# Historic Housing Area
# Historic Structures Report

# HS-03 Superintendent's Residence

Wind Cave National Park

## Volume II of VIII

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NPS PMIS # 158029

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**Cover Photo:**
HS-03 Superintendent’s Residence Existing Structure, View Northwest. (SRJA 2014)

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# HS-03 Superintendent's Residence Introduction

Volume I of the Wind Cave National Park Historic Housing Area Historic Structures Report (HSR) covers the history of the development of the park and the historic housing area. This individual Volume II is to serve as a guide for the future caretaking of this significant property, HS-03 Superintendent's Residence. This volume focuses on the individual history, review of existing conditions and treatment recommendations unique to HS-03.

The one-and-one-half story HS-03 was originally built in 1934 as the Superintendent's Residence. This roughly 2,200 square foot residence currently serves as seasonal housing for park staff. The house is built into the hillside and faces east toward the Administration Building (Figure 4). HS-03 retains its original 1934 form, with very few alterations, including a sunroom, which was constructed in 1941. The house is visible from the public right of way and should be preserved in its current condition to the extent possible.

The shell of the HS-03 is in overall good condition, having been very well maintained for the last 80 years. Raised grade along the west and south sides of the house is causing deterioration of the stucco exterior. The stone foundation appears to be settling along the west and south sides of the house. This requires further investigation. The foundation along the east and south sides of the house is in good condition, requiring mostly cleaning and spot repointing. The exterior stucco walls require extensive repairs on the west wall of the house due to the raised grade and potential foundation settlement. The exterior trim at the sunroom addition requires wood rot repair. A majority of the original wood windows have been replaced. Besides these issues, the house requires basic maintenance and remodeling.

With the ultimate treatment recommendation to *Rehabilitate* the building, great care shall be taken to rehabilitate and maintain the house in the gentlest means possible, while preserving the house's most significant features.

## Significant Features

Care should be taken to preserve the following significant historic features routine maintenance and through future rehabilitation projects.

Exterior:

- Site – Sloped site. House built into steep grade.
- Massing – One and one-half story with gable roofs.
- Roofline – Cross - Gable roofs.
- Basic Footprint – Cross.
- Stone Terrace – Original stone terrace with battered walls and stone steps; Original stone stoop and in-grade stone steps.
- Stonework—Native stone laid in a random ashlar pattern. Battered exposed foundations.
- Chimneys – Native stone laid in a random ashlar pattern.
- Stucco – Spanish stucco.

- Gable – Wood horizontal siding with louver.
- Trim – Wood cornice, typical throughout historic housing area.
- Patterns of fenestration – Original window and door openings.
- Windows – A few original or early window sash remain (Windows 102, 103, 001, 002 and 104 windows in the sunroom). Original trim remains under the metal panning. Original storm and screened windows at Window 001 and 102.
- Doors – Original V-joint tongue and groove front door with original hardware. Original screened door.

Interior:

- 1934 wood doors and hardware.
- 1934 millwork, including door and window trim, baseboards and wood paneling in Hall 105.
- Wood staircase and railing to second floor.
- Fireplace and hearth – exposed native stone with wood mantel.
- Built-in wood cabinets (Butler's Pantry, Dining Room and Laundry Room)
- Historic chandelier in Dining Room.
- Plaster wall and ceiling finishes.
- Historic flooring (may remain below installed laminate and carpeting).
- Ca. 1937 floor plan and room layout (living, dining and bedroom areas most important. Kitchen and bath finishes have been altered).

## History and Significance of HS-03

*Note: See Volume One for a full bibliography and additional information about the early development of the Historic Housing Area of Wind Cave National Park.*

HS-03 was built in 1934 to serve as the Superintendent's Residence, and it is still known by that name (Figure 4). This is the second superintendent's residence at Wind Cave National Park. The first superintendent's residence, which was built ca. 1906, is still in use, as HS-04.

Plans for the building were drawn by the National Park Service (NPS) Branch of Plans and Design in November 1933, and the house was placed in service in August, 1934.[1] The design of the house has been attributed to National Park Service landscape architect Howard W. Baker, with significant input from then-superintendent Edward Dixon Freeland.[2] Freeland moved into the house on August 16, 1934, and it served as his residence until he transferred to another post in 1939.

The house has seen few additions or alterations of note since that time. A sunroom, which was designed by Freeland ca. 1939, was added to the southwest corner of the house in 1941. The basement of the building was also partially excavated in 1941. Later alterations include changes to the back porch in 1957 and a new garage door in 1986. (See the following timeline for more information on changes.)

HS-03 is a contributing building in the Wind Cave National Park Administrative and Utility Area Historic District. It is particularly significant for its association with Edward Dixon Freeland, who served as the Park Superintendent from 1931 to 1939. All of the buildings in the National Register historic district were constructed while Freeland was superintendent.

[1]Plans for HS-03 are shown in Appendix A, File number WICA_108_3010_[id278449], sheets 1-5 and file number WICA_108_3017_[id3216], sheet 1; September, 1934 Superintendent's Monthly Report, Wind Cave National Park. (Copy on file at the WICA Library.) Hereafter referred to by month and year as WICA Superintendent's Monthly Report.

[2] Kenneth W. Karsmizki, 1995. "Wind Cave National Park Administrative and Utility Area Historic District." *National Register of Historic Places,* 7.28. Baker's level of involvement with design decisions has not been confirmed.

| **Current Title: HS-03 Superintendent's Residence**<br>**FMSS Asset Number 27931**<br>**LCS ID 010742** | | |
|---|---|---|
| **Previous Name** | **Date of Name** | **Source of Name and Notes** |
| Superintendent's Residence | 1934 | Plans, Superintendent's Reports |
| Superintendent's Residence | 1940 | 1940 Master Plan |
| Q-03 | ca. 1949-2000s | Maintenance Department Files |
| Superintendent's Residence | 1963 | 1963 Site Plan |
| Residence (Superintendent's) | 1976 | Classified Structure Field Inventory Report |
| Superintendent's Residence 1934 | 1988 | 1988 Resource Management Plan |
| Superintendent's Residence (HS-3) | 1995 | National Register Nomination |
| Quarters 3 | 2000 | Current WICA Staff, LCS |
| H-B-03 Superintendent's Residence (HS-3) | 2005 | Cultural Landscape Report |

Figure 1. Table of Previous Titles.

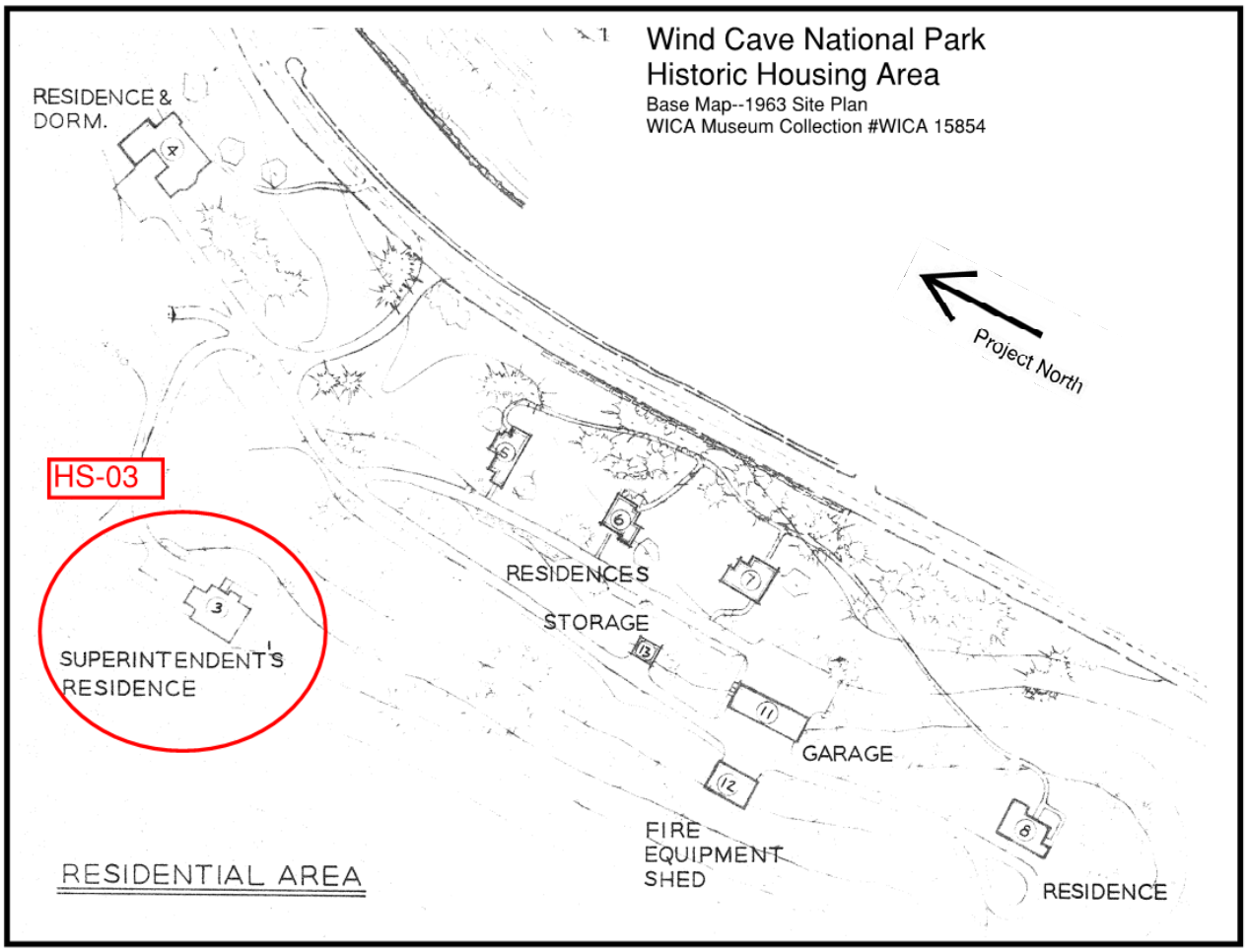



Figure 2. Location Map.

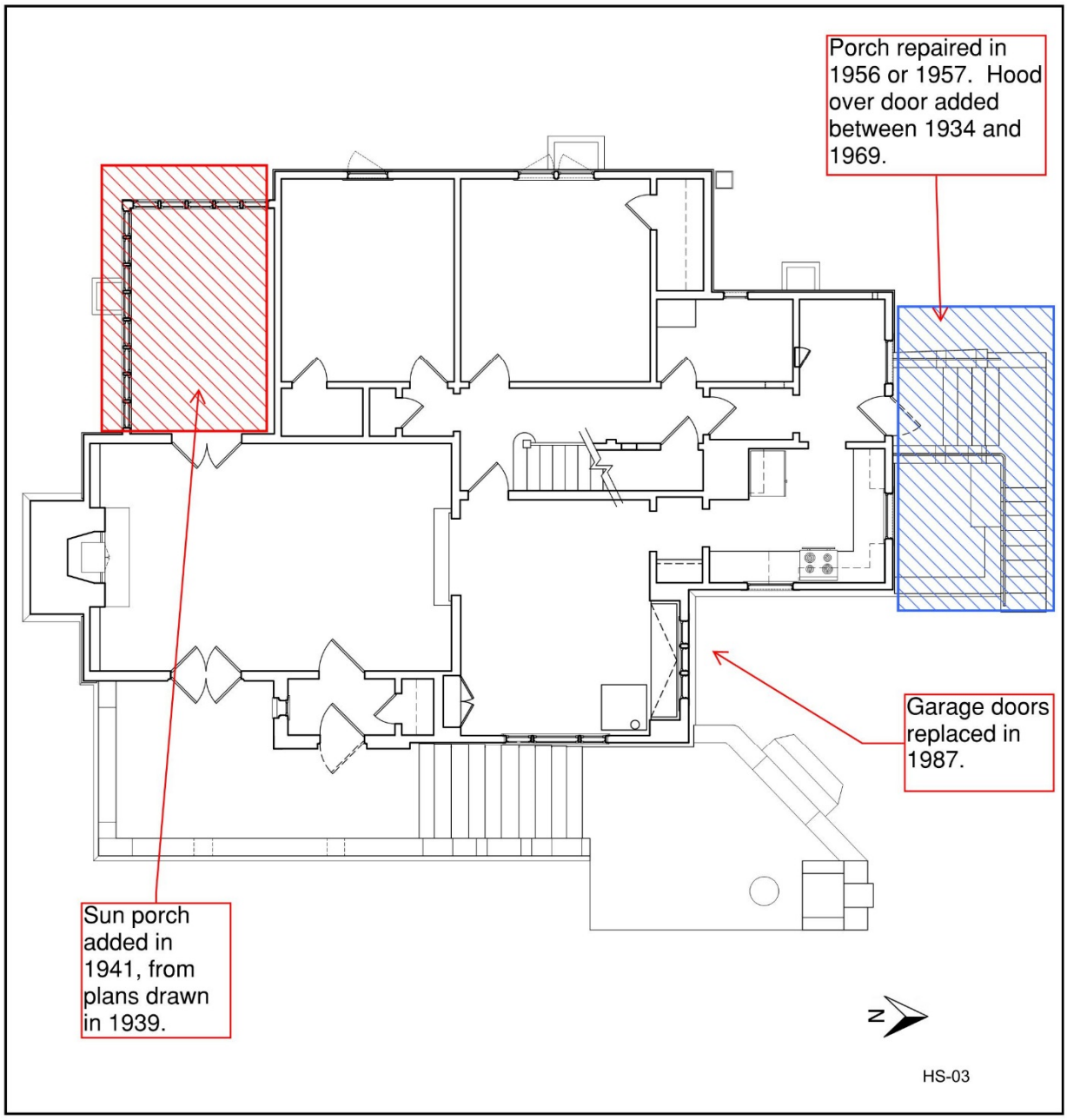



Figure 3. Summary of Alterations.

## Timeline of Major Events and Alterations

Historic Primary Function and Use: Single Family Dwelling "superintendent's residence" [List of Classified Structures.]
Current Primary Function and Use: Single Family Dwelling [List of Classified Structures.]

1933
November 3, 1933. Plans completed for Superintendent's Residence (HS-03). Plans were drawn by "S. D." of the National Park Service Branch of Plans and Design, recommended by W.G. Carnes, Acting Chief Architect, 11/14/1933, and approved by Arno B. Camerer, Director on 12/28/1933. [Appendix A.]

1933
According to the National Register nomination for the historic district, correspondence files indicate that H. W. Baker was involved in developing "preliminary studies of the floor plans and elevation" for HS-03, but another letter "clearly indicates" that Edward D. Freeland developed a sketch of building. (Baker's level of involvement with design decisions has not been confirmed.) The construction contract was awarded to Hot Springs Lumber Company. [Karsmizki, "Administrative and Utility Area NR Nomination."]

1934
Built by Hot Springs Lumber Company, for $9,977.00 [Maintenance Department Files.]
October 15, 1934. Plans completed for landscape planting at superintendent's residence (HS-03). Plans were drawn by "S. S." of the National Park Service Branch of Plans and Design, recommended by W.G. Carnes, Acting Chief Architect, 10/23/1934, and approved by Arno B. Camerer, Director on 11//15/1934. [Appendix A.]

April 6, 1934. Contract let to Hot Springs Lumber Co, for "two residences and a machine shop." $19,475.69. (HS-03, HS-06, HS-11) [April, 1934 WICA Superintendent's Monthly Report.]

August 11, 1934. HS-03 completed, per plans and annual report. [Appendix A.]; [June 7, 1934 WICA Superintendent's Monthly Report.]

1939
June 30, 1939 and July 15, 1939. Plans drawn for a sunroom addition to HS-03. Plans were drawn by "Kreinka, M.P." of the National Park Service Branch of Plans and Design, recommended by Howard W. Baker, Regional Landscape Architect, 9/21/1939, and approved by Thomas J Allen Jr., Regional Director on 9/23/1939. [Appendix A.]

1941
January, 1941. Completion of basement at Superintendent's residence (HS-03). Report may have been prepared by J. Estes Suter, Acting Superintendent. [February, 1941 WICA Superintendent's Monthly Report.]

November, 1941. Sunroom built. Foreman James C. Johnson assigned to Wind Cave to be in charge of building construction, sunroom, Superintendent's Residence (HS-03). [December, 1941 WICA Superintendent's Monthly Report.]

1949
Value $28,600. [Maintenance Department Files.]

1951
June. Replaced hot water plant and modernized piping system [Maintenance Department Files.]
Insulation blown into structure. Detected from old photo that shows pattern in stucco and recorded in property file. Property file reports fireplace had been pulling away from wall and was rebuilt (year of rebuild unknown.) [Karsmizki, "Administrative and Utility Area NR Nomination," 7.29.]

1952
May, 8 1952. Plumbing contract to furnish and install hot and cold water supply line with two-way faucets, sewer hook-up for washing machine and dishwasher. [Maintenance Department Files.]
Many windows replaced. [Karsmizki, "Administrative and Utility Area NR Nomination," 7.29.]

1954
March 12, 1954 (reported.) Underground electrical cable replaced and project completed. [Maintenance Department Files.]

1957
Paint and decorate interior and exterior, roof repair, repair wiring, storm windows - sunroom, construct drainage ditch [Maintenance Department Files.]
New porch added. [1957 WICA Annual Superintendent's Report.]

1958
Upgrades include bathroom wiring and painting, plus new drains in basement. [1954 WICA Annual Superintendent's Report.]

1959
July. Install rugs. [Maintenance Department Files.]
December. New door. [Maintenance Department Files.]

1960, ca.
Solar water heater. [Maintenance Department Files.]

1965
January. New 100 amp circuit breaker [Maintenance Department Files.]
April. New Ceiling. [Maintenance Department Files.]

1969
August. Painted stucco. [Maintenance Department Files.]

1974
June. Rewire; October. Re-shingled. [Maintenance Department Files.]

1976
March. Remodel bathroom. [Maintenance Department Files.]

1980-81
Storm doors and windows. [Maintenance Department Files.]

1982
August 20, 1982. Line 4. May read: "Removal of existing wood shingle and reroofed with asphalt shingles." Direct Cost $3,921.67. (Recorded 23 Apr 1987) [Maintenance Department Files.]

1983
February. Repair cracks and repaint and refinish wood floors [Maintenance Department Files.]
May. Repair solar unit [Maintenance Department Files.]

1985
July. Replaced shelves. [Maintenance Department Files.]
August 23, 1985. Job Completed. Line 2*. May read**: "Old 2 wire system removed, installed new wiring, grounding, entrance to weather head, panels and baseboard electric heaters. Clint's Electric. Direct Cost $6,666.33. (Recorded 30 May 1986.) Hall and basement painted. [Maintenance Department Files.]
Shed roof was added over the northwest entrance to HS-03. [Karsmizki, "Administrative and Utility Area NR Nomination," 7.29.]

1986
July. Line 3*. May read**: Building transferred from G.L. acct. 210 General Buildings to G.L. acct. 215 Historical Buildings. (Recorded 16 Apr 1987) [Maintenance Department Files.]
Reroofed [Karsmizki, "Administrative and Utility Area NR Nomination," 7.29.]

1987
Construction and installation of new garage door. [Maintenance Department Files.]

1988
Altered [List of Classified Structures.]
Added custom cabinets to match, Paint and repair. [Maintenance Department Files.]

1986
Reroofed building, Art Herrera Construction Co. [Maintenance Department Files.]

1990
October. Carpeted interior floors (Living Room, Dining Room, Halls and four Bedrooms). . [Maintenance Department Files.]
November. New Whitfield Advantage II T Pellet stove, new vinyl flooring in bathroom. [Maintenance Department Files.] Note: this was originally vented out the side wall.

1992
Painted exterior. [Maintenance Department Files.]
November 9, 1992. Painted interior wall surfaces throughout the house. Repaired cracks in plaster. [Maintenance Department Files.]

1993
Tested for Lead Based Paint. [Maintenance Department Files.]
October 1, 1993. Structure Ultimate Treatment (UT): Restoration. Not approved, not completed [List of Classified Structures.]

1995 New concrete steps. [Maintenance Department Files.]

1999
March 8, 1999. Combustion Fan - Pellet Stove. [Maintenance Department Files.]

2001
December 3, 2001. Refinishing doors and trim in Qtrs 3. [Maintenance Department Files.]

2002
Asphalt roof replacement.[3]

2004
Six bedroom windows replaced to meet life safety fire egress.[4]

2009
Seven windows replaced.[5]

[3] Maintenance Files, Letter from McCarthy Anderson to Steve Schrempp, January 16, 2002.
[4] Maintenance Files.
[5] Maintenance Files.

## Historic Photos

Figure 4. HS-03. ca.1930s, looking west. (WICA 4131)

Figure 5. HS-03. ca.1930s. The southwest corner, now occupied by the sunroom. (WICA 4316)

Figure 6. HS-03. Ca. 1934 (WICA 4560)

Figure 7. HS-03. ca.1934, Aug. 17, looking south. (WICA 4319)

Figure 8. HS-03. 1934, Nov. 10, looking south. (WICA 4335)

Figure 9. HS-03. ca.1940s, looking west. (WICA 4317)

Figure 10. HS-03. ca. 1950s, looking southwest. (WICA 6613)

Figure 11. HS-03. 1952, back wall, looking east. (WICA 4318)

Figure 12. HS-03. ca.1959, Nov. 1, looking west. (WICA 6359)

Figure 13. HS-03. ca.1969, looking southeast. (WICA 7948)

HS-03 Dining Room 102 Historic Light Fixture. (SRJA 2014)

# Existing Conditions

# HS-03 Superintendent's Residence Existing Conditions

HS-03 Superintendent's Residence was constructed in 1934 and is set into the hillside, located just south and west of HS-04. HS-03 was constructed as the Superintendent's Residence and now serves as seasonal staff housing for park staff.

This house, like most buildings in the historic housing area, is oriented with the north face of the building facing more northeast. For consistency in this report, all buildings are referred to in the north/south/east/west cardinal directions. Therefore, the northeast elevation is referred to as the north elevation (straight up on a map) and the southeast elevation is referred to as the east elevation and so forth.

## Exterior

The one-and-one-half story wood frame house is clad with Spanish stucco and has a partially exposed native rubble stone foundation at the south and north elevations and is fully exposed on a portion of the north elevation. The grade slopes steeply up towards the west side of the building, exposing none of the stone foundation at the west side of the building. The house is essentially cross-gabled with a large raised stone terrace across the east elevation. The primary elevation of the house faces east, towards the Administration Building.

Figure R1. HS-03 East Elevation. (SRJA 2014)

## Roof

The wood shingle roof was replaced with asphalt shingles for the first time in 1982. The existing asphalt shingle roof dates to 2002 and appears to be in overall good condition (Figure R1). The roof is a Heritage 40 Laminated asphalt shingle, manufactured by Tamko Roofing in the Rustic

Cedar color.[6] The K-style aluminum gutters and downspouts were also installed at that time. A single roof vent penetration is visible on the north-facing west side of the roof that serves the kitchen range hood exhaust (Figure X21). The roof has integral fall protection hooks installed for safety. These are very nondescript and are a prudent feature to have installed for maintenance (Figure R2).

Figure R2. HS-03 East Elevation. (SRJA 2014)

**Windows and Shutters**

HS-03 historic original 1933 construction drawings (Appendix A) have a full window schedule and window details that specify the multi-lite wood double-hung windows. A sun room was added in 1941, which also contained multi-lite wood double-hung windows. Only a few original wood windows from these two time periods remain. These windows are: the 3-part Dining Room Window 102; the Entry 100 Window 103; Sun Room Window 104 (total of 8 of the original 13 in this room); and Basement Windows 001 and 002. Window 102 retains one of the original screened sash and one storm sash, both of which are in deteriorated condition (Figures W1 – W4). Additional storm sash may be stored in the basement.

In 2004, a total of six of the bedroom windows were replaced (Windows 106, 107, 200, 201, 202 and 205). The original wood multi-lite double-hung wood windows did not meet the required current life safety fire egress dimension. Therefore, all bedroom windows were replaced with a reproduction Pella aluminum wood clad casement window with multi-lite simulated divided lites. The original wood trim and sills on the exterior were panned with pre-finished aluminum. This panning is wider in overall dimension than the original wood window trim and was installed using exposed fasteners, therefore changing the appearance of the windows (Figures W5 and W6). Also, the sills are panned, increasing the overall height of the sill. The panning details have open joints and are not historically appropriate for the building which leaves open joints that are completely dependent upon the condition of the sealant. The panning is intended to provide protection for the historic wood trim and sills, but water infiltration may be rotting them.

[6] Maintenance Files, Letter from McCarthy Anderson to Steve Schrempp, January 16, 2002.

In 2009, seven additional windows were replaced (Windows 100, 101, 108, 109, 110, 203 and 204). These are also aluminum clad wood Pella windows, but they are double-hung windows, better in keeping with the historic windows than the replacement casement windows. However, the exterior metal panning on these windows is not well detailed or installed. The panning is more than two times the width of the historic wood trim. The panning is installed in a 'picture-frame' method, which has eliminated the historic sills altogether (Figure W7). This change has greatly affected the overall feel from the appearance of the historic windows and is not an acceptable detail for window replacement.

The Pella replacement windows are multi-lite configuration, similar to the original windows. However, the windows on the second level were originally 6/6 or 8/12. The Pella double-hung windows installed in 2009 match this configuration, while the egress casement windows have a total of six lites. These are in stark contrast to the 6/6 or 8/12 historic windows. The casement windows also do not have a simulated meeting rail, which would have at the very least made them look more like a double-hung window. This is a feature that Pella offers, so this could have been designed to be a much closer match to the historic windows. The exterior of the house lost some of its historic character when the windows were transitioned from divided multiple-lite windows to casement windows with the incorrect divided lite configuration and missing meeting rail. Another significant missing feature includes the exterior shutters.

Window 105 (total of 5 units) along the Sunroom 111 west wall were replaced at an unknown date with metal sash. They have exterior storm windows installed for additional protection.

Rustic board and batten shutters were installed on this house when it was first constructed (Figure 4 on Page 11). These shutters were also indicated on the original construction drawings and were installed on the east and north elevations. The last photograph in the file indicates they were installed at least until 1959 and were removed sometime prior to 1969. These were an important character defining feature of the exterior that lent the 'rustic' style to the building.

Figure W1. Historic Window 102. (SRJA 2014)

Figure W2. Historic Window 102 Deteriorated screen sash detail. (SRJA 2014)

Figure W3. Historic Window 102 Deteriorated storm sash detail. (SRJA 2014)

Figure W4. Historic Window 103 detail. (SRJA 2014)

Figure W5. Replacement Window 200 with exposed metal panning fasteners. (SRJA 2014)

Figure W6. Typical metal panning at side trim and sills for 2004 replacement windows. (SRJA 2014)

Figure W7. Replacement Window 110 with picture-framed panning and no sill. Corners are mitered. (SRJA 2014)

**Stone Masonry**

The hybrid concrete and native stone foundation walls are laid in a random ashlar pattern. The foundations were specified to be buried in grade a minimum of 18-inches which is not to current frost depth design. Concrete foundations walls were designed to have reinforcement with minimal footings. The base of the walls and footings were not visible during the investigation. The stone is in good condition throughout. The foundation has had several campaigns of mortar repointing. The original mortar is intact in several locations. Some of the more recent mortar does not match the historic mortar as closely as it could. The existing mortar is dirty and would need to be cleaned prior to assessing a new mortar match. Only a handful of stones are fractured and require replacement or monitoring. These stones tend to be adjacent to concrete surfaces, where there is not a soft joint installed between the two materials.

**Stucco and Paint**

The exterior Spanish stucco is in relatively good condition, with only minor crack repairs required throughout the elevations, which are typical for the age of the structure. However, there are concentrated areas of stucco deterioration, where there tends to be cracking and crazing. These are discussed in each section below.

The original stucco had an integral color in the top coat that was much more of a warm ochre color than the current color. The date the stucco was first painted the current yellow color is unknown. The existing paint is latex and is de-bonding from the stucco in certain locations where the stucco is showing signs of water infiltration. The house was likely painted to cover previous plaster crack repairs.

The original trim paint color is also a lighter reddish-brown compared to the darker chocolate brown currently painted. Evidence of this lighter color can be found throughout the trim. One example is at the jamb of Window 102 (Figure F1).

Figure F1. Paint finishes on the exterior show the two colors of brown paint. (SRJA 2014)

**Exterior Wood Trim**

The trim on the exterior of HS-03 is typical of other trim detailed and installed throughout the historic housing area (Figure F2). The trim consists of standard cornice profiles, horizontal wood siding in the gables, wood louvers in the gables and wood and door trim. The trim is in very good condition, except for some spot locations, specifically around the sun room addition. Trim on the building is painted, while the horizontal wood siding is stained. Note that all of the cornice installations where there are gutters installed have protective L-shaped boards installed to attach the gutters. The original houses had roof-hung gutters.

Figure F2. Typical metal panning at side trim and sills for 2004 replacement windows. (SRJA 2014)

Figure X1. East Elevation. (SRJA 2014)

**East Elevation**

The east elevation is the primary elevation and guest entrance to the house with the raised stone terrace (Figures X1 – X28). The house from this elevation is one-and-one-half stories at the south side and the grade drops towards the north side to expose the stone basement level. The massing of the east elevation has a gable running in the north/south direction at the south end with a large chimney and a cross gable in the middle, facing east. The north end of the house has another gable running in the north/south direction, offset from the south gable.

The native stone walls of the front terrace are slightly battered and contain two drainage openings through the wall to allow the sloped concrete terrace to drain (Figures X2 and X8). The stone terrace and steps are in good condition overall, requiring typical maintenance and cleaning (Figures X5 – X8). There are small sections of missing or deteriorated mortar throughout the terrace walls and steps and the stone is covered with biological growth. Several stones in the walls have fractured. There is no handrail on the terrace stairs nor a guardrail installed along the terrace walls (Figure X4), as required by building code. Debris easily builds up on the porch surface which can block the drainage holes in through the stone walls (Figure X8). Walls are 18-inches to 25-inches in overall height above the concrete porch floor. The concrete porch appears to be original construction and is showing signs of wear typical for its age. The concrete floor is dirty with biological growth and has several cracks. The aggregate in the concrete is beginning to show. The porch floor does not appear to have a water repellent installed. Where the concrete porch and stucco walls meet, the stucco is cracked in several locations. There is no soft joint installed between the two materials. The water service to the lawn irrigation system is installed in front of the terrace wall. The terrace walls are in fair to poor condition, which may be a result of the irrigation system repeatedly 'watering' the wall when it is in operation. This should be verified when the system is in use. Where the concrete was poured against the stone, the stone is cracking due to the absence of a soft sealant joint between the two materials (Figure X3).

The front Door 100/1 is entered from this terrace and is centered under a small gable, set within the larger gabled wall (Figure X9). The recessed door is obscured with an old wood screened door, which appears to be original or early to the construction of the house. The screened door wood is in deteriorated condition, but it still functions well. The hardware on the screened door has been painted. The original front door remains and is typical of the decorative front doors used throughout the housing complex (Figures X10 – X12). The door is a vertical tongue and groove door with six lites. This door is unique from front doors in the other residences, in that it has an arched head. The original decorative hardware is by Yale and is working condition. The wood frame surrounding the door requires painting. The south side of the wood sill is rotten and requires replacement. A small wall light is mounted above the door that is appropriate for the style of the house, though not original. The age of this fixture is unknown. Above the door, the wood louver is in good condition and has a large mud dauber nest inside.

Figure X2. Stone terrace detail.
Note the drainage hole and the fractured stone below. (SRJA 2014)

Figure X3. Stone terrace detail.
Note there is no soft joint between the concrete and the stone wall. (SRJA 2015)

Figure X4. Stone steps. (SRJA 2014)

Figure X5. Stone steps at concrete porch. (SRJA 2014)

Figure X6. Concrete porch crack at corner. Note the biological growth on the concrete and no soft joint between the concrete and the stucco walls. (SRJA 2014)

Figure X7. Front terrace detail. (SRJA 2014)

Figure X8. Front terrace detail at drainage hole through the terrace wall. Note that debris can easily build up to block these holes. (SRJA 2014)

Figure X9. Front entry detail. (SRJA 2014)

Figure X10. East Elevation. (SRJA 2014)

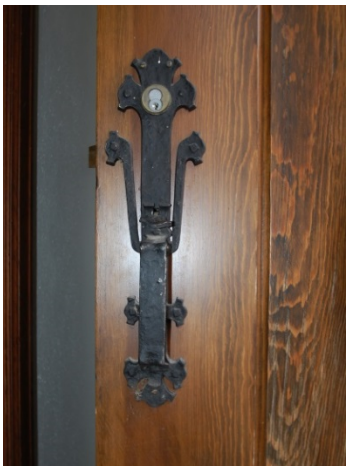


Figure X11. East Elevation. (SRJA 2014)

Figure X12. East Elevation. (SRJA 2014)

Window 103, around the corner south of the front entry, is one of the few original wood windows in the house. This small, three lite, fixed window is set deep into the wall with a steep stepped sill and is in overall good condition (Figure X13). This window is not protected by a storm window.

The wood French Doors 101/2 located south of the front entry are also original to the house. These wood doors are in overall good condition and are protected with a set of wood storm doors (Figures X14 and X15). The bottom rails and stiles of the wood storm doors are deteriorated. The bottoms of these doors have a rubber weatherstripping installed. It is not known if these doors are functional, as they appear to have a fixed astragal installed. Both the interior and exterior storm doors require new weatherstripping.

Figure X13. Window 103. (SRJA 2014)

Figure X14. Door 101/2. (SRJA 2014)

Figure X15. Door 101/2 detail. (SRJA 2014)

The dining room Window 102 is a three segment mulled wood double-hung window (Figures W1 – W3 above). The center window is 8/12, while the flanking windows are 6/6. The windows and storm and screened windows are deteriorated. This window has one of the only surviving screened sash seen in the historic residential area that is still installed over only the south window opening. This remains a good example of a screened sash to replicate for any remaining historic wood windows. This sash is in overall deteriorated condition, requiring some deteriorated wood replacement and/or epoxy wood repair, painting and a new screen. The storm window installed over the north sash is in very deteriorated condition, requiring wood Dutchman repair and/or epoxy wood repair, glazing putty replacement and painting.

The historic window sashes are three of the few surviving historic windows in the residential area. This windows are in overall good condition, having been recently restored. The windows have original bronze hardware (sash pulls and sash locks) and weatherstripping that is in very good condition (Figures X16 – X17). The bronze side weatherstripping is unusual and acts as the interior parting bead (Figures X17 – X21). These windows originally had a pair of exterior board and batten shutters installed that were removed at an unknown time. The glass storm windows for the center and south windows are stored in the basement. The condition of these sash are unknown. Original storm sash holders are still installed (Figures X21 and X22).

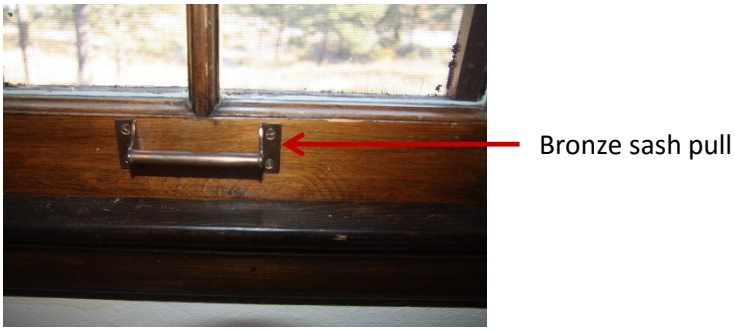



Figure X16. Window 102 Detail of sash pull. (SRJA 2014)

Figure X17. Window 102 Detail of weatherstripping and sash lock. (SRJA 2014)

Figure X18. Window 102 Detail of weatherstripping at mid-rail. (SRJA 2014)

Figure X19. Window 102 Detail of weatherstripping bottom sash. (SRJA 2014)

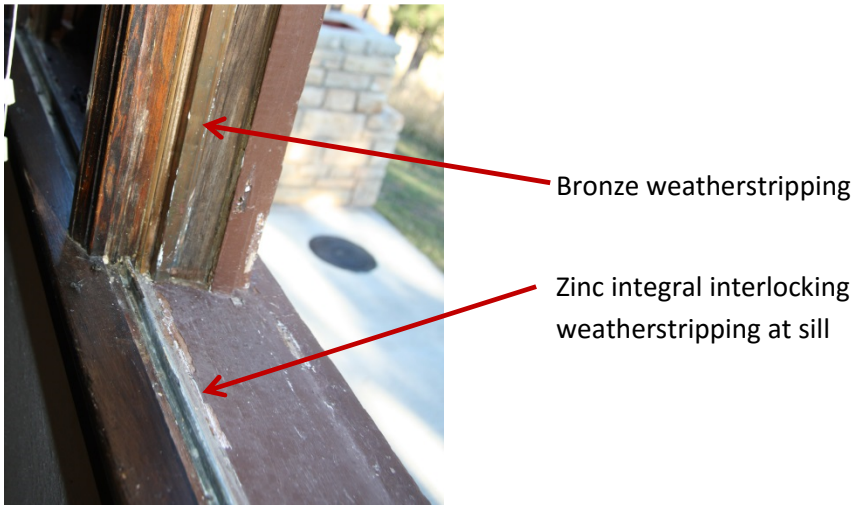



Figure X20. Window 102 Detail of weatherstripping bottom sash. (SRJA 2014)

Figure X21. Window 102 Detail of side weatherstripping that is also the parting bead. In this photograph, the square portion has been pulled out of the reveal to expose the set screws that are hidden on the interior. (SRJA 2014)

Figure X22. Window 102 Detail of storm window sash holder. (SRJA 2014)

The east-facing gable is wood sided and contains a single second floor window with a wood louver at the ridge. Window 200 at the second floor is an aluminum clad wood replacement casement dating to 2004. The wood trim is panned on the exterior with pre-finished aluminum (Figure X23). This metal panning does not match the width of the trim, gaps away from the surrounding wood trim and has exposed face-fastening bolts (Figure X24). This gaping will allow water to enter between the applied metal and the wood trim and deteriorate the window frame. The panning on the sill is only partial, fitting only the top and face of the sill. The sides are covered with a very small section. This is unsightly and exposes sealant used to seal the panning and the wood trim.

Due to the second floor bedroom egress requirements, the original double-hung window was replaced with a casement window to increase the opening size. The original wood window was 8/8 double-hung. The replacement casement is nine lites and does not have a simulated meeting rail to mimic the original double-hung window. This window also appears to be slightly narrower than the original window. This condition is common throughout the second floor and first floor egress windows. This window originally had a pair of board and batten shutters installed that were removed at an unknown time.

The horizontal wood siding is in good condition, but the finish is deteriorated and is in poor condition. There are two pieces of applied vertical wood trim below Window 200. These may have been used to support a window air conditioning unit or a wood planter. The wood louver

appears to be in good condition. It is unknown if this is open to vent the attic. If so, the insect screening should be inspected to be sure it is intact.

A wood bird house is installed to the upper left of Window 200. This bird house was installed by staff and is finished to match the surrounding wood siding. This bird house was installed to prevent wood peckers, who have chosen to live in this particular spot, from pecking holes through the wood siding. This house has a sheet metal backing which prevents further damage to the building. These birds are habitual and will take up residence in this house year after year, so the house will remain as long as it is needed. This is a removable feature that does not detract from the overall character of the house.

Figure X23. East gable detail. (SRJA 2014)

Figure X24. East gable Window 200 with inappropriate trim metal panning details, including exposed face-fasteners. (SRJA 2014)

The north portion of the east façade has a walk-out basement with a stone foundation wall and a small entry door (Figures X25 – X26). Door 004/1 leads to the original Maid's Room. This door was originally a window, as noted in the original construction drawings. The door replaced a window sometime after 1950. The exposed stone foundation is battered and is laid in a random ashlar pattern. Many of the stones are beginning to fracture. The mortar is in overall good condition. The mortar wash installed at the transition from the top of the foundation wall to the stucco wall above is inconsistent in coloring due to patching mortar not being closely matched with the historic mortar. There is no soft joint installed between the concrete driveway and the stone foundation walls. This is causing deterioration of the lower stones in the wall from expansion and contraction of the adjacent concrete drive. This condition continues to cause issues with the attached north retaining wall (Figure X27). The retaining wall contains a day-lighted underground drainage pipe. This drain in seen in the earliest photographs of the residence and was likely originally tied to the 4-inch foundation drainage tile. The downspout from the north porch is buried and likely ties into this foundation drain. This pipe is made up of an unknown fibrous material and only extended past the face of the wall approximately 1-inch. This is extension is not sufficient to drain the water away from the face of the retaining wall, causing the stones below to stay saturated and stained. The stone foundation wall and adjacent stone retaining wall are covered in biological growth and need to be cleaned.

Figure X25. East façade detail. (SRJA 2014)

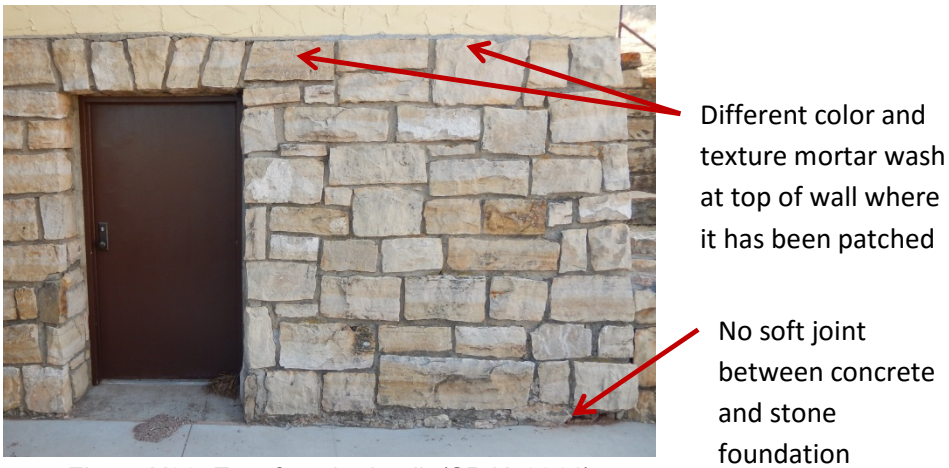



Figure X26. East façade detail. (SRJA 2014)

Figure X27. East retaining wall detail.
Note the drainage pipe and deteriorating stones adjacent to the concrete slab. (SRJA 2014)

First floor Window 100, which is located in the kitchen, is a replacement 8/8 double-hung window and has exterior metal panning covering the trim. This window was installed in 2009. The trim is picture-framed and is very wide, obscuring the historic wood window detailing and changing the overall proportion of the window. These windows originally had a pair of board and batten shutters installed that were removed at an unknown time.

There is a hose bibb located just north of Window 102. The wood trim throughout the exterior of the east elevation is in very good condition, requiring only spot repainting. The stucco on the east elevation is in very good condition, requiring only spot repairs, typically at grade or where in contact with the concrete porch or driveway (Figure X28).

Figure X28. East façade stucco deterioration detail at front Door 100/1 sill. (SRJA 2014)

Figure X29. North Elevation. (SRJA 2014)

**North Elevation**

The north elevation of the house is T-shaped in plan, with an east/west gable and a projecting north/south gable (Figure X29). The secondary entry to the house is located in the center of the north-facing gable and is accessed by an in-grade stone staircase and small covered stone porch.

In the east portion of the elevation, a metal overhead roll-up door with a large top coil is installed at the original basement garage door location (Figure X30). This overhead door is a painted dark brown to match the surrounding trim. The date of its installation is unknown. The large coil at the top of the door is installed on the exterior of the building and is not in keeping with the historic design of this elevation. The paint on the door is beginning to fail and requires repainting or touch-up painting. The door appears to function properly.

Window 102 above the garage door is comprised of three 4/6 mulled double-hung windows installed in 2009. These are aluminum clad wood replacement windows and have prefinished metal panning trim installed on the exterior. The trim is picture-framed and is very wide, obscuring the historic wood window detailing and changing the overall proportion of the window. These windows originally had a pair of board and batten shutters installed that were removed at an unknown time.

Window 205 in the second floor dormer is a six lite aluminum clad wood replacement casement window (Figure X31). This window was replaced for egress compliance. The original historic wood double-hung window was a 6/6 configuration. The original wood trim is clad with prefinished metal panning with exposed face-fasteners. There is a gap at the top right corner of the trim that can allow water behind the metal panning. The dormer is in overall good condition, with only the painted trim requiring some touch-ups. The metal stovepipe just east of the dormer is used for the wood pellet stove in the dining room. The pellet stove was installed in 1990. While this stovepipe is not original to the historic period of significance, this is considered to be a removable intrusion.

Figure X30. North elevation overhead door and Window 101 detail. (SRJA 2014)

Figure X31. Dormer Window 205 detail. (SRJA 2014)

The center section of the north elevation is gabled and is built into grade. The east side of the battered stone foundation wall is exposed, while only about 8-inches is exposed on the west side. The north side is accessed from the stone steps and porch (Figures X32 – X35). The steps are set directly into grade. It is not evident from the historic drawings if the stone steps rest on a concrete foundation. The north porch does have concrete footings under the side walls that were designed as part of the foundation plan. The intervening space is noted as having 'earth fill.' The steps from the driveway were first built with flanking stone retaining walls. The north wall has been removed and has been replaced with in-grade stepped wood timbers to retain the steep grade.

The steps may have been rebuilt since their original construction. It is difficult to tell the extent of the original steps, but it appears the lower set was originally built into grade and may have consisted of only a handful of treads. The upper steps to the porch appear as they do today, but there did not appear to be a connection between the upper and lower steps – only grade. The seam between the newer steps and the original porch steps can be clearly seen (Figures X34 – X35). A concrete pad rests in the landscape area between the house and the steps.

