

## KEEPERS QUARTERS

### Chronology of Alterations and Use

#### *Original Construction*

The Devils Island Keepers Quarters was constructed as a brick, single-family residence in 1891. Its style is an eclectic mix of Queen Anne, Richardsonian and Shingle Style all popular during the late 1800s. During the United States Coast Guard (USCG) Period (1939-1969), the building was used for offices and a bunkhouse.<sup>29</sup>

#### *Significant Alterations / Current condition*

As a consequence of its long-term occupation and varying uses, the Keepers Quarters underwent fairly extensive interior remodeling and some exterior changes that have altered its original character. From historic photos, it is clear that all of the original windows in the Keepers Quarters were replaced and the attic window opening was altered. By 1979-1980, the oval window on the west façade had been removed and replaced with a simple rectangular casement window. (Historic Image DI-21) Today, the oval window has been recreated. Historic photos also indicate that the kitchen entry had a shed roof (wood) and was sided with vertically oriented wood siding, circa 1901 (Historic Images DI-05 and 06).

Historic drawings include the original construction set, plans and sections (April 1891); a plan of the remodeling of the Keepers Quarters (June 4, 1946); the existing sanitary facilities, details and diagrams of the flashing, dormers, and plumbing (March 30, 1965); and, USCG-era plans and elevations of the existing conditions. (Historic Drawing DI-02, 18, 21 to 23) The plan to remodel the second floor of the Keepers Quarters in 1946 was apparently never executed. The plan calls for turning the east bedroom into a kitchen, removing the hall and southwest bedroom's shared wall to create a larger bedroom, and changing what is currently the bath into a closet. These plans were meant to convert the quarters into a duplex but no physical evidence supports this design. (Historic Drawing DI-18)

Alterations to the Devils Island Keepers Quarters also include the recent rehabilitation that occurred in the past eleven years and was performed by the Historic Structure Preservation Team at the National Park Service. This includes a cedar shingle reroofing in 2007, replacement of the kitchen flooring, and rehabilitation of the foundation drain.

Many of the mechanical systems in the Keepers Quarters were installed in the 1940s by the USCG. Some of the systems have also been upgraded since the USCG occupation to allow for seasonal housing of park employees and volunteers. Some of the 1950s water and heating systems remain in place, although they are no longer functional.

At the time of construction, minimal electrical lighting and distribution was included. The building was remodeled, including new electrical, in 1928. In 1962, the USCG rehabilitated the building for full time occupancy, updating some electrical systems and adding a fire alarm system.

Currently, the building is in fair condition.

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<sup>29</sup>List of Classified Structures, National Park Service, 2009, And, Busch, Jane C. "People and Places: A Human History of the Apostle Islands; Historic Resource Study of Apostle Islands National Lakeshore" Bayfield: Apostle Islands National Lakeshore. 2008.

## 1 Summary of Documented Work on the Building

Date	Work Described	Source of Information
Annual Report for 1891	<i>“Devils Island, Apostle Group, Lake Superior, Wisconsin. - The act approved March 2, 1889, appropriated \$15,000 for building a light station...”</i> Repeated in 1892.	“1891 Annual Report of the Lighthouse Board,” Devils Island listings in Lighthouse Establishment Annual Reports 1890-1914
1928	Building rehabilitated, including new electrical system	1928 Electrical Plan
1931	Bathtub installed by Keeper	Historic Drawing
1946	Plans show reconfiguration of second floor with installation of cabinets and a sink from Michigan Island – no evidence that the work was completed	1946 Historic Drawing
1952, June 20	June 20: “Painted quarters.”	USCG Log, summarized by Bob Mackreth, 2004
1952, September 29	“Repaired porches on dwellings for painting. Painted #1 dwelling porch.”	USCG Log, summarized by Bob Mackreth, 2004
1953, May – June	May 21: “Making new window for hallway in building.” June 16: “Installed telephone communication system between dwellings and signal.”	USCG Log, summarized by Bob Mackreth, 2004
1953, August - September	August 6: “Repaired crack plaster in office.” September 16: “Layed(sic) linoleum in upper hallway.”	USCG Log, summarized by Bob Mackreth, 2004
1953, November 5	“Installed meter in supervisor alarm system.”	USCG Log, summarized by Bob Mackreth, 2004
1955, May	May 13: “Installed new windows in barracks #1 and signal building.” May 30: “Removed all steel kitchen cabinets from dwelling that is not in use and transferred some to CG4o521 for transfer to other units.”	USCG Log, summarized by Bob Mackreth, 2004
1955, October - November	October 27: “Installed eave trough and downspout on front of barracks.” November 3: “Painted red stripe at location of all fire extinguishers in barracks.” November 28: “Begin installing ‘Marlite’ tile in barracks bathrooms.”	USCG Log, summarized by Bob Mackreth, 2004
1962	USCG installed fire alarm system and updated electrical system in Keepers Quarters and shed addition to the south side of the Fog Signal Building-built open sided, enclosed by 1994	Historic Drawing DI-03, 1962 and Park Admin. Files D3423
1963-1965	Rehabilitated by USCG, including updating electrical system and installing a fire alarm system	1963 Historic Drawing DI-04
1965	second floor shed dormer added; new Kitchen Vestibule; first floor bath remodeled; new Kitchen sink and cabinets; dropped ceilings installed; 2x4 furring at some exterior walls; new glass block window; new windows, doors and flooring; new light fixtures	1965 Sanitary Facilities Drawing
1979	Reroofed and exterior repointed and painted	Park Admin. Files D3423
1981	Sewer and septic system installed, replaced an earlier version that was not original to the building, and fire retardant installed on the roofs of the Keepers and Assistant Keepers Quarters	1981 Mechanical Plan and Park Admin. Files D3423
1984	Cyclic maintenance of seven buildings including repointing brickwork, painting trim, and reglazing windows	Park Admin. Files D3423

Date	Work Described	Source of Information
1991	Stabilization of Keepers and Assistant Keepers Quarters by Williamsport Preservation Training Center	Park Admin. Files D3423
1992	Three doors hung in the Keepers Quarters after restoration/reconstruction by Williamsport Preservation Training Center	Park Admin. Files D3423
1993	Door knobs and locks installed on both the Keepers Quarters and Assistant Keepers Quarters	Park Admin. Files D3423
1997	Installation of shark-hook type rain gutters on the Keepers Quarters	Park Admin. Files D3423
2007	Reroofed with cedar shingles	HSPT Reports, 2009

### Other Documented Work on the Building

Date Range	Work Described
c.1920	'BX' and 'Romex' electrical cables installed
c.1950	New heating and water systems installed
Pre-1979	Red asphalt shingles at roof
Pre-1980	South entry rebuilt with concrete masonry unit foundation and gable roof form replaced shed roof
Pre-1980	Porch screening removed
Unknown	Porch floor and joists replaced
Post-1991	Oval window reconstruction
1998-2009	Replaced kitchen flooring
1998-2009	Rehabilitated foundation drainage

### General Physical Description

This building is a two-story brick single-family residence with an eclectic mix of architectural influences of the period. It is oriented to the north. The roof is asymmetrical with a central gable and dormers. There is an arched recessed entry porch on the north elevation, a one-story kitchen appurtenance on the south as well as a one level kitchen entry addition. There are four rooms on the first floor and three on the second floor.

### Physical Description -- Architecture

#### Architecture – Roof

This roof is composed of cedar wood shingles with wood ridge caps and is reported to have been reroofed in 2007. The shingles have a 5" exposure and the roof has tie-off rings installed at the ridge, though they do not appear to comply with OSHA requirements. There is 1x open sheathing that has about 2" gap every third row. The south appurtenance has older cedar shingle roofing. There is a flashing combination of contemporary, prefinished red flashing drip edge at the eave, reinstalled modern step-flashings, and reinstalled flashing at the south dormer. (DI-KQ-05 and 32) The eave consists of a boxed soffit with ogee trim at the frieze board and fascia and extends +/-10". All are wood painted white.

