



SAND ISLAND WEST BAY CLUB STRUCTURES
APOSTLE ISLANDS NATIONAL LAKESHORE
Historic Structures Report

PMIS #191296
July 5th, 2023



Cover Illustration: West Bay Club Lodge, Sand Island, Apostle Islands National Lakeshore (courtesy of APIS, Gertrude Wellisch Album)

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Sand Island West Bay Club Structures Apostle Islands National Lakeshore

Historic Structures Report

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Executive Summary and Administrative Data

Historic Structures Report Summary

This Historic Structures Report (HSR) presents a planning document for two structures located on Sand Island, within the Apostle Islands National Lakeshore (herein referred to as APIS or the Park). This report identifies characteristics and features that convey the historic significance and character of the buildings. It provides a plan for long-term preservation and stewardship of these buildings.

The West Bay Club is situated on the west side of Sand Island in Bayfield County, Wisconsin. Sand Island is one of the western-most of the 22 Apostle Islands, located in Lake Superior. The Park, Apostle Islands National Lakeshore, was designated in 1970 by President Nixon.

The West Bay Club Lodge is a two-story horizontal log building with a gable roof and shed roofed dormers. The primary form measures approximately 40-feet by 27-feet-6-inches and is wrapped by a covered porch along the south half. The Men's Bath wing protrudes from the east wall with a low slope shed roof. At the north, the Kitchen wing and taller stair wing similarly extend.

The Icehouse is located on a hillside south of the West Bay Club Lodge. The one-story rectangular building measures approximately 16-feet by 10-feet-8-inches. A gable roof and cupola top the shiplap clad building.

The West Bay Club is associated with the evolution of outdoor recreation and leisure travel to self-owned summer homes, fishing camps, and hunting lodges in Wisconsin. Constructed in 1912–13 by the architectural firm of Buechner and Orth, design of the West Bay Club Lodge was likely influenced by the rustic architecture style that emerged from the resort architecture of the Adirondack

region of northern New York state in the 1870s.

Ownership of the hunting Lodge was shared between the Buechner, Orth, Eha, Wellisch, Romer, and Yocum families from 1912 to 1922, when all of the families sold ownership of the Lodge to Frank Eha. Frank Eha and his family used the Lodge for their summer home until 1954. The West Bay Club was used by multiple logging companies as lodging for workers through 1975. The National Park Service acquired the Lodge and surrounding property for the Apostle Islands National Lakeshore in 1978 with a lifetime lease of the Lodge to Howard "Bud" Peters, the last logging company owner of the Lodge. Bud Peters's lifetime lease ended in 2017.

The two remaining structures of the West Bay Club, the Lodge and Icehouse are the subject of this report. The Lodge is the primary resource of the site and the subject of the 2015 National Register listing.

This HSR documents the physical evolution of each building, their current condition, and recommend appropriate treatments. Documentation of historic significance and the evaluation of integrity provides the framework upon which treatment recommendations are based. All treatment recommendations follow the Secretary of the Interior Standards for the Treatment of Historic Properties.

The condition assessment for each element/feature is documented in Part I. Recommendations for treatment are provided in Part II. These treatments address deteriorated elements and work to address code and life safety deficiencies.

Future Use

Following required improvements to the West Bay Club, the Park intends to develop and issue a Request for Proposal (RFP) to lease the property. The lease would be for a defined term to a suitable entity or organization, preferably with an educational or conservation purpose. If the concept is approved, the West Bay Club will be leased “as-is with all faults.” The lessee will be expected to seasonally use and maintain the property. It is probable that the lessee will be responsible for the cost and execution of repairs required to use the building including items such as roof replacement, carpentry repairs, grounds maintenance, fire and life safety code issues, and preparations for seasonal winter closures.

Given loading restrictions on the second-floor structure and code requirements for overnight lodging, future functions will be limited to day use of the first floor. This plan relies on development of a nearby campsite for overnight stays.

Within the Park’s 2011 General Management Plan is a section entitled “Future Use of the Life Estates and the Expired Use and Occupancy Properties,” which identifies the need for this report:

The structures and landscapes in the park’s use and occupancy properties and life estates have been maintained by the lessees to varying degrees. Many of the structures have been well maintained, but some are in poor condition. Some of the structures, such as the West Bay Club and Camp Stella, have been determined eligible for listing in the National Register of Historic Places, although historic structure and cultural landscape reports still need to be completed for most of the properties.

When these remaining properties come under NPS management, park staff will assume responsibility for their maintenance needs. Priorities need to be set regarding the uses and level of preservation for each property, structure, dock, and landscape. As publicly owned components of the park, it is imperative that the public interest be the paramount consideration for these properties.^{1.1}

The General Management Plan further outlines planned future use for the West Bay Club:

If the West Bay Club on Sand Island was to come under NPS management during the life of the plan, park managers would preserve the West Bay Club and interpret the historic story using nonpersonal interpretation (e.g., waysides). The historic road between the West Bay Club and East Bay would be reestablished as a trail, provided it can be built in an environmentally sound manner. The dock would be rehabilitated, if necessary, so it would be available for public overnight use. If economically feasible, the club would be adaptively reused (which may require rehabilitation or restoration) to permit some public overnight use of the structure. (If it is not economically feasible, overnight designated camping would be permitted near West Bay; the dock would be available for public overnight use.)^{1.2}

Project Purpose and Need

The purpose of this report is to describe the historical background and context of the West Bay Club, document building development, and evaluate current conditions and provide

1.1 General Management Plan, Wilderness Management Plan, and Environmental Impact Statement: Apostle Islands National Lakeshore, nps.gov/apis, April 2011.

1.2 Ibid.

treatments for rehabilitation based on the anticipated future use. The buildings are currently unoccupied with restricted public access. The recommended treatment and use was developed in coordination with the Park and stakeholders, including the Wisconsin State Historic Preservation Office (SHPO), and the Apostle Islands Historic Preservation Conservancy (AIHPC).

During the 80% Draft phase of the report development, three alternatives for the use and treatment of the Lodge were provided, which proposed degrees of increased public access. No access to the Icehouse is currently permitted due to unstable structural conditions. Recommendation for removing the Icehouse were provided, with a treatment and use alternative for reconstruction elsewhere. Following review of these alternatives, a virtual treatment workshop was held with the aforementioned stakeholders to determine the treatment of key elements. See the appended 2023 Treatment Workshop Meeting Minutes for more information.

The preferred treatment and use, which is recommended in this report, was developed based on the treatment workshop and an additional NPS and SHPO review.

The most significant changes to the Lodge will involve upgrades to structural systems and modifications required by building codes for life safety and the Architecture Barriers Act Accessibility Standards (ABAAS).

The HSR is a planning tool to inform future decisions related to repair and rehabilitation projects and support compliance as required by the National Historic Preservation Act (NHPA) of 1966, as amended by the National Environmental Policy Act (NEPA) of 1969.

The HSR strives to acknowledge Park operational needs and limitations while also recognizing that the mission of the NPS is to provide a rich and authentic visitor experience for all and to ensure that long-term preservation and stewardship objectives are met to the maximum extent practicable.

Methodology and Research

History Methodology

The primary goals of the history section are to provide accurate information regarding the historic context and to clarify the evolution of the building. General research methods include a review of existing literature and on-site investigation. Available documents related to the history of the site were located and reviewed. Principal sources for the report's historic documentation include the APIS archives and Northwest Architectural Archives. The building history provided in this report provides a general overview of the area's history for context and then a detailed chronology and use of the buildings.

Historic Structures Report Methodology

The HSR presents documentary, graphic, and physical information for the West Bay Club Lodge and Icehouse. Primary historic documents (original drawings, historic photographs, and other historic documentation), Park maintenance records, material testing, and site investigations compile the record of the buildings' development, historic alterations, and current condition. The assessment process is a multidisciplinary approach to more fully document each building and its alterations. Disciplines include landscape, architectural, and structural experts.

Notable dates and periods of construction assist to determine the relative significance of each building feature.

Existing Condition

This section provides a brief physical description of each building. This precedes a description of the individual building features and includes information related to massing, form, orientation, materiality, and general plan layout. Field observations contributed to descriptions of each extant feature and attendant condition rating. Features observed and analyzed by discipline included the following:

Landscape: landscape area contributing features, site design, small scale features, vegetation, and accessibility.

Architecture: roofing system, exterior walls, exterior brick masonry, exterior trim and millwork, exterior porch, windows, exterior doors, interior doors, interior finishes, code, life safety and accessibility in accordance with ABAAS.

Structure: foundation, floor framing, roof and ceiling framing, wall framing, lateral system, seismic resistance and load requirements.

Plumbing: fixtures and piping.

Electrical: main distribution, wiring and devices.

Condition Assessment

Each feature was evaluated and assigned a condition rating. A general building condition assessment is presented first, followed by the condition assessment and ratings of each feature or component. The rating system is further described in the Part 1 overview.

Character Defining Features

A list of features or elements that embody the structure's visual character follow the general building description for each structure.

Treatment Recommendations

In Part 2, treatment recommendations are provided for each feature to address the conditions previously described and assessed. A rating system identifies priorities for treatment.

Summary of Recommendations

Rehabilitation is the recommended treatment for the West Bay Club Lodge. Rehabilitation acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character and integrity.

Three treatment alternatives for each element assessed were presented at the 80% Draft HSR deliverable. A February 2023 treatment workshop was conducted with the Park and stakeholders, including Wisconsin SHPO and AIHPC, to determine the preferred treatment as presented here. Refer to the appendix for the treatment alternatives as presented and documentation of the treatment workshop.

Treatments selected during the workshop are presented in the Treatment and Use section and reflect constraints imposed by a remote site and limited funding.

Treatment recommendations address critical structural work and damaged finishes. Finish repair and modifications for code and ABAAS are associated with the Park's future goals for visitor use. In the recommended treatment, visitor access is provided to the covered porch for day use via a new ramp.

Significant log deterioration and failure of the roof structure were observed at the kitchen, as documented in the Structural existing conditions assessment. As detailed in the appended treatment workshop minutes, it was determined by the Park and stakeholders

that removal of the kitchen should be recommended in this HSR. Note that an update from the Park on conditions of the Kitchen roof, dated May 2023, is included in the appendix. Historic circulation and access to the second floor is retained via the stairs, which are rehabilitated.

A ramped entry to provide ABAAS access to the first floor is provided on the north wall, in the location of the existing Kitchen door. No use of the second floor is recommended due to limited loading capacity. Stabilization of the roof and chimney are detailed in the treatment recommendations.

Due to limited NPS funding for repair and rehabilitation of the vacant West Bay Club on remote Sand Island, the Park is prepared to collaborate with partners, such as the Apostle Islands Historic Preservation Conservancy, to undertake required improvements.

The HSR Treatment and Use section outlines work required to protect and preserve the building for limited day use. The Class C Construction Cost Estimate in the HSR appendix includes a conceptual plan for a phased approach that identifies priority work in incremental stages.

Documentation and removal of the Icehouse is recommended. Stabilization or rehabilitation efforts would further destabilize the eroding hillside and jeopardize the site.

Recommended Future Studies

It is recommended that the following future studies be conducted prior to commencement of work. Proper precautions and considerations should be taken according to the study findings.

- **Documentation:** The buildings should be thoroughly documented in their current state. This documentation should serve as a record of the historic fabric and a basis for future rehabilitation design, to be conducted in a separate design project. This may be achieved with either traditional manual methods, or a laser measuring system such as lidar converted to usable software such as BIM.
- **Site Survey:** Current topography and utilities locations should be documented to inform re-grading for drainage, protection of extant features, and future projects.
- **Mortar Analysis:** Mortar visible at the chimney exterior appears to be incompatible with the adjacent brick, leading to spalling and deterioration of the brick. Interior and exterior samples of the chimney mortar should be analyzed to determine a compatible replacement composition.
- **Paint Analysis:** White wash finishes were observed at the building exterior and on interior walls in the Kitchen (102). Samples from both locations should be tested to determine an appropriate paint composition to be used during rehabilitation.

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Project Data

Administrative Data

Significant Dates:

Lodge:

- 1913: The West Bay Lodge is constructed (begin period of significance)
- 1922: West Bay Club members sell shares to Frank Eha. West Bay Club is used as the Eha summer home.
- 1954: Frank Eha sells the West Bay Club (end period of significance)
- 1962: Bud Peters takes sole ownership of the West Bay Club property. Bud uses the Lodge to house logging crews and for recreational use for his family.
- 2015: The West Bay Club is added to the National Register of Historic Places.

Icehouse:

- 1913: Icehouse constructed
- 1960: Icehouse used for storage
- ca. 1990s; Icehouse modified for use as a sauna
- 2013: Icehouse undergoes repair work by Minnesota Conservation Corps
- 2019: Emergency stabilization to prevent collapse

Location

The West Bay Club is situated on the west side of Sand Island in Bayfield County, Wisconsin. Sand Island is a part of a group of 22 islands that make up the Apostle Islands located in northern Wisconsin, in Lake Superior.

Current Use/Occupants

The building is currently unoccupied and accessed only by the Park.

National Register Status

The West Bay Club was listed in the National Register of Historic Places on August 6, 2015 (NR 14000385).

Period of Significance

1913-1954

Related Studies

Sand Island and the West Bay Club have been the subject of several previous studies. Key studies consulted in the development of this report are cited in Appendix A - Bibliography. Historic drawings provided by the Park are also included in the appendices.

Description of the Study Area

The two buildings addressed in this HSR belong to the West Bay Club area, located on the southwestern shore of Sand Island. Belonging to Apostle Islands National Lakeshore, Sand Island is one of the westernmost islands in this grouping. The Apostle Islands are located on the northern point of Wisconsin, on Lake Superior.



Figure 0-1. Aerial image of Wisconsin, Sand Island indicated in red. (Google Earth, 2022)



Figure 0-2. Aerial image of Sand Island and cities in proximity. Wisconsin state boundaries in white (Apostle Islands not included in boundary line). (Google Earth, 2022)

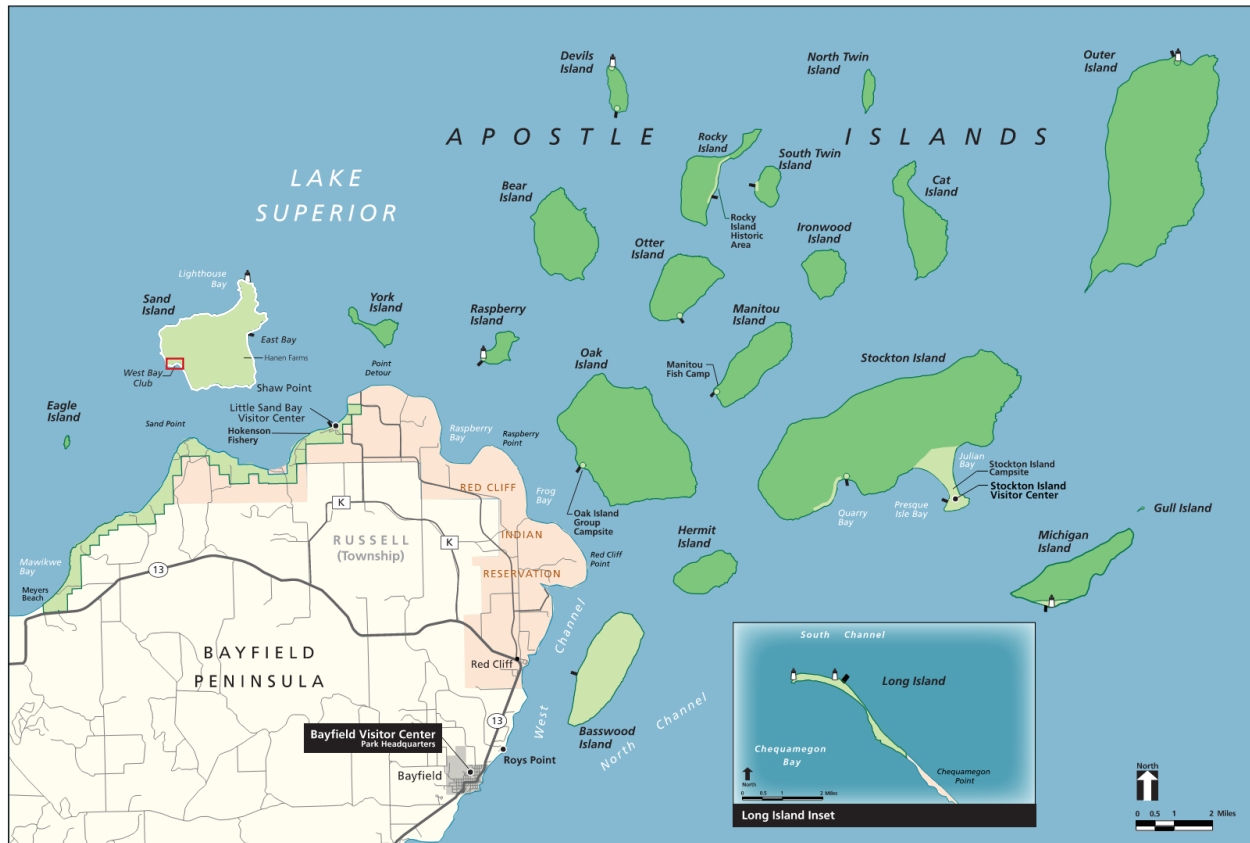


Figure 0-3. Map of the Apostle Islands courtesy of NPS, not to scale. West Bay Club indicated in red. (NPS, 2009)



Figure 0-4. Aerial image of West Bay Club and location on Sand Island, highlighted in red. (Google Earth, 2022)

Project Team

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PART 1: Developmental History and Physical Description

Statement of Significance

National Register of Historic Places

The National Register of Historic Places (NRHP) is the official list of the nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.^{1.1}

To be eligible for inclusion in the National Register, a property must possess significance under at least one of four criteria. These apply to properties

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded, or may be likely to yield, information important to prehistory or history.^{1.2}

1.1 National Park Service, "National Register of Historic Places," <https://www.nps.gov/subjects/nationalregister/index.htm>, accessed October 2022.

