

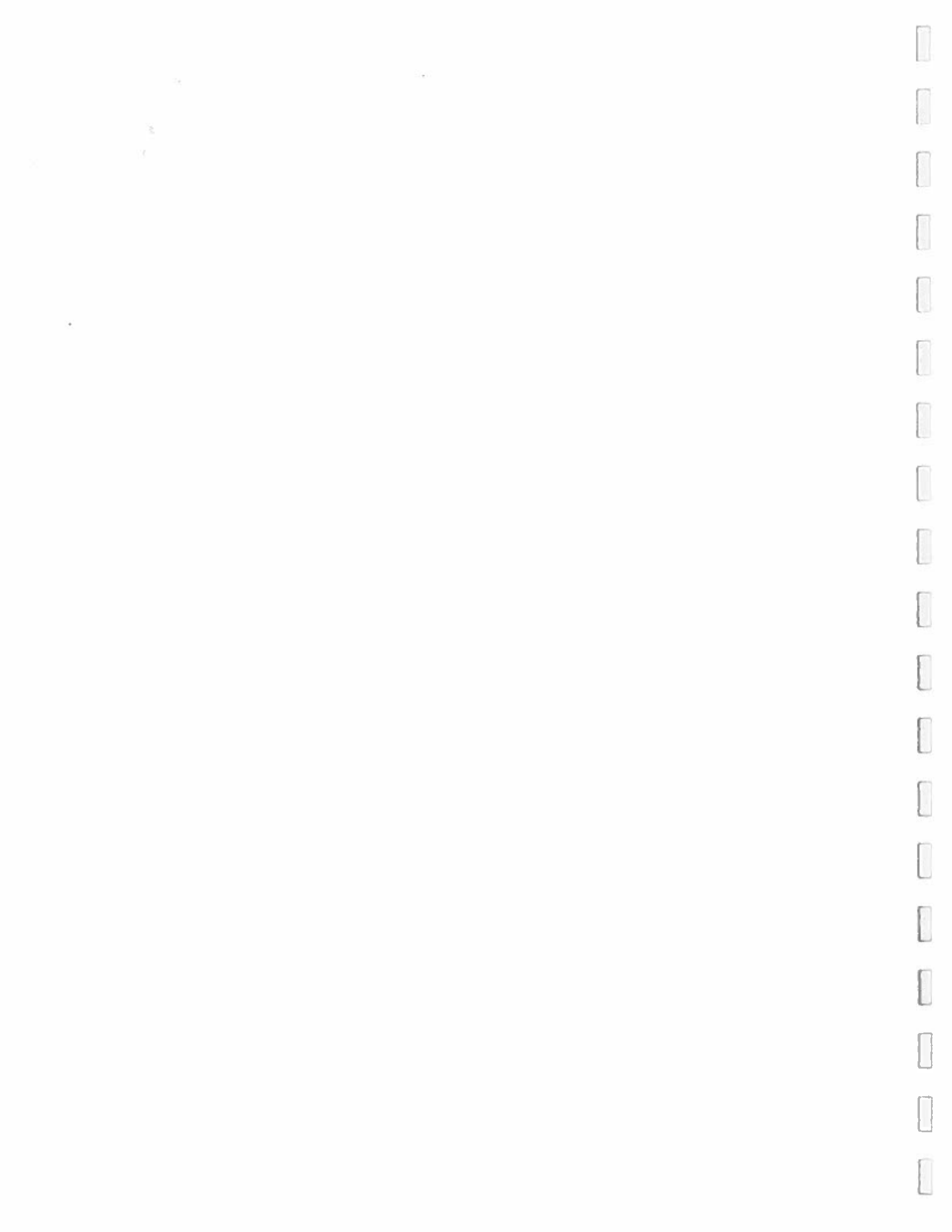


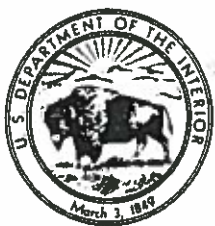
FISHING BRIDGE MEN'S DORMITORY Yellowstone National Park

June, 2012

Historic Structure Report







UNITED STATES DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Business Management Division

P.O. Box 168

Yellowstone National Park

Wyoming 82190-0168

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TO: Zehra Osman

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FISHING BRIDGE MEN'S DORMITORY YELLOWSTONE NATIONAL PARK

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EXECUTIVE SUMMARY

This Historic Structure Report (HSR) provides historical and architectural information pertinent to the building commonly known as Hamilton Stores dormitory at Fishing Bridge. Located adjacent to the company's store, this building was originally built at a bathhouse. The purpose of this report is to identify the significant character-defining architectural features of the building and to provide general guidance for treatment. Part 1 contains general contextual information pertinent to the development of concession infrastructure at Fishing Bridge, as well as building-specific information regarding construction and modifications to the dormitory. Part 1C documents the existing appearance and condition of the building, and enumerates its character-defining architectural features.

Part 2, Treatment and Use provides a recommendation for an appropriate level of preservation treatment for the building. This section of the HSR includes a list of alternative actions designed to preserve the character-defining features of the building and achieve the ultimate treatment. In general, it is recommended that modifications be limited to those associated with updating the interior of the building and with health and fire safety issues.

James R. McDonald of A&E Architects, assisted by Jobe Bernier (Architect in Training) conducted the preliminary condition assessment of the exterior of the dormitory in the fall of 2011. McDonald documented the building's significant architectural elements, identified areas of deterioration, and formulated the treatment recommendations. Tom Beaudette, of Beaudette Consulting Engineers conducted the structural assessment that informed some of the treatment recommendations. Associated Construction Engineers completed an analysis of the mechanical, electrical, plumbing, and fire suppression systems.

Janene Caywood, CRCS, prepared the historical data sections of this document. Caywood conducted research in the Yellowstone Park Archives and the Yellowstone Park Library, both located in the Yellowstone Heritage and Research Center in Gardiner, Montana and in the Montana State Historical Society in Helena. She also contacted the Technical Information Center at the National Park Service's, Denver Service Center, to find plans and drawings pertinent to the building. Secondary works, including Mary Shivers Culpin's *A History of Concession Development in Yellowstone National Park, 1872-1966*, provided additional information regarding the general concession history in the park.¹

Major Findings: Little information is available regarding the history of the Hamilton Stores dormitory at Fishing Bridge. No plans or drawings have been located for either the original construction in 1931, or its conversion to a dormitory in 1951.

¹ Mary Shivers Culpin, 2003 *A History of Concession Development in Yellowstone National Park, 1872-1966*. National Park Service, Yellowstone Center for Resources, Yellowstone National Park, Wyoming, Document No. YCR-CR-2003-01.

Administrative Data

Common Name: Hamilton Stores Inc. Dormitory at Fishing Bridge

Historic Name: Brothers' Fishing Bridge Bathhouse (1931 – 1933)

Smithsonian Number: None

Historic Structure Number: HS-5105

LCS Number: 050505

Locational Data: USGS Lake Butte, Wyoming 7.2 minute quadrangle

UTM point references: Zone 12, 549816 m N / 4934507 m E

Proposed Level of Preservation Treatment: The proposed level of preservation treatment for the Hamilton Stores, Inc. Dormitory at Fishing Bridge is *rehabilitation*, which is defined as "as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values."²

Related Studies: List of Classified Structures, updated 2008.

Date of listing in the National Register: The Fishing Bridge Historic District was determined eligible by the Keeper of the National Register of Historic Places on November 5, 1981. The district has not been listed.

Period and level of significance: The period of significance for the district is 1924 to 1942, and it is eligible at the State level.

National Register Criteria and Areas of Significance: The district was determined eligible under Criteria A and C.

² Director's Order 28 (NPS-28) Cultural Resource Management Guideline, Appendix A: Glossary, p.9. NPS Office of Policy (http://www.nps.gov/history/history/online_books/nps28/28appena.htm, accessed 11/14/2008).

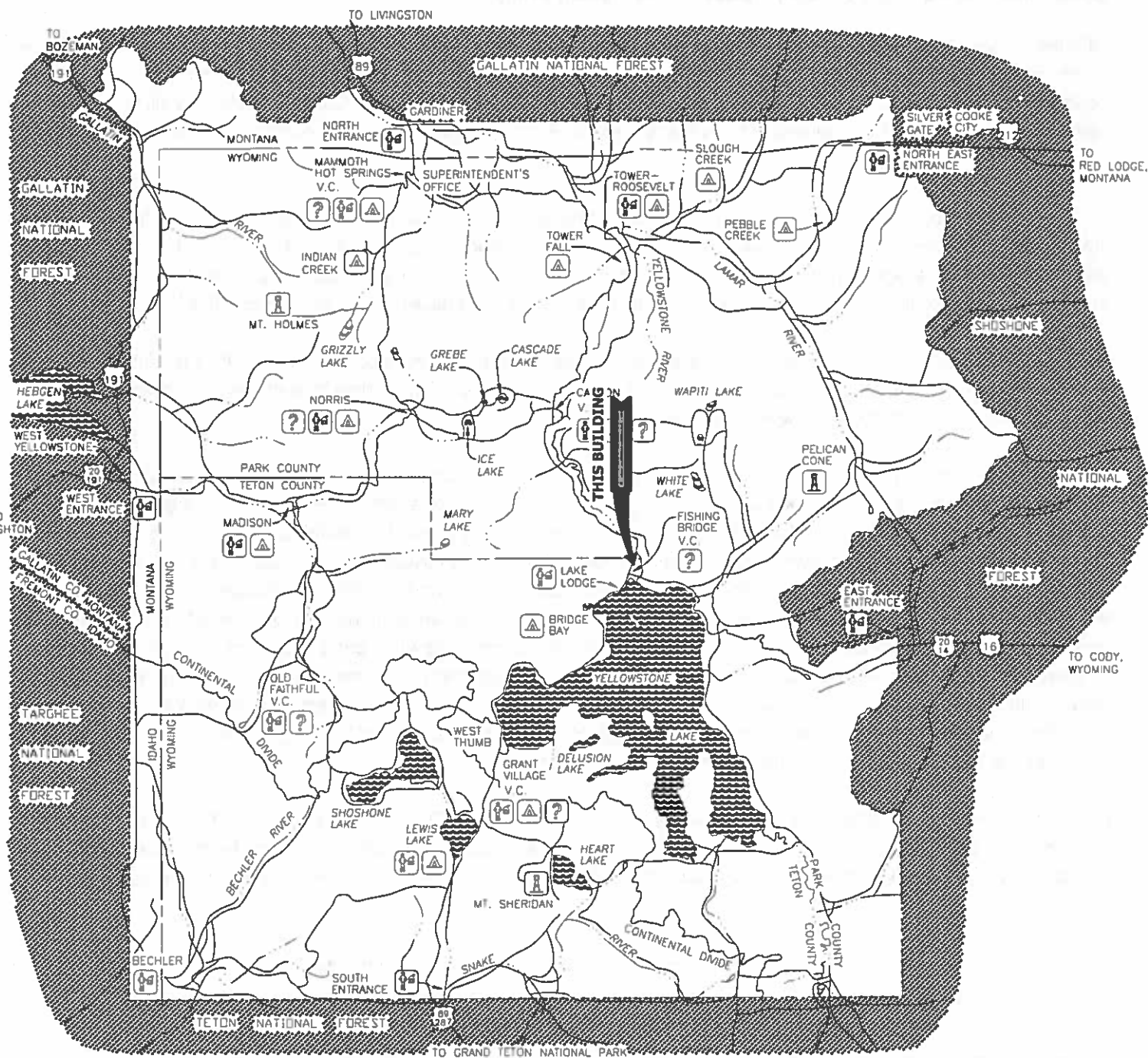


FIGURE 1 - LOCATION PLAN



NO SCAL

Part 1. Developmental History

A. Historical Background and Context

Development of Hamilton Stores Concessions at Fishing Bridge.

Charles A. Hamilton began his career in Yellowstone National Park in 1905, when he went to work during the summer for the park's major concessioner, the Yellowstone Park Association. Between 1905 and 1915, Hamilton held several positions within the company, serving for a time as secretary to its president, Harry Child. In 1915, Hamilton bought the store built in 1897 by Henry Klammer at Upper Geyser Basin. From these beginnings, Hamilton expanded his business in the park.

In 1924, Hamilton built a small store at Fishing Bridge. In his annual report for the year, Superintendent, Horace Albright stated, "Mr. Hamilton built also this year small but very attractive store structures at West Thumb of Lake Yellowstone and at the Fishing Bridge."³ The following year he began enlarging the Fishing Bridge store to double its original size and installed a Delco lighting plant. The addition was complete and the entire building painted in 1926.⁴

Between 1928 and 1929, Hamilton constructed new stores at both Fishing Bridge and the Old Faithful auto camp. Albright described them in his annual report for 1929 as having 150 feet of frontage with a 48-person capacity dormitory above.⁵ The Fishing Bridge store was completed in 1931.⁶

Early in 1930, Henry Brothers, who held a contract to operate the bathhouse and swimming pool at Old Faithful, submitted a prospectus to the park superintendent for the construction of a bathhouse and swimming pool at Fishing Bridge, presumably to serve the adjacent auto-camp. Brothers planned to build the bathhouse first and to follow with by a pool and lockers, if conditions warranted. Superintendent, Roger Toll, forwarded the prospectus to the National Park Service's Landscape Division in San Francisco. Assistant Landscape Architect, Kenneth McCarter, responded to the superintendent that it would be necessary for Brothers to submit a "full set of plans covering the future addition of the pool and lockers in order that we may know what the entire building will be when completed."⁷ H. B. Hommon, Sanitary Engineer with the Public Health Service in San Francisco also responded to Superintendent Toll, stating that the plans were not in sufficient detail except to give an opinion that the arrangements for the toilets and showers for the pool were not satisfactory in any way. Further, he stated "Probably Mr. Brothers has in mind building the front part of the building shown on the plans this spring and the pool and dressing rooms later."⁸

Apparently, Brothers complied with the requests from the Landscape Division. In a report to the Chief Landscape Architect, Kenneth McCarter indicated that in May of 1931, "Mr. Brothers' building at Fishing Bridge was progressing satisfactorily."⁹ It was described as a two-story log and frame building, 31' 5" by 46' 4", with a reinforced concrete

³ Horace Albright, Annual Report for Yellowstone National Park, 1924, Washington, Government Printing Office, p.24.

⁴ Horace Albright, Annual Report for Yellowstone National Park, 1925, Washington, Government Printing Office, p.34; Annual Report for Yellowstone National Park, 1926, Washington, Government Printing Office, p.33.

⁵ Horace Albright, Annual Report for Yellowstone National Park, 1929, Washington, Government Printing Office, p.44.

⁶ Roger W. Toll, Annual Report for Yellowstone National Park, 1931, Washington, Government Printing Office, p.15.

⁷ Kenneth C. McCarter to Roger Toll, February 13, 1930. Folder 8, 1930 Landscape Division Matters, Box D-38, Yellowstone National Park Archives, National Archives and Records Administration, Gardiner, Montana, (herein after cited as NARA-Yellowstone).

⁸ H. B. Hommon to Roger Toll, February 8, 1930. Folder 8, 1930 Landscape Division Matters, Box D-38, NARA-Yellowstone.

⁹ K. C. McCarter and H. W. Baker, "Report to Chief Landscape Architect" June 1, 1931. File no 329, June 1, 1931 Box L-56 Landscape Architect Reports 1922-1953 as NARA-Yellowstone

basement and shingle roof. It had living apartments on the second floor, 14 showers, two bathtubs and an office on the first floor with a public laundry and heating plant in the basement. The total cost of construction was \$8,931.¹⁰

In 1933, C. A. Hamilton purchased all of H. P. Brothers' facilities in the park. Superintendent Toll noted the sale in his annual report: "C. A. Hamilton has purchased the park operations of H. P. Brothers, consisting of swimming pools and bathhouses. He is now extensively remodeling the pool at Old Faithful which will be completed early in June."¹¹ Presumably, Hamilton Stores, Inc. continued to use the bathhouse for its original intended purpose.

During the period after World War II, resources and labor were scarce and park concessioners often moved buildings from one place to another to meet business needs. Once such request came in 1947, when Hamilton Stores, Inc. proposed moving the Fishing Bridge bathhouse to Old Faithful, where it would be used as a house for the company's manager Trevor Povah.¹² This move was either not approved by the park administration or the company changed its plans, because by 1950, the company used the bathhouse as additional housing for its 56 seasonal employees. In an analysis of Hamilton Stores, Inc., business prepared by Assistant Superintendent, Fred T. Johnson, stated:

At Fishing Bridge it became necessary after the war for the corporation to utilize its building which was formerly used as a bath-house to supplement the quarters facilities located in the store. By the use of this building for employee housing the quarters situated at this location is satisfactory at this time.¹³

In 1951, Trevor Povah, Vice President of Hamilton Stores, Inc. submitted a proposal to formally convert the bath house to a more functional dormitory. Superintendent, Edmund B. Rogers responded to the submittal as follows:

We have been looking over the proposed changes in the plans ... and although they involve outside changes of windows only and the placement of a fire escape we believe hat some of the arrangements could be improved. The plans, therefore, are cleared for the start of the interior and exterior changes on condition that a better arrangement is provided for the location of the heater stoves.

The space heaters as shown have long horizontal stacks and on the ground floor the entrance to three rooms thus becomes a trap in case of fire at the stove and on the second floor it is worse for two rooms. Obviously more space will be required around the stoves. The plans also do not show how hot water will be heated for the washrooms.

The plans should be changed and resubmitted before you carry out this portion of the work and we hope that we may have your cooperation on this project.¹⁴

Although Hamilton Stores, Inc. proceeded with the renovation of the building, they did not submit the revised plans to the park. In May of 1952, Superintendent Rogers indicated that they had no record of an approved set of plans and indicated that he would like to have a set for his Service files, "including such modification which were recommend at that time to correct shortcoming of the circulation within the structure." Rogers authorized the finishing of the exterior of the building as follows:

¹⁰ LCS Form for Hamilton Stores, Inc., Dormitory at Fishing Bridge, 1999

¹¹ Roger Toll, Annual Report for Yellowstone National Park 1933, Washington, Government Printing Office, p. 23.

¹² Superintendent's Monthly Report for July, 1947, p. 5.

¹³ Fred T. Johnson, "An Analysis of the Business of the Hamilton Stores, Incorporated in Yellowstone National Park," p. 27. December 1, 1950, Box No C-28 "Correspondence regarding building projects by Hamilton Stores, 1928-1953; plans by Hamilton's building, 1941-1947," NARA-Yell.

¹⁴ Edmund B. Rogers to T. S. Povah, September 19, 1951, Box C-66, NARA-Yell.

Paint the exterior of the building. We recommend that a light brown stain or an oil be used rather than paint at this time. The window sash and doors are recommended a medium chrome green.

Reshingle the roof. If you are not able to obtain the 24-inch shingles we recommend the standard lap and double each fifth or sixth course when the 17-inch shingle are used.