#### Architecture – Gutters and Downspouts

No gutter system currently exists on this building. There is one fluted downspout at the northwest corner of the entry porch. (DI-KQ-06) A previous gutter, possibly the original Yankee gutter, indicated on the construction drawings, appears to have been removed with the recent reroofing. This is evident due to the

1 patched cornice trim +/- 12" long at the top of the downspout. In various historic photos, there are two  
 2 downspouts evident – one on the east façade (c. 1893) and the other on the west façade (c. 1920) at the  
 3 front porch. In both 1893 and 1904, a horizontal line above the eave indicates the original gutter as a  
 4 yankee gutter. (Historic Images DI-01 and 09)

#### 7 *Architecture – Chimneys*

8 There are two brick chimneys matching the exterior walls, one on the east façade and the other on the west.  
 9 Each chimney has a cast concrete cap piece that is original to the chimneys. The corners of the chimneys  
 10 utilize the rounded brick, similar to the house. (DI-KQ-07 and 08)

#### 13 *Architecture – Exterior Walls*

14 The exterior walls are predominantly brick with the upper gable portions infilled with recently-installed  
 15 chamfered wood shingles and contemporary 8" aluminum siding at the south dormer, east-facing gable end  
 16 wall and south entry addition. Note that the shingled gables were previously also of aluminum 8" siding. It  
 17 is assumed that the reintroduction of shingles is from the NPS era. The foundation of the southern addition  
 18 is newer 8" concrete masonry block. The brick detailing is fairly elaborate with running bond and every  
 19 sixth course a header bond. Two belt courses of corbelled brick occur at approximately the second floor  
 20 level which delineates the lower portion of the wall from the upper, the former having more elaborate detail  
 21 including a soldier course at the top and a "denticel" type of flared header brick work by way of alternating  
 22 curved and standard bricks. The corner bricks at the first floor and basement levels are rounded as are the  
 23 upper portions of the chimney's lower bricks, but not the second floor level's corner bricks. The second  
 24 floor headers are flared but do not include the alternating curved bricks. The porch overhang's east opening  
 25 utilizes the alternating curved bricks. The north gable has corbelled bricks at either side of the window.  
 26 There are two oval windows with a brick keystone at the top and bottom. The window sills at the basement  
 27 are cast concrete while the first and second floors' sills are rough brownstone with a vertical tooled, sloped  
 28 chamfered edge. There are two openings with infill brick – one at the south addition and one at the living  
 29 room.

31 A mortar sample taken at the east wall reveals that the composition of the original mortar is two parts sand  
 32 to one part lime by volume, with moderately coarse sand. A sample at an area of recent repointing at the  
 33 entry porch indicates that Portland cement was added to the lime and sand, suggesting that the repointing  
 34 occurred in the late twentieth century.

#### 37 *Architecture – Windows*

38 **Oval Windows.** There are two fixed, multi-lite oval windows located on the second floor. The oval  
 39 window on the east side of the building was replaced, or possibly reconstructed, in 1991 (from note on  
 40 HABS drawing). (DI-KQ-09, 28 and 31) Prior to its replacement, the window was rectangular, though  
 41 originally oval per historic photos. (Historic Images DI-01 and 06)

43 **Attic Windows, Rectangular.** There are two fixed sash at the attic level with approximate dimensions of  
 44 2'-0" x 1'-4". These windows are located on the west and east facades. The original, multi-lite (oriented  
 45 horizontally) attic windows were wider than the current windows, according to historic photos and original  
 46 drawings.

48 **Basement Windows.** There are three louvered wood vents at the basement level, painted white. Behind  
 49 these nonhistoric wood louvered vents are three- and five-lite painted awnings with inset rounded profiles  
 50 on their muntins. These windows appear to be the only original windows in the building.

**Predominant Windows.** This type of window is one fixed sash over one painted awning sash. The upper sash is larger than the lower sash. The windows are set in segmented brick arches with stone sills, have wood frames, and brick molding. The interiors are typically trimmed out in gypsum board returns and two of the windows have metal screens. All of the windows and trim are nonhistoric. Historic photos and original drawings appear to indicate eight- and ten-lite over two-lite double-hung and/or eight- over eight-lite and ten- over ten-lite double-hung as the predominant window at both levels (Historic Image DI-06).

#### *Architecture – Exterior Doors*

**Main Entry Door and Screen Door.** The entry door is original with five raised wood panels, stone sill, and two ball-tipped hinges. The exterior face is painted while the interior face is varnished. The door has contemporary hardware and brick molding around the exterior face. The interior has is shaped, decorative 5 ½” wood trim with a plinth block at the door’s base and a rosette corner block trim. The door is 3’-0” x 6’-10” x 1 ¾”. (DI-KQ-13 and 14) The entry’s associated screen door is an aluminum framed door with three panels: aluminum at the lowest panel, glass at the middle panel, and screen at the upper, largest panel. Three screen doors, including this one, were hung in 1992 after the restoration/reconstruction project. In 1993, knobs and locks were installed.

**Kitchen Entry Vestibule Door and Rear Door.** The kitchen entry’s vestibule at the back of the house has a painted, wood-framed screen door. The rear door that leads into the quarters from the vestibule is a hollow core door with three rectangular windows stair-stepped across the upper third of the door. Neither doors’ hardware is original, but the screen door appears to be historic.

**Basement Access Door.** Two plywood panels with face-mounted hinges and padlock, painted blue. (DI-KQ-17)

#### *Architecture – Exterior Trim*

All trim is covered in other sections.

#### *Architecture – Exterior Entry Porch*

This porch has a wood floor with tongue and groove decking with a ¼” round base shoe at the brick wall junction (both floor and trim painted blue-gray). The floor does not appear to be original as the joist pockets, which can be seen and the level of the previous porch, may have been higher as indicated by the paint line. The porch was once screened-in. The wood stairs are contemporary and made of 2x12 treads, riser height between 4 ¼” and 7 ¾”, and a loose 2x4 wood handrail. The porch’s brick knee wall is capped with painted brownstone. Underneath the porch is a black membrane attached to the exterior masonry wall. Sand and previous roofing debris has collected in the space. (DI-KQ-11 and 12)

#### *Architecture – Basement Hatch*

The side walls of the hatch are red brick and are separate from the house walls (not toothed into the original wall). The door frame is a stone ledge, the frame itself is wood (painted), and the double hatch doors are plywood (also painted). From original drawings and historic photos, the hatch location is original to the building, though the wood elements have been replaced through the years. (DI-KQ-10)

#### *Architecture – Interior Doors*

**Historic Doors.** This type of door is original with two vertical over one horizontal over two vertical raised panels. The doors have shaped, decorative 5 ½” wood trim with two hinges with acorn tips, modern hardware, and are painted. There are three historic doors on the first floor and one on the second floor. The

first floor doors are 2'-10" x 6'-8" x 1 3/4", while the second floor door is 2'-8" x 6'-10" x 1 3/8". The original door to the first floor bedroom had a paint sample taken that showed the original coat of the door was a golden varnish. (DI-KQ-27)

**Nonhistoric Doors.** This type of door is hollow-core, wood veneer, and is in a variety of sizes with a variety of modern trim treatments (chamfered wood casing, frp, etc.). (DI-KQ-22)

#### *Architecture – Wall Finishes*

**Basement.** The two rooms in the basement both have exposed brick walls, unpainted.

**Entry, Living Room, and Second Floor Hall.** These three rooms all have nonhistoric 4x8 fiberglass reinforced plastic (frp) "wood" wall paneling. The entry and hall at the stair location also have 3 1/2" historic beadboard wainscot with an elaborately shaped 3" chair rail at the top. Both the wainscot and beadboard are painted, but a paint sample from the entry wall shows that the beadboard originally had a golden varnish. The closet accessed from the second floor hall has the historic wall finish of painted plaster over lath.

**Kitchen and Kitchen Vestibule.** The kitchen has nonhistoric gypsum board walls painted peach with 4 1/4" x 4 1/4" nonhistoric pink ceramic tile surround on parts of north, east, and west walls. The kitchen vestibule has plywood that is plastered and painted on all walls except the north wall, which is painted brick. This room in its current state is not original to the building as a historic photo pre-1904 indicates a simple shed appurtenance at this location.

**First Floor Office.** This room has plaster over brick on the north and west walls. The south and east walls are also plaster.

**First Floor and Second Floor Baths.** Both baths have nonhistoric gypsum board walls with 4" x 4" nonhistoric pink ceramic tile wainscot and shower surround.

**First Floor and Second Floor Bedrooms (One on First Floor, Three on Second Floor).** All of the bedrooms have nonhistoric gypsum board walls that are painted. The closets for the south bedrooms located on the second floor are also nonhistoric gypsum board. The closets for the first floor bedroom and the second floor north bedroom have historic plaster over lath. A material sample taken at one of these closets indicates the plaster was a mixture of gypsum and sand rather than the typical mixture of lime and sand. The first floor bedroom closet also has historic 3 1/2" wide beadboard with a simple 2 1/2" cap rail, painted green. The east wall of the closet is missing the cap rail.

#### *Architecture – Ceiling Finishes*

**Basement.** The two rooms in the basement do not have ceiling finishes. The first floor framing system is exposed.

**Entry, Living Room, First Floor Bedroom, and Second Floor Hall.** These four rooms have nonhistoric acoustic lay-in ceiling tiles. The dropped ceilings, covering the historic ceiling finishes and original ceiling heights, may indicate poor plaster condition of the original ceiling. Each room's acoustic ceiling tiles are white but differ from each other in size and style. They were most likely installed during the USCG era of occupation. The second floor hall's closet has a ceiling finish that is the original plaster over lath. The first floor bedroom closet has the original ceiling height but the finish is covered by a wood panel.