1.2 Code of Federal Regulations, Title 36, Part 60, "The National Register Criteria for Evaluation" (36 CFR Part 60).

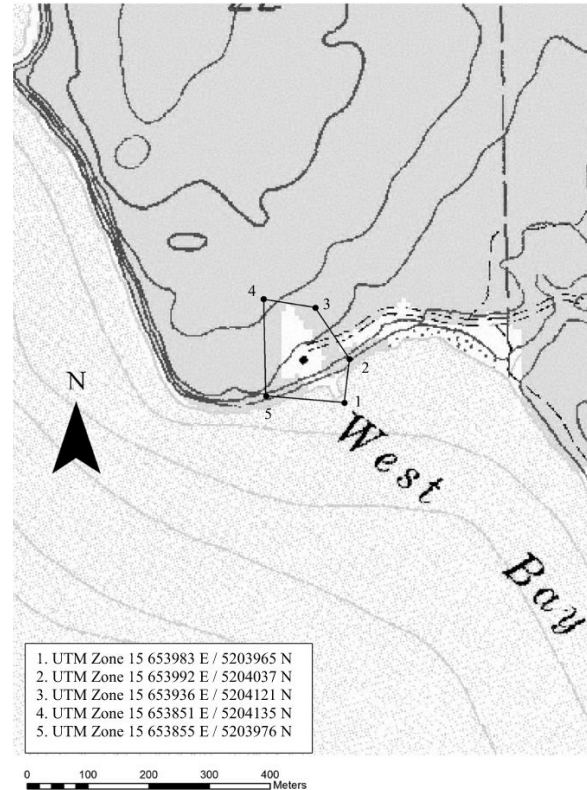


Figure 1-1. National Register Boundary of the West Bay Club (Source: West Bay Club National Register Nomination, 2015).

Status of the West Bay Club Lodge and Icehouse

The West Bay Club was listed in the National Register of Historic Places on August 6, 2015 (NR 14000385), including the West Bay Club Lodge and Icehouse.

The areas of significance cited in the NRHP nomination are Entertainment/Recreation and Architecture with a period of significance of 1913–1954, encompassing the time periods of the West Bay Club and Frank Eha's ownership. Significant dates within the period of significance include 1913, when the West Bay Club was constructed, and 1922, when the West Bay Club became solely owned by Frank Eha. Architects/Buildings listed

for the West Bay Club include Charles W. Buechner and Henry Orth. The West Bay Club is also listed as significant at the local level under Criteria A and C. The West Bay Club's contributing resources include the Lodge, the Icehouse, the Tool Shed, the Water Tower, remnants of the road system and bridge, two ruins of structures, and the historic dock cribbing. Non-contributing resources include the boat dock, the privy, the concrete steps, and the apple trees and rose bushes. The National Register nomination statement of significance states the West Bay Club

... is eligible under Criterion C in the area of Architecture as an intact example of early 20th century Rustic architecture designed by architects Charles W. Buechner and Henry Orth. The West Bay Club is also significant under Criterion A in the area of Entertainment/Recreation as an example of two important trends in outdoor recreation in Wisconsin: the shared ownership of recreational property and the evolution toward ready access by the general public to outdoor recreational activities that had previously been the domain of the wealthy.

The period of significance, 1913–1954, encompasses the years when six families joined together to develop the West Bay Club [in 1913-22 and then owned by one of the original families, Farnk Eha from 1922] until 1954, the year the last of the original families relinquished their ownership.^{1.1}

Recommended Significance

This HSR of the West Bay Club Lodge and Icehouse concurs that the criteria, levels,

and areas of significance presented in the 2015 National Register of Historic Places nomination for the West Bay Club are relevant and will be carried forward for the West Bay Club Lodge and Icehouse.

Assessment of Integrity

Assessment of integrity is based on an evaluation of the existence and condition of the physical features that date to a property's period of significance, taking into consideration the degree to which the individual qualities of integrity are present. The seven aspects of integrity as defined in the National Register Criteria for Evaluation are location, design, setting, materials, workmanship, feeling, and association. As noted in the *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*:

Location is the place where the historic property was constructed or the place where the historic event occurred.... Design is the combination of elements that create the form, plan, space, structure, and style of a property.... Setting is the physical environment of a historic property.... Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.... Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.... Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.... Association is the direct link between an important historic event or person and a historic property.^{1.2}

1.1 Carol Ahlgren and Nancy Farm Männikkö, *National Register of Historic Places Nomination*, West Bay Club (Washington, DC: National Park Service, 2015), 8-9.

1.2 National Park Service, *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*, 44-45.

The property must retain the essential physical features that enable it to convey its historical significance. The essential physical features are those features that define both why a property is significant (National Register Criteria) and when it was significant (period of significance). The *National Register Bulletin, How to Apply the National Register Criteria for Evaluation*, defines integrity as “the ability of a property to convey its significance.”^{1.3}

The 2015 National Register nomination speaks to some deterioration of the West Bay Club Lodge and some of the additional contributing resources but emphasizes that the West Bay Club retains historic integrity in all seven aspects: location, design, setting, materials, workmanship, feeling, and association.^{1.4}

The historic integrity of the West Bay Club Lodge and Icehouse has been assessed as follows:

Integrity of Location. The West Bay Club Lodge and Icehouse maintain integrity of location, as they remain in the place of their original construction in 1912–13 (Lodge) and ca. 1915 (Icehouse).

Integrity of Design. The West Bay Club Lodge and Icehouse maintain integrity of design. Elements of the West Bay Club Lodge design such as exposed exterior and interior walls, hardwood flooring, an open three-sided porch, and original fenestration pattern remain while some character-defining features, including a portion of interior second-floor partition wall finishes, the northwest corner staircase, and the

women’s bathroom ell, have been lost due to deterioration. Elements of the West Bay Club Icehouse design, such as exposed exterior structure, cupola, and fenestration pattern remain.

Integrity of Setting. The West Bay Club Lodge and Icehouse maintain integrity of setting within a densely forested area adjacent to Lake Superior’s southwestern shore on Sand Island, Wisconsin. The southeast elevation of the Lodge still faces Lake Superior and the majority of the additional outbuildings and ruins remain in their same location from construction. Non-contributing structures such as the current privy and the current boat dock, which is in a different location from the original, do not diminish the West Bay Club Lodge and Icehouse integrity of setting, as a dock and privy were included in the original construction of the West Bay Club.

Integrity of Material and Workmanship. The West Bay Club Lodge and Icehouse maintain integrity of material and workmanship. The majority of the materials and workmanship of the Lodge are still intact, with the exceptions of the removal of a portion of second-floor interior partitions, the addition of a stove in front of the fireplace in the living room, and the addition of the door and fiber board at the base of the interior stairs. The majority of materials and workmanship of the Icehouse are still intact, with the exception of interior subfloor replaced when the Icehouse was converted to a sauna.

The integrity of the second story wall finish is unknown pending further investigation. It is estimated that, if Al O’Bright’s 1984 classification of the material as Celotex is correct, the original wall finish was removed

1.3 Ibid.

1.4 Ahlgren and Männikkö, National Register Nomination, 3.

sometime between ca. 1920 and 1984 based on when Celotex was first manufactured. This would potentially put the change in material within the period of significance. If the second story wall finish is Sackett board as noted in the National Register nomination, it would be within the period of significance. Though if the current fiberboard material was replaced after 1984, it would have been installed after the period of significance. Further investigation is required to determine the material used for the second story wall finish and if it is original.

Integrity of Feeling. The West Bay Club Lodge and Icehouse maintain integrity of feeling. The buildings convey their historic character and contribute to the sense of place as an outdoor recreational property that was previously only available to families of wealth.

Integrity of Association. The West Bay Club Lodge and Icehouse retain integrity of association as an example of early twentieth-century rustic architecture even though the association as a shared ownership recreational property has been lost.

Historical Background and Context

Introduction

The West Bay Club is situated on the west side of Sand Island in Bayfield County, Wisconsin. Sand Island is one of a group of 22 islands that make up the Apostle Islands, located in northern Wisconsin in Lake Superior. The West Bay Club is associated with the evolution of outdoor recreation and leisure travel to self-owned summer homes, fishing camps, and hunting lodges in Wisconsin. Constructed in 1912–13 by the architectural firm Buechner and Orth, the West Bay Club Lodge and Icehouse design was likely influenced by the Adirondack/

Great Camps style that emerged from the resort architecture of the Adirondack region of northern New York state in the 1870s. Ownership of the West Bay Club Lodge was shared between the Buechner, Orth, Eha, Wellisch, Romer, and Yocum families from 1912 to 1922, when the last of the families sold ownership of the Lodge to Frank Eha. Frank Eha and his family used the Lodge for their summer home until 1954. The West Bay Club Lodge was then used for multiple logging companies as lodging for workers through 1975. The National Park Service acquired the West Bay Club, including the Lodge, outbuildings, and surrounding property, for the Apostle Islands National Lakeshore in 1978 with a lifetime lease to Howard “Bud” Peters, the last logging company owner. Bud Peters’s lifetime lease ended in 2017 and the West Bay Club reverted back to the National Park Service.

Sand Island Prior to Euro-American Settlement (to 1854)

Sand Island is part of the Lake Superior basin and has hosted human occupants for thousands of years. The Chippewa, also known as the Ojibwe, are part of Anishinaabe people whose oral traditions relate arrival in the Great Lakes region as early as 900 C.E. and in the more immediate area of Madeline Island in the late 1400s.^{1.1} The migration took several centuries and some groups settled in locations along the route. In the century after it gained the “Northwest Territory” and its extensive Indigenous lands from Great Britain at the end of the Revolutionary War, the United States used treaties as the primary instrument of federal policy with Indigenous peoples.^{1.2}

1.1 Bad River Story Map.

1.2 Erik M. Redix, *The Murder of Joe White: Ojibwe Leadership and Colonialism in Wisconsin* (East Lansing, MI: Michigan State University Press, 2014): 8-12.

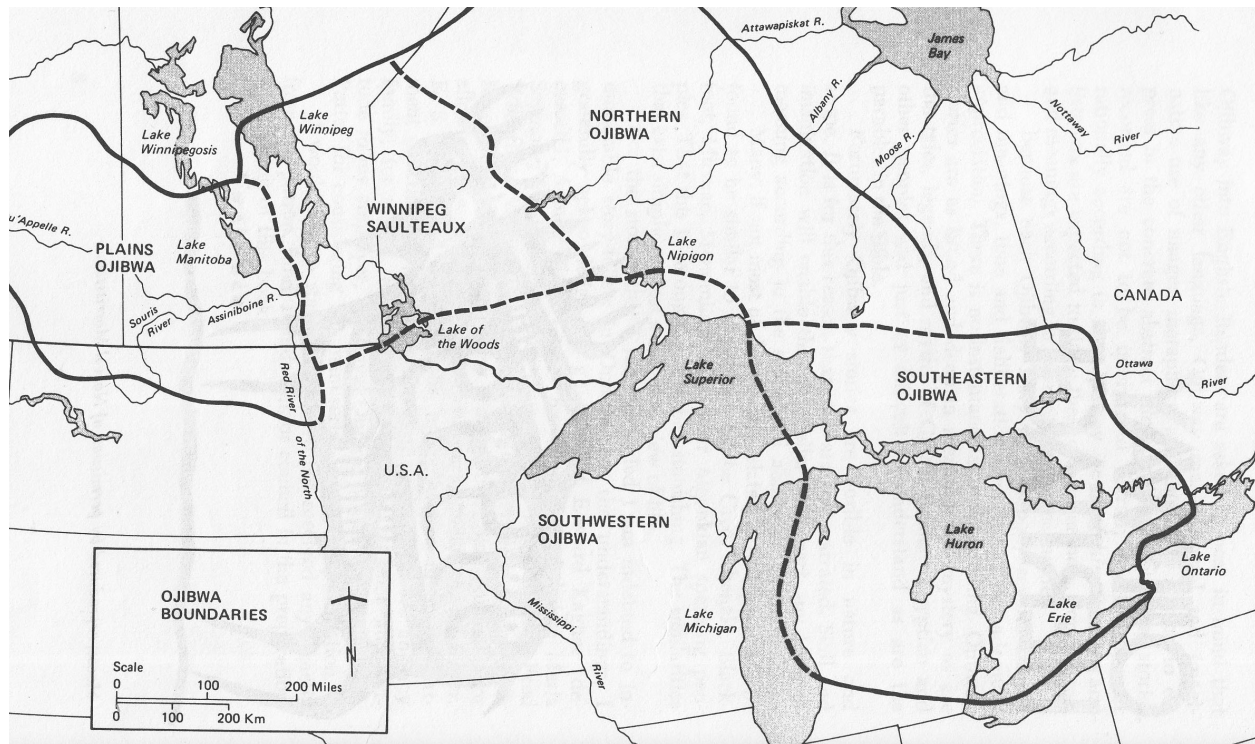


Figure 1-2. Historic Ojibwe use areas (Source: Ojibway Heritage, Basil Johnson, page 10)

Sand Island and the entire Apostle Islands area were included within the vast territory on the south shore of Lake Superior ceded by the Ojibwe tribes to the United States in the 1842 first Treaty of La Pointe. The 1842 Treaty of La Pointe was named from the town of La Pointe on Madeline Island, the largest of the 22 Apostle Islands, where it was made and signed. An additional stipulation of the treaty stated the Ojibwe people would reserve the right to hunt, fish, and gather on the lands until they left the area. The Ojibwe refused to sell the land until the US government guaranteed they could remain on their current homelands and continue to use the land ceded to the United States.^{1.3}

After Wisconsin gained statehood on May 29, 1848, pressure on the Ojibwe increased. In 1850, President Zachary Taylor ordered all Ojibwe people living in Wisconsin and Michigan to be removed from their reservations and sent west. In the same year the government moved the location of treaty payments to Sandy Lake, Minnesota, a location far from where many Ojibwe lived. Hundreds of Ojibwe died either waiting for their payments or traveling to collect their payments during harsh winters. Outrage over the Sandy Lake tragedy forced the United States government to cancel plans to remove the Ojibwe and instead establish reservations in Wisconsin and Minnesota.

