES MORSE HOUSE HS-9
LINCOLN HOME NHS

PREPARED	DRAWING NO.
DESIGNED	449
CHECKED	80017
DRAWN	
CHECKED	SHEET 8
DATE	OF 27



EAST ELEVATION

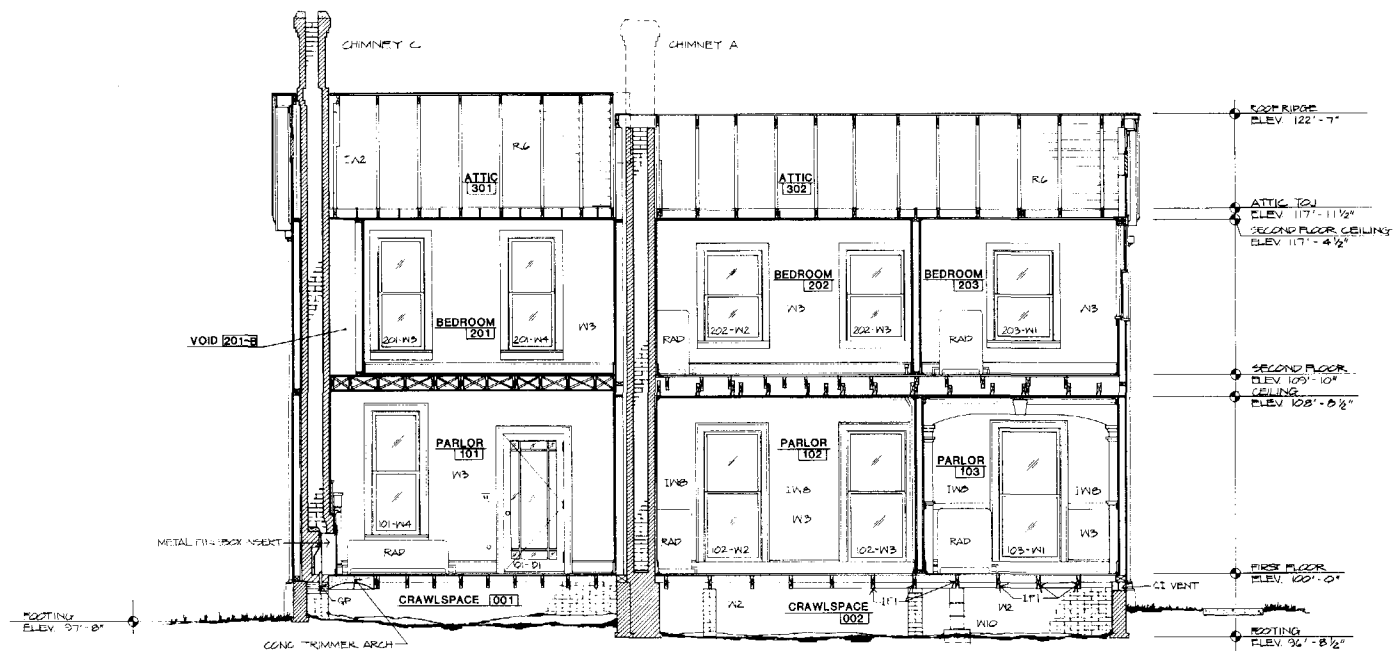


SCALE IN FEET
EXISTING CONDITIONS
 JAMES MORSE HOUSE HS-9
 LINCOLN HOME NHS

PREPARED
 DESIGNED
 DRAWN
 CHECKED
 DATE

DRAWING NO.
448
80017
 SHEET **9**
 OF **27**

ON MICROFILM



1 BUILDING SECTION

0' 6" 1' 2' 3' 6' 8'

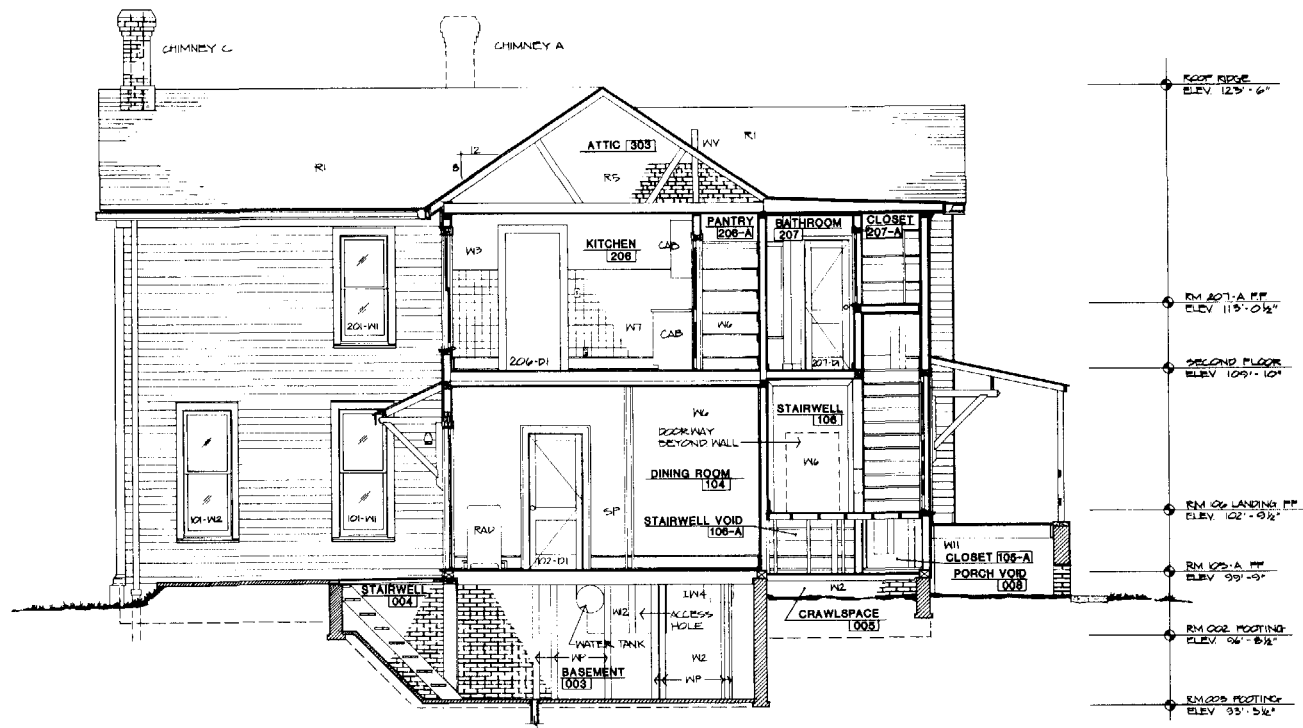
SCALE IN FEET

EXISTING CONDITIONS

JAMES WORSSE HOUSE HS-9
LINCOLN HOME NHS

PREPARED	DRAWING NO.
DESIGNED	449
CHECKED	80017
DRAWN	
SHEET	12
OF	27
DATE	

12



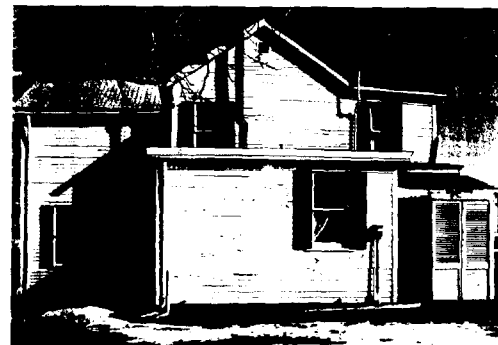
1 BUILDING SECTION

<p>0' 6" 1' 2' 3' 4' 5'</p> <p>SCALE IN FEET</p>	<p>PREPARED</p> <p>DRAWING NO.</p> <p>449</p> <p>80017</p>
<p>EXISTING CONDITIONS</p> <p>JAMES MORSE HOUSE HS-9</p> <p>LINCOLN HOME NHS</p>	<p>DISTRICT</p> <p>CORPORATE</p> <p>DRAWN</p> <p>CHECKED</p> <p>DATE</p> <p>SHEET</p> <p>13</p> <p>OF</p> <p>27</p>