**Kitchen and Kitchen Vestibule.** The kitchen has a contemporary dropped-ceiling finished with ceiling tiles, 1'4" square and painted white. The kitchen vestibule has a plywood ceiling painted yellow.

**First Floor Office.** This room has the original plaster over lath ceiling.

**First Floor and Second Floor Baths.** Both baths have nonhistoric gypsum board dropped-ceilings.

**Second Floor Bedrooms (Three).** All of the second floor bedrooms and closets, except for the southeast bedroom and closet, have historic plaster ceilings at their original heights. The southeast bedroom and closet have nonhistoric dropped gypsum board ceiling finishes. The north bedroom's closet ceiling finish is covered by paper apparently to mitigate a flaking paint and plaster issue.

#### *Architecture – Interior Trim*

**Entry.** The only trim in this room is the simple wood base shoe trim, painted yellow, along the base of the wainscot. The trim may be historic.

**First Floor Office.** This room has the only original wood base trim in the building. It consists of an ogee profile base 10 ½" high, with a simple wood base shoe. Both are painted white, but a paint sample has shown that the wood originally had a golden varnish.

**Kitchen and Kitchen Vestibule.** The kitchen has a very simple wood base trim and base shoe along parts of the north and east walls. The rest of the room has only the wood base shoe with glue and paint remains suggesting resilient base at one point. No trim in the kitchen is original to the building. The kitchen vestibule has a nonhistoric wood base-shoe located along all of the walls except for the north exposed brick wall.

**First Floor and Second Floor Bedrooms (one on first floor, three on second floor).** These four bedrooms have a modern, simple wood base and base shoe, all painted white. The only closet associated with a bedroom that has any trim is the second floor's north bedroom closet. This closet has some historic base with no base shoe and some of the same modern base that its bedroom contains.

**Second Floor Hall.** This room has the same original wood base trim, painted white, as is in the office, but without the base shoe, in partial sections. Where the original trim is not located, a simple modern base and shoe was installed, matching the height of the original. (DI-KQ-29) The closet associated with the hall also has the historic wood base without the shoe, but it is stained, not painted. A paint sample of the original trim has also identified that the original coat was a golden varnish.

#### *Architecture – Floor*

**Basement.** The two rooms in the basement both have concrete slab-on-grade floors that are original to the building.

**Entry, Living Room, Office, First Floor Bedroom, Second Floor Hall, Second Floor Bedrooms.** These eight rooms have nonhistoric resilient flooring in a variety of colors and styles. The 1962-1965 historic drawing from the USCG period identifies the first floor Bedroom's flooring as ¼" underlayment with vinyl flooring. The second floor flooring is labeled as ¼" masonite underlayment with 12"x12" vinyl asbestos floor tile. (Historic Drawing DI-20) The flooring in the first floor bedroom's closet is the original wood flooring (3 ½" wide boards), painted blue-gray.

**Kitchen and Kitchen Vestibule.** The kitchen has nonhistoric resilient flooring in a checkered pattern. The 1962-1965 historic drawing from the USCG period identifies the kitchen flooring as vinyl over ½" plywood. (Historic Drawing DI-20) The kitchen vestibule has nonhistoric resilient beige 9" tiles as flooring.

**First Floor and Second Floor Baths.** Both baths have nonhistoric resilient flooring in a mosaic pattern. The 1962-1965 historic drawing from the USCG period identifies the bathrooms' flooring as vinyl tiles over ¼" underlayment. (Historic Drawing DI-20)

#### *Architecture – Stairs*

**First Floor to Basement Stairs.** These stairs are wood with rubber grips on treads attached at the nosing with a metal bar. The stairs have a partial handrail that is a metal pipe painted yellow. There are nine risers at 8" high and one riser at the bottom that is 1'-2" high. The tread depth is 10 ¼" with a 1" nosing. These stairs are original to the building. (DI-KQ-15)

**Kitchen Exterior and Interior Stairs.** The exterior portion of these stairs is made of concrete (three risers), while the interior portion is made of wood with metal diamond plate nailed to the top of the treads (seven risers). There are no handrails. The exterior concrete portion of the stairs is nonhistoric, and it is likely that the interior is also nonhistoric. (DI-KQ-23 and 24)

**First Floor to Second Floor Interior Stairs.** These stairs are painted wood with rubber grips on treads attached at the nosing with a metal bar. The balusters, handrail, and newels are painted wood and appear to be original to the building. (DI-KQ-18)

#### *Architecture – Casework*

**Kitchen.** The kitchen has two sections of built-in nonhistoric base and wall cabinets along the west and north walls. The west wall's cabinets have a stainless steel countertop, while the north wall has a laminate countertop. (DI-KQ-21)

**First Floor Bedroom's Closet.** This closet has two segments of historic door casing acting as hook racks. Also, the closet contains a built-in painted wood shelving unit.

**Second Floor Hall.** Located along the south wall, there is a built-in attic ladder made from the 3 ½" wide beadboard placed horizontally, as was used elsewhere in this building.

Note that the 1946 plan called for Michigan Island cabinetry to be installed on the second floor. (Historic Drawings DI-17) Michigan was automated in 1943, signaling the end of the keepers' residency on the island, and therefore the interior finishes in the Keepers Quarters were no longer needed. It is unknown whether the cabinetry was installed at Devils, but due to on-site observation of window size, sill height, chase, and radiator all in-situ, it is unlikely it ever occurred.

#### *Architecture – Accessibility*

The building is currently not accessible. The north, primary entry door opening is 3'-0" clear with a grade to finished floor elevation change of 1'-11 ½" with five 5 ½" tall steps to the porch, then a 10" step to the door threshold. The south (Kitchen entry) door opening is 3'-0" clear with a grade to finished floor elevation change of 1'-8 ¾" with three stairs. The bottom stair is 8" tall, the middle stair is 5 ¾" tall, and the top stair is 7" tall. Within the building, no upgrades for accessibility have been completed.

#### *Physical Description -- Structural*

##### *Structural – Foundation*

The perimeter foundation system consists of brick masonry. The interior foundations are below interior brick masonry walls and could not be observed.



1     *Structural – Floor Framing*

2     The basement floor is a concrete slab-on-grade.

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4     Framing for the front porch was measured to be 2x10 joists spaced at about 18". The joists span  
5     approximately 11'. The joists are supported on the brick perimeter walls. The porch is sheathed with 1x4  
6     tongue and groove decking.

7  
8     The first floor framing was measured to be FS 2x10 joists spaced at about 16" to 18". The joists span  
9     approximately 11' in the kitchen and 14' to 16' in the remainder of the first floor. The joists are supported  
10    on the perimeter foundation walls and interior brick masonry walls. The floor is sheathed with diagonal,  
11    solid wood subflooring.

12  
13    The second floor framing was not accessible and could not be measured. The joists span approximately 14'  
14    to 16'. The joists are supported on wood-framed partition walls and the exterior masonry walls.

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17    *Structural – Roof Framing*

18    The main roof framing was measured to be FS 2x6 rafters spaced at about 16". The rafters span  
19    approximately 9' and 10.5'. The rafters are supported on the exterior masonry walls. The rafters are  
20    sheathed with solid wood underlayment.

21  
22    The kitchen roof framing was not accessible and could not be measured. The rafters span approximately  
23    11'. The rafters are supported on the exterior masonry walls.

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26    *Structural – Ceiling Framing*

27    The second floor ceiling framing was measured to be FS 2x6 joists spaced at about 16". The joists span  
28    approximately 11' to 16'. The ceiling joists are supported on the exterior masonry walls and wood-framed  
29    partition walls.

30  
31  
32    *Structural – Wall Framing*

33    The exterior walls are constructed of brick masonry. The framing of the interior walls was not accessible  
34    and could not be measured.

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37    *Structural – Lateral System*

38    Lateral stability for the building is provided by the exterior masonry walls.

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41    *Structural – Load Requirements*

42    The required floor load capacity is 40 psf, the required snow load capacity of the porch is 60 psf and the  
43    required roof snow load capacity is 50 psf. The required ceiling live load capacity is 10 psf (no storage is  
44    allowed).

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47    ***Physical Description -- Mechanical***

48    *Mechanical – Plumbing Systems*

49    The original water supply for the building was a 10'x15' cistern built into the structure near the base of the  
50    stairs in the basement. The domestic water is currently supplied from a 135' deep well located to the west  
51    of the building. The well was put into operation in 1975. The domestic water system for the building

includes an 11 gpm pump, filters, chlorine tank, and copper distribution piping. These components are all located in the basement. There is also a Bosch 117,000 btuh (British thermal unit per hour) tank-less propane water heater in the basement to provide domestic hot water for the building. (DI-KQ-39) Two abandoned 1,000 gallon capacity steel water storage tanks are located in the basement.