Install a metal fire escape on the rear of the dormitory similar to that now installed on the east end of the cabin office building in the Old Faithful area.¹⁵

In his annual report for 1952, Superintendent Rogers indicated that the conversion from bathhouse to dormitory was complete.¹⁶

¹⁵ Edmund B. Rogers to T. S. Povah, May 23, 1952,, Box C-66, NARA-Yell

¹⁶ Edmund Rogers, Annual Report for Yellowstone National Park 1952, Washington, Government Printing Office, Item 15 "Concession Improvements"

B. Chronology of Development and Use

Development and Use of the Hamilton Stores Dormitory Site

The concession area at Fishing Bridge was included in early master plans for Yellowstone National Park. This area once included a large housekeeping cabin area and an auto-camp.

Development and Use of the Men's Dormitory

Henry Brothers proposed the construction of a bathhouse at Fishing Bridge in 1930, and the building was complete by 1931. In 1933, Charles Hamilton purchased all of Henry Brothers business improvements in the park, including the Fishing Bridge bathhouse. Initially, Hamilton may have used the apartments on the second floor to house his employees, while keeping the main floor shower facility and the basement laundry open to the public.

In 1951, however, Hamilton Stores, Inc. converted the interior to a dormitory, removing the showers and bathtubs on the first floor and the apartments on the second floor, and replacing them with nine sleeping rooms, a lounge, and a bath on each of the two floors.

Form No. 10-768 Maintenance Form, completed in 1950, indicates that an original 17' by 29'6" log framed porch was replaced with the current, smaller, lean-to porch at an unknown date (Figure 2). Other, undated modifications include the removal of the log-out framing and replacement of windows on the north wall of the building.



Figure 2. Undated photograph of the original porch
(Courtesy Yellowstone National Park Photo Archives, YELL 29938)

C. Physical Description (Existing Condition)

Site

The dormitory is one of four concession buildings remaining in the Fishing Bridge area. The buildings (including Hamilton's Fishing Bridge Store, a gas station, a repair shop and the dormitory) are arranged in a linear fashion on the north side of an access road that branches from the East Entrance Road. A stone-lined asphalt path runs past the front (south) walls of the buildings. A stone-lined boulevard separates the East Access Road from the parking area for the service buildings. The area surrounding the buildings, including the boulevard, contains a dense stand of native lodge pole pine.

Dormitory Building

The two-story, rectangular, wood- and log-frame dormitory is constructed on a tall concrete basement. Wood shingles cover the hip roof of the main building and the porch. Dimensional lumber fascia cover the rafter ends. Horizontally applied 7" shiplap siding encloses the exterior walls, with log framing applied over the siding. Window styles include eight-by-eight and one-by-one-light paired casements. Three-light awning windows and one, one-light fixed-sash window are present at the basement level. The windows have wood-framed screens. Window finishes include log frames with wood-plank sills and 3" board trim.

On the south elevation, a one-story open porch framed with logs shelters a pair of six-light, one-panel doors in the center of the wall. The entrance is flanked on either side by two pairs of eight-by-eight-light casement windows. The porch floor is covered with 5½ planks. Concrete footings support peeled-log columns and log poles form a single rail along the south side of the porch. Concrete steps lead to both the east and west sides of the porch. Second-story fenestration is similarly symmetrical: a pair of centered, eight-by-eight-light casement windows, flanked on either side by two pairs of eight-by-eight-light casement windows. The exposed concrete basement wall contains a one-light, fixed-sash window on both sides of the porch.

The east wall has two evenly-spaced pairs of eight-by-eight-light casement windows at both the first and second stories (the glazing pattern of the first story, north window has been modified). The basement level contains three, small, three-light awning windows off-center to the south.

The west side has three evenly-spaced pairs of eight-by-eight-light casement windows at both the first and second stories. The basement level contains three, three-light awning windows off-center to the south, and a concrete stairwell leading to vertical-board entry door at the north end of the wall.

The remodeled north (rear) wall does not have the exposed-log framing and is sided with 10" shiplap siding. A steep, dimensional-lumber stairway leads to a second-story, one-light, wooden entry door offset at the west edge of the wall. The door is flanked by a pair of one-light casement windows, and a third one-by-one-light casement window is located on the east side of the second-story. First-story fenestration is limited to two pair of one-by-one-light casements windows off-center east of center. A single, one-light fixed-sash window is located on the west side of the concrete basement.

CONDITION ASSESSMENT¹⁷

The Fishing Bridge Men's Dormitory is in fair condition overall, with some materials in good condition, but also some in poor condition. Most of the original character-defining features remain. The logs, wall boards, porch and entrance along with the windows remain on the exterior. The interior has the original spaces, wood paneled doors, and wood beadboard walls and ceilings. There have been some wall additions to separate the floors and the original wood floor has been covered over with sheet vinyl. The condition of these features varies throughout the building. The exterior of the building is in fair condition with some deteriorated log work and the finishes are in poor condition. The interior is in fair condition with wear on many of the surfaces. There are many fire and life safety code violations that provide problems for the building and especially the occupants. All floors have egress problems that affect the use as a dormitory where there are sleeping rooms. The building is stable but lack of maintenance has been poor with some exceptions as the roof and some fire and life safety features. However the building needs to be renovated in order to be maintained. The condition of the building is as follows:

Exterior

- Poor drainage around the base of the building, especially on the south main entrance side. The walkways to the front of the building slope into the porch as well as the basement window wells.
- Some concrete deterioration on the foundation. This occurs especially on the northeast and west sides of the building.
- Weathered logs and sheathing. Finishes are poor. All of the logs and wood are very dry.
- Some cracked and weathered log work.
- Some rot in the horizontal logs and bases of the columns.
- Windows have peeling paint and some weathering. There are some missing muntins in the windows that have been replacements with larger pieces of glass. The screens are work and in some cases the corners have rotted and are falling apart.
- The main doors have deteriorated wood stiles and hinged areas.
- The fascia and soffit materials are weathered and have rotted areas.
- The roof is in fair condition with no gutters to protect the walls. The shingles are curling on both the porch roof and the main roof. Some of the shingles are loose on the front porch at the top and at the peak of the main roof.
- There is some deterioration in the mortar of the brick chimney. Metal flashing is poor.
- The front porch is worn and the steps are settling, causing problems with the risers. The log railing needs work and part of the original railing has been removed.
- The concrete stairs to the basement do not meet code and there are no railings around and down into the opening.

Basement

¹⁷ The condition assessments are based upon the List of Classified Structures condition definitions as follows:

Good: The structure and significant features are intact, structurally sound, and performing their intended purpose. The structure and significant features need no repair or rehabilitation, but only routine or preventative maintenance.

Fair: A structure is in fair condition if there are early signs of wear, failure, or deterioration though the structure and its features are generally structurally sound and performing their intended purpose; or, there is failure of a significant feature of the structure.

Poor: A structure is in poor condition if any of the following conditions is present: a) the significant features are no longer performing their intended purpose; or, b) significant features are missing; or, c) deterioration or damage affects more than 25 percent of the structure; or, d) the structure or significant features show signs of imminent failure or breakdown.

- Only one exit from the floor that does not meet code. The exit door also does not have any exit hardware and it does not swing out of the space.
- Some deteriorating concrete walls.
- Water staining around the window openings as well as from above in the bathroom area.
- The steel sash windows are fair with some peeling paint and deteriorating putty.
- Lighting is poor.
- Water backs up into the laundry space when in use. A sump pump is installed to help with this situation.
- The wood paneling is in fair condition on the two walls.

First Floor

- Only one exit from the floor that does not meet code. The exit door has no exit hardware and it swings out into the second floor corridor exit.
- The floor is not accessible.
- The bathrooms along with the sleeping rooms do not meet the 2010 ADA code.
- The sheet vinyl floors are generally in good condition, but show some wear.
- The windows are worn and do not fit well in the openings in some cases. The hardware is loose and in some cases do not latch or close properly to secure the windows. Some of the blinds are broken and do not work properly.
- The room entrances originally had a half glass door. The glass has been covered over with a plywood cover. There are some broken wood panels in the closet doors.
- The wood bead board walls and ceilings are generally in good condition.
- The original wood bead board walls and ceiling was varnished or lightly stained. They have been painted over with white paint. The windows appeared to have a green color on the inside but have been painted over with white paint.
- Lighting is poor and the electrical systems are surface run throughout the floor.

Second Floor

- This floor has two exits, however, the entrances to the stairs are located together and do not meet the fire and life safety codes for separation of at least half the diagonal of the floor..
- The bathrooms are in fair condition but have some mold.
- The sheet vinyl floors are generally in good condition, but show some wear.
- The windows are worn and do not fit well in the openings in some cases. The hardware is loose and in some cases do not latch or close properly to secure the windows. Some of the blinds are broken and do not work properly.
- The room entrances originally had a half glass door. The glass has been covered over with a plywood cover. There are some broken wood panels in the closet doors.
- The wood bead board walls and ceilings are generally in good condition.
- The original wood bead board was varnished or lightly stained. It has been painted over with a white paint. The windows appear to have a green color on the inside but have been painted over with white paint..
- Lighting is poor and the electrical systems are surface run throughout the floor.

NOTE: SEE THE FOLLOWING PLANS AND PHOTOS FOR MORE DETAIL.

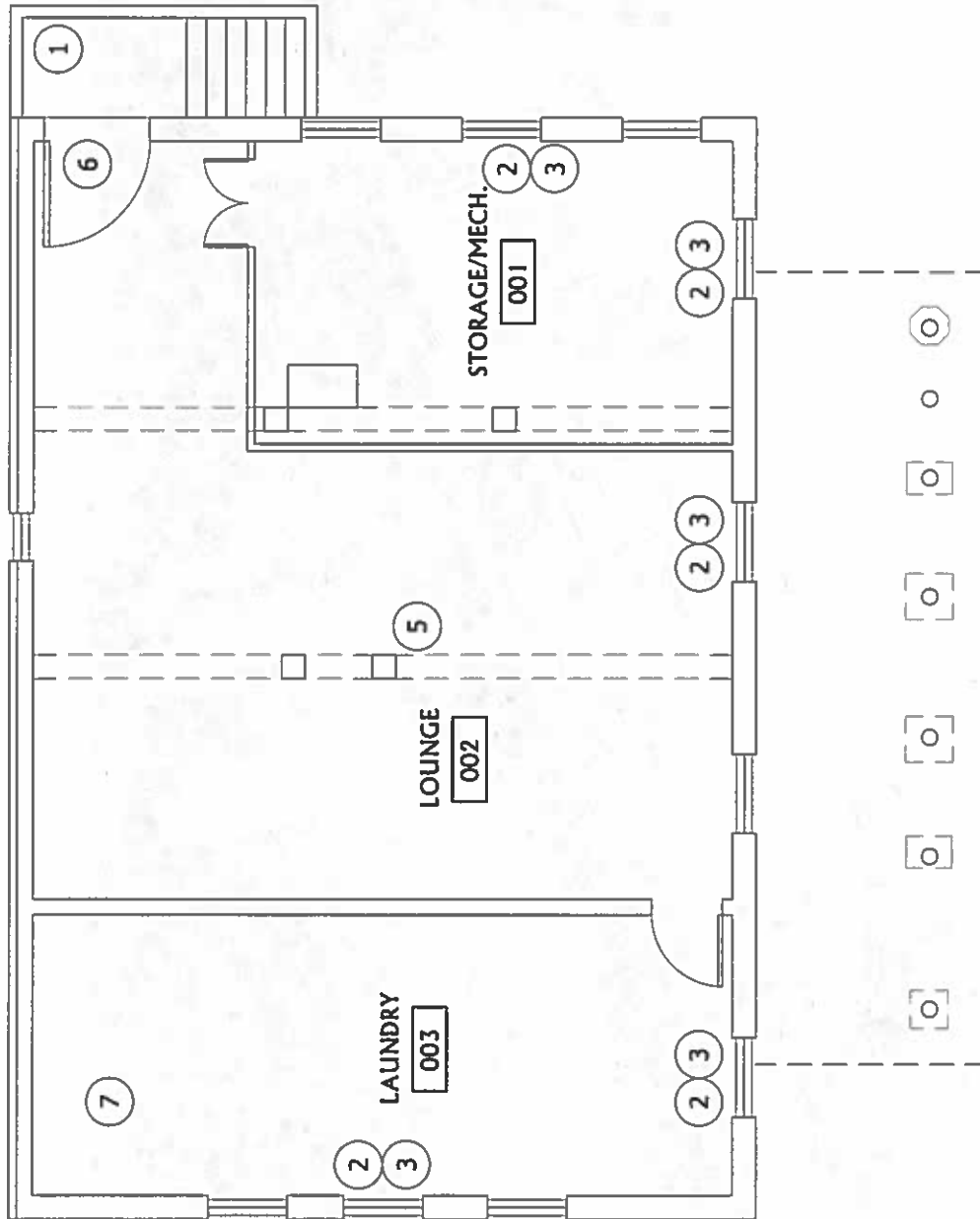


FIGURE 3 - SITE PLAN

CONDITION ASSESSMENT



1" = 200'

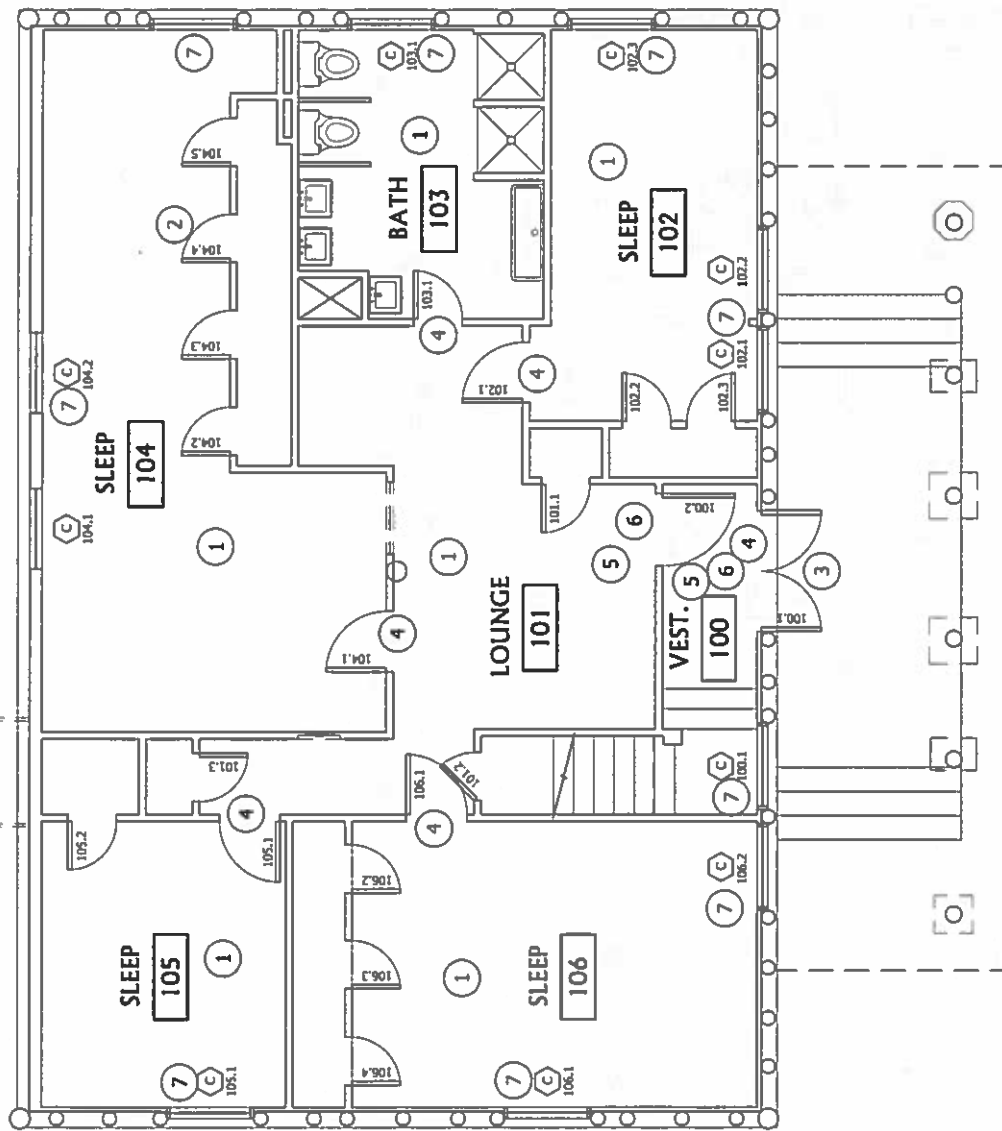


INTERIOR CONDITION NOTES:

1. DETERIORATED CONCRETE WALLS
2. WATER STAINING AROUND WINDOWS
3. STEEL SASH WINDOW PUTTY DETERIORATING
4. PAINT PEELING
5. LIGHTING IS POOR
6. EXITING DOES NOT MEET CODE
7. WATER BACKS UP INTO BASEMENT LAUNDRY



FIGURE 4 - LOWER LEVEL FLOOR PLAN CONDITION ASSESSMENT



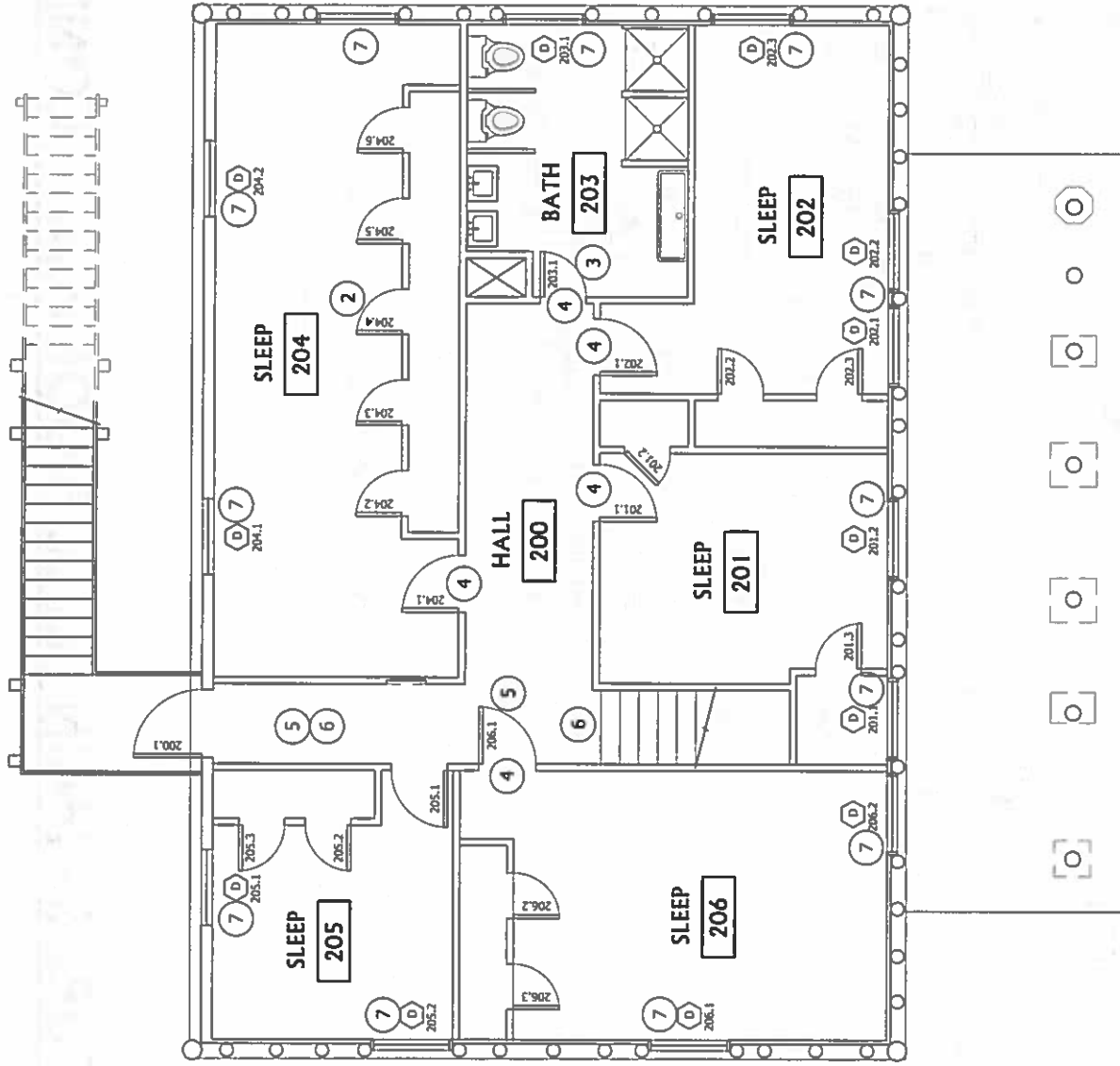
INTERIOR CONDITION NOTES:

1. FINISH MATERIALS WORN THROUGHOUT THE FLOOR
2. MISSING PANELS ON SOME DOORS
3. BATHROOMS AND ACCESS DO NOT MEET ADA 2010 CODES
4. DOORS AND HARDWARE NEED WORK
5. POOR LIGHTING AND EXITING DEVICES
6. EXITING FROM THE FLOORS DO NOT MEET CODE
7. WINDOWS NEED SOME FINISH WORK.