1.3 "Resisting Removal: the 1854 Treaty of La Pointe," Colin Mustful: History Through Fiction, accessed November 2022, <https://www.colinmustful.com/resisting-removal-the-1854-treaty-of-la-pointe/>; "Ojibwe Treaty Rights," Milwaukee Public Museum, accessed November 2022, <https://www.mpm.edu/content/wirp/ICW->

110#:~:text=The%201842%20treaty%20was%20negotiated,that%20in%20the%201837%20treaty.

Euro-American Settlement (1854 to 1889)

With the forced removal of Indigenous people to reservations, Euro-Americans began to settle the region. In 1852, the region was surveyed and divided into townships and sections in preparation for federal land sales.

The second Treaty of La Pointe, in 1854, resulted in a major land cession on the north shore of the lake. In exchange for the land, the Ojibwe received yearly payments and were guaranteed rights to hunt and fish throughout the territory. However, many Ojibwe bands resisted removal to reservations under the terms of the 1842 Treaty.^{1.1} At the same time, the US government was attempting to force cultural, linguistic, religious, and economic assimilation.^{1.2}

These treaties opened up millions of acres in the Lake Superior region in Michigan, Wisconsin, and Minnesota to logging, mining, and Euro-American settlement. The first land claims in the Apostle Islands occurred in the 1860s. Congress had authorized the construction of a canal and locks to bypass the rapids at Sault Ste. Marie in 1852. The US government opened the locks at Sault Ste. Marie in 1855. With increased traffic on the lakes, the locks allowed additional commercial industrial travel but also led to the founding of towns and land speculation at the western end of Lake Superior. Ships traveling through the locks carried steamboat tours as well as settlers and supplies to the newly founded communities at Lake

Superior's west end. This soon led to hotels and boardinghouses opening in La Pointe and Bayfield to cater not only to settlers but also to tourists, investors, and surveyors.

The Panic of 1857, the financial crisis in the United States caused by the decline in the international economy and the over-expansion of the US economy, followed by the Civil War temporarily halted growth in the Lake Superior area. This also caused the people in the area to move away and the population to sharply decline.^{1.3} When the Civil War came to an end, the populus migrated back to the region with the stimulus of the Homestead Act of 1862 but also for opportunities in farming, logging, fishing, and quarrying.^{1.4}

By the final decades of the nineteenth century, the region was well settled by Euro-Americans. The major industries that would characterize its economy into the first decades of the twentieth century were well established, as the railroads had opened the region to new markets.^{1.5}

The region was also covered with old-growth forests, and logging became the second major industry in the late nineteenth century with fishing being the first. In the mid-1880s, crews were logging on many of the islands in the Apostle archipelago, including Sand Island. In the 1880s, logging was mostly done by mainlanders who established temporary camps on the island.^{1.6}

1.1 Minnesota Historical Society, "The US-Dakota War of 1862, Minnesota Treaty," interactive map, accessed October 2022, <http://www.usdakotawar.org/history/treaties/minnesota-treaty-interactive>.

1.2 Andrew B. Stone, "Treaty of La Pointe, 1854," *MNopedia*, accessed November 2022, <https://www.mnopedia.org/event/treaty-la-pointe-1854#:~:text=The%20Treaty%20of%20La%20Pointe,negotiations%20with%20the%20U.S.%20government>.

1.3 Jane C. Busch, *People and Places: A Human History of the Apostle Islands Historic Resource Study* (Omaha, NE: National Park Service Midwest Regional Office, 2008), 113,302.

1.4 Busch, *People and Places*, 19.

1.5 *ibid.*, 248.

1.6 Peter Jensch, Email Interview, August 25, 2015; and Typed notes on an interview with Alma Dahl, no date, in Apostle Islands National Lakeshore Site Files: Sand Island.

Another growth industry during the late 1800s was tourism, thanks to the railways. Tourists came to the region for its rustic atmosphere, the healthful effects of the fresh air and activities, and to camp, hunt, and fish. Sand Island was one of those destinations, drawing prominent local citizens as well as visitors from farther afield to camp and fish on the island. In the early 1880s, those visitors included Wisconsin's Lieutenant Governor Samuel Fifield and his wife Stella Grimes Fifield. A few years later,

Fifiel would establish Camp Stella, the first resort in the Apostle Islands, on Sand Island, bringing many of his friends and colleagues from Wisconsin and beyond.^{1.7} Camp Stella would eventually include a number of semi-permanent tent cabins and a large amphitheater that hosted New York-based Chautauqua groups and other performances.^{1.8}

1.7 Busch, *People and Places*, 21.

1.8 Peter Jensch, Email Interview, August 25, 2015.

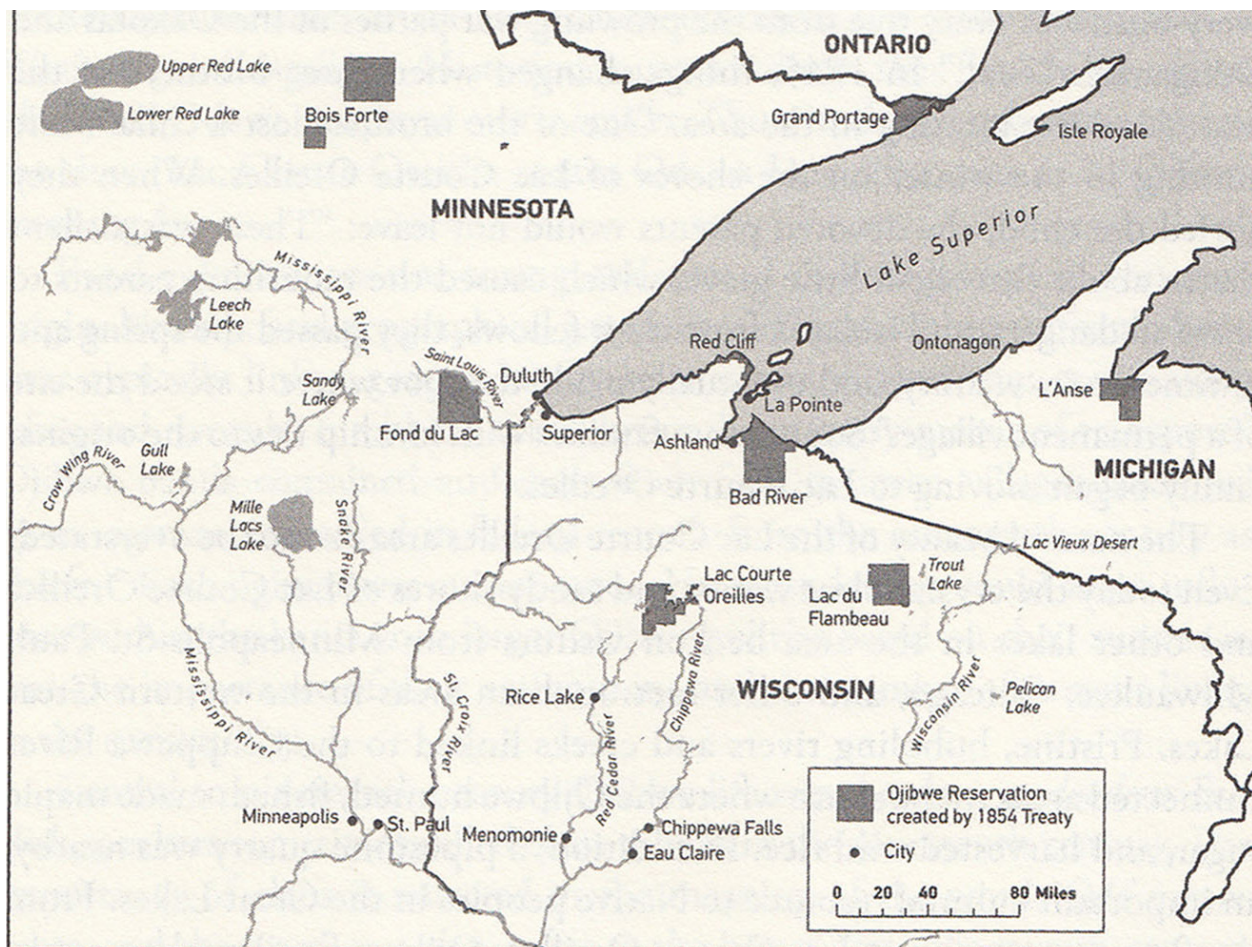


Figure 1-3. Reservations created by the Treaty of 1854 (Source: *The Murder of Joe White: Ojibwe Leadership and Colonialism in Wisconsin*, Erik M. Redix, 6.)



Figure 1-4. Camp Stella, circa 1906 (Source: APIS Library Collection, Camp Stella, IID7b-1906c_01)

Sand Island Seasonal Tourism (1890 to 1960s)

Many people, having moved from farms to cities, likely became tourists of Sand Island. One reason for the increase of tourism is likely due to the belief that the stresses of city life could be resolved through nostalgia and interaction with nature.^{1.1} Tourists who visited Sand Island seasonally, at Camp Stella or at summer cottages, were often attracted to the island because of its rustic nature and sometimes rented rooms from the year-round residents.^{1.2}

1.1 "Turning Points in Wisconsin History: Travel and Tourism," *Wisconsin Historical Society*, accessed December 2022, https://www.wisconsinhistory.org/turningpoints/tp-034/?action=more_essay

1.2 James Feldman, "The View from Sand Island: Reconsidering the Peripheral Economy," *The Western Historical Quarterly*, Vol. 35, No. 3 (Autumn 2004), 285-307

There were no electrical lines to the island. Resorts and residents used generators or did without. There were also few wells dug on the island and islanders generally used lake water for drinking and washing.

By the 1890s, tourism was already well established in the region, with Camp Stella on Sand Island being one of the earliest resorts. There was a thriving resort industry on Madeline Island, but many of the tourists who chose to come to Sand Island instead felt that Madeline Island was too developed and preferred the more relaxed and rustic way of life on Sand Island. Summer visitors to Sand Island most likely understood it would be more remote and "primitive" than someplace like Madeline Island; they preferred Sand Island for its lifestyle rather than as a

getaway. Because of this, the Sand Island community was very close-knit; there was less of the tension between summer visitors and year-round families sometimes evident in other resort areas. In part, this was because many of the summer residents, particularly later in the period, had originally been from year-round families.

The resorts and summer cottages at Sand Island were on a much smaller scale than those on the mainland or Madeline Island, with the exception of Camp Stella. However, Camp Stella only remained open until 1915; after Sam Fifiel's death that year, the property passed through a series of owners and eventually the property was purchased by the Campbell and Jensch families in the 1930s. Shortly thereafter the property was sold to the Andersen and Phipps families who converted Camp Stella to private cottages for summer residential use.^{1.3}

On the west side of the island, a group of colleagues and their families, including Frank Eha, Charles Buechner, Henry Orth, Fred Romer, G. A. Yocum, and Robert Wellisch, purchased land and constructed the West Bay Club in 1912–13. Charles Buechner and Henry W. Orth designed the Lodge and Icehouse in the Adirondacks/Great Camp style and the group of investors planned to construct individual cabins for their own families and run the Lodge as a resort. In practice, it was generally just the club members at the West Bay Club and some of their friends who stayed there; the individual cabins were never built.^{1.4} Similar circumstances for electricity and water on Sand Island occurred at the West Bay Club Lodge, which used a generator for the electrical equipment installed at the

Lodge and also used lake water to provide running water to the Lodge bathrooms, sinks, and kitchen.^{1.5}

On Sand Island, people would play musical instruments or also hold get-togethers at each others' homes or at the schoolhouse.^{1.6} The West Bay Club became a key part of social life on Sand Island. As Thomas Gerstenberger described,

Every Saturday night during the summer months there was a dance at the Club. The permanent residents were always welcome and usually brought refreshments like ice cream and cake for everyone.^{1.7}

1.5 Interview with Frank Eha, Jr, August 23, 1988, in the Apostle Islands National Lakeshore Oral Histories files.

1.6 Winter dances at the school and West Bay Club were noted in the Sand Island Cultural Landscape Report but no other sources have been found to confirm winter dances taking place at the West Bay Club lodge.

1.7 Thomas Gerstenberger, "Island Hideaway: The West Bay Club," *Lake Superior Magazine* (December-January 1992):



Figure 1-5. Aabels near their cottage, circa 1909 (Source: Alma Hansen Dahl Collection, APIS IID7e, Negative No. 1422-16).

1.3 Busch, *People and Places*, 24; and Bayfield Press, August 13, 1915.

1.4 Busch, *People and Places*, 312.

Beginning around 1910, a number of summer cottages were constructed on East Bay. An entrepreneur, Edwin Bonde, had purchased a stretch of land along East Bay and platted it into small plots designed for seasonal residents. He recruited Norwegian families like the Palms, Loftfields, and Norings, who ended up as year-round farmers, as well as summer residents like the Disens and Aabels. Although tourism in general fell off during the Depression, Sand Island was somewhat insulated because of its family ties and long-term residents. In 1944, the last three year-round families on the island, the Dahls, the Hansens, and the Norings, moved to Bayfield for the winter; making 1945 the first year the island had no permanent residents since the 1890s.^{1.8}

Through the 1950s and 60s, tourism continued on Sand Island. The summer residents of the island were largely descendants or relatives of the former year-round residents or members of families like the Campbells and Jensches, who had been coming to Sand Island for decades. Although its residents lived there only during the summer months, Sand Island retained much of its character from the era of year-round occupancy.

Buechner & Orth (1902–1946)

Charles William Buechner (1859–1924) came to the United States from Darmstadt, Germany, at the age 15 after an education in Switzerland, Germany, and France. He first began working as a surveyor for the St. Paul,

Minneapolis, and Manitoba Railway in 1874 and later worked for the Northern Pacific Railroad as a surveyor and civil engineer. Almost ten years later, in 1883 at the age of 24, he was promoted to the Superintendent of Tracks, Buildings, and Bridges at the Northern Pacific Railroad.^{1.9} That same year, Buechner left the Northern Pacific Railroad and began an apprenticeship in the office of prominent Minnesota architect Clarence H. Johnston to study architecture. In 1892, Buechner left Johnston's office and founded the firm Buechner & Jacobsen with partner John H. Jacobsen. During this time, Buechner & Jacobsen designed at least three Minnesota courthouses in the style of Richardsonian Romanesque. This partnership was unfortunately short lived, as Jacobsen died in 1902.^{1.10}

Similar to Buechner, Henry W. Orth (1866–1946) emigrated to the United States at an unknown date from Norway. Orth obtained an education from an unknown business college. Orth began practicing architecture as a partner in 1895 with Frank W. Kinney in Austin, Minnesota.^{1.11} In 1902, Orth moved to St. Paul, Minnesota, met Charles Buechner,

52-53.

1.8 Arnold R. Alanen and William H. Tishler, "Farming the Lake Superior Shore: Agriculture and Horticulture on the Apostle Islands, 1840-1940," *Wisconsin Magazine of History*, volume 79, Number 3 (Spring 1996), 190-193; Carl Dahl, telephone interview, January 5, 2016; John Chapple, *Ashland Daily Press*, October 17, 1944, 1 and 4; John Chapple, *Ashland Daily Press*, June 9, 1944, 3

1.9 Northwest Architectural Archives, "Buechner Orth Papers: Biographical & Historical Note," *University of Minnesota Libraries*, accessed November 2022, <https://archives.lib.umn.edu/repositories/8/resources/2255>.

1.10 Carol Ahlgren et al, *National Register of Historic Places Nomination, West Bay Club* (Washington, DC: National Park Service, 2015): 8; Kurt P. Schweigert, *National Register of Historic Places, Buechner and Orth Courthouses in North Dakota* (Washington, D.C.: National Park Service, 1980): 13.