The original building had no flush toilets. The building was served only by a gray water sewer that discharged into the lake. Installation of this line required extensive blasting through the brownstone bedrock. This system was later replaced with a sewer and septic system. A 1974 drawings indicate a 1,200 gallon septic tank, chlorinator, and sand filter bed to the northeast of the Keepers Quarters. In 1981, the system was upgraded with the addition of a lift station and 2" PVC (polyvinyl chloride) forced main to a sand filter located to the south of the building complex. The waste piping is cast iron and PVC. The sewer main exits the building in the basement on the east side of the building and connects to a buried 6" main that runs northeast to the septic tank and lift station.

The plumbing fixtures have been upgraded with a stainless steel kitchen sink with a hot and cold single-spout faucet and also bathroom fixtures on the first and second floor. The first floor bath contains a tank-type toilet, a porcelain wall-hung lavatory with a hot and cold single-spout faucet, and a bathtub with a hot and cold faucet and shower. The second floor bath contains a tank-type toilet and enameled cast iron wall-hung lavatory with separate hot and cold faucets. There is also a free-standing laundry tub in the basement. The laundry tub does not have a faucet. The copper hot and cold water supply pipes terminate with valves above the tub along with a separate plastic spray nozzle and hose.

#### *Mechanical – HVAC*

The original heating source for the building would likely have been coal burning stoves. Two original brick chimney stacks still remain from the basement up through the roof. A radiant hot water heating system was later installed, likely around 1950, consisting of a fuel oil fired boiler in the basement, a pump, and piping to radiators in most of the rooms in the building. (DI-KQ-38) The boiler is still located in the basement, along with circulation pump, but the boiler and pump have been moved from the original location adjacent to the chimney vent stack. The boiler flue vent is no longer connected to the vent stack. Much of the galvanized steel distribution piping has been removed, but the cast iron radiators are still present in a majority of the rooms. In addition, there are three disconnected radiators stored in the basement. The steel fuel oil tank remains in the basement adjacent to the boiler. The heating water system is no longer operational. A new Empire 25,000 btuh console type propane room heater has been installed in the first floor living room. The 4" aluminum flue pipe has been installed inside one of the original chimney stacks. The propane tank is located east of the building. Buried propane piping enters the basement with a pressure regulator and copper distribution piping to the heater, kitchen stove, water heater, and refrigerator.

Basement ventilation consists of ground level louvers. There are two 40"x20" wood slat louvers with operable windows on the inside, one on the west side and one on the north side of the building. There is also an additional 24"x20" wood slat louver, with an operable window on the inside, at the south end of the west wall. Exhaust fans have been installed in both the first and second floor bathrooms. The first floor bathroom fan is located in the ceiling above the bath with a 4"x8" sheet metal vent hood through the south wall above the glass block window. The second floor bathroom fan is located in the west wall above the toilet with a 10" square gravity vent cap on the exterior of the wall. A 16"x24" ventilation hood with a fan and filter has also been installed above the stove in the Kitchen.

#### *Mechanical – Fire Suppression*

None in the building.

## ***Physical Description -- Electrical***

### *Electrical – System Configuration*

The Keepers Quarters is currently powered from a photovoltaic system consisting of a flat plate collector, approximately 80" x 52", located near the Assistant Keepers Quarters. System storage batteries and inverter are located in the basement of the Keepers Quarters. This system converts the direct current from the collectors and batteries to alternating current and provides building power through the AC power distribution system. Thus, when the system is turned on, limited AC power is provided for building lighting and receptacles.

### *Electrical – Conductor Insulation*

Wiring in the Keepers Quarters where concealed is "Romex" construction with rubber insulated conductors in an overall sheath of braided cotton fiber. In areas where additional wiring has been added, surface raceway has been used to house conductors. None of the wiring includes a separate ground conductor and receptacles within the building are of the two prong, nongrounded type.

### *Electrical – Overcurrent Protection*

Overcurrent protection is by means of a 100 ampere 240/120 volt, single phase circuit breaker type panel board located in the basement. The original feed to the building was from a 100 ampere circuit breaker disconnect in the Fog Signal Building, however this underground feed has been disconnected at the panel board to allow the panel to be connected to the inverter system.

### *Electrical – Lighting Systems*

Lighting systems inside of the building are incandescent and fluorescent lamp type consistent with the 1960s construction. Incandescent drums were used in sleeping areas. Fluorescent lighting has been used for kitchen lighting, bathroom lighting and recessed into a 2' x 4' suspended ceiling. Switching is via wall mounted toggle switches.

### *Electrical – Telecommunications*

There is a telephone in the building which at one time connected to a telephone in the Fog Signal Building. This telephone is not operational.

### *Electrical – Fire Alarm System*

Fire alarm detection in the building consists of heat detectors located in every room. In addition, manual pull stations are located at exits from the building. The main fire alarm panel is a Gamewell "Flexalarm" system which was installed in the 1960s. The system is a three zone panel with one of the zones dedicated to the Fog Signal Building. The system is AC powered. Notification is via several sounders within the building. Additionally, there are two shrouded bells mounted on the outside of the building for exterior notification.

### *Electrical – Lightning Protection*

Lightning protection consists of brass air terminals and brass or copper down- cables that appear to be terminated on buried ground rods. Air terminals are located along the peak of the roof, at the peak of each dormer, and on chimneys.

***Physical Description -- Hazardous Materials***

Landmark Environmental collected 12 bulk samples from a total of 12 different types of suspected asbestos containing materials (ACMs). Of the 12 suspect ACMs that were sampled and analyzed, a total of three suspect ACMs resulted in concentration of greater than one percent (positive for asbestos).

***Hazardous Materials – Asbestos***

Asbestos is known to be present at the following homogeneous materials/areas:

1. Floor Tile.

The following suspect ACMs were not sampled due to inaccessibility or park limitation regarding potential for damage to structures. Asbestos is assumed to be present in:

1. Brick and Block Filler (The exterior of the structure is brick and has the potential to have a block filler or grout that is potentially asbestos containing),
2. Plaster,
3. Adhesives (Multiple varieties of miscellaneous adhesives were seen on heater components, under remnant flooring applications, and around windows,
4. Drywall,
5. Wall and Ceiling Interiors,
6. Lay in Ceiling Panels,
7. Sub-Flooring (Suspect ACMs in flooring applications were not observed and asbestos is commonly present in vapor barrier felts and tar-papers used in sub-flooring applications, and,
8. Asbestos-cement (Piping, wall-board, wall interior panels, roof flashing and roofing applications can be constructed of asbestos-cement. This type of application was not observed at the structure but may be present).

The assumed asbestos containing materials were observed to be in fair condition.

***Hazardous Materials – Lead Containing Paint (LCP)***

The Lead Containing Paint (LCP) inspection included a visual inspection of the structure. A previous inspection and testing for LCP was conducted using a x-ray florescence (XRF) detector coupled with bulk paint sampling and laboratory analysis. The XRF inspection was conducted by the NPS Staff in 1993. The findings of this study are incorporated into this report by reference.

Detectable lead in paint was confirmed for the following testing combinations:

1. Window Sashes – Wood substrate of various colors,
2. Window Trims - Wood substrate of various colors,
3. Doors - Wood and metal substrate of various colors,
4. Door Trims - Wood substrate of various colors,
5. Walls – Various substrates and colors, and,
6. Ceilings -Various substrates and colors.

Detectable lead is assumed to be present at the following locations:

1. Interior Painted Surfaces (Based on testing in the kitchen, bathroom, and bedrooms, LCP is assumed to be present on painted surfaces throughout the structure, and,
2. Exterior Painted Surfaces.

Based on the estimated dates of construction of the various structures and the available testing data, LCP is assumed to be present throughout the structure. The confirmed LCP was observed to be in fair condition and the assumed LCP was observed to be in fair condition.

1 Loose/flaking LCP is identified on the exterior painted walls of the structure. Paint chip debris is not noted  
2 on localized areas of surface soils surrounding Keepers Quarters.  
3  
4

5 *Hazardous Materials – Lead Dust*

6 Surface wipe-sampling for lead dust was conducted in the Keepers Quarters. A three wipe composite  
7 sample was collected from the first floor living room, bedroom, and visitor center floors.