The stone steps and north porch are in overall good condition, requiring only spot repointing, removal of plant growth and cleaning. The painted round railings were added for safety. These railings do not meet current residential code for clearance at the east side of the porch, due to the large openings in the rails (Figures X32 and X33).

Figure X32. North porch steps. (SRJA 2014)

Figure X33. North steps in grade. (SRJA 2014)

Figure X34. North porch retaining wall meeting newer landing. (SRJA 2014)

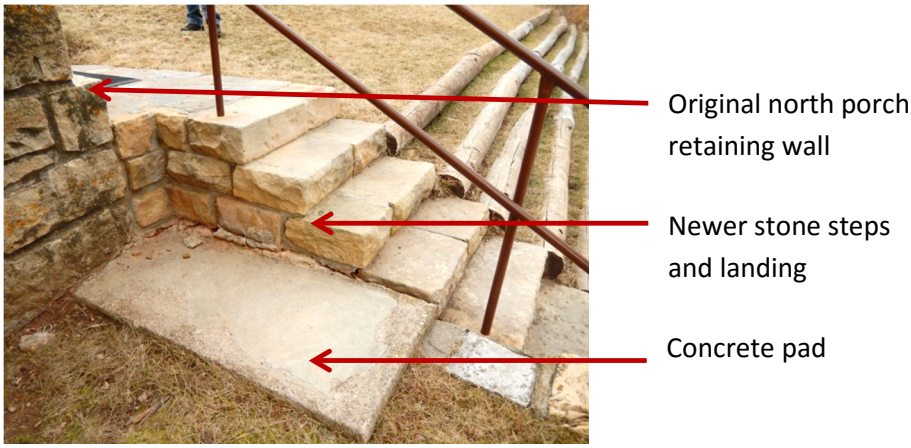



Figure X35. North steps detail. (SRJA 2014)

The north porch roof was added in 1957 and provides protection from the elements for Door 107/1, as this is the most frequently-used door. The flat roof construction is simple and does not compete with the historic style of the house. The square wood roof brackets attach into the side of the house. There is no sealant around the porch brackets at this connection. A small wall light is mounted to the left of the door that is appropriate for the style of the house, though not original.

The exposed stone foundation on this elevation is in overall good condition, requiring spot repointing to the west of basement Window 001 and cleaning (Figure X38). Window 001 is good condition and has an original screened window sash installed. The screen needs to be replaced. The window requires only minimal rehabilitation work. The trim requires painting.

Door 107/1 is the most frequently used door. This door is entered through an aluminum painted storm door. This contemporary door is installed within the historic wood door frame and the frame requires painting. Both the door and the storm door appear to be in good working condition. First floor Windows 109 and 110 flank the entry door and are both 8/8 aluminum clad wood double-hung replacement windows with exterior metal panning over the historic trim. The trim is very wide, obscuring the historic wood window detailing and changing the overall proportion of the window. The metal panning is open at the top right corner of Window 109.

Second floor Windows 203 and 204 are 6/6 lite aluminum clad wood replacement windows with exterior metal panning covering the original window trim. The metal trim is very wide, obscuring the historic wood window detailing and changing the overall proportion of the window. The original wood windows were 6/6. These windows originally had board and batten shutters installed – one at each end and one in the center. An unfinished vent is installed above and west of the porch roof. The wood louver at the ridge appears to be in good condition. It is unknown if this is open to vent the attic. If so, the screening should be inspected to be sure it is intact.

The exposed stone foundation to the west of the porch is in overall good condition, requiring only spot repointing. A hose bibb and sump pump drain pipe are located in this wall (Figure X39). The wood blocking behind the hose bibb requires painting.

The east section of the north elevation is recessed from the entry and is a one story stucco wall with no openings. Approximately 4-inches to 6-inches of the stone foundation is exposed and is in good condition, requiring only spot repointing (Figures X36 and X39). The gutter from the upper west roof drains into this lower gutter. The downspout at the northwest corner drains just above grade into an in-grade metal grate. The metal grate is set into concrete and is in fair condition, requiring rehabilitation and repainting. It is assumed this drains into the foundation perimeter drain, but this should be confirmed to be the case that that the footing drain is in working condition.

Window 202 in the second floor dormer is a six lite aluminum clad wood replacement casement window (Figure X37). This window was replaced for egress compliance in 2004. The original historic wood double-hung window was a 6/6 configuration. The original wood trim is clad with prefinished metal panning with exposed face-fasteners. The dormer is in overall good condition, with only the wood trim requiring touch-up painting.

The wood trim and stucco throughout the exterior of the north elevation is in very good condition, requiring only spot repainting.

Figure X36. Detail of west and north elevation walls.
Note the downspout that drains into the grate. (SRJA 2014)

Figure X37. Dormer Window 202 detail. (SRJA 2014)

Figure X38. North elevation foundation and Window 001.
Note the porch downspout is buried in grade. (SRJA 2015)

Figure X39. North elevation hose bibb and sum pump drain. (SRJA 2015)

Figure X40. West elevation, north and center portion. (SRJA 2015)

**West Elevation**

The west elevation faces the steep hillside. Grade along this side of the house is within 4"-6" of the top of the stone foundation wall. The west elevation of the house is T-shaped, with a north/south gable and a projecting west-facing gable (Figure X40). Water infiltration at the basement foundation has been a continuous issue with this side of the house, due to the steep slope. A French drain was reportedly installed surrounding this elevation, but the daylighting of this drainage system was not located. A sump was added in the northwest corner of the basement to assist in addressing this issue.

The telephone box and dryer vent are located near the northwest corner of the house. The hole through the stucco is not sealed at the telephone conduit. A small crack in the stucco at the corner requires repair. Approximately 4-inches to 6-inches of the stone foundation is exposed along this elevation. It is in overall good condition, requiring only spot repointing and repair of the mortar wash along the top of the wall.

A poured concrete well provides an areaway for the foundation vent (Figure X41). The steel screened vent frame is rusted and requires rehabilitation and painting. Rocks in the bottom of the areaway obscure whether or not there is a drain installed. This should be verified. The areaway is covered with a heavy-duty steel grate that requires painting.

Figure X41. West elevation foundation vent concrete well. (SRJA 2015)

Window 108 is a 4/4 aluminum clad wood double-hung replacement window with exterior metal panning covering the original window trim and was installed in 2009. The metal trim is very wide, obscuring the historic wood window detailing and changing the overall proportion of the window.

The stone chimney projecting above the north roof is in good overall condition, requiring spot repointing and mortar wash repair around the top (Figure X42). A single clay tile flue is visible. The flue is used to mitigate the radon from the basement.

Figure X42. West elevation foundation vent concrete well. (SRJA 2015)

The center portion of the west elevation is gabled (Figure X43 and X50). Approximately 4-inches to 6-inches of the stone foundation is exposed along this side and requires spot repointing and mortar wash repair at the top of the wall. A concrete well surrounds basement Window 002. The concrete well has a crack all the way through the north wall that needs to be repaired or sealed (Figures X44 and X45). The wood window frame is in poor condition with an exposed wood frame and deteriorated sill. The window is covered with a screen sash. The likelihood of this window being opened is very small. The window would be better protected with a storm window. The bottom of the well is lined with bricks. It is unclear if there is a drain. If

there is no drain, this may be the issue of pooling water leading to the rotten wood sill. There are several small vertical cracks in the stucco where it meets the stone foundation. The areaway is covered with a heavy-duty steel grate that requires painting. A hole in the southwest corner is drilled through the wall to install some wiring (Figure X52).

Figure X43. West elevation – center and south portions. (SRJA 2015)

Figure X44. West elevation Window 002 well. (SRJA 2015)

Figure X45. West elevation Window 002 well detail.
Note, there does not appear to be a drain. (SRJA 2015)

First floor Windows 106 and 107 are aluminum clad wood casement replacement windows with metal panning covering the exterior trim and were installed in 2004 (Figures X46 – X49). The metal panning was installed with exposed fasteners. The joints at the sill edges are not water-tight and look unfinished. These windows were required to be replaced to due bedroom egress regulations. The existing Window 106 is a twelve-lite casement, while the original window was an 8/12 double-hung wood window. The existing Window 107 is a pair of eight-lite casements, while the original Window 107 was a three-part mulled window with three 4/6 double-hung wood windows (Figure X49). The new windows do not match the original window lite configurations.

Figure X46. West window detail. (SRJA 2015)

Figure X47. West window sill detail. (SRJA 2015)

Figure X48. West elevation Windows 106 (foreground) and 107 (background). (SRJA 2015)

Figure X49. West elevation photograph taken in 1952, showing the original windows. Window 106 was an 8/12 double-hung and 107 was a three part mulled 4/6 double-hung. (WICA 4138)

The gable above the eave has horizontal wood siding with a wood louver at the ridge and contains a single second floor window. Window 201 is a nine-lite aluminum clad wood replacement casement installed in 2004. The wood trim is panned on the exterior with pre-finished aluminum (Figure X50). This panning has exposed fastening bolts. The panning at the north side and at the sill reveals that there was either a change in the opening size or an issue with the sill (Figure X51). This gap was filled with foam insulation. Due to the second floor bedroom egress requirements, the original double-hung window was replaced with a casement window to increase the opening size. The original wood window was and 8/8 double-hung. The replacement casement has nine lites and does not have a simulated meeting rail to mimic the double-hung window. This window was originally designed to have a pair of board and batten shutters installed, but it is not known if these were ever installed, since most historic photographs do not show the back of the building.

The horizontal wood siding in the gable is in good condition, requiring painting (Figure X50). The wood louver appears to be in good condition. It is unknown if this vent is open to the attic. If so, the insect screening should be inspected to be sure it is intact.

Figure X50. West elevation Window 201. (SRJA 2015)

Figure X51. West elevation Window 201 detail at edge. (SRJA 2015)

Figure X52. West elevation detail of hole through stucco. (SRJA 2015)

**Sun Room**

The Sun Room at the southwest corner of the house was constructed in 1941 (Figures X53 – X64). Built over a new concrete foundation and concrete slab, the addition is one story wood frame with stucco cladding and a shed roof that slopes to the south. Grade along the west elevation of this addition is above the finish floor. The exposed concrete foundation along the south side has several large through-wall cracks that require repair. There is a large crack in the stucco in the southwest corner (Figure X58). A concrete well surrounds the foundation vent (Figure X56). The vent appears to have a wood header that is clad with sheet metal. The sheet metal has become loose and requires repair. The condition of the wood is unknown. The screen into the crawl space should also be inspected and painted. Due to the rocks in the bottom of the well, it was not apparent if there is a drain. This areaway is not covered with a steel grate. This needs to be inspected for working condition. The splash block for the downspout has been moved and needs to be reinstalled to serve the sun room downspout.

Wood horizontal siding and trim on the sun room addition requires maintenance. The siding needs touch-up painting and there is a large hole in the wood cornice where the addition meets the main house (Figure X57). There are bees living in this hole. The cornice and fascia trim requires touch-up painting.

There are five double-hung windows on the west elevation and eight windows on the south elevation. Windows on the west are 1/1 replacement aluminum sash, while the original 4/6 double-hung sash remain on the south elevation. Windows are covered with two styles of storm windows. It is not known why or when only the west wood windows were replaced. The exterior wood window trim, sill and surrounds on the west elevation are in fair to poor condition, showing signs of peeling paint and wood rot (Figures X58 – X60). The wood windows on the south elevation appear to be in fair condition, as they have been protected by the storm windows. The original interior window hardware, including sash locks, sash pins and stops are still installed (Figures X61 – X63). The exterior wood trim, sill and surrounds on the south elevation are in fair to poor condition, showing signs of peeling paint and wood rot. The south storm windows may date to the 1957 renovation. These are galvanized or mill finish aluminum frames and are in fair condition. Several screens need to be replaced.

Figure X53. West Elevation of Sun Room. (SRJA 2015)

Figure X54. South Elevation of Sun Room. (SRJA 2015)

Figure X55. South Elevation of Sun Room foundation crack detail. (SRJA 2015)

Figure X56. South Elevation of Sun Room foundation vent detail. (SRJA 2015)

Figure X57. West Elevation of Sun Room trim detail. There is a hole or a gap in the cornice where there are bees living. (SRJA 2015)

Figure X58. Southwest corner of the Sun Room. (SRJA 2015)

Figure X59. West Elevation of Sun Room deteriorated wood sill and mullion. (SRJA 2015)

Figure X60. South Elevation of Sun Room deteriorated wood sill and mullion. (SRJA 2015)

Figure X61. Sun Room South Elevation Window 104 - interior. (SRJA 2015)

Figure X62. Sun Room South Elevation Window 104 – interior. (SRJA 2015)

Figure X63. Sun Room South Elevation Window 104 – interior detail of hardware. (SRJA 2015)

Figure X64. South Elevation. (SRJA 2015)

**South Elevation**

The primary feature of the South Elevation is the north/south gable with the large random ashlar stone chimney (Figures X64 - X66). A cross gable is runs east/west with a shed roof tied in at the Sun Room on the west side of the house. The stone chimney is battered from top to bottom with colorful native stone. A single clay tile flue is visible at the top of the chimney (Figure X65). The flue appears to have a wire cap, but with large openings. At the time of the survey in November 2014, a large bird was found in the fireplace insert. This may indicate a chimney cap with smaller openings is required to prevent further birds from entering the flue. The stone chimney is in excellent condition, requiring only spot repointing. A note in the National Register Nomination mentions that the chimney was pulling away from the wall and was rebuilt, but the year was not cited and is unknown.[7]

[7] Karsmizki, "Administrative and Utility Area NR Nomination," 7.29

Figure X65. South Elevation chimney with flue. (SRJA 2015)

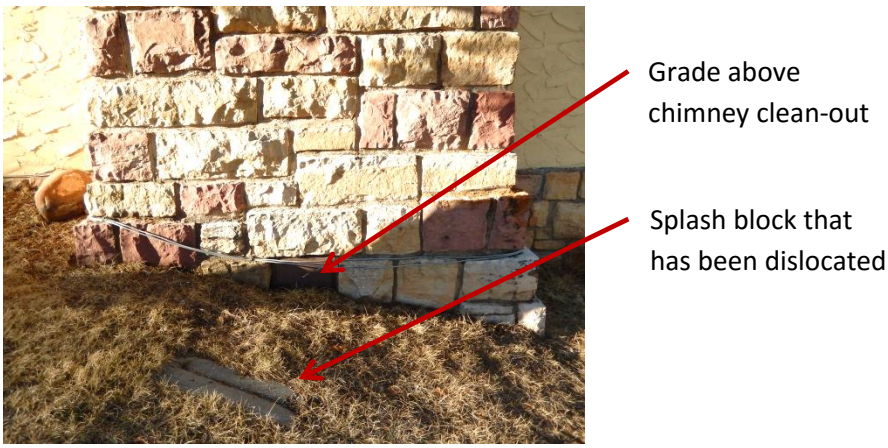



Figure X66. South Elevation base of chimney.
Note the exposed wiring surrounding the chimney. (SRJA 2015)

The electrical service enters the house near the roof with the meter mounted on the west-facing wall adjacent to the Sun Room addition (Figure X67). Along the west side of the chimney, several nails are inserted into the mortar separating the chimney and the stucco wall. At the top of this joint, there is a large hole between the cornice trim and the stone chimney (Figure X68). There is also unused telephone equipment installed along the south eave (Figure X69). Exposed wiring surrounds the chimney.

Figure X67. South Elevation electrical meter and chimney. (SRJA 2015)

Figure X68. South Elevation trim detail at eave and chimney. (SRJA 2015)

Figure X69. South Elevation detail at fascia where there is unused telephone equipment. (SRJA 2015)

The exposed stone foundation along the south elevation is in fair condition, requiring minimal spot repointing and cleaning (Figure X70). One stone below the foundation vent is fractured and requires replacement. The steel foundation vent frame is rusted and requires rehabilitation and repainting. The splash block for the southeast downspout has been relocated and needs to be reinstalled. The stucco on the south elevation is in very good condition. The wood trim on the south elevation requires touch-up painting.

Figure X70. South Elevation detail at foundation.
Note the exposed wiring surrounding the chimney. (SRJA 2015)

The south wall of the front stone terrace is in overall good condition, requiring only spot repointing and cleaning (Figure X71). One stone is severely fractured and requires replacement.

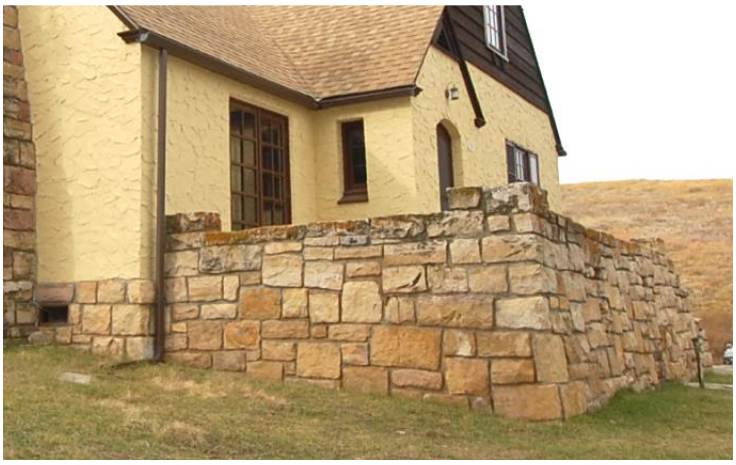


Figure X71. South Elevation terrace wall. (SRJA 2014)

**Patio**

The concrete and stone patio that lies just northeast of the house serves at the landing for the east terrace and has a built-in barbeque/fireplace at its north end (Figures X72 – X74). This patio and grill are first seen in a winter 1969 photograph (WICA 1748). The grill was partially rebuilt in the last several years and is in overall good condition. There is one large vertical crack in the lintel above the opening that requires repointing or repair. The stone steps to the concrete patio are in good condition, requiring some plant removal from joints and spot repointing. The concrete patio slab in in good condition and has some large cracks that should be monitored for movement or potential sealant installation. There is no soft joint between the concrete patio and the stone foundation wall, which may lead to cracking of the stone foundation over time.

Figure X72. Patio barbeque grill/fireplace. (SRJA 2014)

Figure X73. Patio steps detail. (SRJA 2014)

Figure X74. South Elevation terrace wall. (SRJA 2014)

# Existing Conditions - Interior

### Basement

The basement of HS-03 is constructed of a combination of reinforced concrete and stone walls resting on concrete footings. The basement was intended to serve as a garage and maid's quarters. Through the years, several changes have occurred. The occupiable portion of the basement is 615 square feet (not including the stairs). The footprint is 1,755 square feet.

### Garage 001

The Garage 001 is accessed from three ways - from the overhead door, from the staircase leading to the first floor, or from the Maid's Room 002 (Figures B-1 – B-9). The original wooden, side-hinged garage doors were replaced with a painted steel coiling overhead door in 1987.[8] This garage space is currently used for storage. The walls are exposed concrete and painted clay tile block. The floor is concrete and the ceiling is plastered. The garage portion of the space is approximately 14'-2" by 15'-2." There is a small space located at the south side of the garage, which has a lower ceiling space, which is 4'-6" deep by 8'-10" long. The ceiling height in this space is only 5'-8" and has two lower beams at only 4'-8" in height across the opening and dividing the space. The height of the overhead door is approximately 6'-8." Only a very small car would fit into this space.

A small crawl space access panel is located in the south wall, for access into Crawl Space 006 under the south portion of the house. An electric wall heater is mounted on the south wall. Opening 001/2 located in the south side of the east wall leads to the adjacent storage Room 003. The stair to the first floor is enclosed with a clay tile wall and runs the length of the east wall. The Door 001/1 at the bottom of the stairs is a wood door with four glass lites. The glass is not tempered and the door is not fire rated. The water heater sits adjacent to the stairs. A floor drain is located near the water heater. The water service and electrical panels are located in the northwest corner of the room. PVC vent pipes related to the radon mitigation system installed in Crawl Space 005 can be seen on this side of the dividing wall, along with the damper. The cleanout for the chimney is on the north wall.

A steel pipe column is located adjacent to the stone pier along the north wall. The date of this installation is unknown.

Lighting in the room is provided by a single overhead fluorescent fixture.

The stairs to the first floor are 33-inches wide. There is a handrail along the east side of the stairs. The wood stair rise is 8-inches and the run is 9 1/2-inches. The landing at the bottom of the stairs is only 11 1/2-inches deep. The landing at the top of the stairs is 38-inches long.

[8] Maintenance Department Files.

Figure B-1. Basement 001 Looking northeast. (SRJA 2014)

Figure B-2. Basement 001 Looking east at overhead door jamb installation. (SRJA 2014)

Figure B-3. Basement 001 Looking south. (SRJA 2014)

Figure B-4. Basement 001 southeast at confined area. (SRJA 2014)

Figure B-5. Basement 001 northeast at exposed beam in confined area. Note the back side of this wood beam is not wrapped with any wall board for fire protection. (SRJA 2014)

Figure B-6. Basement 001 Looking east into Storage Room 003. (SRJA 2014)

Figure B-7. Basement 001 Looking northwest towards stair and Maid's Room 002. (SRJA 2014)

Figure B-8. Basement 001 Looking east at utilities. (SRJA 2014)

Figure B-9. Basement 001 Looking north towards Maid's Room 002.
Note the steel pipe column adjacent to the stone wall. (SRJA 2014)

**Maid's Room 002**

The Maid's Room 002 is located on the north side of the basement (Figures B-10 – B-13). This room was originally titled as such on the original construction drawings. The room is quite small at only 10'-6" by 8'-3." The ceiling height is 7'-0" and the chimney takes up the southwest corner of the room. Walls are plaster and the floor is painted concrete. A simple painted baseboard skirts the room. A small 4/4 double-hung Window 001 is centered in the north wall. Door 002/2 in the east wall leads directly to the outside. This door was originally designed to be a window; historic photos show that it became a door sometime after 1950. Lighting is provided by a single fixture in the center of the room. Doors and hardware appear to be newer and are not original to the house. An electric wall heater is mounted to the south wall. A chimney cleanout is installed near the base of the chimney on the south wall. It is unknown at this time if this room ever served as a bedroom. Per current IRC, Section R302.5, this space is not permitted to be used as a bedroom due to the space opening directly to the garage.

Figure B-10. Basement 001 Looking north towards Maid's Room 002.
Note the steel pipe column adjacent to the stone wall. (SRJA 2014)

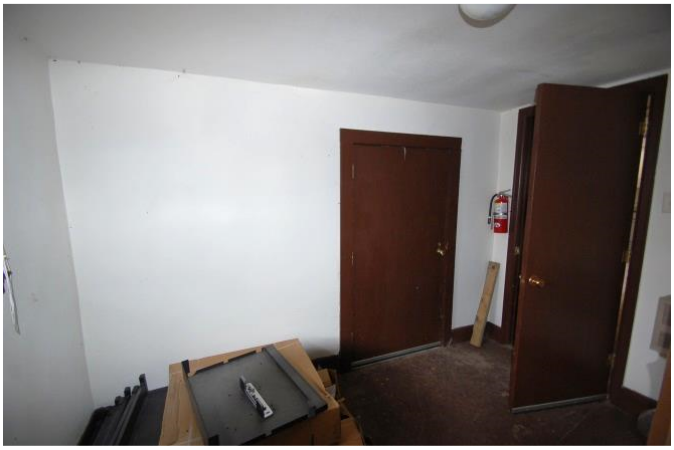


Figure B-11. Basement 001 Looking north towards Maid's Room 002.
Note the steel pipe column adjacent to the stone wall. (SRJA 2014)

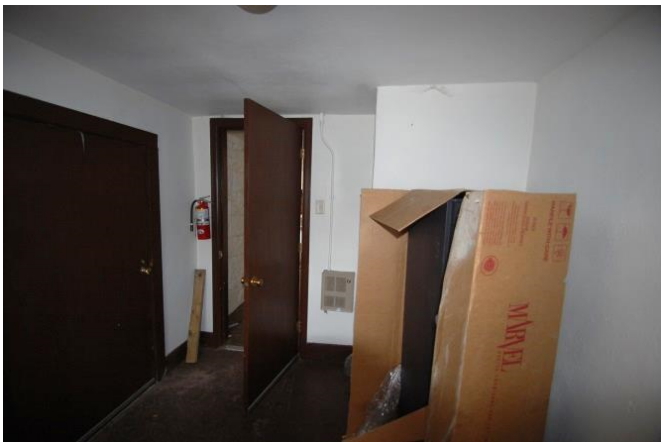


Figure B-12. Basement 001 Looking north towards Maid's Room 002.
Note the steel pipe column adjacent to the stone wall. (SRJA 2014)

Figure B-13. Basement 001 Looking north towards Maid's Room 002.
Note the steel pipe column adjacent to the stone wall. (SRJA 2014)

**Storage Rooms 003 and 004**

The Storage Rooms 003 and 004 are located in the west side of the basement (Figures B-14 – B-19). This area was originally constructed to be crawl space. Drawings completed in 1939 (which also include the sunroom addition) indicate this area of the basement was to be excavated to create a taller basement area surrounded with a new concrete curb, but that the space was to remain unfinished with exposed sloping soil and no interior walls (Appendix A). The scope of work included installing a concrete floor, a new girder to support first floor joists and new wood posts and concrete footings under the center girder. A section through the

proposed excavation and new concrete floor/curb are included in the drawings. The current area is finished, which may indicate that a change was made during construction. It is assumed that the work commenced along with the addition of the sunroom in 1941. The c. 1941 interior basement walls surrounding Rooms 003/004 are plastered and painted clay tile. The ceiling is either painted plaster or gypsum wall board. The overall size of both combined Rooms 003/004 is 20'-4" by 11'-1" with a ceiling height of 6'-10 3/4." Rooms 003 and 004 are only divided by an overhead beam and columns.

The floor is painted concrete. Basement Window 002 is located in the west wall of Room 003. The construction of the interior retaining wall required a deep splayed well between the room and the window. This three lite wood awning window is in good condition from the interior, but is deteriorated on the exterior. An access panel into Crawl Space 005 to is located in the north wall. An old access panel is located within the west wall. This was the original access into the crawl space in this area before it was excavated. This access opening has a painted fixed panel in place. Lighting is provided by overhead flush mount fixtures. A sump pit is located in the northwest corner of the room. There are mattresses stored on top of the lid, so it is not photographed. There are three electric baseboard heaters installed in the room. There is no door separating this storage room from Garage 001.

A sketch found in the Maintenance Department Files indicates that the sump and new drainage below the slab were installed by the park although the date of this work is not listed.[9]

Figure B-14. Basement 003 Looking northwest. (SRJA 2014)

[9] HS3 Superintendent's Residence sketch. Maintenance Department Files.

Figure B-15. Basement 003 Looking west at Window 002. (SRJA 2014)

Figure B-16. Basement 003 Looking northeast into adjacent Garage 001. (SRJA 2014)

Figure B-17. Basement 003 Looking east toward old crawl space access. (SRJA 2014)

Figure B-18. Basement 004 Looking south. (SRJA 2014)

Figure B-19. Basement 003 Looking west. (SRJA 2014)

**Crawl Space 004**

Crawl Space 004 is located under the first floor living room area. This space is accessible through a small access panel in the south wall of Garage 001. The Crawl Space has a dirt floor and the first floor joists above are insulated.

**Crawl Space 005**

Crawl Space 005 is located under the first floor bathroom and laundry rooms (Figures B-20 – B-21). The floor is dirt and the first floor joists above are insulated. This space is accessible through a small access panel in the north wall of Room 003. This space is used for running plumbing to the spaces above. A foundation vent is located in the west wall. This space has a piped radon mitigation fan installed, which pulls in fresh air from the foundation vent and exhausts through the west wall, into Garage 001 and directly into the chimney. When the house was continually occupied, the pipes would freeze in the winter due to the fresh air ventilation. A unit heater was installed in this space to keep the pipes from freezing. Now that the house is used for seasonal employees, the heater is no longer used.

Figure B-20. Crawl Space 005 Looking west at the space between the clay tile wall on the right and the poured concrete foundation on the left. The clay tile wall is the north wall of Room 003. (SEA 2015)

Figure B-21. Crawl Space 005 Looking northwest towards the foundation vent in the west wall. (SEA 2015)

## First Floor

The first floor is approximately 1,715 square feet and consists of eleven primary rooms. The plan is essentially cross-shaped, with a sunroom infilled in the southwest corner. No historic photographs of the interior have been found to date. Only the original 1933 construction documents and drawings produced in 1939 for the addition of the sunroom show the intent for the design of the interior.

Flies were a huge nuisance during the fall 2014 trip. The house was filled with live and dead flies. This is an issue with several of the residences.

### Historic Hardware and Lighting

Most of the interior and exterior historic doors have markings on the mortise locks that indicate hardware is Yale or Yale Junior. Hardware is an antique solid brass or bronze. Hinges are mostly face-mounted with ball tips. The backplates are similar throughout the house with a decorative raised edge and profile. The knobs are decorative brass with a recessed circular pattern. Exceptions to this hardware are noted in each instance.

Figure H-1. Historic Hardware backplate, typical throughout the house on the mortise locksets. (SRJA 2014)

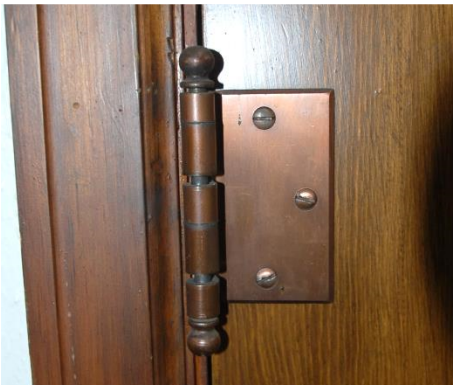


Figure H-2. Typical face-mounted ball tip bronze door hinge detail. (SRJA 2014)

**Wood Millwork**

Interior millwork throughout the house is consistent and dates to the original 1934 construction. The trim is stained pine and is flat with a backband and interior small ogee profile. The baseboard is flat with an eased edge. It is not clear from the maintenance files if there was a lead based paint mitigation project to strip trim in this house.

Photographs of a refinishing project for doors and trim were located in the Maintenance Department Files. This work was in progress in December of 2001.

Figure M-1. Typical door trim detail. (SRJA 2014)

Figure M-2. Typical door trim detail. (SRJA 2014)

Figure M-3. Typical baseboard detail. (SRJA 2014)

**Entry 100**

The primary entry for HS-03 is the front door, which is accessed from the east terrace. Door 100/1 serves as the front entry with the decorative arched wood door. The Entry 100 is a small room (Figures 1-1 – 1-6), at only 7'-0" by 3'-9" with a ceiling height of 8'-0." Walls are plaster. The floor is carpeted, though it may be laid over 2 ¼-inch strip oak flooring, as seen in the coat closet. The condition of the wood flooring below is unknown. The room is surrounded with flat stained wood baseboard. Door and window trim has a small inner profile with an integral stepped backband. The front door design and hardware are discussed within the East Elevation section of this report. The Closet Door 100/2 is an original single panel stained pine door with wide stiles and rails. The mortise lock is original to the door and is in a brass finish. The original bronze hinges are face-mounted with ball tips. The room is lit with a contemporary flush mount light fixture.

Figure 1-1. Entry 100 looking east. (SRJA 2014)

Figure 1-2. Entry 100 looking south toward Window 103. (SRJA 2014)

Figure 1-3. Entry 100 looking north. (SRJA 2014)

Figure 1-4. Entry 100 looking into north closet. Note the strip oak flooring. (SRJA 2014)

Figure 1-5. Door 100/2 hardware detail. (SRJA 2014)

**Living Room 101**

Living Room 101 is accessed from the front entry through Door 101/1 or through the Cased Opening 102/1 from the Dining Room to the north (Figures 1-6 – 1-14). The room is approximately 24'-0" by 15'-0" with a ceiling height of 10'-0" in the center. The ceiling is flat in the center and sloped on each side, matching the roof slope. The ceiling is clad with random width stained V-joint tongue and groove wood boards. The exposed composite wood beam with exposed through-bolts is part of the overall truss structure over this room (Figure 1-10). The walls throughout the room are plaster with a heavy textured knock-down finish. A large fireplace is located along the south wall with flanking built-in stained wood shelving. The room is carpeted, though it is assumed there is oak strip flooring installed below. A simple stained baseboard skirts the perimeter of the room.

The Cased Opening 102/1 is centered in the north wall. This is a Tudor arched opening with two oak steps up into the Dining Room. There is no handrail installed at the steps. There is a diagonal crack traveling along this wall, as noted on the photograph below that should be monitored for further movement.

Door 101/1 on the east wall leads into the front entry and is an original vertical V-joint tongue and groove decorative door with six lites and original brass and bronze hardware matching other hardware throughout the house. French Doors 101/2 are also on the east wall and lead to the east terrace. These doors are original ten lite stained pine and have original hardware. These doors have exposed weatherstripping.

The fireplace on the south wall is constructed of a pinkish stone with a random ashlar pattern (Figure 1-9). A flat jack arch spans the fireplace box. An outline from an earlier fireplace screen frame can be seen on the face of the stone. The stone fireplace and hearth are in good overall condition but is dirty from years of use and requires a good overall cleaning. An insert is installed in the fireplace box and has an electrical cord to plug in for the blower when in use.

Along the west side of the room, French Doors 111/1 lead into the adjacent Sunroom 111. These doors were originally exterior doors that led to a rear patio. These doors match the French Doors 101/2 installed on the east wall. These doors are ten lite stained pine with original hardware (Figures 1-13 and 1-14). These doors are not weatherstripped. There is a significant diagonal crack in the west plaster wall, just north of the French doors and another diagonal crack further north. These cracks have been previously repaired and have reopened. These cracks should be monitored for further movement.

The room is lit through four wall sconces (two on the south wall flanking the fireplace and two on the north wall flanking the cased opening). The sconces may be in historic sconce locations, but the existing lighting is contemporary. There is a large ceiling fan and light in the center of the room. A total of five baseboard heaters of varying styles and vintages line the perimeter of the room for heating. Outlets and telephone jacks are provided throughout the room.

Figure 1-6. Living Room 101 looking north. The red line shows the approximate location of diagonal cracking on this wall. (SRJA 2014)

Figure 1-7. Living Room 101 looking at Door 101/1 to Entry 100. (SRJA 2014)

Figure 1-8. Living Room 101 looking south. (SRJA 2014)

Figure 1-9. Living Room 101 looking south at fireplace and hearth. Note an earlier fireplace opening surround outline can be seen on the stone edging the firebox. (SRJA 2014)

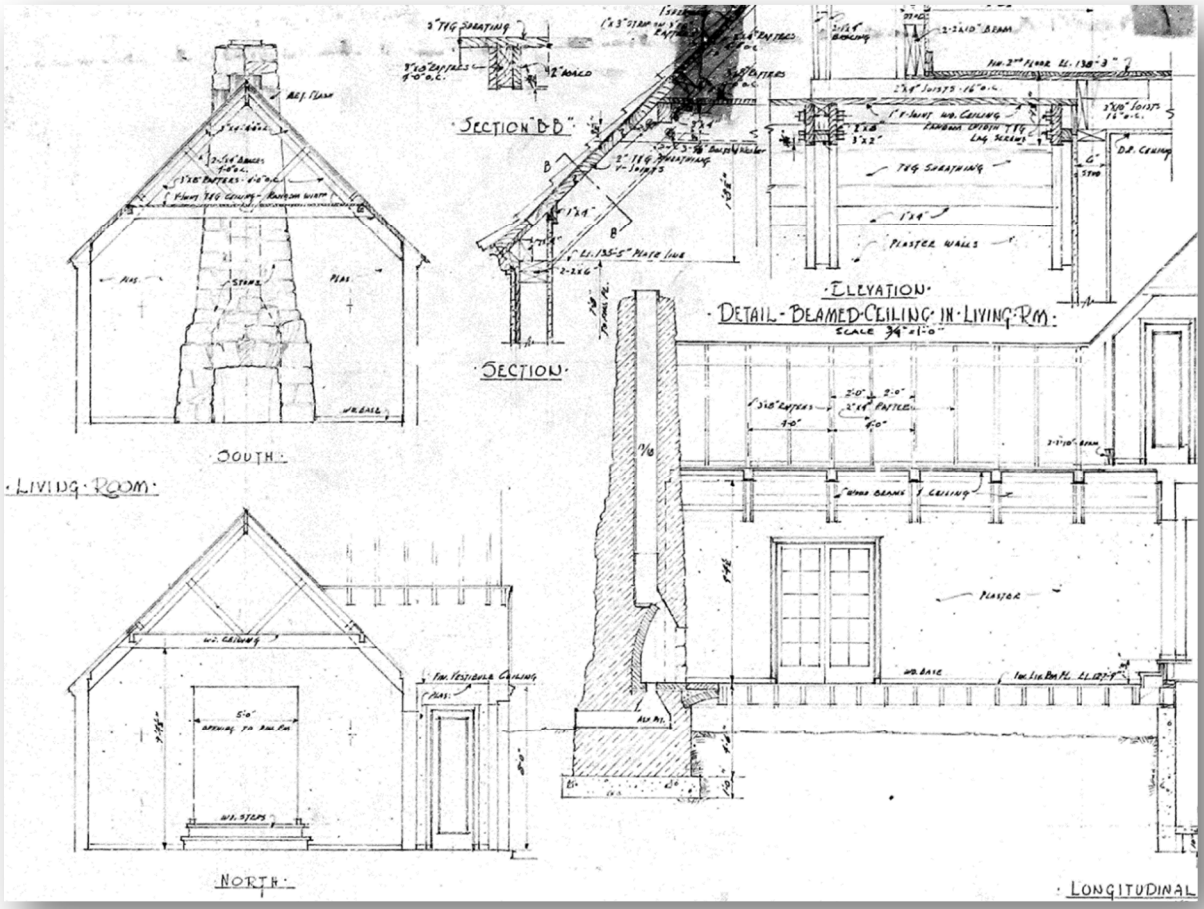



Figure 1-10. Living Room 101 truss details from 1933 drawings, Sheet 5. (Superintendent's Residence drawings, 1933).

Figure 1-11. Living Room 101 looking west. The red lines show the approximate locations of two major diagonal cracks in the west wall. (SRJA 2014)

Figure 1-12. Living Room 101 west at Door 111/1. (SRJA 2014)

Figure 1-13. Door 111/1 hardware detail. (SRJA 2014)

Figure 1-14. Door 111/1 hardware detail. (SRJA 2014)

**Dining Room 102**

The Dining Room 102 is located north of the Living Room 101 and is also connected with the Hall 105 to the west and the Butler's Pantry 103 to the north (Figures 1-15 – 1-27). The Dining Room is approximately 12'-7" by 15'-7" with a ceiling height of 8'-2." The walls are plaster and the floors are refinished oak strip tongue and groove. The floors are recently refinished and are in very good condition. The ceiling is clad with 12-inch square painted Celotex type of tiles. The date of this installation is unknown. These should be tested to be certain they do not contain asbestos. A small painted wood bed molding is installed at the perimeter of the ceiling. The ceiling tiles and bed molding are not original the construction of this house.

The north wall of the room has Door Opening 103/2 into the Butler's Pantry which no longer has a door installed, but the remaining hardware installed in the top jamb suggests this was a swinging door (Figure 1-16). Some cracking is present in the plaster wall between the dining room door and the built-in seat. This area is directly above where the steel pipe column is installed in the basement. Window 101 has a built-in wood seat with vertical V-joint tongue and groove millwork that matches other millwork in the house (Figure 1-19). Window 101 above the

built in seat is a three-part mulled window with three 4/6 aluminum clad wood double-hung windows installed (Figures 1-17 and 1-18). The windows are stained to match the surrounding millwork. The original wood trim and stool has been replaced. Outlets were installed in the front face of the wood seat. They are white and do not match the surrounding millwork stain color. The east outlet is used to run the pellet stove. Exposed conduit is run along the top of the baseboard in the northeast corner of the room (Figure 1-20). A thermostat with exposed conduit is installed on the west wall of the Window 101. This is a relatively hidden location for this installation.

Figure 1-15. Dining Room 102 looking north. (SRJA 2014)

Figure 1-16. Dining Room 102 Door 103/2. Note the pivot hinge installed in the upper jamb. (SRJA 2014)

Figure 1-17. Dining Room 102 looking north at Window 101. Note the thermostat mounted on the west wall. (SRJA 2014)

Figure 1-18. Dining Room 102 Window 101 detail. (SRJA 2014)

Figure 1-19. Dining Room 102 built-in bench detail. (SRJA 2014)

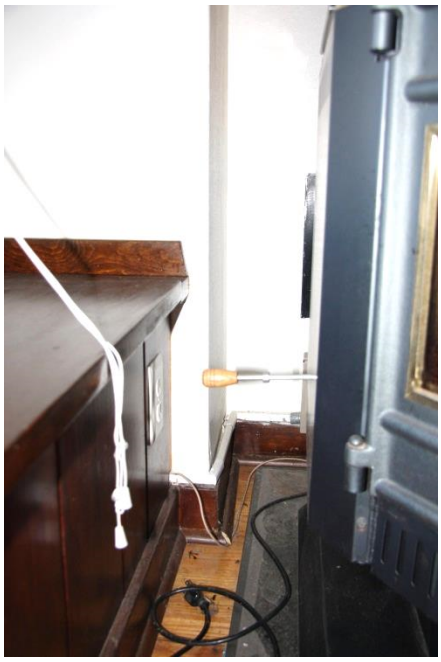


Figure 1-20. Dining Room 102 corner detail with exposed conduit. (SRJA 2014)

The east wall contains Window 102, which is an original wood three-part mulled window (Figures 1-21 and 1-22). The center window is an 8/12 double-hung window and is flanked with 4/6 windows. Original hardware and trim are located on this window. The south wall contains an original built-in china cabinet (Figures 1-21, 1-23 and 1-24). The interior walls of the cabinet and the lower doors are V-joint tongue and groove boards, matching other millwork throughout the house. The upper glass doors may have been added at a later date. The brass face-mounted hinges are similar but have a slightly different finish from the bottom door hinges. Also, the hardware installed on these upper and lower doors dates to a much later period and is not consistent with the historic hardware in the house. The 1933 drawings indicate this cabinet was designed with the top shelving open.

The west wall contains the original ten lite wood French Door 105/3 into the Hall 105 which contains original hardware (Figure 1-25). Some cracking is apparent throughout the west wall consistent with settling.

The room is lit by a center chandelier (Figure 1-26). The Tudor style chandelier has a hammered finish with decorative chains and a floral motif. This fixture may be original to the construction of the house. The fixture is very dirty and requires restoration and re-wiring.

A long baseboard heater is installed on the east wall under the window. The pellet stove in the northeast corner of the room is set on a protective stone base. The heating stove is no longer in use, though it remains ready for re-use if needed in the future. A small vent in the wall behind the pellet stove may was originally exhaust but was infilled and the newer vertical flue was installed at an unknown date. The exhaust vent remains through the roof. There is a small amount of plaster damage behind the stove (Figure 1-27).

Figure 1-21. Dining Room 102 looking east and north. (SRJA 2014)

Figure 1-22. Dining Room Window 102 detail. (SRJA 2014)

Figure 1-23. Dining Room 102 looking south at built-in china cabinet. (SRJA 2014)

Figure 1-24. Dining Room 102 China cabinet hardware details. (SRJA 2014)

Figure 1-25. Dining Room 102 looking west. (SRJA 2014)

Figure 1-26. Dining Room 102 Historic chandelier detail. (SRJA 2014)

Figure 1-27. Dining Room 102 pellet stove detail. (SRJA 2014)

**Butler's Pantry 103**

The Butler's Pantry 103 is located between the Dining Room and the Kitchen (Figures 1-28 – 1-29). This tiny room is approximately 3'-0" wide by 5'-8" with a ceiling height of 8'-3." An original wood built-in cabinet is located along the east wall. This cabinet is detailed in the original drawings to have open shelving above, so the existing doors may have been added at a later date, as the hinges on the top doors do not match those installed on the lower doors. The hardware on the lower cabinets appears to be original chrome plated brass. These are the only known remaining historic kitchen cabinetry in any of the historic residences. The walls and ceiling in this room are plaster. Some cracking is apparent near the ceiling on the west wall. The flooring was replaced during a previous renovation and is consistent with the kitchen. This leaves a tall floor transition between the Butler's Pantry and the Dining Room. There is no ceiling light installed in this space.

Figure 1-28. Butler's Pantry 103 looking south. (SRJA 2014)

Figure 1-29. Butler's Pantry 103 looking east. (SRJA 2014)

**Kitchen 104**

The existing Kitchen 104 remains in the original overall configuration and is accessed from the Butler's Pantry or the Laundry Room (Figures 1-30 – 1-32) would have been located where the existing refrigerator sits. The stove would have vented into the chimney. The kitchen has been significantly remodeled and has all new finishes including cabinetry, fixtures and flooring. The windows have been replaced and are discussed in the Exterior Existing Conditions section of this report. A small baseboard heater is installed on the west wall near the door to the Butler's Pantry. There are no historic finishes remaining in this room.

Figure 1-30. Kitchen 104 looking north. (SRJA 2014)

Figure 1-31. Kitchen 104 looking east. (SRJA 2014)

Figure 1-32. Kitchen 104 looking south. (SRJA 2014)

**Hall 105 / Basement Stair105A**

Hall 105 is the main artery of the house that provides access to the stairs to the second floor and basement, as well as the first floor bedrooms and bathroom (Figures 1-33 – 1-42). The hall is approximately 6'-9" by 16'-1" with a ceiling height of 8'-4." The walls and ceiling are plaster and the wood floors are original oak flooring that have recently been refinished and are in good condition.