On 11/11/11



NORTH EXTERIOR ELEVATION



SOUTH EXTERIOR ELEVATION



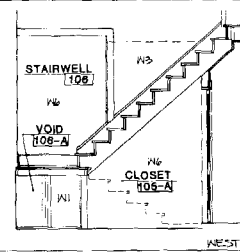
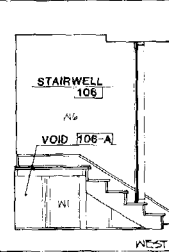
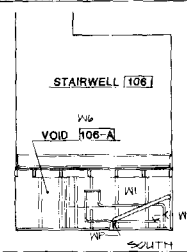
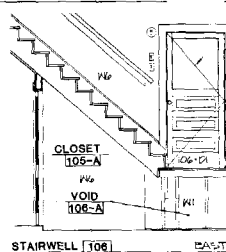
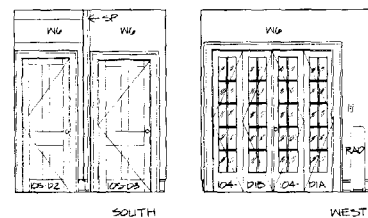
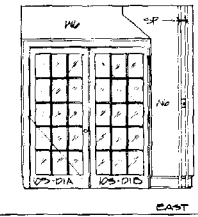
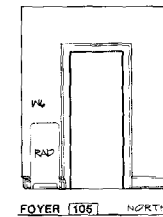
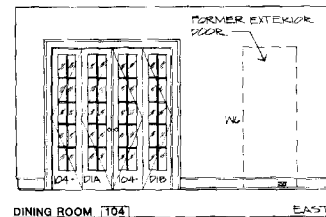
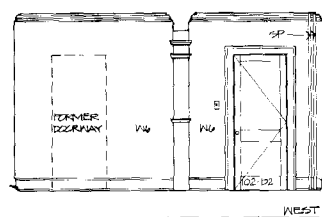
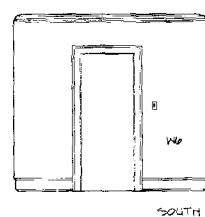
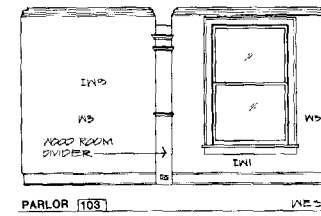
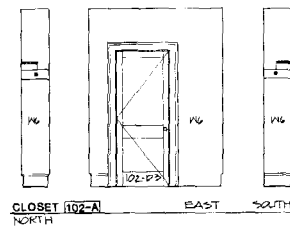
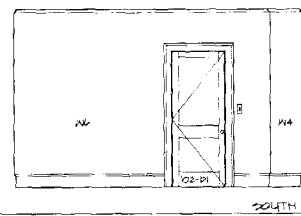
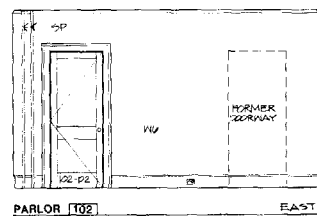
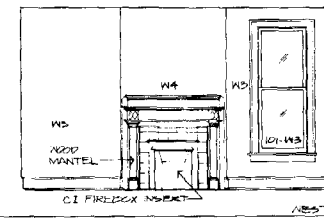
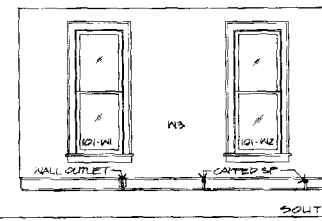
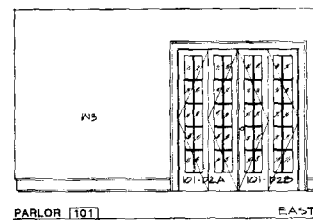
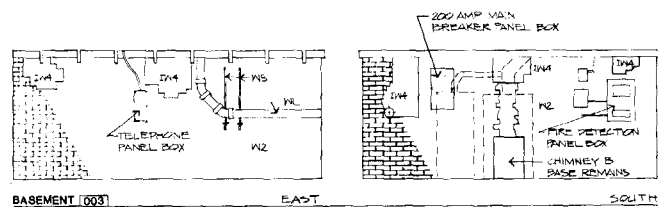
EAST EXTERIOR ELEVATION



WEST EXTERIOR ELEVATION

EXTERIOR PHOTOS		PREPARED	DRAWING NO.
		DESIGNED	449
		OK'd	80017
		DRAWN	
EXISTING CONDITIONS		CHECKED	SHEET
JAMES MORSE HOUSE HS-8		DATE	16
LINCOLN HOME NHS			OF 27

ON MICROFILM



INTERIOR ELEVATIONS

0 0' 1' 2' 3' 4' 5'

SCALE IN FEET

EXISTING CONDITIONS

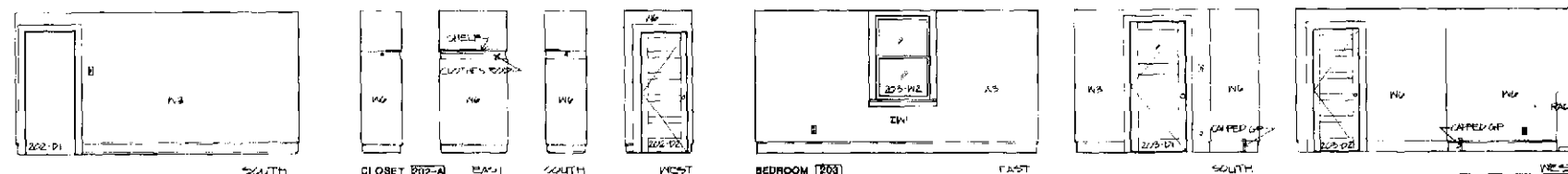
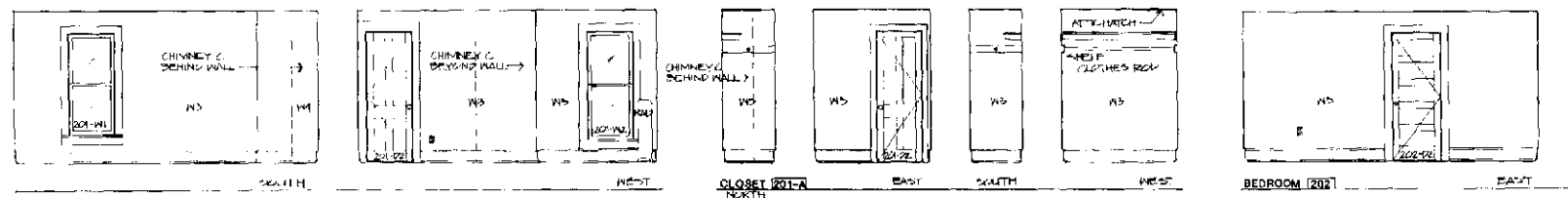
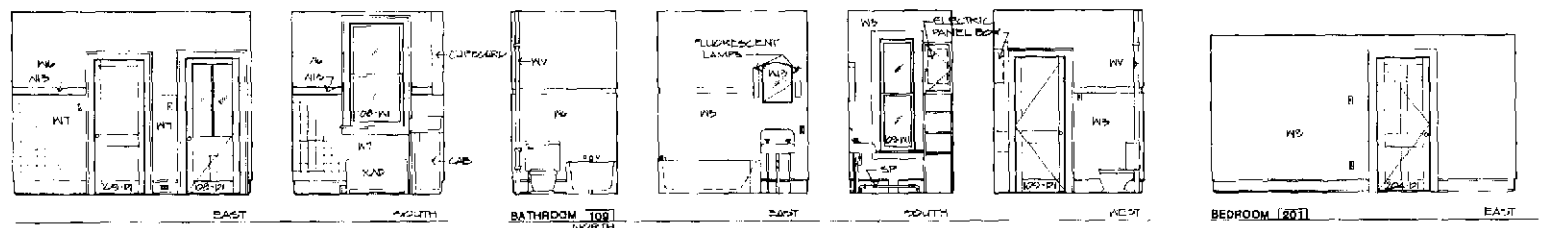
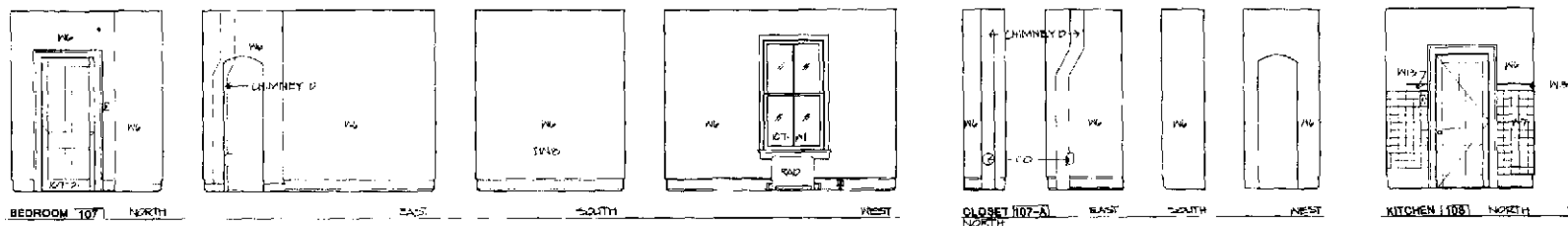
JAMES MORSE HOUSE HS-8

LINCOLN HOME NHS

PREPARED BY
DESIGNED BY
CHECKED BY
DATE

DRAWING NO.
449
80017

SHEET
16
OF
27



INTERIOR ELEVATIONS

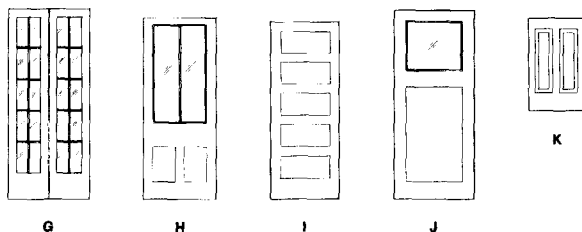
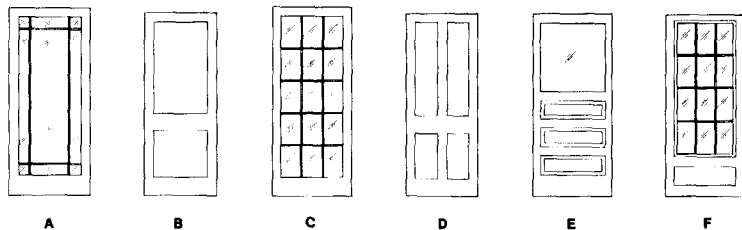
<p>0' 1" 2' 3' 4' 5'</p> <p>SCALE IN FEET</p>		<p>PREPARED</p> <p>DESIGNED</p> <p>DRAWN</p> <p>CHECKED</p> <p>DATE</p>	<p>DRAWING NO.</p> <p>449</p> <p>80017</p> <p>SHEET</p> <p>17</p> <p>OF</p> <p>27</p>
-----------------------------------------------	--	-------------------------------------------------------------------------	---------------------------------------------------------------------------------------