1.11 The 106 Group Ltd., *Phase II Architectural History Investigation for the Proposed Central Transit Corridor, Hennepin and Ramsey Counties, Minnesota* (Minnesota: Ramsey County Regional Railroad Authority, 2004): 224, accessed November 2022, https://mn.gov/caapb/assets/Met%20Council%20ArchiteturHistory-Phase2%20%28pg1-17%2C228-260%29_tcm1087-420051.pdf; "Henry W. Orth," *The American Institute of Architects*, accessed December 2022, <https://web.archive.org/web/20120331102126/http://communities.aia.org/sites/hdoaa/wiki/Wiki%20Pages/ahd1033482.aspx>.

and they created the firm Buechner & Orth.^{1.12}

Over the next 22 years, Buechner & Orth designed numerous buildings including the Lagoon Theater in Minneapolis, Shubert Theater in St. Paul, the Pierce County, Wisconsin courthouse, thirteen courthouses in North Dakota, the St. Paul Masonic Temple, and the Shriners' Hospital for Crippled Children in Minneapolis. The firm Buechner & Orth was well known for their design of public and commercial buildings, but also designed over 100 private residences in the Twin Cities area, including Henry Orth's home.^{1.13} In 1924, Charles Buechner died in St. Paul, Minnesota.^{1.14} Between Buechner's death and 1938, it is not known if Orth obtained another partner for the architectural practice.

After 1938, Henry Orth practiced alone, though he collaborated with the architectural firm of P.C. Bettenberg & Co. on several church projects.^{1.15} Orth continued practicing architecture until his death in St. Paul, Minnesota on March 5, 1946.^{1.16}

Adirondack/Great Camps Architectural Style (ca. 1870–Present)

The Adirondacks/Great Camps architectural style most likely influenced Buechner and Orth's design of the West Bay Club and originated from the United States Gilded Age (ca. 1870–1900) in the Adirondack Region

of northern New York.^{1.17} When W. H. H. Murray's book *Adventures in the Wilderness* was published in 1869, it inspired New York City residents to venture north into the Adirondacks.^{1.18}

The gradual expansion of railways into northern New York provided ease of access to the scenic natural resources of the Adirondacks and soon hotels were constructed to accommodate summertime escapes from the city. Some vacationers who wanted a closer connection to nature set up their own primitive tent camps. The tent camps soon became groups of simple cabins that originated the Adirondack/Great Camps architectural style.^{1.19}

Elements of the style rely heavily on the environment to blend comfort, elegance, and locational practicality with the surrounding landscape. The remoteness of the location limited builders to local materials and craftspeople. With the expansive supply of wood in the Adirondacks, multiple varieties of wood were used as the building material of choice and oversized timbers that extended beyond the exterior walls were used to protect and support the structure from heavy snowfalls. Specific species of trees were also used for specific details in the structures, including spruce for roof boards and birch, beech, maple, or fir for floors and stairs. Granite was also easily accessible and became the choice foundation material to protect the wood from the dampness of the ground and

1.12 Schweigert, National Register of Historic Places, *Buechner and Orth Courthouses in North Dakota*, 13.

1.13 Ahlgren et al, *National Register of Historic Places Nomination, West Bay Club*, 8-9.

1.14 Northwest Architectural Archives, "Buechner Orth Papers: Biographical & Historical Note," *University of Minnesota Libraries*, accessed November 2022, <https://archives.lib.umn.edu/repositories/8/resources/2255>.

1.15 The 106 Group Ltd., *Phase II Architectural History Investigation*, 224.

1.16 Northwest Architectural Archives, "Buechner Orth Papers: Biographical & Historical Note," *University of Minnesota Libraries*, accessed November 2022, <https://archives.lib.umn.edu/repositories/8/resources/2255>.

1.17 Michelle Clement, "The Origin of the Great Camp Style Architecture," *Adirondack Experience*, last modified February 27, 2015, <https://www.adirondackexperience.com/blog/2015/02/the-origin-of-the-great-camp-style-architecture>.

1.18 Henry Parker, "Adirondack Architectural Style," *Home Reference*, accessed December 2022, <https://homereference.net/adirondack/>.

1.19 Ibid.



Figure 1-6. Camp Pine Knot Swiss chalet in Raquette Lake, New York, 2002 (Source: Camp Pine Knot National Historic Landmark Nomination).

worked well for chimneys.^{1.1} The publication of Andrew J. Downing's *The Architecture of Country Houses* sparked the popularity of the European-style log construction of intricate corner notching of the Adirondack/Great Camp style.

The originator of the style is often referenced as William West Durant, even though most of his work incorporated architectural elements already popular in the area. In 1877, Durant started construction for a retreat to host wealthy investors on behalf of his railroad tycoon father, Dr. Thomas Clark Durant,

on his family's tract of land on Long Point in Raquette Lake, New York. This resort became known as the Great Camp Pine Knot or Huntington Memorial Camp.^{1.2} Some architectural details Durant used included covering ceilings and walls with birch bark and constructing railings from unpeeled limbs and branches. Gable ends and verandas were decorated with Swiss architectural features and although the architecture was rustic in feel, the camp was designed for comfort with an abundance of decorations and a convenient layout of buildings and

1.1 "Great Camps Style," *Adirondack Architecture*, accessed December 2022, <https://courses.hamilton.edu/history-of-adirondack-architecture/great-camp-style>.

1.2 Henry Parker, "Adirondack Architectural Style," *Home Reference*, accessed December 2022, <https://homereference.net/adirondack/>.

walkways.^{1.3}

The Adirondack/Great Camps style architecture drew influence from traditional Swiss and German Alpine cabins, local shingle-style architecture, and elements from the Arts and Crafts movement in order to present a rustic elegance. Most structures were built of one- to three-story construction with moderately peaked gabled roofs and wide overhanging eaves. Materials used on the structures were minimally processed in order to merge with the surrounding landscape. Other popular elements used in the style included jerkinheads or clipped gables, spacious balconies, large square pane windows, and grand stone fireplaces and chimneys.^{1.4}

As railways continued to expand through the 1880s and into the 1920s, more camps appeared in the region. The camps became small campuses centered around a grand lodge with multiple outbuildings surrounding it, including guest and servant cabins, boat houses, and entertainment venues.^{1.5} Though many examples of Adirondack/Great Camp styles began with well-to-do families, soon the middle class took interest in the idea of vacationing in nature during the summer and began building their own camps in a similar fashion.^{1.6}

The Adirondack/Great Camps style spread throughout the United States as private summering locations but also in national

parks like the Glacier Park Lodge in Montana and the Old Faithful Inn in Yellowstone National Park. Construction of these great camps dwindled in the 1950s but the use of these camps continues today.

Logging on Sand Island (1890 to 1970s)

On Sand Island, farmers would commonly engage in logging practices during the winter months, working in a logging camp or as independent loggers. One example of such a farmer is Frank Shaw, who cut cedar on Sand Island.^{1.7} By 1919 there was an increased demand for lumber resulting from World War I along with a depletion of timber from other sources, making logging in the Apostle Islands profitable.^{1.8}

Logging experienced something of a renaissance in the 1950s–60s. On the west side of Sand Island, a thousand acres of land, including the West Bay Club parcel, were owned by three different lumber companies in succession throughout the 1950s and 1960s including Chequamegon Logging, Penokee Veneer Lumber Company, and Budvic Timber, Inc. Penokee Veneer and Budvic Timber, Inc., both used the former West Bay Club Lodge as their logging camp for twenty to thirty men at Penokee and for six to eight men for Budvic Timber, Inc. Budvic Timber, Inc., was owned by Howard “Bud” Peters, who partnered with John Atwood after two seasons to cut veneer logs on South Twin Island. Bud Peters also took part in two final logging expeditions, including cutting timber on his land on Sand Island in 1973, though it is not known if this logging occurred at the West Bay Club, and for Alden Allen on York Island in 1974.^{1.9}

1.3 “Great Camps Style,” *Adirondack Architecture*, accessed December 2022, <https://courses.hamilton.edu/history-of-adirondack-architecture/great-camp-style>.

1.4 Henry Parker, “Adirondack Architectural Style,” *Home Reference*, accessed December 2022, <https://homereference.net/adirondack/>.

1.5 Henry Parker, “Adirondack Architectural Style,” *Home Reference*, accessed December 2022, <https://homereference.net/adirondack/>.

1.6 Ibid.

1.7 Busch, *People and Places*, 235.

1.8 Ibid., 229.

1.9 Busch, *People and Places*, 241.

Transition to National Park Service Management (1971 to Present)

The federal government had been exploring the idea of creating a national park in the Apostle Islands as early as 1930. A landscape architect appointed to review the plan expressed concerns because the forested areas of the islands had been adversely affected by logging and forest fires, and the plan was not pursued. It was not entirely dropped, however, and thirty years later, in 1965, Wisconsin's US Senator, Gaylord Nelson, again urged Congress to introduce legislation to create a national lakeshore.^{1.1}

While the national political climate favored the designation, backed by environmental groups who wanted to protect the natural character of the islands as well as local business owners who saw an opportunity for increased tourist business, other groups were opposed. The local tribes who had initially favored the idea later opposed it, and local landowners were also vehemently against the plan, as they would lose their island homes. Madeline Island had been exempted from the proposed national lakeshore, and some Sand Island families likewise argued for exclusion or for a compromise that would allow their continued residence within the National Lakeshore.^{1.2}

However, Sand Island was included in the newly designated Apostle Islands National Lakeshore signed into law by President Nixon in 1970. Following the designation, the US government began condemnation proceedings for some lands within the new unit; many tracts had been acquired by the

early 1970s, but some of the disputes lasted well into the 1980s. While some landowners sold outright, others retained Reservation of Use and Occupancy.^{1.3}

Chronology of Development and Use

Prior to West Bay Club Ownership (1868–1912)

The West Bay Club lies in Section 22 of Township 52 North, Range 5 West of Bayfield County, Wisconsin. On June 1, 1868, Lorenzo Anthony obtained the original land patent from the United States government for Tract 4 of Section 22, Township 52N, Range 5W, the land on which the West Bay Club sits.^{1.4} On August 15, 1884, Henry E. Fletcher obtained the original land patent from the United States government for Tracts 1, 2, and 3 of Section 22, Township 52N, Range 5W and the east half of the northeast quarter of Section 22, Township 52N, Range 5W.^{1.5} Section 22 Tract 3 is also included in the historic boundary of the West Bay Club ownership.

According to the 1906 Sand Island Plat Map at the Bayfield Heritage Association, at some point between 1884 and 1906 the land ownership of Section 22 Tract 3 was transferred to Frances McGuire. Ownership of Section 22 Tract 4 is unclear on the 1906 Sand Island Plat Map. The exact date is currently unknown, but sometime between

1.1 Harold C. Jordahl, Jr., *A Unique Collection of Islands: The Influence of History, Politics, Policy and Planning on the Establishment of the Apostle Islands National Lakeshore* (Wisconsin: University of Wisconsin Department of Urban and Regional Planning, 1994).

1.2 Ibid.

1.3 James W. Feldman, "Rewilding the Islands: Nature, History and Wilderness at Apostle Islands National Lakeshore," Ph.D. diss, University of Wisconsin-Madison, 2004, 380-82; Jordahl, *A Unique Collection*, 162.

1.4 Bureau of Land Management, "Land Patent Search," digital images, General Land Office Records (<https://gloreCORDS.blm.gov/PatentSearch>; accessed November 2022), Lorenzo Anthony (Bayfield County, Wisconsin) homestead patent no. 853.

1.5 Bureau of Land Management, "Land Patent Search," digital images, General Land Office Records (<https://gloreCORDS.blm.gov/PatentSearch>; accessed November 2022), Henry E. Fletcher (Bayfield County, Wisconsin) homestead patent no. 3911.

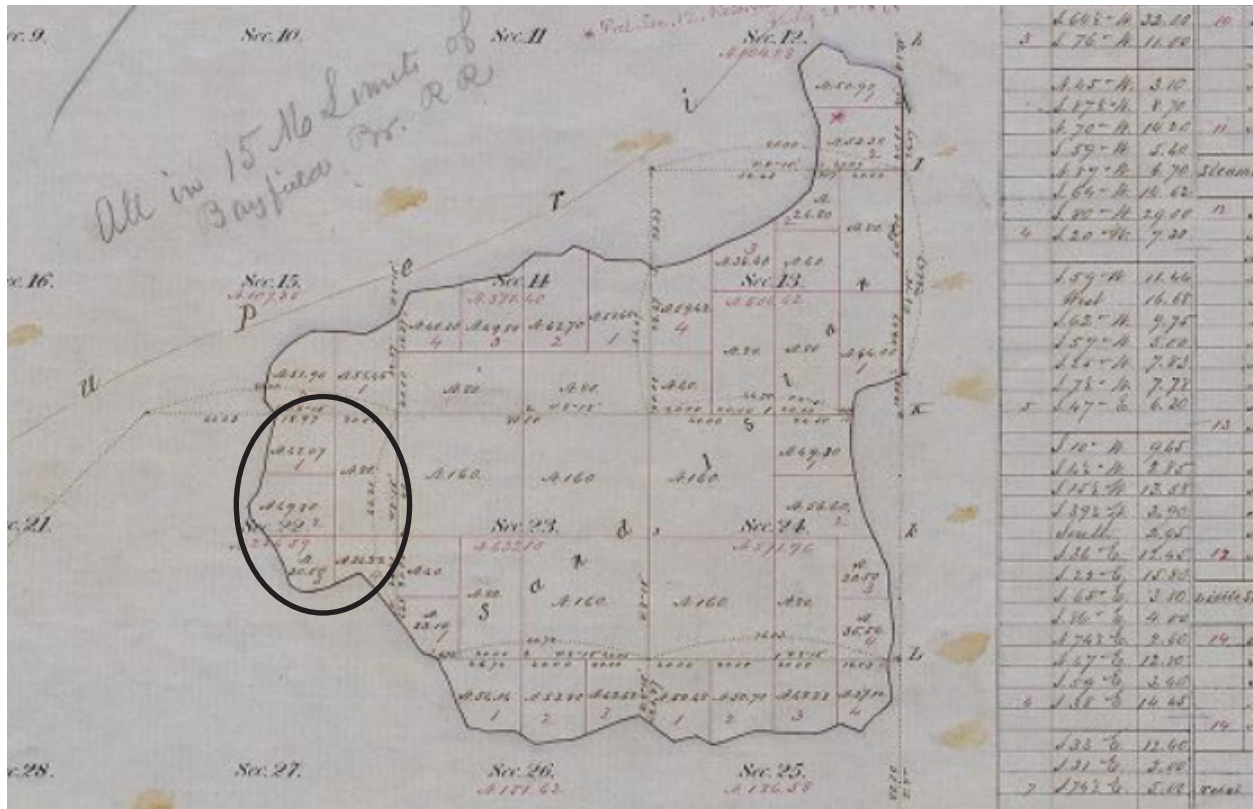


Figure 1-7. Survey map of Township 52N, Range 5W, Section 22 circled (Source: General Land Office).

1906 and 1912, the land ownership of Section 22 Tracts 3 and 4 was transferred to John and Ethal Walsh, Edwin and Christine Bonde, and Frank Shaw.^{1.6} Further deed research is required to understand the exact dates of land exchange.

West Bay Club Occupancy (1912–1922)

Not long after Buechner and Orth began their architectural practice, they and their families began summering on Madeline Island, Wisconsin, along with various other business acquaintances and friends from the Twin Cities. Most of Buechner's friends were first-generation Americans, like Buechner, and they all enjoyed the physical setting

of the Apostle Islands. Unfortunately, they found Madeline Island's social atmosphere to be too snobbish.^{1.7} Buechner received a recommendation from the St. Paul, Minnesota postmaster O.H. Neegard to try summering on Sand Island instead. Neegard's recommendation of Sand Island brought Buechner and his friends to visit Camp Stella around 1910. After spending a summer or two at Sand Island, Buechner and his friends were captivated by the island's rustic beauty. They were so intrigued by Sand Island that, upon their return to St. Paul, Buechner and five of his colleagues decided to purchase property on the island to build a lodge.^{1.8}

1.6 Thomas Gerstenberger, "Island Hideaway: The West Bay Club," *Lake Superior Magazine* (December-January 1992): 50

1.7 Nancy Farm Männikkö, *Determination of Eligibility: The West Bay Club* (Bayfield, Wisconsin: National Park Service, 2001): 37.