This hall has the most detailed millwork in the house. The stained wood stair walls are V-joint tongue and groove vertical boards. A decorative phone nook is inset in the wall near the door to the basement (Figure 1-37). The basement Door 105/2 leads to a small landing and the stairs to the basement, which are directly under the stairs to the second floor. Door 105/2 is a decorative door, built of the board wall material and is meant to blend in with the wall – even the baseboard continues along the bottom side of the door (Figure 1-36). The door has original hardware and contains a square louvered metal grille for ventilation. A door closer is installed on the door frame, but it is disconnected from the door. A rubber weatherstripping is installed along the bottom.

A decorative exposed beam runs north-south with decorative ogee brackets at each end wall. A center post intersects the beam in the stair wall with the same ogee bracket detailing (Figure 1-38). A tall stained wood trim board and smaller bed molding run the perimeter of the room at the ceiling, creating a simple cornice board. The baseboard is a simple flat piece of stained wood with a shoe molding. Wood door trim matches the trim throughout the house. The stair newel is slightly tapered and transitions at the top into an octagonal shape and is topped with a bullet-shaped piece of wood.

The wood stair to the second floor is a straight run until near the top, where it transitions to winding treads (Figure 1-39). There is no continuous handrail along the stair. The guardrail at

the top is only 35-inches in height, well below the required 42-inches. Mark Greene indicated that the stair had been stripped and refinished by the park around 2012.

The stair to the basement has a wood landing consistent with the hall, with a nosing transition attached that is a tripping hazard (Figure 1-40). The remainder of the staircase is painted wood treads and risers. A handrail is installed along the east wall.

A small linen closet at the south end of the hall has an original wood Door 105/5 with original hardware. Fixed painted shelves are installed in this closet.

A single light fixture is mounted on the ceiling. A smoke detector is located on the ceiling, as well.

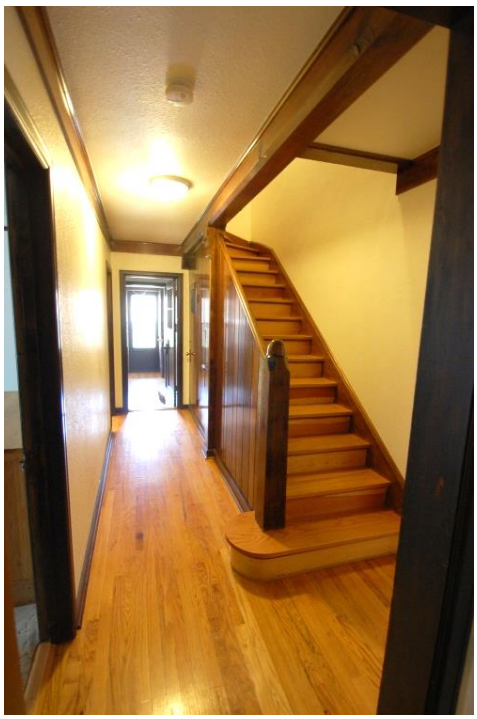


Figure 1-33. Hall 105 looking north. (SRJA 2014)

Figure 1-34. Hall 105 looking east at Door 105/3. (SRJA 2014)

Figure 1-35. Hall 105 looking north. (SRJA 2014)

Figure 1-36. Hall 105 looking east at Door 105/2. (SRJA 2014)

Figure 1-37. Hall 105 looking east phone nook detail. (SRJA 2014)

Figure 1-38. Hall 105 millwork detailing at ceiling. (SRJA 2014)

Figure 1-39. Hall 105 stairs. (SRJA 2014)

Figure 1-40. Hall 105 looking east towards basement stair. (SRJA 2014)

Figure 1-41. Hall 105A looking north down basement stair. (SRJA 2014)

Figure 1-42. Hall 105 looking east towards basement stair. (SRJA 2014)

**Hall 106**

Hall 106 leads from the Laundry Room to Hall 105. This small room is only 3'-4" by 4'-6" with a ceiling height of 8'-3" (Figures 1-43 - 1-44). This room has plaster walls and ceiling and flooring consistent with the Kitchen and Laundry Room. The main electrical panel for the house is located in the east wall. An energy efficiency monitoring system is installed adjacent to the panel and is no longer utilized. Door 105/1 is an historic six lite door with textured obscured glass and original hardware installed. This door does not close properly and requires maintenance and/or repair. A wood plumbing access door is installed in the west wall and serves the tub in the adjacent bathroom. There is no light in this room.

Figure 1-43. Hall 106 looking south. (SRJA 2014)

Figure 1-44. Hall 106 looking north. (SRJA 2014)

**Laundry 107**

The Laundry 107 not only serves as the laundry room but also as the main family entry into the house (Figures 1-45 – 1-48). This Door 107/1 has been recently replaced. This room is approximately 5'-8" by 9'-6" with a ceiling height of nearly 8'-5." The walls and ceiling are plaster. The flooring has been replaced and is consistent with the kitchen and Butler's Pantry. This room was originally designed as a laundry room to accommodate only a washing machine before dryers were common. A clothes drying line remains installed just west of the house. A built-in corner closet was designed in the southwest corner of the room that no longer remains. The washer and dryer are now installed along the west wall with wood cabinets above. An original ironing board cupboard is installed in the south wall, though the ironing board has been removed. It is now used for broom storage.

The plaster ceiling shows signs of cracking and previous repairs. There is minor cracking on the north and south walls, as well. A baseboard heater is installed under the window. Lighting is provided by a single flush mount ceiling fixture.

Figure 1-45. Laundry 107 looking northeast. (SRJA 2014)

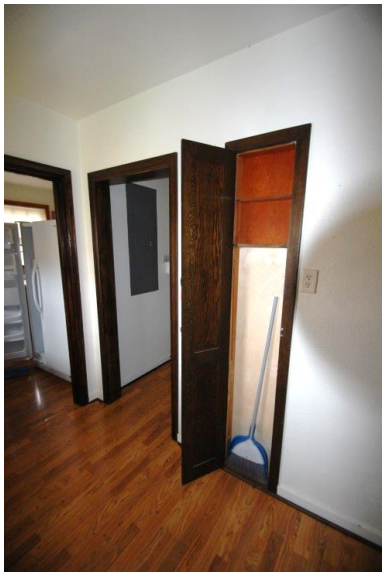


Figure 1-46. Laundry 107 looking southeast. (SRJA 2014)

Figure 1-47. Laundry 107 looking southeast. (SRJA 2014)

Figure 1-48. Laundry 107 looking west. (SRJA 2014)

**Bathroom 108**

Bathroom 108 is the only bathroom on the first floor and serves two bedrooms (Figures 1-49 – 1-52). The room is approximately 5'-6" by 9'-0" with an 8'-3" ceiling. Door 108/1 is an original door with a combination of original and replacement hardware. The lockset is brass on the hallway side of the door and chrome plated on the bathroom side. The hardware appears to be by Schlage. The original hinges are rusting. There is an early door stop installed on the door. The bathroom contains a vanity with sink, a medicine cabinet, a wall light and a toilet along the west wall. The tub/shower is installed along the north wall. The shower walls are installed over an earlier white tile with dark grout. The floor is vinyl. A baseboard heater is installed on the east wall. A combination ceiling exhaust fan/light is installed on the ceiling. This room has been extensively remodeled and has no remaining historic finishes, except for the door.

Figure 1-49. Bathroom 108 looking west. (SRJA 2014)

Figure 1-50. Bathroom 108 looking north. (SRJA 2014)

Figure 1-51. Bathroom 108 looking south. (SRJA 2014)

Figure 1-52. Bathroom 108 Hardware details. (SRJA 2014)

**Bedroom 109**

Bedroom 109 is accessed from Hall 105. This bedroom is quite large at 12'-7" by 13'-6" with a ceiling height of 8'-1 1/2" and has a small closet at the north side of the room (Figures 1-53 – 1-60). The walls in this room have been clad with a sheet product and the edges and vertical seams have a finished batten applied (Figures 1-58 and 1-60). This has reduced the thickness appearance of the door and window trim and also at the baseboard. The ceiling has the same Celotex type of tile and small painted bed molding installed that is also in the Dining Room (Figure 1-58). It is assumed this was applied because there was significant wall and ceiling plaster cracking. The application of these materials has change the look of the room from its original condition. A small stained picture molding surrounds the room about 4-inches below the ceiling. The floor is carpeted.

Door and window trim throughout the room is historic. Both the entry Door 109/1 and the Closet Door 109/2 are original, as is their hardware. The closet has a rod and shelf and no light. Window 107 is a pair of mulled windows. These are aluminum clad wood casement replacement window and are discussed further in the Exterior Existing Conditions section of this report. The interior is stained to match the surrounding trim. The room is lit by ceiling fan. A baseboard heater is installed under the window.

Figure 1-53. Bedroom 109 Looking north. (SRJA 2014)

Figure 1-54. Bedroom 109 Looking east. (SRJA 2014)

Figure 1-55. Bedroom 109 Looking south. (SRJA 2014)

Figure 1-56. Bedroom 109 Looking west. (SRJA 2014)

Figure 1-57. Bedroom 109 Looking north into closet. (SRJA 2014)

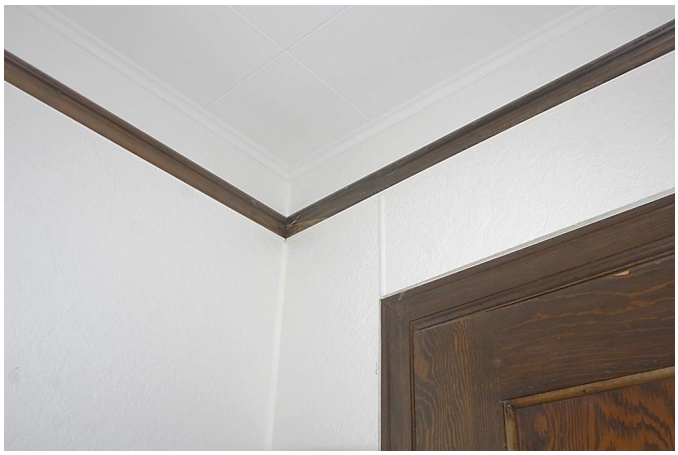


Figure 1-58. Bedroom 109 Detail of wall board and ceiling tile. (SRJA 2014)

Figure 1-59. Bedroom 109 Looking replaced Window 107. (SRJA 2014)

Figure 1-60. Bedroom 109 Looking replaced Window 107 detail at wallboard. (SRJA 2014)

**Bedroom 110**

Bedroom 110 is accessed from Hall 105. This bedroom is quite large at 11'-6" by 13'-6" with a ceiling height of 8'-3" and has a small closet at the east side of the room (Figures 1-61 – 1-65). The ceiling along the south wall is sloped, matching the original roof lines of the house before the sunroom shed roof was over-framed. A small stained picture molding surrounds the room about 12-inches below the ceiling. The baseboard is small and flat with no detailing and is painted. The floor is carpeted.

Door and window trim throughout the room is historic. Both the entry Door 110/1 and the Closet Door 110/2 in the east wall are original, as is their hardware (Figure 1-65). The mortise lock on

Door 110/1 is missing the bolt. The closet has built-in shelving, a hanging rod and a light. The light switch is installed with exposed conduit. An original brass door stop in installed behind Door 110/1 and is missing the rubber stop.

Exposed conduit is run along the top of the baseboard in the northwest corner and along the west wall to the baseboard heater. The north wall of the room has some substantial diagonal cracking, as noted on the photograph below (Figure 1-61).

Window 107 in the west wall is an aluminum clad wood casement replacement window and is discussed further in the Exterior Existing Conditions section of this report. The interior is stained to match the surrounding trim. The west wall has some significant plaster cracking to the left of the window above the heater (Figure 1-64).

A second original window in the south wall was infilled with the built-in bookcases when the sunroom was constructed. There is some plaster cracking on the south wall around the old window frame. The room is lit by ceiling fan. A baseboard heater is installed under the window.

Figure 1-61. Bedroom 110 Looking north and east.
The red line denotes plaster cracking on the walls. (SRJA 2014)

Figure 1-62. Bedroom 110 Looking west and south. (SRJA 2014)

Figure 1-63. Bedroom 110 Looking east. (SRJA 2014)

Figure 1-64. Bedroom 110 Looking at west wall cracking.
The red line denotes plaster cracking. (SRJA 2014)

Figure 1-65. Bedroom 110 Closet and door stop hardware. (SRJA 2014)

**Sunroom 111**

The Sunroom 111 is accessed by French doors from the Living Room (Figures 1-66 – 1-68). The Sunroom is approximately 13'-11" by 9'-7" with a ceiling height of 7-7." The walls are currently clad with random width wood paneling. It is unknown if this is the original c. 1941 wall finish, or if this was added. The ceiling is clad in a painted wood fiberboard material and has

wood battens installed to create a decorative boxed pattern. The floors are oak strip tongue and groove. The original stained wood baseboards remain. A light in the center of the room is a recent installation. Windows line the south and west walls. These are discussed in the exterior section of this report. These windows are original to the 1941 construction and retain their original stained finish. Two electrical baseboards heat the space and are installed on the south and west walls under the windows. White paneling is installed under the windows along the west wall. This is a more recent installation and may be covering previous wood paneling damage.

The sunroom was added in 1941, based on drawings completed in 1939 (Appendix A). The structure is a slab on grade with wood frame walls.

Figure 1-66. Sunroom 111, Looking east. (SRJA 2014)

Figure 1-67. Sunroom 111, Looking south and east. (SRJA 2014)

Figure 1-68. Sunroom 111, Looking south and east. (SRJA 2014)

## Second Floor

### Stair Hall 200

At its widest, the Stair Hall 200 is 6'-7" and at its longest it is 26'-10" (Figures 2-1 – 2-5). The ceiling is sloped along both the east and west sides to match the gabled roof above with a strip of flat ceiling running the entire length of the hall. The ceiling height in the center of the floor is almost 8'-0." The walls and ceiling are plastered and the floors are replaced wood (matching the kitchen on the first floor. A nosing detail at the top tread where the wood flooring meets the first riser is a tripping hazard (Figure 2-4). The baseboard has been altered from the original flat trim with no profile to having a profiled shoe molding installed after the new wood flooring was installed. The shoe molding is highly profiled and changes the look of the original baseboard substantially (Figure 2-3).

A small access panel is located at the north end of the attic ceiling. A small access Door 204/1 is located in the west wall at the north end of the hall. This original wood door provides access into the unfinished northwest Attic 204. An attic fan is mounted in the ceiling at the south end of the hall. Lighting is provided by one flush mount fixture near the center of the hall. Window 203 is located in the north wall. This window is a replacement aluminum clad double-hung window. The interior is stained to match the historic trim. All door trim is also original throughout the hall. The historic V-joint tongue and groove guardrail and newel posts are significant features in this hall.

Figure 2-1. Hall 200 Looking north. (SRJA 2014)

Figure 2-2. Hall 200 Looking south. (SRJA 2014)

Figure 2-3. Hall 200 Baseboard detail. (SRJA 2014)

Figure 2-4. Hall 200 Top riser nosing is a tripping hazard. (SRJA 2014)

Figure 2-5. Hall 200 Looking south down stairs. (SRJA 2014)

**Bathroom 201**

Bathroom 201 serves both of the second floor bedrooms. This small bathroom is approximately 5'-0" by 8'-8" and has a pedestal sink, toilet and shower (Figures 2-6 – 2-10). A flat portion of the ceiling runs the length of the west wall. The ceiling slopes sharply along the east side of the room. The knee wall behind the toilet on the east wall is only 4'-2 1/2" high. The flooring is sheet vinyl. Window 204 is located in the north wall. This window is a replacement aluminum clad double-hung window. The interior is stained to match the historic trim. A small pedestal sink and toilet are along the east wall. There is built-in wood shelving in the southeast corner of the room. A small shower is in the southwest corner of the room. The shower walls cover an earlier white tile with dark grout. Door 201/1 is the bathroom entry and is a historic door with original trim. The hall side of the door has brass trim and the bathroom side is chrome plated. The room is lit by a flush mount ceiling fixture. An exhaust fan is installed in the ceiling.

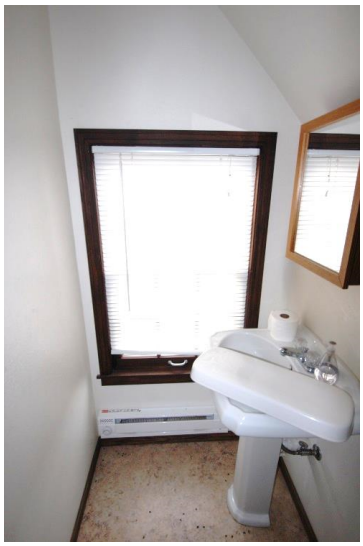


Figure 2-6. Bath 201 Looking north. (SRJA 2014)

Figure 2-7. Bath 201 Looking north and east. (SRJA 2014)

Figure 2-8. Bath 201 Looking south. (SRJA 2014)

Figure 2-9. Bath 201 Looking west. (SRJA 2014)

Figure 2-10. Bath 201 Looking north at ceiling. (SRJA 2014)

**Bedroom 202**

Bedroom 202 is located on the east side of the house. This bedroom is quite large at 10'-1" by 15'-9" and has a small closet in the west side of the room (Figures 2-11 – 2-13). The ceiling in the center of the room is flat and slopes to match the roof lines along the north and south sides of the room. In the center, the ceiling is 7'-11" high. The walls and ceiling are plastered. A small stained picture molding surrounds the room about at the knee wall and ceiling juncture. The baseboard is small and flat with no detailing and is painted. The floor is carpeted.

Door and window trim throughout the room is historic. Both the entry Door 202/1 and the Closet Door 202/2 in the west wall are original, as is their hardware (Figure 2-11). The closet has built-in shelving, a hanging rod and no light.

Window 200 in the east wall is an aluminum clad wood casement replacement window and is discussed further in the Exterior Existing Conditions section of this report. The interior of the window is stained to match the surrounding trim. The north dormer contains a small Window 204 which is also an aluminum clad wood casement replacement window. An original small wood Door 205/1 is located on the west wall of the dormer is for access into the unfinished Attic 205. The room is lit by ceiling fan. A baseboard heater is installed under the window. There was no fire escape ladder found in the room.

Figure 2-11. Bedroom 202 Looking east. (SRJA 2014)

Figure 2-12. Bedroom 202 Looking west. (SRJA 2014)

Figure 2-13. Bedroom 202 Looking north into dormer.
Note the access door in the west wall of the dormer. (SRJA 2014)

**Bedroom 203**

Bedroom 203 is located on the west side of the house. This bedroom is quite large at 10'-0" by 13'-7" and has a small closet in the east side of the room (Figures 2-14 – 2-13). The ceiling in the center of the room is flat and slopes to match the roof lines along the north and south sides of the room. In the center, the ceiling is 7'-11" high. The walls and ceiling are plastered. A small stained picture molding surrounds the room about at the knee wall and ceiling juncture. The baseboard is small and flat with no detailing and is painted. The floor is carpeted.

Door and window trim throughout the room is historic. Both the entry Door 203/1 and the Closet Door 203/2 in the east wall are original, as is their hardware (Figure 2-15). The closet has built-in shelving, a hanging rod and a small original wood access Door 203/3. This door provides access into unfinished Attic 206.

Window 201 in the west wall is an aluminum clad wood casement replacement window and is discussed further in the Exterior Existing Conditions section of this report. The interior of the window is stained to match the surrounding trim. The north dormer contains a small Window 202 which is also an aluminum clad wood casement replacement window. The room is lit by ceiling fan. A baseboard heater is installed under the window. There was no fire escape ladder found in the room.

Figure 2-14. Bedroom 203 Looking north into dormer. (SRJA 2014)

Figure 2-15. Bedroom 203 Looking north into dormer. (SRJA 2014)

Figure 2-16. Bedroom 203 Looking south. (SRJA 2014)

Figure 2-17. Bedroom 203 Looking west. (SRJA 2014)

Figure 2-18. Bedroom 203 Looking into closet at access door. (SRJA 2014)

# Existing Conditions – Structural

HS-3 is a wood framed one-and-one-half story structure with a partial basement. The foundation consists of shallow concrete footings with a combination of original basement areas (Rooms 001 and 002), Crawl Spaces (005 and 006) and an area where the original crawl space has been modified into basement Rooms 003 and 004. The original crawl space areas were separated by shallow concrete foundation walls which serve to support the floor framing. The structure is in relatively good condition with no signs of immediate structural distress. Some modifications to the structure are questionable, but do not currently show signs of failure.

## Basement

The original basement area (Rooms 001 and 002) have concrete basement walls. Based on review of the original construction drawings titled "Superintendent's Residence" dated 11/3/33 Room 001 was used as a garage and utility room and Room 002 was a maid's room. The drawings indicate that the concrete walls are reinforced. This was not confirmed.

Rooms 003 and 004 were originally crawl spaces with shallow footings and concrete foundation walls. These rooms were converted into basement areas utilizing clay tile walls built within the original concrete foundation walls. The soil was excavated, the clay tile walls were constructed and a concrete slab-on-grade was added.

On the north side of Room 003 there is an opening into the Crawl Space 005. At this location it could be observed that the clay tile wall was immediately adjacent to the original concrete footing (Figure S1). The clay tile wall is acting as a retaining wall, carrying the lateral earth pressure from the difference in grade as well as the surcharge from the original footing. No significant cracking or displacement was observed in the clay tile retaining wall.

Figure S1. Clay tile retaining wall adjacent to existing footing. (SEA 2015)

Rooms 005 and 006 are crawl spaces. Access to Crawl Space 005 is on the north wall of Room 003. Access to Crawl Space 006 is on the south face of Room 001. There is also an access point to the area around Room 004 from the west face of Crawl Space 006. At this access point the back side of the clay tile retaining wall in Room 004 can be seen (Figure S2). Although access was extremely limited, the difference in floor framing elevations between first floor Rooms 101 and 110 can be observed.

Figure S2. Clay tile retaining wall at Room 004. (SEA 2015)

There is a steel post that has been installed in Room 001. It is located on the west side of the foundation wall located west of the garage door (Figure S3). The post appears to be stable, however it is bearing directly on the slab-on-grade.

Figure S3. Steel post adjacent to foundation wall. (SRJA 2015)

## First Floor

The first floor framing was covered from view with plaster or wallboard, however floor framing appears to be constructed of 2 x 10s (nominal) at 16-inches on center (Figure S4). There were no visible signs of settlement visible in the walls.

Figure S4. Roof framing. (SEA 2015)

Cracking is present in some of the first floor walls. Cracks are present in the Dining Room north and west walls above the basement steel post. Excessive cracking exists in the west and north walls in the southwest Bedroom 110. Cracking is also suspect in Bedroom 109, but the walls and ceilings have been covered with wallboard and ceiling tiles, so the surfaces cannot be viewed. Plaster cracking in this section of the house may be due to differential settlement of the exterior stone foundation walls versus the c. 1941 in-set clay tile basement foundation walls and columns.

Wall framing was not exposed to view.

## Second Floor/Attic

The second floor/attic framing was hidden from view over most of the area. One small area of attic framing was observed. It was in Attic 204. Floor/attic joists are 2 x 10s (nominal) at 16-inches on center. Roof rafters consist of 2 x 6s (nominal) at 16-inches on center.

## Exterior Walls

No visible signs of serious cracking or deterioration was observed on the exterior walls.

## Existing Conditions - Mechanical, Electrical and Plumbing

Figure MEP01. Superintendent's Residence – HS-3. (SRJA 2014)

### Introduction

Henderson Engineers conducted a site visit on January 26th through the 29th of 2015. The existing mechanical, electrical, and plumbing (MEP) systems are consistent with residential equipment found in homes of this size. None of the MEP systems currently installed are original to the structure. The current MEP systems consist of 240/120V electrical distribution system, electric heating, electric hot water heating system, a domestic water system, and a drain, waste, and venting system.

This historic structure is not currently used during the winter season. The domestic water is shut off and the sanitary sewer is winterized with glycol during this time. Electricity and minimal heating remain operational during winter unoccupied periods.

Potable and irrigation water is supplied to the park from a remote pumping station. The pumps deliver water to a holding cistern located to the northeast of the site. The stored water is at a higher elevation than the rest of the site. From there the water is gravity fed through a series of water mains to supply the park with potable water and irrigation water.

A series of 4-inch and 6-inch sanitary sewer branches exit the historic structures and gravity drain into a private sewer main system owned by the National Park Service. This private sewer main appears to be routed under the main drive between the visitor's center and the housing area.

The electrical service is supplied to the site by the Black Hills Corporation and is fed from a centrally located, single-phase, pole mounted transformer located on the southwest side of Building HS-06. The electrical service on the secondary side of the transformer is 240/120V, single phase, three wire. The service conductors extend overhead along the service road to supply the buildings with power.

The 2012 International Building Code and the 2011 National Electrical Code (NEC) were used for the evaluation of the MEP systems.

**Heating and Cooling Systems**

The original heating system, dated in the construction set from 1933, consisted of a fuel-fired steam boiler located in the basement and a wood-burning fireplace located in the living room. The boiler system served steam radiators located in each room. No cooling system appears in the original 1933 construction set.

The original boiler and radiators were removed and replaced during a remodel that took place in the 1980s. Currently an all electric heating system (Figure M01) is installed throughout the building. Living Room 101 currently utilizes a fan powered, wood-burning fireplace (Figure M02). A pellet burning stove (Figure M03) was added to the Dining Room in 1990. It is still installed but not currently being used. The stove includes an electric igniter and fan for circulation. Overall the existing heating and ventilation systems appear to be in good working order and are adequate for the building's intended use.

No makeup air is being provided for the exhaust systems. This creates the potential for outdoor air infiltration and the possibility of moisture and mold problems. Refer to the treatment recommendations section for additional information.

Figure M01. Example of electric baseboard heaters In Living Room 101. (HEI 2015)

Figure M02. Fireplace in Living Room 101. (HEI 2015)

Figure M03. Dining Room 102, Pellet burner and termination. (HEI 2015)

This building does not have a cooling system or a forced air system installed. Ceiling fans are installed throughout the first and second floors for general air circulation (Figure M04).

An exhaust hood is located above the stove in the Kitchen 104 and is ducted to the exterior through the roof (Figure M05).

Figure M04. Example of ceiling fan in Living Room 101. (HEI 2015)

Figure M05. Kitchen 104, Exhaust hood and termination. (HEI 2015)

Laundry Room 107 has a dryer vent that terminates on the west exterior wall with a wall hood (Figure M06). Bathroom 108 has an existing ceiling mounted combination exhaust fan/light. It is ducted through the attic and terminates on the north exterior wall with a wall hood (Figure M07).

Figure M06. Laundry 107, Dryer vent and termination. (HEI 2015)

Figure M07. Bathroom 108, Exhaust fan and termination. (HEI 2015)

A ceiling mounted exhaust fan (Figure M08) serves Bathroom 201. It is ducted to an inaccessible space above the second floor restroom and appears to discharge exhaust air into the attic space. No roof caps or wall hoods serving this fan are visible from the exterior. Per International Mechanical Code section 501.3, air shall not be exhausted into an attic space. Moisture can potentially build up in the attic creating deterioration and mold problems.

Figure M08. Exhaust fan in Bathroom 201. (HEI 2015)

A wall mounted electric heater (Figure M09) serves the Basement 001. A wall mounted electric heater (Figure M10) serves the Basement 002. There is also a ceiling mounted grille of unknown use within Basement 002 along the north exterior wall. (Figure M11). A plug in style electric unit heater (Figure M12) is used for freeze protection in Crawl Space 005. This space is unoccupied and not continuously maintained, therefore this could be a potential fire risk.

Figure M09. Electric heater in Basement 001. (HEI 2015)

Figure M10. Electric heater in Basement 002. (HEI 2015)

Figure M11. Grille in Basement 002. (HEI 2015)

Figure M12. Electric unit heater in Crawl Space 005. (HEI 2015)

A 3-inch PVC gravity vent originating in the Crawl Space 005 is routed through the wall, into Basement 001, and then discharges into the chimney. There is an inline damper located just prior to the line entering the chimney. This line is thought to be used for radon mitigation (Figure M013). The damper can be turned to prevent airflow in the winter months to keep the Crawl Space 005 warmer and to prevent pipes from freezing. This is only used if the house is occupied year round.

Figure M13. Radon vent in Basement 005. (HEI 2015)

A ceiling mounted whole house attic fan, located in Stair Hall 200, pulls air in through open windows and exhausts into the attic. The fan opening is approximately 30-inches by 30-inches and includes a backdraft damper. The fan is operated from an on-off toggle switch located in the corridor (Figure M14).

Figure M14. Attic fan and switch in Stair Hall 200. (HEI 2015)

**Plumbing Systems**

Prior to entering the building, the water main splits to serve the potable water system in the building and the irrigation system on the site. The irrigation system pipe is routed above grade, through an anti-siphon pressure vacuum breaker, routes back below grade, and then runs to concealed sprinklers (Figure P03). The irrigation system is controlled by manually operated shut off valves. The potable water system is routed below grade and enters the building in the northwest corner of Basement 001. Shutoff valves are located exterior to the building for both systems (Figure P01, P02, and P05).

Figure P01. Shutoff valves, irrigation vacuum breaker, and sanitary sewer cleanout. (HEI 2015)

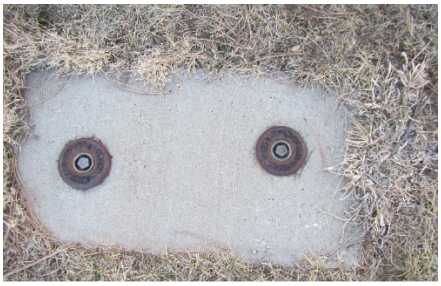


Figure P02. Exterior shutoff valves for water system. (HEI 2015)

Figure P03. Irrigation vacuum breaker and sanitary sewer cleanout. (HEI 2015)

Figure P04. Irrigation vacuum breaker and sanitary sewer cleanout. (HEI 2015)

Figure P05. Water valve box. (HEI 2015)

The original plumbing system, shown in the construction set from 1933, consisted of domestic water piping system and a drain, waste, and vent piping system. A water heater, with an unknown fuel source, was located within the basement. The interior plumbing systems original to the structure were removed and replaced with an all plastic piping system in the remodel that took place in the 1980s.

Overall the existing water systems and drain, waste, and vent systems appear to be in good working order and are adequate for the building's intended use.

The basement (Rooms 001 and 005) plumbing systems consist of the domestic water entry, water heater (Figure P07), sump pump, exposed water piping, and exposed drain, waste, and vent piping. The first floor plumbing systems serve the Kitchen 104, Bathroom 108, Laundry Room 107, and exterior hose bibbs (Figure P06). The second floor plumbing systems serve a single Bathroom 201 and exposed vent piping within the attic space (Rooms 204 and 205).

Figure P06. Wall hydrant and sump pump termination. (HEI 2015)

Figure P07. Domestic electric water heater in Basement 001. (HEI 2015)

A ¾-inch copper domestic water line enters the building through the basement floor in the northwest corner of Basement 001 (Figure P08). The domestic water goes through a pressure reducing valve and continues to a domestic water meter, located in the corner of this room.

Figure P08. Domestic water entry in Basement 001. (HEI 2015)

The water then exits the meter to serve the building plumbing fixtures. All domestic water piping downstream of the copper water entry is cross-linked polyethylene (PEX) with brass fittings. The domestic entry does not currently have a building backflow preventer installed.

The sanitary waste piping is polyvinyl chloride (PVC) drain, waste, and vent. The first and second floor plumbing fixtures drain into a 4-inch sanitary waste pipe located in Crawl Space 005 (Figure P09). This 4-inch pipe exits Crawl Space 005 through the east wall and enters Room 001. The 4-inch sanitary main then turns down and penetrates the basement floor. A sanitary cleanout is located a few inches above the finished floor of the basement prior to the line going beneath the floor. This 4-inch sanitary waste line then heads east under the building and at some point transitions to a 6-inch building sewer – as documented in Figure P04. The 6-inch building sewer is routed to the private sewer system owned by the National Park Service. Plumbing fixtures appear to be vented.

Figure P09. Example of sanitary piping system in Crawl Space 005. (HEI 2015)

The Kitchen 104 has a two-compartment stainless steel sink (Figure P10) and a ½-inch water line that serves an ice maker. Room 107 has a washing machine valve box with hot water, cold water, and drain (Figure P11).

Figure P10. Stainless steel two-compartment sink in Kitchen 104. (HEI 2015)

Figure P11. Washing machine valve box in Laundry 107. (HEI 2015)

Bathroom 108 has a counter mounted lavatory, white vitreous china water closet, and a molded fiberglass tub (Figure P12). Bathroom 201 has a pedestal mounted lavatory, white vitreous china water closet, and a molded fiberglass shower (Figure P13).

Figure P12. Lavatory, water closet, and shower in Bathroom 108.
(HEI 2015-Left, SRJA 2014-Right)

Figure P13. Lavatory, water closet, and shower in Bathroom 201. (SRJA 2014)

Additional plumbing systems include a sump pit and pump located in the basement. The sump discharge is routed through Crawl Space 005 out the north wall. The discharge piping is above grade and is subject to freezing (Figure P06).

Storm water from the roof is drained via exterior gutters and downspouts. The downspouts are either daylighted at grade with corrugated plastic pipe or routed to below grade (Figure P14).

Figure P14. Example of gutter and downspout systems. (HEI 2015)

## Electrical and Lighting Systems

The electrical service is supplied to the property by the Black Hills Corporation and is fed from a centrally located, single-phase, pole mounted transformer located on the south side of Building HS-06. The electrical service on the secondary side of the transformer is 240/120V, single phase, three wire. The service conductors extend overhead along the service road to a power pole located south of HS-03. The service conductors from the power pole are routed overhead

to a weatherhead located on the south side of the house and then in conduit to a meter on the exterior of the house (Figure E01). The meter is an Elster digital meter (Figures E02 and E03). From the meter the conduit goes underground and terminates in the electrical service panelboard.

Figure E01. Service conductors at weatherhead on the south side of the house. (HEI 2015)

Figure E02. Exterior electrical service meter on the south side of the house. (HEI 2015)

Figure E03. Exterior electrical service meter on the south side of the house. (HEI 2015)

The electrical service panelboard is located on the east wall of Hall 106 (Figure E04). It is a 225A, 42-pole, 240/120V single phase, 3-wire panelboard with a 225A main circuit breaker (Figure E05). This panelboard serves all of the power loads in the building including lighting, HVAC, kitchen equipment and general purpose receptacles. The panelboard is manufactured by Westinghouse and appears to be in good condition. The date of installation could not be confirmed. There are currently no arc fault circuit interrupter (AFCI) circuit breakers in the panelboard which are required in residential construction by the NEC. Overall the existing electrical system appears to be in good working order.

Figure E04. Electrical service panelboard located in Hall 106. (HEI 2015)

Figure E05. Electrical panelboard located in Hall 106. (HEI 2015)

The electrical distribution and wiring is consistent with methods used in residential construction. The distribution wiring appears to be a combination of MC cable and conductors run in conduit. There are a few instances in the crawl space and basement where exposed cables are visible. General use grounded duplex receptacles are installed throughout the house. Ground Fault Circuit Interrupting (GFCI) receptacles are installed in restrooms, kitchen and basement areas as required by the NEC for the most part. There were a few receptacles located in the laundry, kitchen and bathroom that need to be replaced or labeled. All of the surface mounted receptacles located in the basement have recessed box cover plates in lieu of exposed work cover plates.

There is an Econotrol Peak Demand Controller connected to a Honeywell Electronic control system located in the basement (Garage and Mechanical Room 001) that appears to be connected, but is not in use (per the park maintenance staff) (Figures E06 and E07). The electric water heater and basement wall heater located in the Garage and Mechanical Room 001 do not appear to have local disconnect switches. The sump pump located in North Storage 003 has a lockable toggle switch disconnect. The heater located in Crawl Space 006 has an extension cord running to it from a receptacle located in the Garage and Mechanical Room 001. There is not light outlet installed in Crawl Space 006.

Figure E06. Unused Econotrol peak demand controller located in the basement Garage and Mechanical Room 001. (HEI 2015)

Figure E07. Unused Honeywell electronic control system located in the basement Garage and Mechanical Room 001. (HEI 2015)

The interior lighting throughout the house is a mixture of incandescent, compact fluorescent and fluorescent fixtures that appear to be in good condition. There are incandescent sconce lights on the exterior of the house located at each exit door that are lamped with compact fluorescent screw base lamps. The exterior lighting is controlled by a toggle switch located on the interior side of the front door.

Garage and Mechanical Room 001 has a single two-lamp fluorescent strip light (Figure E08). It is controlled by a toggle switch.

Figure E08. Light fixture located in the basement Garage and Mechanical Room 001. (HEI 2015)

Maid's Room 002 has a glass globe incandescent fixture with a screw base lamp. It is controlled by a toggle switch. The glass globe is filled with dirt and debris (Figure E09).

Figure E09. Light fixture located in Maid's Room 002. (HEI 2015)

North Storage 003 and South Storage 004 each have two ceiling mounted incandescent dome lights with screw base compact fluorescent lamps (Figure E10). Each area is controlled separately by a toggle switch.

Figure E10. Light fixtures located in the basement North Storage 003 and South Storage 004. (HEI 2015)

The stairwell leading up from the basement contains two glass globe fixtures with screw base lamps (Figure E11). They are controlled by three-way toggle switches.

Figure E11. Light fixtures located in the basement stairwell. (HEI 2015)

Entry 100, Kitchen 104, Stair Hall 105, Laundry 107, Sunroom 111, Stair Hall 200 and Bathroom 201 each have ceiling mounted dome lights with frosted glass (Figure E12). They are lamped

with a combination of incandescent and screw base compact fluorescent lamps. They are each controlled by a toggle switch.

Living Room 101 has a five-blade ceiling fan with a three-lamp glass globe light kit and screw base compact fluorescent lamps (Figures E13). There are also a total of four white frosted glass decorative sconces in the room. They are located on each side of the fire place and on the north wall of the room on either side of the door (Figures E14). The sconces and the ceiling fan are switched separately with toggle switches.

Figure E12. Dome light fixtures. (HEI 2015)

Figure E13. Ceiling fan located in Living Room 101. (HEI 2015)

Figure E14. Decorative sconce fixtures located in Living Room 101. (HEI 2015)

Dining Room 102 has a 5-lamp decorative incandescent chandelier (Figures E15) which appears to be original to the construction of the house. It is controlled by a toggle switch. Butler's Pantry 103 and Hall 106 do not have any lighting installed.

Figure E15. Decorative chandelier located in Dining Room 102. (HEI 2015)

Bathroom 108 has an incandescent exhaust fan/ light fixture (Figure E16) and a decorative three-glass shade incandescent bathroom mirror sconce (Figure E17). The sconce is lamped with two different lamp types, each with a different color temperature. Both fixtures are controlled individually by toggle switches.

Figure E16. Combination exhaust fan/ light located in Bathroom 108. (HEI 2015)

Figure E17. Decorative mirror sconce located in Bathroom 108. (HEI 2015)

Bedrooms 109, 110, 202, and 203 each have a five-blade ceiling fan with a two-lamp glass bowl light kit and screw base compact fluorescent lamps (Figures E18). They are each controlled by a toggle switch.

Figure E18. Ceiling fan with glass bowl light kit. (HEI 2015)

Bedroom Closets 109A and 110A each have an incandescent glass globe surface mounted light fixture located above the doors. In Closet 109A the fixture is controlled with a pull chain.

In Closet 110A the fixture is controlled with a toggle switch. Bedroom Closets 202A and 203A do not have any lighting installed.

There is an attic fan on the second floor in Stair Hall 200 and an exhaust fan in Bathroom 201. Both have a toggle switch disconnect.

## Telephone and Data

The telephone service runs in conduit underground to the telephone demark point located on the west side of the exterior of the house (Figure E19). No data distribution system appears to be installed. There is abandoned telephone equipment mounted on the south gable trim. A TV satellite antenna was installed on the west side of the house exterior (Figure E20). Three coax cables extend from the antenna to the wall and poke through the west and south walls above grade.

Figure E19. Telephone service entrance located on the west exterior of the house. (HEI 2015)

Figure E20. TV satellite antenna located on the west exterior of the house. (HEI 2015)

### Fire Alarm Systems

The fire alarm system consists of hardwired smoke detectors with battery backup located in each bedroom and a smoke detector located outside of the bedrooms in the hallway on the first and second floors.

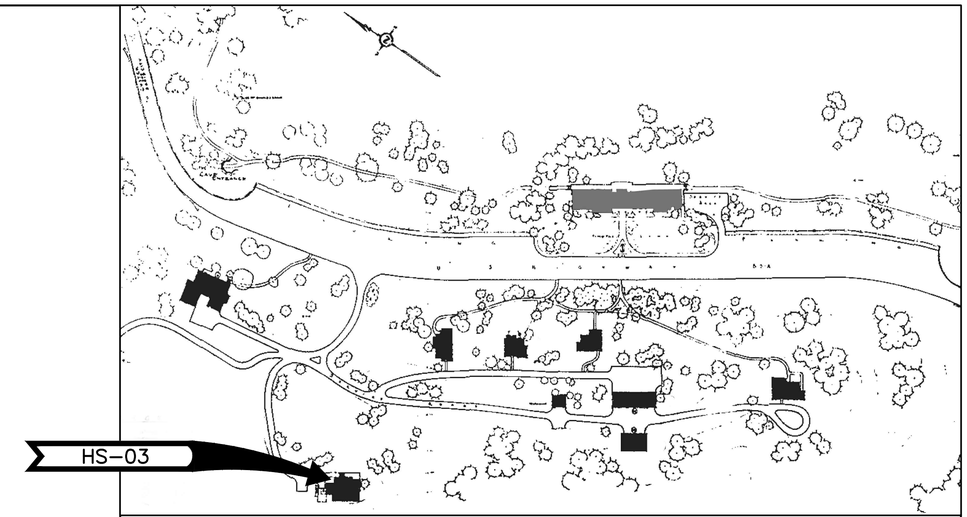
### Fire Protection Systems

The house has three hand activated dry chemical fire extinguishers. The first is located in Basement 002, the second is located in Laundry 107, and the third is located in Stair Hall 200 (Figure F01).