- 8 1. Laboratory analysis showed 16 micrograms per square foot of floor space.  
9  
10

11 *Hazardous Materials – Lead in Soils*

12 Historical paint maintenance activities such as manual scraping, power-washing, sanding, abrasive blasting  
13 or the general poor and peeling condition of exterior LCP may have created the potential to impact the  
14 surrounding soil. Areas of the surface soils adjacent to the structure were not observed to have LCP debris  
15 and additional areas may exhibit LCP debris or lead-contaminated soils, but are not observable due to  
16 vegetative cover surrounding the structure. Preliminary lead-in-soil sampling was not performed to assess  
17 whether these near-structure soils contain lead concentrations above applicable soil standards.  
18

19 Soil Sampling was not conducted around the Keepers Quarters.  
20  
21

22 *Hazardous Materials – Mold*

23 Inspections of the structure were performed to identify the readily ascertainable visual extent of the mold  
24 growth. Moisture testing in building materials was not performed nor was sampling of building materials  
25 performed for microbial analysis. Mold was not visually identified in the Keepers Quarters.  
26  
27  
28

## Character Defining Features

**Mass/Form.** A two-story masonry Queen Anne style residence with asymmetrical form, a main gable roof and dormer, a semi-hipped exterior appurtenance (later altered with noncontributing shed dormer), a recessed porch with arched opening, and two brick chimneys.

**Layout of Space.** The rooms are generally separate and distinct and entered from a common stair/hall area. The 1955 and 1965 remodels of the bathrooms altered the original circulation pattern to allow access to the bathrooms.

**Exterior Materials.** Red brick with arched brick dentil detailing at the window openings, corbelled detailing at the front gable, stepped / soldier coursing detailing at the second floor line, brownstone sills (painted), wood ogee trim and wood wall shingles all painted white, and wood roof shingles.

**Openings.** A mix of wood double-hung windows (all replaced with fixed/awnings) painted green.

**Interior Materials.** The majority of the finishes have been altered with modern replacements with the exception of several areas of plaster, wood base trim, and the painted stair newel posts and balusters.

## General Condition Assessment

In general, the Devils Island Keepers Quarters is in good to fair condition. Most of the ceiling and floor finishes appear to be covering up the historic ceilings and floors. Also, the existing interior paint scheme for the walls and stairs is peeling. The interior wall finishes of the vertical wood paneling at the entry, living room, and second floor hall also detract from the character of the building.

Structurally, the Keepers Quarters is in good condition with the exception of the front porch and first floor framing. The front porch and first floor framing are in fair condition.

Mechanically, the upgraded systems in the Keepers Quarters are generally in good condition.

Electrically, wiring and equipment in the Keepers Quarters ranges from poor to fair condition. Wiring remaining from the 1920s is in poor condition, while wiring installed in the 1960s is in fair condition. Overall, the systems within the Keepers Quarters, although modern, do not meet present codes and are generally beyond their expected life.

The following section is a discipline-by-discipline, component-by-component condition assessment of the building. Refer to Volume I, Chapter 2: Methodology for definitions of the condition ratings.

### Condition Assessment -- Architecture

#### *Architecture – Roof*

##### Condition:      *Good to Fair*

The main roof is in good condition. The south entry roof, which has the older cedar shingles, is in fair condition as it has moss growth and is weathered. The eaves, overall, appear to be in good condition with several areas of patching repair evident. The tie offs on the roof should not be used for life safety anchors until they can be certified as meeting OSHA requirements.

1 *Architecture – Gutters and Downspouts*

2 Condition: *Poor*

3 The sole remaining downspout is in poor condition as there is no existing gutter in situ.

6 *Architecture – Chimneys*

7 Condition: *Good*

8 The chimneys are in good condition. The previous repointing work is evident due to different mortar  
9 colors.

12 *Architecture – Exterior Walls*

13 Condition: *Good*

14 In general, the walls are in good condition. There are areas of previous pointing work where mortar color  
15 and tooling vary from the original. The mortar at the base of the walls typically has been more weathered.  
16 The north side exhibits some yellow algae growth. The west oval window opening was altered at the time  
17 of the window replacement as evidenced by the previous mortar repair. The finish of the aluminum siding  
18 is almost transparent. The wood shingles appear to be contemporary and the aluminum siding likely covers  
19 previously shingled areas.

22 *Architecture – Windows*

23 Condition: *Fair to Poor*

24 **Oval Windows.** The windows both have duct tape surrounding their frames and deterioration of members  
25 at joints. Original interior trim has been removed. They are in poor condition.

27 **Attic Windows.** There windows are fixed and appear to be in fair condition, although they are not original  
28 to the building.

30 **Basement Windows.** The louvered wood vents have peeling paint. The historic windows on the interior  
31 behind the louvers also have peeling paint, deterioration of members at joints, and rotting wood sills.  
32 Overall, the basement windows are in poor condition.

34 **Predominant Windows.** This type of window is generally in poor condition with peeling paint,  
35 deterioration of members at joints, rotting wood sills, and missing glazing compound. All original interior  
36 trim was removed. Also, one glass pane is covered and one window is bricked over.

39 *Architecture – Exterior Doors*

40 Condition: *Fair*

41 **Main Entry Door and Screen Door.** This door has modern hardware that is incompatible with the historic  
42 door which is in fair condition. Its associated aluminum screen door is in fair condition.

44 **Kitchen Entry Vestibule Door and Rear Door.** The vestibule screen door is in fair to poor condition as  
45 the paint is peeling, the screen is sagging in areas and the hardware does not provide a functioning lock.  
46 The hollow core rear entry door is in fair condition.

48 **Basement Access Doors.** These two plywood panel doors have rusted hardware and padlocks, peeling  
49 paint, especially at bottom of doors, and are in fair condition.

*Architecture – Exterior Trim*

Condition: N/A

*Architecture – Exterior Porch*

Condition: Good to Fair to Poor

The porch is in overall good condition, the newer wood floor is in fair condition, and the stair and railing are in poor condition because they do not meet modern safety codes.

*Architecture – Basement Hatch*

Condition: Fair

The basement hatch is in fair condition as the previous pointing is evident on the side walls (different color mortar) and the wood hatch frame is rotted at the bottom.

*Architecture – Interior Doors*

Condition: Fair

**Historic Doors.** This type of door is generally in fair condition as the paint is badly peeling and the modern hardware is incompatible with the historic doors.

**Nonhistoric Doors.** These doors are in fair condition and are not original to the building.

*Architecture – Wall Finishes*

Condition: Fair to Poor

The basement rooms' brick walls are in fair condition with some mortar missing and efflorescence around window areas. The frp paneling in the entry, living room, and second floor hall is in good condition, but detracts from the building's historic character. The historic beadboard wainscot and rail of the entry and hall are in fair condition with peeling paint, areas of missing or replaced rail, and minor separation of bead and board. The second floor hall's closet of historic plaster over lath is in fair condition with peeling paint and minor separation at junctures of walls and ceiling. The kitchen gypsum board walls and ceramic tile surround are in good condition. The kitchen vestibule has peeling paint on the plywood and on the brick. Overall, it is in fair condition. There are cracks located on the east, north, and west walls of the first floor office. The wall finish is in poor condition. The gypsum board walls and tile wainscots and surrounds for both the first and second floor baths are in fair condition with some areas of moisture and staining at the first floor bath's walls where the paint has peeled away. All of the gypsum board bedrooms and closets are in good condition, except the second floor's north bedroom. This bedroom has water stains at the southeast corner above the door and at the southwest corner. The closet for the second floor north bedroom with plaster over lath wall finish is in poor condition as brown paper is covering up 70% of the closet to prevent the flaking plaster from falling. The first floor bedroom closet's plaster walls are in fair condition as is the wainscot and cap rail.

*Architecture – Ceiling Finishes*

Condition: Good to Fair to Poor

The nonhistoric acoustic ceiling tiles in the entry, living room, first floor bedroom, and second floor hall are in good condition but detract from the building's historic character. The second floor hall's closet with its plaster ceiling intact is in fair condition as there are some cracks and separation at junctures with the walls. The first floor bedroom closet most likely has flaking paint and plaster as a wood board panel is covering the historic ceiling, so it can be assumed it is in poor condition. The kitchen's ceiling tiles are in fair condition as there is some buckling and water stains at the north and west corners. The kitchen



vestibule's ceiling is in good condition with minor stains. The original ceiling in the first floor office has peeling and cracking paint. Overall, the ceiling is in fair condition. The first floor bath has moisture issues above the shower as the gypsum board is peeling. The bath's ceiling finish is in poor condition. The second floor bath's ceiling is in good condition. The second floor southeast bedroom's and closet's gypsum board ceilings are in good condition. The southwest bedroom and closet have historic plaster ceilings that are in good condition. The north bedroom's plaster ceiling shows lots of patching but is in good condition. The north bedroom's closet ceiling is assumed to be in poor condition due to the paper covering installed.