EXISTING CONDITIONS
JAMES MORSE HOUSE HS-9
LINCOLN HOME NHS

011 11/11/11

DOOR SCHEDULE

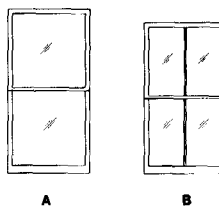
MARK	TYPE	SIZE			MATERIAL	DOOR FRAME	NOTES
		WD	HT	THK			
101-D1	A	3'-0"	6'-10"	1 1/2"	MDGL	ND	
101-D2A	G	2'-11"	7'-0"	1 1/2"	MDGL	ND	
101-D2B	G	2'-11"	7'-0"	1 1/2"	MDGL	ND	
102-D1	B	2'-8"	6'-8"	1 1/2"	MD	ND	
102-D2	D	2'-8"	6'-8"	1 1/2"	MD	ND	
102-D3	B	2'-8"	6'-8"	1 1/2"	MD	ND	
104-D1A	G	2'-11 3/4"	7'-0"	1 1/2"	MDGL	ND	
104-D1B	G	2'-11 3/4"	7'-0"	1 1/2"	MDGL	ND	
104-D2	D	2'-7 1/2"	6'-8"	1 1/2"	MD	ND	
104-D3A	C	2'-10 1/2"	6'-11"	1 1/2"	MDGL	ND	
104-D3B	C	2'-10 1/2"	6'-11"	1 1/2"	MDGL	ND	
105-D1A	C	2'-11"	6'-11"	1 1/2"	MDGL	ND	
105-D1B	C	2'-10 1/2"	6'-11"	1 1/2"	MDGL	ND	
105-D2	D	2'-4"	6'-7"	1"	MD	ND	
105-D3	D	2'-7 1/2"	6'-6"	1 1/4"	MD	ND	
106-D1	E	2'-11"	6'-8"	1 1/2"	MDGL	ND	
106-D2	F	2'-11"	6'-8"	1 1/2"	MDGL	ND	
107-D1	D	2'-7 1/2"	6'-8"	1 1/2"	MD	ND	
108-D1	H	2'-8"	6'-8"	1 1/2"	MDGL	ND	
109-D1	B	2'-8"	6'-7"	1 1/2"	MD	ND	
101-D1	D	2'-4"	6'-7"	1"	MD	ND	
102-D1	I	2'-6"	6'-5 1/2"	1 1/2"	MD	ND	
102-D2	OPR	2'-8"	6'-7"	1 1/2"	MD	ND	NO DECOR
102-D3	J	2'-11 3/4"	6'-11 1/4"	1 1/2"	MDGL	ND	
103-D2	I	2'-5 1/4"	6'-6"	1 1/2"	MD	ND	
104-D1	D	2'-8"	6'-7 1/2"	1 1/2"	MD	ND	
104-D1	OPR	2'-8"	6'-8"	1 1/2"	MD	ND	NO DECOR
104-D2	D	2'-4"	6'-4"	1 1/2"	MD	ND	
104-D3	D	2'-4"	12'-4"	1 1/2"	MD	ND	
104-D2	K	2'-0"	2'-5"	1 1/2"	MD	ND	



DOOR TYPES
NOT TO SCALE

WINDOW SCHEDULE

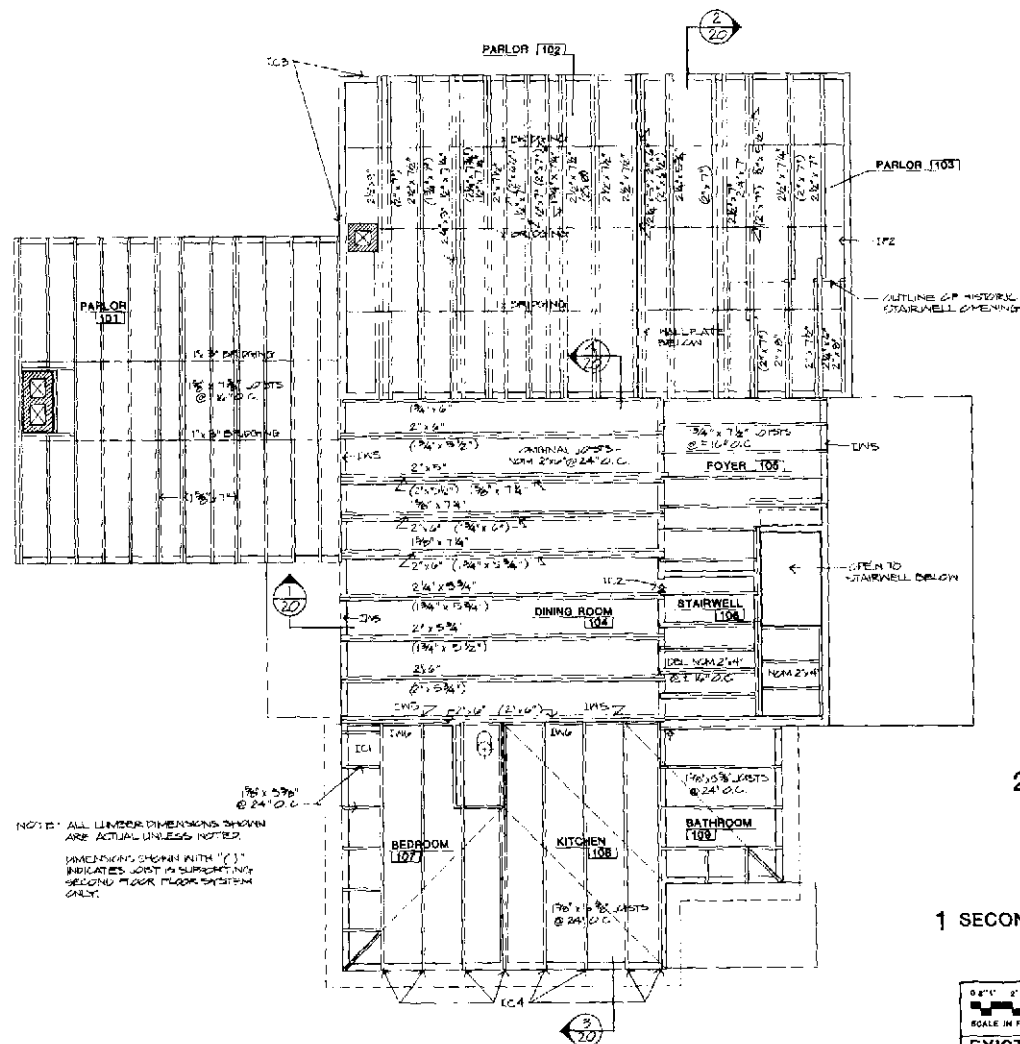
MARK	TYPE	SIZE		GLASS	DETAIL	NOTES
		WD	HT			
101-W1	A	2'-4 1/2"	6'-10"	1/2"	A/20	
101-W2	A	2'-4"	6'-2"	1/2"	A/20	
101-W3	A	2'-4 1/2"	6'-2"	1/2"	A/20	
101-W4	A	2'-4 1/2"	6'-2"	1/2"	A/20	
102-W1	A	2'-10 1/2"	6'-6"	1/2"	B/20	
102-W2	A	2'-10 1/2"	6'-6"	1/2"	B/20	
102-W3	A	2'-10 1/2"	6'-6"	1/2"	B/20	
103-W1	A	2'-11 1/4"	6'-7"	1/2"	B/20	
103-W2	A	5'-9"	5'-10 1/2"	1/2"	C/20	
107-W1	D	3'-14"	5'-6 1/2"	1/2"	C/20	
108-W1	A	2'-8 1/2"	5'-2"	1/2"	C/20	
109-W1	A	1'-8 1/2"	5'-6"	1/2"	B/20	W/ STEEL & APRON
101-W1	A	2'-4"	5'-2"	1/2"	A/20	
101-W2	A	2'-4"	5'-6"	1/2"	A/20	
101-W3	A	2'-4"	5'-6"	1/2"	A/20	
101-W4	A	2'-4"	5'-6"	1/2"	A/20	
102-W1	A	2'-10 1/2"	4'-6"	1/2"	C/20	
102-W2	A	2'-11"	4'-6"	1/2"	C/20	
102-W3	A	2'-11"	4'-6"	1/2"	C/20	
102-W4	A	2'-11 1/4"	4'-6"	1/2"	C/20	
103-W1	D	2'-5 1/4"	5'-2"	1/2"	B/20	W/ STEEL & APRON
104-W1	A	2'-5"	5'-2"	1/2"	B/20	W/ STEEL & APRON
104-W2	A	1'-11"	5'-6"	1/2"	B/20	W/ STEEL & APRON
104-W3	A	1'-11"	5'-6"	1/2"	B/20	W/ STEEL & APRON
107-W1	A	1'-11 1/4"	5'-7"	1/2"	B/20	W/ STEEL & APRON



WINDOW TYPES
NOT TO SCALE

EXISTING CONDITIONS		PREPARED	DRAWING NO.
JAMES MORSE HOUSE HS-8		80017	80017
LINCOLN HOME NHS		CHECKED	SHEET 19
		DATE	OF 27

ON MICROFILM



2 STAIRWELL 106 FRAMING SYSTEM

1 SECOND FLOOR JOIST SYSTEM

0 1' 2' 3' 4' 5'