Figure F01. Fire extinguishers. (Basement 002-Left, Laundry 107-Center, Stair Hall 200-Right) (HEI 2015)

# HS–03 SUPERINTENDENT'S RESIDENCE
# HISTORIC STRUCTURES REPORT
## HISTORIC HOUSING AREA
## WIND CAVE NATIONAL PARK

# EXISTING CONDITION DRAWINGS
## HOT SPRINGS, SOUTH DAKOTA




HISTORIC HOUSING AREA, WIND CAVE NATIONAL PARK, HOT SPRINGS, SOUTH DAKOTA
(WIND CAVE NATIONAL PARK HISTORIC CONTEXTS AND NATIONAL REGISTER GUIDELINES REPORT, 1992)

HS–03 SUPERINTENDENT'S RESIDENCE (SRJA 2014)

## INDEX OF DRAWINGS


00 COVER

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A2 SECOND FLOOR PLAN
A3 ROOF PLAN
A4 EAST ELEVATION
A5 SOUTH ELEVATION
A6 WEST ELEVATION
A7 NORTH ELEVATION

ELECTRICAL
E0 BASEMENT/FOUNDATION FLOOR PLAN
E1 FIRST FLOOR PLAN
E2 SECOND FLOOR PLAN


MEASURED IN NOVEMBER 2014

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| HISTORIC STRUCTURES REPORT<br>UNITED STATES DEPARTMENT OF THE INTERIOR<br>NATIONAL PARK SERVICE DENVER SERVICE CENTER | TITLE OF PROJECT<br>EXISTING CONDITION DRAWINGS<br>HS–03<br>SUPERINTENDENT'S RESIDENCE<br>HISTORIC HOUSING AREA<br>WIND CAVE NATIONAL PARK<br>REGION: MIDWEST · COUNTY: CUSTER · STATE: SOUTH DAKOTA | DRAWING NO. 108<br>128864<br>PMIS/PKG NO. 158029<br>SHEET 1 OF 12 | |

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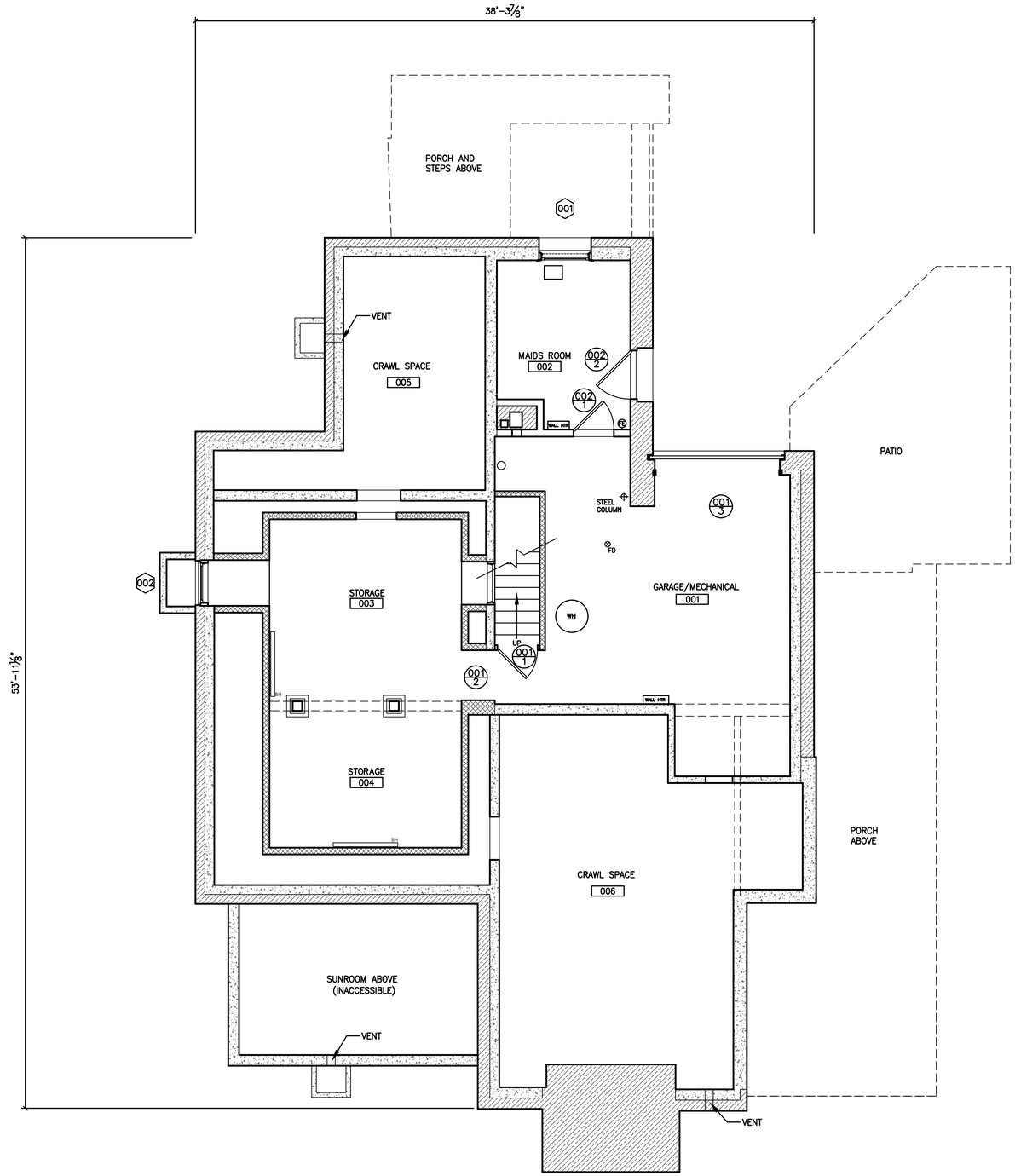


DRAWING KEY:

- MASONRY FOUNDATION WALLS
- CONCRETE FOUNDATION WALLS
- CLAY TILE FOUNDATION WALLS

1 / A0 EXISTING HS-03 BASEMENT PLAN
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

Susan Richards Johnson & Associates, Inc.
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64106
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| DESIGNED: | SUB SHEET NO. | TITLE OF SHEET | DRAWING NO. |
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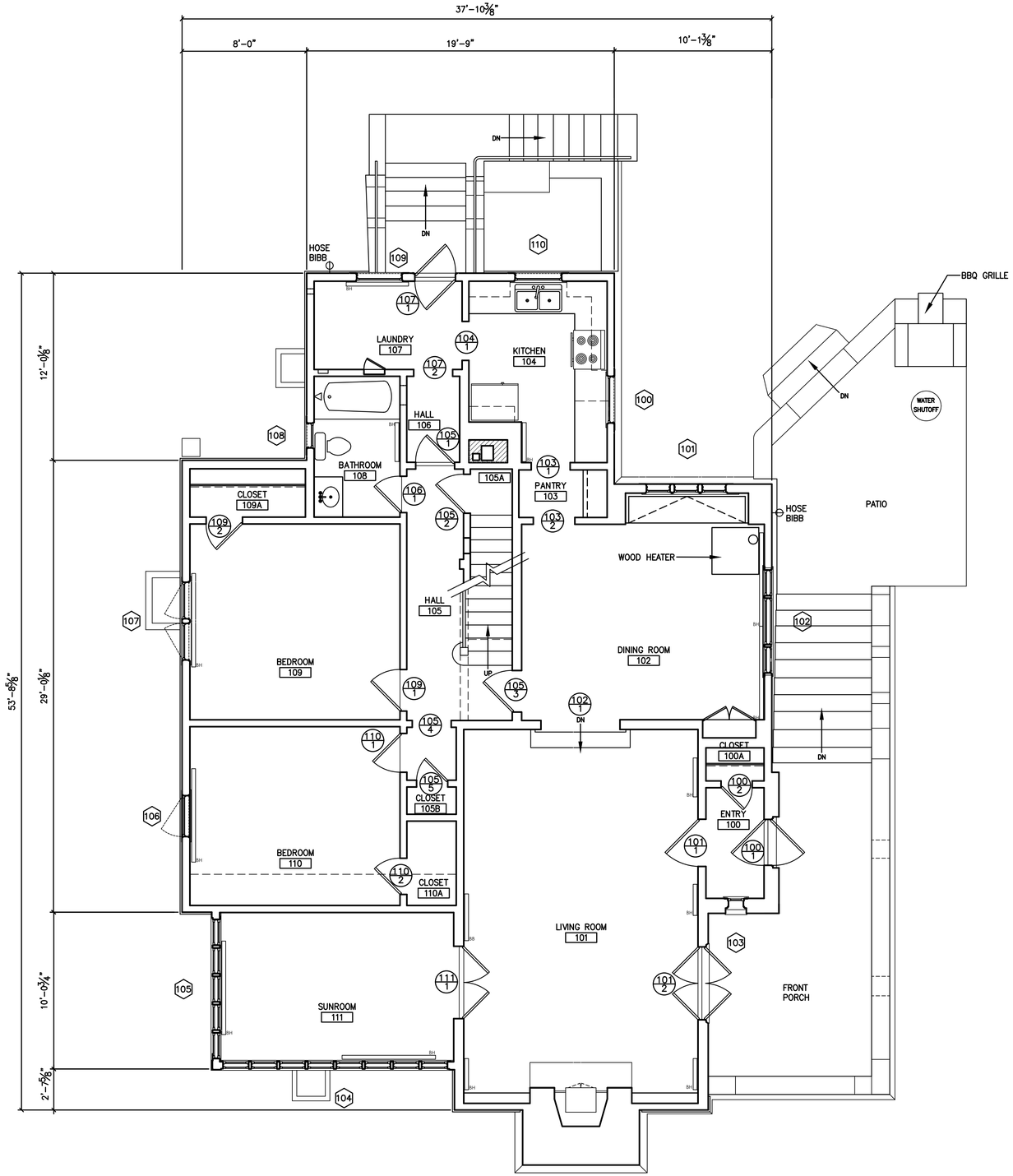
| AG | A0 | EXISTING CONDITION DRAWINGS<br>HS-03<br>SUPERINTENDENT'S RESIDENCE<br>HISTORIC HOUSING AREA<br>WIND CAVE NATIONAL PARK<br>HOT SPRINGS, SOUTH DAKOTA | 108<br>128864 |
| CADD: AG | | | PMIS/PKG NO.<br>158029 |
| TECH. REVIEW: AG | | | SHEET<br>2 OF 12 |
| DATE: 10/23/15 | | | |




1 / A1 EXISTING HS-03 FIRST FLOOR PLAN
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

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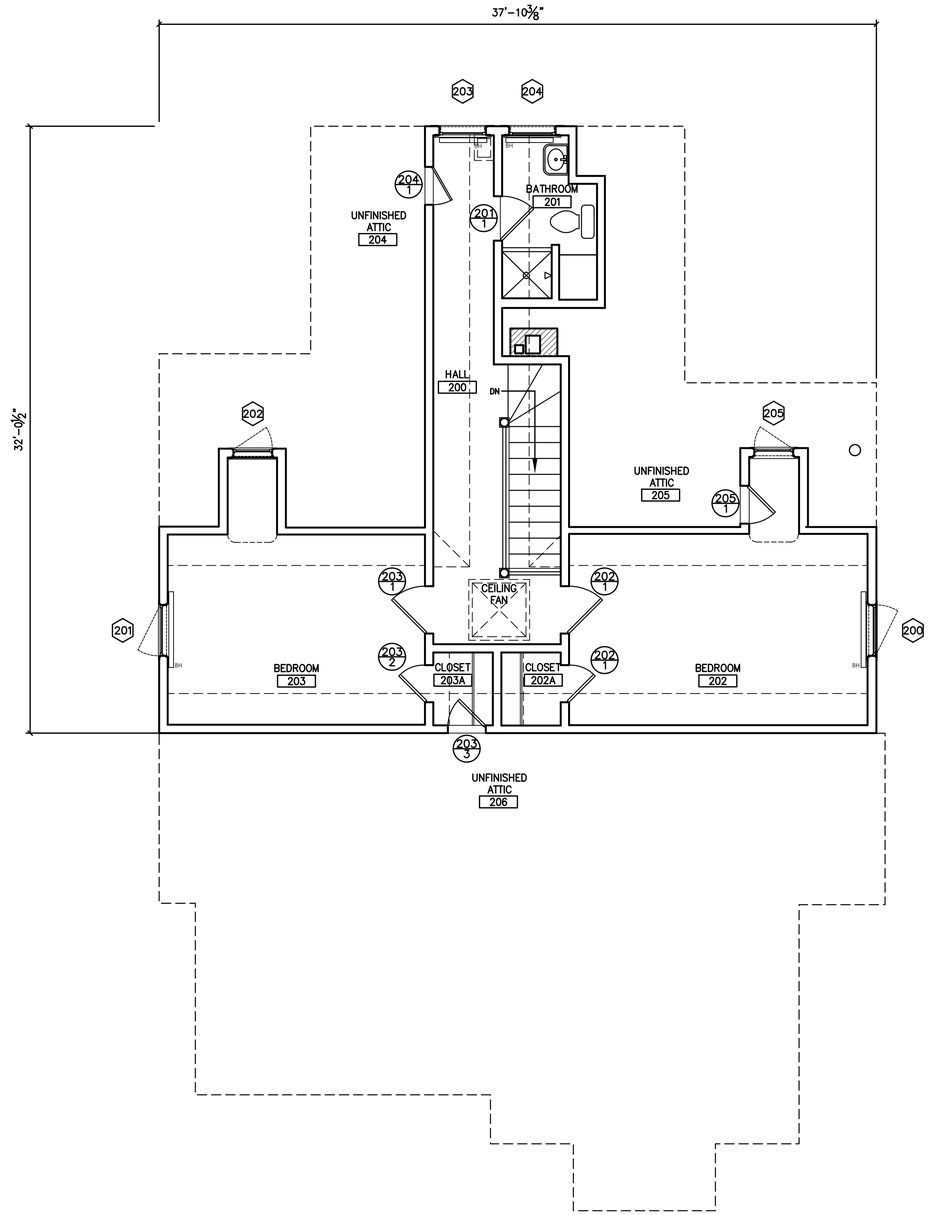
TITLE OF SHEET
EXISTING CONDITION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108 / 128864
PMIS/PKG NO. 158029
SHEET 3 OF 12

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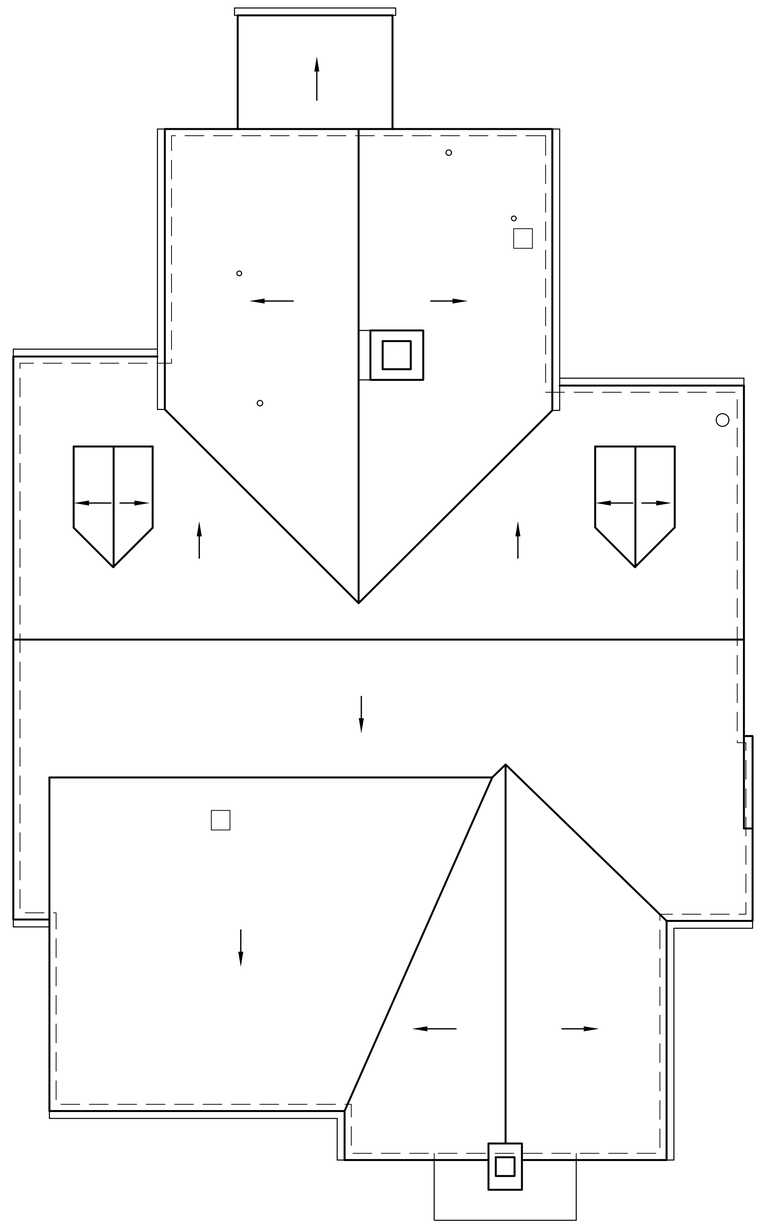
SUB SHEET NO. A2

TITLE OF SHEET
EXISTING CONDITION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108
128864
PMIS/PKG NO. 158029
SHEET 4 OF 12



1 A3 EXISTING HS-03 ROOF PLAN
1/4" = 1'-0"

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SCALE OF FEET

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SUB SHEET NO. A3

TITLE OF SHEET
EXISTING CONDITION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108 / 128864
PMIS/PKG NO. 158029
SHEET 5 OF 12

1 A4 EXISTING HS-03 EAST ELEVATION
1/4" = 1'-0"

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| Susan Richards Johnson & Associates, Inc.<br>818 GRAND BLVD.<br>SUITE 1150<br>KANSAS CITY, MO<br>64106<br>Ph. 816-474-0900<br>Fax 816-474-0909 | DESIGNED: AG<br>CADD AG<br>TECH. REVIEW: AG<br>DATE: 10/23/15 | SUB SHEET NO.<br>A4 | TITLE OF SHEET<br>EXISTING CONDITION DRAWINGS<br>HS-03<br>SUPERINTENDENT'S RESIDENCE<br>HISTORIC HOUSING AREA<br>WIND CAVE NATIONAL PARK<br>HOT SPRINGS, SOUTH DAKOTA |

DRAWING NO. 108 / 128864
PMIS/PKG NO. 158029
SHEET 6 OF 12

1 A5 EXISTING HS–03 SOUTH ELEVATION
1/4" = 1'–0"

4 0 4 8
SCALE OF FEET

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DATE: 10/23/15

SUB SHEET NO. A5

TITLE OF SHEET
EXISTING CONDITION DRAWINGS
HS–03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108
128864
PMIS/PKG NO. 158029
SHEET 7 OF 12

1 / A6 EXISTING HS–03 WEST ELEVATION
1/4" = 1'–0"

4 0 4 8
SCALE OF FEET

| | | | | |
|---|---|---|---|---|
| Susan Richards Johnson & Associates, Inc.<br>818 GRAND BLVD.<br>SUITE 1150<br>KANSAS CITY, MO<br>64106<br>Ph. 816–474–0900<br>Fax 816–474–0909 | DESIGNED: AG<br>CADD AG<br>TECH. REVIEW: AG<br>DATE: 10/23/15 | SUB SHEET NO.<br>A6 | TITLE OF SHEET<br>EXISTING CONDITION DRAWINGS<br>HS–03<br>SUPERINTENDENT'S RESIDENCE<br>HISTORIC HOUSING AREA<br>WIND CAVE NATIONAL PARK<br>HOT SPRINGS, SOUTH DAKOTA | DRAWING NO. 108<br>128864<br>PMIS/PKG NO. 158029<br>SHEET 8 OF 12 |

1 / A7 EXISTING HS-03 NORTH ELEVATION
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

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SUB SHEET NO. A7

TITLE OF SHEET
EXISTING CONDITION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108
128864
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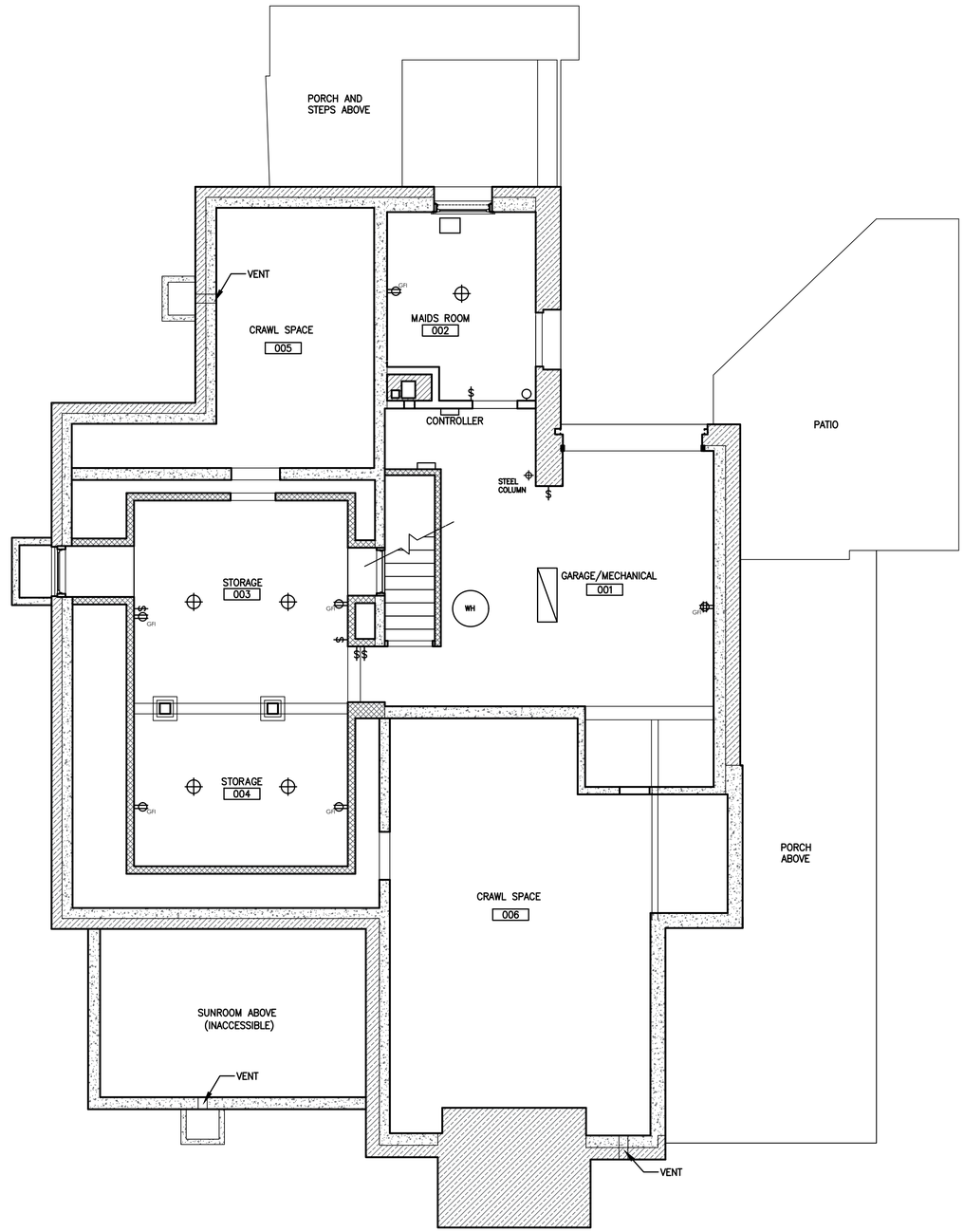
SHEET 9 OF 12




1 / E0 EXISTING HS-03 ELECTRICAL PLAN AND REFLECTED CEILING PLAN
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

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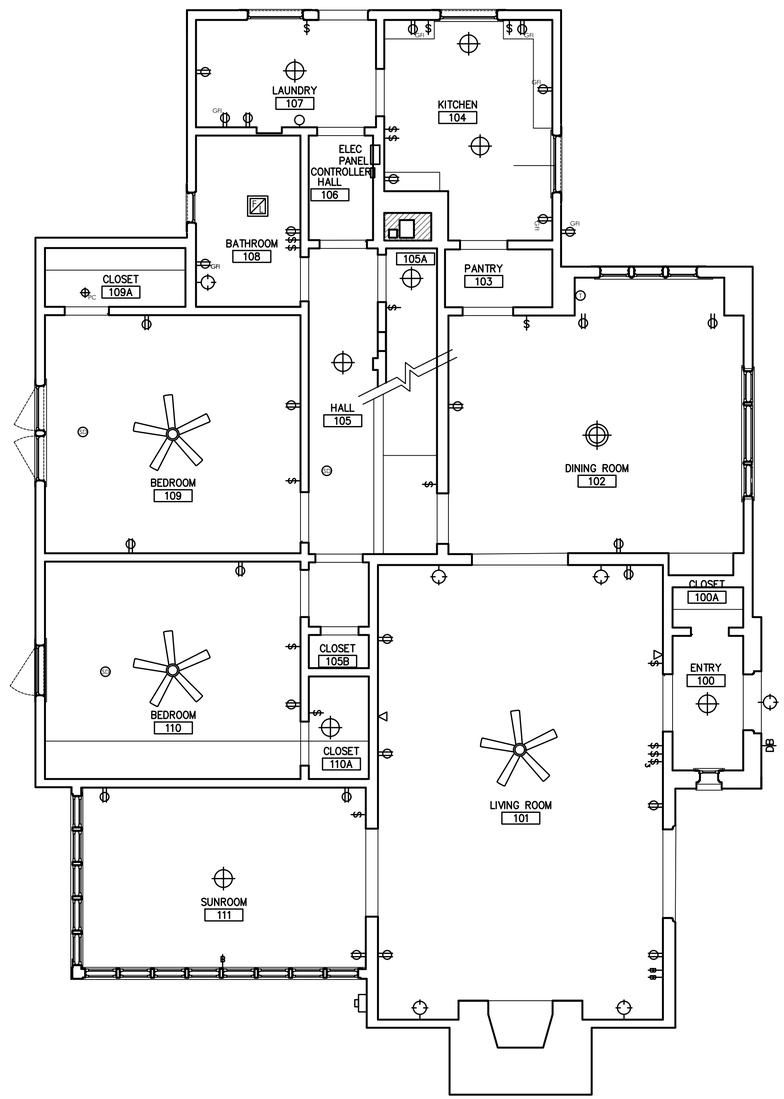
| AG | E0 | EXISTING CONDITION DRAWINGS<br>HS-03<br>SUPERINTENDENT'S RESIDENCE<br>HISTORIC HOUSING AREA<br>WIND CAVE NATIONAL PARK<br>HOT SPRINGS, SOUTH DAKOTA | 108<br>128864 |
| CADD: AG | | | PMIS/PKG NO.<br>158029 |
| TECH. REVIEW: AG | | | SHEET<br>10 OF 12 |
| DATE: 10/23/15 | | | |




1 / E1 EXISTING HS-3 FIRST FLOOR ELECTRICAL PLAN AND REFLECTED CEILING PLAN
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

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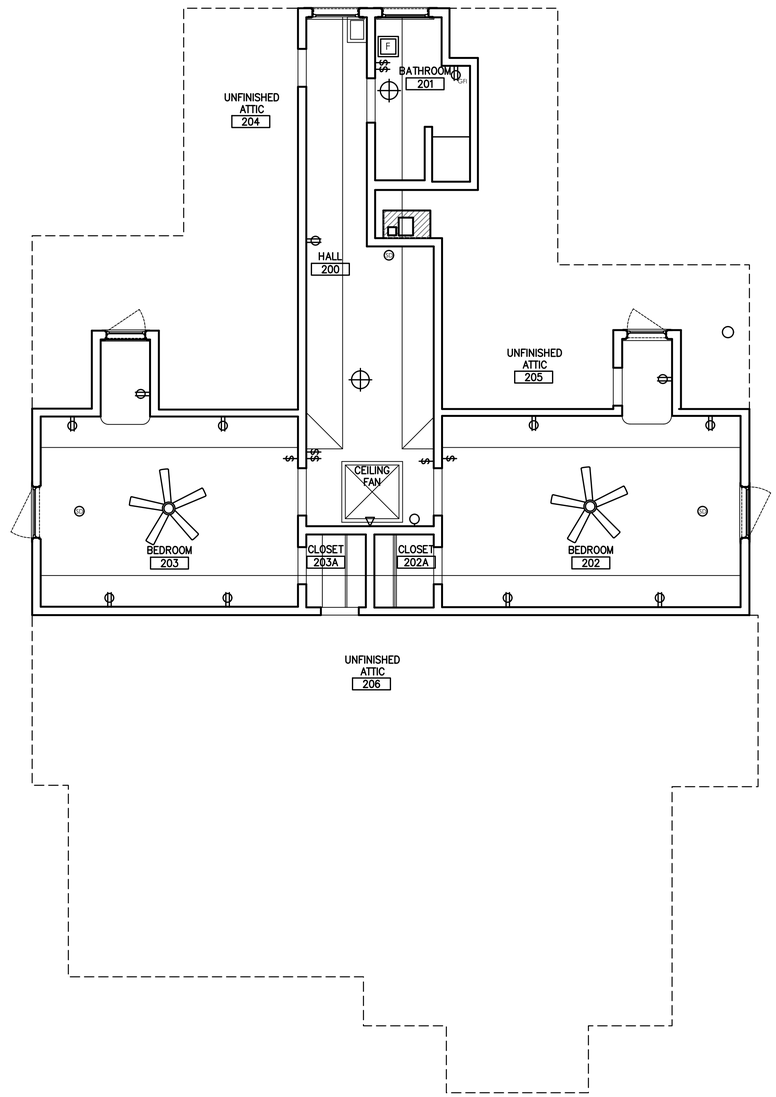
SUB SHEET NO. E1

TITLE OF SHEET
EXISTING CONDITION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108 / 128864
PMIS/PKG NO. 158029
SHEET 11 OF 12




1 / E2 EXISTING HS-3 SECOND FLOOR ELECTRICAL PLAN AND REFLECTED CEILING PLAN
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

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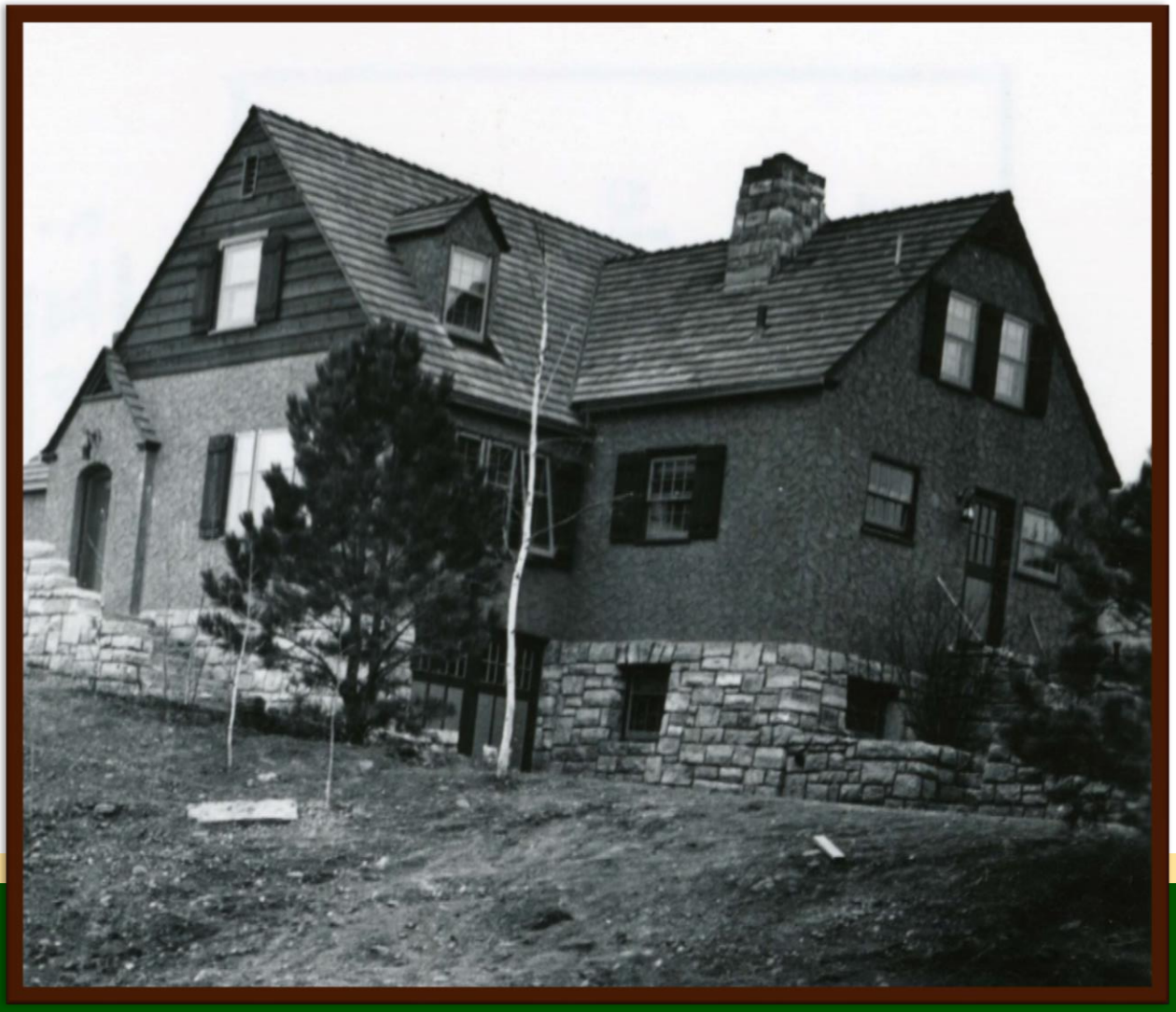
CADD AG
TECH. REVIEW: AG
DATE: 10/23/15

SUB SHEET NO. E2

TITLE OF SHEET
EXISTING CONDITION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108 / 128864
PMIS/PKG NO. 158029
SHEET 12 OF 12



HS-03 ca. 1950s.  (WICA Museum Collection #WICA 6613)

# Treatment Recommendations

# Treatment Recommendations

### Introduction

This Historic Structure Report for the HS-03 Superintendent's Residence is intended to serve as the primary document to provide recommended treatments for the historic residence. This section of the report provides treatment recommendations to address the immediate preservation and stabilization of the existing historic fabric, and to establish long term rehabilitation and maintenance needs. The immediate recommendations are to be used as a guide for the preservation of the existing structure, while the long term treatment recommendations are items to consider when future maintenance or rehabilitation work occurs.

The period of significance for the Historic Housing Area at Wind Cave National Park is established to be from 1928 to 1942. HS-03 was initially constructed in 1934. While the existing structure retains a substantial amount of architectural fabric dating to the period of significance, a few important character defining features are missing. Historical and maintenance department file photographs have produced a fairly clear image of the exterior of the house, and a few of the interior of the house throughout the period of significance, including photographs of some of the missing elements. These missing exterior elements include the multi-lite wood double-hung windows and rustic board and batten shutters. Historic lighting fixtures are missing from all rooms, except the Dining Room.

The current use for the HS-03 Superintendent's Residence is for seasonal housing for park staff and that use is not anticipated to change in the future. Identifying an appropriate historic treatment approach for the residence is important, in order to serve as a guideline for planning and design purposes.

### Historic Treatment Approaches

The identification of the possible four following historic treatments is based upon the *Secretary of the Interior's Standards for the Treatment of Historic Properties*:

> ***Preservation:*** *Sustaining the existing form, integrity, and materials of a property.*
>
> ***Restoration:*** *Accurately depicting the form, integrity, and materials of a property as it appeared during a particular period.*
>
> ***Rehabilitation:*** *Compatible use of a property through repair, alterations, and additions while preserving significant historical features.*
>
> ***Reconstruction:*** *Depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape building, structure, or object at a specific period of time and in its historic location.*

***Selected Historic Treatment Approach - Rehabilitation***

Rehabilitation was selected as the treatment approach in order to allow for the retention of historic authenticity while accommodating the installation of modern amenities. HS-03 is in very good overall condition, requiring maintenance and some rehabilitation to update finishes. Rehabilitation work associated with these repairs and maintenance will affect the exterior and interior of the house and will also affect the grading west and south of the house. Work will need to be coordinated and designed to provide the necessary stabilization, as well as repairs and to protect the building's historical features.

While rehabilitating the structure, plans should be made to accommodate for these required repairs: excavation of grade at the west and south elevations; stucco wall repair and painting; stone foundation repointing and monitoring; window repairs; structural stabilization in the basement; interior plaster repair; and general maintenance and repair items. Great care should be taken to respect the existing historic fabric of the building, a majority of which dates to the original 1934 construction.

**Construction Impact**

All construction activities that may impact the grading or soils surrounding the building must be closely monitored by a National Park Service Archeologist. No demolition, excavation or digging can occur without the required notifications, approvals and documentation. Section 106 compliance is required for any construction activities that may impact the historic structure and surrounding historic landscape.

## Building Egress Fire Code Evaluation

The one-and-one-half story HS-03 was originally constructed in 1934 as the Superintendent's Residence. The original structure consists of exterior stucco-clad wood load bearing walls with interior wood floor, wall and roof framing. The foundation is reinforced concrete and stone. Some basement interior walls are of hollow clay tile construction.

The structure was originally intended to be a single family residence, but is currently used for seasonal staff housing. The roughly 2,200 square foot house contains four bedrooms and two full bathrooms. The park anticipates the continued use of the building as seasonal housing in the near future. This residence does not meet requirements of the ABAAS for accessibility. The park has other residential facilities to accommodate for accessible housing needs.

The applicable codes and guidelines for the project are:

- 2012 International Building Code (IBC)
- 2012 International Existing Building Code (IEBC)
- 2012 International Residential Code (IRC)
- National Fire Protection (NFPA)
    - 2013 Standard for the Installation of Sprinkler Systems (NFPA 13)
    - 2013 National Fire Alarm and Signaling Code (NFPA 72)
    - 2012 Life Safety Code (NFPA 101)
- Structural Fire Reference Manual 58, National Park Service.
- Department of the Interior Housing Management Handbook, 2008.

For fire egress purposes, the building would be reviewed as follows:

- Type VB Construction, Currently Unsprinklered.
- 'R3' Residential Occupancy, based on the use as a *Congregate Residence* with sixteen or fewer persons. The definition of a Congregate Residence is one that contains sleeping units where residents share bathroom and/or kitchen facilities.

Egress Review:

- R302.6 – The basement area in HS-03 is technically able to be used as an attached garage and the garage is not fire-separated from the rest of the structure; therefore, the basement bedroom (Maid's Room 102) cannot be used as a legal bedroom. Per R302.5.1, garages are not permitted to open directly into a room used for sleeping purposes.
- R310.1 - The first floor and second floor bedroom windows are out-swing casement windows. The windows were replaced within the last ten years and appear to meet egress requirements.
- The second floor should be equipped with fire ladders at each of the exit windows (Windows 200 and 201). This is not a code requirement, but would be a prudent safety measure.

- R311.2 - First floor egress is compliant, as there are two egress doors in the main portion of the first floor which lead directly outside.
- R311.4 - The second floor egress is compliant, with the two bedrooms having access to an existing stair. The existing stair rise and run and width are grandfathered, as this is a historic building.
- R313.2 – An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings. HS-03 meets the *Exception:* an automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system. HS-03 is an existing building and there is currently no fire sprinkler system installed.
- R314 - Installation of a hard-wired fire alarm/smoke detection system on the first and second floors is required. The system is currently installed and has a battery back-up system. No exterior alarm notification was found.

The 2012 International Existing Building Code, Chapter 12, addresses Historic Buildings. The intent of the IEBC, Chapter 12, is to provide a means for the preservation of historic buildings. Repairs to any portion of a historic structure are permitted (IEBC-2012.1) to be made with original or like materials and methods of construction. Since the provisions of the IEBC are to be utilized for future potential projects, the building code or person having jurisdictional authority, may require a report from the registered design professional to address compliance issues. The report should identify compliance with Chapter 12, identify each safety feature that is not in full compliance, and describe how the intent of the provisions are complied with by establishing an equivalent level of protection. Existing door and stairway widths will be allowed to remain as they are currently exist (with the provision of the local authority having jurisdiction making the determination that sufficient width and height for a person's passage through the opening has adequate capacity and meets the occupant loading requirements).

The existing structure as well as any future rehabilitation work should be coordinated with the Park Structure Fire Management Plan and address identified deficiencies.[10] The park may consider posting building evacuation diagrams. Occupants of the residence should be trained for fire prevention for their specific quarters. They should learn how to report fires and how to safely evacuate in the event of an emergency.[11] Pre-occupancy training may also include how to deploy the fire ladders from the second floor, test smoke alarms and how to use fire extinguishers.[12]

[10] Structural Fire Reference Manual 58, National Park Service, 2015, 5.
[11] Department of the Interior Housing Management Handbook, April 2008, 6.
[12] Ibid, 16.

# Treatment Recommendations

With the intent of protecting the future integrity of the existing historic fabric and character defining features of the HS-03 Superintendent's Residence, the following treatment recommendations are proposed. These recommendations were developed based on the assessment of the building during the two site visits in fall of 2014 and winter of 2015 and provide direction for immediate issues and long term historic treatment work.

All architectural and structural recommendations are in keeping with the *Secretary of the Interior's Standards for Rehabilitation* as a guide. The goal of any sensitive preservation or rehabilitation project is to retain and preserve the extant original historic materials with the least amount of visible alterations to the structure, while supporting the proposed interpretive use of the building.

### Immediate Treatment Recommendations

These immediate recommendations are based on the stabilization and maintenance of the existing structure in its current configuration. A useful reference for small building caretakers is the National Park Service, *Preservation Brief 47: Maintaining the Exteriors of Small and Medium Size Historic Buildings* by Sharon C. Park, FAIA. This brief outlines example maintenance schedules and checklists, as well as making recommendations for preparation of maintenance and a means for determining qualified contractors who will understand the project objectives for the structure's preservation.

The cost estimate associated with the Immediate and Long Term Treatment Recommendations can be found in Appendix C.

### General Treatment Recommendations

All suspect building surfaces and materials should be tested for lead based paint and asbestos containing materials prior to the initiation of any work. Testing should be done by a qualified hazardous materials consultant. Conduct an independent radon test and inspection of existing systems. Repair, as required to meet current code.

## Immediate Treatment and Maintenance Repair Recommendations

Refer to the Treatment Recommendation Drawings

### Exterior

A. Re-grade –
   Re-grade along the west and south elevations of the sunroom addition and a little along the south elevation to achieve a minimum of 4-inches below the top of the concrete foundation walls. The grade is in contact with the wood frame stucco walls and is causing advanced deterioration in these locations. Verify depth and efficacy of a potentially existing French drain along this side of the house. If not present, or in good working condition, install a new French drain to daylight and a swale.

B. Stone Foundation, Steps, Retaining Walls and Barbeque Grille –
   - Clean existing stone foundation walls, retaining walls and stone steps.
   - Repoint, as required. Match historic mortar.
   - Repair/replace mortar wash at the top of the wall, as required.
   - Repoint cracks and monitor seasonally for further movement.
   - Replace fractured or deteriorated stones, in kind.

C. East Stone Porch Steps –
   - Remove vegetation from mortar joints.
   - Spot re-point porch steps, as required. Match historic mortar.
   - Install a new galvanized painted handrail.

D. Concrete Foundation –
   Epoxy repair cracks in the concrete foundation and in the west window well.

E. Stone Chimney –
   - The stone chimneys requires cleaning, spot repointing and mortar wash repair.
   - North chimney - If, after radon inspection, chimney is no longer used to vent radon from the crawl space, install new pre-finished metal chimney cap, per SMACNA standards.
   - South Chimney – Install new chimney cap to prevent birds from accessing flue.
   - South Chimney – Inspect, clean and repair existing chimney flue, as required.
   - Chimneys - Inspect flashing and repair, as required.

F. Historic Wood Windows –
   - Install custom painted wood storm window on Windows 103 and 001.
   - Window 102
     - Rehabilitate (3) historic wood windows at Window 102.
     - Restore the existing north wood storm window.
     - Fabricate (2) new screened sash for the north and center windows.
     - Storm sash for the south and center windows may be stored in the basement. If they are in disrepair, rehabilitate the sash. If they are not present, fabricate two new sash.
     - Restore the existing screened sash in the south window.
   - Restore Windows wood basement Windows 001 and 002.

G. Repair Window 201 metal panning and wood trim, as required.

H. Repair Windows 106 and 109 metal panning, as required.

I. Repair existing storm Windows 104 at south elevation of Sunroom.

J. Stucco –
   Repair cracks and crazing in stucco. There are several cracks along the West Elevation and around the sunroom addition.

K. Paint –
- Paint exterior stucco after repairs are made. New paint color to match historic stucco color, as defined in the Volume I, Historic Building Materials, Stucco section of this report. A Benjamin-Moore paint color match was determined, but must first be sampled, as recommended.
- Paint 100% trim. Color to match the historic trim color, as defined in the historic finished report. Stain all wood siding.
- Touch-up paint at garage door.

L. Front Porch/Concrete Patio Repairs –
- When future concrete or stone work is completed, install a soft joint between concrete and stucco walls and the concrete and stone walls in order to allow for expansion and contraction between the two materials.
- Clean existing concrete porch floor. Repair/seal cracks and install water repellent.

M. Wood Louvers –
- Remove mud dauber nest from east louver over entry.
- Inspect all open wood louvers in the attic. Replaced screens, as required.

N. Wood Trim –
Repair/restore wood trim and siding, in kind, as required.

O. Door 100/1 –
- Rehabilitate existing historic screened door. Restore hardware.
- Repair or replace, in kind, the existing wood threshold.

P. Rehabilitate Storm Door 101/2 –
Rehabilitate existing deteriorated wood storm doors. Restore existing hardware.

Q. Inspect Downspout Drains –
- Reinstall or install new downspout extensions to direct water away from the foundations.
- Reinstall concrete splash blocks.
- Extend existing drain in north retaining wall to disperse water further from the wall.

R. Remove unused telephone wiring and television cable and accessories. Relocate exposed wiring to the interior of the house.

S. Inspect gutters and repair, reattach and realign to drain, as required.

T. Foundation Vents –
- Rehabilitate and paint foundation vents.
- Investigate south foundation vent under the Sunroom. Repair, as required.

U. Window and Foundation Vent Wells –
- Paint existing steel grilles on west wells.
- Install new painted steel grille on the foundation vent well to match the steel grilles at the west elevation.

**Interior**

V. Basement Clay Tile Retaining Walls –
The clay tile retaining walls in the basement appear to be functioning adequately at this time. The design of the clay tile walls is unknown. The close proximity of the clay tile walls to the original shallow footings could become problematic if lateral earth pressures become too great for the clay tile walls. The walls should be monitored from time to time to watch for cracking which could be an indicator of wall movement.

W. Basement 001 Repairs –
- Install Footing –
The steel post in Basement 001 bears directly on the slab-on-grade. The presence of a footing under this post is unlikely. There is not currently any visible evidence of distress in the post or slab-on-grade. Cracks are present in the wall of the Dining Room above this post. It is possible that the cracks in the Dining Room walls were present prior to the installation of the steel post.

  A footing should be installed below the steel post to ensure adequate bearing. Refer to Structural Repair Drawing A/TA1. Further study should be performed to determine if the cracks are resulting from settlement of the building foundation.

X. Repair Door 105/1 to close properly.

Y. Weatherstrip Door 100/2.

Z. Repair mortise lock in Door 110/1.

AA. North and South Crawl Spaces –
- Inspect existing insulation in first floor joists throughout the crawl space areas. Install insulation where there is no insulation.
- Install perimeter foundation wall insulation throughout basement.
- Install new 12 mil vapor barrier at the floor throughout crawl space areas.

BB. Plaster Repairs –
After structural stabilization in the basement is completed, repair cracks in throughout the house. Paint walls and ceilings when finished.

CC. Floor transitions –
Floor transitions between the laminate flooring and other types of flooring, including where the laminate floor has nosings installed at the top of the first floor and second floor steps should be closely evaluated for a tripping hazard and replaced, as required.

DD. Clean and re-wire existing historic chandelier, as required.

EE. Weatherstrip and insulate (3) attic access doors.

FF. Provide (2) fire escape ladders – one each for Windows 200 and 201.

GG. Clean fireplace stone and hearth.

**Mechanical/Plumbing/Electrical/Fire Protection Recommendations**

Mechanical

HH. It is recommended to inspect all existing ventilation openings to the crawl spaces and the attic to verify that they are free of obstructions. Install screens over all openings to prevent insect and/or animal infestation.

II. The existing HVAC systems should be thoroughly inspected by a qualified service technician and repaired to operational condition or replaced.