#### *Architecture – Interior Trim*

##### Condition:      *Good to Fair*

The wood base shoe trim in the entry is partially missing on the north and south walls. Overall, it is in fair condition with its missing segments and peeling paint. The first floor office's historic trim is in fair condition as the base and base shoe have peeling paint, scratches and gouges in the wood, and misaligned corner joints. The kitchen's partial base is in fair condition, as is the base shoe that runs around the room. The kitchen vestibule's wood base shoe is in good condition. The first floor bath's ceramic tile base is in good condition. The four bedrooms (one on first floor, three on second floor) have a modern, simple wood base trim and base shoe, all painted white, in fair condition. The only closet associated with a bedroom that has any trim is the second floor's north bedroom closet. This closet has some historic base with no base shoe and some of the same modern base that its bedroom contains and is in fair condition as well. The second floor hall's historic base and modern base are in fair condition. The historic base in the closet associated with the hall is in good condition.

#### *Architecture – Floor*

##### Condition:      *Good to Fair*

The concrete basement floor is in fair condition.

The resilient flooring in the entry, living room, office, first floor bedroom, second floor hall, second floor bedrooms is in fair condition but it detracts from the building's historic character. There are some instances of warping and buckling. The flooring in the first floor bedroom's closet is in good condition with minor fading of paint. The kitchen's resilient flooring is in good condition. The kitchen vestibule's resilient tiles are in poor condition as many of the tiles at the north end of the room have become unglued from the nonhistoric wood board flooring. The first and second floor baths' similarly styled resilient flooring is in good condition.

#### *Architecture – Stairs*

##### Condition:      *Good to Fair to Poor*

**Basement to First Floor Stairs.** The partial handrail is inadequate for code purposes. The bottom stair tread is missing resulting in a dangerous and unmarked drop of 1'-2". These stairs are in poor condition.

**Kitchen Exterior and Interior Stairs.** These stairs are not code compliant. Also, the concrete portion of the stairs is leaning and the concrete threshold is missing a large piece. Overall, the condition of the stairs is fair.

**First Floor to Second Floor Stairs.** These stairs have peeling paint but are overall in good condition.

*Architecture – Casework*

Condition: *Good*

The kitchen's two sections of built-in nonhistoric base and wall cabinets are both in good condition. The first floor bedroom's closet hook racks and built-in shelving are in good condition. The second floor hall's built-in attic ladder located on the south wall is in good condition.

*Architecture – Accessibility*

Condition: *Poor*

This building is not accessible.

**Condition Assessment -- Structural**

*Structural – Foundation*

Condition: *Good*

The visible portion of the perimeter foundation system is in good condition. A few small cracks were observed in the walls. The interior foundations could not be observed, thus their condition is unknown. No obvious signs of distress or damage were observed.

*Structural – Floor Framing*

Condition: *Fair*

The basement floor slab is in good condition.

The framing for the first floor is in fair condition. Floor joists that are headed off above doors and windows are not properly supported. (DI-KQ-33) The middle of a triple 2x10 beam below the entry has been cut out and pipe columns have been installed each side of the cutout. The floor joists above the cutout are unsupported and the pipes are crushing into the beam. (DI-KQ-34) One floor joist has been damaged. (DI-KQ-35) Floor joists are unsupported on either side of an opening in an interior wall at the cistern. (DI-KQ-36)

Framing for the front porch is in poor condition. The east ends of the joists are rotten. The east edge of the tongue and groove decking is also rotten. (DI-KQ-37)

The second floor framing could not be observed, thus its condition is unknown. No obvious signs of distress or damage were observed.

*Structural – Roof Framing*

Condition: *Good*

The main roof framing is in good condition.

The kitchen roof framing could not be observed, thus its condition is unknown. No obvious signs of distress or damage were observed.

*Structural – Ceiling Framing*

Condition: *Good*

The second floor ceiling framing is in good condition.

*Structural – Wall Framing*Condition:      *Good*

The exterior walls are in good condition. The interior walls could not be observed, thus their condition is unknown. Wall finishes on the first and second floors were cracked above the first floor beam that had been cut.

*Structural – Lateral System*Condition:      *Good*

Lateral stability of the building is good.

*Structural – Load Requirements*Condition:      *Good*

The roof, ceiling, porch and first floor framing have adequate capacity to support the required loads. The capacity of the second floor framing is unknown.

***Condition Assessment -- Mechanical****Mechanical – Plumbing Systems*Condition:      *Good to Fair*

The domestic water system for the building is in good condition. This includes a 135' well, an 11 gpm pump, water filters, chlorine tank, propane water heater, and copper distribution piping. Two abandoned 1,000 gallon capacity water storage tanks located in the basement are in fair condition. The abandoned cistern near the base of the stairs in the basement could not be accessed. The condition could not be determined.

The majority of the current sewer system is in good condition. This includes the PVC building sewer piping, buried 6" building main, lift station, 2" PVC forced main, and sand filter located to the south of the building complex. Portions of the cast iron building sewer piping have been replaced with PVC. The remaining cast iron waste piping is in fair condition. The condition of the buried sewer main could not be determined.

The stainless steel kitchen sink, bathroom fixtures, and associated faucets are in good condition. The free-standing laundry tub in the basement is in fair condition. The hot and cold water supply valves and spray nozzle for the laundry tub are in good condition.

*Mechanical – HVAC*Condition:      *Fair*

The abandoned fuel oil-fired boiler and circulation pump located in the basement are in poor condition. Much of the galvanized steel heating water distribution piping has been removed, but the cast iron radiators are still present in most of the rooms. The radiators are in fair condition. The fuel oil tank in the basement adjacent to the boiler is in fair condition. The heating water system is no longer operational. The new propane heater and associated flue vent are in good condition. The propane building entry, pressure regulator, and copper distribution piping from the basement up to the first floor are also in good condition.

The basement ventilation louvers are in fair condition. The total square footage of the basement louver openings meets code requirements for nonmechanical basement ventilation if the windows on the inside of the louvers are left open. The first and second floor bathroom exhaust fans are in fair condition. The associated exterior exhaust vent hoods are in poor condition with rust damage. The kitchen ventilation hood

and fan are in poor condition.

*Mechanical – Fire Suppression*

Condition: N/A

***Condition Assessment -- Electrical***

*Electrical – System Configuration*

Condition: Poor

The underground feeder that supplies power to the building is nearly 50 years old and is beyond its expected serviceable life. This feeder has been disconnected.

*Electrical – Conductor Insulation*

Condition: Poor and Good

Original "BX" and "Romex" cables installed within the building in the 1920s are in poor condition and are well beyond their usual life expectancy. Wiring installed in the 1960s is generally in good condition.

*Electrical – Overcurrent Protection*

Condition: Fair

The existing panel board in the building is nearly 50 years old, but is in fair condition. It is currently being used to distribute power from the photovoltaic system throughout the building.

*Electrical – Lighting Systems*

Condition: Fair

Lighting systems within the building are in fair condition and can continue to be utilized as needed.

*Electrical – Telecommunications*

Condition: Poor

The telephone in the building is not functional.

*Electrical – Fire Alarm System*

Condition: Poor

The fire alarm system in the building is old enough that parts and service are no longer available.

*Electrical – Lightning Protection*

Condition: Fair to Poor

Lightning protection systems are intact and appear to be in fair condition, however over time, connections deteriorate and components corrode. The integrity of the system cannot be assured.

***Condition Assessment -- Hazardous Materials***

Refer to 'Physical Description -- Hazardous Materials' for detailed descriptions of locations and conditions of hazardous materials.

## Ultimate Treatment and Use

The Keepers Quarters was constructed in 1891 as a residence for the keepers who operated the first tower, a temporary wood tower, and later maintained the cast iron tower. The building also served as offices and a bunkhouse when the USCG was in control of the light station from 1939 to 1969.

The Keepers Quarters is currently supporting guided visitor tours on the first level and seasonal housing for staff and volunteers on the upper level. The proposed use for the Keepers Quarters is to rehabilitate it and maintain the current use as seasonal staff housing and interpretation.

Rehabilitation is the recommended treatment for the building.

## Requirements for Treatment

Compliance requirements for treatment currently include laws, regulations, and standards as outlined by the NPS and listed in Volume I, Administrative Data section of this report.

The recommended treatments are tailored to the Preferred Alternative as the outcome of the Value Analysis/CBA for the project. As individual buildings are rehabilitated, specific alternatives will present themselves during design and construction. The following section is a discipline-by-discipline, component-by-component description of the treatments proposed for the rehabilitation of the building. Refer to Volume I, Chapter 2: Methodology for the priority rating definitions.

### *Treatment Recommendations -- Architecture*

#### *Architecture – Roof*

##### Priority: Low

Verify/provide proper blocking for roof tie offs. Replace weathered south entry roof with cedar shingles in-kind. Scrape, sand and repaint the soffit, fascia and frieze board.

#### *Architecture – Gutters and Downspouts*

##### Priority: Low

Because the walls and foundation are in good condition and there does not appear to be a moisture problem, there is no recommendation at this time to provide a new gutter system.

#### *Architecture – Chimneys*

##### Priority: Low

No recommendations at this time.

#### *Architecture – Exterior Walls*

##### Priority: Low

Repoint masonry walls with mortar to match original.