SCALE IN FEET

EXISTING CONDITIONS

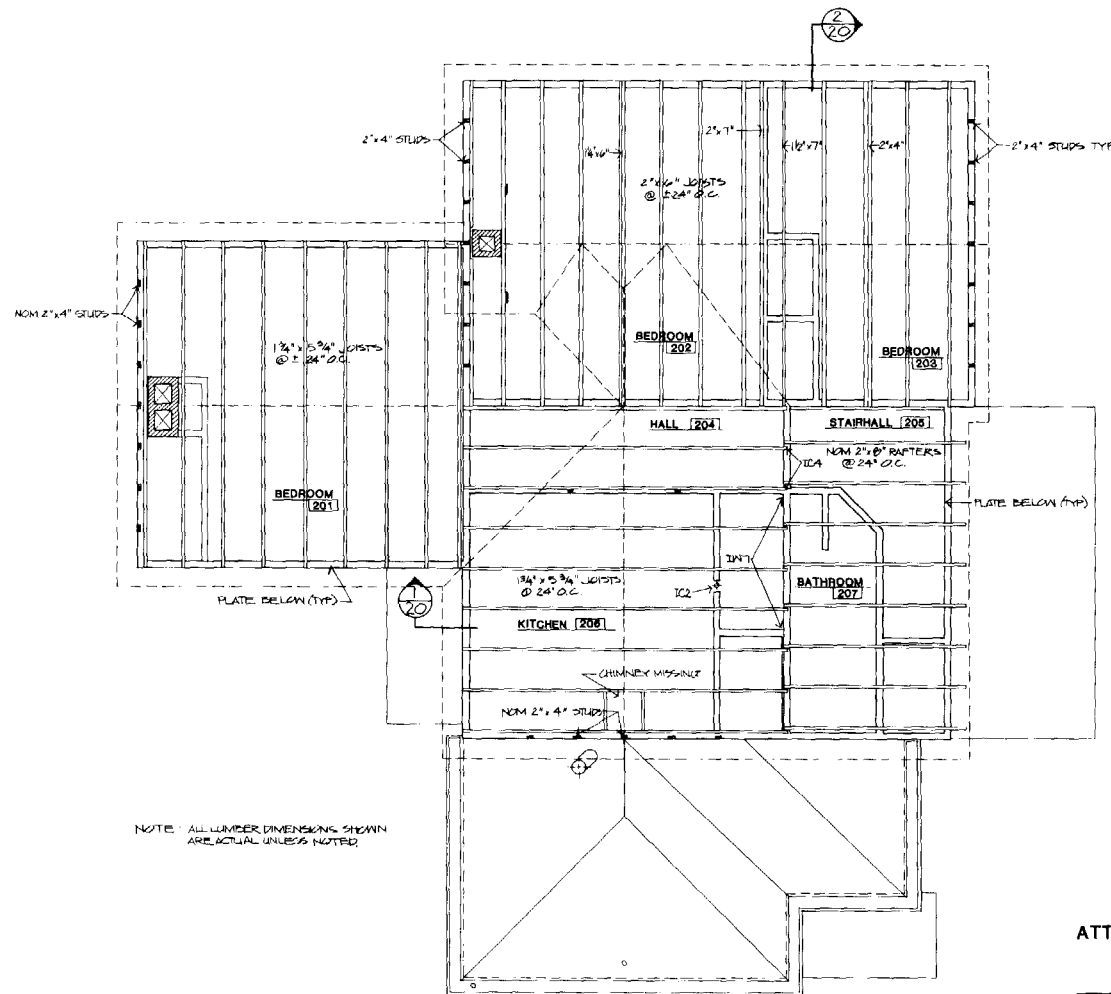
JAMES MORSE HOUSE HS-8

LINCOLN HOME NHS

PREPARED BY
DESIGNED BY
DRAWN BY
CHECKED BY
DATE

DRAWING NO.
449
B0017

SHEET
22
OF
27

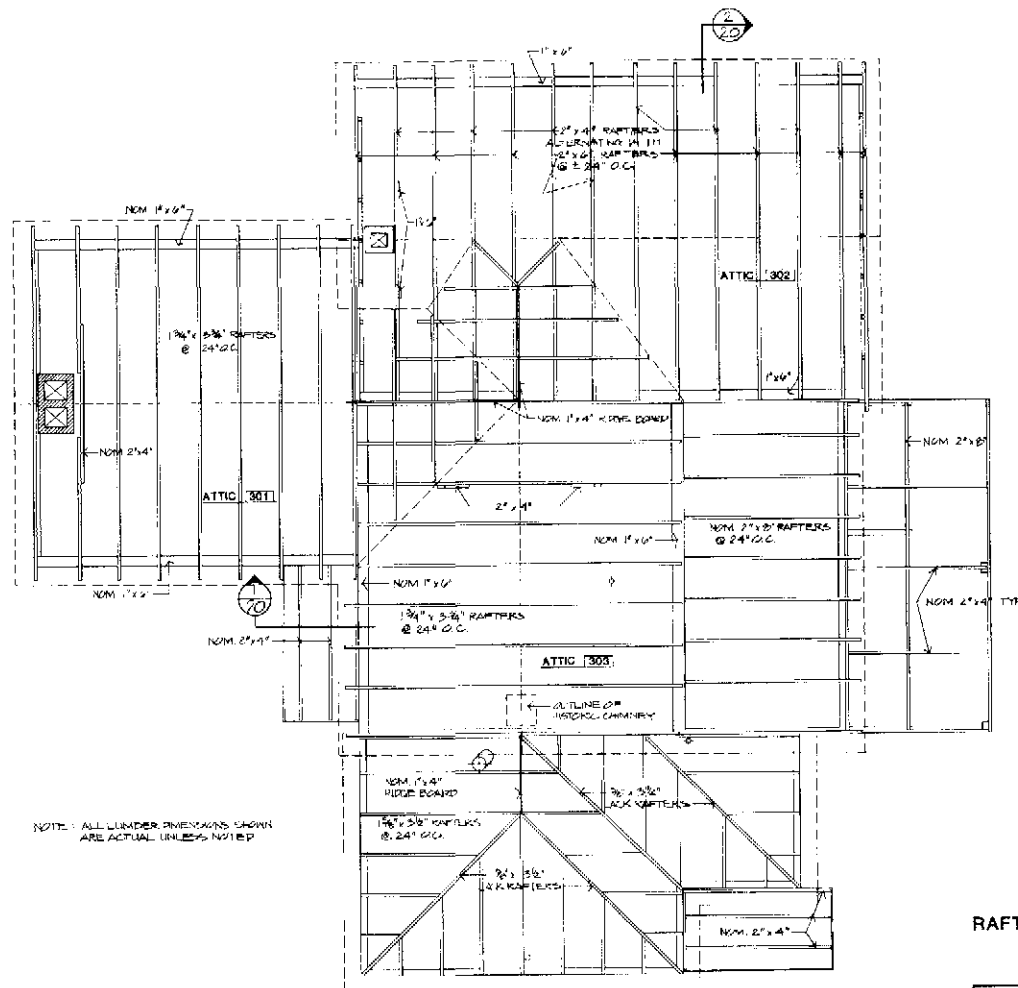


ATTIC JOIST SYSTEM



0' 1' 2' 3' 4' 5'	PREPARED	DRAWING NO.
SCALE IN FEET	449	80017
EXISTING CONDITIONS	DRAWN	SHEET
JAMES MORSE HOUSE HS-9	23	27
LINCOLN HOME NHS	DATE	OF

ON FILM



NOTE: ALL LUMBER DIMENSIONS SHOWN
ARE ACTUAL UNLESS NOTED

RAFTER SYSTEM



0' 6" 1' 2' 3' 4' 6'

SCALE IN FEET

EXISTING CONDITIONS
JAMES MORSE HOUSE HS-9
LINCOLN HOME NHS

PREPARED	DRAWING NO.
DESIGNED	449
CHECKED	80017
DATE	SHEET
	24
	OF 27

Design Development

INTRODUCTION

A strict exterior restoration of the Morse House to the suggested Lincoln Home National Historic Site target date of 1860 to 1865 may not be achievable. Since the Morse House is considered a support or background building for the Lincoln Home, a more liberal approach could be taken in its restoration than if the Morse House itself was the primary resource of the national historic site. For a variety of reasons, restoring the structure's circa 1860 appearance may not be desirable, but the building may be restored so that it is compatible with the overall character of the district.

The design of such components as porches, windows, doors, and trim will be conjectural because no historic photographs, drawings, or written descriptions of the structure could be located. Massing, scale, fenestration, and decoration are issues which must be thoroughly considered to ensure that the Morse House renovation is compatible with other district structures. It is advisable that a trained technician be onsite during all demolition work to identify uncovered evidence which may be useful in the restoration of the Morse House.

Economics will also influence the proposed treatment of the Morse House. The area's Resources Management Plan (1983, page 22) proposes that the structure will be adaptively restored and leased as an office/commercial facility. Because spacial requirements within offices have increased substantially since the Civil War, it may not be economically feasible to restore the structure to its original

single-story configuration. The interior space must be consistent with contemporary needs in order to make the structure leasable. However, the park has requested that the spacial requirements and functions of any prospective leasee conform to the offerings of the restored Morse House, and not vice versa.

RECOMMENDATIONS

Work on the Morse House should proceed in four phases: demolition, stabilization, restoration, and interior renovation. Each phase should proceed in the order stated, although there will be some overlapping.

Demolition

Demolition is the removal of nonconforming or extremely deteriorated portions of a building. Removal of major portions of the Morse House is required in order to increase the structure's compatability with the rest of the site. Care should be taken during demolition work to ensure safety of workers and the portions of the structure to be saved, and to watch for physical evidence which could be useful to the restoration design.

The restoration design of the Morse House should revert, to the extent possible, to the circa 1884 configuration, which will provide ample area (approximately 950 square feet) for a small business (see Appendix D). To coincide with the relative massing of the other structures in the district, the entire west wing of the Morse House should be removed. Stairwell 106, Foyer 105, Stairhall 205, and Bathrooms 109 and 207 should be demolished to articulate the ell shape of the house

and to accommodate a covered porch. The circa 1896 second floor addition, including Rooms 204 and 206, should be removed also to bring the south wing roof line down to the circa 1884 configuration.

Stabilization

Stabilization includes all work needed to repair or replace existing deteriorated building fabric or components to bring the structure to a useful, maintainable, and, above all, safe level.

Exact duplication of concealed structural members (studs, joists, foundations, etc.) is not recommended because of the prohibitive cost of such practice. Deteriorated components should either be reinforced or replaced, using contemporary construction methods and materials.

Deteriorated exposed weather protective components (siding, roofing, windows, etc.) should be repaired or replaced in kind, matched to the existing in dimensions, size, and placement, or carefully reviewed for their appropriateness, if the original character is unknown.

All construction materials and methods should be reviewed for their strength, longevity, and appearance (as appropriate) to ensure an extended life span for the building, and to reduce future maintenance costs.

Restoration

Restoration, for this project, refers to the repair or reconstruction of deteriorated or missing building components which are of value to

the structure's decoration, unity, or scale. Some aspects of the restoration will be accomplished through the stabilization process, such as the repair of windows and trim.

Primary restoration of the Morse House revolves around the reconstruction of the porches, chimney crowns, windows, shutters, and exterior doors. Little is known about the decorative composition of these components other than their materials, overall sizes, and locations. Design solutions should be prepared and reviewed for their harmony with the surrounding district.

Interior Adaptive Use

Interior adaptive use is the process of bringing the interior of the building up to contemporary habitable standards. Provisions should be made for utility hookups and for mechanical equipment space requirements. Proposals for interior use should be assessed to determine if structural reinforcement will be required in any areas and if the proposed use will in any way conflict with the exterior integrity of the Morse House.