1.8 Gerstenberger, "Island Hideaway," 50; and Männikkö,

Starting on January 1, 1912, Charles W. Buechner, along with Henry W. Orth, Robert Wellisch, Fred Romer, G.A. Yocum, and Frank Eha, purchased 70 acres of land from John and Ethal Walsh in the southwest portion of Sand Island's southern shoreline. The official name on the property transaction was Charles Buechner, Trustee, West Bay Club. About a month later, the group of friends purchased another 20 acres from Edwin and Christine Bonde on February 5, 1912, under the same title.^{1.9}

Buechner, Orth, and Yocum designed the West Bay Club (named the Frank Eha Hunting Lodge on the original drawings) likely influenced by the Great Camps of the Adirondacks in upstate New York, originally calling for a large rustic central lodge with a dining hall and social space on the first floor and six bedrooms on the second floor to house guests. The reasoning behind the use of a different name on the architectural drawings is not known. The original intent of the West Bay Club was to run the Lodge as a resort and construct individual cabins for the partners' own families, but the private cabins never came to fruition. Construction of the two-story West Bay Club Lodge began on the property in 1912 by Charles Buechner's brother, Louis Buechner, and finished in 1913.^{1.10} Information on the qualifications for Louis Buechner as a builder are not known and would require further study. Lumber used to construct the Lodge was cut by a steam-powered sawmill on a raft, owned by Sam Fifield on Sand Island. This same sawmill also cut milled lumber for the summer home of Sam Campbell in 1905 and by workmen clearing the site for the Lodge.^{1.11}



Figure 1-8. Charles W. Buechner, at the south façade front door opening, during the construction of the West Bay Club, 1913 (Source: Bill Eha Collection, APIS IID7g, Negative No. 1418-4).

The two-story gable-roof West Bay Club Lodge is constructed of stacked round logs with interlocking, notched corners. Joints are sealed with wood strip fill and a cementitious daubing. There is also a shed (kitchen) addition on the north side of the building, roof dormers, an exterior stair at the northwest corner leading to the mid-rise landing of the interior stairs, and an open porch that wraps around the east, south, and west elevations.^{1.12} No foundation or footings were used for the Lodge and logs were just set

Determination of Eligibility, 37.

1.9 Ibid.

1.10 Ibid.

1.11 Quinn Evans Architects and STRATA Architecture Inc.,

Sand Island: Historic Euro-American Fishing, Farming, and Recreation in East and West Bay, 1890-1956 Cultural Landscape Report (Wisconsin, National Park Service, 2019): 84; and Ahlgren and Männikkö, National Register Nomination, 13.

1.12 Männikkö, *Determination of Eligibility*, 36.



Figure 1-9. Original site map of the West Bay Club designed by Buechner, Orth, and Yocum, undated (Source: Northwest Architectural Archives, University of Minnesota).

on the solid ground.^{1.13} The first floor of the Lodge consisted mainly of a large communal living and dining area, with a kitchen and pantry in the rear, and a men's and women's bathroom at the east and west elevations. Each bathroom was accessible only from the exterior screened-in wraparound porch. The main room on the first floor also contained a brick fireplace with a bas-relief plaster over the firebox depicting a Native American bison hunting scene and a raised brick hearth with brass fenders. The opening for the brick chimney, at the exterior, was cut in after the roofline was constructed. An open staircase at the rear of the communal living and dining area led to the second-floor bedrooms. The children who stayed at West Bay Club Lodge

would sleep in the communal first-floor area or on the screened-in porch while the adults slept in the upstairs bedrooms. Gas and electric lights were also installed in the Lodge, with the electricity running off a gas-powered generator, though the main source of light used during this time was candles because both the gas and electric lights were subject to constant breakdowns and repairs.^{1.14} Electricity was not used often either, as the stove and refrigerator both ran off of bottled gas.^{1.15} Specific information on how the bottled gas was stored on the property or how it was transported to the property is not known. Gas was also provided to the West Bay Club Lodge by an acetylene generator that was installed during construction in a

1.13 Bill Eha, Interview by Laura March, August 17, 1988, in Apostle Islands National Lakeshore Oral Histories.

1.14 Busch, *People and Places*, 313; and Gerstenberger, "Island Hideaway: The West Bay Club," 50-51.

1.15 Gerstenberger, "Island Hideaway: The West Bay Club," 51.



Figure 1-10. West Bay Club from during construction and prior to the fireplace chimney being constructed, 1913 (Source: APIS Library Collection, West Bay Club, IID7g-1913_03).

shed east of the Lodge.^{1.1} No other source information has been found that details the acetylene generator and how gas was originally provided to the West Bay Club Lodge.

One of the partners in the West Bay Club endeavor, Frank Eha, was a successful heating and plumbing contractor and designed the plumbing system for the West Bay Club Lodge. The plumbing system included modern men's and women's bathrooms at either side of the Lodge as well as hot and cold running water piping that serviced the first-floor kitchen and corner sinks in each of the six upstairs

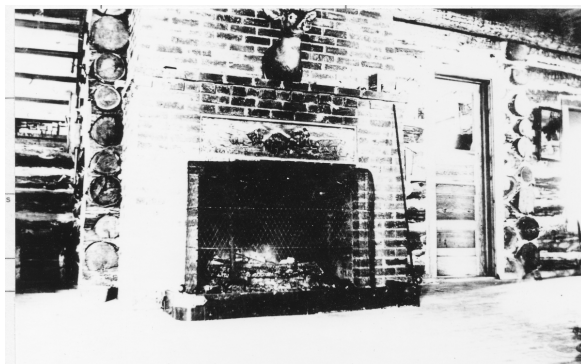


Figure 1-11. Fireplace located in the first-floor main room of the West Bay Club, ca. 1910 (Source: APIS Library Collection, West Bay Club, IID7g-1910C_03).

1.1 Ibid.



Figure 1-12. Mrs. Frank Eha and another woman doing laundry with kids on the roof of the wash house at West Bay Club, undated (Source: Bill Eha Collection, APIS IID7g, Negative No. 1420-21).

bedrooms.^{1.2} Additional plumbing in the bathrooms consisted of porcelain flush toilets and cast iron clawfoot bathtubs.^{1.3}

Waste water and sewage from the West Bay Club Lodge plumbing system was routed through a pipe, located approximated 15' west of the Lodge, that drained into Lake Superior.^{1.4}

Additional structures, including an Icehouse, a 500-gallon metal tank water tower (house tank), pump house, wash house, tool house/utility shed, a septic tank, root cellar, outside privy, twelve poured concrete steps ascending the hillside from the Lake Superior shore to the Lodge clearing, and an ell-shaped dock with boat lift and rock cribs were all constructed ca. 1913.^{1.5}

The tool house/utility shed, along with the generator, was built east of the Lodge. An

outside privy was built about 50' north of the Lodge even though inside plumbing was provided. The water tower located north and west of the Lodge measured approximately 20' tall.^{1.6} The dock stretched out approximately 100' and rose approximately 4' above the water. At the northeast corner of the dock was a boat lift that enabled a small craft to be taken from the water and protected during inclement weather.^{1.7}

The construction of the one-story Icehouse, built ca. 1915, also likely to have been influenced by Adirondack architecture through the reverse framing using poles at the exterior and boards nailed to the interior,

1.6 Gerstenberger, "Island Hideaway: The West Bay Club," 51.

1.7 Ibid.



Figure 1-13. Coal-fired stove used for heating water for the West Bay Club Lodge at the Bayfield Heritage Center, 2022 (Source: Jeff Peters).

1.2 Männikkö, *Determination of Eligibility*, 37.

1.3 Gerstenberger, "Island Hideaway: The West Bay Club," 50-51; Jeff Peters, Phone conversation with author, December 12, 2022.

1.4 Jeff Peters, Phone conversation with author, December 12, 2022.

1.5 Männikkö, *Determination of Eligibility*, 36; Ahlgren and Männikkö, *National Register Nomination*, 5-6; and Gerstenberger, "Island Hideaway: The West Bay Club," 51.



Figure 1-14. Ell-shaped dock with boat lift and three unidentified people, undated (Source: APIS Library Collection, West Bay Club, IID7g-1928C_01).

producing a more rustic appearance.^{1.1} The Icehouse consists of a gable roof with a central vented gable-roof cupola, window openings on the north and south elevations, and a door at the west elevation. During the winter months, local fishermen would cut ice from the lake near Sand Island and the ice would be kept for the summer in the Icehouse. Additionally, many perishable food items were kept in the Icehouse during the summer. Elizabeth Eha Seaquist pleasantly recalled ice cream being kept in large buckets in the Icehouse.^{1.2}

Furniture, fixtures, and tools used at the West Bay Club Lodge were brought to the island

on the Booth Fish Company boat or would be sent to Little Sand Bay to then be brought to the site on a large hired fishing boat. Some of the furniture and fixtures brought to the West Bay Club Lodge were extras purchased from a job one of the families was contracted to complete, making the bulk-bought pieces less expensive. Included in the items brought to the property was a boiler to heat water, plumbing fixtures, and a large steam boiler to run the saw mill they set up to cut the wood from clearing the site. The only wood shipped to the island was the hardwood for the interior floors.^{1.3}

The families would spend the entire month of August up until Labor Day at the West Bay Club, with some of the families making intermittent visits during June and July. It is not stated which families came during June and July, though the Ehas were the only family to take intermittent visits to the West Bay Club during the month of September.^{1.4} For a two-to-three year timespan between 1913 and 1918, Louis Buechner and his wife Annie were the caretakers of the West Bay Club. Annie was the cook for the Lodge and during the winter months, Louis and Annie Buechner would live in the kitchen to keep warm.^{1.5} During the 1988 interview of Bill Eha, Frank Eha's grandson, by Laura March, Bill Eha states, "that's why the kitchen got enclosed better." From the interview, it is unclear what changes were made in order to enclose the kitchen and make it warmer for Louis and Annie Buechner to stay there year round.

In 1918, Mr. and Mrs. Henry Cramer moved to Sand Island and became the full-time

1.1 Männikkö, *Determination of Eligibility*, 36; Ahlgren and Männikkö, *National Register Nomination*, 5-6; and Gerstenberger, "Island Hideaway: The West Bay Club," 51.
1.2 Gerstenberger, "Island Hideaway: The West Bay Club," 51.

1.3 Bill Eha, Interview by Laura March, August 17, 1988, in Apostle Islands National Lakeshore Oral Histories.
1.4 Ibid.
1.5 Ibid.

caretakers of the West Bay Club.^{1.6} It is not known why Louis and Annie Buechner were no longer the caretakers of West Bay Club by 1918.

During their time summering at West Bay Club, most of the wives disliked aspects of vacationing on the island, with one issue being the prevention from landing on or getting off the island due to weather.^{1.7} These difficulties lead to G. A. Yocum selling his and his family's share of the land back to the West

1.6 Quinn Evans Architects and STRATA Architecture Inc., *Sand Island Cultural Landscape Report*, 94.

1.7 Notes on informal interview by Nancy Männikkö with Tom Gerstenberger, Elizabeth Eha Seaquist, and Carleton Seaquest, October 15, 2001 at Gerstenberger's home, Gornucopia, Wisconsin (APIS Headquarters).



Figure 1-15. Two men in front of the steam boiler used to cut wood at the West Bay Club, undated (Source: APIS Library Collection, West Bay Club, IID7g-unk_10).



Figure 1-16. Three women and a child standing on the dock at the West Bay Club with the Icehouse in the background to the right, ca. 1915 (Source: APIS Library Collection, West Bay Club, IID7g-1915C_01).



Figure 1-17. The Eha family standing at the northwest corner of the former West Bay Club with the stair treads and risers removed from the staircase at the northwest corner exterior; ca. 1925 (Source: APIS Library Collection, West Bay Club, IID7g-1925C_01).

Bay Club on January 15, 1918.^{1.1} Around this same time, the West Bay Club was put up for sale. The sale was advertised all over the country, but mostly in Chicago, yet the property never sold.^{1.2} On March 8, 1922, the remaining members of the West Bay Club (Buecher, Orth, Wellisch, and Romer) sold their shares of the land to Frank Eha, officially dissolving the West Bay Club.^{1.3}

1.1 Gerstenberger, "Island Hideaway: The West Bay Club," 53.

1.2 Bill Eha, Interview by Laura March, August 17, 1988, in Apostle Islands National Lakeshore Oral Histories.

1.3 Gerstenberger, "Island Hideaway: The West Bay Club," 53; and Apostle Islands Historic Preservation Conservancy, *West Bay Club Lodge Condition Assessment/Building Structural Condition Report* (Bayfield, Wisconsin: National Trust for Historic Preservation, 2011): 4.

Frank Eha Occupancy (1922–1954)

Starting in the summer of 1922, the West Bay Club was used as the Eha family summer home. A member of the Eha family, Elizabeth Eha Seaquist, remembers summering on Sand Island and some of the tensions created by Frank Eha:

Frank Eha believed that every guest should be willing to help with maintaining the Lodge and doing chores around the building, which led to occasional problems and family friction, as well as reluctance to go to the island some summers.^{1.4}

1.4 Notes on informal interview by Nancy Männikkö with Tom Gerstenberger, Elizabeth Eha Seaquist, and Carleton Seaquist, October 15, 2001 at Gerstenberger's home,

Frank Eha's grandchildren Bill Eha and Frank Eha, Jr., would travel to the West Bay Club with their grandparents every summer between ca. 1928 and ca. 1942, until they were 16 years old and when they had to obtain summer employment. They would leave as soon as school was out on June 17-18 and would then come back the day after Labor Day. During their time on Sand Island, the boys would help to maintain the property and fix anything that had happened over the winter, as there was no longer a caretaker. Bill would help his grandmother with the cleaning and dusting, picking of strawberries, blueberries, and currants, and canning. Frank Jr. would help his grandfather with maintenance of the Lodge. When heavy work was required, like cutting firewood, repairing the dock, and blacktopping the roof about every three years, both Bill and Frank Jr. would help their grandfather.^{1.5}

Bill Eha remembered how water from Lake Superior was brought inside starting from a pump house located west of the Lodge:

[The pump house] had a pump in it and it had a gasoline engine that ran the pump and it had 2 inch piping down to the lake and 2 inch piping that ran along in the ground over to where the tank was and up into the tank. And we'd start 'er up and we would pump water in the tank. And that's where the running water came from.^{1.6}

The grandsons would also help Frank Eha in repairing the water tank. Frank Eha, Jr., remembered a time when he was around 11-12 years old when the water tank needed repair:

We had a water tank that went along with the Lodge. A big water tank on the back yard way up there on these pedestal things.... this framework. The water tank would leak. Grandpa [Frank Eha] couldn't crawl up the ladder to the water tank and he was too heavy. I was light and there it had a trap door on top of the water tank that you'd have to, when you'd crawl up there, you'd have to take the trap door off, put that aside. Then you could go inside of the tank.... We drain the tank first. This tank was getting very old.... and the bottom was very weak. And every time I had to do this, I was afraid to step in this tank for fear I would go right through because from the trap door on top I could look down and see where the holes are. You could see right through. Then I had patches that I had to put inside of this tank.... metal patches with roofing cement. Put it on this thing [metal patch] and cement it all around.... But while I'm doing this, I'm thinking one of these days I'm gonna fall right through this tank. I never did.^{1.7}

Frank Eha, Jr., also recalled that kerosene lamps would light up the Lodge at night as there was no electricity.^{1.8} It is unclear from this statement if the kerosene lamps are the same gas lamps originally installed in the West Bay Club or different fixtures. Nor is it clear if the generator for the electric lights was no longer extant or if the original electrical lighting was no longer in use.