JJ. The fireplace insert is to be left installed for future potential use. The fireplace is to be evaluated and repaired as required for temporarily reused. The chimney should be inspected, cleaned, and a new flue cap installed.

KK. The portable unit heater serving the crawl space should be removed and a permanent type unit heater should be installed for freeze protection.

LL. Exhaust Fan -
The Bathroom 201 exhaust fan discharges air directly to the attic space should be re-ducted directly through the roof and a roof cap should be added at the penetration (IMC Section 503.1). This is important because warm, moisture laden air discharged into the attic can lead to moisture damage and mold growth.

MM. Verify that the existing equipment including accessories being reused for this project are not damaged and are in good working order.

NN. Clean existing equipment and equipment components being reused for this project.

OO. Lubricate existing equipment being reused for this project in accordance with manufacturer's written instructions.

PP. It is recommended for all ductwork penetrations to the exterior of the building to have backdraft dampers installed unless not recommended by the manufacturer of the equipment in which the ductwork serves.

Plumbing Systems

QQ. Verify that the existing equipment including accessories being reused for this project are not damaged and are in good working order.

RR. The entire system including the water and drain, waste, and vent systems and all accessories should be inspected by a qualified technician and repaired as needed.

SS. If not existing, provide new access panels for existing plumbing at showers and bathtub or at any other location requiring maintenance access.

TT. All vent piping penetrating through the roof should be 3-inch diameter minimum (IPC Section 903.2).

UU. Prior to the occupied season, it is recommend to sanitize the entire domestic water piping system (cold and hot) with a solution containing not less than 50 ppm available chlorine. Keep solution in the system for a minimum of 24 hours, with each valve being operated several times during the period. After completion, flush system with clean domestic water until chlorine residual is lowered to typical water level.

VV. At the start of the cold weather season, the existing domestic water piping distribution system should be drained of all remaining water and blown down with compressed air. The compressed air will insure that no water is trapped in the piping that could freeze. This will prevent the pipes from breaking due to freezing. Mineral oil should be added to the p-traps on all plumbing fixtures including the toilets. This will keep the traps primed and prevent sewer gases from entering the house. All fixtures should have signage attached indicating that they have been winterized and are not usable.

Electrical Systems

WW. The existing electrical system should be visually inspected for damaged devices and branch circuit conductors. The branch circuits and the service entrance conductors should be megger tested to measure the insulation resistance in the conductors. A report should be supplied documenting the results of the test. Repairs should be made where necessary.

XX. The light fixtures should be re-lamped as necessary and cleaned, taking care to remove all dirt and debris. Consider replacing the fixtures and/or lamps with LED technology to save on energy costs. However, the historic lamps and sconces should have historically applicable lamps where exposed to view.

YY. The electrical grounding system should be inspected by a qualified, licensed electrician. A grounding electrode conductor should be installed on the metallic water service entrance piping where it enters the house prior to any valves or unions in the piping system. All grounding should be in accordance with 2014 NEC Article 250.

Verify that grounding connections from the electrical, and communications systems are interconnected.

ZZ. All GFCI receptacles should be tested to verify they are in working order. Ground-fault circuit interrupter protection for personnel should be installed in accordance with NEC 210.8(A)(1) through (10).

- The receptacle located in Laundry 107 closest to the door should be replaced with a GFCI receptacle or a GFCI circuit breaker protecting the receptacle.
- The receptacle in Kitchen 104 on the left side of the sink and the receptacle in Bathroom 108 located near the baseboard should be replaced with GFCI receptacles or if they are protected by a GFCI upstream they will need to be labeled.
- The GFCI receptacle located on the east side of the building exterior should be inspected and replaced if the receptacle is not in accordance with NEC 406.9(B)(1).
- The surface mounted receptacles with recessed box cover plates in the basement should be replaced with exposed work cover plates.

AAA. A local disconnect switch should be installed for both the electric water heater and basement wall heater located in the Garage and Mechanical Room 001 if they are not already installed per NEC 422 part III. A GFCI receptacle and light outlet with switch should be installed near the electric heater located in Crawl Space 006 per NEC 210.63 and 210.70(A)(3).

BBB. Remove the unused Econotrol system in its entirety.

Telephone System

CCC. The telephone system should be inspected and tested by a qualified technician. The system should be placed in operation.

Fire Alarm System

DDD. The smoke detectors should be tested and batteries replaced if necessary. The system is hard wired with battery back-up.

EEE. Install outside notification system for smoke detectors. Since the houses are fairly remote, an exterior audible alarm should be considered.

Fire Protection System

FFF. The existing hand activated fire extinguishers should be evaluated and tested by a fire alarm contractor on an annual basis. Immediate repairs should be made to insure the systems are operational. Corroded or otherwise damaged components should be replaced.

Insulation

GGG. Insulation –

Investigate extent of existing wall insulation. This will require either drilling small holes and investigating with a lighted boroscope or perhaps a very sensitive thermal imaging camera. The walls of HS-03 were last insulated during a 1952 contract to insulate the buildings in the historic housing area and the administration building. Fiberglass insulation was hand-stuffed in walls and in the attic. Install additional insulation, as required in walls and in attic.

It is recommended that the existing roof and wall insulation be evaluated and modified to meet the requirements set forth in Table C402.2 of the 2012 IECC.

2012 IECC TABLE C402.2 OPAQUE THERMAL ENVELOPE REQUIREMENTS

| **Climate Zone** | **7** | |
|---|---|---|
| | **All Other** | **Group R** |
| **Roofs** | | |
| Attic and other | R-49 | R-49 |
| **Walls, Above Grade** | | |
| Wood framed | R-13 + R-7.5ci<br>or R-20 + R-3.8ci | R-13 + R-7.5ci<br>or R-20 + R-3.8ci |
| **Walls, Below Grade** | | |
| Below-grade wall | R-7.5ci | R-10ci |

ci = Continuous insulation
Refer to 2012 IECC for additional information.

## Long Term Treatment and Maintenance Repair Recommendations

Long term maintenance and repair recommendations take into account items that do not required immediate or short term attention, but would be recommended for the long term use of the house. These items include:

A. Replace or retrofit existing replacement windows. The existing aluminum wood clad egress casement windows installed in the bedrooms are fine replacement windows; however, the detailing at the exterior is not a historically appropriate solution and they do not replicate the original wood double-hung window lite configuration. The existing aluminum wood clad double-hung windows installed are fine replacement windows; however, the detailing at the exterior is not a historically appropriate solution and they do not replicate the original trim. The historic wood trim is panned and appears wider and the sills appear taller than the original historic windows. The detailing at the metal panning is not tidy and is installed so that the metal seams will shed water from the interior, only if the sealants are well maintained. Total 13 openings.
B. Replicate and install rustic board and batten shutters, per the historic drawings and photographs. These were installed on the east and north elevations.
C. Install new carpeting in Bedrooms 109, 110, 202 and 203.
D. Painting throughout the house.
E. Renovate bathroom.
F. Renovate kitchen. When the kitchen is next renovated, consider installing period-appropriate kitchen cabinets. Refer to the historic drawings for character of cabinets appropriate for this kitchen. Note that when considering a 'period' kitchen, costs for such cabinetry, fixtures and finishes is higher than standard renovation work.
G. Remove Celotex-type tile from Dining Room ceiling and Bedroom 109 ceiling and walls. Restore plaster walls and paint. Tile should be tested for asbestos prior to removal.
H. Re-plate hardware at Bathroom 108.
I. Install new ceiling light fixture in Hall 106. Currently, this hall has no lighting and it is very dark.
J. Remove all laminate flooring and restore historic wood floors.
K. Replace outlets in dining room bench to match the wood trim.
L. Install period-appropriate lighting in all public spaces.
M. Install new rubber stops on existing historic brass door stops that are missing caps.
N. In Living Room 100 and Entry 101, if wood floors remain, remove carpeting and restore wood floors. Repair, in kind, as required.
O. Demolish existing wood paneling from walls in the Sunroom. These were likely installed in the 1950s and are considered to be outside of the period of significance. Repair and repaint walls, as required.
P. Install reproduction wood double-hung windows in the west wall (Window 105) to match the existing windows (Window 104) in the Sunroom, total (5).
Q. When it is time to replace the existing roof, consider the installation of the Decra metal roofing shingles to match the Administration Building. The existing 40 year asphalt roof was installed in 2002, so by the time the roof requires replacement, there may be even

newer acceptable substitute products that will have the look of a historic wood shingle, with less maintenance and a longer life span. New roofs should be outfitted with integral fall protection clips. These are a safety feature that has very little effect on the overall look of the roofs.

R. When the roof is replaced, install new reproduction box gutters with rectangular downspouts to match the historic conditions.
S. Conduct a historic hardware survey and restore all hardware.
T. Restore wall sconces in the Living Room to look like those in the Maintenance Department Files. Perhaps these wall sconces were removed and stored at the park and could be restored.
U. Replace metal storm windows at Sunroom (Windows 104 and 105, 13 total units) with new custom wood or pre-finished aluminum storm windows.
V. Garage Door - Replace existing metal overhead door with reproduction wood out-swing doors, or with an overhead facsimile of the historic doors.

**Long Term Mechanical/Plumbing/Electrical/Fire Protection Recommendations**
The existing electric baseboard heating system is very costly to run during the winter months. Consider installing a high-efficiency forced air HVAC system. Options for this are listed below.

Modifications to the building will require coordination with the National Park Service and existing conditions to conceal as much of the MEP systems from view as possible.

<u>HVAC Systems</u>
If the existing HVAC system is to be replaced, heating and cooling load calculations should be performed per current ASHRAE standards and the new equipment should be sized accordingly. The following design criteria should be used:

Outdoor design temperature: The ASHRAE outside summer and winter design conditions for Custer County, SD should be used for design purposes.

Summer Outdoor Design Temperature: 83.7°F db (1.0%)/ 58.9°F wb (MCWB)
Winter Outdoor Design Temperature: -8.2°F db (99.6%)

Inside Temperatures: The following temperatures (Summer/Winter) should be used for Thermal Comfort Design.

Summer: 75°F DB/50% RH max
Winter: 70°F DB

Upon establishing the heating and cooling demands, a new HVAC system should be selected and sized to handle such demands.

<u>Split System</u>
A split system would consist of an electric resistance heating coil, high capacity blower, MERV 11 filters, and a direct expansion cooling coil. A matched condensing unit for each

would be located outdoors. Locations for combustion air intakes and flues for the gas-fired furnaces should be carefully coordinated with the Architect and the National Park Service. A new ductwork system would need to be installed throughout the building. Programmable thermostat(s) should be installed for control of the respective split systems.

A heat pump condensing unit can be used in lieu of a standard condensing unit. An auxiliary electric resistance coil would also need to be provided. Multiple split systems can be installed throughout the building in order to meet the cooling and heating load demands.

One advantage to this system is that most service companies are familiar with this equipment and can provide service and timely repair. Another advantage is the lower first cost. Disadvantages of this system would be the requirement that ductwork be installed throughout the building. There will also be combustion air and flue openings in the building façade. Penetrations through the wall will also be required for piping and electrical conduit to the condensing units.

Geothermal Heat Pump

The geothermal heat pump system would consist of a water source heat pump and an accompanying geothermal well field. The heat pumps would contain MERV 11 filters. A new ductwork system would need to be installed throughout the building. Programmable thermostat(s) should be installed for control of the respective systems.

A geothermal heat exchanger would be installed in the yard or parking area adjacent to the house. A sample bore and conductivity test is required to determine the ground conditions. The results of the test are required to design the depth and number of bores. A typical heat exchanger consists of a series of vertical pipe bores. Polyethylene piping is installed in the bores and is routed to a header. The header would preferably be located in the basement, but could be installed in a vault on site. Water or glycol would be pumped through the pipe to provide a seasonal heat source or sink for the heat pumps.

This geothermal system has several advantages over the split systems. It is considerably more efficient, and would result in lower operating costs. It would eliminate the need for exterior condensing units, which would improve the historic integrity of the site. The system will also be much quieter than a high efficiency furnace and condensing unit.

One disadvantage to this system is that the site will be disturbed. The drilling and site work would need to be carefully coordinated with the National Park Service to reduce the impact and ensure no archaeological artifacts are destroyed. Another disadvantage is that this system will have a higher first cost than the split systems.

***A geothermal heat pump system would most likely not be feasible due to the potential disruption the geothermal wells could cause the cave system.***

VRF System

A variable refrigerant flow (VRF) system would consist of a condensing unit located outside, individual VRF fan coil units located in each cooling zone, refrigerant piping, and branch selector boxes. The locations of the condensing unit and fan coil units will need to be carefully coordinated with the Architect and the National Park Service. Programmable

thermostat(s) should be installed for each VRF fan coil. The VRF system can provide heating but a supplement electric heating system would probably also be required. Advantages of the VRF system is that it can be configured as a ducted system or a ductless system. Disadvantages of this system would be that the fan coils may need to be exposed in the rooms they serve. Penetrations through the walls and floor will also be required for refrigerant piping and electrical conduit to the fan coils and condensing unit.

Ventilation
The recommendation is to install a separate, dedicated outside air unit in the attic to provide ventilation air. This unit would include an enthalpy heat recovery wheel, filters, heating, and cooling. The unit would include the same heating and cooling equipment that is selected for the main system (split system with furnace or water source geothermal heat pump). The unit would be used to supply ventilation air to all rooms in the building and would exhaust air from the restrooms. Energy recovered from the exhaust air stream would be used to pre-treat the fresh air. The design for the outside air intake and exhaust hood will require careful coordination with the Architect and the National Park Service to minimize impact on the building's historic integrity.

Plumbing
A double check valve or reduced pressure zone backflow should be added to the domestic water entry.

Electrical Systems
A code compliant electrical distribution system should be installed when the building is renovated. All circuit breakers serving loads in the dwelling unit shall be arc fault circuit interrupter (AFCI) circuit breakers per NEC 210.12 (A).

Fire Alarm Systems
Field verify whether the system is 120V hardwired and the devices are interconnected. If not, replace the smoke detectors with a code compliant system when the building is renovated.

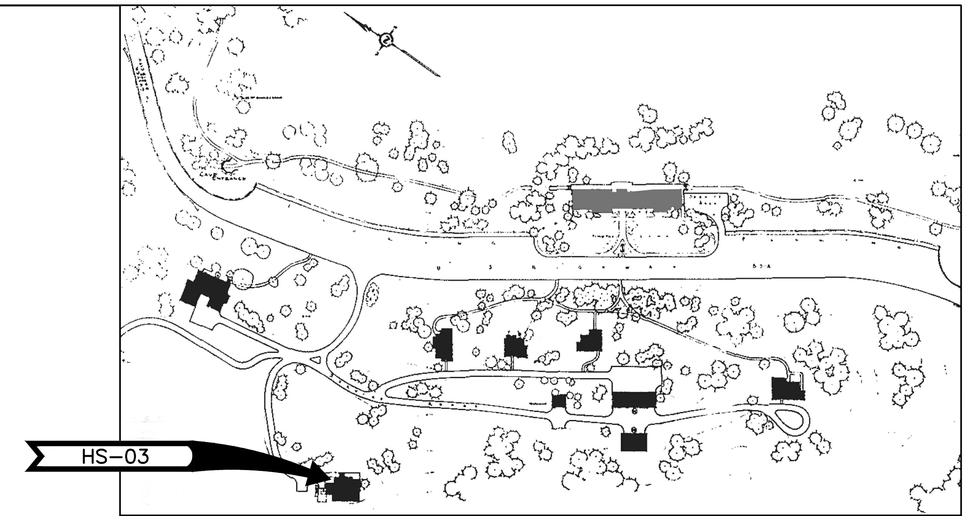
## Long Term Alternative for the Basement Garage

If the basement garage is to be used for parking, several critical repair and renovation items must be addressed in order to meet current life safety code for an attached garage, refer to IRC Sections R302.5, R302.6 and other related sections.

A. Install new overhead door and frame.
B. Install new solid door and frame at Opening 001/2.
C. Install new solid door and frame in existing Opening 001/1 and 002/1.
D. Fire rate exposed wood beam at south end of garage.
E. Fire stop at all penetrations.
F. Replace crawl space access door with a solid wood door.
G. Investigate ceiling for rating (plaster or drywall).
H. Adjacent Maid's Room 002 not allowed to be used as a bedroom, per Section R302.5.1.

# HS–03 SUPERINTENDENT'S RESIDENCE
# HISTORIC STRUCTURES REPORT
## HISTORIC HOUSING AREA
## WIND CAVE NATIONAL PARK

# TREATMENT RECOMMENDATION DRAWINGS
## HOT SPRINGS, SOUTH DAKOTA




HISTORIC HOUSING AREA, WIND CAVE NATIONAL PARK, HOT SPRINGS, SOUTH DAKOTA
(WIND CAVE NATIONAL PARK HISTORIC CONTEXTS AND NATIONAL REGISTER GUIDELINES REPORT, 1992)

HS–03 SUPERINTENDENT'S RESIDENCE (SRJA 2014)

## INDEX OF DRAWINGS


00 COVER

ARCHITECTURAL
TA0 BASEMENT/FOUNDATION FLOOR PLAN
TA1 FIRST FLOOR PLAN
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TA4 EAST ELEVATION
TA5 SOUTH ELEVATION
TA6 WEST ELEVATION
TA7 NORTH ELEVATION

STRUCTURAL
TS0 BASEMENT/FOUNDATION FLOOR PLAN
TS1 STRUCTURAL DETAILS


| | | | |
|---|---|---|---|
| | HISTORIC STRUCTURES REPORT | TITLE OF PROJECT<br>TREATMENT RECOMMENDATION DRAWINGS<br>HS–03<br>SUPERINTENDENT'S RESIDENCE<br>HISTORIC HOUSING AREA<br>WIND CAVE NATIONAL PARK | DRAWING NO.<br>108<br>128865 |
| | UNITED STATES<br>DEPARTMENT OF THE INTERIOR<br>NATIONAL PARK SERVICE<br>DENVER SERVICE CENTER | REGION: MIDWEST<br>COUNTY: CUSTER<br>STATE: SOUTH DAKOTA | PMIS/PKG NO.<br>158029<br>SHEET<br>1 OF 11 |

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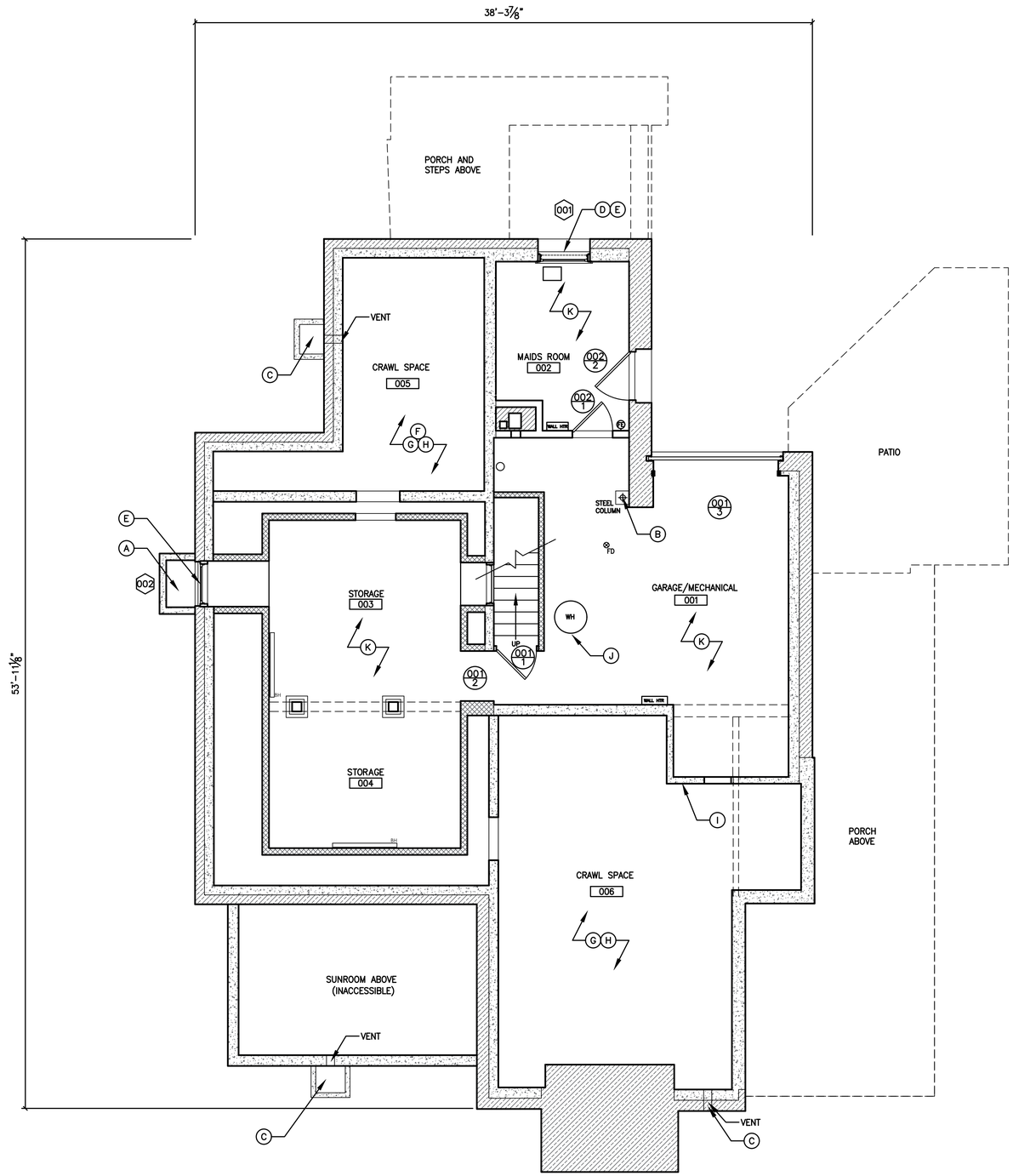


1 TAO HS-03 IMMEDIATE AND LONG TERM TREATMENT DRAWINGS – BASEMENT PLAN

1/4" = 1'-0"

4 0 4 8

SCALE OF FEET

## GENERAL NOTES:

1. PERFORM HAZARDOUS MATERIALS TESTING BEFORE INITIATING ANY WORK.
2. INSPECT RADON MITIGATION SYSTEM AND UPDATE, AS REQUIRED.

## KEY NOTES:

IMMEDIATE TREATMENT SCOPE OF WORK:

A. WINDOW WELL 002 – EPOXY REPAIR CRACKS IN CONCRETE WALLS. INVESTIGATE FOR DRAIN. IF NONE PRESENT, INSTALL DRAIN AND TIE IN WITH EXISTING FRENCH DRAIN. PAINT STEEL COVER.
B. INSTALL NEW STEEL COLUMN CONCRETE FOOTING, PER STRUCTURAL DRAWINGS.
C. REHABILITATE AND PREP, PRIME PAINT STEEL FOUNDATION VENT.
D. INSTALL NEW CUSTOM WOOD STORM WINDOW. RESTORE SCREEN SASH FOR STORAGE.
E. RESTORE EXISTING WOOD WINDOW AND JAMB.
F. PROVIDE NEW UNIT HEATER WITH THERMOSTAT, SPECIFIED FOR ENCLOSED SPACES OR INSTALL HEAT TRACE TAPE ON SUMP AND OTHER EXPOSED PIPES.
G. INSTALL 12 MIL VAPOR BARRIER THROUGHOUT CRAWL SPACE. LAP AND TAPE SEAMS WRAP UPI WALLS.
H. VERIFY INSULATION IN FIRST FLOOR JOISTS. ADD ADDITIONAL AS REQUIRED. INSTALL INSULATION ON PERIMETER WALLS.
I. INSTALL NEW OUTLET, AS REQUIRED. REFER TO ELECTRICAL RECOMMENDATIONS.
J. INSTALL LOCAL DISCONNECT PER ELECTRICAL RECOMMENDATIONS.
K. REPLACE EXISTING RECEPTACLES IN BASEMENT WITH GFCI'S.
L. REPAIR CRACKS IN CONCRETE PORCH SLAB. INSTALL WATER REPELLENT.
M. INSTALL SOFT JOINT BETWEEN CONCRETE AND STUCCO WALLS, TYPICAL.
N. INSTALL NEW GALVANIZED PAINTED HANDRAIL.
O. INVESTIGATE EXTERIOR WALLS FOR INSULATION. INSTALL ADDITIONAL INSULATION, AS REQUIRED.
P. REPAIR/REPLACE DETERIORATED WALL AT SILL. REPAIR ORE REPLACE SCREENED DOOR. RESTORE HARDWARE.
Q. REPAIR DOOR 105/1 TO CLOSE PROPERLY.
R. WEATHER STRIP DOOR 100/2.
S. REPAIR EXISTING STORM WINDOWS IN SUN ROOM.
T. INSTALL NEW WOOD CUSTOM STORM WINDOW.
U. FABRICATE NEW STORM WINDOW AND SCREEN. REHABILITATE EXISTING SCREEN. VERIFY WITH SCREENS STORED IN BASEMENT BEFORE STARTING WORK.
V. REHABILITATE EXISTING STORM DOORS. RESTORE HARDWARE.
W. REPAIR MORTISE LOCK IN DOOR 110/1.
X. REPAIR CRACKS IN PLASTER WALLS AND CEILING. PREP, PRIME AND PAINT, AS REQUIRED.
Y. VERIFY TRANSITIONS BETWEEN LAMINATE FLOORING AND ADJACENT MATERIALS IS NOT A TRIPPING HAZARDS. ESPECIALLY AT STAIRS. REPLACE TRANSITIONS, AS REQUIRED.
Z. CLEAN, RESTORE AND REWIRE HISTORIC CHANDELIER.
AA. REPLACE RECEPTACLES WITH NEW GFCI'S, AS REQUIRED.
AB. INSPECT AND CLEAN CHIMNEY. INSPECT AND REPAIR FIREPLACE INSERT.
AC. RE-GRADE TO ACHIEVE 4" MINIMUM BELOW TOP OF FOUNDATION, TYPICAL.
AD. INSTALL ADDITIONAL ATTIC INSULATION TO ACHIEVE R-49.
AE. REPAIR WINDOW 201 PANNING AND TRIM.
AF. WEATHERSTRIP AND INSULATE ATTIC ACCESS DOORS.
AG. PROVIDE FIRE ESCAPE LADDER.
AH. EXTEND EXHAUST VENT THROUGH ROOF.
AI. CLEAN AND RESTORE NATIVE STONE FIREPLACE AND HEARTH.
AJ. INSTALL NEW FLUE CAP WITH SCREENING.
AK. REMOVE CARPETING IN LIVING ROOM AND REPAIR/RESTORE WOOD FLOORING.
AL. INSTALL NEW BATH EXHAUST VENT

LONG TERM TREATMENT SCOPE OF WORK:

GENERAL INTERIOR WORK:

L1. PAINTING THROUGHOUT ENTIRE INTERIOR OF THE HOUSE, TYPICAL.
L2. INSTALL PERIOD-APPROPRIATE LIGHTING THROUGHOUT HOUSE.
L3. INSTALL NEW RUBBER CAPS ON HISTORIC DOOR STOPS, WHERE MISSING.
L4. CONDUCT A HISTORIC HARDWARE SURVEY AND RESTORE ALL HARDWARE.

SCOPE OF WORK:

L5. INSTALL NEW CARPETING.
L6. RENOVATE THE BATHROOM.
L7. RENOVATE THE KITCHEN. IF A KITCHEN WHICH IS MORE PERIOD APPROPRIATE IS DESIRED, CONSULT WITH THE HISTORIC DRAWINGS FOR PRECEDENT CABINETRY DESIGN.
L8. REMOVE CELOTEX-TYPE TILE FROM THE DINING ROOM CEILING AND BEDROOM 109 CEILING AND WALLS. RESTORE PLASTER AND PAINT WALLS.
L9. RE-PLATE HISTORIC HARDWARE IN BATHROOM 108.
L10. INSTALL NEW CEILING FIXTURE IN HALL 106.
L11. REMOVE WOOD LAMINATE FLOORING AND RESTORE WOOD FLOORING.
L12. REPLACE OUTLETS IN DINING ROOM BENCH TO MATCH WOOD TRIM COLOR.
L13. RENOVATE EXISTING SUNROOM. REMOVE EXISTING WOOD WALL PANELING. RESTORE PLASTER AND PAINT WALLS.
L14. WHEN THE EXISTING ROOF IS READY FOR REPLACEMENT, CONSIDER THE DECRA METAL REPLACEMENT ROOFING SYSTEM OR ONE OF THE OTHER RECOMMENDED REPLACEMENT ROOFS DISCUSSED IN THE TREATMENT RECOMMENDATIONS. REPLACE GUTTERS AND DOWNSPOUTS TO MATCH THE HISTORIC BOX GUTTERS.

MECHANICAL/ELECTRICAL/PLUMBING WORK:

L14. CONSIDER INSTALLATION OF A HIGH-EFFICIENCY FORCED AIR HVAC SYSTEM, PER THE RECOMMENDATIONS.
L15. INSTALL A BACKFLOW PREVENTER ON THE DOMESTIC WATER ENTRY.
L16. BRING EXISTING ELECTRICAL DISTRIBUTION SYSTEM UP TO CODE, PER RECOMMENDATIONS.
L17. INSTALL AUDIBLE FIRE ALARM TO THE EXISTING SYSTEM.

## DRAWING KEY:

MASONRY FOUNDATION WALLS

CONCRETE FOUNDATION WALLS

CLAY TILE FOUNDATION WALLS

NOTE: MODIFICATIONS ARE REQUIRED IF THE GARAGE IS TO BE USED FOR PARKING VEHICLES. THESE ARE SPECIFIED IN THE TREATMENT RECOMMENDATIONS.

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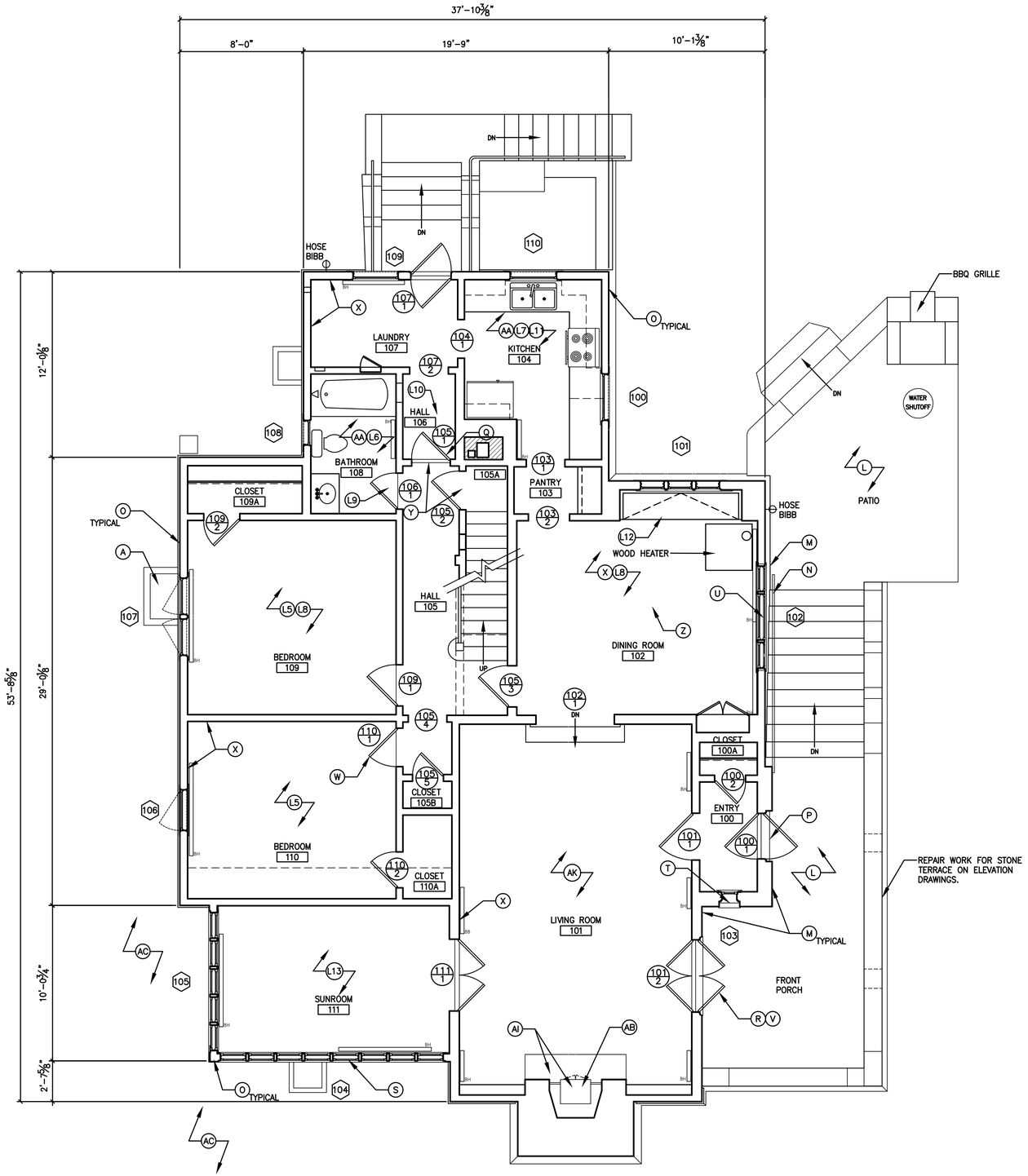
DESIGNED: AG
CADD: AG
TECH. REVIEW: AG
DATE: 1/27/16

SUB SHEET NO. TAO

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108
128865
PMIS/PKG NO. 158029
SHEET 2 OF 11




1 / TA1 HS-03 IMMEDIATE AND LONG TERM TREATMENT DRAWINGS – FIRST FLOOR PLAN

1/4" = 1'-0"

4 0 4 8

SCALE OF FEET

## GENERAL NOTES:

1. PERFORM HAZARDOUS MATERIALS TESTING BEFORE INITIATING ANY WORK.
2. INSPECT RADON MITIGATION SYSTEM AND UPDATE, AS REQUIRED.

## KEY NOTES:

IMMEDIATE TREATMENT SCOPE OF WORK:

A. WINDOW WELL 002 – EPOXY REPAIR CRACKS IN CONCRETE WALLS. INVESTIGATE FOR DRAIN. IF NONE PRESENT, INSTALL DRAIN AND TIE IN WITH EXISTING FRENCH DRAIN. PAINT STEEL COVER.
B. INSTALL NEW STEEL COLUMN CONCRETE FOOTING, PER STRUCTURAL DRAWINGS.
C. REHABILITATE AND PREP, PRIME PAINT STEEL FOUNDATION VENT.
D. INSTALL NEW CUSTOM WOOD STORM WINDOW. RESTORE SCREEN SASH FOR STORAGE.
E. RESTORE EXISTING WOOD WINDOW AND JAMB.
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J. INSTALL LOCAL DISCONNECT PER ELECTRICAL RECOMMENDATIONS.
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L. REPAIR CRACKS IN CONCRETE PORCH SLAB. INSTALL WATER REPELLENT.
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R. WEATHER STRIP DOOR 100/2.
S. REPAIR EXISTING STORM WINDOWS IN SUN ROOM.
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U. FABRICATE NEW STORM WINDOW AND SCREEN. REHABILITATE EXISTING SCREEN. VERIFY WITH SCREENS STORED IN BASEMENT BEFORE STARTING WORK.
V. REHABILITATE EXISTING STORM DOORS. RESTORE HARDWARE.
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AL. INSTALL NEW BATH EXHAUST VENT

LONG TERM TREATMENT SCOPE OF WORK:

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L9. RE-PLATE HISTORIC HARDWARE IN BATHROOM 108.
L10. INSTALL NEW CEILING FIXTURE IN HALL 106.
L11. REMOVE WOOD LAMINATE FLOORING AND RESTORE WOOD FLOORING.
L12. REPLACE OUTLETS IN DINING ROOM BENCH TO MATCH WOOD TRIM COLOR.
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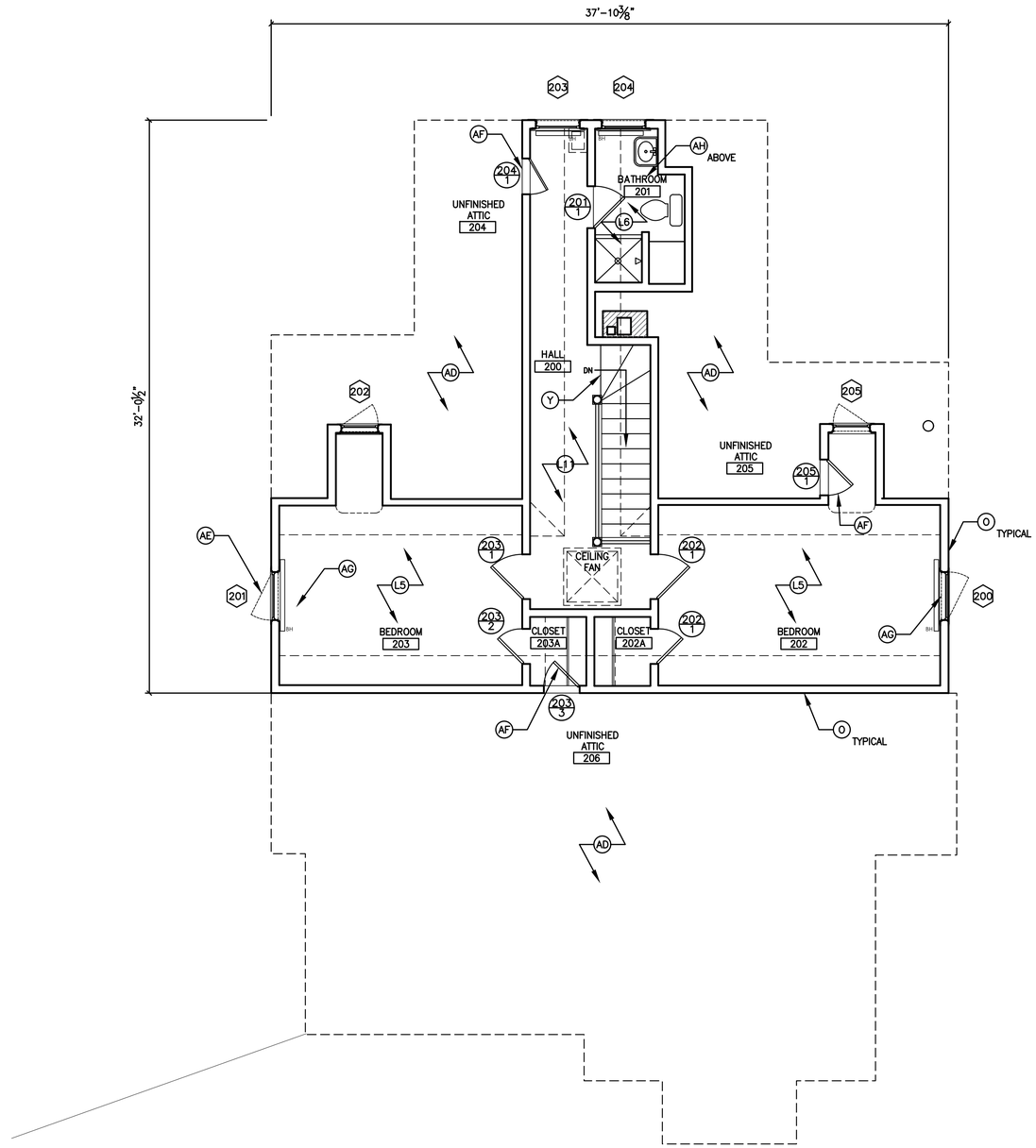
TECH. REVIEW: AG
DATE: 1/27/16

SUB SHEET NO. TA1

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108 / 128865
PMIS/PKG NO. 158029
SHEET 3 OF 11




1 / TA2 HS-03 IMMEDIATE AND LONG TERM TREATMENT DRAWINGS – SECOND FLOOR PLAN

1/4" = 1'-0"

4 0 4 8

SCALE OF FEET

## GENERAL NOTES:

1. PERFORM HAZARDOUS MATERIALS TESTING BEFORE INITIATING ANY WORK.
2. INSPECT RADON MITIGATION SYSTEM AND UPDATE, AS REQUIRED.

## KEY NOTES:

IMMEDIATE TREATMENT SCOPE OF WORK:

A. WINDOW WELL 002 – EPOXY REPAIR CRACKS IN CONCRETE WALLS. INVESTIGATE FOR DRAIN. IF NONE PRESENT, INSTALL DRAIN AND TIE IN WITH EXISTING FRENCH DRAIN. PAINT STEEL COVER.
B. INSTALL NEW STEEL COLUMN CONCRETE FOOTING, PER STRUCTURAL DRAWINGS.
C. REHABILITATE AND PREP, PRIME PAINT STEEL FOUNDATION VENT.
D. INSTALL NEW CUSTOM WOOD STORM WINDOW. RESTORE SCREEN SASH FOR STORAGE.
E. RESTORE EXISTING WOOD WINDOW AND JAMB.
F. PROVIDE NEW UNIT HEATER WITH THERMOSTAT, SPECIFIED FOR ENCLOSED SPACES OR INSTALL HEAT TRACE TAPE ON SUMP AND OTHER EXPOSED PIPES.
G. INSTALL 12 MIL VAPOR BARRIER THROUGHOUT CRAWL SPACE. LAP AND TAPE SEAMS WRAP UP1 WALLS.
H. VERIFY INSULATION IN FIRST FLOOR JOISTS. ADD ADDITIONAL AS REQUIRED. INSTALL INSULATION ON PERIMETER WALLS.
I. INSTALL NEW OUTLET, AS REQUIRED. REFER TO ELECTRICAL RECOMMENDATIONS.
J. INSTALL LOCAL DISCONNECT PER ELECTRICAL RECOMMENDATIONS.
K. REPLACE EXISTING RECEPTACLES IN BASEMENT WITH GFCI'S.
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M. INSTALL SOFT JOINT BETWEEN CONCRETE AND STUCCO WALLS, TYPICAL.
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P. REPAIR/REPLACE DETERIORATED WALL AT SILL. REPAIR ORE REPLACE SCREENED DOOR. RESTORE HARDWARE.
Q. REPAIR DOOR 105/1 TO CLOSE PROPERLY.
R. WEATHER STRIP DOOR 100/2.
S. REPAIR EXISTING STORM WINDOWS IN SUN ROOM.
T. INSTALL NEW WOOD CUSTOM STORM WINDOW.
U. FABRICATE NEW STORM WINDOW AND SCREEN. REHABILITATE EXISTING SCREEN. VERIFY WITH SCREENS STORED IN BASEMENT BEFORE STARTING WORK.
V. REHABILITATE EXISTING STORM DOORS. RESTORE HARDWARE.
W. REPAIR MORTISE LOCK IN DOOR 110/1.
X. REPAIR CRACKS IN PLASTER WALLS AND CEILING. PREP, PRIME AND PAINT, AS REQUIRED.
Y. VERIFY TRANSITIONS BETWEEN LAMINATE FLOORING AND ADJACENT MATERIALS IS NOT A TRIPPING HAZARDS. ESPECIALLY AT STAIRS. REPLACE TRANSITIONS, AS REQUIRED.
Z. CLEAN, RESTORE AND REWIRE HISTORIC CHANDELIER.
AA. REPLACE RECEPTACLES WITH NEW GFCI'S, AS REQUIRED.
AB. INSPECT AND CLEAN CHIMNEY. INSPECT AND REPAIR FIREPLACE INSERT.
AC. RE-GRADE TO ACHIEVE 4" MINIMUM BELOW TOP OF FOUNDATION, TYPICAL.
AD. INSTALL ADDITIONAL ATTIC INSULATION TO ACHIEVE R-49.
AE. REPAIR WINDOW 201 PANNING AND TRIM.
AF. WEATHERSTRIP AND INSULATE ATTIC ACCESS DOORS.
AG. PROVIDE FIRE ESCAPE LADDER.
AH. EXTEND EXHAUST VENT THROUGH ROOF.
AI. CLEAN AND RESTORE NATIVE STONE FIREPLACE AND HEARTH.
AJ. INSTALL NEW FLUE CAP WITH SCREENING.
AK. REMOVE CARPETING IN LIVING ROOM AND REPAIR/RESTORE WOOD FLOORING.
AL. INSTALL NEW BATH EXHAUST VENT

LONG TERM TREATMENT SCOPE OF WORK:

GENERAL INTERIOR WORK:

L1. PAINTING THROUGHOUT ENTIRE INTERIOR OF THE HOUSE, TYPICAL.
L2. INSTALL PERIOD-APPROPRIATE LIGHTING THROUGHOUT HOUSE.
L3. INSTALL NEW RUBBER CAPS ON HISTORIC DOOR STOPS, WHERE MISSING.
L4. CONDUCT A HISTORIC HARDWARE SURVEY AND RESTORE ALL HARDWARE.