The Lincoln Home National Historic Site has proposed that the interior be leased to private concerns for use as office space. The lessee(s) will be responsible for interior adoptive use and maintenance and, to an as yet undetermined degree, exterior maintenance. The Morse House will be offered as a shell with the exterior restored to the National Park Service specifications. The exterior restoration will not be affected by individual requirements of a potential lessee.

TREATMENT

The following are recommendations for the treatment of the Morse House. See Design Proposal Drawings (NPS Drawing No. 449/80020, Sheets 1 to 4) for reference.

LANDSCAPE

Topography

The topography of the Morse House property should remain largely unchanged from its present configuration. Excess soil from excavations should be used to fill evacuated areas of demolished foundations. Topsoil should be gently sloped away from the foundations. The existing downspout drains to the sewers must be disconnected in accordance with local ordinances. It will not be necessary to remove the entire system to the sewer.

Termite treatment should be provided soon after all excavation and contouring work is completed, and should be reapplied cyclicly as required for the life of the building.

Vegetation

Landscape work will conform to the approved landscape master plan (Harvey, 1982). Shrubs and bushes along the house should be removed before or during excavation. Trees should be protected against damage during demolition and construction work. Grass or sod should be planted soon after all construction work has ceased to prevent erosion

and to give the site a better appearance. Plants should be used to conceal mechanical and gas equipment around the house's exterior.

Pavements and Porches

All of the existing nonhistoric patios, sidewalks, and porches should be removed in preparation for post construction landscaping of the grounds. New onsite sidewalks will be of wood plank; the sidewalks at the street will eventually be of brick. Roofed porches should be reconstructed in a manner similar to existing reconstructed porches in the district.

Archeological Remains

Because restoration work associated with other structures at Lincoln Home National Historic Site have uncovered significant archeological materials, the National Park Service's Midwest Archeological Center has determined that areas of ground disturbance should be tested and evaluated prior to construction or demolition work. Some salvage of archeological materials may be necessary.

The archeologists should test for the locations of porch piers to the north and east of the structure, and of the shed which existed southeast of the Morse House. Any architecturally pertinent information uncovered during archeological investigations should immediately be relayed to the project architect for inclusion in the restoration design.

FOUNDATION

The foundations supporting those areas of the structure that are to remain, including the exterior cellar stair, should be totally removed and replaced with more substantial foundation walls and footings. A brick veneer should be applied at the exposed areas above grade. The cast iron vent grates should be installed in the locations in which they were found. The new foundation will provide firmer support, access to structural and utility systems for installation and inspection, and easing of long term maintenance problems encountered with old brick foundations. A system should be devised to anchor the sill plate to the foundation. Perimeter and underslab vapor barriers and drainage should also be provided. The structure should be moved away from its present siting after all demolition work has ceased and prior to the replacement of windows and doors. This will ease the costs of constructing the foundation, and will prevent distortion of openings due to uneven structural settlement.

The park has requested that a full foundation with enough area for mechanical equipment only be provided. The rest of the foundation can be crawlspace with adequate head room for inspection of mechanical systems.

FLOOR/CEILING STRUCTURAL SYSTEMS

All floor joists should be supplemented with additional joists, possibly those salvaged from the west wing demolition, and their ends secured to the sill or plate. Any termite damaged or rotted joists, especially those in areas described in the existing conditions drawings should be replaced and secured to existing members. Where

possible, the long 15-foot spans of joists should be supported with beams at midspan to reduce deflection. The melange of joists below Rooms 202 and 203 should be completely removed and rebuilt from new lumber. Additional joists in this area would merely add more dead weight to the walls and floor. The concrete topping in Rooms 102 and 103 should be removed to reduce floor loads. Cross bridging should be added to further stabilize the floors.

The demolition of the existing stairwell will necessitate the construction of a new stair to be located at the site of the house's original stairway. The stair could be of rough, temporary construction until the function of the structure's interior is determined.

WALL STRUCTURAL SYSTEMS

Termite damaged or rotted sills and plates should be completely replaced and secured with adjacent members. Areas of deterioration are described in the existing conditions drawings. Deteriorated or missing studs should be replaced or supplemented as required when uncovered. Headers should be placed above all windows and doors where none exist, where existing headers are insufficient, or where new doors and windows are being installed.

INSULATION

No insulation or vapor barriers should be installed in the exterior walls and attic of the Morse House until the interior renovation commences. Batt insulation for walls and blown insulation for the attic spaces is recommended.

ROOF SYSTEMS

Complementary rafters will be required where rafter ends have been sawed off of Roof 1B. The entire roof system should be further reinforced by forming a truss network with additional cross ties in the attic spaces.

The existing wood shingle lath should remain in place on Roof 1. New wood shingles are to cover the main roofs.

Porch roofs should be designed to complement the house and the district. The front porch roof is to be covered in flat seam, lead coated copper, and the side porch in wood shingles, appropriately spaced.

Gutters should be half round and downspouts should be plain round lead coated copper. All downspouts should terminate at grade through appropriately sized leaders to stone splashblocks away from the structure.

BUILDING ENVELOPE

Due to the poor condition of the existing siding, and the difficulty of integrating new siding with old, all of the exterior siding should be removed and replaced in kind. The new siding should not be applied until all window and door frames and trim have been installed. Sheathing, preferably plywood, is essential around the entire perimeter of the house.

The existing gable end vents should be removed and the opening sealed. Concealed attic vents will be required.

The existing pilaster type corner trim and brick plinths should be removed and new, more appropriately scaled trim applied. The existing cornice and frieze trim on Roofs 1 and on any reconstructed roof should be restored, if possible, and new replacement moulding dimensioned to match this trim. Any reused siding or trim should be completely stripped of paint. All exterior woodwork should be primed and painted prior to or immediately after installation.

WINDOWS

Due to the extreme disrepair of existing components, all of the window sash and frames should be totally reconstructed. Windows should be multipaned as indicated in the Proposal Drawings. Interior trim and sash weights may be retained for reuse. All other sash hardware must be purchased.

New functional fixed-louver shutters should be installed at all windows. Their design and hardware should be based on those of existing shutters within the district.

DOORS

The design of any of the historic exterior doors and frames is unknown. New designs should follow those found within the district. The main entry should be moved to its historic location at Window 103-W1. The French Door 104-D1 should be removed and replaced with an appropriately

scaled door. Doors 104-D3A and 104-D3B should be removed also. The interior doors may be retained for interior adaptive use. All exterior doors should be reconstructed. Although the French doors are nonhistoric, they could be reincorporated into the interior renovation scheme.

INTERIOR FINISHES

All of the interior wall and ceiling finishes should be removed during or prior to demolition work. This will greatly improve the quality of structural inspection and allow the walls to be insulated at the time of interior adaptive use. New finishes should not be installed until interior renovation work commences.

All floor finishes should be removed, also. This will ease problems of access to repair the floor systems.

Most of the baseboard mouldings may be used for interior adaptive use. Any other cornice moulding and the wood room divider in Room 103 may be removed.

EXTERIOR FINISHES

A thorough paint analysis should be undertaken by a reputable firm to determine the historic colors of the Morse House before any demolition or construction work take place. All siding trim, windows, and doors should be primed prior to or immediately after installation to prevent swelling. At least two coats of quality paint should be brushed on in colors indicated in the paint analysis.

PLUMBING SYSTEMS

The entire plumbing system, including waste and water supply systems and fixtures, should be completely removed. Provisions should be made for inspection of the underground service pipes before integration with new design work.

The existing interior gas system should be dismantled and the meter relocated to a more convenient but inconspicuous location at the south or west side of the Morse House. Plants should be used to conceal the meter as much as possible, yet allow easy access for servicing. Provisions should be made for future interior hookup of the gas service system.

MECHANICAL SYSTEMS

The entire heating system, including boiler furnace, Chimney D, water storage tank, distribution pipes and radiators should be demolished. Future interior adaptive use should include a forced air system with central air-conditioning to control moisture and humidity levels. The air-conditioning compressor should be located in an inconspicuous location, possibly near the gas meter, on the south or west side of the building.

Provisions to coordinate all of the mechanical, electrical, and water equipment and meters into one fireproof foundation room should be made.

Chimney A should be completely demolished and a nonfunctioning bracket supported chimney crown built in the historic location.

Chimney B should be fully functional for future gas appliances. Its crown should be reconstructed.

The salvaged fireplace mantle of demolished Chimney C could be incorporated into interior adaptive use plans as a nonfunctional room center piece.

ELECTRICAL SYSTEM

The entire electrical system, including cables, outlets, and fixtures, should be completely removed. The service meter and panel boxes should be retained and installed in the new basement. The existing underground cable should be inspected and replaced as required. Provisions should be made to provide temporary outlets for construction work.

COMMUNICATION SYSTEM

The existing telephone system should remain in operation to service the fire alarm system as much as possible during the demolition and stabilization work. All other telephone jacks, cables, and panel boxes may be removed.

The television cable in the alley should be located and retained for future use in the Morse House.