FIGURE 5 - MAIN LEVEL FLOOR PLAN CONDITION ASSESSMENT

1/8" = 1'-0"

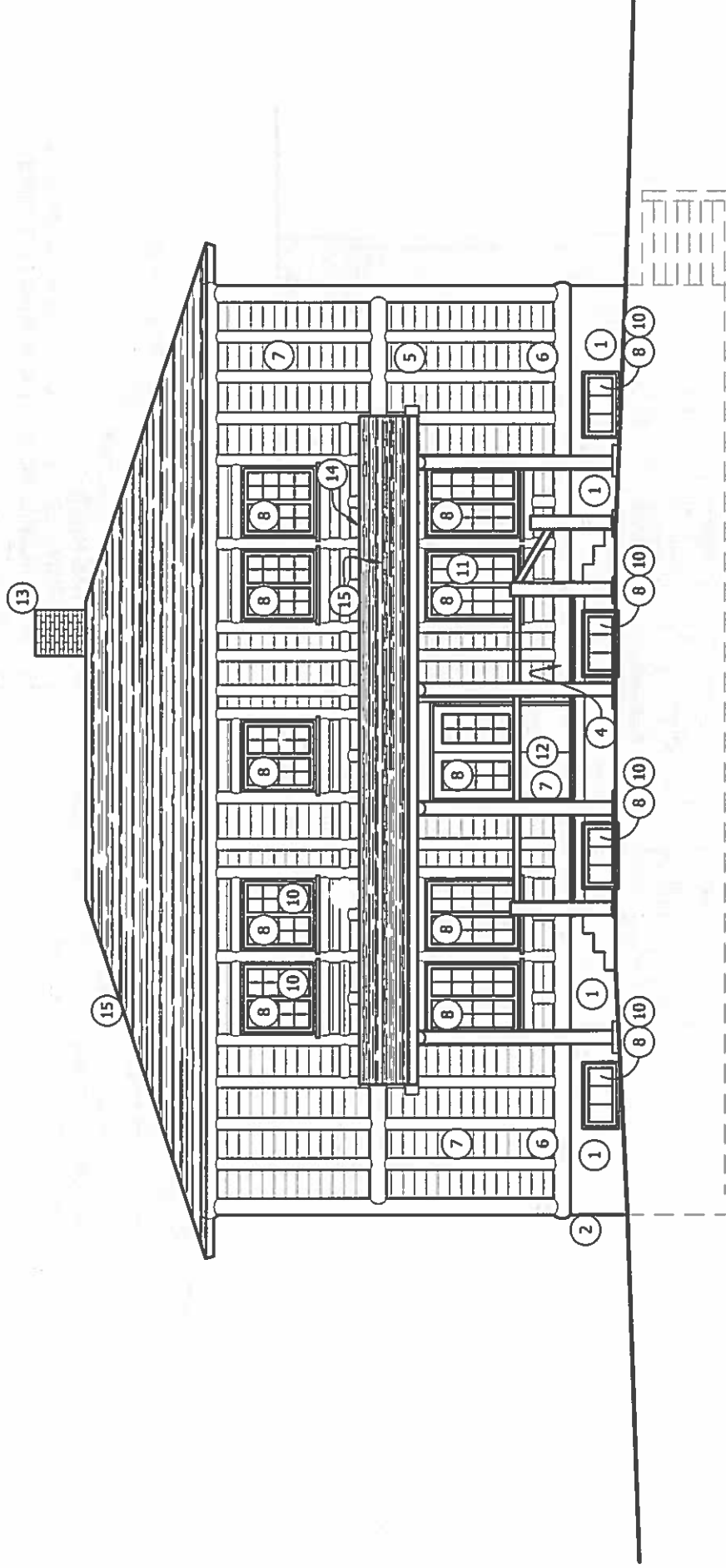


INTERIOR CONDITION NOTES:

1. FINISH MATERIALS WORN THROUGHOUT THE FLOOR
2. MISSING PANELS ON SOME DOORS
3. BATHROOMS AND ACCESS DO NOT MEET ADA 2010 CODES
4. DOORS AND HARDWARE NEED WORK
5. POOR LIGHTING AND EXITING DEVICES
6. EXITING FROM THE FLOORS DO NOT MEET CODE
7. WINDOWS NEED SOME FINISH WORK.



FIGURE 6 - UPPER LEVEL FLOOR PLAN CONDITION ASSESSMENT



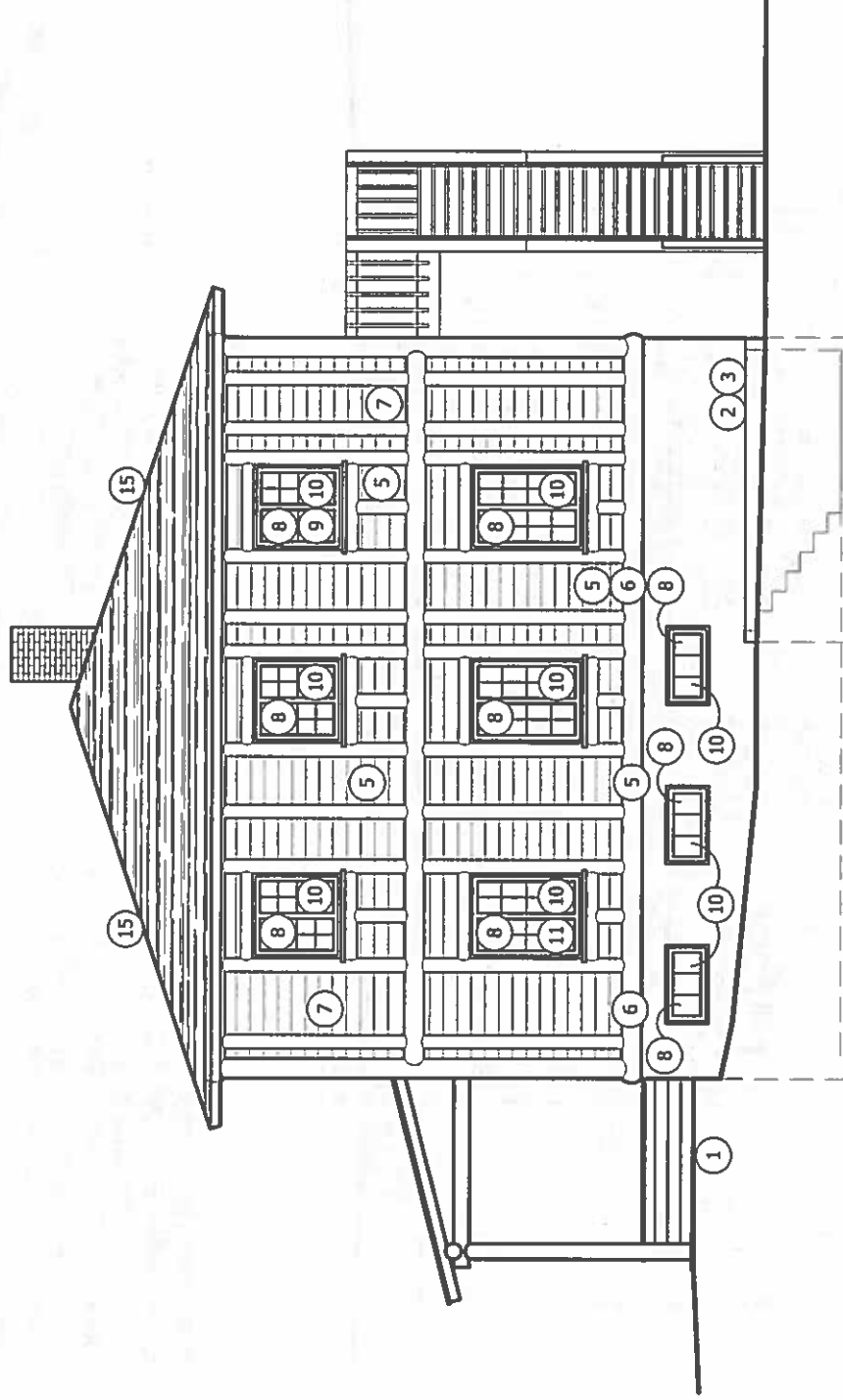
EXTERIOR CONDITION NOTES:

- | | |
|--|--|
| 1. POOR DRAINAGE AROUND THE BASE OF THE BUILDING | 8. PEELING PAINT AND WEATHERED WINDOWS |
| 2. CONCRETE DETERIORATION | 9. BROKEN OR MISSING GLASS |
| 3. CONCRETE STAIRS TO BASEMENT DO NOT MEET CODE | 10. PUTTY DETERIORATION |
| 4. FRONT PORCH IS WORN AND RAILINGS NEED WORK | 11. MUNTINS MISSING |
| 5. WEATHERED LOGS AND SHEATHING | 12. DETERIORATED STILES AND HINGED AREAS ON DOORS |
| 6. CRACKS IN LOGS | 13. DETERIORATED AND MISSING MORTAR IN CHIMNEY |
| 7. POOR FINISH | 14. POOR FLASHING |
| | 15. ROOF HAS CURLLED AND HAS DETERIORATING WOOD CEDAR SHINGLES |

FIGURE 7 - SOUTH ELEVATION

CONDITION ASSESSMENT

1/8" = 1'-0"



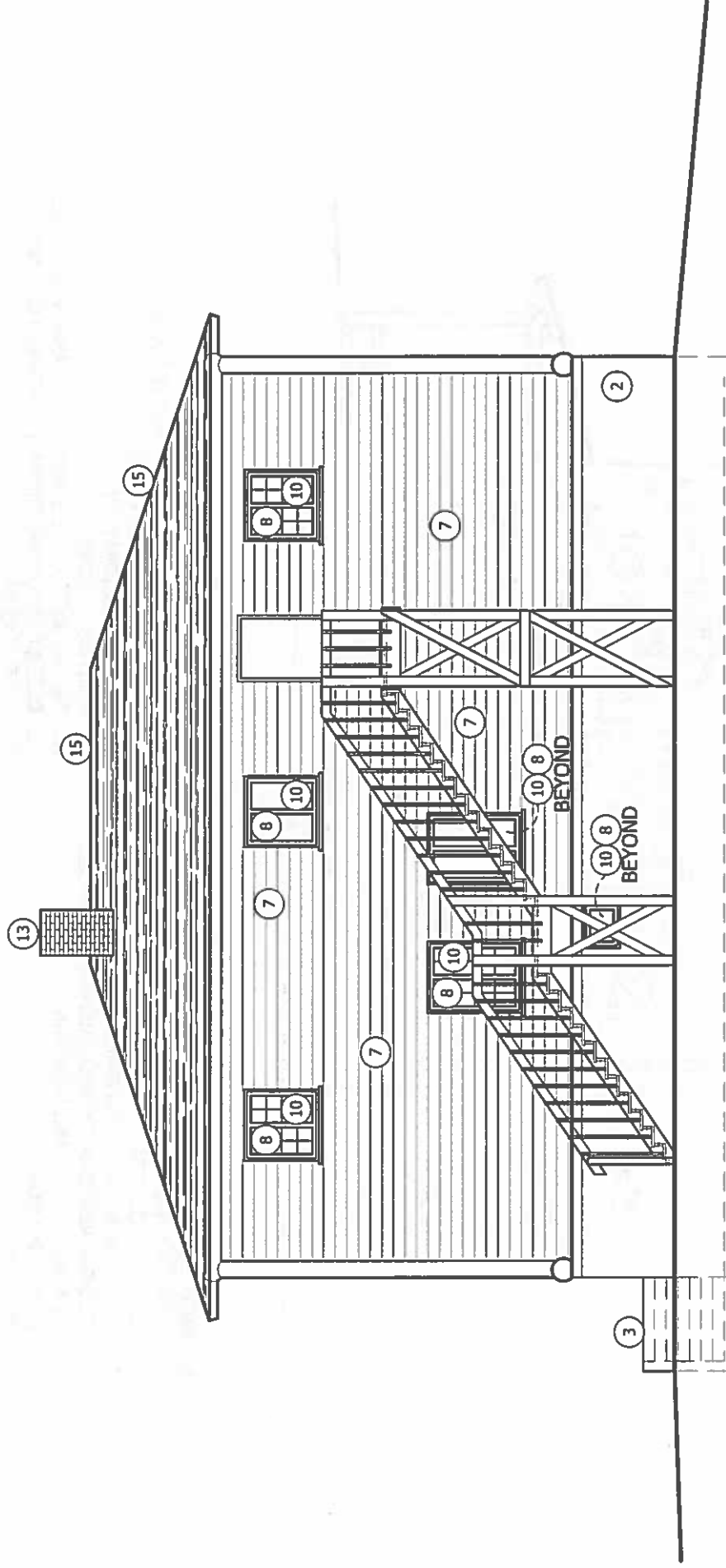
EXTERIOR CONDITION NOTES:

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| 1. POOR DRAINAGE AROUND THE BASE OF THE BUILDING | 8. PEELING PAINT AND WEATHERED WINDOWS |
| 2. CONCRETE DETERIORATION | 9. BROKEN OR MISSING GLASS |
| 3. CONCRETE STAIRS TO BASEMENT DO NOT MEET CODE | 10. PUTTY DETERIORATION |
| 4. FRONT PORCH IS WORN AND RAILINGS NEED WORK | 11. MUNTINS MISSING |
| 5. WEATHERED LOGS AND SHEATHING | 12. DETERIORATED STILES AND HINGED AREAS ON DOORS |
| 6. CRACKS IN LOGS | 13. DETERIORATED AND MISSING MORTAR IN CHIMNEY |
| 7. POOR FINISH | 14. POOR FLASHING |
| | 15. ROOF HAS CURLED AND HAS DETERIORATING WOOD CEDAR SHINGLES |

FIGURE 8 - EAST ELEVATION

CONDITION ASSESSMENT

1/8" = 1'-0"



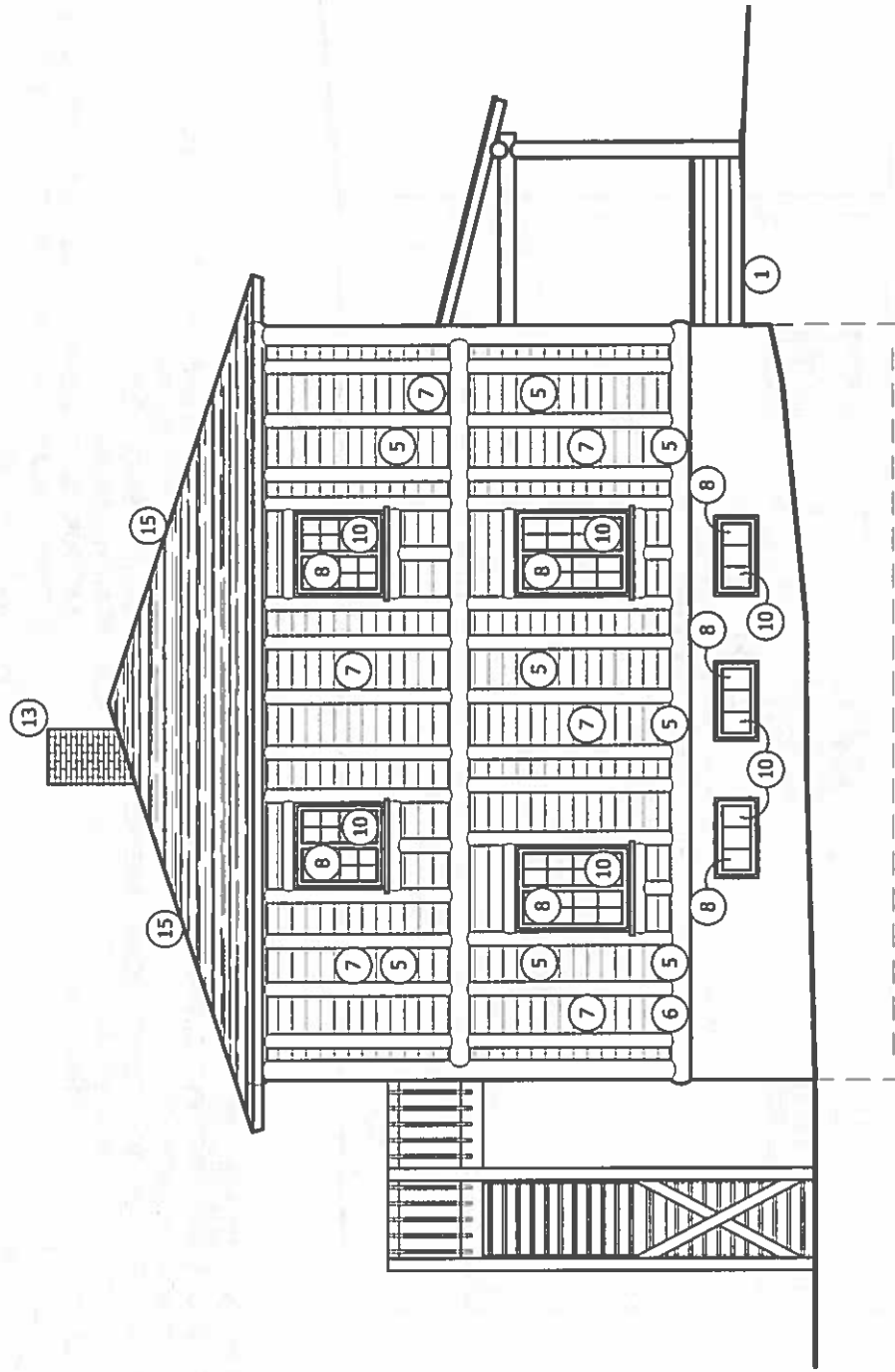
EXTERIOR CONDITION NOTES:

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| 1. POOR DRAINAGE AROUND THE BASE OF THE BUILDING | 8. PEELING PAINT AND WEATHERED WINDOWS |
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| 4. FRONT PORCH IS WORN AND RAILINGS NEED WORK | 11. MUNTINS MISSING |
| 5. WEATHERED LOGS AND SHEATHING | 12. DETERIORATED STILES AND HINGED AREAS ON DOORS |
| 6. CRACKS IN LOGS | 13. DETERIORATED AND MISSING MORTAR IN CHIMNEY |
| 7. POOR FINISH | 14. POOR FLASHING |
| | 15. ROOF HAS CURLLED AND HAS DETERIORATING WOOD CEDAR SHINGLES |

FIGURE 9 - NORTH ELEVATION

CONDITION ASSESSMENT

1/8" = 1'-0"



EXTERIOR CONDITION NOTES:

- | | |
|--|---|
| 1. POOR DRAINAGE AROUND THE BASE OF THE BUILDING | 8. PEELING PAINT AND WEATHERED WINDOWS |
| 2. CONCRETE DETERIORATION | 9. BROKEN OR MISSING GLASS |
| 3. CONCRETE STAIRS TO BASEMENT DO NOT MEET CODE | 10. PUTTY DETERIORATION |
| 4. FRONT PORCH IS WORN AND RAILINGS NEED WORK | 11. MUNTINS MISSING |
| 5. WEATHERED LOGS AND SHEATHING | 12. DETERIORATED STILES AND HINGED AREAS ON DOORS |
| 6. CRACKS IN LOGS | 13. DETERIORATED AND MISSING MORTAR IN CHIMNEY |
| 7. POOR FINISH | 14. POOR FLASHING |
| | 15. ROOF HAS CURLED AND HAS DETERIORATING WOOD CEDAR SHINGLES |

FIGURE 10 - WEST ELEVATION

FISHING BRIDGE MEN'S DORMITORY - EXTERIOR PHOTOS



Figure 11: Looking north at the walkway to the building. Note the drainage towards the building and front steps.

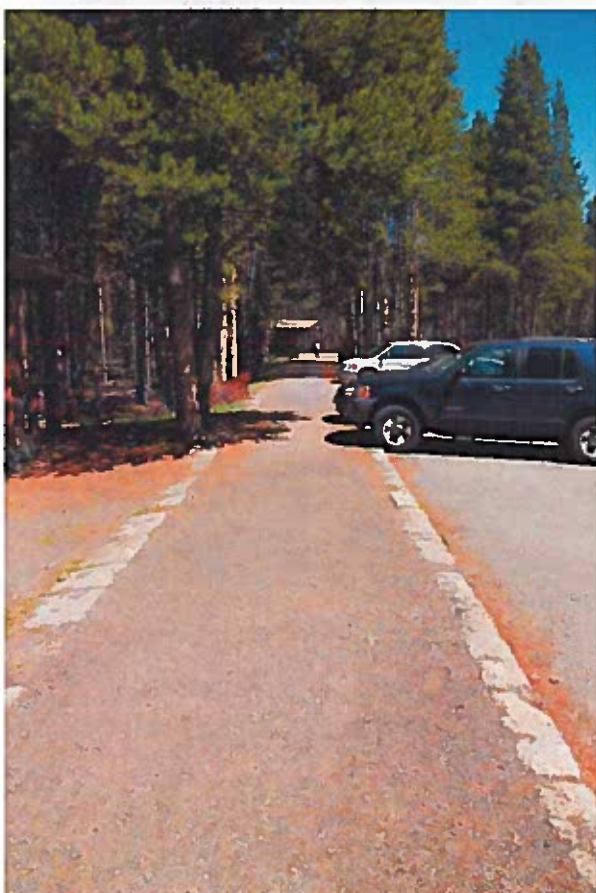


Figure 12: Looking east at the walkway and parking in front of the dorm. Some stone edges have settled. The parking lot asphalt is close to the top of the curb.



Figure 13: Looking northeast at the Dormitory. The logout walls and sheathing are dry and have some deterioration.



Figure 14: Looking west at log and wood sheathing that is dry and weathered. The windows have some broken panes.



Figure 15: Looking northwest at the building and concrete stair to the basement. The stair does not meet code and there is some deterioration in the concrete walls.



Figure 16: Looking west at a typical window and details of some of the logs. Note the weathered surfaces and some rot in the base of the columns and the weathered wood on the window, and also the missing muntins in the sash.



Figure 17: Looking south at the building. The stair on the back of the building is in good condition, but there are code problems with the railing. The wood sheathing on this wall is weathered.



Figure 18: Looking west at a typical base log on the building. Note the weathered and cracked log. The mortar cap is loose and coming apart.

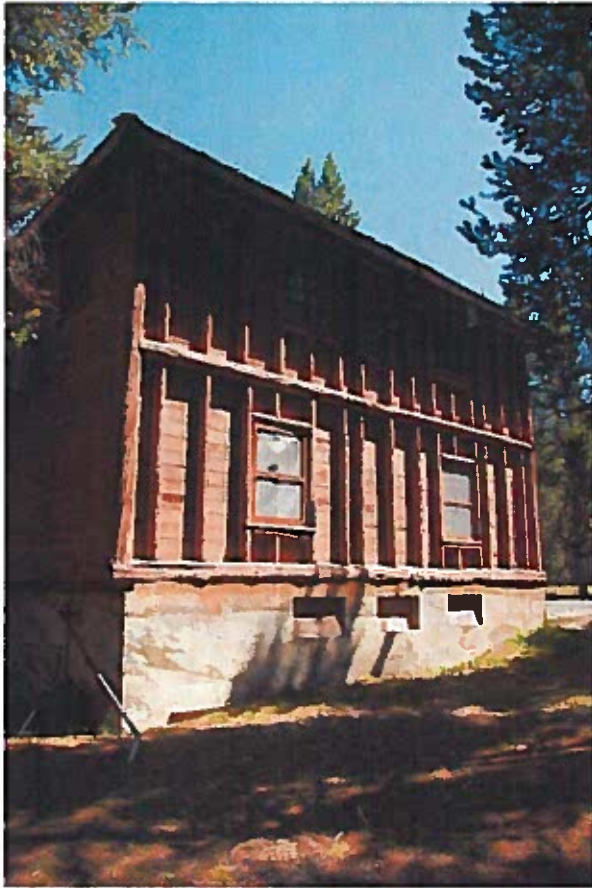


Figure 19: Looking southeast at the building. The west side of the Dormitory is similar with weathered wood and some minor rot in the bases of the columns and horizontal logs. The windows have similar problems.



Figure 20: Looking southeast at the concrete foundation. There are some minor horizontal cracks in the foundation wall. Also note the rotted sill log.



Figure 21: Looking northeast at the building. The roof is in fair condition and is winter-kept during the heavy snow loads. Note the poor drainage and grade at the corner.



Figure 22: Looking north at the porch at the front of the building and porch railing. Part of the railing has deteriorated and has been removed.



Figure 23: Looking northeast at the front porch. Note the variable heights in the risers of the steps and landing. The deck is in poor condition.



Figure 24: Looking north at a typical window next to the doorway. It is in fair condition but shows signs of weathering and some minor rot.



Figure 25: Looking north at the entrance. The wood paneled doors with lites are in poor to fair condition. The hinges are loose and the meeting styles have some wood damage. The doors do not close properly.



Figure 26: Looking north at the porch roof. The wood shingles are loose and missing. Note the weathered fascia.



Figure 27: Looking northwest at the front porch and entrance. The porch roof has some deteriorated areas at the connection to the wall. Water penetrates into the horizontal logs causing some rot.



Figure 28: Looking north at a typical window above the porch roof. Water penetrates into the area below the window. Note the weathered fascia.



Figure 29: Looking northeast at a typical sill log on the front of the building. Note rot in the base of the columns, the weathered log, and dry wood sheathing.



Figure 30: Looking west at the porch. Note the change in the railing and slope of the pathway into the window well.



Figure 31: Looking east at the retaining wall with stair to the basement. The concrete along the outside stair is deteriorated and spalling.

FISHING BRIDGE MEN'S DORMITORY - BASEMENT PHOTOS

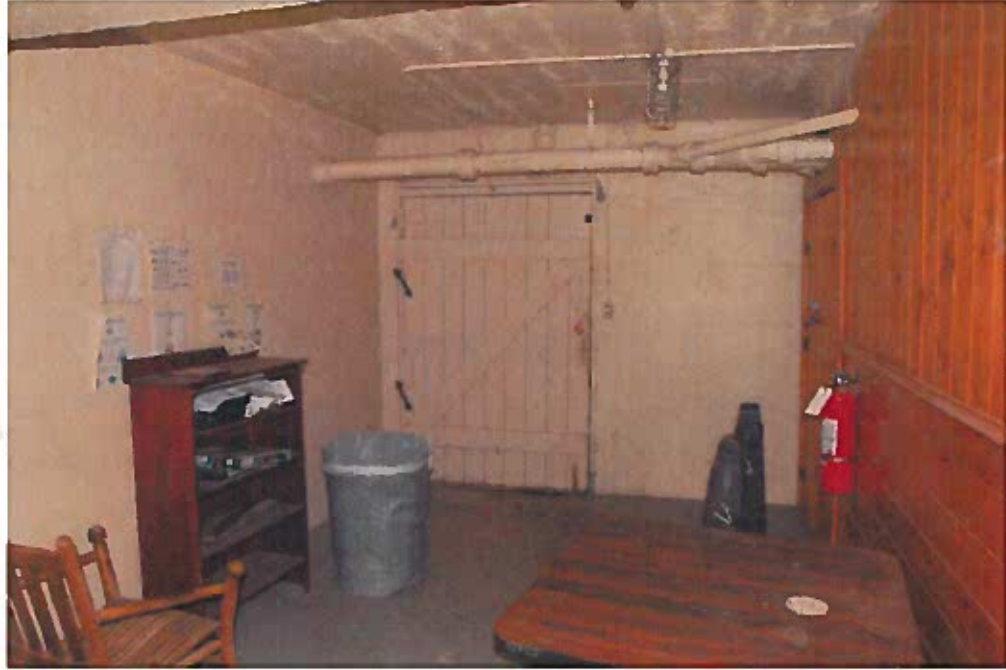


Figure 32: The basement has an outside entrance in the concrete foundation. The space is dry and the concrete walls and floor are in good condition. The door does not meet exiting requirements



Figure 33: A wood partition wall is in good condition.



Figure 34: Knotty pine paneling is located on the south and west sides of the main room. It is in fair to good condition. The celotex ceiling is in good condition.



Figure 35: The steel sash windows are in fair condition with some loss of paint and deteriorating putty. There is some water leaking around the frame.



Figure 36: Entering the laundry area from the rec room. The wood panel door is typical of the upper areas. There is no second exit out of the basement.



Figure 37: The steel sash windows are in fair condition with some loss of paint and some deteriorating putty.



Figure 38: A sump pump is used to pull water out of the room during backup in the drainage systems in the laundry room.



Figure 39: The laundry room has concrete walls and floor. There is some staining on the walls from the windows and from areas above.



Figure 40: Water meter for the building. The plumbing appears to be in fair condition.



Figure 41: Entrance to the mechanical room. The wood is in good condition.



Figure 42: Note the domestic hot water heaters. The piping and electrical conduit is not well organized.

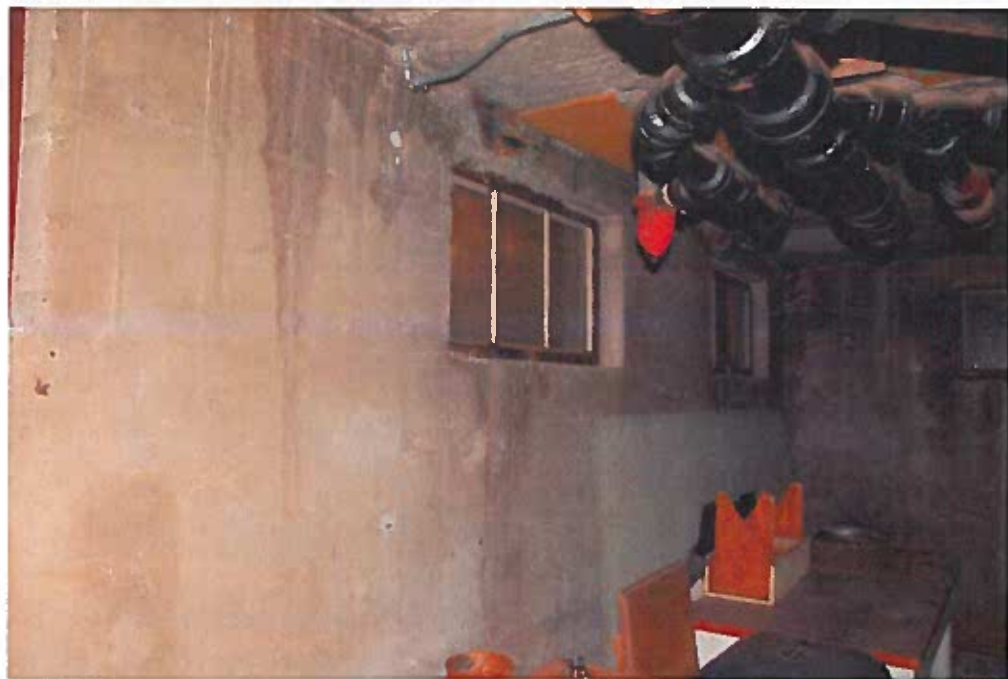


Figure 43: East wall of the mechanical room. Note the water stains on the wall. All of the sewer piping runs through this space from the bathrooms above.



Figure 44: Concrete beam wrapped in wood.

FISHING BRIDGE MEN'S DORMITORY – FIRST FLOOR PHOTOS



Figure 45: The interior first floor door swings into the exit corridor from the second floor.

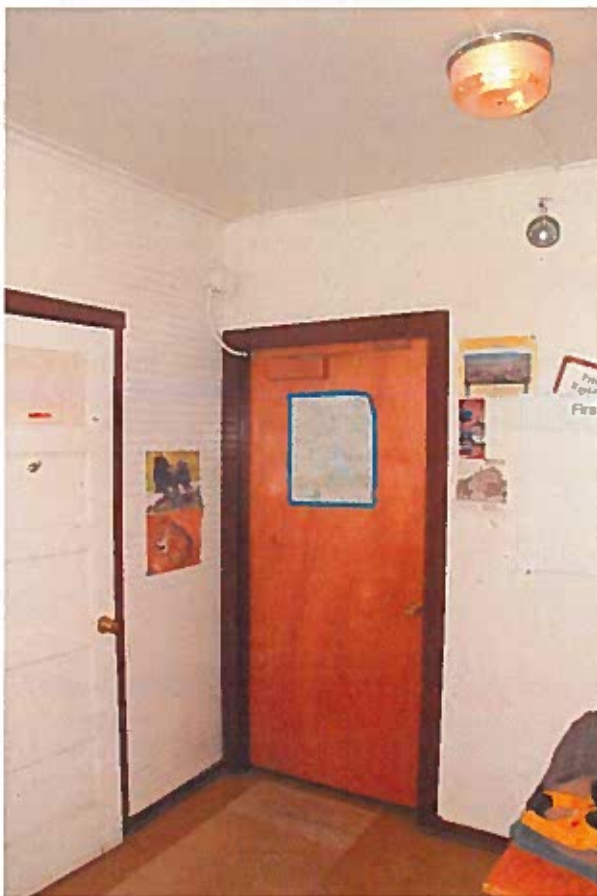


Figure 46: The wood exit door from the first floor does not meet the building codes because of the materials and frame. There is no exit hardware.



Figure 47: The original wood paneled door does not meet the width for ADA access to the bathroom.



Figure 48: The bathroom fixtures are in fair condition. The bathroom needs to be redesigned to meet ADA requirements and to make it more usable.



Figure 49: Room number 1 is generally in good condition. Note the missing muntins in the window. Also note the exposed electrical conduit.



Figure 50: The painted woodwork and beaded wood walls are in good condition with some minor wear.



Figure 51: The wood paneled doors do not meet fire codes without a fire suppression system in the building. The ventilation screen also does not meet code.



Figure 52: Note the wear on the lower part of the walls and at the base. There is some missing paint and deteriorated wood members.



Figure 53: The original wood paneled doors still access all of the rooms.



Figure 54: This room is used by several tenants and has a lot of wear on the walls and floor surfaces.



Figure 55: Note the closet doors to the left with original wood paneled doors and the wood bead board on the outer walls and ceiling. The light fixtures are poor and not very energy efficient.



Figure 56: From the inside note some of the weathering of the windows. There is missing paint and some deterioration in the wood sills.

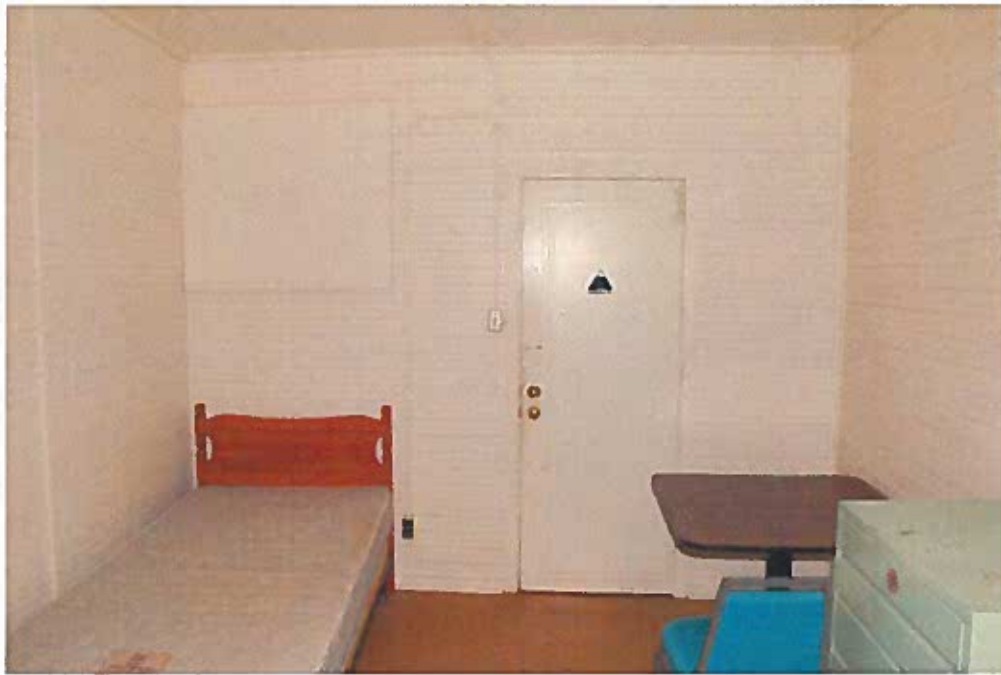


Figure 57: A window has been covered over to the left of the door.