#### *Architecture – Windows*

##### Priority: Severe

Repair frames and members at joints of the oval windows; remove duct tape. Epoxy stabilize deteriorated

1 wood sills. Install glazing compound where missing and replace the one covered pane with glass in-kind.  
2 Scrape, sand and repaint all wood components.

3  
4  
5 *Architecture – Exterior Doors*

6 Priority:            *Moderate*

7 Scrape, sand and repaint the basement hatch doors. Verify rusted hardware is operational, clean and re-oil.  
8  
9 Consider retaining the existing modern hardware to represent the USCG's presence and alterations to the  
10 building.

11  
12  
13 *Architecture – Exterior Porch*

14 Priority:            *Moderate*

15 Coordinate porch work with the floor framing work. Scrape, sand and repaint the porch. Add a discrete  
16 code compliant guardrail at the porch as it will be open to the public. Add code compliant handrails at the  
17 porch stair.

18  
19  
20 *Architecture – Basement Hatch*

21 Priority:            *Moderate*

22 Epoxy stabilize the rotting wood hatch frame. Replace through-rotted members. Scrape, sand and repaint  
23 the hatch frame.

24  
25  
26 *Architecture – Interior Doors*

27 Priority:            *Low*

28 Scrape, sand and repaint all doors currently painted. Verify all hardware is operational.

29  
30  
31 *Architecture – Wall Finishes*

32 Priority:            *Moderate*

33 Retain all modern finishes to interpret the USCG's occupation which is the timeframe during which these  
34 finishes were installed. Scrape, prep and repaint gypsum wall and trim members. Patch areas of damaged  
35 gypsum board and plaster, prep and repaint. Retain all frp, paneling and tile in situ.

36  
37  
38 *Architecture – Ceiling Finishes*

39 Priority:            *Moderate*

40 Retain all modern finishes to interpret the USCG's occupation which is the timeframe during which these  
41 finishes were installed. Scrape, prep and repaint gypsum ceilings. Patch areas of damaged gypsum board or  
42 plaster, prep and repaint. Retain all suspended ceiling grids. Consider removing tiles to interpret USCG  
43 alterations.

44  
45  
46 *Architecture – Interior Trim*

47 Priority:            *Low*

48 Retain all varieties of interior trim. Infill missing trim members with in-kind trim. Scrape, sand and repaint.

1 *Architecture – Floor*

2 Priority: *Moderate*

3 Retain all modern finishes to interpret the USCG's occupation of the building which is the timeframe  
4 during which these finishes were installed. Repair areas of warping and buckling to provide a level floor  
5 surface for the public. Reattach the loose resilient tiles at the kitchen vestibule.

8 *Architecture – Stairs*

9 Priority: *Moderate*

10 Install a code compliant hand rail at the basement stair. Evaluate risk of public access at the basement and  
11 kitchen due to the non-code compliant stairs. Scrape, sand and repaint the second floor stairs.

14 *Architecture – Casework*

15 Priority: *Low*

16 No recommendations at this time.

19 *Architecture – Accessibility*

20 Priority: *Low*

21 Provide program access through interpretive exhibits and waysides at the Visitor Center.

24 ***Treatment Recommendations -- Structural***

25 *Structural – Foundation*

26 Priority: *Low*

27 No recommendations at this time.

30 *Structural – Floor Framing*

31 Priority: *Moderate*

32 The first floor framing at the cut out beam should be repaired. The deteriorated decking and framing at the  
33 front porch should be repaired.

35 Priority: *Low*

36 The framing of headers for the first floor joists above doors and windows should be strengthened to meet  
37 IEBC and NPS requirements. The damaged first floor joist should be repaired. The opening in the masonry  
38 wall in the basement at the cistern should be repaired to properly support the first floor joists.

41 *Structural – Roof Framing*

42 Priority: *Low*

43 No recommendations at this time.

46 *Structural – Ceiling Framing*

47 Priority: *Low*

48 No recommendations at this time.

*Structural – Wall Framing*

Priority: Low

No recommendations at this time.

*Structural – Lateral System*

Priority: Low

No recommendations at this time.

***Treatment Recommendations -- Mechanical***

*Mechanical – Plumbing Systems*

Priority: Moderate

It is recommended that the sewer and septic system be cleaned, tested, and inspected with repairs as necessary for an operational system.

*Mechanical – HVAC*

Priority: Moderate (Ventilation); Low (Radiators and Propane Piping)

While the total square footage of the existing basement ventilation louvers meets code requirements, additional passive ventilation is recommended to prevent condensation and high humidity levels in the basement.

It is recommended that the cast iron radiators be cleaned and restored for historic preservation. All unused propane piping be should be removed.

*Mechanical – Fire Suppression*

Priority: N/A

***Treatment Recommendations -- Electrical***

*Electrical – System Configuration*

Priority: Moderate

Existing PV powered inverter system provides power for the building. It is recommended that the PV array, inverter, battery system and wiring be expanded to provide sufficient power for new receptacles and lighting for visitor areas, staff housing, and for new refrigerator and stove. Wiring, overcurrent protection, and devices remaining from the 1920s should be disconnected and abandoned.

*Electrical – Conductor Insulation*

Priority: Moderate

It is recommended that new wiring associated with new electrical systems be in accordance with the National Electrical Code, NPS and Federal Standards and Regulations.

*Electrical – Overcurrent Protection*

Priority: Moderate

It is recommended that overcurrent protection, including main breakers and branch circuit panel boards be in accordance with the National Electrical Code, NPS and Federal Standards and Regulations.



*Electrical – Lighting Systems*

Priority:            *Moderate*

It is recommended that existing lighting be modified to accommodate the new visitors areas, and staff housing. New lighting should be provided where necessary to accommodate the revised uses.

*Electrical – Telecommunications*

Priority:            *Low*

No recommendations at this time.

*Electrical – Fire Alarm System*

Priority:            *Moderate*

It is recommended that the existing nonfunctioning fire alarm system remain in place for historical context. It is recommended to provide battery powered smoke detectors inside and outside sleeping rooms and carbon monoxide sensors as required.

*Electrical – Lightning Protection*

Priority:            *Moderate*

Existing lightning protection is old and its effectiveness has not been established. It is recommended that a LPI (Lightning Protection Institute) certified inspector perform an inspection of the lightning system and provide findings and recommendations in accordance with LPI-175.

***Treatment Recommendations -- Hazardous Materials***

*Hazardous Materials – Asbestos*

Priority:            *Moderate*

Recommend sampling of suspect asbestos containing materials, including: brick and block filler, plaster, adhesives, wall and ceiling interiors, lay in ceiling panels, sub-flooring, and asbestos-cement.

*Hazardous Materials – Lead-Containing Paint and Lead Dust*

Priority:            *Moderate*

Recommend stabilization or abatement of Lead-Containing Paint.

*Hazardous Materials – Lead In Soils*

Priority:            *Moderate*

Recommend further soils characterization to confirm applicable regulatory requirements.

*Hazardous Materials – Mold/Biological*

Priority:            *Low*

No recommendations at this time.

*Hazardous Materials – Petroleum Hydrocarbons*

Priority:            *Low*

No recommendations at this time.

## Alternatives for Treatment

The following are several considerations of alternatives for the proposed treatments:

1. Initially, an alternate treatment recommendation was explored which would have removed the modern finishes and alterations that represent the occupation by the Coast Guard. However, it was deemed that in light of the period of significance (through 1978) for this island and the extent to which these alterations are intact, this building can contribute to the story of the Coast Guard at the light stations.
2. Consider minimizing systems repair/upgrades.