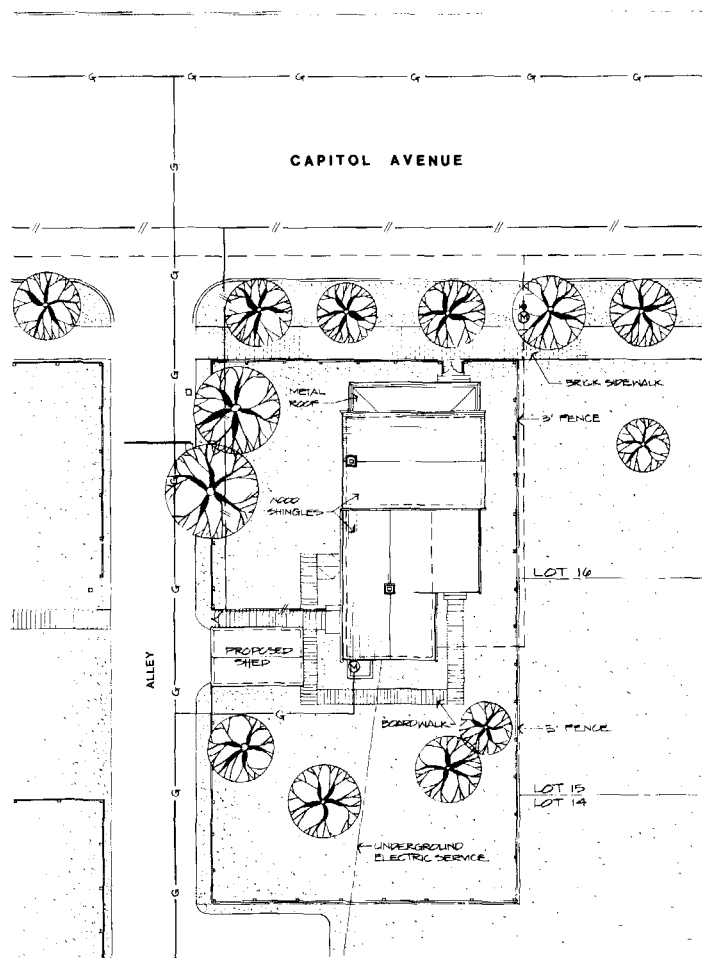
SECURITY SYSTEMS

The existing fire detection and alarm system should remain in operation

as much as possible during demolition and construction. If the heat detectors, cables, gong, or panel boxes need to be moved during construction work, they should be relocated and resecured as soon as possible. Electrical and telephone lines, on which the fire alarm system depends, should remain in service during construction.

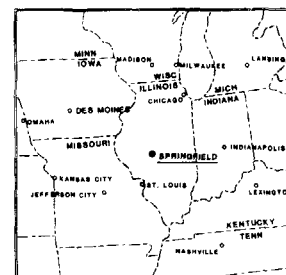
New fire and intrusion detection and alarm systems should be designed before interior renovation work begins.

Design Development Drawings



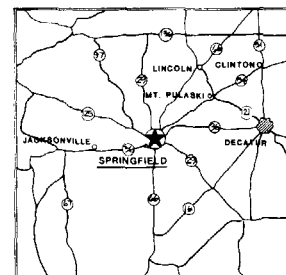
**PROPOSED
SITE PLAN
MORSE HOUSE**

0' 5' 10' 20' 30'
SCALE IN FEET



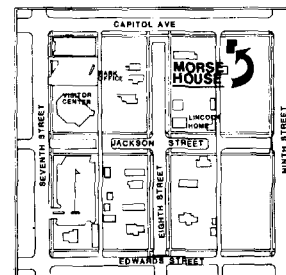
LOCATION MAP

NOT TO SCALE



VICINITY MAP

NOT TO SCALE



LINCOLN HOME NHS

NOT TO SCALE

SHEET INDEX

ARCHITECTURAL

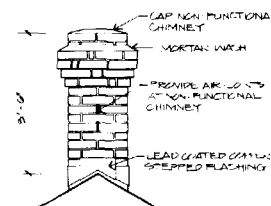
- 1 TITLE SHEET, AREA MAPS & SITE PLAN
- 2 FLOOR PLANS
- 3 ELEVATIONS, SECTIONS & DETAILS
- 4 ELEVATIONS, SECTIONS & DETAILS

MATERIALS

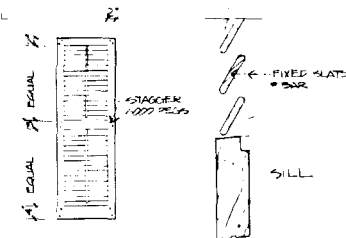
	EARTH/COMPACT FILL
	POROUS FILL/GRAVEL
	ROCK
	CAST-IN-PLACE CONCRETE
	LIGHTWEIGHT CONCRETE
	SAND/MORTAR/PLASTER
	COMMON/FACE BRICK
	FIRE BRICK
	CONCRETE BLOCK
	RUBBLE
	MARBLE
	ALUMINUM
	BRASS/BRONZE
	STEEL
	FINISHED WOOD
	ROUGH WOOD
	WOOD BLOCKING
	HARDBOARD
	PLYWOOD
	GLASS
	BATT INSULATION
	RIGID INSULATION
	TERRAZZO
	CLAY TILE

SYMBOLS

	SEWER LINE
	WATER LINE
	GAS LINE
	PROPERTY LINE
	ELECTRICAL LINE (OVERHEAD)
	ELECTRICAL LINE (BURIED)
	TELEPHONE LINE (OVERHEAD)
	TELEPHONE LINE (BURIED)
	SECURITY SYSTEM LINE
	VALVE
	METER
	ROOM MARK
	DOOR MARK
	WINDOW MARK
	REVISION MARK
	ELEVATION
	BUILDING SECTION
	WALL SECTION
	DETAIL

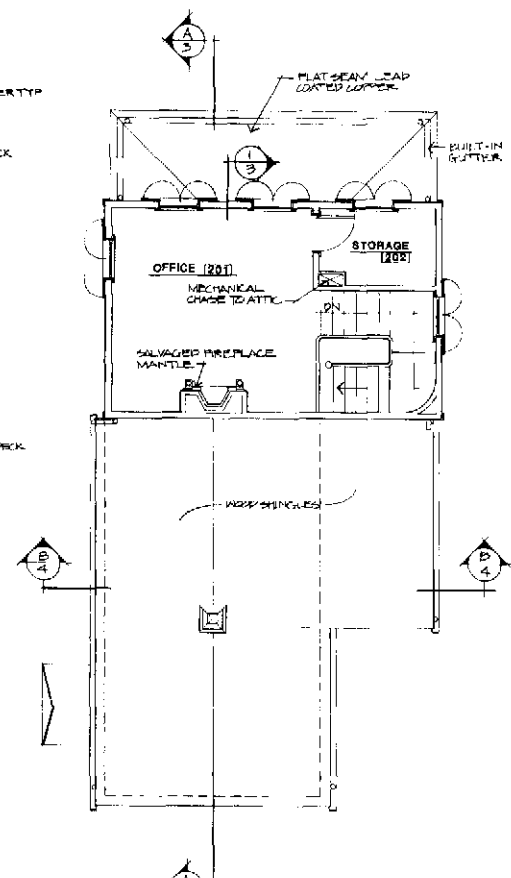
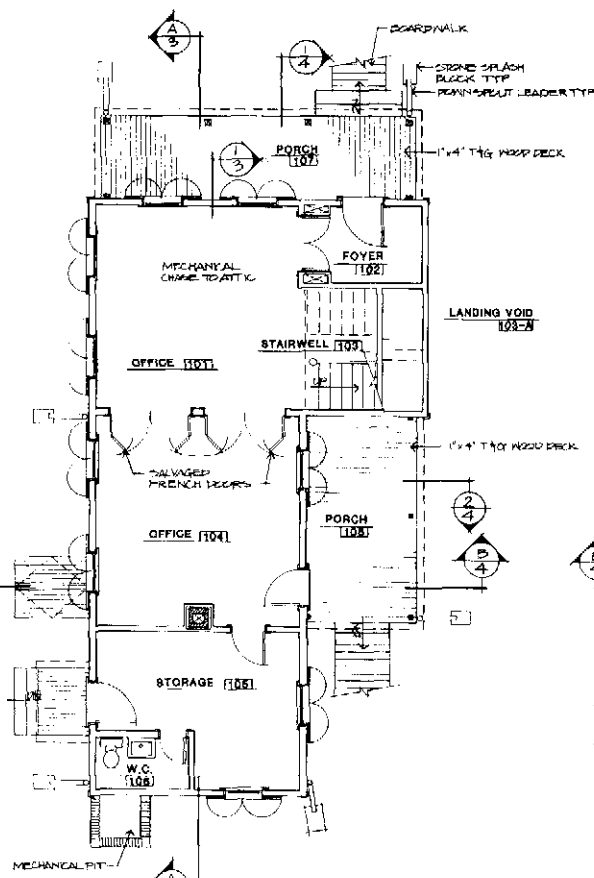
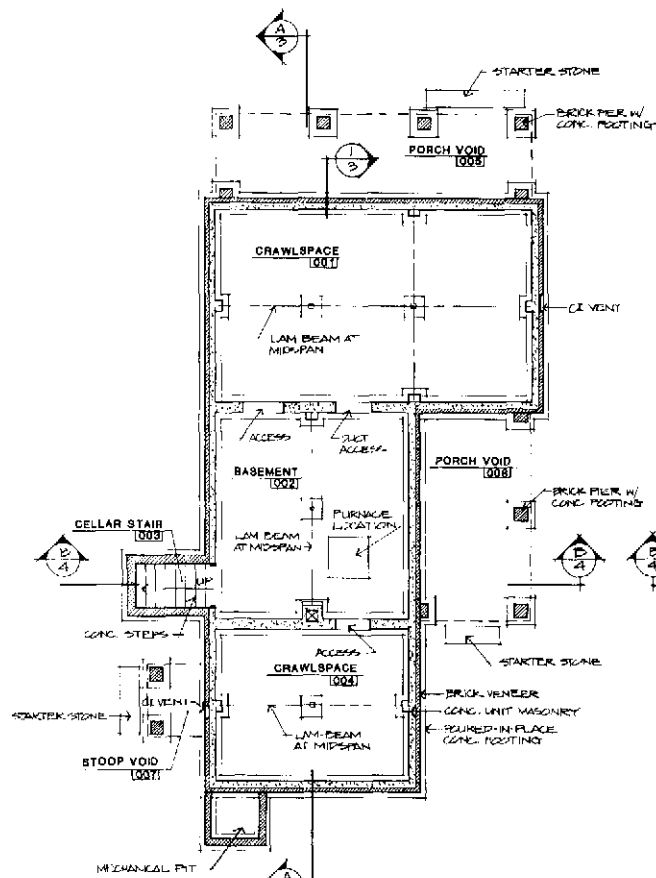