Figure 58: The original door has a half-glass lite and is covered over from the inside.



Figure 59: The painted woodwork and wood bead board walls are in good condition with some minor paint wear. Note the covered lite on the door to the right.



Figure 60: A typical original door on the first floor. Note the original hinges that are in good condition although loose in some cases.



Figure 61: Generally the windows are in fair to good condition on the inside. They will have to be evaluated totally in the future.

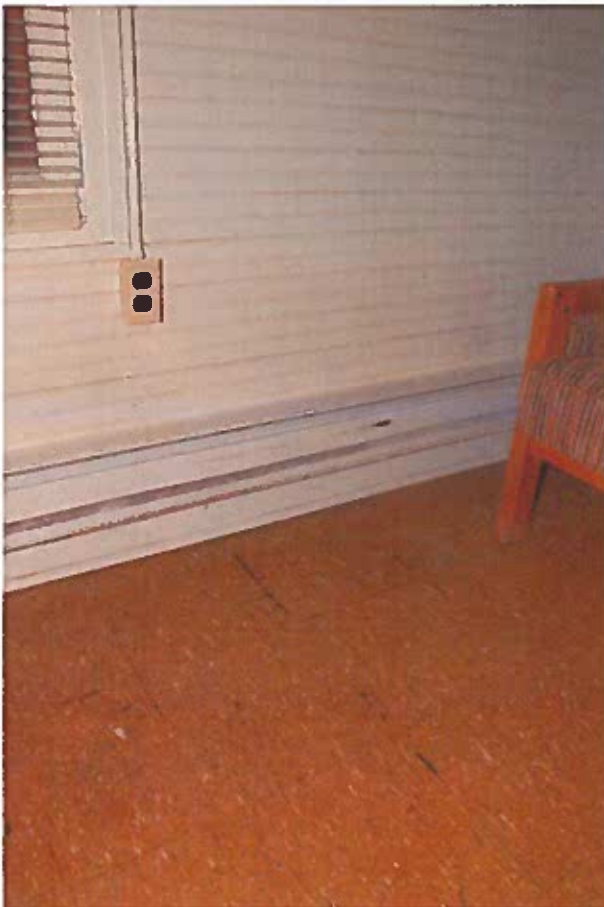


Figure 62: Note the exposed electrical conduit. There is some wear and missing paint in the original base above the concrete wall.

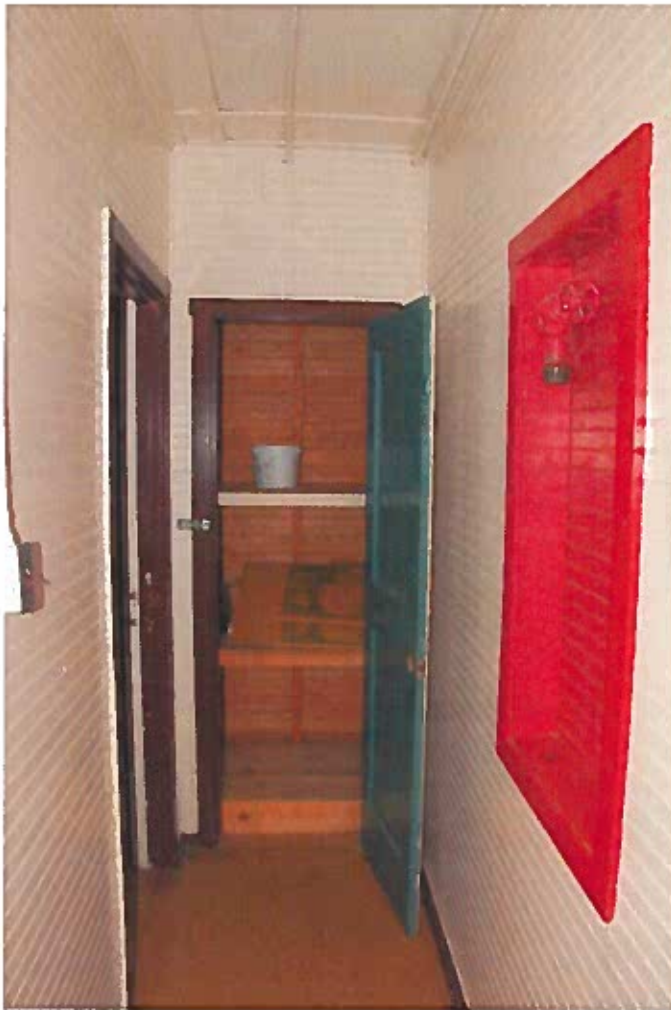


Figure 63: There is no second exit out of the first floor other than the windows. The red hose cabinet does not meet present code and is probably not used.

FISHING BRIDGE MEN'S DORMITORY - SECOND FLOOR PHOTOS

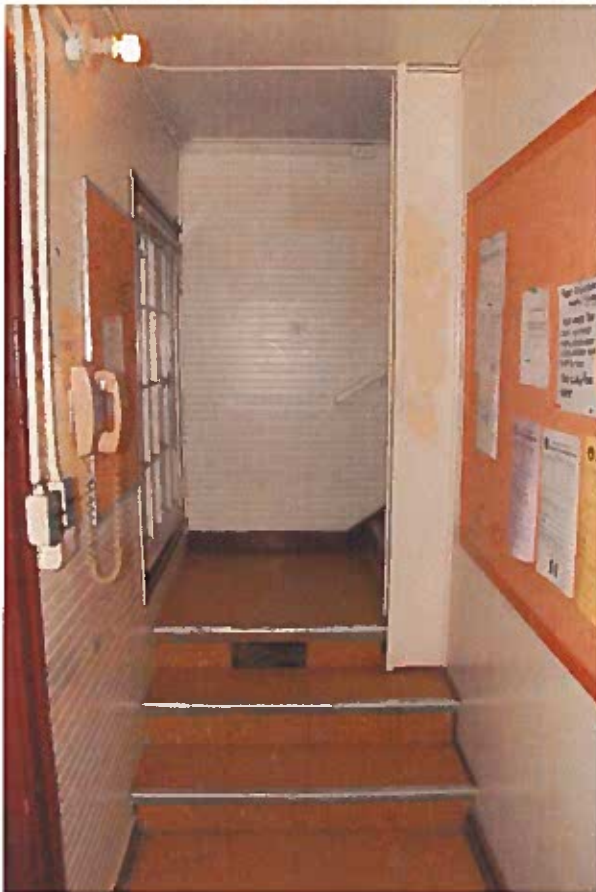


Figure 64: The stairway to the upper floor does not have proper railings.



Figure 65: The hinged window appears to be in good condition on the landing but causes problems with stair for exiting.



Figure 66: The stair is steep and the railings and lighting are poor.

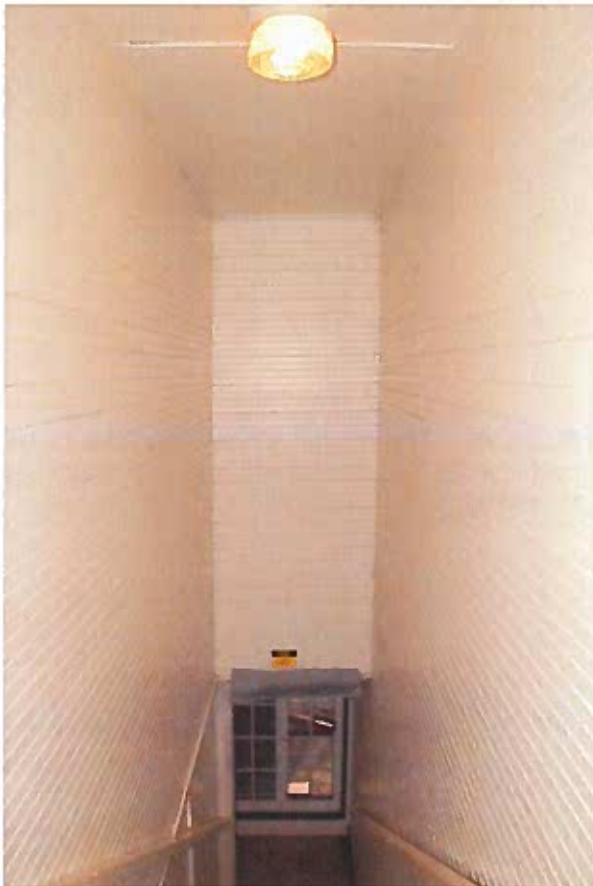


Figure 67: Note the original wood bead board on the walls and ceiling.



Figure 68: Note the second exit from the second floor. However the entrance to the stair corridor is too close to the main exit stair.



Figure 69: Note the typical hallway with doors to the bedrooms. The sheetrock ceiling is good.



Figure 70: The painted wood bead board walls are in good condition with some minor wear. The sheetrocked ceiling has wood battens covering the joints. The windows are generally in good condition from the inside.

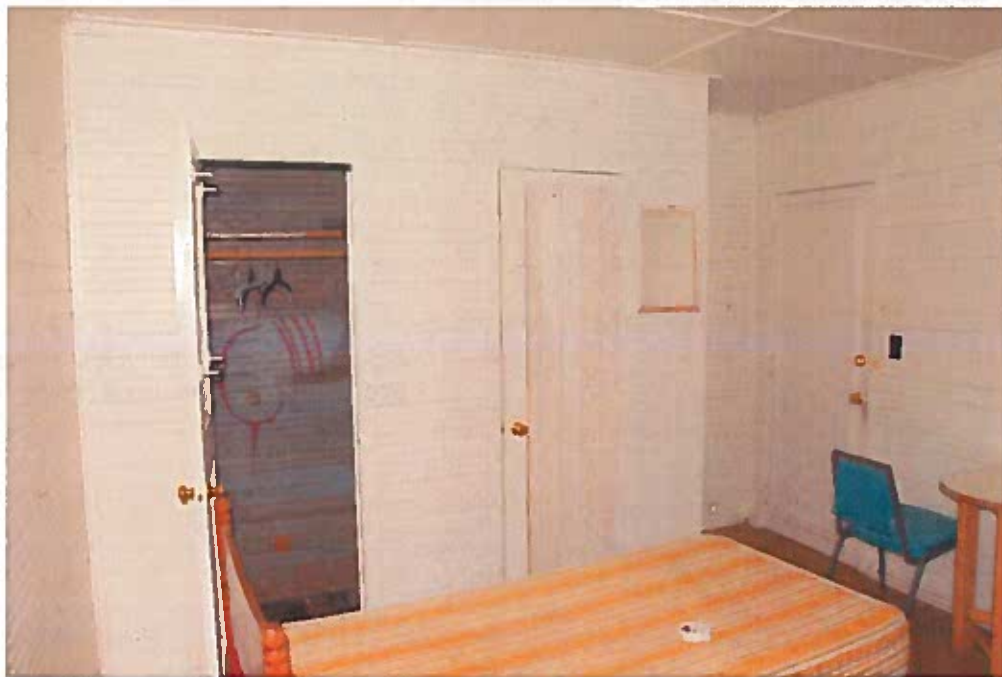


Figure 71: A typical rooms with the wood bead board walls, sheetrocked ceiling with battens, and a sheet vinyl floor.

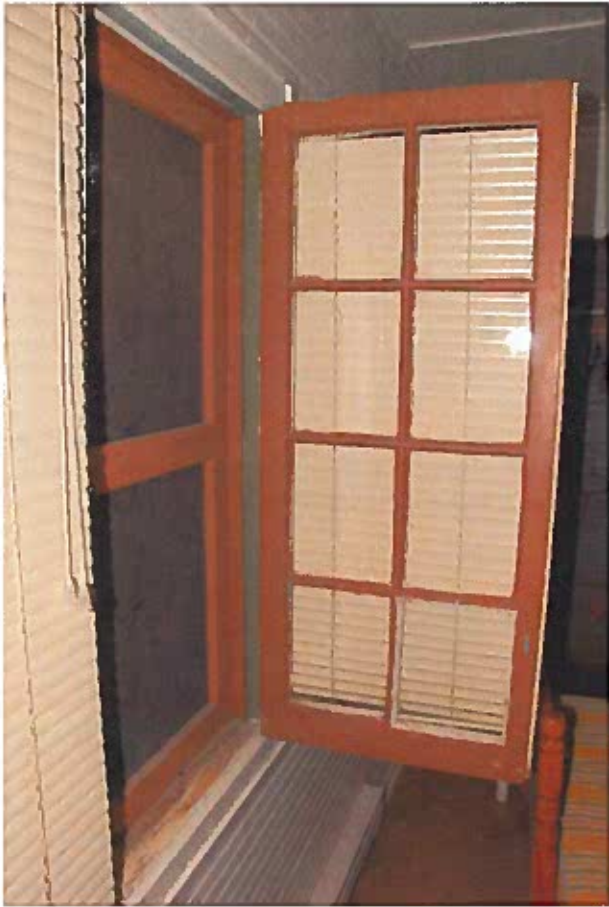


Figure 72: Typical wood hinged window that appears in good condition with some minor wear, some peeling paint, and sill deterioration. Note the repaired pane of glass in the lower right corner where the putty is not painted.



Figure 73: Typical double wood hinged window which occurs throughout the building.



Figure 74: Typical wood paneled doors with a half lite. This door does not meet code in the fire corridor without a fire suppression system.



Figure 75: Another typical room with similar materials.

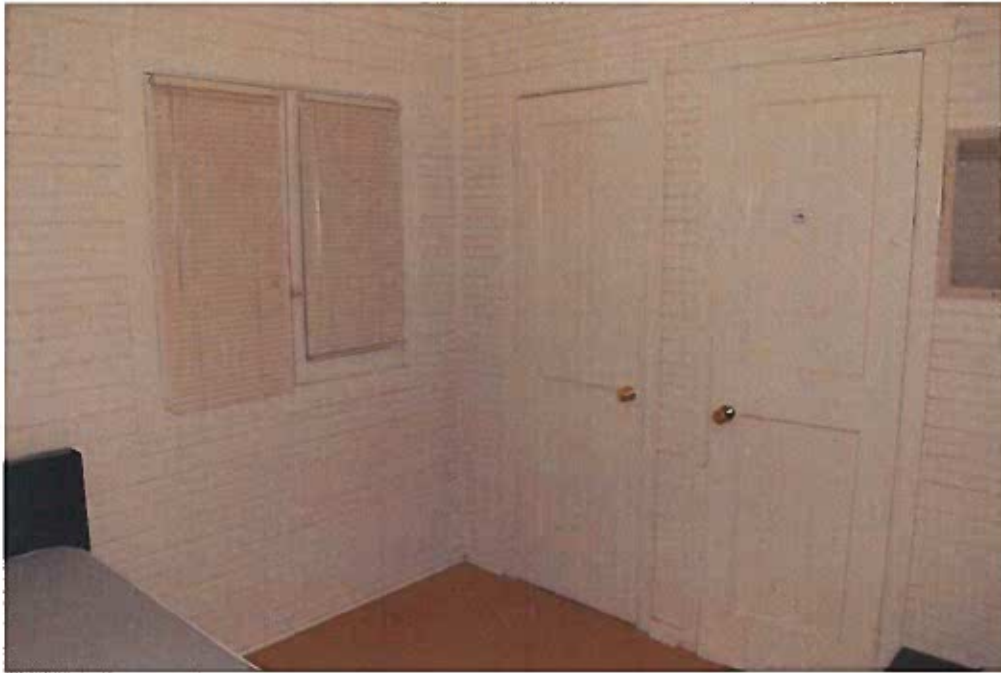


Figure 76: Typical wood paneled doors on the closets. Other materials are similar.



Figure 77: Fire hose cabinet and fire extinguisher.



Figure 78: Typical wood paneled door with half-glass lite covered over from the room side.

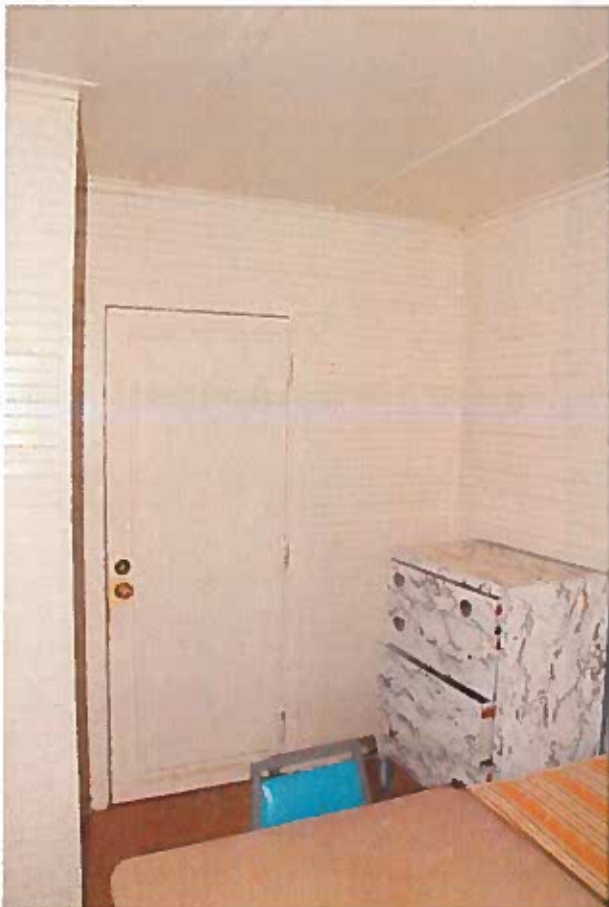


Figure 79: Typical wall, ceiling, and floor materials.



Figure 80: This room sees a lot more wear because of the number of tenants in the space.