## Assessment of Effects for Recommended Treatments

The following table includes an analysis of the major treatment recommendations which affect Section 106 Compliance:

Recommended Treatment	Potential Effects	Mitigating Measures	Beneficial Effects
1. Additional Hazardous testing and mitigation	Mitigation of hazardous material may require removal of historic materials.	Any mitigation will need to be evaluated for benefit and implemented sensitively to minimize damage to the resource.	- Improves safety for visitors and staff - Removes hazards from the cultural resource
2. Visitor access into former residence	Change in Use: Upgrades for code and safety may be required and may alter the historic fabric.	Integrate upgrades to minimize damage to historic fabric.	- Allows visitors to experience the cultural resource first hand - Improves safety for visitors and staff
3. Add code compliant guardrail and handrail at porch and stair	Modern code upgrade could be visually disruptive to the historic integrity of the building.	Design a guardrail and handrail as discretely as possible.	- Improves safety for visitors and staff

1 *Keepers Quarters Photographs, 2009*



DL-KQ-01: North elevation, 2009 (Source: A&A IMG2880)

2  
3



DL-KQ-02: East elevation, 2009 (Source: A&A IMGP2881)

1  
2  
3  
4  
5  
6  
7



1



DI-KQ-03: South elevation, 2009 (Source: A&A IMGP2882)

2  
3  
4  
5  
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7



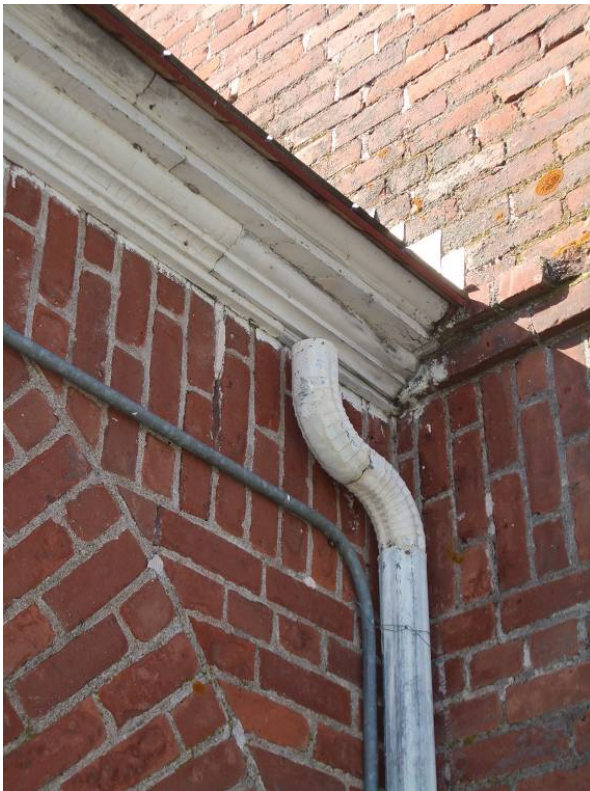
DI-KQ-04: West elevation, 2009 (Source: A&A IMG2883)

1  
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5





DI-KQ-05: South elevation roof shingles (Source: A&A IMGP2884)



DI-KQ-06: Downspout at north elevation porch (Source: A&A IMGP2887)



DI-KQ-07: West chimney detail, trim and wall shingles (Source: A&A IMGP2888)



DI-KQ-08: East chimney detail and roofing (Source: A&A IMGP2891)





DI-KQ-09: Oval window detail, east elevation (Source: A&A 100\_9718)



DI-KQ-10: West hatch doors and foundation (Source: A&A IMGP2892)



DI-KQ-11: Main entry porch and stair, looking southwest (Source: A&A CIMG3707)



DI-KQ-12: Porch floor and walls, looking southwest (Source: A&A CIMG3709)





1  
2 *DI-KQ-13: Main entry screen door (Source: A&A 100\_9722)*  
3



4  
5 *DI-KQ-14: Main entry door, interior (Source: A&A 100\_9723)*



DI-KQ-15: Basement stair to first floor entry (Source: A&A DSC00982)

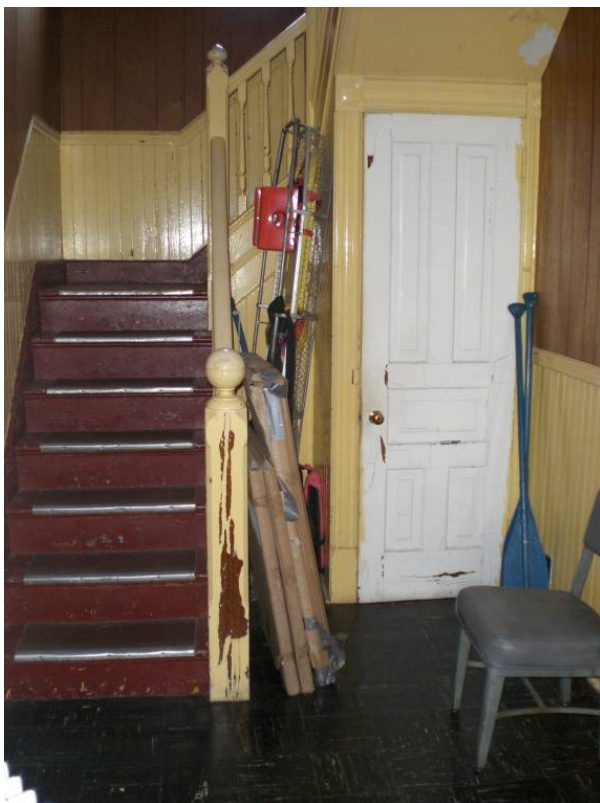


DI-KQ-16: Basement, looking west (Source: A&A CIMG3830-A)





DI-KQ-17: Basement, south elevation (Source: A&A CIMG3831-A)



DI-KQ-18: Entry, east elevation, stairs to second floor and door to basement stair (Source: A&A CIMG3717)



DI-KQ-19: Living room, looking southeast (Source: A&A CIMG3722)



DI-KQ-20: Kitchen, looking southeast (Source: A&A CIMG3730)



DI-KQ-21: Kitchen cabinets, west elevation (Source: A&A CIMG3734)



DI-KQ-22: Kitchen door, south elevation (Source: A&A CIMG3735)





DI-KQ-23: South elevation kitchen entry stair, interior section (Source: A&A CIMG3737)

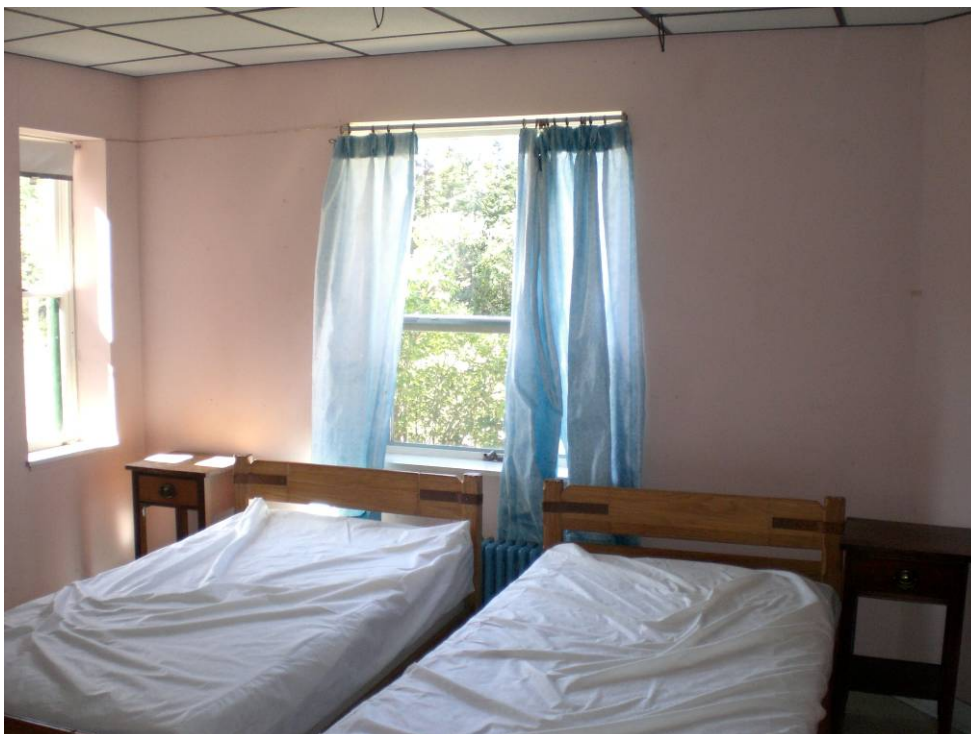


DI-KQ-24: South elevation kitchen entry stair, exterior section (Source: A&A DSC00960)





DI-KQ-25: First floor bath (Source: A&A CIMG3748)



DI-KQ-26: First floor bedroom, west elevation (Source: A&A CIMG3757)



DI-KQ-27: Office, looking southeast (Source: A&A CIMG3772)



DI-KQ-28: Stairs to second floor and oval window, looking down (Source: A&A DSC00974)



1  
2 *DI-KQ-29: Second floor hall, looking west (Source: A&A DSC00973)*  
3



4  
5 *DI-KQ-30: Bath, looking southwest (Source: A&A CIMG3796)*



DI-KQ-31: North bedroom, west elevation (Source: A&A CIMG3817)



DI-KQ-32: Attic roof structure (Source: A&A IMGP2886)





DI-KQ-33: Joist header above hatch doors (Source: Martin/Martin)



DI-KQ-34: Cut out (3) 2x10 beam (Source: Martin/Martin)



DI-KQ-35: Damaged floor joist (Source: Martin/Martin)



DI-KQ-36: No joist support at cistern (Source: Martin/Martin)





DI-KQ-37: Deterioration at front porch (Source: Martin/Martin)



DI-KQ-38: Cast iron radiator (Source: RMH)



DI-KQ-39: Domestic water treatment in the basement (Source: RMH)