The exterior stair leading to the mid-rise landing of the interior stair, at the northwest corner of the house, is photographed in Figure 1-17 without stair treads and risers and only

Gornucopia, Wisconsin (APIS Headquarters).

1.5 Bill Eha, Interview by Laura March, August 17, 1988, in Apostle Islands National Lakeshore Oral Histories.

1.6 Ibid.

1.7 Frank Eha, Jr., Interview by Laura March, August 23, 1988, in Apostle Islands National Lakeshore Oral Histories.

1.8 Ibid.



Figure 1-18. The water tower and tank located north of the West Bay Club, undated (Source: APIS Library Collection, West Bay Club, IID7g-unk_14).

the platform structure. A diagonal brace is shown connected to the platform structure in Figure 1-10, but no photo between the construction of the West Bay Club and ca. 1925 has been found to determine if the stair treads and risers were ever constructed.

Around ca.1932, new cribs were built for the dock. Frank Eha, Jr, recalled bringing rocks from other areas of the property on their boat to fill the cribs.^{1.9}

Much of the furniture in the former West Bay Club, during the 1930s and the Depression, was obtained as payments in-kind for Frank Eha's plumbing contracts. For example,

1.9 Ibid.

the metal beds came from a hospital in Minneapolis.^{1.10}

In the early 1930s, Frank Eha noticed the floor of the Lodge was starting to sag in areas and confirmed his observation by using a few marbles to see where they rolled on the floor. Around 1933–34, Frank Eha and his grandsons Bill and Frank Jr. placed about four or five jacks under the Lodge to lift it up. Then holes were dug to place footings under the building in approximately 12–14 locations.^{1.11} The exact location of the footings is not known at this time.

1.10 Notes on informal interview by Nancy Männikkö with Tom Gerstenberger, Elizabeth Eha Seaquist, and Carleton Seaquist, October 15, 2001 at Gerstenberger's home, Gornucopia, Wisconsin (APIS Headquarters).

1.11 Bill Eha, Interview by Laura March, August 17, 1988, in Apostle Islands National Lakeshore Oral Histories.

Sometime between 1935 and the early 1950s, Frank Eha installed a breakwater along the shoreline of the property running from the pump house at the far west end of the property by the water to the main dock.^{1.12}

During the 1940s, the flywheels of the old sawmill located east of the Lodge were hauled away, for scrap metal, by the Hokenson Brothers to aid in the World War II effort and the boiler was hauled into the lake.^{1.13}

As Frank Eha and his wife advanced in age, they were no longer able to stay at the Lodge during the summers by themselves. By 1952, Frank Eha and his wife stopped summering on Sand Island and two years later, Frank Eha sold the former West Bay Club Lodge and associated land to a trustee without telling his family members until after the sale.^{1.14}

1.12 Ibid.

1.13 Quinn Evans Architects and STRATA Architecture Inc., *Sand Island Cultural Landscape Report*, 104.

1.14 Notes on informal interview by Nancy Männikkö with Tom Gerstenberger, Elizabeth Eha Seaquist, and Carleton Seaquest, October 15, 2001 at Gerstenberger's; and Ahlgren and Männikkö, *National Register Nomination*, 4 and 13.

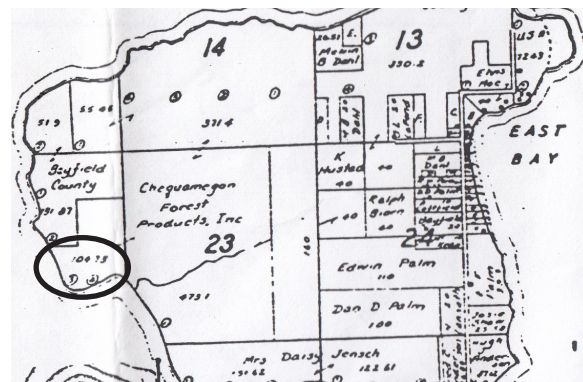


Figure 1-19. Sand Island plat map with the former West Bay Club property circled, 1954 (Source: APIS Library Collection, West Bay Club Budvic Lodge).

Logging Company and Howard “Bud” Peters Occupancy (1954–2017)

The former West Bay Club and its land quickly passed from a trustee to the Penokee Veneer Company, a lumber company based in Mellen, Wisconsin, which also purchased additional acres on Sand Island and actively logged the land. The Penokee Veneer Company created and cut a road on the property, then began cutting locations closest to the road before moving their way into the property. During the logging operations, Penokee Veneer Company used the former West Bay Club Lodge to house the logging crew.^{1.15} The Penokee Veneer Company logged the land in 1954, though it is estimated to have been only a few months as the 1954 historic plat map of Sand Island shows that Chequamegon Forest Products, Inc. (also called Chequamegon Logging), owned the property that same year.

In 1960, a logging company named Budvic Timber, Inc., purchased 639 acres from Penokee Veneer Company including the land on which the West Bay Club sits, and logged the property.^{1.16} At this time, Budvic Timber, Inc., was owned by Howard “Bud” Peters and his wife Margaret Peters.^{1.17} All three of the logging companies harvested mainly yellow birch, aspen, hemlock, and cedar. Budvic Timber, Inc., logged the property primarily for yellow birch for veneer, along with aspen and cedar. The six-man crew and cook for Budvic Timber, Inc., used the West Bay Club Lodge as a living quarters similar to Penokee Veneer Company.

Sometime between 1954 and 1960, the interior partitions and wall coverings of

1.15 Gerstenberger, “Island Hideaway: The West Bay Club,” 53

1.16 Quinn Evans Architects and STRATA Architecture Inc., *Sand Island Cultural Landscape Report*, 108-112.

1.17 Barb Peters, email conversation with author, May 30, 2023.

the northwest bedroom were removed. Additionally, during this same time, a stove was installed adjacent to the fireplace in the main first-floor living space.^{1.1}

The dock of the West Bay Club was used by Budvic Timber, Inc., for loading as boats would dock on the east side to load up the logs stored at the shore. Repairs were needed to the West Bay Club dock in 1961 in order for the logging company to continue its use, and one of the principals of Budvic Timber, Inc., Bud Peters, performed the repairs by redecking the dock.^{1.2} Beginning in the early 1960s, at a point in which the West Bay Club Lodge was vacant, vandals began pilfering the Lodge of its original brass light fixtures, chandeliers, furniture, and bathroom fixtures. The theft of fixtures and furnishings continued throughout the 1960s.^{1.3}

Upon taking ownership of the West Bay Club, Budvic Timber, Inc. sold timber to Goodman Veneer. Bud Peters also used the West Bay Club Lodge to fish, boat, and hunt with his family, including his sons Jeff and Gregory (Gregg) Peters and family friend Dave Wilcox. Bud Peters wanted a welcome feeling for the West Bay Club and would always leave the Lodge doors unlocked for anyone who might need shelter when the Peters weren't there^{1.4}. During the 1960s–70s, Peters and his family used the West Bay Club Icehouse for storage and used the West Bay Club tool shed for their tools and generator.^{1.5} It was during this time

that the subfloor of the Icehouse was noted to be rotting due to poor drainage around the Icehouse and contact with the ground.^{1.6} With the theft of original gas lighting fixtures, Bud and his son Jeff installed new light fixtures within the Lodge and installed a propane tank for the use of natural gas. Jeff Peters continued to help his father throughout the years in the upkeep and repairs of the West Bay Club property.^{1.7}

Sand Island, along with 20 other islands in Lake Superior north of Wisconsin, became part of the National Park Service's Apostle Island National Lakeshore in 1970. The National Park Service (NPS) offered to buy out the private landowners within the Apostle Island National Lakeshore, but many of the owners wanted to retain their property. Several options were available to property owners for procurement of their land by NPS. The West Bay Club Lodge and 2-acres of shoreline property were granted to Bud Peters through a lifetime lease, in which he could remain on the property until his death, when the property would be turned over to NPS.^{1.8} On November 5, 1973, NPS filed a Declaration of Taking for the West Bay Club though it was not signed between the two parties until December 21, 1981 and was not recorded in the Bayfield County, Wisconsin Register's Office until April 20, 1982. The lag of almost ten years between the declaration and the document being recorded was likely due to a lack of communications during the court proceedings that omitted the request for a life lease from the final judgment.^{1.9}

1.1 Jeff Peters, Phone conversation with author, December 12, 2022.

1.2 Quinn Evans Architects and STRATA Architecture Inc., *Sand Island Cultural Landscape Report*, 108-112; and Ahlgren and Männikkö, *National Register Nomination*, 13.

1.3 Jeff Peters, Phone conversation with author, December 12, 2022.

1.4 Barb Peters, email conversation with author, March 20, 2023

1.5 Quinn Evans Architects and STRATA Architecture Inc., *Sand Island Cultural Landscape Report*, 112-113

1.6 Jeff Peters, Phone conversation with author, December 12, 2022.

1.7 David Cooper, Phone conversation with author, October 25, 2022.

1.8 Gerstenberger, "Island Hideaway: The West Bay Club," 54.

1.9 Barb Peters, email conversation with author, March 20, 2023.

Before selling the property to NPS, the last logging episode on Sand Island occurred on Bud Peters's property in 1975.^{1.10}

In the fall of 1973, NPS visitors noted the West Bay Club property had roads with deep ruts, approximately 5' deep, mud running into the lake, extension of logging roads, dredging of a small stream, and dumping of fuel and oil drums into the ground. No oil or fuel spill was noted and no indication was given as to the specifics and/or the level of contents within the drums.^{1.11}

During the early 1980s, the water tower and tank associated with the West Bay Club collapsed. An interview with Bud Peters revealed that NPS was using the water tower and tank with Peters's permission and overfilled the tank, causing it to collapse. Additionally, during the 1980s Peters performed shoreline stabilization work by adding riprap.^{1.12} In 1981, Jeff Peters replaced some of the Lodge porch decking with white pine boards.^{1.13} Peters also repaired the porch roof of the Lodge in the summer of 1983.^{1.14} Additionally during the 1980s, the stove adjacent to the first-floor fireplace was replaced.^{1.15}

The Peters family turned the West Bay Club Icehouse into a sauna in the early 1990s by installing a stove in the interior and cutting a hole in the wall for the stove to vent. Also

at this time, the subfloor of the Icehouse was removed and replaced with plywood and a portion of boards on the interior of the Icehouse were replaced.^{1.16} During a site visit by NPS in 2011–2012, NPS staff stated that the sauna was not active and no heat source was seen.^{1.17}

In the summer of 2013, the Minnesota Conservation Corps was invited out to the former West Bay Club by Bud Peters to perform restoration work on the Icehouse in accordance with the Secretary of the Interior's Standards.^{1.18} A timber framer from the Minnesota Conservation Corps was in charge of the renovation and directed the youth workers. The work performed by the Minnesota Conservation Corps included digging ditches around the Icehouse and installing drainage tiles around the structure. NPS staffperson David Cooper remembers the front of the footings of the Icehouse being excavated, along with the replacement of a section of sills and some potential work to clean up the interior and remove any stored lumber and materials.^{1.19} Additionally in 2013, Peters replaced the Icehouse roof.^{1.20}

No reported repairs were made to the West Bay Club Lodge after the 1980s until sometime around 2012.^{1.21} To direct water drainage away from the building, Peters created a swale on the west, north, and east sides of the Lodge between 2009–2012.^{1.22}

1.10 Ibid., 119 and 238.

1.11 Busch, *People and Places*, 241; and Feldman, "Rewilding," 378.

1.12 Howard "Bud" Peters, Interview by Brenda Williams, June 28, 2015, Quinn Evans Architects.

1.13 Jeff Peters, Phone conversation with author, December 12, 2022.

1.14 Charlene Roise, *West Bay Club: An Assessment of Needs* (Minneapolis, Minnesota: Hess, Roise and Company, 2020): 24.

1.15 Jeff Peters, Phone conversation with author, December 12, 2022.

1.16 Ibid.

1.17 David Cooper, Phone conversation with author, October 25, 2022.

1.18 Ahlgren and Männikkö, *National Register Nomination*, 4.

1.19 David Cooper, Phone conversation with author, October 25, 2022; Jeff Peters, Phone conversation with author, December 12, 2022.

1.20 Jeff Peters, Phone conversation with author, December 12, 2022.

1.21 Ibid.

1.22 Charlene Roise, *West Bay Club: An Assessment of Needs* (Minneapolis, Minnesota: Hess, Roise and Company, 2020): 24.

Around the time of the drainage swale installation and prior to October 2014, the women's bathroom at the northwest corner of the wraparound porch was removed due to deterioration.^{1.23} In 2012–2013, the Peters replaced the West Bay Club Lodge roof by stripping off all the old roofing material down to the boards, replacing any rotted boards with hemlock boards cut by Jeff Peters, and then installing roll roofing materials. This roof replacement also included the shed kitchen roof of the Lodge.^{1.24}

2020): 25.

1.23 Ibid., 23.

1.24 Jeff Peters, Phone conversation with author, December 12,

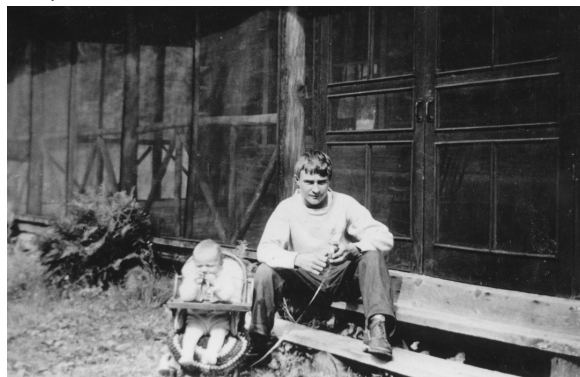


Figure 1-20. An infant and a young man sitting in front of the screening on the wrap around porch, ca. 1938 (Source: APIS Library Collection, West Bay Club, IID7g-1938C_02).



Figure 1-21. West wall of the West Bay Club without screening on the wrap around porch, 1984 (Source: Al O'Bright).

On February 21, 2017, Bud Peters died at the age of 87 due to complications from kidney failure. The management of West Bay Club was taken over by NPS.^{1.25}

National Park Service Ownership (1978–Present)

Al O'Bright, NPS Midwest Region historical architect, performed a site assessment of the West Bay Club Lodge in October 1984 and noted the following conditions:

1. Mud sill logs are in advanced state of deterioration and settling has occurred to varying severity over most exterior bearing walls of the structure [Lodge].
2. Entire porch deck is in very poor condition.
3. Original kitchen floor was removed* and replaced with plywood over rafter log sleepers. Floor undulates due to varying elevations of settled sleepers.
4. Porch roof in extreme state of disrepair and deterioration.
5. A majority of windows and doors are in good condition
6. Storage room 103 roof in very unstable condition due to advanced deterioration.
7. Subground floor soil conditions are extremely damp. Ground floor sleeper joist may be rotted.
8. Main roof structural system appears to be in good condition. However, poorly applied asphalt shingles exhibit areas of water penetration.
9. Electrical system originally powered from existent gasoline generator located in shack to the east of the Lodge. Existing electrical system is nonserviceable.

2022.

- 1.25 Charlene Roise, *West Bay Club: An Assessment of Needs* (Minneapolis, Minnesota: Hess, Roise and Company, 2020): 5; and "Howard A 'Bud' Peters: Obituary, from the Ashland Daily Press," *Find a Grave*, accessed November 2022, <https://bit.ly/3Up4jv1>.



Figure 1-22. Condition of the West Bay Club chimney, 2006 (Source: APIS Library Collection, West Bay Club, 2006 West Bay Club).



Figure 1-24. Exterior plumbing condition at the West Bay Club, 2006 (Source: APIS Library Collection, West Bay Club, 2006 West Bay Club).



Figure 1-25. West wall of the West Bay Club without screening on the wrap around porch, 1984 (Source: APIS Library Collection, West Bay Club, 2006 West Bay Club).