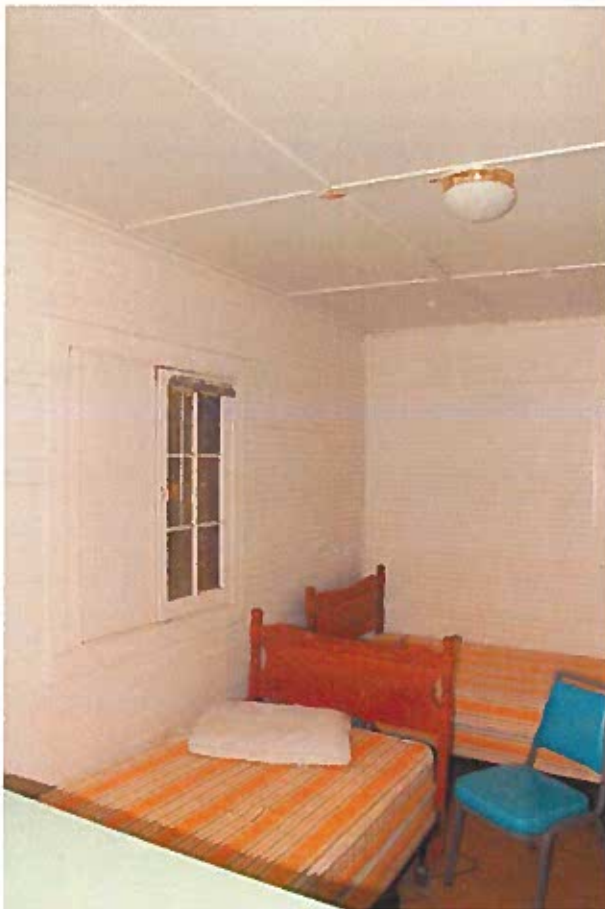


Figure 81: Typical materials.



Figure 82: Note the missing panel in the door to the left. All of these doors access storage closets.



Figure 83: Another typical door that has seen some wear.

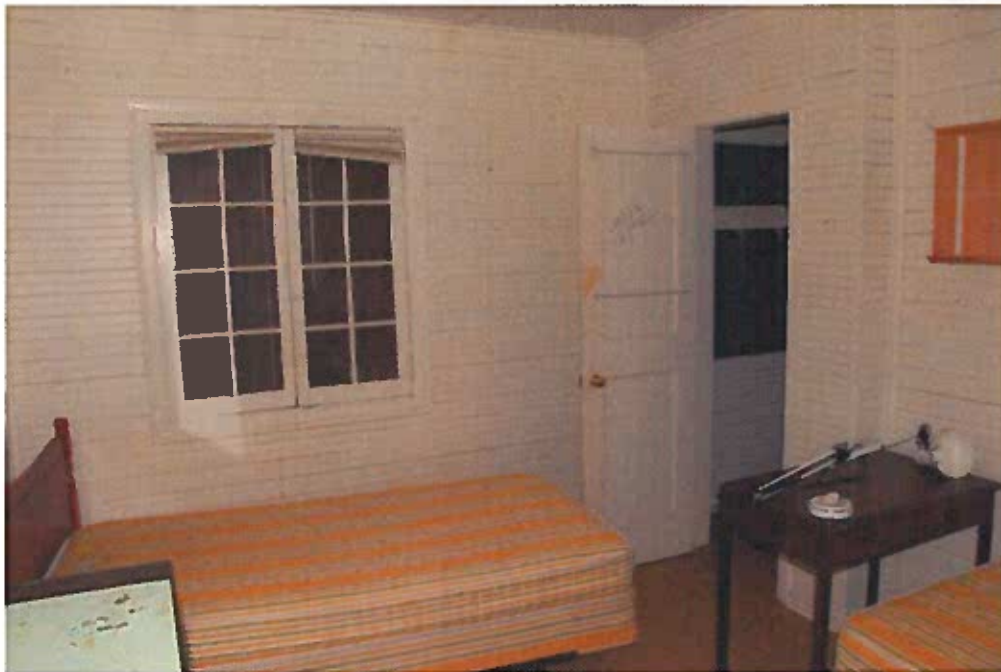


Figure 84: Typical room with the double wood hinged windows.

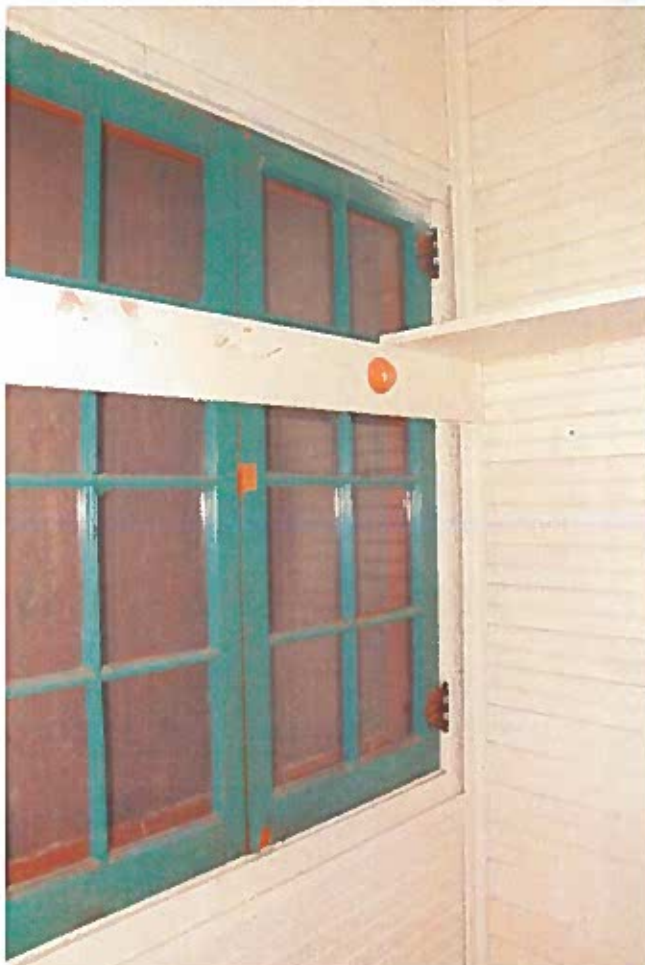


Figure 85: An original window that is located in a closet. It appears to have the original green paint. The wood bead board had a light varnish or stain, which was then painted white at a later date.



Figure 86: The materials are generally in good condition.



Figure 87: The unfinished wood that occurs in the closets.

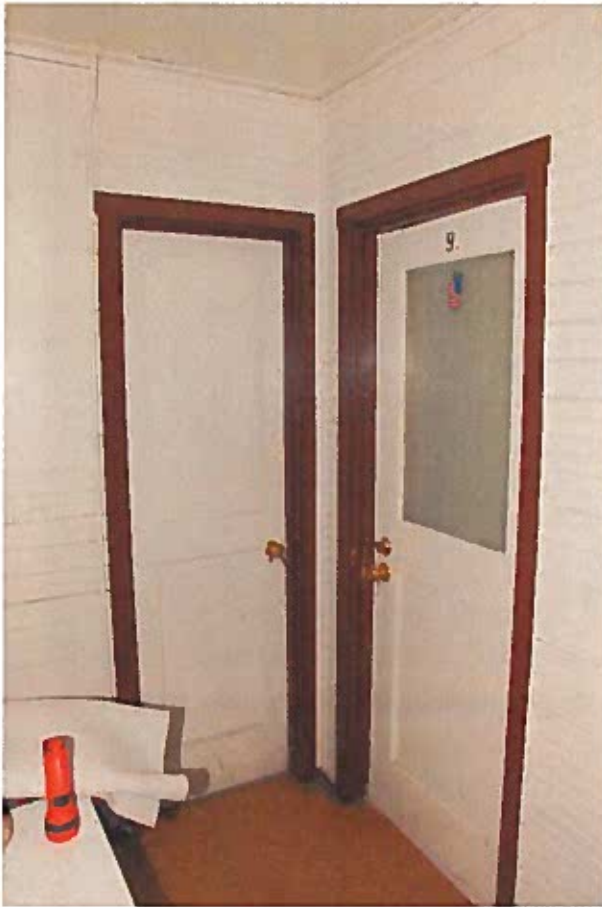


Figure 88: A typical narrow door to the bathroom on the second floor.



Figure 89: Typical dorm room and original materials with the exception of the sheet vinyl floor.



Figure 90: The windows have some missing muntins with some larger glass pieces installed in the larger opening.



Figure 91: The window exterior shows some weathering, peeling paint and deteriorating window putty.



Figure 92: The partitions are in poor condition.



Figure 93: Typical wall hung lavatories.



Figure 94: The bathroom showers with some mold and worn areas on the walls and door.

STRUCTURAL CONDITION ASSESSMENT

This report addresses the structural status of the Men's Dorm, Fishing Bridge, in Yellowstone National Park. A thorough inspection of the exterior of the building was completed. An inspection of the interior of the building was also completed, but was limited by a finished interior. No destructive investigation or material testing was done. The roof structure was inspected from the attic space.

This structural assessment synopsis is based on our inspection and limited analysis of the existing structure, and our experience with similar age and construction buildings. The intent of the investigation and this report is to assess the level of conformance of the existing structure to the International Existing Building Code (IEBC – 2009). Our recommendations and any future renovation drawings are required to conform to this code. The IEBC code allows the design criterion for historic buildings to be established for life safety parameters and general construction standards. Existing structures need not necessarily meet every specific code requirement for new construction. In this report, we will provide the existing structural description, results from our analysis and comment on material quality through our visual inspection. We will provide recommendations and a summary discussing the deficiencies.

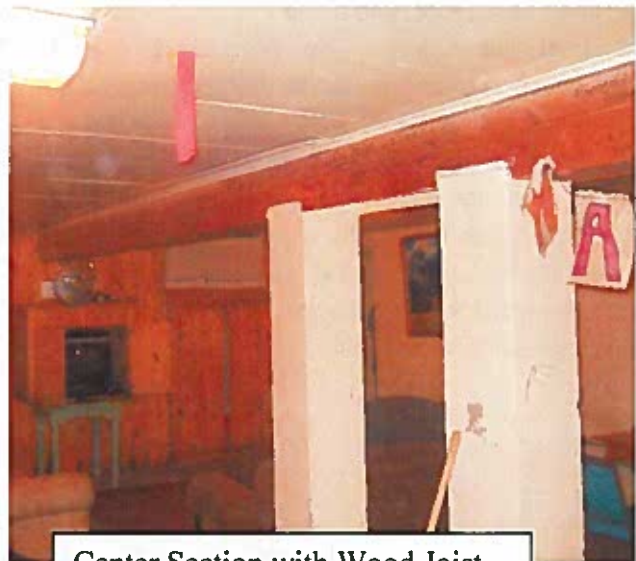
General Structural Description

The two-story dorm with full basement is approximately 31'-6" x 46'-6" out to out dimension for around 1460 s.f. per floor. The basement has a laundry area on the west side, a central, lounge/rec area and a storage portion on the east side.

FLOORS: The basement has a concrete slab on grade. The main floor has concrete floor slabs (estimate 7" thick) for the west and east sections (over the laundry and the storage areas). On the west side, the concrete slab span 13' from west wall to and interior 8" concrete wall. On the east side the slab span from the east side to the exterior wall to an interior concrete beam supported by two concrete columns. The center portion has diagonal wood planking on 2x10's (1 1/2" x 9 1/4") floor joist at 16" o/c. The joist span from the west side, interior concrete wall, approximately 10' to a center wood beam bearing line, then 10' to the concrete beam to the east. The center beam is wood (approximately 11 1/2" wide and drops 10" below the joist).



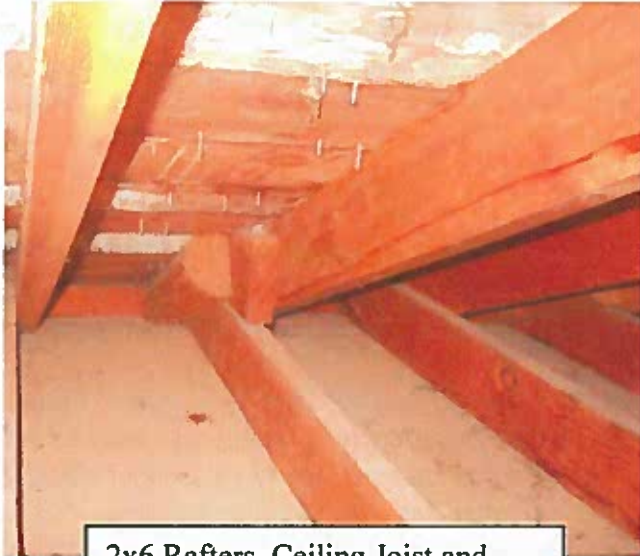
Concrete Floor Slab over East Side Storage Room



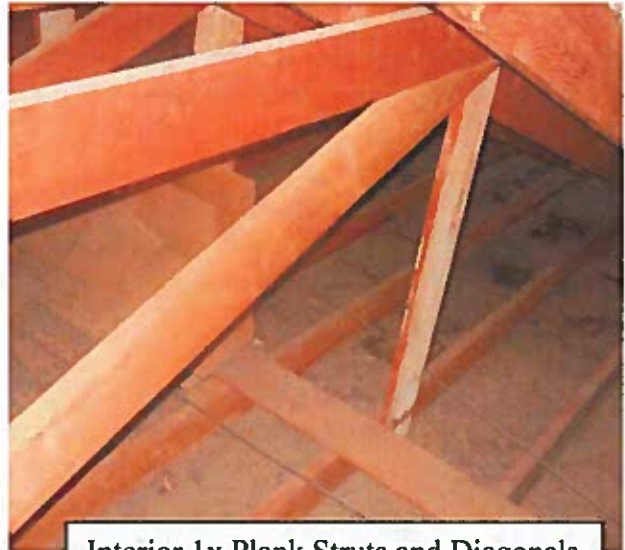
Center Section with Wood Joist and Beams with Concrete Col.

The second floor level has diagonal wood planking on 2x10 joist at 16" o/c. The joist span east to west on the east and west sides (approximate 13' span). They span north to south in the center section (approx. 15' span). The east and west joist span to the interior wall line (2x4 framed) on the east side and to a combination wall and beam support line on the west side. The support lines align with the bearing lines in the basement. The center joist span to an interior beam (wood – 7 ¼" wide x 11 ¼" deep) which is supported by one center column.

ROOF: The roof is a 7:12 pitched, hipped roof profile. The roof has perpendicular planking on 2x6 (1 ½" x 5 ½") rafters at 16" o/c. There are 2x6 ceiling joist at 16" o/c with typically align and lap the rafters. A field built "truss" configuration, using 1x planks, tie the rafters to the ceiling joist at 32" o/c at best. Specific 1x plank verticals are located at or close to bearing walls below. There are exposed log rafter tails at 32" o/c which specifically connect to the 2x6 rafters at every other bay.



2x6 Rafters, Ceiling Joist and Tail End of Log Rafter Tail



Interior 1x Plank Struts and Diagonals Between Rafters & Ceiling Joist

A low shed porch roof runs along the south side of the building at the entry. The porch roof has 1x perpendicular planking on small diameter log rafters at approximately 36" o/c. The rafters bear on the intermediate runner horizontal log on the building and on a 11" diameter plate log at the front edge of the porch. The south porch has a wood entry deck with 2x6 decking supported at the wall and by a log rim beam connected to log columns. The columns bear on concrete surface footings.

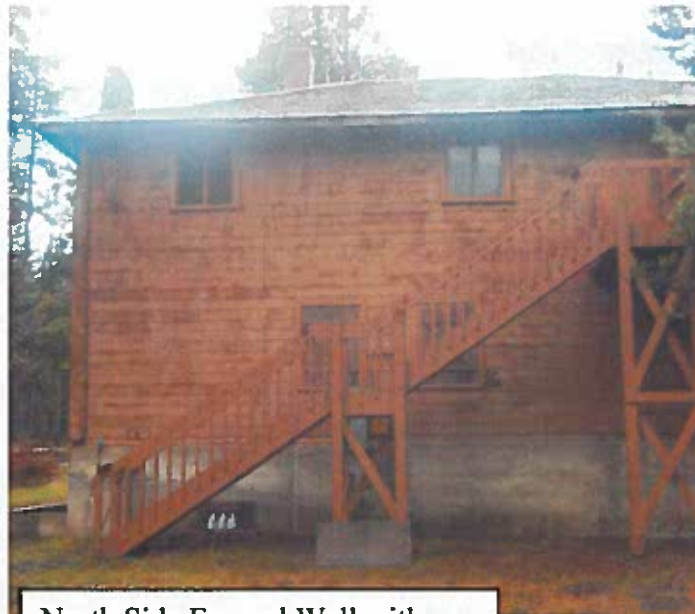


South Porch Rafters & Plate Beam on Log Columns

WALLS: The east, west and south exterior walls have log verticals (exposed to the exterior) with 1x horizontal planking. The north side has wood planking on a 2x6 stud wall. With the exception of the 8" concrete wall in the basement, all interior walls are wood framed (typically 2x4). A exterior, wood framed exit stair element is located along the north side of the building.



Typical Log "Stud" & Planking Wall – Three Sides



North Side Framed Wall with Wood Siding

FOUNDATION: The perimeter foundation of the Mens' Dorm is 8" concrete walls, assumed to be on a concrete strip footing. The concrete foundation wall has approximately 4' to 5' exposed surface as shown in the west side elevation picture above (left). The interior supports are the concrete wall and concrete columns noted in the floor section.

ANALYSIS

We have completed a limited analysis of the Dorm Building. Per the International Existing Building Code and Yellowstone National Park standards, we have justified the building for the following:

Floor: 40 psf Live Load Residential.
Roof: 147 psf Snow with minor pitch reduction.
Wind: 90 MPH, Exp C
Seismic: Site Class D.

We were unable to analyze the adequacy of the main floor concrete floor slabs, due to unknown reinforcement. The same can be said for the concrete beams. The 2x10 floor joist are adequate for residential loading. We were unable to fully determine the size of all of the floor beams. However, the beams which we could determine the size are adequate for residential floor loads.

The roof structure is not adequate for the designated design snow load of 147 psf. The 2x6 rafters are significantly undersized for the spans, even considering the 1x plank vertical supports. The diagonal struts in the attic assist to distribute the roof loads to bearing lines below, but only assist to reduce the spans only slightly. The strut to rafter and strut to ceiling joist connections are not adequate.

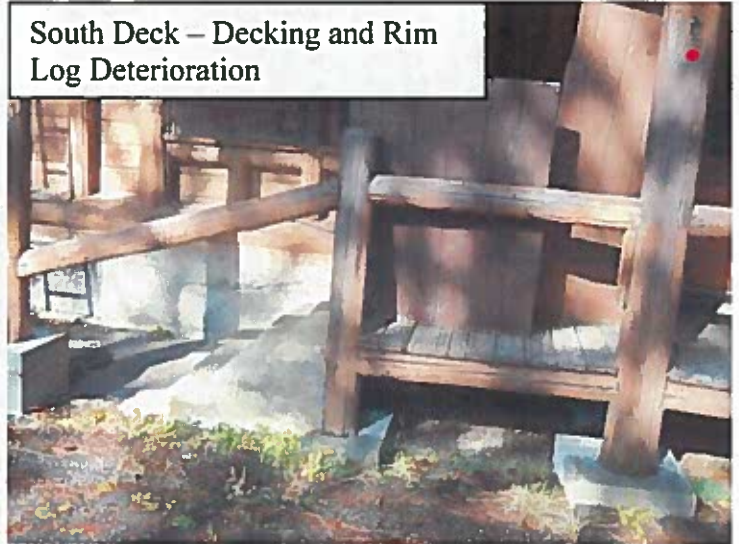
The foundation is deemed to be adequate. The Dorm structure does not have a recognize lateral, wind and seismic force distribution system. The planking on the roof and walls offers some lateral stability, but falls way short of being adequate for the design seismic loads of Yellowstone. The building is relatively small and has decent wall elements on all four sides, but even so, the walls and roof, with just planking perpendicular to the supporting elements cannot be justified.