1 TYP. CHIMNEY
SCALE 3/4" = 1'-0"

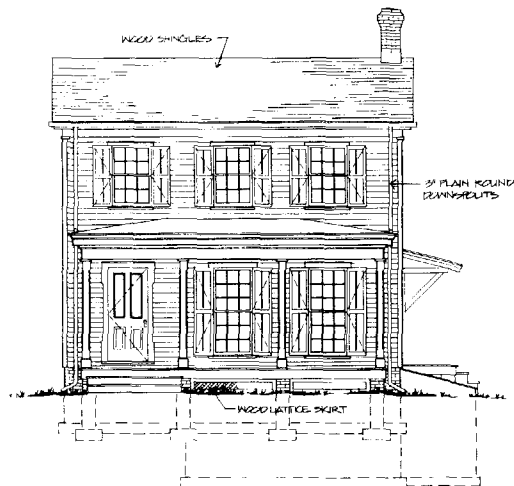


2 SHUTTER DETAIL

REVISED	PREPARED	RECOMMENDED	DATE	UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE PLANNING AND RESOURCE PRESERVATION MIDWEST REGIONAL OFFICE DESIGN DEVELOPMENT MORSE HOUSE HS-9 LINCOLN HOME NHS SPRINGFIELD, ILLINOIS	DRAWING NO. 80020
DATE	DATE	DATE	DATE		SHEET OF 4
DATE	DATE	DATE	DATE		DATE
DATE	DATE	DATE	DATE		DATE

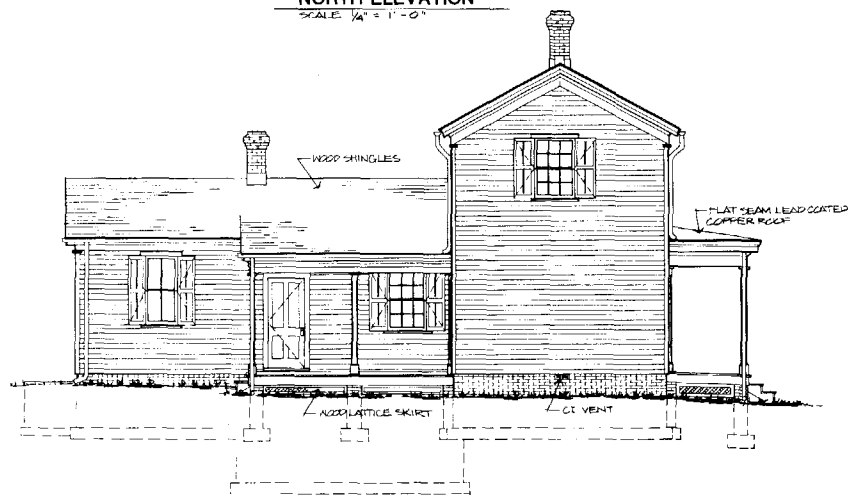


DESIGN DEVELOPMENT JAMES MORSE HOUSE HS-9 LINCOLN HOME NHS		PREPARED DRAWN DESIGNED CHECKED DATE	DRAWING NO. 449 80020 SHEET 2 OF 4
		DATE	DATE



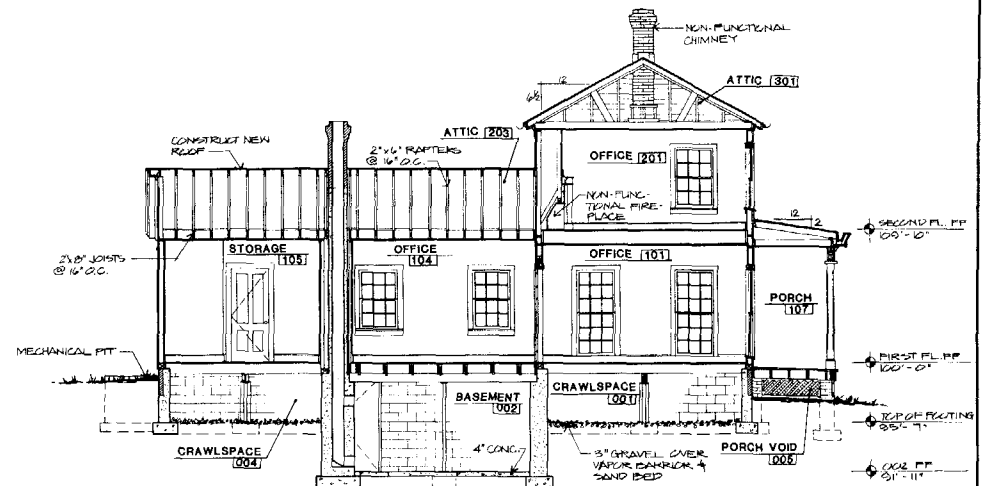
NORTH ELEVATION

SCALE 1/4" = 1'-0"



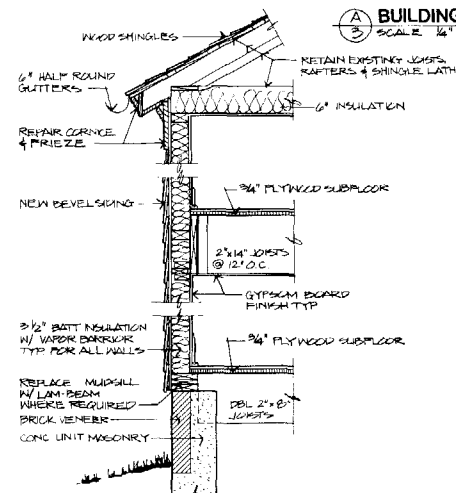
EAST ELEVATION

SCALE 1/4" = 1'-0"



BUILDING SECTION

SCALE 1/4" = 1'-0"

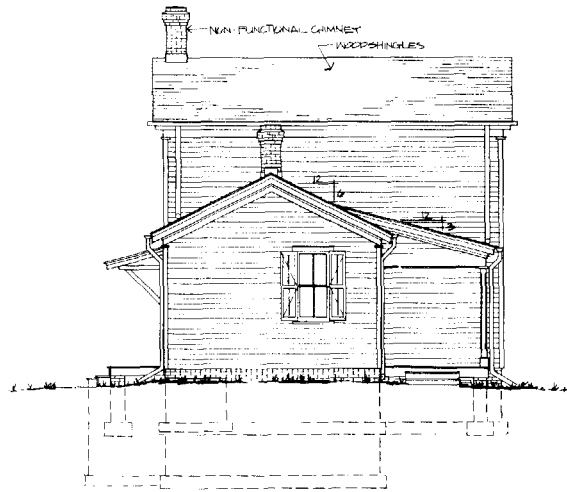


WALL SECTION

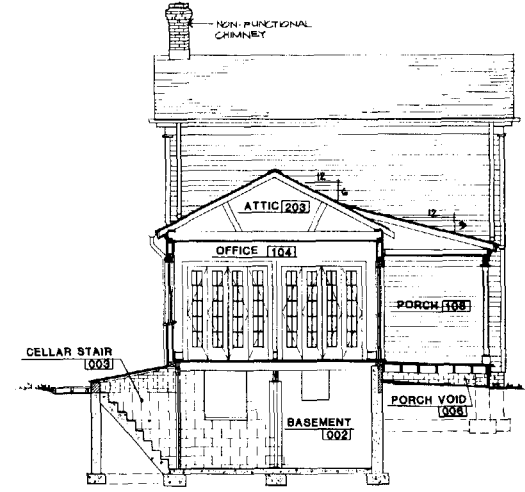
SCALE 1" = 1'-0"

DESIGN DEVELOPMENT
JAMES MORSE HOUSE HS-8
LINCOLN HOME NHS

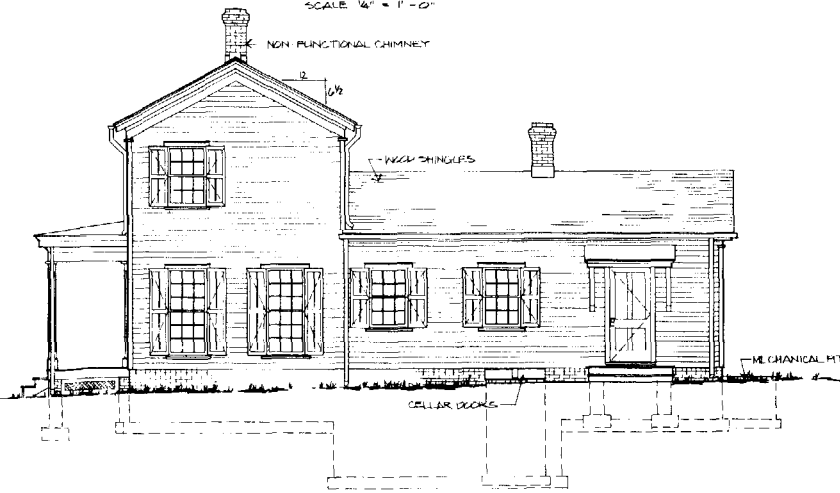
PREPARED DESK/RIGHT DESIGNED CHECKED DRAWN	DRAWING NO 449 80020
CHECKED DATE	SHEET OF
	3 4



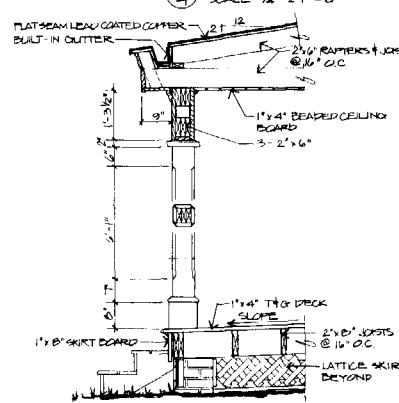
SOUTH ELEVATION
SCALE 1/4" = 1'-0"



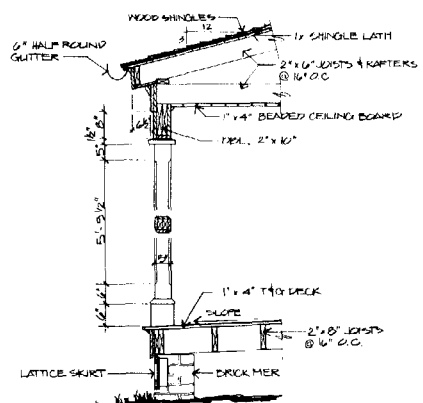
BUILDING SECTION
SCALE 1/4" = 1'-0"



WEST ELEVATION
SCALE 1/4" = 1'-0"



NORTH PORCH SECTION
SCALE 3/4" = 1'-0"



EAST PORCH SECTION
SCALE 3/4" = 1'-0"

DESIGN DEVELOPMENT JAMES MORSE HOUSE HS-9 LINCOLN HOME NHS	PREPARED	DRAWING NO.
	DESIGNED	449
	DRAWN	80020
	CHECKED	SHEET 4
	DATE	OF 4

Appendixes

APPENDIX A1975 Paint Analysis

A cursory paint analysis was performed on the Morse House by a private firm prior to scraping and painting in 1979 (see following page). The structure is incorrectly identified as the "Captain Morse House" in the report. Note that Schilling's conclusion indicates that the house was always painted white. This conclusion is contradicted by physical evidence. A new paint analysis is essential to determine the actual historic colors of the house's exterior.