Figure 1-23. Settling of the interior staircase at the West Bay Club, 2006 (Source: APIS Library Collection, West Bay Club, 2006 West Bay Club).



Figure 1-26. Second floor interior finish condition at the West Bay Club, 2006 (Source: APIS Library Collection, West Bay Club, 2006 West Bay Club).



Figure 1-28. Settling observed on a first story doorway of the West Bay Club, 2006 (Source: APIS Library Collection, West Bay Club, 2006 West Bay Club).



Figure 1-29. Condition of the West Bay Club second-story interior finishes and fixtures, 2006 (Source: APIS Library Collection, West Bay Club, 2006 West Bay Club).



Figure 1-27. Second-floor interior finish condition at the West Bay Club, 2006 (Source: APIS Library Collection, West Bay Club, 2006 West Bay Club)

1. Historic water supply serviced from water tower, now in ruins, located north of the Lodge. Most of water supply is nonserviceable.
2. Location of wastewater system outflow is unknown.^{1.1}

**The exact date in which the kitchen floor was removed is not known.*

Drawings from Al O'Bright's 1984 assessment of the West Bay Club Lodge depict the entry to the interior Lodge stairs was enclosed with a wall and a door. Materials used for the enclosure are not noted on the 1984 drawings.^{1.2} The exact date the interior stairs were enclosed is not known, though it is estimated to be prior to the ownership transfer of the West Bay Club to Bud Peters in 1962. Jeff Peters remembers the enclosed space under the stairs being used as storage for valuables when his family was not at the Lodge.^{1.3}

1.1 Al O'Bright, *Needs Assessment West Bay Club, Sand Island, Apostle Islands National Lakeshore* (Wisconsin: National Park Service, 2014), 8.

1.2 Ibid.

1.3 Jeff Peters, Phone conversation with author, December 12, 2022.

Photos from the 1984 assessment show how the screening used on the wrap-around porch, still present in ca. 1938, has been removed. It is not known when or why the original screening was removed from the porch.

NPS began evaluating the West Bay Club through a consensus determination of eligibility in 2001 and concluded the West Bay Club to be eligible for the National Register of Historic Places under Criterion C as the work of master architects Charles Buechner and Henry Orth in 2002. It wasn't until 2015 that the West Bay Club was added to the National Register of Historic Places.^{1.4} Periodic site visits were performed by NPS to the West Bay Club during the life lease of Bud Peters. One such visit took place in 2006 where the conditions of the chimney, exterior plumbing, foundation issues, interior settling, and the second floor interior finishes and fixtures were documented.

In 2011, a Condition Assessment/Building Structural Condition Report was completed by the Apostle Island Historic Preservation Conservancy (AIHPC), paid for by grant from the Jeffris Family Endowed Preservation Fund from the National Trust for Historic Preservation and matched by the AIHPC. Site visits for the report were completed in 2009 and 2010 with the following key issues and suggested treatments are identified:

- Decay caused by water: A swale on the west, north, and east sides of the Lodge directed water drainage away from the building, but adding a system to manage water drainage from the building (i.e., gutters, rain barrels, rain gardens) was recommended. Riprap had been installed along the shoreline in the early 1980s, but

more was needed because of the rising lake level.

- An inadequate foundation for the masonry chimney: The recommended solution was to 1) remove the chimney above the roofline while retaining the section below, and 2) replace logs supported by the masonry with similar members otherwise supported, relevel the walls and provide with new foundation support.
- The decaying kitchen structure: Deteriorated lower logs on the east, north, and west walls should be replaced in-kind. Sleeper logs formerly supporting the flooring would be removed and a new floor joist system installed that does not rest on the ground. The study noted the floorboards "have been acquired and exactly match the original flooring."
- The inadequate foundation for the main section of the building: Structure should be jacked up to the elevation of the floor at the south wall of the kitchen and new footing pads and pier foundation system installed. At the same time, strengthen the porch structure, including the roof, and rechink the walls with a flexible "Permachink" material.
- The inadequate Lodge roof structure: Strengthen the framing with a collar-tie and kingpin truss system. Protect exterior with new sheathing, fascia, and gutters.
- Windows: replace all existing windows with new custom-made units.
- Second floor: Complete cosmetic and functional upgrades to the second floor.
- Stairway to second floor: Reconstruct the deteriorating structure.
- Pests: Combat carpenter ants and powder post beetles on a routine basis.^{1.5}

1.4 Ahlgren and Männikkö, *National Register Nomination*, 13.

1.5 Apostle Island Historic Preservation Conservancy, *West Bay Club Condition Assessment / Building Structural Condition Report* (Bayfield, WI: Apostle Island Historic Preservation

Another Needs Assessment was completed by Al O'Bright in October 2014, with the site visit taking place September 7, 2014. It is estimated that none of the 2011 report recommendations were executed, as the West Bay Club Lodge was found to be in structural distress similar to the 2011 Building Structural Condition Report with subsided piers; skewed log walls; cracked or missing daubing; deteriorating base logs; interior insect infestation; overstressed roof framing, particularly over the kitchen, from snow loads; and a leaning fireplace/chimney. Low-cost maintenance recommendations were provided to Bud Peters, including removal of items over-loading the structure (i.e., cement bags and lumber on the interior); installing shoring for the kitchen roof, and adding posts to the unsupported section of the porch roof; inserting louvers in open windows to improve air circulation but deter intrusion by moistures and pests; treating deteriorating logs with borate; demolishing the chimney above the roofline; and installing weathertight roofing even if it was not a historically appropriate type.^{1.6}

According to the 2015 West Bay Club National Register Nomination, the original second-story bedroom wall finish was Sackett board, an early wall sheathing consisting of a core panel of gypsum plaster between thick paper sheets. Al O'Bright's assessment drawings from 1984 notate the wall finish as Celotex finish type, a form of fiberboard manufactured from sugar cane fibers. No identification stamps on the wall finish were identified during the site visit for this report and the material was estimated to be fiberboard. Photos of the second-story wall

finish from the 2006 NPS site visit appear to be the same materials observed in 2022 and may have been misidentified as Sackett board in the National Register nomination. It is unclear if the original material used for the second-story bedrooms was Sackett board and whether it was removed prior to 1984. The placement of historic trim in relation to the wall finish appears to have not been moved and gives the appearance that the wall finish has not been altered. If Al O'Bright's classification of the wall finish is correct, the original wall finish was removed sometime between ca. 1920 and 1984. Additionally, if Al O'Bright's 1984 Celotex identification was correct, it is unclear when the Celotex material was removed and the fiberboard was installed.

Upon Bud Peters's death on February 21, 2017, the West Bay Club ownership reverted to NPS from Peters's use and occupancy life estate.^{1.7} NPS completed a site visit of the reacquired property in April 2017 and removed stored lumber, excess weight, and contents from the West Bay Club Lodge. During 2017, NPS performed emergency shoreline stabilization, placement of stone gabions, drain tiles, and fascines, along with emergency water diversion efforts from the interior of the Lodge. Reroofing of the Lodge was completed in September 2017 using new system roll roofing, underlayment, and flashing along with interior shoring, bracing, and clearing by NPS, Voyageurs National Park, and Al O'Bright of the Midwest Region Office for approximately \$50,000.^{1.8} In November of the same year, a structural review by C & S Design and Engineering,

Conservancy, 2011): 3-11.

1.6 Charlene Roise, *West Bay Club: An Assessment of Needs* (Minneapolis, Minnesota: Hess, Roise and Company, 2020): 26.

1.7 Ibid., 5.

1.8 Apostle Islands National Lakeshore, *West Bay Lodge, Sand Island: Chronology of NPS and Partner Stewardship Actions 2017-2020* (Wisconsin: National Park Service, 2021): 1.



Figure 1-30. Condition of the West Bay Club during the NPS reacquisition site visit, 2017 (Source: APIS Library Collection, West Bay Club, 2017_09 Roofing).

Inc., was completed for NPS. The structural review found that the foundation was in poor condition, causing various degrees of uneven settling at the Lodge. New foundation supports throughout the main level were required and additional structural supports were needed on the second floor. The exterior walls required wood strip fill, sealing, and general maintenance. Pertaining to the roof, the north single-story roof was in need of replacement, the main roof required new roof covering and additional structural supports, and the dormer areas needed to be reframed. The upper section of the chimney still called for repointing, replacement, or removal while the lower portion of the chimney required

general maintenance measures.^{1.9}

NPS visited the West Bay Club again in 2018 and developed a management alternatives report with Jesse Heinbaugh, an alum of the NPS Facility Manager Leaders Program Developmental Activity. To continue to work on the deteriorating condition of the West Bay Club Lodge chimney, structure, and property shoreline, AIHPC secured a total of \$66,000 from multiple donations. NPS and AIHPC conducted a contractor site visit in 2019 to obtain a cost estimate for shoreline armoring and then began securing funds and

1.9 C & S Design & Engineering, Inc., *West Bay Club Preliminary Structural Review* (Wisconsin: National Park Service, 2017): 1-3

permits for the work in the same year.^{1.1} Also in 2019, NPS removed approximately 7' of the exterior chimney due to its structural instability. The few remaining feet of the chimney's masonry on the north roof slope were then capped, the removed bricks were salvaged, and the appearance of the chimney before and after the work was documented in order to reconstruct it at a future date.^{1.2} Stabilization of the Icehouse was needed in the fall of 2019 through the installation of temporary bracing. The bracing included two levels of nylon webbing and steel binder

1.1 Apostle Islands National Lakeshore, *Chronology of NPS and Partner Stewardship Actions 2017-2020*, 1.

1.2 Charlene Roise, *West Bay Club: An Assessment of Needs* (Minneapolis, Minnesota: Hess, Roise and Company, 2020): 26.



Figure 1-32. Interior shoring of the Lodge, 2017 (Source: APIS Library Collection, West Bay Club, 2017_09 Roofing)).



Figure 1-31. Reroofing of the main Lodge roof, 2017 (Source: APIS Library Collection, West Bay Club, 2017_09 Roofing).

strapping anchored to a single large cedar tree uphill of the Icehouse to prevent it from collapsing in the event of mass wasting of the clay bank. Shoreline stabilization efforts using heavy armor stone (i.e., riprap) placed at the toe of the eroded bank for 70' east of the 2014 riprap in front of the Lodge and Icehouse were completed by AIHCP, NPS, and the Friends of the Apostle Islands National Lakeshore in 2020 at a cost of \$29,000. The shore stabilization was meant to break up the wave energy striking the clay bank. That same year, the porch roof of the West Bay Club Lodge was reroofed and support bracing installed by NPS.^{1.3}

An assessment of needs report for the West Bay Club Lodge was completed in August 2020 by Hess, Roise, and Company of Minneapolis, Minnesota. The report recommended relocating the Icehouse to prevent it from razing due to erosion of the slope. For the Lodge, the report recommended the following to stabilize the structure until a more comprehensive rehabilitation can be done:

- Remove the failing daubing to reduce water penetration;
- Remove racked windows;
- Install security panels with screened vents to facilitate ventilation while discouraging pests;
- Jack up the walls of the kitchen and stairs to remove the rotted logs;
- Support the structure with timber cribbing as a temporary measure until more extensive rehabilitation can commence;
- Add reinforcing rafters and posts, as needed, to help the roof structure with snow loads;

1.3 Apostle Islands National Lakeshore, *Chronology of NPS and Partner Stewardship Actions 2017-2020*, 1.



Figure 1-33. West Bay Club Lodge chimney prior to stabilization, 2019 (Source: APIS Library Collection, West Bay Club, 2017_09 Roofing).



Figure 1-34. West Bay Club Lodge chimney post stabilization, 2019 (Source: APIS Library Collection, West Bay Club, 2017_09 Roofing).

- Treat logs to kill and deter carpenter ants, as required; and
- Remove piles of wood from the site that could shelter pests.^{1.1}

1.1 Charlene Roise, *West Bay Club: An Assessment of Needs* (Minneapolis, Minnesota: Hess, Roise and Company, 2020): 27-28.



Figure 1-35. Reroofing the porch roof at the West Bay Club, 2020 (Source: APIS Library Collection, West Bay Club, 2020_09 Porch Roof).



Figure 1-36. Reroofing the porch roof at the West Bay Club, 2020 (Source: APIS Library Collection, West Bay Club, 2020_09 Porch Roof).

Timeline

- | | |
|-----------|--------------------------------------------------------------------------------------------------------------------------|
| Jan. 1912 | 70 acres purchased from John and Ethal Walsh for the West Bay Club. |
| Feb. 1912 | 20 acres purchased from Edwin and Christine Bonde for the West Bay Club. |
| 1912 | Construction begins on the West Bay Club and outbuildings. |
| Mar. 1913 | 14 acres purchased from Frank Shaw for the West Bay Club. |
| 1913 | Construction completed on the West Bay Club and outbuildings. |
| Jan. 1918 | Yocum sells his share in the land back to the West Bay Club. |
| 1918 | Mr. and Mrs. Henry Cramer move to Sand Island and become full-time caretakers of the West Bay Club. |
| ca. 1918 | The West Bay Club is put up for sale, but doesn't sell. |
| Mar. 1922 | The remaining members of the West Bay Club sell their shares to Frank Eha. West Bay Club is used as the Eha summer home. |
| ca. 1932 | New rock cribs built for the dock. |
| 1933-34 | Frank Eha and grandsons place 12-14 footings under the Lodge where it was sagging. |
| 1935-50s | Frank Eha installs breakwater across the front of the lot from the pump house to the main dock. |

1952	Frank Eha and wife stopped summering at the West Bay Club.	1980s	Water tower and tank at the West Bay Club collapses. Bud Peters installs riprap as shoreline stabilization.
1954	Frank Eha sold the West Bay Club and property to a trustee who then passed it to the Penokee Veneer Company. The land began to be logged.	Oct. 1984	Al O'Bright conducts a needs assessment at the West Bay Club.
1954	West Bay Club property sold to Chequamegon Forest Products, Inc., and the land continued to be logged.	2002	West Bay Club considered eligible for the National Register of Historic Places.
1960	Budvic Timber, Inc., purchases the land and continues to log the property.	2009	Swale created by Bud Peters on the west, north, and east sides of the Lodge to direct water drainage away from the building.
1961	Howard "Bud" Peters re-decks the dock of West Bay Club.	ca. 2011	Women's bathroom at the northwest side of the West Bay Club Lodge is removed by Bud Peters.
1962	Bud Peters continues to log the land and use the West Bay Club to house the crew and for recreational use for his family.	Nov. 2011	Condition assessment/building structural condition report is completed by Apostle Island Historic Preservation Conservancy.
1960-70	Icehouse is used for storage.		
1970	Sand Island becomes a part of the Apostle Island National Lakeshore.	2013	Members of the Minnesota Conservation Corps perform restoration work on the Icehouse.
1973	Last time the West Bay Club property is logged.	Oct. 2014	Needs Assessment is completed by Al O'Bright.
1978	US government acquires the West Bay Club property and gives Bud Peters a life occupancy lease on the property.	2015	West Bay Club is added to the National Register of Historic Places.
		Feb. 2017	Bud Peters dies and NPS takes management of the West Bay Club and property.

April 2017 NPS removes stored lumber, excess weight, and contents from the West Bay Club. NPS performs emergency shoreline stabilization, placement of stone gabions, drain tiles, and fascines, along with emergency water diversion efforts from the interior of the Lodge.

2017 Engineering inspection performed by NPS and C & S Engineering. West Bay Club Lodge reroofed along with interior shoring, bracing, and cleaning.

2018 NPS develops a management alternatives report for the West Bay Club.

2019 Remove approximately 7' of the exterior chimney to stabilize the chimney.

2020 Needs Assessment prepared by Hess Roise.

Shoreline stabilization with heavy armor stone (riprap) in front of the Lodge and Icehouse completed. Porch roof of the Lodge reroofed along with support bracing. NPS installs temporary bracing on the Icehouse.

Existing Conditions and Assessments

Overview

The Existing Conditions section describes the current conditions, by discipline and by component, as observed on site during the August 2022 site visit. Please reference the appendix for graphical location.