SCOPE OF WORK:

L5. INSTALL NEW CARPETING.
L6. RENOVATE THE BATHROOM.
L7. RENOVATE THE KITCHEN. IF A KITCHEN WHICH IS MORE PERIOD APPROPRIATE IS DESIRED, CONSULT WITH THE HISTORIC DRAWINGS FOR PRECEDENT CABINETRY DESIGN.
L8. REMOVE CELOTEX-TYPE TILE FROM THE DINING ROOM CEILING AND BEDROOM 109 CEILING AND WALLS. RESTORE PLASTER AND PAINT WALLS.
L9. RE-PLATE HISTORIC HARDWARE IN BATHROOM 108.
L10. INSTALL NEW CEILING FIXTURE IN HALL 106.
L11. REMOVE WOOD LAMINATE FLOORING AND RESTORE WOOD FLOORING.
L12. REPLACE OUTLETS IN DINING ROOM BENCH TO MATCH WOOD TRIM COLOR.
L13. RENOVATE EXISTING SUNROOM. REMOVE EXISTING WOOD WALL PANELING. RESTORE PLASTER AND PAINT WALLS.
L14. WHEN THE EXISTING ROOF IS READY FOR REPLACEMENT, CONSIDER THE DECRA METAL REPLACEMENT ROOFING SYSTEM OR ONE OF THE OTHER RECOMMENDED REPLACEMENT ROOFS DISCUSSED IN THE TREATMENT RECOMMENDATIONS. REPLACE GUTTERS AND DOWNSPOUTS TO MATCH THE HISTORIC BOX GUTTERS.

MECHANICAL/ELECTRICAL/PLUMBING WORK:

L14. CONSIDER INSTALLATION OF A HIGH-EFFICIENCY FORCED AIR HVAC SYSTEM, PER THE RECOMMENDATIONS.
L15. INSTALL A BACKFLOW PREVENTER ON THE DOMESTIC WATER ENTRY.
L16. BRING EXISTING ELECTRICAL DISTRIBUTION SYSTEM UP TO CODE, PER RECOMMENDATIONS.
L17. INSTALL AUDIBLE FIRE ALARM TO THE EXISTING SYSTEM.

NOTE: MODIFICATIONS ARE REQUIRED IF THE GARAGE IS TO BE USED FOR PARKING VEHICLES. THESE ARE SPECIFIED IN THE TREATMENT RECOMMENDATIONS.

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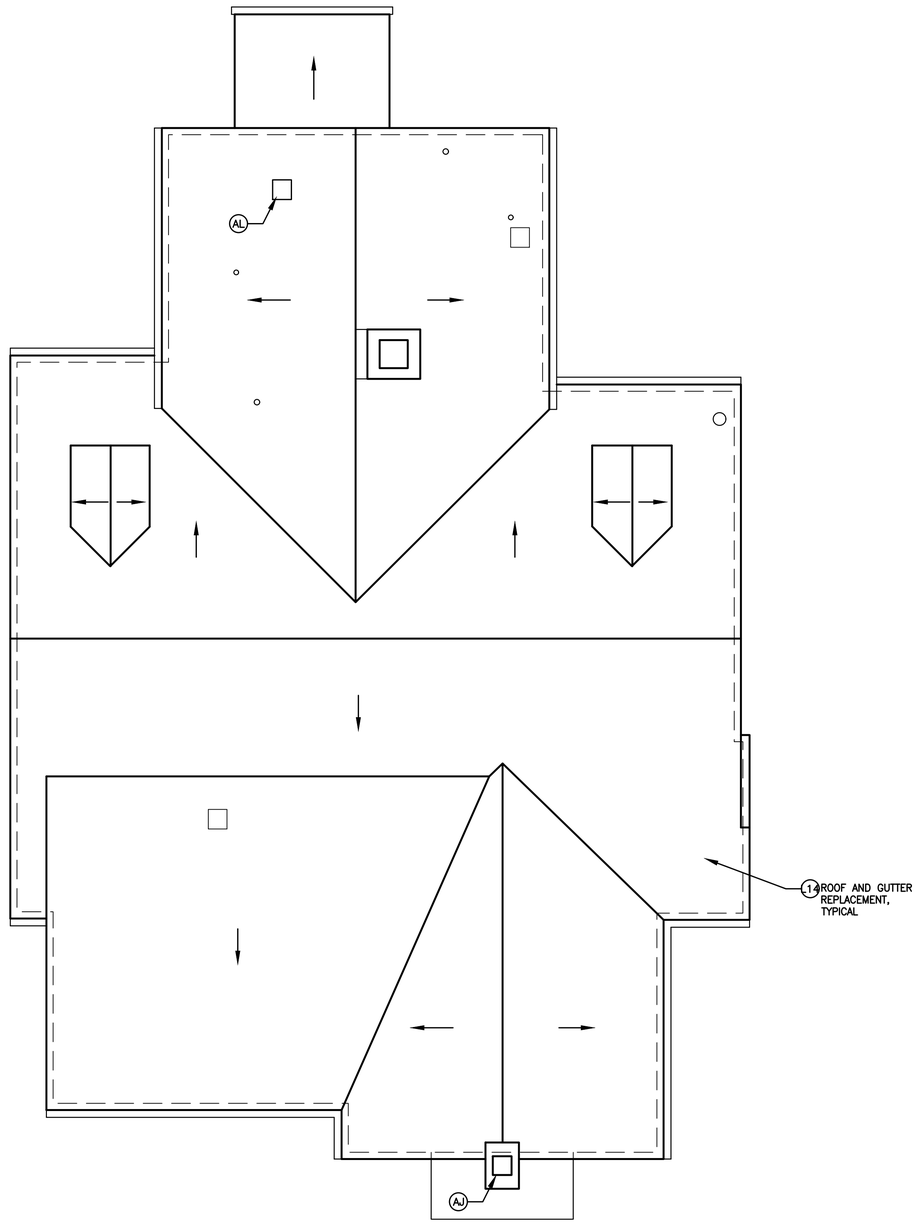
TECH. REVIEW: AG
DATE: 1/27/16

SUB SHEET NO. TA2

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108
128865
PMIS/PKG NO. 158029
SHEET 4 OF 11




1 / TA3 HS-03 IMMEDIATE AND LONG TERM TREATMENT DRAWINGS – ROOF PLAN
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

## GENERAL NOTES:

1. PERFORM HAZARDOUS MATERIALS TESTING BEFORE INITIATING ANY WORK.
2. INSPECT RADON MITIGATION SYSTEM AND UPDATE, AS REQUIRED.

## KEY NOTES:

IMMEDIATE TREATMENT SCOPE OF WORK:

A. WINDOW WELL 002 – EPOXY REPAIR CRACKS IN CONCRETE WALLS. INVESTIGATE FOR DRAIN. IF NONE PRESENT, INSTALL DRAIN AND TIE IN WITH EXISTING FRENCH DRAIN. PAINT STEEL COVER.
B. INSTALL NEW STEEL COLUMN CONCRETE FOOTING, PER STRUCTURAL DRAWINGS.
C. REHABILITATE AND PREP, PRIME PAINT STEEL FOUNDATION VENT.
D. INSTALL NEW CUSTOM WOOD STORM WINDOW. RESTORE SCREEN SASH FOR STORAGE.
E. RESTORE EXISTING WOOD WINDOW AND JAMB.
F. PROVIDE NEW UNIT HEATER WITH THERMOSTAT, SPECIFIED FOR ENCLOSED SPACES OR INSTALL HEAT TRACE TAPE ON SUMP AND OTHER EXPOSED PIPES.
G. INSTALL 12 MIL VAPOR BARRIER THROUGHOUT CRAWL SPACE. LAP AND TAPE SEAMS WRAP UPI WALLS.
H. VERIFY INSULATION IN FIRST FLOOR JOISTS. ADD ADDITIONAL AS REQUIRED. INSTALL INSULATION ON PERIMETER WALLS.
I. INSTALL NEW OUTLET, AS REQUIRED. REFER TO ELECTRICAL RECOMMENDATIONS.
J. INSTALL LOCAL DISCONNECT PER ELECTRICAL RECOMMENDATIONS.
K. REPLACE EXISTING RECEPTACLES IN BASEMENT WITH GFCI'S.
L. REPAIR CRACKS IN CONCRETE PORCH SLAB. INSTALL WATER REPELLENT.
M. INSTALL SOFT JOINT BETWEEN CONCRETE AND STUCCO WALLS, TYPICAL.
N. INSTALL NEW GALVANIZED PAINTED HANDRAIL.
O. INVESTIGATE EXTERIOR WALLS FOR INSULATION. INSTALL ADDITIONAL INSULATION, AS REQUIRED.
P. REPAIR/REPLACE DETERIORATED WALL AT SILL. REPAIR ORE REPLACE SCREENED DOOR. RESTORE HARDWARE.
Q. REPAIR DOOR 105/1 TO CLOSE PROPERLY.
R. WEATHER STRIP DOOR 100/2.
S. REPAIR EXISTING STORM WINDOWS IN SUN ROOM.
T. INSTALL NEW WOOD CUSTOM STORM WINDOW.
U. FABRICATE NEW STORM WINDOW AND SCREEN. REHABILITATE EXISTING SCREEN. VERIFY WITH SCREENS STORED IN BASEMENT BEFORE STARTING WORK.
V. REHABILITATE EXISTING STORM DOORS. RESTORE HARDWARE.
W. REPAIR MORTISE LOCK IN DOOR 110/1.
X. REPAIR CRACKS IN PLASTER WALLS AND CEILING. PREP, PRIME AND PAINT, AS REQUIRED.
Y. VERIFY TRANSITIONS BETWEEN LAMINATE FLOORING AND ADJACENT MATERIALS IS NOT A TRIPPING HAZARDS. ESPECIALLY AT STAIRS. REPLACE TRANSITIONS, AS REQUIRED.
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AA. REPLACE RECEPTACLES WITH NEW GFCI'S, AS REQUIRED.
AB. INSPECT AND CLEAN CHIMNEY. INSPECT AND REPAIR FIREPLACE INSERT.
AC. RE-GRADE TO ACHIEVE 4" MINIMUM BELOW TOP OF FOUNDATION, TYPICAL.
AD. INSTALL ADDITIONAL ATTIC INSULATION TO ACHIEVE R-49.
AE. REPAIR WINDOW 201 PANNING AND TRIM.
AF. WEATHERSTRIP AND INSULATE ATTIC ACCESS DOORS.
AG. PROVIDE FIRE ESCAPE LADDER.
AH. EXTEND EXHAUST VENT THROUGH ROOF.
AI. CLEAN AND RESTORE NATIVE STONE FIREPLACE AND HEARTH.
AJ. INSTALL NEW FLUE CAP WITH SCREENING.
AK. REMOVE CARPETING IN LIVING ROOM AND REPAIR/RESTORE WOOD FLOORING.
AL. INSTALL NEW BATH EXHAUST VENT

LONG TERM TREATMENT SCOPE OF WORK:

GENERAL INTERIOR WORK:

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L2. INSTALL PERIOD-APPROPRIATE LIGHTING THROUGHOUT HOUSE.
L3. INSTALL NEW RUBBER CAPS ON HISTORIC DOOR STOPS, WHERE MISSING.
L4. CONDUCT A HISTORIC HARDWARE SURVEY AND RESTORE ALL HARDWARE.

SCOPE OF WORK:

L5. INSTALL NEW CARPETING.
L6. RENOVATE THE BATHROOM.
L7. RENOVATE THE KITCHEN. IF A KITCHEN WHICH IS MORE PERIOD APPROPRIATE IS DESIRED, CONSULT WITH THE HISTORIC DRAWINGS FOR PRECEDENT CABINETRY DESIGN.
L8. REMOVE CELOTEX-TYPE TILE FROM THE DINING ROOM CEILING AND BEDROOM 109 CEILING AND WALLS. RESTORE PLASTER AND PAINT WALLS.
L9. RE-PLATE HISTORIC HARDWARE IN BATHROOM 108.
L10. INSTALL NEW CEILING FIXTURE IN HALL 106.
L11. REMOVE WOOD LAMINATE FLOORING AND RESTORE WOOD FLOORING.
L12. REPLACE OUTLETS IN DINING ROOM BENCH TO MATCH WOOD TRIM COLOR.
L13. RENOVATE EXISTING SUNROOM. REMOVE EXISTING WOOD WALL PANELING. RESTORE PLASTER AND PAINT WALLS.
L14. WHEN THE EXISTING ROOF IS READY FOR REPLACEMENT, CONSIDER THE DECRA METAL REPLACEMENT ROOFING SYSTEM OR ONE OF THE OTHER RECOMMENDED REPLACEMENT ROOFS DISCUSSED IN THE TREATMENT RECOMMENDATIONS. REPLACE GUTTERS AND DOWNSPOUTS TO MATCH THE HISTORIC BOX GUTTERS.

MECHANICAL/ELECTRICAL/PLUMBING WORK:

L14. CONSIDER INSTALLATION OF A HIGH-EFFICIENCY FORCED AIR HVAC SYSTEM, PER THE RECOMMENDATIONS.
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NOTE: MODIFICATIONS ARE REQUIRED IF THE GARAGE IS TO BE USED FOR PARKING VEHICLES. THESE ARE SPECIFIED IN THE TREATMENT RECOMMENDATIONS.

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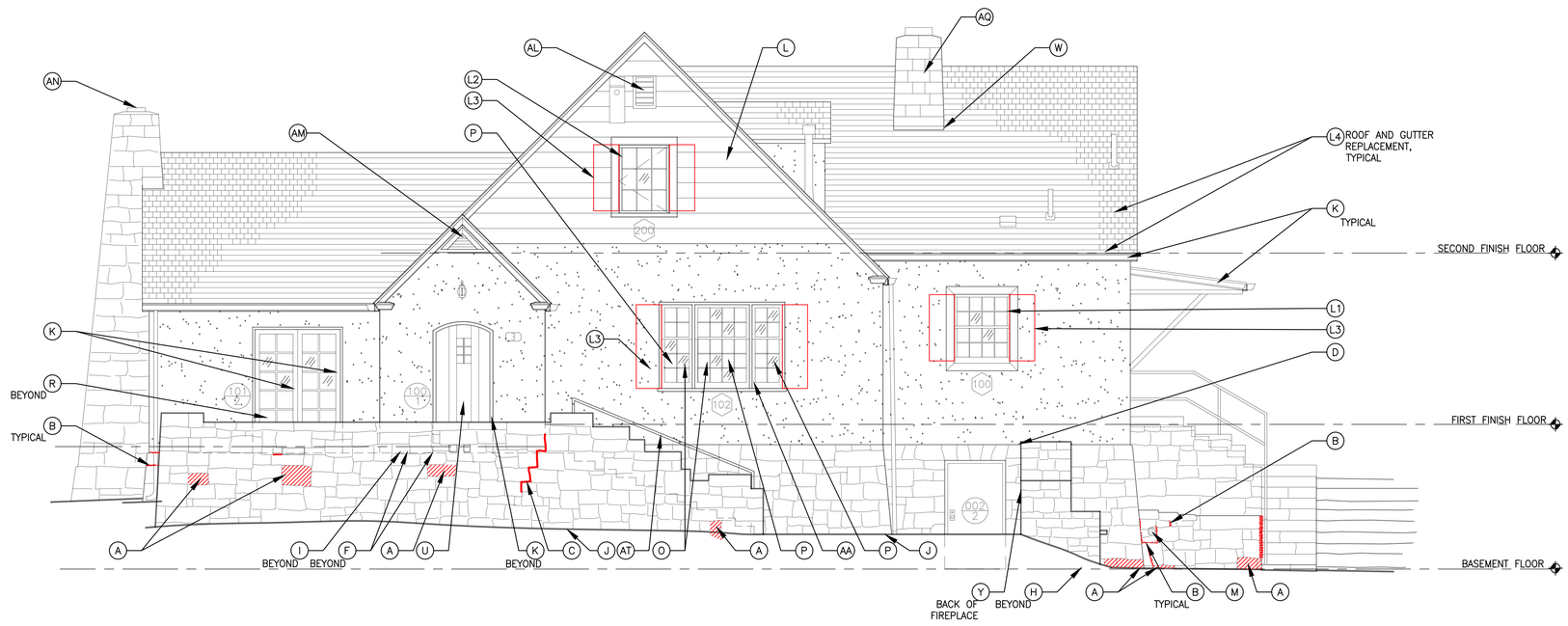
TECH. REVIEW: AG
DATE: 1/27/16

SUB SHEET NO. TA3

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108 / 128865
PMIS/PKG NO. 158029
SHEET 5 OF 11




1 TA4 HS-03 IMMEDIATE AND LONG TERM TREATMENT DRAWINGS – EAST ELEVATION
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

## GENERAL NOTES:

1. PERFORM HAZARDOUS MATERIALS TESTING AND REQUIRED ABATEMENT BEFORE INITIATING ANY WORK.
2. SPOT REPOINT AS REQUIRED, INCLUDING BACK OF TERRACE WALL. NEW MORTAR SHOULD MATCH EXISTING IN COMPOSITION, COLOR, TEXTURE AND PROFILE.
3. CLEAN ALL STONE TO REMOVE DIRT AND BIOLOGICAL GROWTH.

## KEY NOTES:

A. CAREFULLY REMOVE EXISTING DETERIORATED STONE AND REPLACE IN-KIND.
B. REPOINT EXISTING MORTAR JOINTS.
C. REPAIR CRACK IN MORTAR JOINT.
D. REMOVE DISCOLORED MORTAR WASH AND INSTALL NEW MORTAR WASH THAT MATCHED THE COLOR, TEXTURE AND MAKE-UP OF THE EXISTING.
E. EPOXY REPAIR CRACK IN CONCRETE.
F. PATCH AND REPAIR CRACK IN STUCCO.
G. PATCH AND REPAIR HOLE IN STUCCO.
H. INSTALL NEW SOFT JOINT.
I. INSTALL SOFT JOINT BETWEEN THE CONCRETE PORCH AND THE STUCCO FINISH ON THE HOUSE.
J. INSTALL SOFT JOINT BETWEEN THE CONCRETE PAD AND STONE.
K. PREP, PRIME AND REPAINT.
L. PREP AND STAIN WOOD SIDING.
M. EXTEND EXISTING DRAINAGE PIPE AWAY FROM STONE WALL. TEST FOR ACM.
N. RELOCATE SPLASH BLOCK.
O. RESTORE ORIGINAL, STORM WINDOWS. REINSTALL IN PLACE FOR WINTER USE.
P. REPAIR EXISTING SCREEN. REPLICATE (7) NEW SCREEN SASHES. REPLICATE MISSING WOOD STORM WINDOW.
Q. REPAIR DETERIORATED SEAM IN METAL TRIM. SEAL AS NECESSARY.
R. REPAIR STORM DOORS AND RESTORE HARDWARE.
S. REMOVE VEGETATION FROM BETWEEN STONE PAVERS.
T. LOWER FINISH GRADE TO BE 6" BELOW FINISH FLOOR WALL AND INSTALL SWALE. VERIFY EFFICACY OF POTENTIALLY EXISTING FRENCH DRAIN. REPAIR/REPLACE, AS REQUIRED.
U. REHABILITATE HISTORIC SCREENED DOOR. RESTORE HARDWARE.
V. REMOVE UNUSED TELEPHONE WIRING.
W. REPAIR FLASHING.
X. REPAIR EXISTING STORM WINDOWS, TYPICAL EIGHT LOCATIONS.
Y. REMOVE EFFLORESCENCE FROM MORTAR AND STONE.
Z. REPAIR CRACK IN STONE.
AA. RESTORE EXISTING WOOD WINDOW SASH, FRAME AND SILL.
AB. REPAIR SHEET METAL COVER AT CRAWL SPACE VENT TO FULLY ENCASE WOOD SUPPORT. PREP, PRIME AND PAINT.
AC. REHABILITATE VENT. PREP, PRIME AND PAINT.
AD. REALIGN GUTTER AND SECURE IT INTO PROPER PLACE.
AE. REMOVE SCREWS SECURED INTO MORTAR. PATCH AND REPAIR MORTAR.
AF. PATCH AND REPAIR EXISTING LARGE HOLE WITH MORTAR.
AG. PATCH AND REPAIR EXISTING LARGE HOLE IN THE TRIM. INFILL WITH NEW TRIM THAT MATCHES THE ORIGINAL.
AH. INSTALL SEALANT AT PORCH BRACKETS TO SEAL HOLES AT WALL.
AI. INSTALL MORTAR ALONG WINDOW JAMB EDGE.
AJ. PATCH AND REPAIR CRACKS IN CONCRETE WINDOW WELL.
AK. PATCH AND REPAIR HOLE IN STUCCO AND SEAL AROUND WIRING.
AL. VERIFY IF SCREENING IS IN PLACE. REPLACE, AS REQUIRED.
AM. REMOVE MUD DAUBER NEST.
AN. INSTALL NEW FLUE CAP WITH SCREENING.
AO. REMOVE EXISTING TELEVISION CABLING AND RECONFIGURE TO RUN IN THE INTERIOR OF THE BUILDING. PATCH AND REPAIR ALL HOLES.
AP. INSTALL NEW STORM WINDOW.
AQ. STONE CHIMNEY, CLEAN AND SPOT REPOINT. REPAIR MORTAR WASH AT TOP. CONFIRM IF FLUE TO BE REUSED AFTER RADON INSPECTION. INSTALL NEW PRE-FINISHED METAL CAP IF NOT USED.
AR. REHABILITATE EXISTING WOOD BASEMENT WINDOW.
AS. REPAIR WINDOW 201 METAL PANNING AND TRIM.
AT. INSTALL NEW GALVANIZED PAINTED HANDRAIL.
AU. INSTALL NEW BATH EXHAUST VENT.

LONG TERM TREATMENT SCOPE OF WORK:

L1. EXISTING EXTERIOR REPLACEMENT TRIM PANNING AT REPLACEMENT WINDOWS IS TOO WIDE AND DOES NOT MATCH THE HISTORIC CONDITION. INVESTIGATE BEHIND THE EXISTING PANNING TO DETERMINE IF THE EXISTING WINDOW MATCHES THE ORIGINAL WINDOW ROUGH OPENING. IF THE WINDOW MATCHES, REPLACE EXTERIOR TRIM TO MATCH THE HISTORIC TRIM DIMENSION AND DETAILING. IF THE WINDOW DOES NOT MATCH THE ORIGINAL ROUGH OPENING, INSTALL NEW METAL CLAD WOOD WINDOW TO MATCH THE ORIGINAL WINDOW, INCLUDING ROUGH OPENING, SASH AND DIVIDED LITE CONFIGURATION.
L2. REPLACE EXISTING CASEMENT EGRESS WINDOW TO HAVE A SIMULATED MEETING RAIL (TO MIMIC THE ORIGINAL DOUBLE-HUNG WINDOW) AND TO MATCH THE HISTORIC WINDOW SASH LITE CONFIGURATION.
L3. INSTALL REPRODUCTION WOOD SHUTTERS TO MATCH THE ORIGINAL HISTORIC SHUTTERS.
L4. WHEN THE EXISTING ROOF IS READY FOR REPLACEMENT, CONSIDER THE DECRA METAL REPLACEMENT ROOFING SYSTEM OR ONE OF THE OTHER RECOMMENDED REPLACEMENT ROOFS DISCUSSED IN THE TREATMENT RECOMMENDATIONS. REPLACE GUTTERS AND DOWNSPOUTS TO MATCH THE HISTORIC BOX GUTTERS.
L5. REPLACE INAPPROPRIATE COILING OVERHEAD DOOR WITH EITHER A HISTORICALLY APPROPRIATE REPRODUCTION PAIR OF SWINGING DOORS OR AN OVERHEAD DOOR TO MORE CLOSELY RESEMBLE THE HISTORIC SWINGING DOORS.
L6. REPLACE EXISTING METAL STORM WINDOWS WITH REPLICA WOOD OR PRE-FINISHED METAL STORM WINDOWS (13 OPENINGS AT SUNROOM).
L7. INSTALL REPRODUCTION WOOD DOUBLE-HUNG WINDOWS IN THE WEST WALL TO MATCH THE EXISTING WINDOWS IN THE NORTH WALL (TOTAL 5).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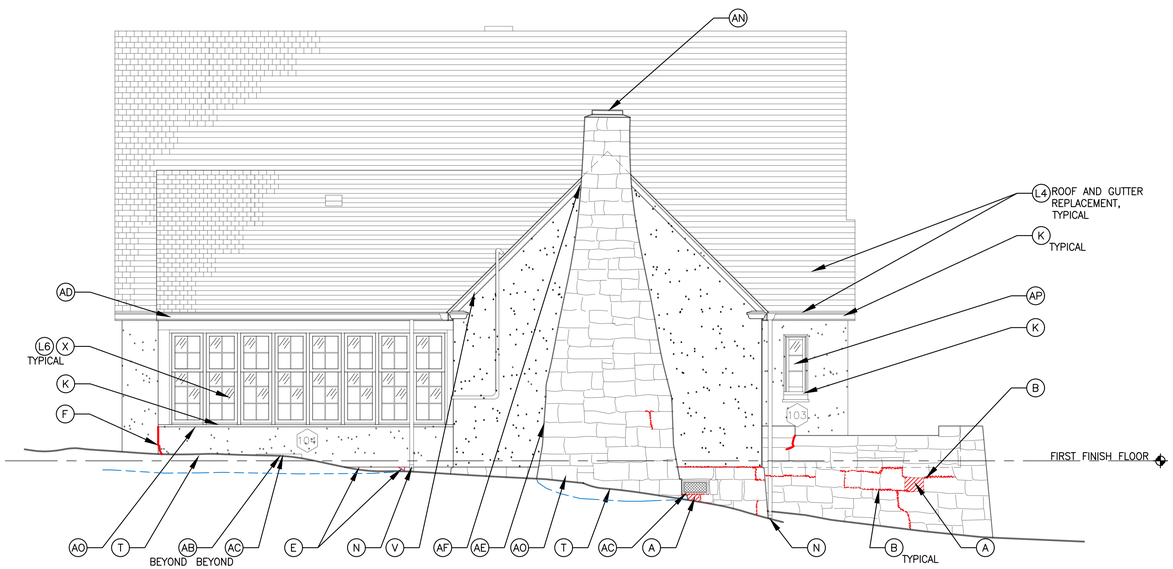
TECH. REVIEW: AG
DATE: 1/27/16

SUB SHEET NO. TA4

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108 / 128865
PMIS/PKG NO. 158029
SHEET 6 OF 11




1 TA5 HS-03 IMMEDIATE AND LONG TERM TREATMENT DRAWINGS – SOUTH ELEVATION
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

## GENERAL NOTES:

1. PERFORM HAZARDOUS MATERIALS TESTING AND REQUIRED ABATEMENT BEFORE INITIATING ANY WORK.
2. SPOT REPOINT AS REQUIRED, INCLUDING BACK OF TERRACE WALL. NEW MORTAR SHOULD MATCH EXISTING IN COMPOSITION, COLOR, TEXTURE AND PROFILE.
3. CLEAN ALL STONE TO REMOVE DIRT AND BIOLOGICAL GROWTH.

## KEY NOTES:

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N. RELOCATE SPLASH BLOCK.
O. RESTORE ORIGINAL, STORM WINDOWS. REINSTALL IN PLACE FOR WINTER USE.
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Y. REMOVE EFFLORESCENCE FROM MORTAR AND STONE.
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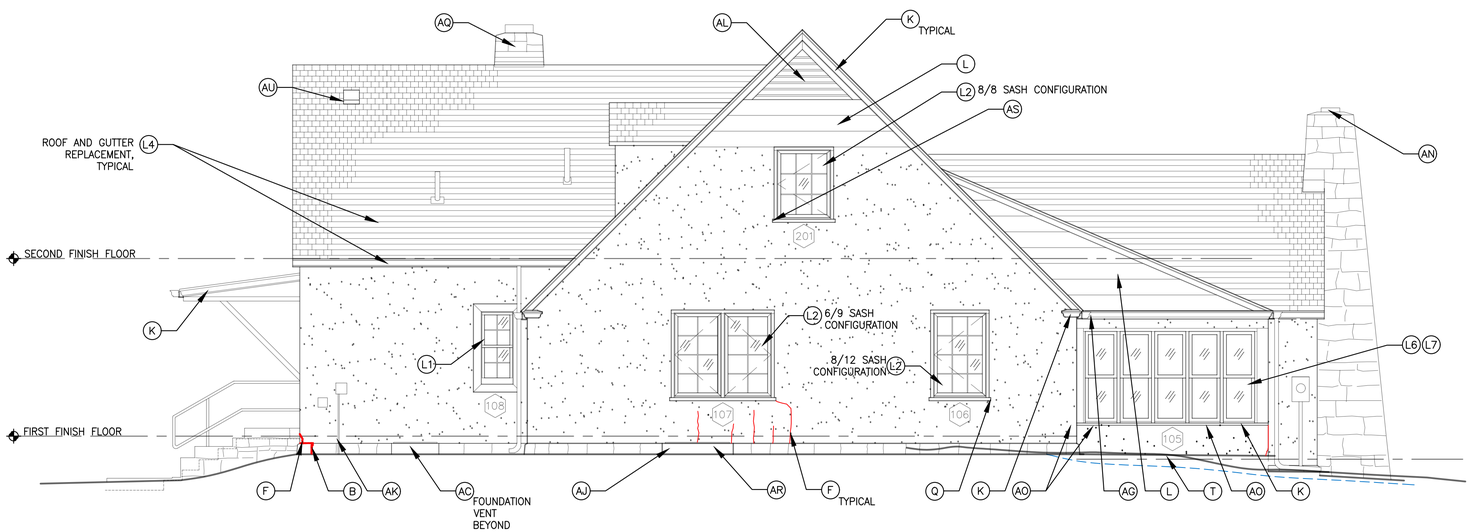
TECH. REVIEW: AG
DATE: 1/27/16

SUB SHEET NO. TA5

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108 128865
PMIS/PKG NO. 158029
SHEET 7 OF 11




1 TA6 HS-03 IMMEDIATE AND LONG TERM TREATMENT DRAWINGS – WEST ELEVATION
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

## GENERAL NOTES:

1. PERFORM HAZARDOUS MATERIALS TESTING AND REQUIRED ABATEMENT BEFORE INITIATING ANY WORK.
2. SPOT REPOINT AS REQUIRED, INCLUDING BACK OF TERRACE WALL. NEW MORTAR SHOULD MATCH EXISTING IN COMPOSITION, COLOR, TEXTURE AND PROFILE.
3. CLEAN ALL STONE TO REMOVE DIRT AND BIOLOGICAL GROWTH.

## KEY NOTES:

A. CAREFULLY REMOVE EXISTING DETERIORATED STONE AND REPLACE IN-KIND.
B. REPOINT EXISTING MORTAR JOINTS.
C. REPAIR CRACK IN MORTAR JOINT.
D. REMOVE DISCOLORED MORTAR WASH AND INSTALL NEW MORTAR WASH THAT MATCHED THE COLOR, TEXTURE AND MAKE-UP OF THE EXISTING.
E. EPOXY REPAIR CRACK IN CONCRETE.
F. PATCH AND REPAIR CRACK IN STUCCO.
G. PATCH AND REPAIR HOLE IN STUCCO.
H. INSTALL NEW SOFT JOINT.
I. INSTALL SOFT JOINT BETWEEN THE CONCRETE PORCH AND THE STUCCO FINISH ON THE HOUSE.
J. INSTALL SOFT JOINT BETWEEN THE CONCRETE PAD AND STONE.
K. PREP, PRIME AND REPAINT.
L. PREP AND STAIN WOOD SIDING.
M. EXTEND EXISTING DRAINAGE PIPE AWAY FROM STONE WALL. TEST FOR ACM.
N. RELOCATE SPLASH BLOCK.
O. RESTORE ORIGINAL, STORM WINDOWS. REINSTALL IN PLACE FOR WINTER USE.
P. REPAIR EXISTING SCREEN. REPLICATE (7) NEW SCREEN SASHES. REPLICATE MISSING WOOD STORM WINDOW.
Q. REPAIR DETERIORATED SEAM IN METAL TRIM. SEAL AS NECESSARY.
R. REPAIR STORM DOORS AND RESTORE HARDWARE.
S. REMOVE VEGETATION FROM BETWEEN STONE PAVERS.
T. LOWER FINISH GRADE TO BE 6" BELOW FINISH FLOOR WALL AND INSTALL SWALE. VERIFY EFFICACY OF POTENTIALLY EXISTING FRENCH DRAIN. REPAIR/REPLACE, AS REQUIRED.
U. REHABILITATE HISTORIC SCREENED DOOR. RESTORE HARDWARE.
V. REMOVE UNUSED TELEPHONE WIRING.
W. REPAIR FLASHING.
X. REPAIR EXISTING STORM WINDOWS, TYPICAL EIGHT LOCATIONS.
Y. REMOVE EFFLORESCENCE FROM MORTAR AND STONE.
Z. REPAIR CRACK IN STONE.
AA. RESTORE EXISTING WOOD WINDOW SASH, FRAME AND SILL.
AB. REPAIR SHEET METAL COVER AT CRAWL SPACE VENT TO FULLY ENCASE WOOD SUPPORT. PREP, PRIME AND PAINT.
AC. REHABILITATE VENT. PREP, PRIME AND PAINT.
AD. REALIGN GUTTER AND SECURE IT INTO PROPER PLACE.
AE. REMOVE SCREWS SECURED INTO MORTAR. PATCH AND REPAIR MORTAR.
AF. PATCH AND REPAIR EXISTING LARGE HOLE WITH MORTAR.
AG. PATCH AND REPAIR EXISTING LARGE HOLE IN THE TRIM. INFILL WITH NEW TRIM THAT MATCHES THE ORIGINAL.
AH. INSTALL SEALANT AT PORCH BRACKETS TO SEAL HOLES AT WALL.
AI. INSTALL MORTAR ALONG WINDOW JAMB EDGE.
AJ. PATCH AND REPAIR CRACKS IN CONCRETE WINDOW WELL.
AK. PATCH AND REPAIR HOLE IN STUCCO AND SEAL AROUND WIRING.
AL. VERIFY IF SCREENING IS IN PLACE. REPLACE, AS REQUIRED.
AM. REMOVE MUD DAUBER NEST.
AN. INSTALL NEW FLUE CAP WITH SCREENING.
AO. REMOVE EXISTING TELEVISION CABLING AND RECONFIGURE TO RUN IN THE INTERIOR OF THE BUILDING. PATCH AND REPAIR ALL HOLES.
AP. INSTALL NEW STORM WINDOW.
AQ. STONE CHIMNEY, CLEAN AND SPOT REPOINT. REPAIR MORTAR WASH AT TOP. CONFIRM IF FLUE TO BE REUSED AFTER RADON INSPECTION. INSTALL NEW PRE-FINISHED METAL CAP IF NOT USED.
AR. REHABILITATE EXISTING WOOD BASEMENT WINDOW.
AS. REPAIR WINDOW 201 METAL PANNING AND TRIM.
AT. INSTALL NEW GALVANIZED PAINTED HANDRAIL.
AU. INSTALL NEW BATH EXHAUST VENT.

LONG TERM TREATMENT SCOPE OF WORK:

L1. EXISTING EXTERIOR REPLACEMENT TRIM PANNING AT REPLACEMENT WINDOWS IS TOO WIDE AND DOES NOT MATCH THE HISTORIC CONDITION. INVESTIGATE BEHIND THE EXISTING PANNING TO DETERMINE IF THE EXISTING WINDOW MATCHES THE ORIGINAL WINDOW ROUGH OPENING. IF THE WINDOW MATCHES, REPLACE EXTERIOR TRIM TO MATCH THE HISTORIC TRIM DIMENSION AND DETAILING. IF THE WINDOW DOES NOT MATCH THE ORIGINAL ROUGH OPENING, INSTALL NEW METAL CLAD WOOD WINDOW TO MATCH THE ORIGINAL WINDOW, INCLUDING ROUGH OPENING, SASH AND DIVIDED LITE CONFIGURATION.
L2. REPLACE EXISTING CASEMENT EGRESS WINDOW TO HAVE A SIMULATED MEETING RAIL (TO MIMIC THE ORIGINAL DOUBLE-HUNG WINDOW) AND TO MATCH THE HISTORIC WINDOW SASH LITE CONFIGURATION.
L3. INSTALL REPRODUCTION WOOD SHUTTERS TO MATCH THE ORIGINAL HISTORIC SHUTTERS.
L4. WHEN THE EXISTING ROOF IS READY FOR REPLACEMENT, CONSIDER THE DECRA METAL REPLACEMENT ROOFING SYSTEM OR ONE OF THE OTHER RECOMMENDED REPLACEMENT ROOFS DISCUSSED IN THE TREATMENT RECOMMENDATIONS. REPLACE GUTTERS AND DOWNSPOUTS TO MATCH THE HISTORIC BOX GUTTERS.
L5. REPLACE INAPPROPRIATE COILING OVERHEAD DOOR WITH EITHER A HISTORICALLY APPROPRIATE REPRODUCTION PAIR OF SWINGING DOORS OR AN OVERHEAD DOOR TO MORE CLOSELY RESEMBLE THE HISTORIC SWINGING DOORS.
L6. REPLACE EXISTING METAL STORM WINDOWS WITH REPLICA WOOD OR PRE-FINISHED METAL STORM WINDOWS (13 OPENINGS AT SUNROOM).
L7. INSTALL REPRODUCTION WOOD DOUBLE-HUNG WINDOWS IN THE WEST WALL TO MATCH THE EXISTING WINDOWS IN THE NORTH WALL (TOTAL 5).

Susan Richards Johnson & Associates, Inc.
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64106
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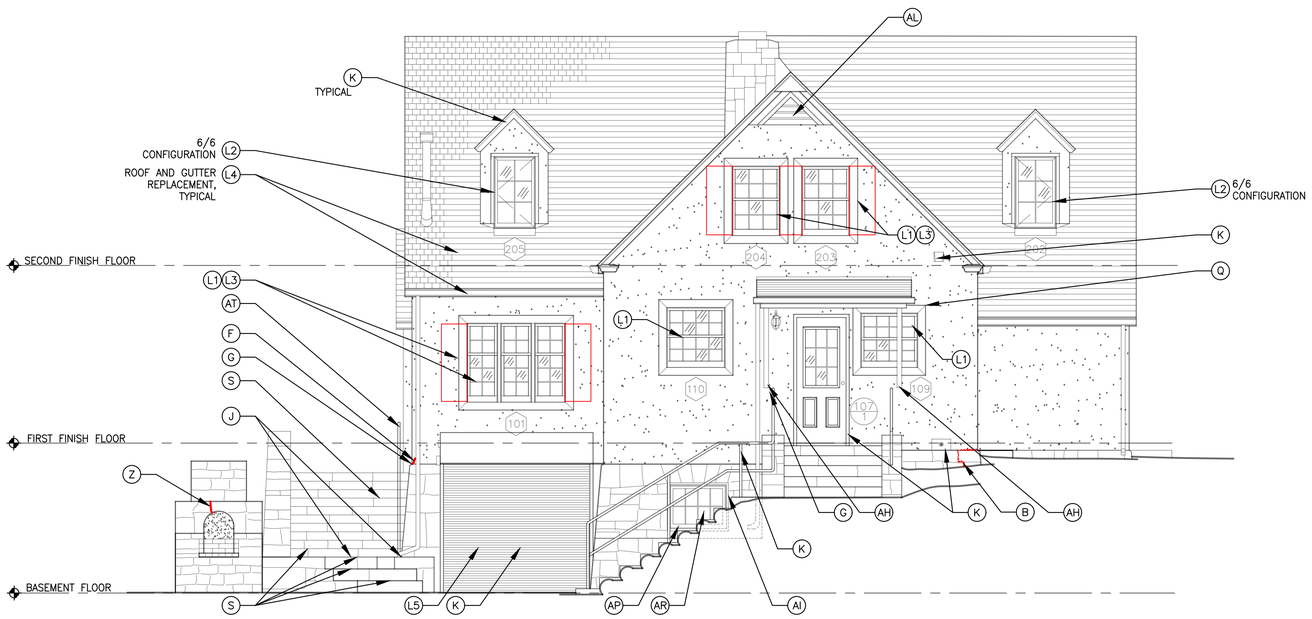
Fax 816-474-0909

DESIGNED: AG
CADD: AG
TECH. REVIEW: AG
DATE: 1/27/16

SUB SHEET NO. TA6

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108
128865
PMIS/PKG NO. 158029
SHEET 8 OF 11




1 TA7 HS-03 IMMEDIATE AND LONG TERM TREATMENT DRAWINGS – NORTH ELEVATION
1/4" = 1'-0"

4 0 4 8
SCALE OF FEET

## GENERAL NOTES:

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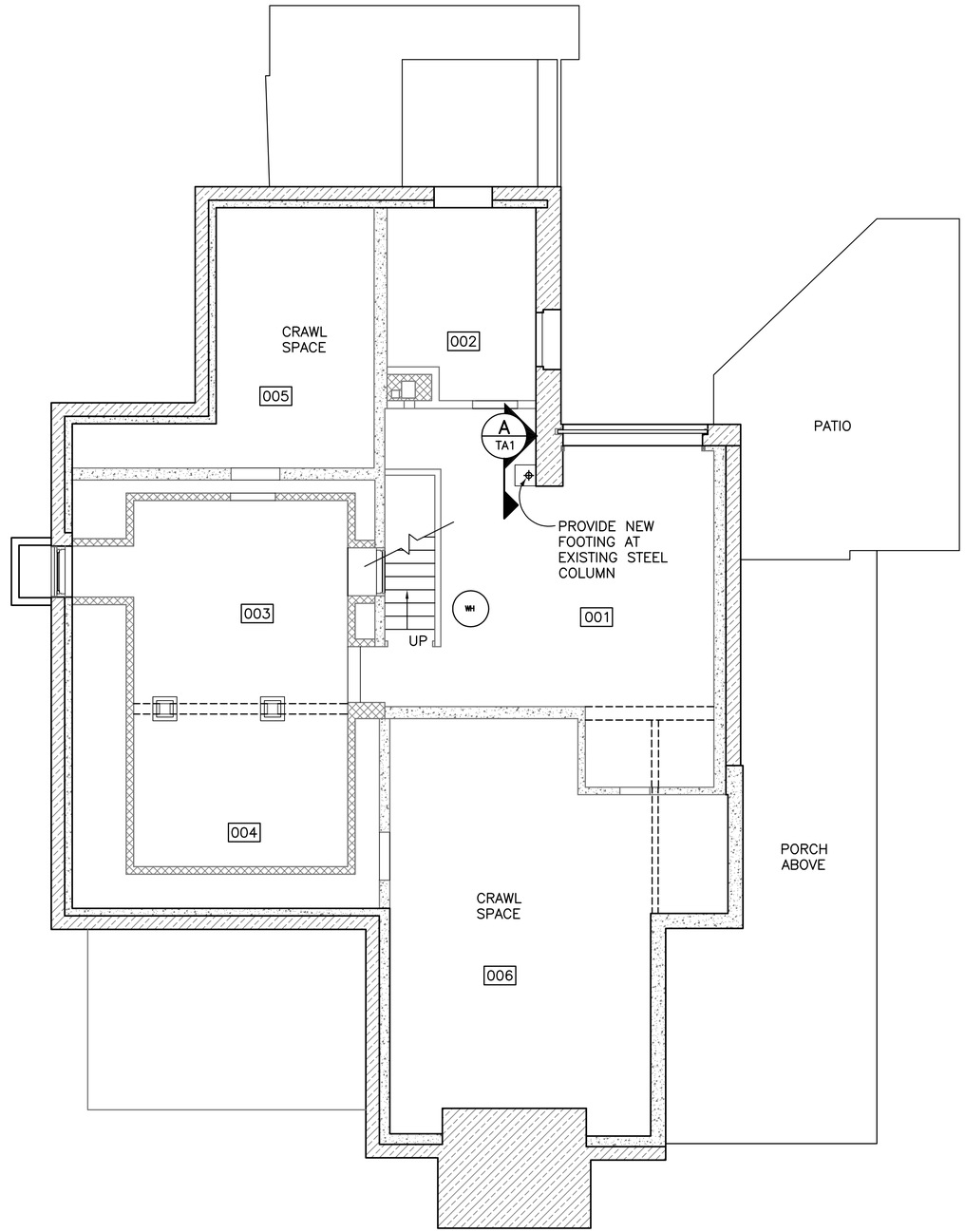
DESIGNED: AG
CADD: AG
TECH. REVIEW: AG
DATE: 1/27/16

SUB SHEET NO. TA7

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108
128865
PMIS/PKG NO. 158029
SHEET 9 OF 11




## LEGEND

- EXISTING STONE FOUNDATION
- EXISTING CONCRETE WALL
- EXISTING CLAY TILE WALL

4 0 4 8
SCALE OF FEET

1 / TS0 BASEMENT FOUNDATION PLAN
1/4"=1'-0"

STRUCTURAL ENGINEERING ASSOCIATES, INC.
1000 WALNUT
SUITE 1570 KANSAS CITY, MO 64106
Ph. 816-421-1042
Fax 816-421-1061

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CADD LEF
TECH. REVIEW:
DATE: 1/27/16

SUB SHEET NO. TS0

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108
128865
PMIS/PKG NO. 158029
SHEET 10 OF 11

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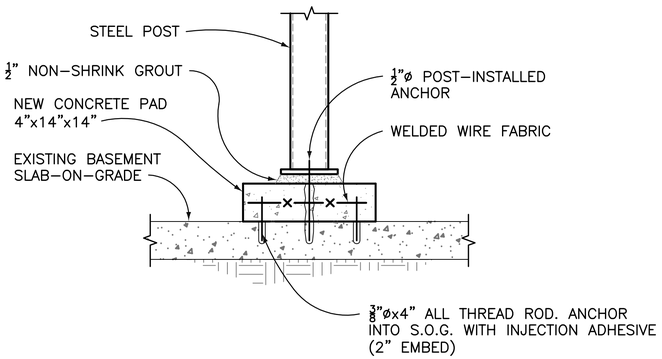


A / TS1 STEEL POST BEARING PAD

1 1/2" = 1'-0"

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SUB SHEET NO. TS1

TITLE OF SHEET
TREATMENT RECOMMENDATION DRAWINGS
HS-03
SUPERINTENDENT'S RESIDENCE
HISTORIC HOUSING AREA
WIND CAVE NATIONAL PARK
HOT SPRINGS, SOUTH DAKOTA