INSPECTION

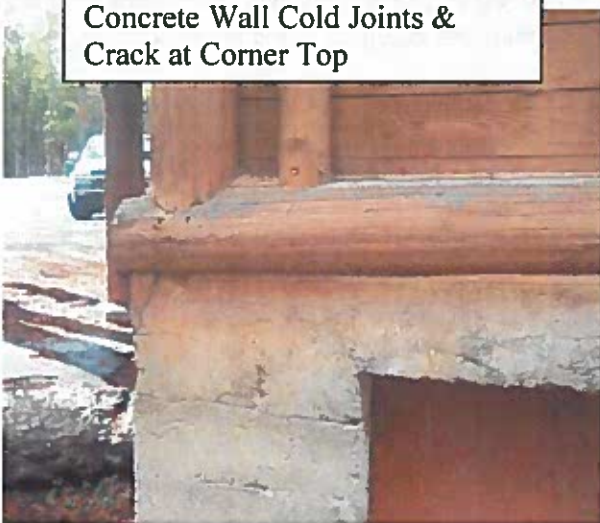
We found the building to be generally in good condition. The interior and exterior materials have been maintained through the years. The lower level concrete slabs on grade are in good condition. The main level concrete slab portions also in good condition. No evidence of distress, deterioration or deflection was noted. The concrete beam was also in good condition. The upper level floor structure was not available for inspection, but was noted to generally be level. The front entry deck has noted deterioration in the decking and also the log rim beam, especially at the columns. The south face of the porch deck is not level.

The concrete foundation is in good condition. There are consistent cold joint pour lines in the concrete walls, but these joints lines were original to the construction and have not affected the structural integrity of the wall. We note some minor wall cracks, not considered pour lines. The concrete walls for the stairs leading to the basement has spalled away.

South Deck – Decking and Rim Log Deterioration



Concrete Wall Cold Joints & Crack at Corner Top



Spalling in Concrete Wall at Stairs.



While the roof eave lines and fascia is relatively level, the main roof planes have a minor, but noticeable swale. The swales correspond to the 2x6 rafters spans and are considered long term deflection creep. There is no positive connection of the roof diaphragm to the walls (i.e. blocking, nailing, etc.)

The front porch log plate beam has end grain deterioration at each end. We noted no positive connection of the south portion roof to the wall. We also noted isolated sill log deterioration at several locations along the base of the walls. A

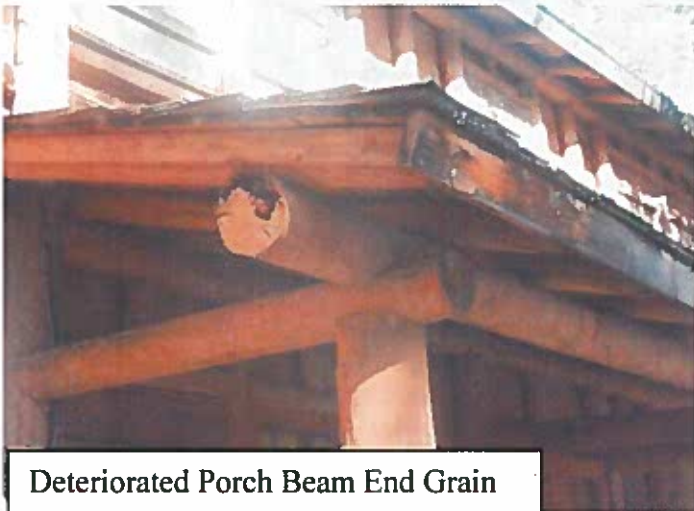
probe test found the west side sill log consistently soft, while the east side was sound. Typically the log verticals are sound and only required cleaning, re-stained and sealed.



Deteriorated Sill Log Top Surface



Deteriorated Sill Log Side Surface and Spalled Concrete Corner



Deteriorated Porch Beam End Grain



Typical Sill Log and Log "Stud" Base Condition

SUMMARY

The Men's Dormitory Building at Fishing Bridge is generally in good condition and has been well maintained. The exterior maintenance recommended should be completed within the next five years. The roof and lateral upgrades should be completed with the next designated renovation.

MECHANICAL CONDITION ASSESSMENT

HVAC Systems:

The existing dormitory HVAC systems are limited to wall mounted electric base board heaters with integral thermostatic control.

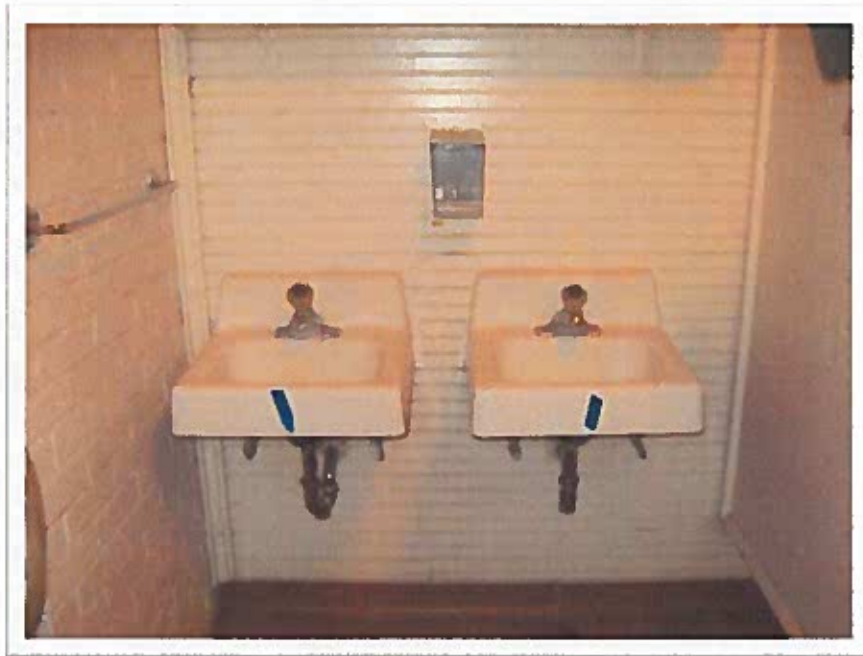


Typical Electric Baseboard Heat

There currently exists no mechanical ventilation systems and/or air conditioning systems throughout the facility. Ventilation is limited to operable windows. Also, no mechanical exhaust systems exist in the facility.

Plumbing Systems:

The existing plumbing systems in the dormitory consist of two common restrooms, one located on the first floor and one located on the second floor. These bathrooms contain two 36" square showers, two floor mounted flush tank water closets, two wall hung lavatories, and a vitreous china wall hung urinal. The fixtures for the most part are fairly dated and do not show any compliance of ADA or ANSI requirements.



Typical Wall Hung Lavatories



Floor Mounted Flush Tank Water Closet

Also, in the lower level basement there exists a laundry room with two residential washers and dryers and a two compartment laundry tub. This concludes the plumbing fixtures located in the facility.

The facility is serviced by a 2" cold water main that comes in the southwest corner of the basement level. The 2" water main goes through a water meter and then distributes to serve the needs of the facility.



2" Domestic Water Service

Two gas-fired domestic water heaters are also located on the opposite end of the basement in a storage room. These gas-fired water heaters are as follows:

1. Bradford-White propane-fired model # MI5036FCX, 50 gallon domestic hot water heater with 36,000 bth input.
2. Reliance model # 650H0RT, 50 gallon propane-fired residential water heater with 30,000 bth input.



Domestic Hot Water Heaters

These two domestic water heaters service the hot water needs for the facility. Both of these water heaters have been replaced in the recent past and appear to be in good operating condition.

A mixture of galvanized, copper, pvc, and hub and spigot cast iron piping is routed throughout the facility serving the domestic hot and cold water, as well as, the sanitary sewer waste and vents systems for the facility. The sanitary sewer exits the facility above grade, causing potential freezing conditions.



Sanitary Sewer Exiting Building

Fuel Source:

An above ground propane tank sits inside of a fenced area to the north of the facility and an underground propane line is routed to the facility and enters the building on the northeast corner.



Propane Tank Servicing Facility

This propane line services the previously mentioned two propane fired domestic hot water heaters.

Fire Protection Systems:

The facility currently has no automated fire sprinkler system. However, five pound ABC fire extinguishers are scattered throughout the floors of the facility on various wall hooks.



Typical Fire Extinguisher

This concludes the fire suppression systems located within the facility.

CONDITION ASSESSMENT OF EXISTING SYSTEMS:

HVAC Systems:

The existing HVAC systems are limited to electric base board only; therefore a conditions assessment is not truly applicable. It appears that the existing distribution and wattage is sufficient for heating the facility during the seasonal period that it is occupied.

Plumbing Systems:

The existing conditions of the plumbing systems appear to have been reasonably maintained over the years. The fixtures appear to be in relatively good shape, and the domestic hot water heaters appear to be reasonably new.

Fire Protection Systems:

An automated fire sprinkler system does not exist within the facility. It appears that the fire extinguishers have been maintained and appropriately tagged throughout the years.

ELECTRICAL CONDITION ASSESSMENT

Power Distribution

The building is served from a pad-mount utility transformer located approximately 100' north of the building. The service runs underground and terminates into a meter base on the north wall of the building which feeds a 200-amp outdoor panel also mounted onto the exterior wall. This panel feeds the baseboard heaters as well as some small older load centers in the facility.



Exterior-Mounted Electrical Service



Load Centers in Basement



Load Centers on Main Level

Electrical wiring in the building is primarily surface-mounted EMT although some NM or romex cable is present.

Lighting

Lighting is primarily incandescent fixtures or simple incandescent lampholders. Some lamps have been replaced with screw-base compact fluorescent lamps. Some light fixtures are missing lens or globes.



Light Fixture with Missing Globe

There are some battery-powered emergency lighting units present as well as one exit light.

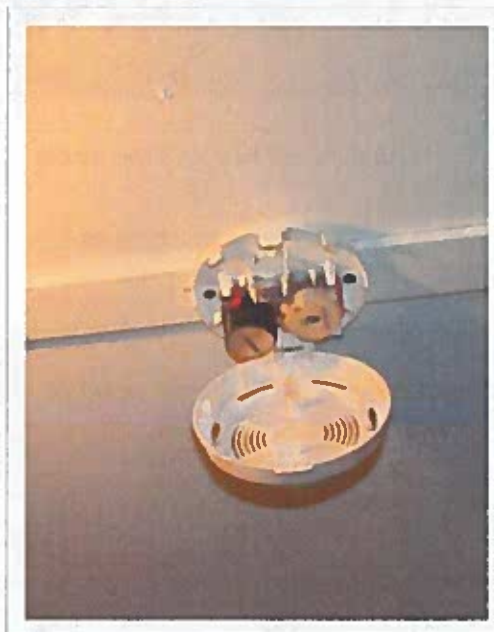


Emergency Lighting Unit (left)

Exit Light (right)

Other Systems

Battery-powered smoke detectors are located in several spaces within the facility, typically sleeping rooms and hallways.



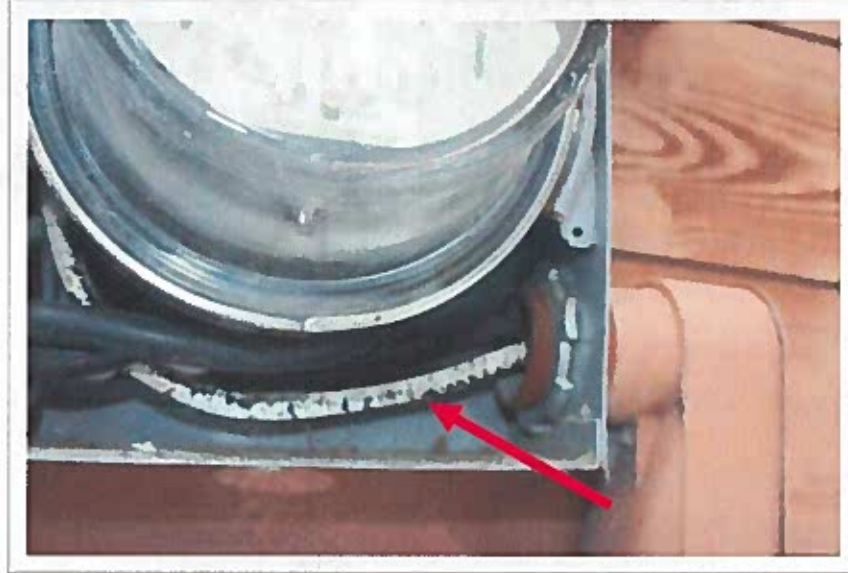
Smoke Detector

CONDITION ASSESSMENT OF EXISTING SYSTEMS:

Power Distribution:

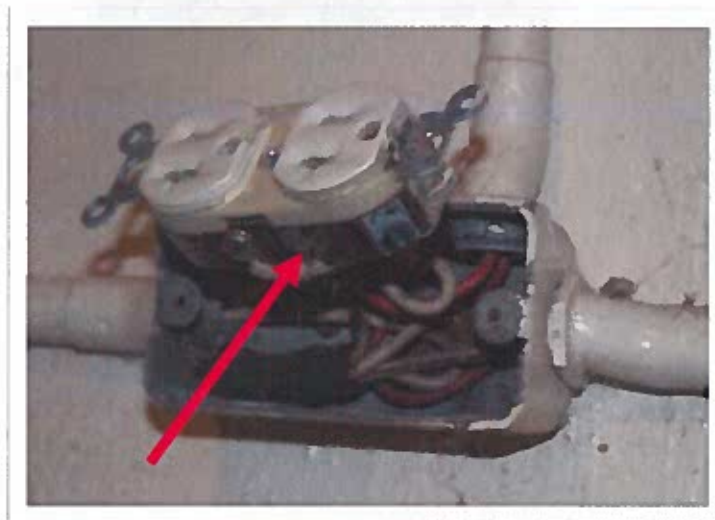
The exterior-mounted electrical panel is of fairly recent vintage and should serve the facility well for years to come. The older load centers inside the facility however are very old, located awkwardly and should be replaced. Our limited inspection uncovered several inadequacies in the electrical wiring:

- The service conductors between the utility transformer and the meter base are significantly undersized and old. In fact they appear to be an older version of romex. In the short time we were conducting the inspection the metal service conduit (which is actually a pipe, not a conduit) grew noticeably warm to the touch from the overheating of the conductors. These conductors are likely rated for no more than 30-amps yet they feed a 200-amp distribution panel.



Undersized Service Conductors

- Wiring does not include a separate equipment grounding conductor. Therefore all devices and boxes are only grounded through the EMT conduit and device straps.



Receptacle - Arrow points to grounding terminal with no ground wire connected

- Light fixtures are all incandescent although some have compact fluorescent lamps. Incandescent fixtures are very simple devices and most of the interior fixtures are likely in good enough condition to be re-used. Exterior fixtures, however, are in many cases inadequate for exterior use as they are almost certainly not listed for wet locations or are missing globes or lens that would provide protection from the elements. See picture shown previously in report.
- As a dormitory, the facility is required to meet certain Dwelling Unit provisions of the National Electric Code (NEC). Following are these requirements that the current facility does not meet:
 - The bathrooms are equipped with ground-fault-circuit-interrupting receptacles but the receptacle is on the same circuit as other loads. The NEC requires a dedicated circuit for bathroom receptacles in Dwelling Units.
 - Dwelling Units require receptacles in sufficient quantity that no point on a wall is more than 6' from a receptacle.
 -
- Battery-powered egress lighting is present in some locations but is not present in all required locations such as the exterior of the exits. The batteries have been removed so the units could not be tested.
- One exit sign marks the main entry into the building. The exit sign, while illuminated, does not have a battery backup required by codes. The 2nd level rear exit does not have an exit sign.
- Smoke detectors are present in most required locations. However, codes requires all smoke alarms be connected together so the activation of one alarm will activate all alarms.

PART 2. TREATMENT

2. A Management Philosophy and Recommended Ultimate Treatment

The proposed level of preservation treatment for the Fishing Bridge Dorm is *rehabilitation*, which is defined "as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values." The current use of the building will remain as a men's dormitory. Work under this level of treatment includes work to the exterior of the building to provide additions to the building such as ADA accessible features and changes to the structure to accommodate those additions. Also there will be additional work to the exterior to allow for better access and egress to the basement level which is used for recreation to meet code.. The rest of the exterior will be under *preservation*, which is part of the *rehabilitation* treatment. Preservation treatments include preliminary measures to protect and stabilize a property, but generally focus on the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. The interior retail space of the building has will require work under the *rehabilitation* treatment especially to meet current building codes. The electrical and mechanical systems will have to be updated to meet code. The goal for rehabilitation of secondary interior spaces will be to make them more visually compatible with the architectural values of the original building. All of the work will be occur under the *Secretary of the Interior's Standards and Guidelines for Rehabilitation*.

2.B Requirements for Treatment

As a federally owned property, rehabilitation treatment undertaken at the Fishing Bridge Dorm must comply with all applicable federal laws, regulations, and policies. Proposed treatments will be reviewed for consistency with the *Yellowstone National Park Resource Management Plan*, the National Environmental Protection Act (NEPA), and Section 106 of the National Historic Preservation Act (NHPA). Work shall also comply with several National Park Service Director's Orders, including *Director's Order 28: Cultural Resource Management Guideline*, which includes guidelines for code-related matters including design compatibility, accessibility, safety and security and energy conservation; and *Director's Order 58: Structural Fire Management*, which sets forth "...the operational policies and procedures necessary to establish and implement structural fire management programs throughout the national park system." Also the complex should comply with the Uniform Federal Accessibility Standards (UFSA).

National Park Service policy requires that any rehabilitation treatment comply with appropriate general and State of Wyoming building codes. The National Park Service has updated the appropriate codes. The appropriate codes at this date are as follows:

2009	International Building Code
2003	International Existing Building Code
2009	International Electrical Code
2009	International Energy Conservation Code
2009	International Fire Code
2009	International Mechanical Code
2009	International Plumbing Code
2010	ADA Standards for Accessible Design

Some code or legislative-driven treatments recommended in this report may result in adverse effects to the historic character-defining features of this contributing building. The impact of these treatments may be mitigated, however, by sensitive design that will result in improved life, health, and safety standards, while maximizing the preservation of the historic resource. However, it was determined that to make the building ADA accessible, it would require that there may be some changes to the character-defining features of the building.