This document is located in the Lincoln Home NHS maintenance files.

TO: Joe Winkelmann cc: Joe Bauer
FROM: Ott Schilling *Ott* Jack Brady
DATE: May 28, 1975 Ayvil Short
SUBJECT: Paint Chips from Lincoln Home Historic Site Bennie Benton

The results of the examination of the chips are as follows:

Captain Morris House - 818 Chips are very very thick. Measured 75 to 85 mil. It looks to us as if it were white at all time.

Captain Morris House Shutters - These films are only about 8 mils thick (maybe the shutters were replaced or added). Looks as if they were always green approximately 4133 color.

OS:026/75

101

APPENDIX B

The following is a chronological summary of work accomplished on the Morse House (HS-9) since its purchase by the National Park Service in 1974.

- 1974 Morse House purchased.
Soil surrounding Morse House treated for termites.
- 1976 Fire detection system installed.
- 1977 Aluminum track system storm windows installed by contractor on interior windows.
- 1978 Emergency installation of electrical panel boxes.
- 1979 Exterior walls, doors, windows, shutters, and gutters scraped and painted.
- 1980 Roof 4 recovered with roll roofing material.
Second floor stairwell ceiling replastered.
Second floor bathroom (Room 207) renovated.
Basement and attic insulated.
- 1981 Portions of second floor interior painted.
- 1982 Garbage disposal unit installed in second floor kitchen (Room 206).
- 1983 Insulation removed from Morse House basement.
Cellar stair trap door replaced.

APPENDIX C

Existing Usable Square Footage of the Morse House, by Room Number*

<u>First Floor</u>		<u>Second Floor</u>	
Room No.	Area-Square Feet	Room No.	Area-Square Feet
101	225	201	229
102	212	202	222
103	145	203	136
104	236	204	58
105	54	205	34
107	88	206	151
108	86	207	69
109	38		
Subtotal 1084 square feet		Subtotal 899 square feet	
		First Floor 1084 square feet	
		<u>Second Floor 899 square feet</u>	
		TOTAL 1983 square feet	

*Figures include square footage of associated closet space.

APPENDIX D

Proposed Usable Square Footage of the Morse House after Restoration, by Room Number.

<u>First Floor</u>		<u>Second Floor</u>	
Room No.	Area-Square Feet	Room No.	Area-Square Feet
101	225	201	225
102	40	202	48
104	240		
105	148		
106	28		
Subtotal 681 square feet		Subtotal 273 square feet	

First Floor	681 square feet
<u>Second Floor</u>	<u>273 square feet</u>
TOTAL	954 square feet

APPENDIX E

The following is the estimated cost of demolition, stabilization, and restoration of the exterior of the Morse House. Accurate figures for the interior restoration cannot be projected until the future use of the interior is determined. However, interior renovation costs may range between \$15,000 and \$50,000, depending upon the extent of renovation.

<u>Work Description</u>	<u>Estimated Cost*</u>
SITE WORK-demolition, structure moving, excavation, backfill, sodding	\$18,600
CONCRETE-footings, porch piers	4,500
MASONRY-foundation, porch piers, cellar stairs	10,500
METALS-joist hangers and miscellaneous	500
WOOD & PLASTICS-framing, porches, millwork	69,000
MOISTURE & THERMAL CONTROL-roofing, siding, flashing, sealants	11,700
DOORS-exterior doors, hardware	2,200
WINDOWS-wood windows, hardware	7,500
FINISHES-exterior primer and paint	2,600
MECHANICAL-gas, water, and sewer hookups to basement	1,800
ELECTRICAL-temporary service	<u>1,300</u>
	Subtotal
	\$130,200
CONTINGENCIES- (+10%)	<u>13,000</u>
	TOTAL
	\$143,200

_____*Costs include overhead.

NOTES

1. Sangamon County Office of the Register of Deeds, Deed Book KK, 34; and Book P, 585.
2. John Carroll Power, History of the Early Settlers of Sangamon County, Illinois (Springfield: Phillips Brothers, Inc., 1970. Reprint), 534.
3. E. B. Buck and E. P. Kriegh, compilers, Buck and Kriegh's City Directory for the Year 1859, Springfield, Illinois (Springfield: B. A. Richards & Co., 1859), 62.
4. C.S. Williams, compiler, Williams' Springfield Directory, City Guide, and Business Mirror for 1860-61 (Springfield: Johnson & Bradford, 1860), 113 and 154.
5. Julius Babeuf, complier, Springfield City Directory and Business Mirror for 1864 (Springfield: Johnson & Bradford, 1864); 30, 85, and 101; and Springfield City Directory and Business Mirror for 1866 (Springfield: Bronson & Nixon, 1865), 237.
6. Minimum Tariff Rates, Adopted by the Board of Fire Underwriters of Springfield, Illinois, October, 1866 (Springfield: Button & Britt, 1866), 58.
7. Register of Deeds, Book 15, 523.
8. Register of Deeds, Book 21, 245.

9. Register of Deeds, Book 39, 314; and Book 55, 83.
10. Babeuf, Babeuf's Directory for Springfield, Illinois, and Patrons' Business Mirror for the Year 1875 (Springfield: Illinois Journal Company, 1875), 85.
11. Register of Deeds, Book 57, 181.
12. Register of Deeds, Book 84, 401.
13. J. E. Fitzpatrick, compiler, Springfield City Directory, Sangamon County Gazeteer (Springfield: J. E. Fitzpatrick, 1887), 207.
14. Statement of Claim for a Mechanics Lien, 1926. Sangamon County Courthouse, Springfield.
15. Register of Deeds, Book 233, 101.

BIBLIOGRAPHY

Babeuf, Julius, compiler. Babeuf's City Directory of Springfield, Illinois for 1872-3. Springfield: John H. Johnson, Printer, 1872.

_____. Babeuf's Directory of Springfield, Illinois and Patrons' Business Mirror for the Year 1875. Springfield: Illinois Journal Company, 1875.

_____. Springfield City Directory and Business Mirror for 1864. Springfield: Johnson & Bradford, 1864.

Beck & Pauli, artists. Map of Springfield [Circa 1872]. Milwaukee: A. C. Gieseler & Company, n. d. Illinois State Historical Society, Springfield.

Buck, E. B., and E. P. Kriegh, compilers. Buck and Kriegh's City Directory, for the Year 1859, Springfield, Illinois. Springfield: B. A. Richards & Company, 1859.

Campbell and Richardson, compilers. Campbell and Richardson's Springfield City Directory and Business Mirror, for 1863. Springfield: Johnson & Bradford, 1863.

City of Springfield, Sangamon County, Ills. New York: Hart & Mapother, Publishers, 1854.

Fitzpatrick, J. E., compiler. Springfield City Directory and Sangamon County Gazetteer. Springfield: J. E. Fitzpatrick, 1887.

Hall, E. H., compiler. Springfield City Directory and Sangamon County Advertiser for 1855-56. Springfield: Birchall & Owen, 1855.

Harvey, Robert R., and Mary A. Clarke. Historic Grounds Report and Landscape Plan, Lincoln Home National Historic Site. National Park Service, 1982.

Holland's Springfield City Directory for 1868-9. Chicago: Western Publishing Company, n. d.

Koch, Augustus, artist. "Bird's-Eye View of Springfield, Illinois [Circa 1872]." Illinois State Historical Society, Springfield.

Lincoln Home National Historic Site Resources Management Plan and Environmental Assessment. National Park Service, 1983.

Maintenance Files, Lincoln Home National Historic Site, Springfield.

Minimum Tariff of Rates. Springfield: Burton & Britt, 1866.

NPS-28, Cultural Resources Management Guideline, Release No. 2. National Park Service, 1981.

Power, John Carroll. History of the Early Settlers, Sangamon County, Illinois. Springfield: Phillips Brothers, Inc., 1970.

Ruger, A., artist. Springfield, Illinois; Drawn from Nature by A. Ruger. Chicago: n. p., 1867.

Rules and Regulations and Tariff of Rates of Springfield, Illinois,
Local Board of Fire Underwriters. Peoria, Ill.: H. S. Hill
Printing Company, 1891.

Sides, William, surveyor. City of Springfield, Sangamon County, Ills.
Springfield: William Sides, Publisher, 1858.

Springfield City Directory and Business Mirror, for 1866. Springfield:
Bronson & Nixon, Publishers, 1865.

Springfield City Directory Company, compilers. A Directory of the
City of Springfield and Business Guide for 1879-80. Springfield:
Illinois Journal Company, 1879.

Springfield City Directory for 1869-70. Springfield: R. L. Dudley &
Company, 1869.

Springfield Duplex City Directory, 1890-91. Springfield: Benson
Brothers, n. d.

"Springfield, Illinois." New York: Sanborn Map & Publishing Company,
1884.

Publishing Company, compilers. Centennial City and Township Directory
of Springfield, Illinois, Embracing a Complete General and Busi-
ness Directory. Springfield: Illinois Journal Company, 1876.

"Statement of Claim for a Mechanics Lien, 1926." Sangamon County
Courthouse, Springfield, Illinois.

Williams, C. S., compiler. Williams' Springfield Directory, City Guide, and Business Mirror, for 1860-61. Springfield: Johnson & Bradford, 1860.

Winters, B., & Company, compilers. Springfield City Directory for 1857-58. Springfield: S. H. Jameson, 1857.