DRAWING NO. 108
128865
PMIS/PKG NO. 158029
SHEET 11 OF 11

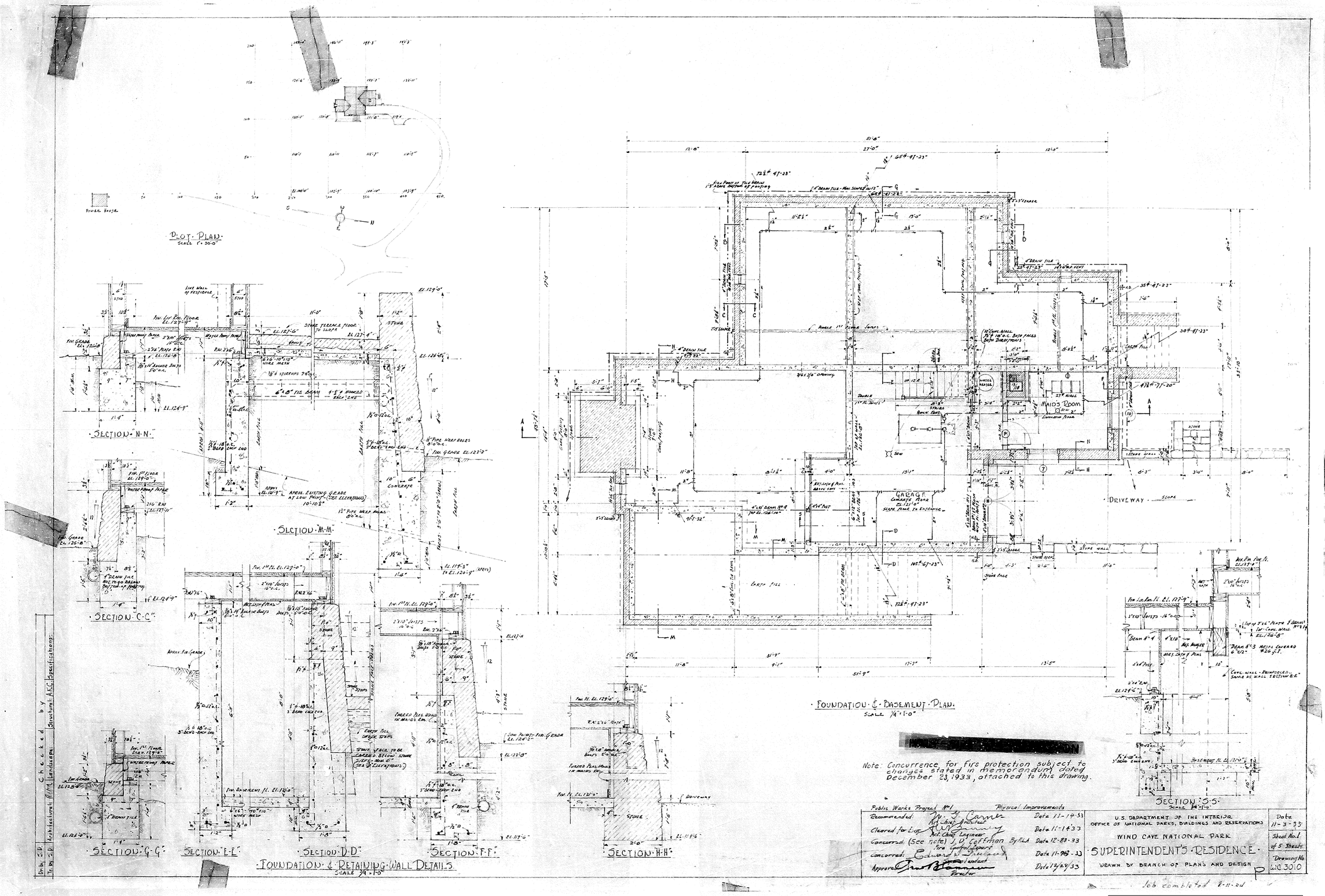
HS-03 ca. 1934. (WICA Museum Collection #WICA 4560)

# Appendix A
# Historic Drawings

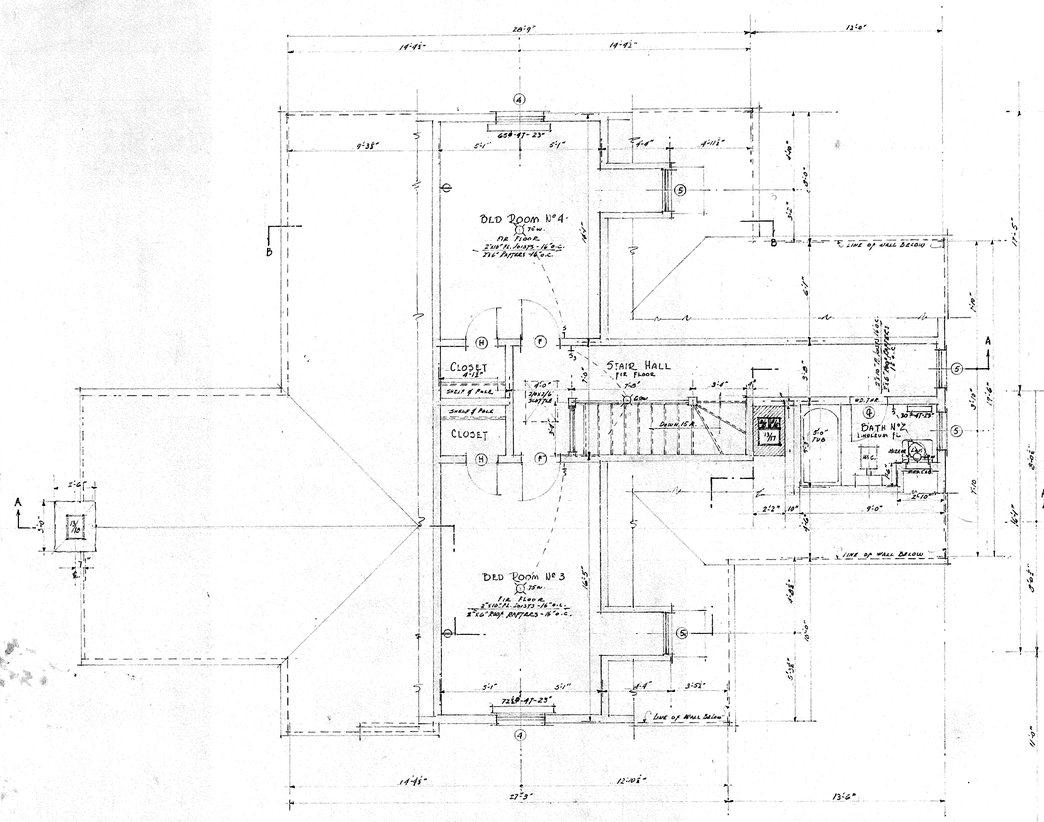
# Appendix A

HS-03 Plan Pages

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **File Name** | **Building Number** | **Drawing Title** | **Issuing Office at US Dept of Int.** | **Drawn by** | **Drawing Date** | **Sheet # of #** | **Public Works Project No.** | **Recommended by and title** | **Recommended Date** | **Approved by and title** | **Approval Date** | **Job Completed Date** | **Notes** |
| 2 | WICA_108_3010_[id278449] | **HS 03** | WCNP Superintendent's Residence | Branch of Plans and Design | S.D. | 11/3/1933 | 2 of 5 | 1 | W. G. Carnes, Act. Chief Architect | 11/14/1933 | Arno B Cammerer/ Director | 12/28/1933 | 8/11/1934 | First and Second Floor Plans, Window and Door detail |
| 3 | WICA_108_3010_[id278449] | **HS 03** | WCNP Superintendent's Residence | Branch of Plans and Design | S.D. | 11/3/1933 | 3 of 5 | 1 | W. G. Carnes, Act. Chief Architect | 11/14/1933 | Arno B Cammerer/ Director | 12/28/1933 | 8/11/1934 | Elevations |
| 4 | WICA_108_3010_[id278449] | **HS 03** | WCNP Superintendent's Residence | Branch of Plans and Design | S.D. | 11/3/1933 | 4 of 5 | 1 | W. G. Carnes, Act. Chief Architect | 11/14/1933 | Arno B Cammerer/ Director | 12/28/1933 | 8/11/1934 | Window and door detail |
| 5 | WICA_108_3010_[id278449] | **HS 03** | WCNP Superintendent's Residence | Branch of Plans and Design | S.D. | 11/3/1933 | 5 of 5 | 1 | W. G. Carnes, Act. Chief Architect | 11/14/1933 | Arno B Cammerer/ Director | 12/28/1933 | 8/11/1934 | Sections, window elevations, kitchen detail, fire place detail |
| 6 | WICA_108_3010_[id278449] and Wind Cave 262 | **HS 03** | WCNP Superintendent's Residence | Branch of Plans and Design | S.D. | 11/3/1933 | 1 of 5 | 1 | W. G. Carnes, Act. Chief Architect | 11/14/1933 | Arno B Cammerer/ Director | 12/28/1933 | 8/11/1934 | Foundation and Basement plans and sections |
| 7 | WICA_108_3017_[id3216] | **HS 03** | Planting Plans for Superindendent's Residence | Branch of Plans and Design, NPS | S.S. | 10/15/1934 | 1 of 1 | 4 | W.G. Carnes, Act. Chief Architect | 10/23/1934 | Arno B Cammerer/ Director NPS | 11/15/1934 | | Site Plan with plantings and legend. SS may refer to S.Serrano (see monthly Supt. Reports, 1937) |
| 8 | WICA_108_3010B_[id278471] Also listed under WICA-108_3010B_[id96249] | **HS 03** | WCNP Addition to Superintendent's Residence | Branch of Plans and Design | W.G. Hill and Kreinka? MP | 7/15/1939 and 6/30/1939 | 1 of 2 | | Howard W. Baker, Regional Landscape Architect | 9/21/1939 | Thomas J Allen Jr.?/ Regional Director | 9/23/1939 | | 2 elevations, first floor plan, window detail. W. G. Hill is additional name signed on side bar under "Plans and Design" |
| 9 | WICA_108_3010B_[id278471] Also listed under WICA-108_3010B_[id96249] | **HS 03** | WCNP Addition to Superintendent's Residence | Branch of Plans and Design | Kreinka ? MP | 7/15/1939 | 2 of 2 | | | | | | | Foundation section, Basement plan, kitchen detail, F.S.D counter detail |

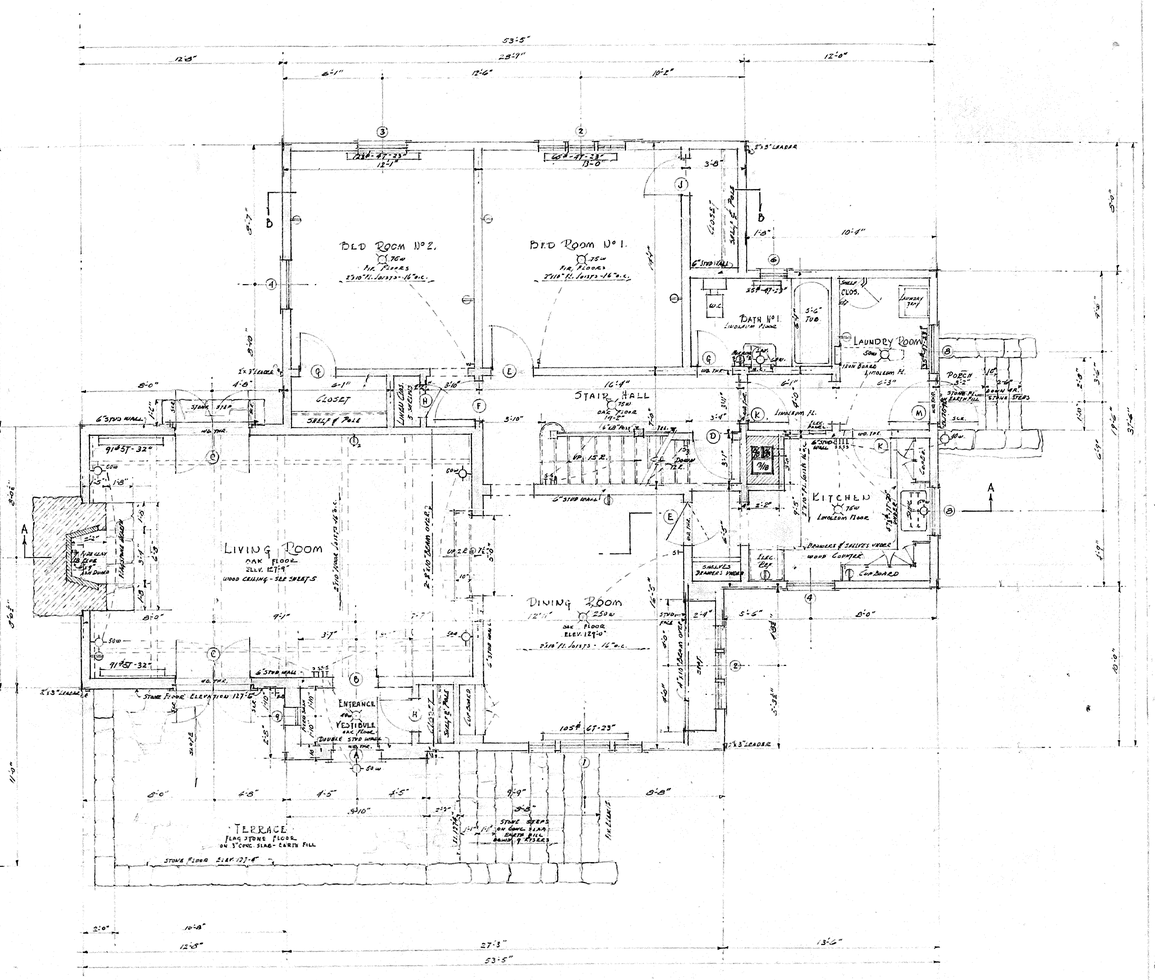



WICA_108_3010_[id278449] HS3



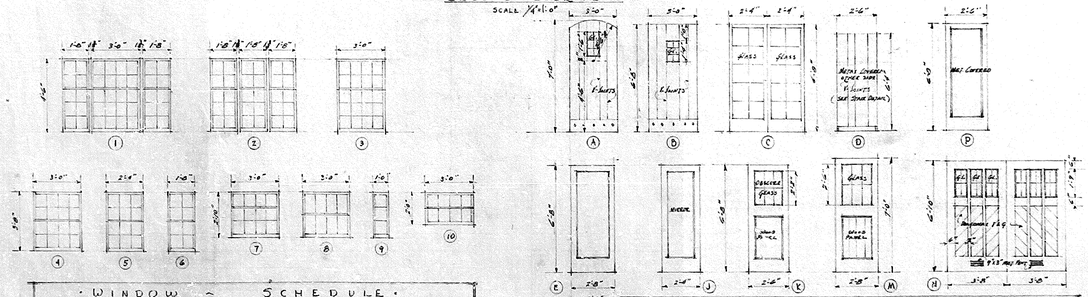

· SECOND · FLOOR · PLAN ·

SCALE 1/4" = 1'-0"




· FIRST · FLOOR · PLAN ·

SCALE 1/4" = 1'-0"



· WINDOW · SCHEDULE ·

| No | SIZE | TYPE | No | SIZE | TYPE |
|---|---|---|---|---|---|
| 1 | 1-8'0" x 6'6" x 1 1/8" 2-1'-0" x 6'6" x 1 1/8" | Double Hung | 6 | 1'-8" x 3'-8" x 1 1/8" | DOUBLE HUNG - OBSCURE GL. |
| 2 | 3-1'-8" x 4'-6" x 1 1/8" | " " | 7 | 3'-0" x 2'-10" x 1 1/8" | DOUBLE HUNG |
| 3 | 3'-0" x 4'-6" x 1 1/8" | " " | 8 | 3'-0" x 2'-10" x 1 1/8" | " " |
| 4 | 3'-0" x 3'-8" x 1 1/8" | " " | 9 | 1'-0" x 3'-10" x 1 1/8" | FIXED |
| 5 | 2'-0" x 3'-7" x 1 1/8" | " " | 10 | 3'-0" x 2'-6" x 1 1/8" | DOUBLE HUNG |

· DOOR · SCHEDULE ·

| No | SIZE | DESCRIPTION | No | SIZE | DESCRIPTION |
|---|---|---|---|---|---|
| A | 3'-0" x 7'-0" x 1 3/8" | GLAZED SLAB DOOR | G | 2'-4" x 6'-8" x 1 3/8" | WOOD PANEL |
| B | 3'-0" x 6'-8" x 1 3/8" | " " " | H | 2'-0" x 6'-8" x 1 3/8" | " " |
| C | 2'-4" x 6'-8" x 1 3/8" | SEARCH DOOR WITH ASTRAGAL | J | 2'-4" x 6'-8" x 1 3/8" | MIRROR 1 SIDE - WOOD PANEL 1 SIDE |
| D | 2'-6" x 6'-8" x 1 3/8" | SLAB DOOR - METAL COVERED ONE SIDE | K | 2'-6" x 6'-8" x 1 3/8" | SASH DOOR - OBSCURE GLASS |
| E | 2'-8" x 6'-8" x 1 3/8" | WOOD PANEL | M | 2'-8" x 7'-8" x 1 3/8" | SASH DOOR |
| F | 2'-6" x 6'-8" x 1 3/8" | " " | N | 2'-5" x 6'-10" x 1 3/8" | GLAZED-GARAGE DOOR WITH ASTRAGAL |
| P | 2'-6" x 6'-8" x 1 3/8" | SINGLE PANEL METAL COVERED | | | |

· LEGEND ·

- STUD WALL
- BRICK
- STONE
- CONCRETE
- SINGLE CONVENIENCE OUTLET
- DOUBLE " "
- WALL BRACKET
- CEILING OUTLET
- ELECTRIC SWITCH
- SINGLE SWITCH
- HOOK BOLT

Public Works Project No. Physical Improvements

Recommended: W. L. Carmer Architect Date 11-14-33

Checked for Eng: A. W. Lemmey Ass't Civil Engineer Date 11-14-33

Concurred: (See note Sheet 7) J. O. Coffman. By F.L.A. Date 12-28-33 Fire Control Expert

Concurred: Edward L. Freeland Superintendent Date 11-15-33

Approved: Director Date 12/22/33

Quarters No 3

U.S. DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS, BUILDINGS AND RESERVATIONS
WIND CAVE NATIONAL PARK

SUPERINTENDENT'S RESIDENCE

DRAWN BY BRANCH OF PLANS AND DESIGN

Quarters No 3

Date 11-3-33

Sheet No 2 of 5 Sheets

Drawing No. W.C. 30 P

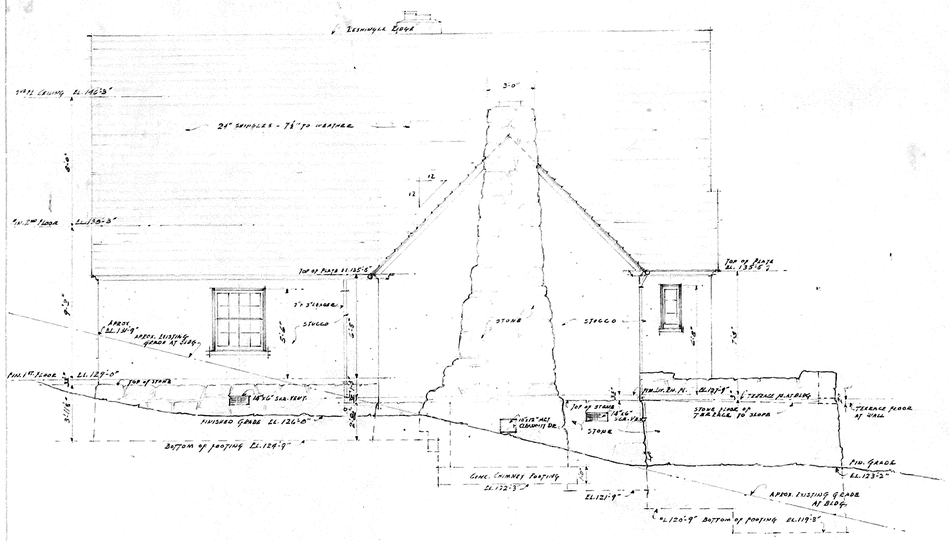
Checked by: Structural: A.K.C. Specifications:

Checked by: Landscape: Architectural: [illegible]

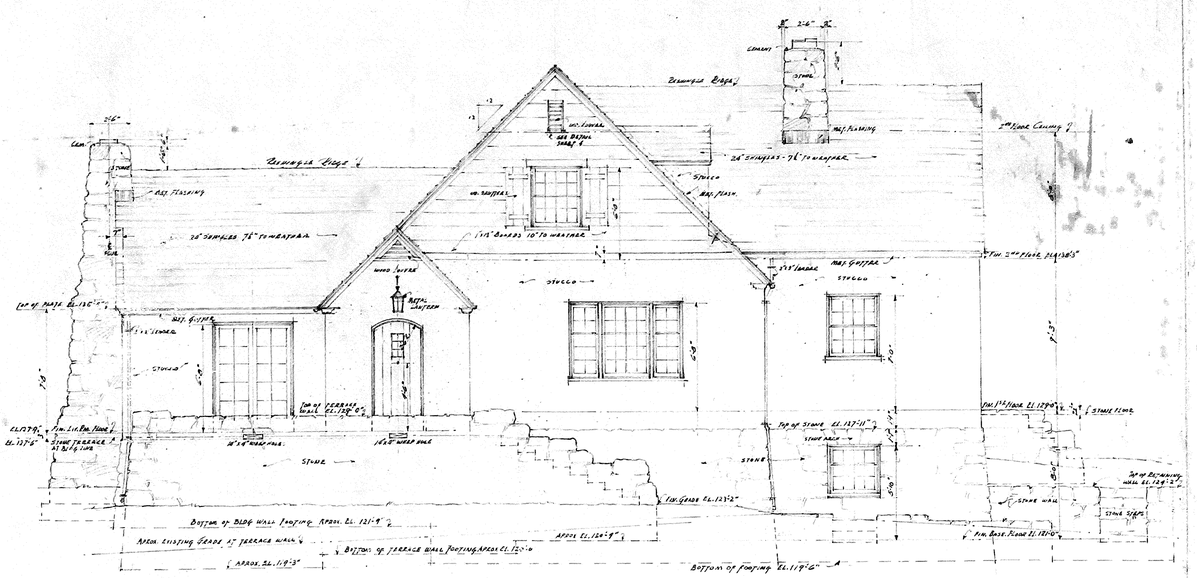
Drawn by: [illegible]

Traced by: [illegible]

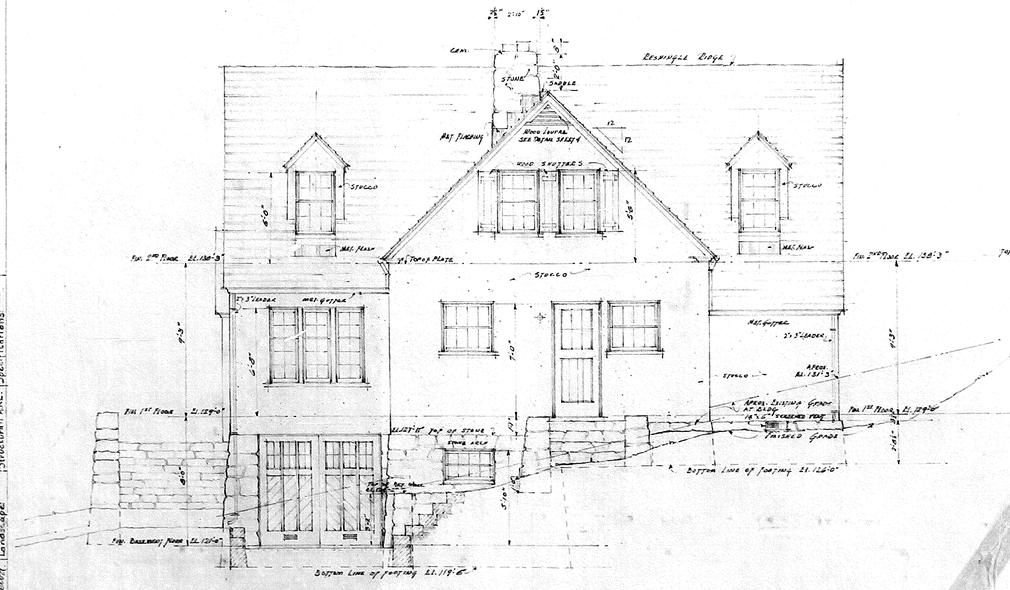
WICA_108_3010_[id278449] HS3



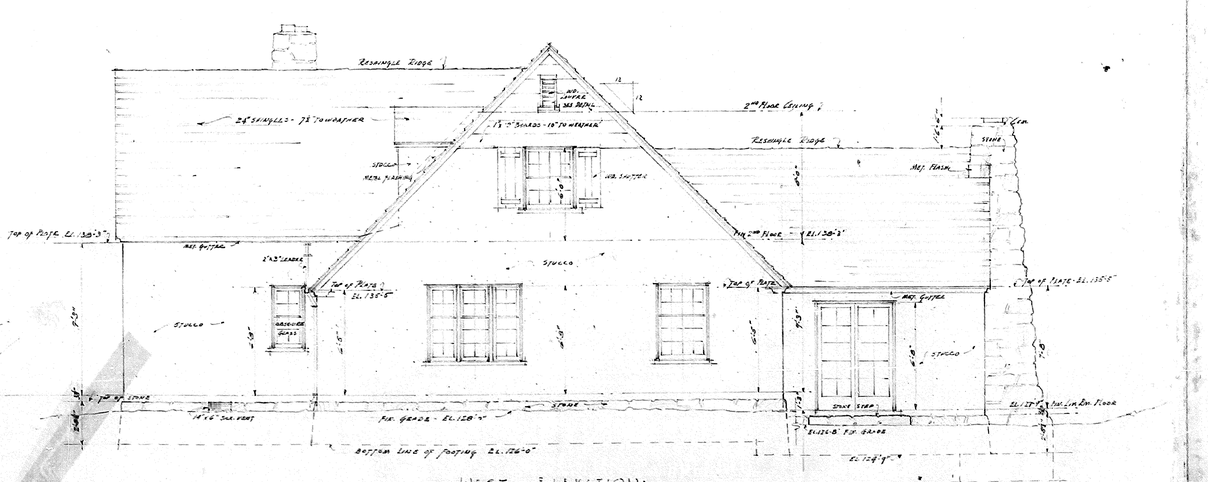

SOUTH · ELEVATION ·
SCALE ¼" = 1'-0"




· EAST · ELEVATION ·
SCALE ¼" = 1'-0"




· NORTH · ELEVATION ·
SCALE ¼" = 1'-0"




· WEST · ELEVATION ·
SCALE ¼" = 1'-0"

Checked by
Structural: ASC. | Specifications
Landscape
Architectural: Dept. | Drawn: S.D.
Date: S.D.

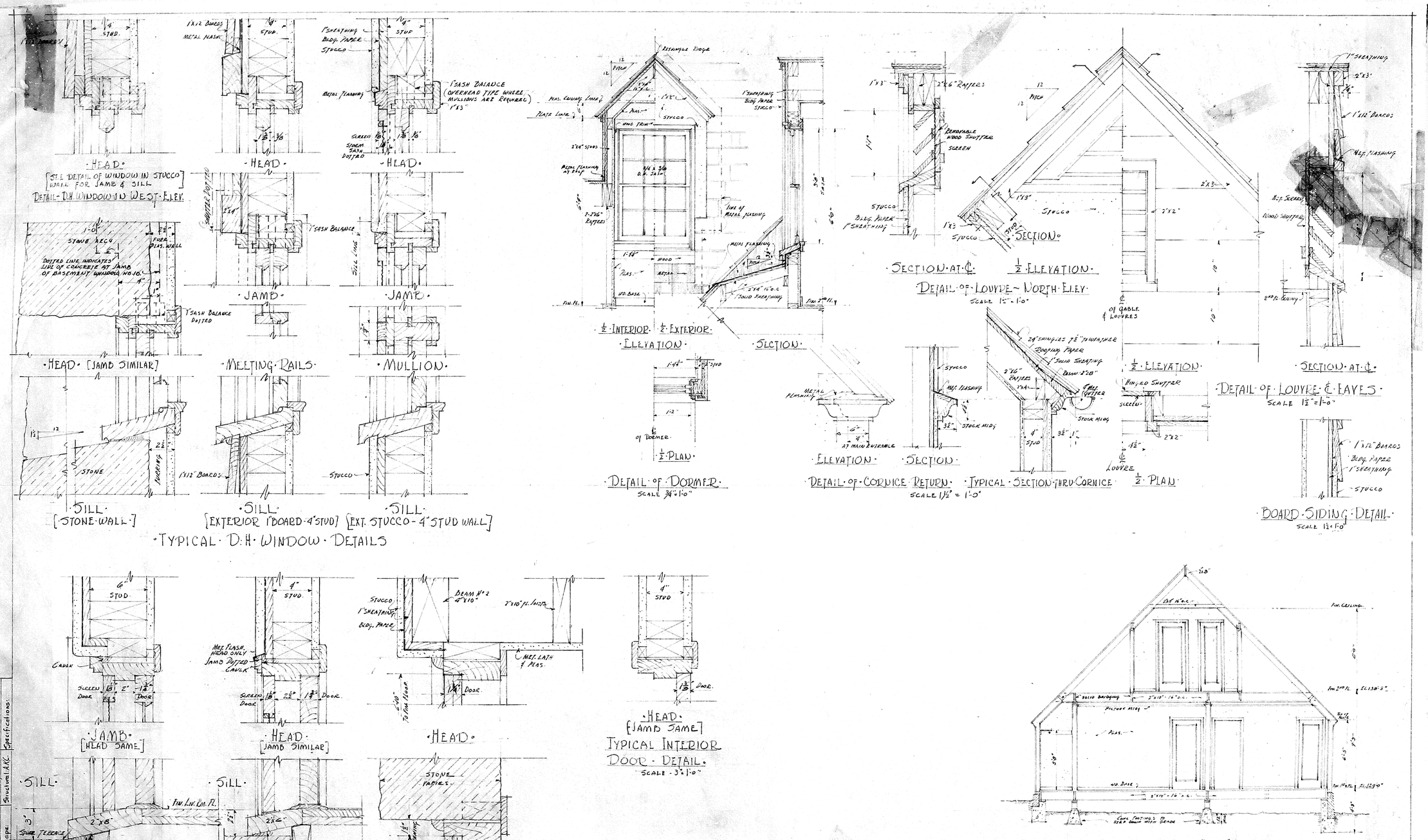
Public Works Project No. | Physical Improvements
Recommended: H. W. Carnes — Date 11-15-33
Chief Architect
Cleared for Eng. — Date 11-14-33
Asst. Chief Engineer
Concurred (See note, Sheet 1) — D. Cottman By F.L.A. Date 12-23-33
Fire Control Expert
Concurred: Samuel Lubbock — Date 11-15-33
Superintendent
Approved: Director — Date 12/27/33

U.S. DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS, BUILDINGS AND REFORMATIONS
WIND CAVE NATIONAL PARK
SUPERINTENDENT'S RESIDENCE
DRAWN BY BRANCH OF PLANS AND DESIGN

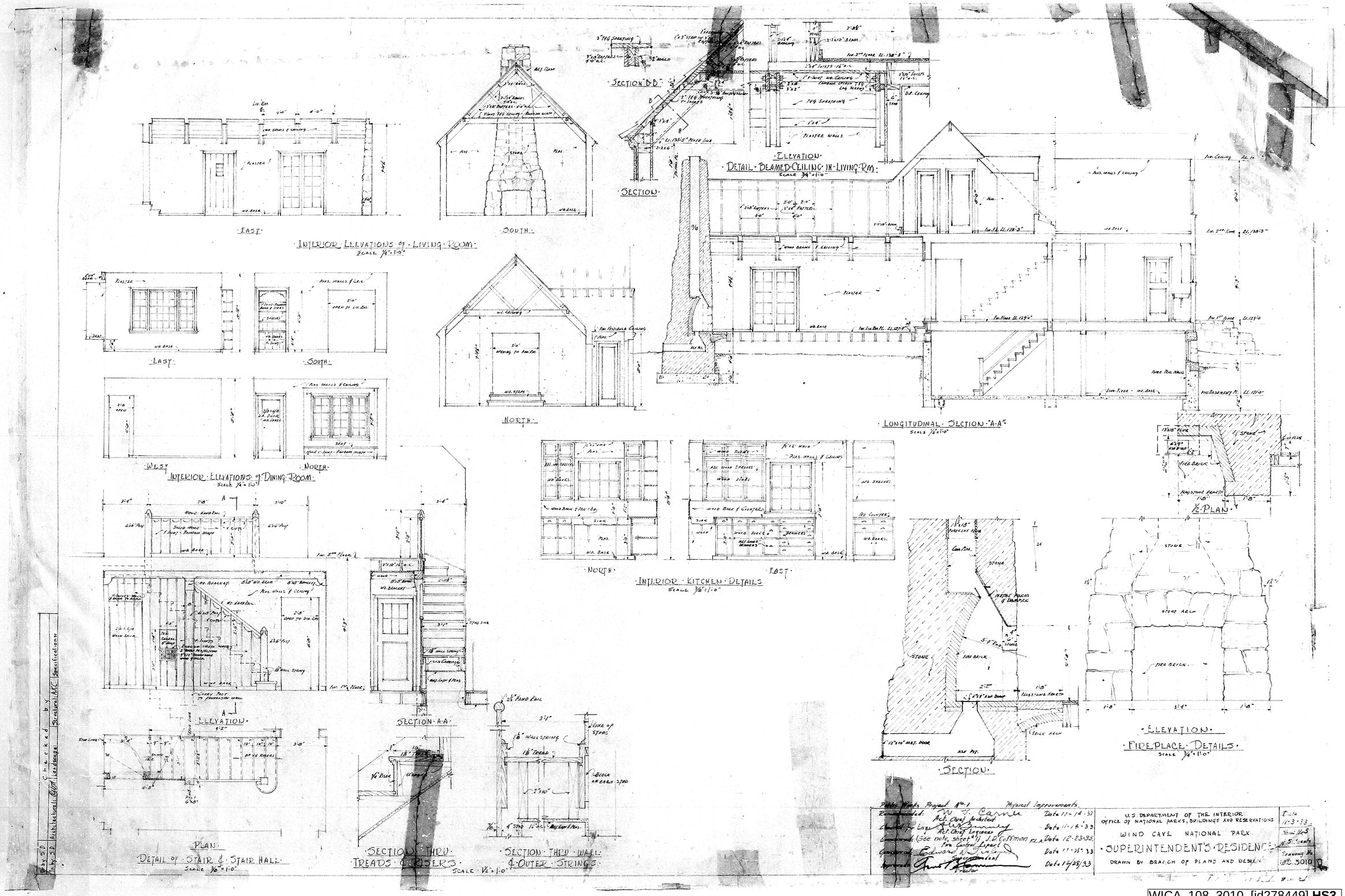
Date 11-3-33
Sheet No. 3 of 5 Sheets
Drawing No. W.C. 3010

Job Captain L.J.T.

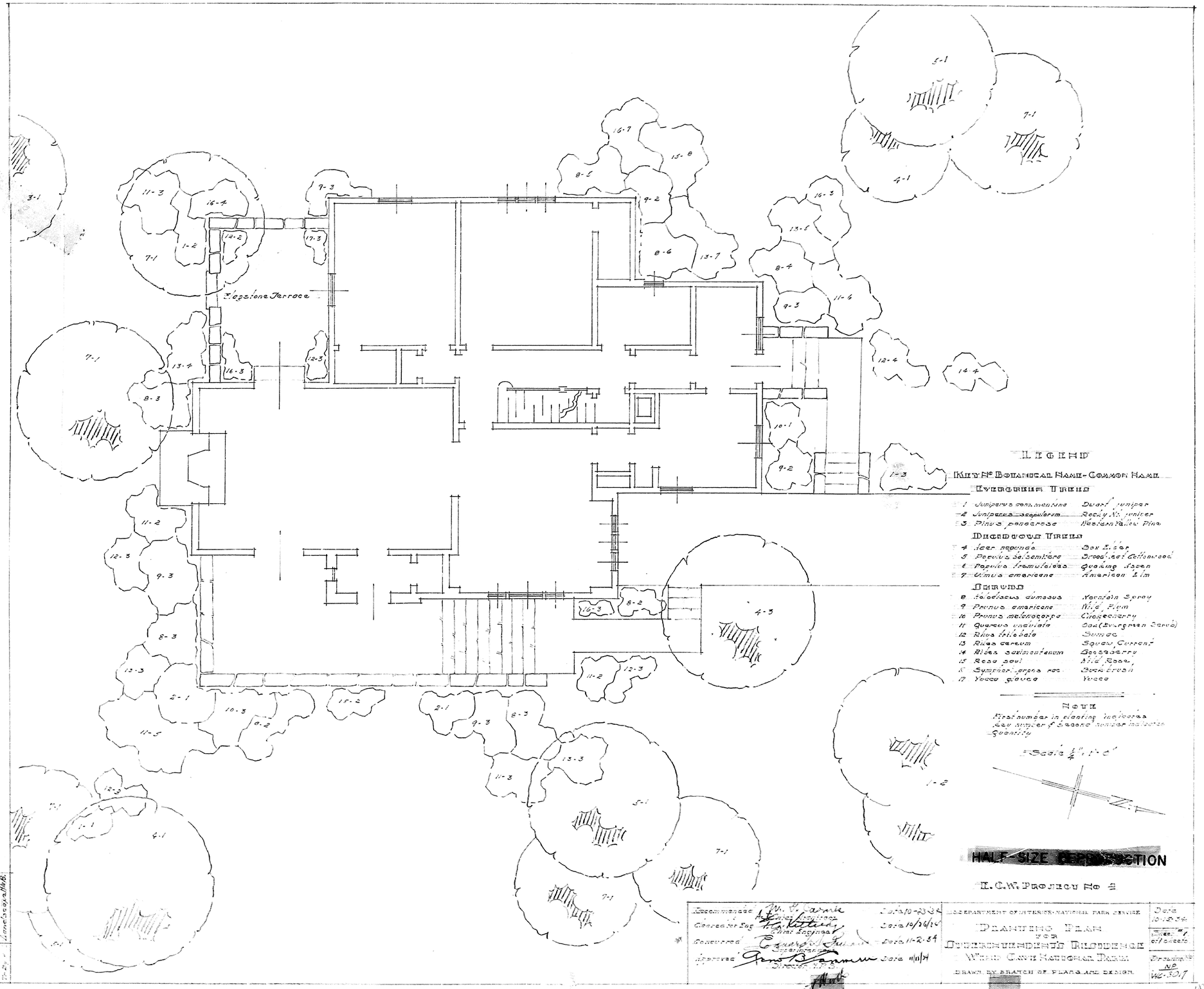
WICA_108_3010_[id278449] HS3



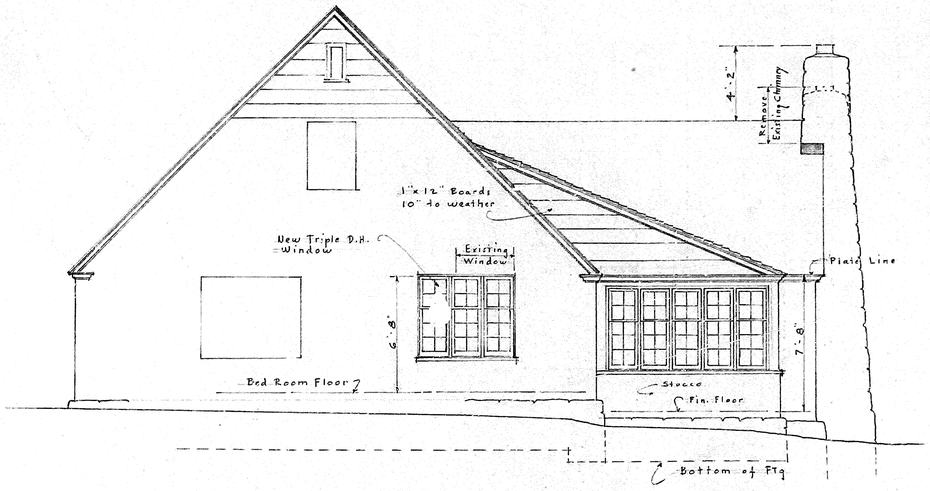

WICA_108_3010_[id278449] HS3



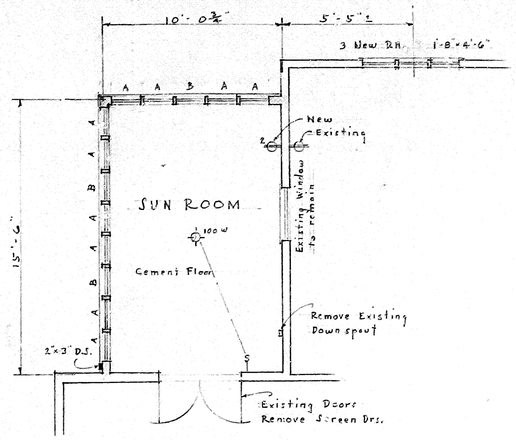

WICA_108_3010_[id278449] HS3




WICA_108_3017_[id3216] HS3 Planting Plan



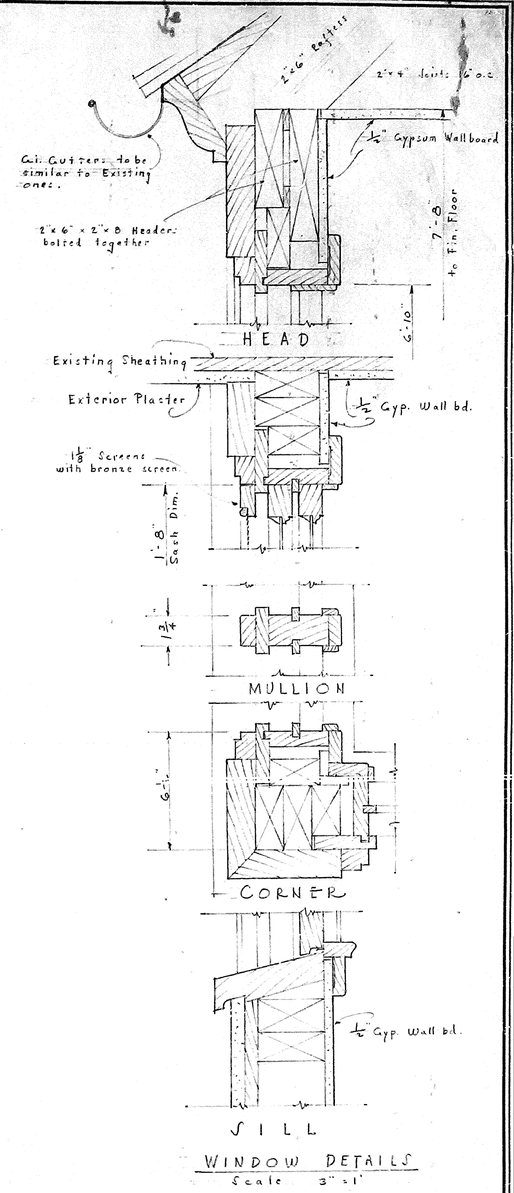

WEST ELEVATION




FIRST FLOOR PLAN

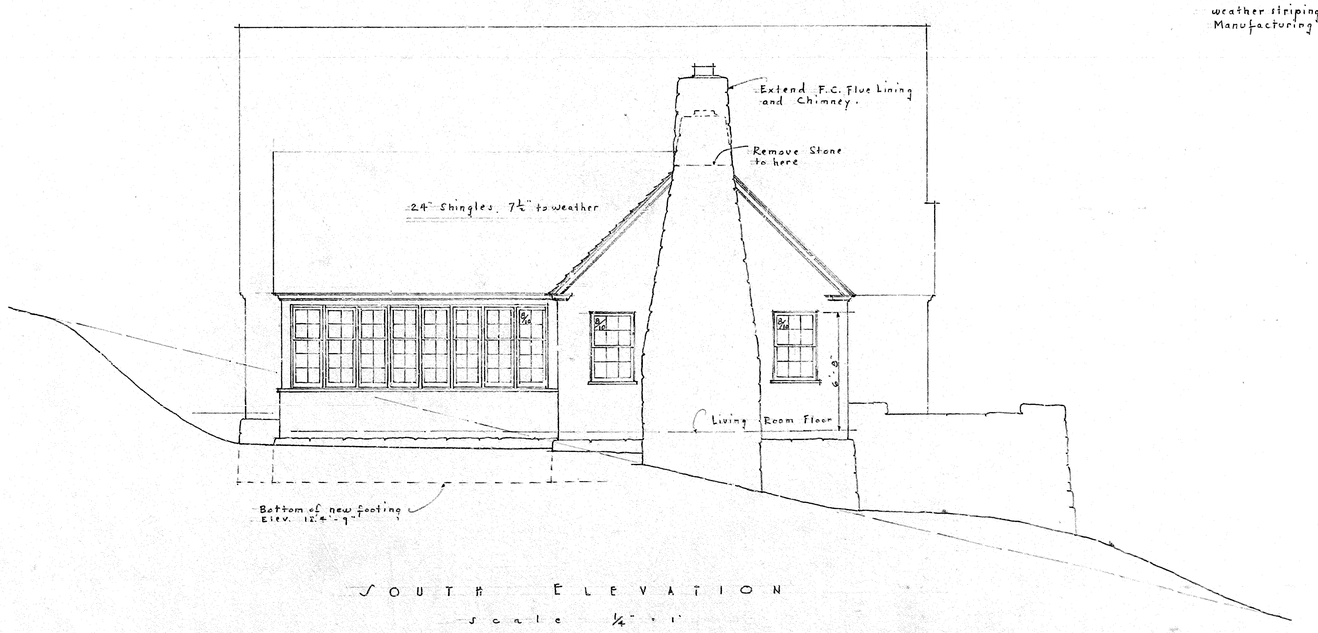
Scale 1/4" = 1'

Notes:
Windows "B" to be set stationary.
Windows "A" to be double hung using friction guides and weather striping similar to that manufactured by Wright Manufacturing Co., Minneapolis, Minn.