2. C Treatment Recommendations

This section of the report contains general and specific treatment recommendations. As stated above, the primary level of treatment proposed for this contributing building is rehabilitation; all original exterior materials in the building envelope (including fenestration), as well as elements that have been replaced in-kind, will be preserved with changes to only the elements that are needed for additions to the exterior to meet code. With regard to interior spaces, the level of preservation treatment may vary according to whether the space is considered primary, secondary, or non-contributing. For purposes of this report *primary* spaces are defined as those designed for public access and that retain their original plan and volume as well as wall, floor and ceiling finishes. *Secondary* spaces are defined as those originally designed for utilitarian purposes, i.e., spaces not generally seen by the public, and/or space that retains its original plan, but that has modern finishing materials. *Non-contributing* space is defined as space that has been modified inappropriately so that it lacks integrity of materials, workmanship, and design.

The interior dormitory space in the Fishing Bridge Dorm is not opened to the public but the existing character-defined features should be retained. The spaces have retained most of the original configuration and design with the exception of some additional fire walls and exits from the upper floor of the building. The character-defining features (columns, beams, ceilings, walls, entrances and windows etc.) will be protected. Because these spaces have been altered somewhat, treatment has been designed principally to meet all applicable architectural codes. These areas within the interior are considered secondary spaces. Finishing materials should be compatible with historical materials found in color, texture, and design in other areas of the building.

Specific Treatment Recommendations

Site

1. The use of the building as a dormitory requires that an accessible path must be provided from ADA parking space(s) to the entrances of the building. Areas of the site on the south side of the building will have to be adjusted to accommodate accessibility.
2. Grade around the building to expose the base foundation on the south side of the building to allow for positive drainage from the building.

Fishing Bridge Dorm - Exterior

3. The exterior logs of the south, east and west side of the building will have to be scraped, sanded, some repairs made and the logs and sheathing re-stained to match the original color.
4. The mortar covering the horizontal logs will have to be removed and replaced in-kind to keep water from entering the sheathing on the wall.
5. Repair or replace in-kind any other deteriorated, missing or broken trim in all areas of the doors, windows and eaves. Scrape, sand, and stain to match original color.
6. The windows will have to be rehabilitated to repair broken or missing muntins and replacement of some glass.
7. The main entrance doors will have to be repaired in-kind with a new locking system to meet code and provide existing.
8. Replace the cedar wood shingle roofs over the porch area to match in-kind. Add an ice and water shield material to the surface. Reroof with # 1 red label cedar wood shingles using a breather board under the shingles. The exposed edge of the plywood should be a board to match the board sheathing. Flashing will have to be applied against the horizontal log to keep water from penetrating the wall below.
9. Rehabilitate the existing light fixtures on the south end of the building and install better lighting over the stairs to the basement and back exit on the building.
10. Repair and install the plumbing vents in original locations as part of the roof work. Flash around the vent opening to keep water out of the structure.
11. Even though the Dorm is not used by the general public the building will still have to be made accessible for potential employees that may work there. A design study of accessibility to the structure will have to be completed in order to determine the best solution.
12. Because the basement is used for recreational purpose and the laundry the access will have to be brought up to code and second egress stair provided.

Fishing Bridge Dorm - Interior

13. The dorm areas as well as access and adherence to codes need to be upgraded and maintained.
14. A plan will have to be developed in order to provide better use of the spaces to meet code. While doing this the major areas of the bead board walls and ceiling should be protected.
15. Second exits from the building will have to be provided on all floors because of the number of employees that use the spaces.
16. Stairs will have to be upgraded with proper railings to meet code.
17. Replace and reconnect the electrical plumbing and mechanical systems as needed for the individual uses that have not been altered in the past.
18. Bring the building up to code for fire and life-safety concerns. This would require better exiting from the building and appropriate fire safety devices within the spaces.
19. Prepare a plan to upgrade the energy efficiency in the building.
20. Provide a fire suppression system throughout the building. This would help to mitigate the major fire and life safety concerns.
21. Because the building provides housing for employees the building must be made accessible on the interior also. This includes relocating and widening of the doors and some corridor spaces. Approval from the Park Service will be required to not access the basement or second floor levels as there would have to be major changes to the structure that is not feasible. Details must be replicated in this new configuration to respect the context of the architecture.
22. The entrance vestibule will have to be reconfigured to meet code and still separate the first floor from the upper floor.
23. The basement area should be refinished to provide a better space for recreation. This would require major changes to the room along with the access.
24. The existing finishes in the rooms should be repaired and maintained and a color applied to the beaded board walls and ceiling that is closer to the original stain. The window color should match the original green paint.
25. The vinyl tile floors should be tested for asbestos. The floors should be replaced as needed.
26. See the recommendations of the Structural, Mechanical and Electrical Engineers in their respective reports.

STRUCTURAL – TREATMENT RECOMMENDATIONS

FLOORS: No upgrade work required.

ROOF: The roof structure requires remedial upgrades to meet the design snow loads for the Fishing Bridge area in Yellowstone. All work can be completed from the attic space.

- Add 2x4 struts throughout the attic space to reduce the span of the rafters and hips. The struts could connect to every rafter or a strongback (2x4/2x6 combination) applied to the bottom side of the rafters with isolated struts is preferred.
- Add a strongback atop the ceiling joist directly above bearing walls below. The struts would bear on the ceiling strongback.
- Add sheathing and blocking noted in the lateral section below.

WALLS: The exterior walls require general cleaning, re-staining and sealing, typical all sides. Additional sheathing is required per lateral section below. The deterioration noted on the west side sill log is beyond an isolated clean, wood epoxy fill, stain and seal repair. The west side sill log should be replaced. The east side sill log should remain in place, cleaned and re-stained.

SOUTH PORCH: The porch roof log beam ends have deep deterioration. An estimated 10" to 12" removal would be required to get to sound wood. This amount could feasibly be removed without compromising the existing support of the porch rafters. Some minor structural upgrade of the connections would be required. The porch deck required maintenance and some structural upgrade. The decking boards should be removed to expose the sub-structure. The structural connections should be upgraded as required. The decking could be salvaged, re-conditioned and re-used.

FOUNDATION: The foundation is generally in fair to good condition considering age and climate. Minor crack repair is warranted. A full surface applies finish coat could be applied to the foundation to provide for a more consistent finish, but is not need structurally or recommended.

LATERAL: The building does require remedial upgrades to stiffen the overall roof and wall elements. The planking is not adequate.

- With the next proposed re-roof, the roof should be sheathed. The sheathing (1/2" OSB can be applied directly over the planking. Supplemental plank nailing will be required.
- With the next interior renovation, designated walls should also be sheathed. At the designated sheathed walls, the base should be exposed to install supplement anchor bolts to the foundation.
- With either the roof or the wall lateral upgrade, the connection between the two should be upgraded to provide positive transfer of lateral forces. This will entail supplemental blocking at the roof to wall interface.

MECHANICAL RECOMMENDATIONS & CONCLUSIONS:

1. It would be our recommendation that in any major renovation a mechanical exhaust system would be incorporated into these shower/bath areas of the facility to control condensation and odors, as well as, to provide adequate code required ventilation to these spaces.
2. Due to the seasonal usage of the facility, the electric base board maybe the best heating solution for the facility, however other options could be explored should the Owner so desire.
3. To be consistent with Yellowstone National Park life safety protection systems, an analysis should be conducted to determine if an adequate water source is available to install an automated fire sprinkler system that would provide additional life safety systems in the sleeping facility. Also a roof deluge system maybe investigated to provide further facility protection.
4. ADA typically would require modifications to the existing facility structure for ingress and egress should these requirements be met; modifications to the existing structural interior including restrooms and plumbing fixtures should be integrated to provide reasonable access for handicapped people.
5. The existing 2" domestic water service does not incorporate a pressure reducing valve or backflow preventer. These International Plumbing Code requirements should be incorporated into any renovation project for the facility.
6. The existing domestic hot water system utilizes the thermostatic control of the water heater only for the domestic hot water loop, this is not in compliance with the International Plumbing Code requirement of a secondary thermostatic mixing valve to control discharge temperature to related plumbing fixtures. The installation of a thermostatic controlled mixing valve should be incorporated into any renovation of the facility.
7. Potentially a domestic hot water recirculation system should be incorporated into any renovation to reduce overall usage of water and provide faster response to hot water demand at various plumbing fixtures throughout the facility.

ELECTRICAL RECOMMENDATIONS & CONCLUSIONS:

1. Replace the existing older load centers with a new panel located in the basement and provide a new feeder from the existing exterior main panel.
2. Replace the existing undersized service conductors and conduits with new. Note: This may be the responsibility of the utility.
3. If a large-scale remodel is conducted, demolish all existing branch wiring and conduit and replace with new wiring that includes an equipment grounding conductor.
4. Replace some or all of the light fixtures with a priority placed on replacing the exterior light fixtures that are missing globes or lens and are not protected from the weather.
5. Provide a light fixture at the exterior 2nd level exit stairway.
6. Provide additional receptacles to meet spacing criteria required for dormitories.
7. Provide additional battery-power emergency lighting units, in particular at exterior locations. Consider providing a central source of emergency power in the form a battery-powered lighting inverter rather than using individual units. This power source could also supply exit lights.
8. Provide illuminated exit lights at all exits.
9. Provide new smoke detectors that are inter-connected (this may only be possible if the facility is extensively remodeled). Although 120v detectors are only required in new construction, consider using 120v detectors.

GENERAL RECOMMENDATIONS (PRIORITIZATION)

1. Maintenance can continue on several of the exterior elements as stated:
 - Windows and screens
 - Entrance doors
 - Exterior siding repair and replacement with staining of the materials
2. The critical fire and life-safety issues and some structural problems, requires that this building be renovated as soon as possible. The Dormitory needs to be brought up to code from a life-safety standpoint.
3. Prepare design and construction documents that are phased for the renovation of the Dormitory. This work could be implemented over a period of years depending on funds available for the renovation however the life-safety issues can't be let go. The character defining features of the exterior as well as the interior spaces can still be maintained with some modifications that should not have an adverse affect on the building.
4. Prepare a Historic Preservation Maintenance Plan for the Fishing Bridge Dorm and site. This plan should initially provide needed maintenance to stop deterioration of the exterior features of the building and keep water out of the structure. Most of this plan of maintenance can't be implemented because of the poor condition of the building elements. The building will have to be renovated before it can be properly maintained.
5. Interpret the site, and building especially the changes to the building over the years and significance of the building to Yellowstone.

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LIST OF FIGURES

Figure 1: Location Map

Figure 2: Undated photograph of the original porch (Courtesy Yellowstone National Park Photo Archives, YELL 29938)

Figure 3: Site plan

Figure 4: lower level floor plan

Figure 5: main level floor plan

Figure 6: upper level floor plan

Figure 7: south elevation

Figure 8: east elevation

Figure 9: north elevation

Figure 10: west elevation

Figure 11: Looking north at the walkway to the building. Note the drainage towards the building and front steps.

Figure 12: Looking east at the walkway and parking in front of the dorm. Some stone edges have settled. The parking lot asphalt is close to the top of the curb.

Figure 13: Looking northeast at the Dormitory. The logout walls and sheathing are dry and have some deterioration.

Figure 14: Looking west at log and wood sheathing that is dry and weathered. The windows have some broken panes.

Figure 15: Looking northwest at the building and concrete stair to the basement. The stair does not meet code and there is some deterioration in the concrete walls.

Figure 16: Looking west at a typical window and details of some of the logs. Note the weathered surfaces and some rot in the base of the columns and the weathered wood on the window, and also the missing muntins in the sash.

Figure 17: Looking south at the building. The stair on the back of the building is in good condition, but there are code problems with the railing. The wood sheathing on this wall is weathered.

Figure 18: Looking west at a typical base log on the building. Note the weathered and cracked log. The mortar cap is loose and coming apart.

Figure 19: Looking southeast at the building. The west side of the Dormitory is similar with weathered wood and some minor rot in the bases of the columns and horizontal logs. The windows have similar problems.

Figure 20: Looking southeast at the concrete foundation. There are some minor horizontal cracks in the foundation wall. Also note the rotted sill log.

Figure 21: Looking northeast at the building. The roof is in fair condition and is winter-kept during the heavy snow loads. Note the poor drainage and grade at the corner.

Figure 22: Looking north at the porch at the front of the building and porch railing. Part of the railing has deteriorated and has been removed.

Figure 23: Looking northeast at the front porch. Note the variable heights in the risers of the steps and landing. The deck is in poor condition.

Figure 24: Looking north at a typical window next to the doorway. It is in fair condition but shows signs of weathering and some minor rot.

Figure 25: Looking north at the entrance. The wood paneled doors with lites are in poor to fair condition. The hinges are loose and the meeting styles have some wood damage. The doors do not close properly.

Figure 26: Looking north at the porch roof. The wood shingles are loose and missing. Note the weathered fascia.

Figure 27: Looking northwest at the front porch and entrance. The porch roof has some deteriorated areas at the connection to the wall. Water penetrates into the horizontal logs causing some rot.

Figure 28: Looking north at a typical window above the porch roof. Water penetrates into the area below the window. Note the weathered fascia.

Figure 29: Looking northeast at a typical sill log on the front of the building. Note rot in the base of the columns, the weathered log, and dry wood sheathing.

Figure 30: Looking west at the porch. Note the change in the railing and slope of the pathway into the window well.

Figure 31: Looking east at the retaining wall with stair to the basement. The concrete along the outside stair is deteriorated and spalling.

Figure 32: The basement has an outside entrance in the concrete foundation. The space is dry and the concrete walls and floor are in good condition. The door does not meet exiting requirements.

Figure 33: A wood partition wall is in good condition.

Figure 34: Knotty pine paneling is located on the south and west sides of the main room. It is in fair to good condition. The celotex ceiling is in good condition.

Figure 35: The steel sash windows are in fair condition with some loss of paint and deteriorating putty. There is some water leaking around the frame.

Figure 36: Entering the laundry area from the rec room. The wood panel door is typical of the upper areas. There is no second exit out of the basement.

Figure 37: The steel sash windows are in fair condition with some loss of paint and some deteriorating putty.

Figure 38: A sump pump is used to pull water out of the room during backup in the drainage systems in the laundry room.

Figure 39: The laundry room has concrete walls and floor. There is some staining on the walls from the windows and from areas above.

Figure 40: Water meter for the building. The plumbing appears to be in fair condition.

Figure 41: Entrance to the mechanical room. The wood is in good condition.

Figure 42: Note the domestic hot water heaters. The piping and electrical conduit is not well organized.

Figure 43: East wall of the mechanical room. Note the water stains on the wall. All of the sewer piping runs through this space from the bathrooms above.

Figure 44: Concrete beam wrapped in wood.

Figure 45: The interior first floor door swings into the exit corridor from the second floor.

Figure 46: The wood exit door from the first floor does not meet the building codes because of the materials and frame. There is no exit hardware.

Figure 47: The original wood paneled door does not meet the width for ADA access to the bathroom.

Figure 48: The bathroom fixtures are in fair condition. The bathroom needs to be redesigned to meet ADA requirements and to make it more usable.

Figure 49: Room number 1 is generally in good condition. Note the missing muntins in the window. Also note the exposed electrical conduit.

Figure 50: The painted woodwork and beaded wood walls are in good condition with some minor wear.

Figure 51: The wood paneled doors do not meet fire codes without a fire suppression system in the building. The ventilation screen also does not meet code.

Figure 52: Note the wear on the lower part of the walls and at the base. There is some missing paint and deteriorated wood members.

Figure 53: The original wood paneled doors still access all of the rooms.

Figure 54: This room is used by several tenants and has a lot of wear on the walls and floor surfaces.

Figure 55: Note the closet doors to the left with original wood paneled doors and the wood bead board on the outer walls and ceiling. The light fixtures are poor and not very energy efficient.

Figure 56: From the inside note some of the weathering of the windows. There is missing paint and some deterioration in the wood sills.

Figure 57: A window has been covered over to the left of the door.

Figure 58: The original door has a half-glass lite and is covered over from the inside.

Figure 59: The painted woodwork and wood bead board walls are in good condition with some minor paint wear. Note the covered lite on the door to the right.

Figure 60: A typical original door on the first floor. Note the original hinges that are in good condition although loose in some cases.

Figure 61: Generally the windows are in fair to good condition on the inside. They will have to be evaluated totally in the future.

Figure 62: Note the exposed electrical conduit. There is some wear and missing paint in the original base above the concrete wall.

Figure 63: There is no second exit out of the first floor other than the windows. The red hose cabinet does not meet present code and is probably not used.

Figure 64: The stairway to the upper floor does not have proper railings.

Figure 65: The hinged window appears to be in good condition on the landing but causes problems with stair for exiting.

Figure 66: The stair is steep and the railings and lighting are poor.

Figure 67: Note the original wood bead board on the walls and ceiling.

Figure 68: Note the second exit from the second floor. However the entrance to the stair corridor is too close to the main exit stair.

Figure 69: Note the typical hallway with doors to the bedrooms. The sheetrock ceiling is good.

Figure 70: The painted wood bead board walls are in good condition with some minor wear. The sheetrocked ceiling has wood battens covering the joints. The windows are generally in good condition from the inside.

Figure 71: A typical rooms with the wood bead board walls, sheetrocked ceiling with battens, and a sheet vinyl floor.

Figure 72: Typical wood hinged window that appears in good condition with some minor wear, some peeling paint, and sill deterioration. Note the repaired pane of glass in the lower right corner where the putty is not painted.

Figure 73: Typical double wood hinged window which occurs throughout the building.

Figure 74: Typical wood paneled doors with a half lite. This door does not meet code in the fire corridor without a fire suppression system.

Figure 75: Another typical room with similar materials.

Figure 76: Typical wood paneled doors on the closets. Other materials are similar.

Figure 77: Fire hose cabinet and fire extinguisher.

Figure 78: Typical wood paneled door with half-glass lite covered over from the room side.

Figure 79: Typical wall, ceiling, and floor.

Figure 80: This room sees a lot more wear because of the number of tenants in the space.

Figure 81: Typical materials.

Figure 82: Note the missing panel in the door to the left. All of these doors access storage closets.

Figure 83: Another typical door that has seen some wear.

Figure 84: Typical room with the double wood hinged windows.

Figure 85: An original window that is located in a closet. It appears to have the original green paint. The wood bead board had a light varnish or stain, which was then painted white at a later date.

Figure 86: The materials are generally in good condition.

Figure 87: The unfinished wood that occurs in the closets.

Figure 88: A typical narrow door to the bathroom on the second floor.

Figure 89: Typical door room and original materials with the exception of the sheet vinyl floor.

Figure 90: The windows have some missing muntins with some larger glass pieces installed in the larger opening.

Figure 91: The window exterior shows some weathering, peeling paint and deteriorating window putty.

Figure 92: The partitions are in poor condition.

Figure 93: Typical wall hung lavatories.

Figure 94: The bathroom showers with some mold and worn areas on the walls and door.