WINDOW DETAILS

Scale 3" = 1'




SOUTH ELEVATION

Scale 1/4" = 1'

BASIC DATA

[redacted]

SCALE

RECOMMENDED Howard W. Baker DATE 9-21-39
REGIONAL LANDSCAPE ARCH.
CONCURRED Henry J. Lick DATE 9-18-39
SUPERINTENDENT
APPROVED Thos. J. Allen DATE 9-23-39
REGIONAL DIRECTOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
BRANCH OF PLANS AND DESIGN
PREPARED BY
SECOND REGIONAL OFFICE
OFFICE

ADDITION TO SUPT. RESIDENCE
NAME OF JOB
HEADQUARTERS AREA
LOCATION
WIND CAVE NATIONAL PARK
NAME OF PARK OR MONUMENT

REGION II
SHEET 1 OF 2
DRAWING NO. NP-WC 3010-B

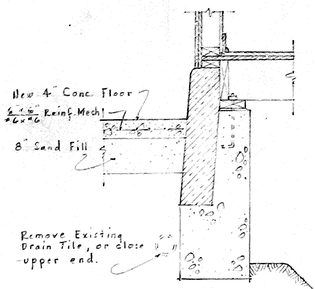
DESIGNED BY Wm. Stirling
PLANS AND DESIGN
Wm. Stirling 7/5/39
CONSTRUCTION
DATE June 30, 39

REVIEWED
CLEARED
REGIONAL DIRECTOR
RECREATIONAL
PLANNING AND STATE COOPERATION
RESEARCH AND EDUCATION
SANITATION
CHEMISTRY
HISTORY

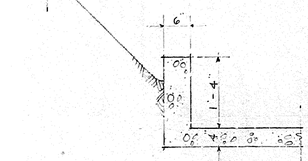
TRIM LINE

WICA_108_3010B_[id278471] HS3

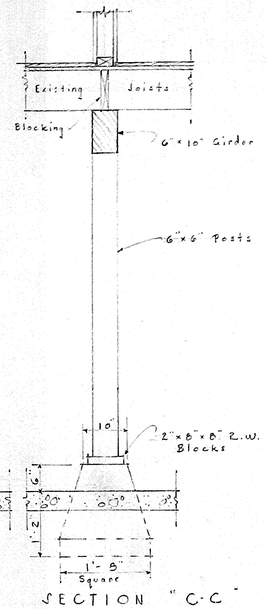
TRIM LINE



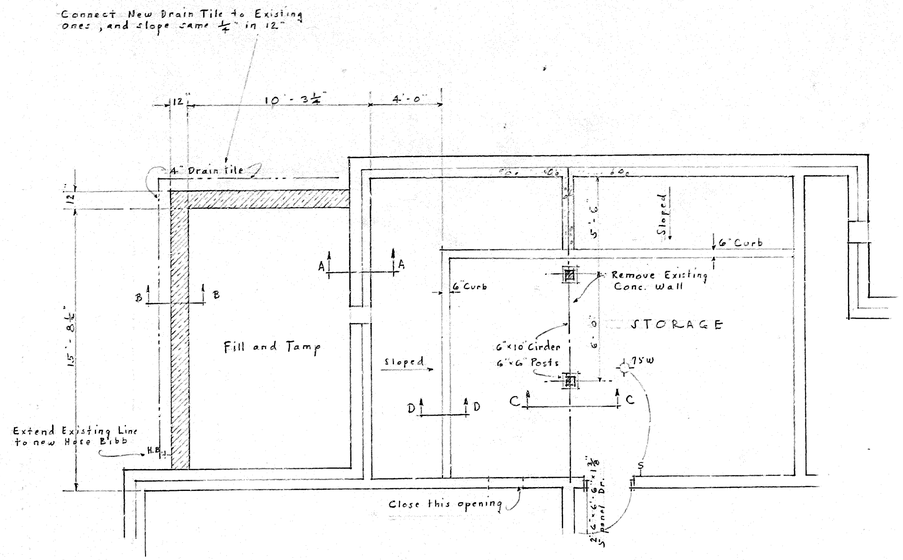

SECTION "A-A"
Scale 3/4" = 1'



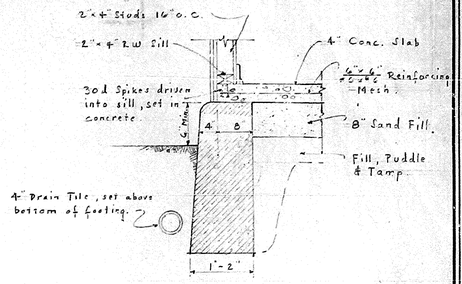

SECTION "D-D"




SECTION "C-C"

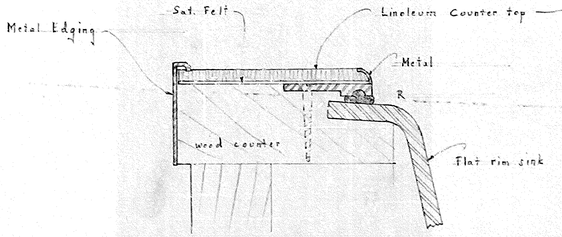



BASEMENT PLAN
Scale 1/4" = 1'

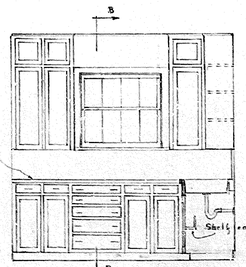



SECTION "B-B"
Scale 3/4" = 1'

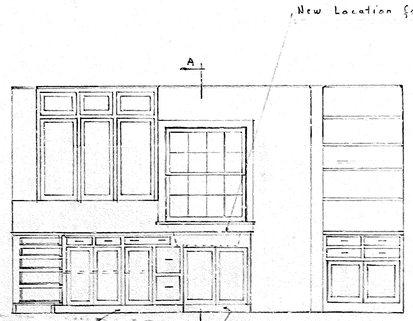
Notes:
Install new Linoleum floor in Kitchen and Laundry.
Install Linoleum on Kitchen counters as detailed.




F.S.D. COUNTER DETAIL




SECTION "A-A"




SECTION "B-B"

KITCHEN DETAILS
Scale 3/8" = 1'

BASIC DATA

| | | | |
|---|---|---|---|
| RECOMMENDED _____ DATE _____ REGIONAL LANDSCAPE ARCH. | UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE BRANCH OF PLANS AND DESIGN PREPARED BY SECOND REGIONAL OFFICE OFFICE | REGION II | SCALE |
| CONCURRED _____ DATE _____ SUPERINTENDENT | ADDITION TO SUPT. RESIDENCE (NAME OF JOB) HEADQUARTERS AREA (LOCATION) WIND CAVE NATIONAL PARK (NAME OF PARK OR MONUMENT) | SHEET 2 OF 2 | |
| APPROVED _____ DATE _____ REGIONAL DIRECTOR | | DRAWING NO. NP-WC 3010-B | |

CLEARED — REGIONAL DIRECTOR
RECREATIONAL, PLANNING AND STATE COOPERATION

REVIEWED — RESEARCH AND EDUCATION, SANITATION, FORESTRY, HISTORY, PLANS AND DESIGN, ENGINEERING

DESIGNED BY Kreinkamp
DATE June 30 '39

TRIM LINE

WICA_108_3010B_[id278471] HS3

HS-03 ca. 1959. (WICA Museum Collection #WICA 6359)

# Appendix B
# Historic Photographs

## Appendix B: Wind Cave Park-Selected Database and Photo Files Italicized text added by Deb Sheals in 2015

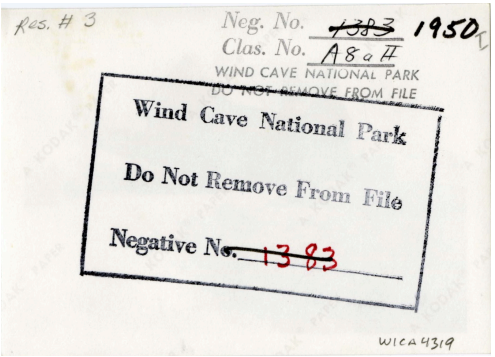
***Primary Topic*** ***HS#*** *HS-03*
*HS-03*

***Photo Date*** ca. *1934, Aug. 17*
***Date Source*** *"Manufactured Date"*
***Photographer***

**Manufact. Date** 8/17/1934

**Catalog #**
WICA
4319

*Below: Front of Image. Right: Back of Image*




***HSR 2015 Notes***

**Park Database Description**

Photographic Print and Negative of Buildings Construction - Residence 3 - Completed Building, From North Showing Chimney. See Also 2314. Photographic Print Is Stored at Wind Cave National Park, and the Nitrate Negative Is in Cold Storage at the Midwest Archeological Center.

## Appendix B: Wind Cave Park-Selected Database and Photo Files Italicized text added by Deb Sheals in 2015

***Primary Topic*** ***HS#*** *HS-03*
*HS-05*

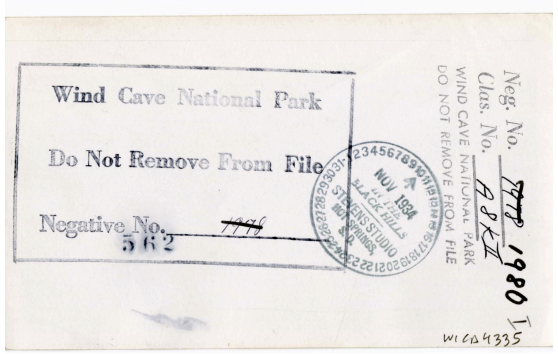
*General*
*HS-03*
*HS-05*

**Catalog #**
WICA
4335

***Photo Date*** *1934, Nov. 10*
***Date Source*** *Stamp on Photo*
***Photographer*** *Stevens Studio*

**Manufact. Date** 9/1/1934

*Below: Front of Image. Right: Back of Image*




***HSR 2015 Notes***

*Getting ready to move #5. (left) Duplicate of 8758. This is a better image.*

**Park Database Description**

Photographic Print and Negative of Headquarters Area. See Also 2310 - 2312. Photographic Print Is Stored at Wind Cave National Park, and the Nitrate Negative Is in Cold Storage at the Midwest Archeological Center.

## Appendix B: Wind Cave Park-Selected Database and Photo Files Italicized text added by Deb Sheals in 2015

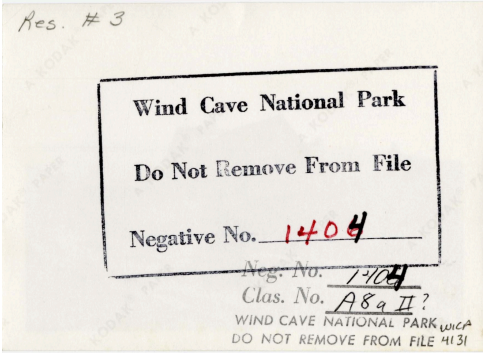
***Primary HS#*** *HS-03*
***Topic***
*HS-03*

**Catalog #**
WICA
4131

***Photo Date*** ca. *1936*
***Date Source*** *other, see HSR notes*
***Photographer***

**Manufact. Date**

*Below: Front of Image. Right: Back of Image*




***HSR 2015 Notes***

*Small trees, probably when new. HS-03 was completed in 1934.*

**Park Database Description**

Photographic Print and Negative of Buildings - Residence #3. See Also 3078. Photographic Print Is Stored at Wind Cave National Park, and the Nitrate Negative Is in Cold Storage at the Midwest Archeological Center.

## Appendix B: Wind Cave Park-Selected Database and Photo Files Italicized text added by Deb Sheals in 2015

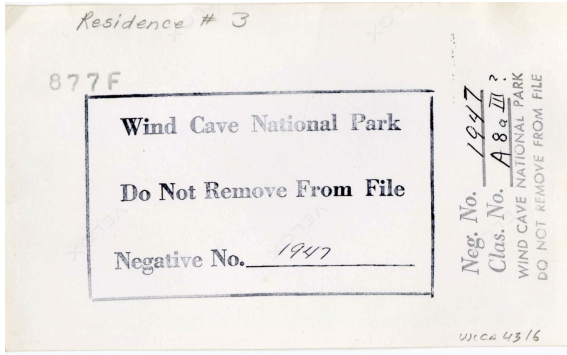
***Primary HS#*** *HS-03*
***Topic***
*HS-03*

**Catalog #**
WICA
4316

***Photo Date*** ca. *1939*
***Date Source*** *other, see HSR notes*
***Photographer***

**Manufact. Date**

*Below: Front of Image. Right: Back of Image*




***HSR 2015 Notes***

*Before the new back porch, which was added in 1941.*

**Park Database Description**

Photographic Print and Negative of Buildings - Residence 3. Photographic Print Is Stored at Wind Cave National Park, and the Nitrate Negative Is in Cold Storage at the Midwest Archeological Center.

## Appendix B: Wind Cave Park-Selected Database and Photo Files Italicized text added by Deb Sheals in 2015

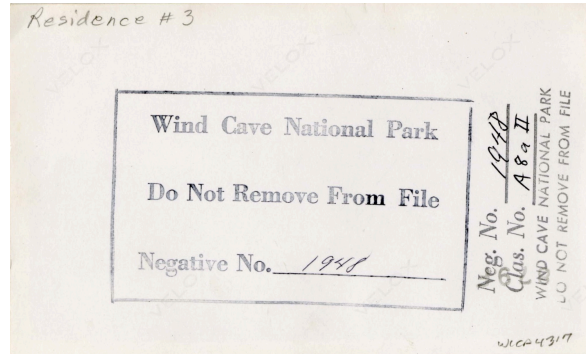
***Primary Topic*** ***HS#*** *HS-03*
*HS-03*

***Photo Date*** ca. *1940s*
***Date Source*** *other, see HSR notes*
***Photographer***

**Manufact. Date**

**Catalog #**
WICA
4317

*Below: Front of Image. Right: Back of Image*




***HSR 2015 Notes***

**Park Database Description**

Photographic Print and Negative of Buildings - Residence 3. Photographic Print Is Stored at Wind Cave National Park, and the Nitrate Negative Is in Cold Storage at the Midwest Archeological Center.

## Appendix B: Wind Cave Park-Selected Database and Photo Files Italicized text added by Deb Sheals in 2015

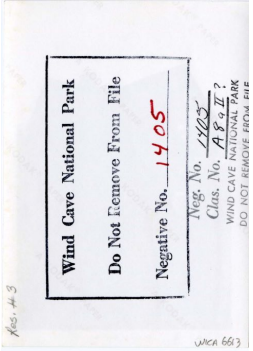
***Primary Topic*** ***HS#*** *HS-03*
*HS-03*

***Photo Date*** ca. *1950s*
***Date Source*** *other, see HSR notes*
***Photographer***

**Manufact. Date**

**Catalog #**
WICA
6613

*Below: Front of Image. Right: Back of Image*




***HSR 2015 Notes***

**Park Database Description**

Photographic Print and Negative of Buildings - Residence #3.

## Appendix B: Wind Cave Park-Selected Database and Photo Files Italicized text added by Deb Sheals in 2015

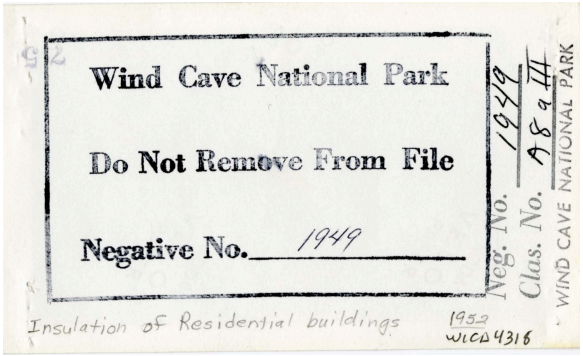
***Primary Topic*** ***HS#*** *HS-03*
*HS-03*

***Photo Date*** *1952*
***Date Source*** *Handwritten date on back of photo*
***Photographer***

**Manufact. Date** 1952

**Catalog #**
WICA
4318

*Below: Front of Image. Right: Back of Image*




***HSR 2015 Notes***

**Park Database Description**

Photographic Print and Negative of insulation of Residential Buildings - Holes Drilled in Residence 3 and Plugged After Fiberglass Was Forced Between Walls. Photographic Print Is Stored at Wind Cave National Park, and the Nitrate Negative Is in Cold Storage at the Midwest Archeological Center.

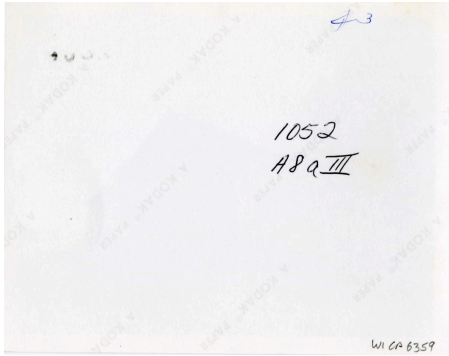
***Primary Topic*** ***HS#*** *HS-03*
*HS-03*

***Photo Date*** ca. *1959, Nov. 1*
***Date Source*** *"Manufactured Date"*
***Photographer***

**Manufact. Date** 11/1/1959

**Catalog #**
WICA
6359

*Below: Front of Image. Right: Back of Image*




***HSR 2015 Notes***

**Park Database Description**

Photographic Print and Negative of Buildings - Residence #3. See Also 2394

## Appendix B: Wind Cave Park-Selected Database and Photo Files Italicized text added by Deb Sheals in 2015

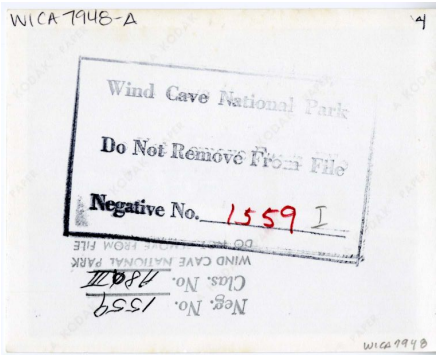
***Primary HS#*** *HS-03*
***Topic***
*HS-03*

**Catalog #**
WICA
7948

***Photo Date*** ca. *1969*
***Date Source*** *"Manufactured Date"*
***Photographer***

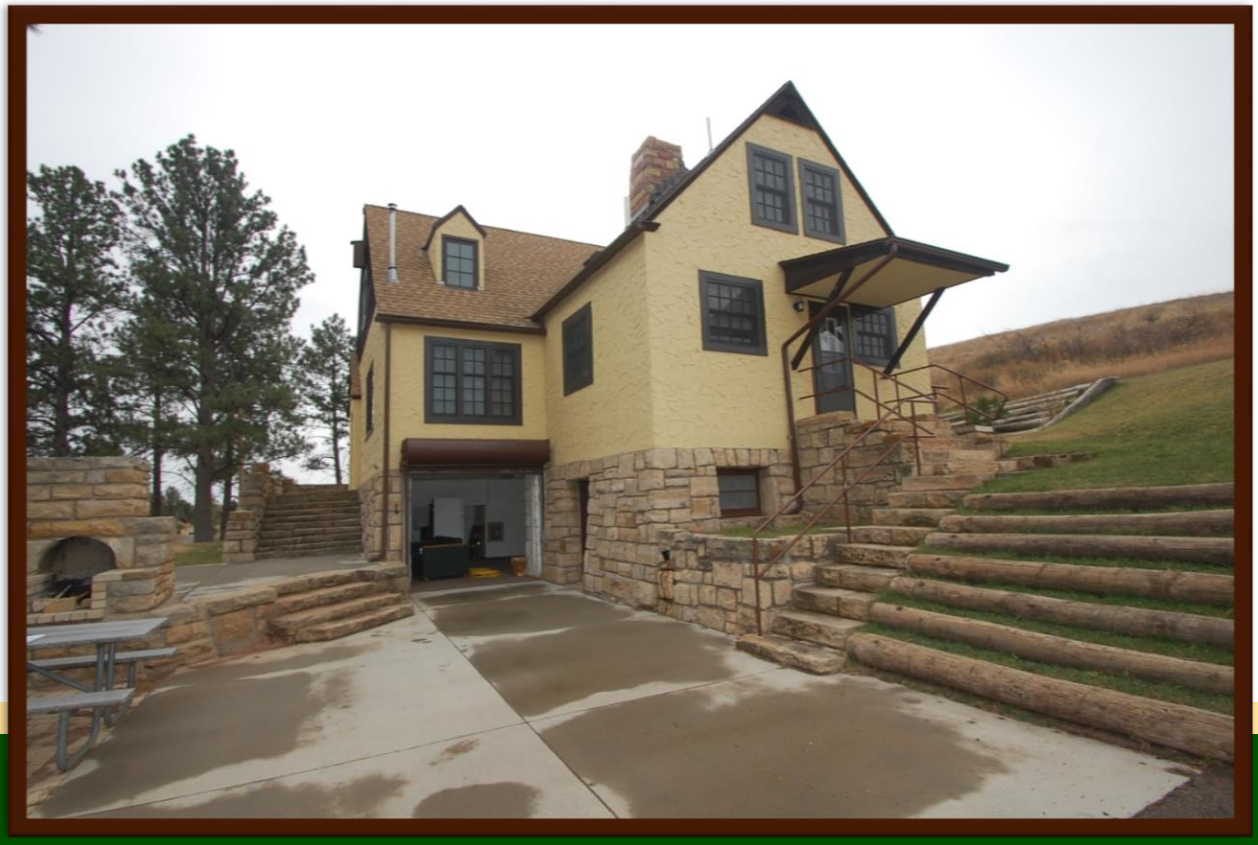
**Manufact. Date** WINTER1969

*Below: Front of Image. Right: Back of Image*




***HSR 2015 Notes***

**Park Database Description**
Building - Residence #3



HS-03 North Elevation.  (SRJA 2014)

# Appendix C
# Cost Estimate

CONSTRUCTION MANAGEMENT RESOURCES, LLC
ESTIMATING • SCHEDULING • PROJECT MANAGEMENT • CONSULTING
5201 JOHNSON DRIVE, SUITE 330, MISSION, KANSAS 66205 (913) 262-6715 • FAX (913) 262-1380

Historic Structures Report - Historic Housing Area
Wind Cave National Park - Hot Springs South Dakota
Susan Richards's Johnson & Associates
Final Report Estimate 01/27/2016

| DESCRIPTION | | Immediate | Short Term | Long Term |
|---|---|---|---|---|
| **HS-03 Quarters** | | | | |
| 01 00 00 GENERAL CONDITIONS | 15% | 7,957 | - | 19,378 |
| 02 41 00 DEMOLITION | | - | - | - |
| 02 50 00 HAZARDOUS MATERIAL ABATEMENT | | 2,500 | - | 1,000 |
| 03 30 00 CAST-IN-PLACE CONCRETE | | 1,581 | - | - |
| 04 01 20 MASONRY RESTORATION AND CLEANING | | 12,574 | - | - |
| 04 20 00 MASONRY | | - | - | - |
| 05 12 00 STEEL | | 1,183 | - | - |
| 06 10 00 ROUGH CARPENTRY | | - | - | - |
| 06 13 00 EXTERIOR RESTORATION | | 900 | - | 3,000 |
| 06 40 16 INTERIOR ARCHITECTURAL WOODWORK RESTORATION | | - | - | - |
| 07 14 00 FLUID-APPLIED WATERPROOFING | | - | - | - |
| 07 20 00 STUCCO REPAIRS | | 6,162 | - | - |
| 07 21 00 THERMAL INSULATION | | 6,724 | - | - |
| 07 50 00 ROOFING | | - | - | 21,888 |
| 07 60 00 SHEET METAL FLASHING AND TRIM | | 100 | - | 4,356 |
| 07 92 00 JOINT SEALANTS | | 300 | - | - |
| 08 11 00 DOOR & FRAMES | | 1,150 | - | 6,000 |
| 08 32 13 STORM WINDOWS | | 400 | - | 3,250 |
| 08 52 00 WOOD WINDOWS | | 3,800 | - | 30,800 |
| 08 71 00 DOOR HARDWARE | | 250 | - | 200 |
| 08 80 00 GLAZING | | - | - | - |
| 09 20 00 PLASTER REPAIR | | - | - | - |
| 09 21 16 GYPSUM SYSTEMS | | 2,400 | - | 6,876 |
| 09 64 00 WOOD FLOORING | | 600 | - | 1,975 |
| 09 90 00 PAINTING | | 5,838 | - | - |
| 10 14 00 SIGNS | | - | - | - |
| 10 28 00 TOILET AND BATH ACCESSORIES | | - | - | - |
| 10 44 00 FIRE-PROTECTION SPECIALTIES | | 500 | - | - |
| 21 00 00 FIRE PROTECTION | | - | - | - |
| 22 00 00 PLUMBING | | - | - | - |
| 23 00 00 HVAC | | 1,600 | - | 44,044 |
| 26 00 00 ELECTRICAL | | 2,400 | - | 4,300 |
| 31 20 00 EARTH MOVING | | 394 | - | - |
| 31 48 13 UNDERPINNING PIERS | | - | - | - |
| 32 13 13 CEMENT CONCRETE PAVING | | 1,545 | - | - |
| 32 92 00 LAWN & GRASSES | | 148 | - | - |
| 33 10 00 WATER DISTRIBUTION | | - | - | - |
| 33 30 00 SANITARY SEWERAGE | | - | - | - |
| 33 40 00 STORM DRAINAGE | | - | - | 1,500 |
| 33 46 16 FOUNDATION DRAINAGE SYSTEMS | | - | - | - |
| subtotal | | 61,007 | - | 148,567 |
| Contractor's Fee | 10% | 6,101 | - | 14,857 |
| subtotal | | 67,108 | - | 163,424 |
| Design/Estimate Contingency | 25% | 16,777 | - | 40,856 |
| subtotal | | 83,885 | - | 204,280 |
| Escalation to Mid-Point - 04/15/2017 | 3.7% | 3,081 | - | 7,503 |
| **TOTAL** | | **86,966** | **-** | **211,783** |

***NOTE: Ground disturbance may require archeological monitoring. Costs for monitoring are not included in estimate.**

| DESCRIPTION | :: | QUANTITY | :: | UNIT $ | : | TOTAL | Immediate | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| **HS-03 Quarters** | | | | | | | | | |
| 02 41 00 DEMOLITION | | | | | | | | | |
| | | | | | | 0 | 0 | 0 | 0 |
| 02 50 00 HAZARDOUS MATERIAL ABATEMENT | | | | | | | | | |
| **Long Term** | | | | | | | | | |
| Hazardous Material Abatement Testing | :: | 1 LS | :: | 1,000.00 | : | 1,000 | | | 1,000 |
| **Immediate** | | | | | | | | | |
| Radon Mitigation System Inspection & Repair ALLOWANCE | :: | 1 LS | :: | 2,500.00 | : | 2,500 | 2,500 | | |
| Extent of hazardous materials needs to be determined before accurate estimate can be rendered | | | | | | | | | |
| | | | | | | 3,500 | 2,500 | 0 | 1,000 |
| 03 30 00 CAST-IN-PLACE CONCRETE | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Fill Cracks in Slab at Porch | :: | 1 LS | :: | 100.00 | : | 100 | 100 | | |
| Clean and Seal Concrete Slab Front Porch | :: | 173 SF | :: | 2.00 | : | 346 | 346 | | |
| Clean and Seal Concrete Slab @ Lower Patio | :: | 168 SF | :: | 2.00 | : | 335 | 335 | | |
| Window 002 repair cracks in concrete well walls | :: | 2 EA | :: | 100.00 | : | 200 | 200 | | |
| Repair cracks in south foundation walls at sun room | :: | 2 EA | :: | 200.00 | : | 400 | 400 | | |
| New Column Footing in Basement | :: | 1 EA | :: | 200.00 | : | 200 | 200 | | |
| | | | | | | 1,581 | 1,581 | 0 | 0 |
| 04 01 20 MASONRY RESTORATION AND CLEANING | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Repoint Front Terrace Walls | :: | 93 SF | :: | 8.00 | : | 743 | 743 | | |
| Clean Front Terrace Walls | :: | 310 SF | :: | 6.00 | : | 1,858 | 1,858 | | |
| Replace Fractured Stone @ Terrace Walls | :: | 5 EA | :: | 250.00 | : | 1,250 | 1,250 | | |
| Repoint Front Terrace Steps | :: | 14 SF | :: | 8.00 | : | 112 | 112 | | |
| Clean Front Terrace Steps | :: | 70 SF | :: | 6.00 | : | 418 | 418 | | |
| Repoint Foundation Walls | :: | 24 SF | :: | 8.00 | : | 192 | 192 | | |
| Clean Foundation Walls | :: | 240 SF | :: | 6.00 | : | 1,441 | 1,441 | | |
| Mortar Wash Foundation Walls | :: | 51 LF | :: | 8.00 | : | 408 | 408 | | |
| Replace Fractured Stone @ Foundation Wall | :: | 1 EA | :: | 250.00 | : | 250 | 250 | | |
| Repoint South Chimney | :: | 22 SF | :: | 8.00 | : | 178 | 178 | | |
| Clean South Chimney | :: | 222 SF | :: | 6.00 | : | 1,333 | 1,333 | | |
| Restore Mortar Wash @ Top of Chimney | :: | 1 EA | :: | 100.00 | : | 100 | 100 | | |
| Repoint North Chimney | :: | 5 SF | :: | 8.00 | : | 37 | 37 | | |
| Clean North Chimney | :: | 46 SF | :: | 6.00 | : | 278 | 278 | | |
| Restore Mortar Wash @ Top of Chimney | :: | 1 EA | :: | 100.00 | : | 100 | 100 | | |
| Repoint North Porch Steps and Retaining Wall | :: | 56 SF | :: | 8.00 | : | 445 | 445 | | |
| Clean North Porch Steps and Retaining Wall | :: | 223 SF | :: | 6.00 | : | 1,335 | 1,335 | | |
| Replace Fractured Stone @ North Porch | :: | 3 EA | :: | 250.00 | : | 750 | 750 | | |
| Repoint Lower Patio Walls & Steps | :: | 14 SF | :: | 8.00 | : | 111 | 111 | | |
| Clean Lower Patio Walls & Steps | :: | 56 SF | :: | 6.00 | : | 333 | 333 | | |
| Clean Fireplace Stone and Hearth | :: | 1 EA | :: | 300.00 | : | 300 | 300 | | |
| Inspect and Clean Fireplace Chimney and Insert | :: | 1 EA | :: | 350.00 | : | 350 | 350 | | |
| Install New Chimney Cap on South Chimney | :: | 1 EA | :: | 250.00 | : | 250 | 250 | | |
| | | | | | | 12,574 | 12,574 | 0 | 0 |
| 04 20 00 MASONRY | | | | | | | | | |
| | | | | | | 0 | 0 | 0 | 0 |
| 05 12 00 STEEL | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Pipe Railing @ Stair | :: | 11 LF | :: | 65.00 | : | 733 | 733 | | |
| Rehabilitate and Paint Steel Foundation Vent | :: | 3 EA | :: | 150.00 | : | 450 | 450 | | |
| | | | | | | 1,183 | 1,183 | 0 | 0 |
| 06 10 00 ROUGH CARPENTRY | | | | | | | | | |
| | :: | | :: | | : | 0 | 0 | | |
| | | | | | | 0 | 0 | 0 | 0 |
| 06 13 00 EXTERIOR RESTORATION | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Misc Wood trim Repair | :: | 1 LS | :: | 400.00 | : | 400 | 400 | | |
| Misc Wood trim Repair @ Sun Room | :: | 1 EA | :: | 500.00 | : | 500 | 500 | | |
| **Long Term** | | | | | | | | | |
| Replicate Rustic Shutters | :: | 5 PR | :: | 600.00 | : | 3,000 | | | 3,000 |
| | | | | | | 3,900 | 900 | 0 | 3,000 |
| 06 40 16 INTERIOR ARCHITECTURAL WOODWORK RESTORATION | | | | | | | | | |
| | :: | | :: | | : | 0 | 0 | | |
| | | | | | | 0 | 0 | 0 | 0 |
| 07 14 00 FLUID-APPLIED WATERPROOFING | | | | | | | | | |
| | :: | | :: | | : | 0 | | | 0 |
| | | | | | | 0 | 0 | 0 | 0 |
| 07 20 00 STUCCO REPAIRS | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Repair Cracks in STUCCO | :: | 15 LF | :: | 50.00 | : | 750 | 750 | | |
| General STUCCO Wall Repair (allow 10%) | :: | 180 SF | :: | 30.00 | : | 5,412 | 5,412 | | |
| | | | | | | 6,162 | 6,162 | 0 | 0 |
| 07 21 00 THERMAL INSULATION | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Additional Insulation In the Attic | :: | 1,724 SF | :: | 1.00 | : | 1,724 | 1,724 | | |
| Test Exterior Walls for Insul and Patch holes ALLOWANCE | :: | 1 LS | :: | 5,000.00 | : | 5,000 | 5,000 | | |
| | | | | | | 6,724 | 6,724 | 0 | 0 |

| DESCRIPTION | :: | QUANTITY | :: | UNIT $ | : | TOTAL | Immediate | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| **HS-03 Quarters** | | | | | | | | | |
| 07 50 00 ROOFING | | | | | | | | | |
| **Long Term** | | | | | | | | | |
| Demo Roofing and Install New Decra Steel Roofing System | :: | 1,824 SF | :: | 12.00 | : | 21,888 | | | 21,888 |
| | | | | | | 21,888 | 0 | 0 | 21,888 |
| 07 60 00 SHEET METAL FLASHING AND TRIM | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Extend Pipe in North Retaining Wall | :: | 1 EA | :: | 100.00 | : | 100 | 100 | | |
| **Long Term** | | | | | | | | | |
| New Custom Box Gutters | :: | 99 LF | :: | 25.00 | : | 2,466 | | | 2,466 |
| Custom Downspouts | :: | 126 LF | :: | 15.00 | : | 1,890 | | | 1,890 |
| | | | | | | 4,456 | 100 | 0 | 4,356 |
| 07 92 00 JOINT SEALANTS | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Misc Exterior Caulking | :: | 1 LS | :: | 300.00 | : | 300 | 300 | | |
| | | | | | | 300 | 300 | 0 | 0 |
| 08 11 00 DOOR & FRAMES | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Replace Wood Sill @ Door 100-1 | :: | 1 EA | :: | 200.00 | : | 200 | 200 | | |
| Repair Screened Door @ 100-1 | :: | 1 EA | :: | 700.00 | : | 700 | 700 | | |
| Weather Strip Doors 100-2 | :: | 1 PR | :: | 200.00 | : | 200 | 200 | | |
| Repair Door 105-1 | :: | 1 EA | :: | 50.00 | : | 50 | 50 | | |
| **Long Term** | | | | | | | | | |
| Replace OH Coil Door w/ Historically Appropriate Door | :: | 1 EA | :: | 6,000.00 | : | 6,000 | | | 6,000 |
| | | | | | | 7,150 | 1,150 | 0 | 6,000 |
| 08 32 13 STORM WINDOWS | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Repair Storm Windows @ Sun Room | :: | 8 EA | :: | 50.00 | : | 400 | 400 | | |
| **Long Term** | | | | | | | | | |
| Replace Storm Windows @ Sun Room | :: | 13 EA | :: | 250.00 | : | 3,250 | | | 3,250 |
| | | | | | | 3,650 | 400 | 0 | 3,250 |
| 08 52 00 WOOD WINDOWS | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Install Custom Storm Window on Window 103 and 001 | :: | 2 EA | :: | 200.00 | : | 400 | 400 | | |
| Rehabilitate Historic Window and fabricate new Storm Window and Screen for 102 | :: | 1 EA | :: | 2,000.00 | : | 2,000 | 2,000 | | |
| Restore Window 002 & 001 | :: | 2 EA | :: | 400.00 | : | 800 | 800 | | |
| Repair Window 201 Panning and trim | :: | 1 EA | :: | 100.00 | : | 100 | 100 | | |
| Repair Storm Doors 101-2 | :: | 1 PR | :: | 500.00 | : | 500 | 500 | | |
| **Long Term** | | | | | | | | | |
| Replace Windows w/ Historically Appropriate Windows 1st floor | :: | 7 EA | :: | 2,000.00 | : | 14,000 | | | 14,000 |
| Replace Windows w/ Historically Appropriate Windows 2nd floor | :: | 6 EA | :: | 1,800.00 | : | 10,800 | | | 10,800 |
| Replace Windows w/ Historically Appropriate Windows West Side of Sun Room | :: | 5 EA | :: | 1,200.00 | : | 6,000 | | | 6,000 |
| | | | | | | 34,600 | 3,800 | 0 | 30,800 |
| 08 71 00 DOOR HARDWARE | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Repair Lockset in Door 110-1 | :: | 1 EA | :: | 100.00 | : | 100 | 100 | | |
| Weather-strip at Attic Doors | :: | 3 EA | :: | 50.00 | : | 150 | 150 | | |
| **Long Term** | | | | | | | | | |
| Re-plate Hardware @ Bathroom 108 | :: | 1 EA | :: | 200.00 | : | 200 | | | 200 |
| | | | | | | 450 | 250 | 0 | 200 |
| 08 80 00 GLAZING | | | | | | | | | |
| | :: | | :: | | : | 0 | | | 0 |
| | | | | | | 0 | 0 | 0 | 0 |
| 09 20 00 PLASTER REPAIR | | | | | | | | | |
| | :: | | :: | | : | 0 | 0 | | |
| | | | | | | 0 | 0 | 0 | 0 |
| 09 21 16 GYPSUM SYSTEMS | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Plaster Repair Cracks on Interior ALLOWANCE | :: | 200 LF | :: | 12.00 | : | 2,400 | 2,400 | | |
| **Long Term** | | | | | | | | | |
| Demo and Install New Drywall w/ Skim Coat Ceiling in Dining Room | :: | 198 SF | :: | 12.00 | : | 2,380 | | | 2,380 |
| Demo and Repair Ceiling and Walls in Bedroom 109 | :: | 642 SF | :: | 7.00 | : | 4,497 | | | 4,497 |
| | | | | | | 9,276 | 2,400 | 0 | 6,876 |
| 09 64 00 WOOD FLOORING | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Verify and repair transitions at wood flooring and steps | :: | 4 EA | :: | 150.00 | : | 600 | 600 | | |
| **Long Term** | | | | | | | | | |
| Restore Wood Floors in 100 and 101 | :: | 416 SF | :: | 4.75 | : | 1,975 | | | 1,975 |
| | | | | | | 2,575 | 600 | 0 | 1,975 |
| 09 90 00 PAINTING | | | | | | | | | |
| **Immediate** | | | | | | | | | |
| Paint Existing Garage Door | :: | 1 EA | :: | 150.00 | : | 150 | 150 | | |
| Misc Stucco Painting | :: | 1 LS | :: | 500.00 | : | 500 | 500 | | |
| Paint Interior Walls after Plaster Repairs ALLOWANCE | :: | 1 LS | :: | 3,000.00 | : | 3,000 | 3,000 | | |
| Misc Paint/Stain Wood Trim/Siding/Windows | :: | 1 LS | :: | 1,250.00 | : | 1,250 | 1,250 | | |
| Paint/Stain Wood Trim/Siding/Windows @ Sun Room | :: | 188 SF | :: | 5.00 | : | 938 | 938 | | |
| | | | | | | 5,838 | 5,838 | 0 | 0 |
| 10 14 00 SIGNS | | | | | | | | | |
| | :: | | :: | | : | 0 | | | 0 |
| | | | | | | 0 | 0 | 0 | 0 |

| DESCRIPTION | QUANTITY | UNIT $ | TOTAL | Immediate | Short Term | Long Term |
|---|---|---|---|---|---|---|
| **HS-03 Quarters** | | | | | | |
| 10 28 00 TOILET AND BATH ACCESSORIES | | | | | | |
| | | | 0 | | | 0 |
| | | | 0 | 0 | 0 | 0 |
| 10 44 00 FIRE-PROTECTION SPECIALTIES | | | | | | |
| **Immediate** | | | | | | |
| Fire Escape Ladders for Bedrooms | 2 EA | 250.00 | 500 | 500 | | |
| | | | 500 | 500 | 0 | 0 |
| 21 00 00 FIRE PROTECTION | | | | | | |
| not applicable | | | 0 | 0 | | |
| | | | 0 | 0 | 0 | 0 |
| 22 00 00 PLUMBING | | | | | | |
| not applicable | | | 0 | 0 | | |
| | | | 0 | 0 | 0 | 0 |
| 23 00 00 HVAC | | | | | | |
| **Immediate** | | | | | | |
| Extend Exhaust Fan Vents Through Roof | 2 EA | 300.00 | 600 | 600 | | |
| Unit Heater in Crawl Space | 1 EA | 850.00 | 850 | 850 | | |
| Install Heat Trace on Sump Pit Piping | 1 EA | 150.00 | 150 | 150 | | |
| **Long Term** | | | | | | |
| New HVAC System | 2,936 SF | 15.00 | 44,044 | | | 44,044 |
| | | | 45,644 | 1,600 | 0 | 44,044 |
| 26 00 00 ELECTRICAL | | | | | | |
| **Immediate** | | | | | | |
| Remove unused telephone equipment and relocate exposed wiring to interior South Elev | 1 LS | 200.00 | 200 | 200 | | |
| Clean Restore and Rewire Historic Chandelier | 1 EA | 200.00 | 200 | 200 | | |
| Install GFCI Outlets @ Existing Locations | 8 EA | 150.00 | 1,200 | 1,200 | | |
| Install Local Disconnect Switch | 2 EA | 350.00 | 700 | 700 | | |
| New Outlet for Crawl Space 006 | 1 EA | 100.00 | 100 | 100 | | |
| **Long Term** | | | | | | |
| Replace Fixtures w/ Historically appropriate fixtures | 6 EA | 600.00 | 3,600 | | | 3,600 |
| Replace outlets in Dining Room | 2 EA | 50.00 | 100 | | | 100 |
| Install Light in Hall 106 | 1 EA | 600.00 | 600 | | | 600 |
| | | | 6,700 | 2,400 | 0 | 4,300 |
| 31 20 00 EARTH MOVING | | | | | | |
| **Immediate** | | | | | | |
| Regrade at West and South Side of House | 49 SY | 8.00 | 394 | 394 | | |
| | | | 394 | 394 | 0 | 0 |
| 31 48 13 UNDERPINNING PIERS | | | | | | |
| | | | 0 | 0 | | |
| | | | 0 | 0 | 0 | 0 |
| 32 13 13 CEMENT CONCRETE PAVING | | | | | | |
| **Immediate** | | | | | | |
| Sawcut and Install Soft Joint | 39 LF | 40.00 | 1,545 | 1,545 | | |
| | | | 1,545 | 1,545 | 0 | 0 |
| 32 92 00 LAWN & GRASSES | | | | | | |
| Seed | 49 SY | 3.00 | 148 | 148 | | |
| | | | 148 | 148 | 0 | 0 |
| 33 10 00 WATER DISTRIBUTION | | | | | | |
| | | | 0 | | | 0 |
| | | | 0 | 0 | 0 | 0 |
| 33 30 00 SANITARY SEWERAGE | | | | | | |
| | | | 0 | | | 0 |
| | | | 0 | 0 | 0 | 0 |
| 33 40 00 STORM DRAINAGE | | | | | | |
| Install Drain in Window Well and connect to existing French Drain ALLOWANCE | 1 EA | 1,500.00 | 1,500 | | | 1,500 |
| | | | 1,500 | 0 | 0 | 1,500 |
| 33 46 16 FOUNDATION DRAINAGE SYSTEMS | | | | | | |
| | | | 0 | | | 0 |
| | | | 0 | 0 | 0 | 0 |

| DESCRIPTION | QUANTITY | UNIT $ | TOTAL | Immediate | Short Term | Long Term |
|---|---|---|---|---|---|---|
| **HS-03 Quarters** | | | | | | |
| **Alternates:** | | | | | | |
| Alternate #1 Fire Rate Garage | | | | | | |
| Install New Door and Frame @ 001-2 | 1 EA | 1,750.00 | 1,750 | | | |
| Install New Door in Existing Frame @ 001-1 & 002-1 | 2 EA | 850.00 | 1,700 | | | |
| Fire Rate Exposed Wood Beam | 7 LF | 45.00 | 315 | | | |
| Fire Stop @ all Penetrations | 1 LS | 300.00 | 300 | | | |
| Replace Crawl Space Access Door w/ Solid Door | 1 EA | 150.00 | 150 | | | |
| Misc Fireproofing @ Structure | 1 LS | 750.00 | 750 | | | |
| | | | 0 | | | |
| General Requirements | 1 LS | 744.75 | 745 | | | |
| | subtotal | | 5,710 | | | |
| | Contractor's Fee | 10% | 571 | | | |
| | subtotal | | 6,281 | | | |
| | Design/Estimate Contingency | 25% | 1,570 | | | |
| | subtotal | | 7,851 | | | |
| | Escalation to Mid-Point - 04/15/2017 | 4% | 288 | | | |
| | **TOTAL** | | **8,139** | | | |