Condition Assessment

Immediately following the Existing Condition, each feature/system is evaluated and assigned an attendant condition rating. The condition rating system is as follows. (Note: Buildings are rated by evaluating the combined condition of all features/systems.)

Good - The feature is intact, structurally sound and performing its intended purpose. The feature needs no repair or rehabilitation, but only routine or preventative maintenance.

Fair - The feature is in fair condition if either of the following conditions is present:

- There are early signs of wear, failure, or deterioration though the feature is generally structurally sound and performing its intended purpose - or -
- There is failure of a portion of the feature.

Poor - The feature is in poor condition if any of the following conditions is present:

- The feature is no longer performing its intended purpose - or -
- Significant elements of the feature are missing - or -
- Deterioration or damage affects more than 25% of the feature - or -
- The feature shows signs of imminent failure or breakdown.

Unknown - Not enough information is available to make an evaluation.

NA - The feature is not present within the building.

Applicable Codes

Code Overview

The following is a master list of building codes and guidelines consulted to inform the condition assessment for all structures by all disciplines:

2021 International Building Code (IBC)

2021 International Existing Building Code (IEBC)

2021 International Fire Code (IFC)

2021 International Mechanical Code (IMC)

2021 International Energy Conservation Code (IECC)

ASCE 7-10 Minimum Design Loads for Buildings and Other Structures

National Fire Protection Administration (NFPA) - NFPA 13 and NFPA 13D

Secretary of the Interior's Standards for the Treatment of Historic Buildings

Architecture Barriers Act Accessibility Standards (ABAAS)

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West Bay Club Lodge

General Building Description

Site

The Lodge sits in a grassy clearing surrounded by a mix of evergreen and deciduous trees. To the south, Lake Superior is visible from the Lodge, separated by sparse trees, a clay bluff, and a rocky shoreline below. The roof of the Icehouse is visible to the southeast. North of the Lodge, the historic orchard is now a grassy field which gently slopes towards the building. The privy is situated on the east boundary of the field.

Building Overall

The Lodge has a two-story rectangular footprint measuring approximately 40-feet east-west by 27-feet-6-inches north-south. The primary rectangular mass has a gable roof with low-slope shed roofed dormers, protruding wings on the north and east walls, and a covered porch wrapping the south half of the building. Both wings have low-slope shed roofs.

The east wing, which contains the Men's Bath (104), extends 12-feet from the east wall. This wing measures 10-feet in the north-south direction and was originally mirrored in plan by a similarly sized wing on the west wall. A one-story wing is centered on the north wall, containing the Kitchen (102). This wing measures approximately 23-feet-6-inches and 16-feet. West of the Kitchen (102) is the Stair Hall (105), which projects off the north side of the building and also has a low-slope shed roof. A porch wraps the building terminating at the Men's Bath (104) on the east and at the location of the previously removed Women's Bath (103) on the west.

The exterior walls consist of horizontal log construction which terminates at grade. Slender log columns support the roof.



Figure 1-37. The Lodge viewed from the southeast. (AH, 08/01/2022)



Figure 1-38. The east side of the Lodge and the east wing containing the Men's Bath. (AH, 08/01/2022)



Figure 1-39. The north side of the Lodge has a Kitchen wing and a projection for the interior Stair Hall (105). (AH, 08/01/2022)

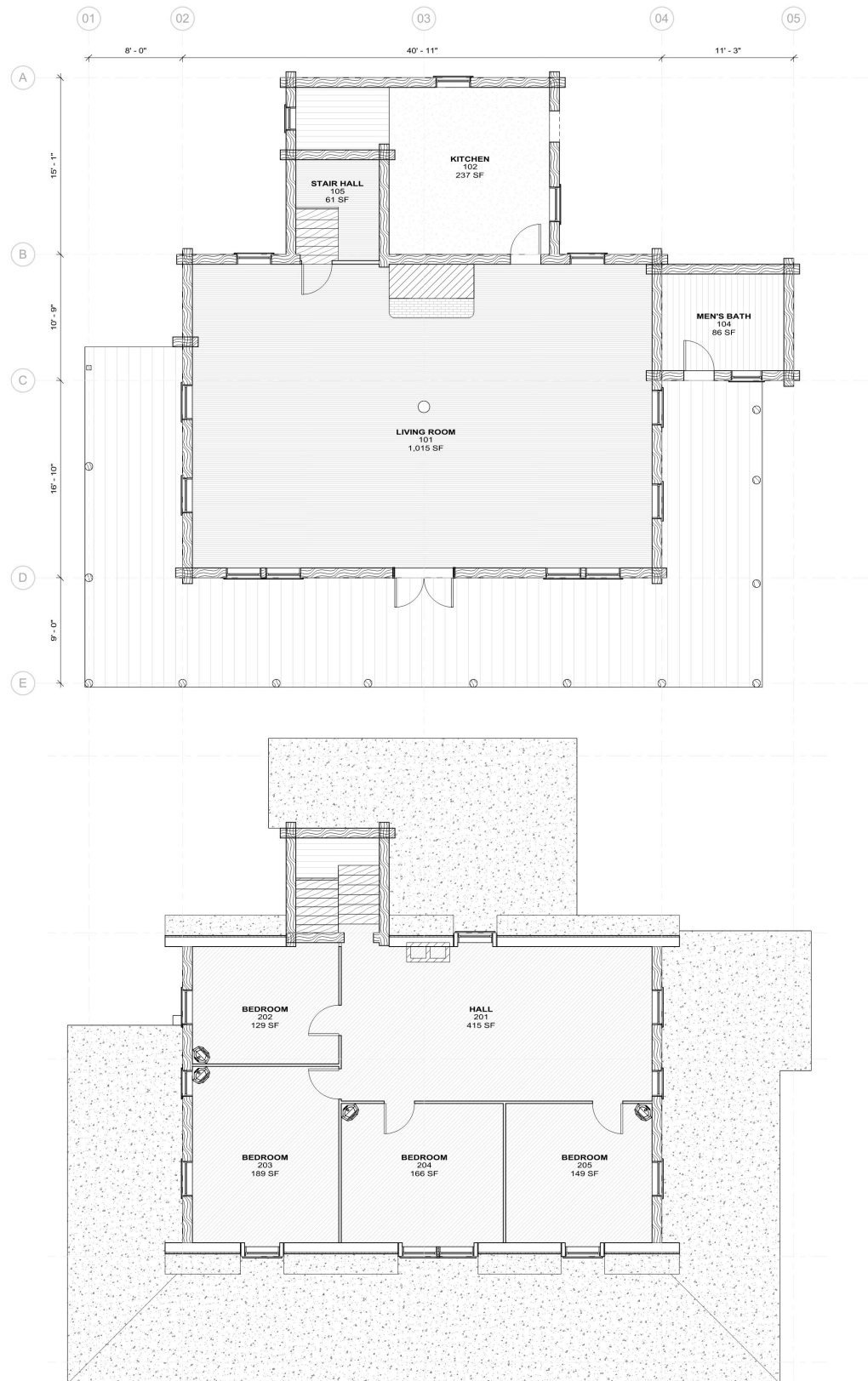


Figure 1-40. Lodge First (above) and Second (below) Floors Existing Conditions Sketch Plans, not to scale. (AH, 2022)

South (Front) Façade

The south façade of the Lodge is generally symmetrical. Three roof dormers are equally spaced, with a double-width central dormer. Symmetrically-placed windows flank the centrally-located front door on the first floor.

The Men's Bath (104) wing is visible from this façade. A door and window are visible on the south façade of the Men's Bath (104).

East (Side) Wall

The east gable end has three, equally spaced windows. On the first floor, two windows on the south end are protected by the porch roof. North of this, the Men's Bath (104) projects eastward.

Temporary wood 2x lumber supports have been added to support the porch roof.

The Kitchen (102) wing is visible at the north end of the east side of the building, with a window and an exterior door. A brick chimney extends adjacent to the Kitchen (102). Beyond this, the two-story mass of the Stair Hall (105) is visible.

North (Rear) Wall

The north-facing roof is pierced by a central brick masonry chimney flanked to the east by a narrow shed-roofed dormer with a three-over-three, double-hung wood window and, to the west, by the two-story shed-roofed Stair Hall (105) with a small two-over-two double-hung wood window. The Stair Hall projects through the shed roof of the first floor Kitchen wing which has an offset three-over-three, double-hung wood window. To either side of the Kitchen (102), there is a three-over-three, double-hung wood window looking out from the Living Room (101).



Figure 1-41. The Kitchen wing and Stair Hall (105) projection, viewed from the east. (AH, 08/01/2022)



Figure 1-42. South façade of the Lodge, showing temporary supports. (AH, 08/01/2022)



Figure 1-43. North side of the Lodge. (AH, 08/01/2022)

West (Side) Wall

The west gable front of the west façade is similar to the east façade, consisting of three equally spaced windows at the upper level. Two windows to the south align over two windows on the first floor. The front porch wraps around this façade, ending at the same point as the east façade, but without the former Women's Bath wing, which has since been removed.

The projection of the Kitchen (102) and Stair Hall (105) are visible on the north end of the west façade. At the far north, the kitchen has a single window. A door is located at the landing height of the stairs. Historic drawings indicate the intent for an exterior stair at this location. However, research to confirm the construction of the stair is inconclusive.

Interior- First Floor

Living Room (101)

The main entry, a double door on the south façade, leads to the Living Room (101). This is a rectangular space, measuring approximately 39-feet by 26-feet.

Log walls and ceiling framing are exposed in the Living Room (101). A large brick fireplace is centered on the north wall. Wood stile and rail interior doors on either side of the fireplace lead to the Stair Hall (105) and the Kitchen (102). The Living Room (101) has nine three-over-one double-hung windows arranged in two pairs on the south wall, two windows on the west wall, one on the west end of the north wall, and two on the east wall. There is one three-over-three double-hung window adjacent to the door into the Kitchen (102).

Floors are finished in 1x2 tongue and groove wood boards, laid east to west.



Figure 1-44. West side of the Lodge. (AH, 08/01/2022)



Figure 1-45. Looking north into Living Room (101). (AH, 08/01/2022)



Figure 1-46. Living Room (101), facing the south and main entry. (AH, 08/01/2022)

Temporary structural shoring extends floor to ceiling along the north and south ends of the Living Room (101).

Kitchen (102)

Kitchen (102) is entered via the Living Room (101) through a door to the south and from an exterior door to the east that has been removed. Both doors are three-panel, half-lite wood stile and rail doors. This room is L-shaped and is approximately by 14-feet by 14-feet with an additional 5-feet-6-inches by 12-feet pantry area in the northeast corner.

Log walls and structural roof framing are exposed. A sink and counter are attached to the southwest wall. The east and north walls each have a three-over-three double-hung window, however, the bottom sash of the north window is missing. Cupboards and open shelving occupy the walls of the room in the pantry area. A three-over-one double-hung window is centered on the west wall of the pantry area.

Flooring in the pantry indicates the room was finished similar to Living Room (101) with wood boards. The flooring in the main area of Kitchen (102) has been removed and grade is exposed. Temporary structural shoring spans from the ground to the ceiling.



Figure 1-47. Southeast corner and pantry area of Kitchen (102). (AH, 08/01/2022)

Women's Bath (103)

Women's Bath (103) is shown on historic plans as a mirror of Men's Bath (104), with an entrance from the porch on the west façade. Women's Bath (103) no longer exists.

Men's Bath (104)

Men's Bath (104) is accessed via a south exterior door with a half-lite over three panels, leading to the covered porch. Adjacent to this door is a three-over-one double-hung window. This room is approximately 8-feet by 10-feet-6-inches. Log walls and structural roof framing are exposed. Remnants of shelving and plumbing fixtures remain on the north wall.

Stair Hall (105)

Stair Hall (105) opens into the Living Room (101) via a five-panel stile and rail door west of the fireplace.

This two-story volume has exposed roof structure and log walls. A landing on the north end connects the two runs of stairs. The west wall at the landing has an exterior door with a half-lite over three-panels. A two-over-two double-hung window is centered at the north wall. At the top, the Stair Hall (105) opens into the second floor without a door.

Interior- Second Floor

Temporary structural shoring extending floor to ceiling have been placed in all second floor rooms.

Hall (201)

Historically, this room consisted of two other enclosed rooms and a hallway.

Hall (201) is accessed via the Stair Hall (105) in the northwest corner of the room. This rectangular room is approximately 16-feet-by 27-feet-6-inches. The exposed brick of



Figure 1-49. Looking north into Men's Bath (104). (AH, 08/01/2022)



Figure 1-50. Stair Hall (105), viewed from south in Living Room (101). (AH, 08/01/2022)



Figure 1-48. Looking southeast in Hall (201). (AH, 08/01/2022)

the chimney occupies a portion of the north wall, east of the Stair Hall (105) and a sink occupies the southeast corner of the room. A three-over-three double-hung window is located on the north wall to the east of the chimney. The east wall has two three-over-one double-hung windows. Five-panel stile and rail doors lead from Hall (201) into the adjacent Bedrooms.

The original ceiling of Hall (201) has been removed, exposing the roof structure above. On the north wall, a dormer with a low, nearly flat roof slope punctures the sloped roof, east of the chimney. To the north and east, log exterior walls are exposed, interior partition walls frame the west and south.

Bedroom (202)

Bedroom (202) is located in the northwest corner of the second story and accessed via the Living Room (101). This rectangular room measures approximately 14-feet by 11-feet-6-inches. A sink occupies the southwest corner of the room. The north side of the ceiling slopes with the underside of the gable roof. A three-over-one double-hung window is centered on the west wall.

Bedroom (203)

Bedroom (203) is a rectangular room in the southwest corner of the second story. This room is approximately 7-feet-6-inches by 15-feet-2-inches. The northwest corner of this room contains a cast-iron sink.

The south half of the ceiling slopes with the underside of the gable roof and shed dormer which contains a three-over-one double-hung window. The west wall has two windows: a three-over-one window to the north and a three-over-three window with the sash removed and stored below.



Figure 1-51. Looking west in Hall (201). (AH, 08/01/2022)



Figure 1-52. Looking west into Bedroom (202). (AH, 08/01/2022)



Figure 1-53. Facing west in Bedroom (203). (AH, 08/01/2022)

Bedroom (204)

Bedroom (204) is accessed via Hall (201) and occupies the middle section of the second story. This rectangular room is approximately 14-feet by 12-feet-6-inches. A sink occupies the northwest corner of the room. The south half of the ceiling is sloped with the gable roof a central dormer containing a pair of three-over-one double-hung windows.

Bedroom (205)

Bedroom (205) occupies the southeast corner of the second floor and is accessed via the Hall (201). This room is approximately 13-feet-6-inches by 12-feet-6-inches. A sink occupies the northeast corner of the room. Similar to Bedroom (203), the south half of the ceiling in Bedroom (205) slopes with the underside of the gable roof and shed dormer, which contains a three-over-one double-hung window. Another three-over-one double-hung window is centered on the east wall.



Figure 1-54. Facing east in Bedroom (204). (AH, 08/01/2022)



Figure 1-55. Facing east in Bedroom (205). (AH, 08/01/2022)

Character-Defining Features

The historic nature of significant buildings and structures is defined by their character, which is embodied in their identifying physical features. Character-defining features can include the shape of a building; its materials, craftsmanship, interior spaces, and features; and the different components of its surroundings.^{1.1}

The following list identifies existing character-defining features of the West Bay Club Lodge.

Site^{1.2}

- Views to Lake Superior and mainland
- Views from Lake Superior to West Bay Club Lodge
- Prominent location at the center of a small clearing surrounded by outbuildings (including ruins)
- Orientation to Lake Superior
- Relationship to West Bay Road, logging road, and road trace
- Compact cluster of development set in a small clearing, defined by forested edge

Exterior

- Simple one-and-one-half story side gabled rectangular massing with smaller additive forms, including the single-story kitchen wing at the north with a low-slope shed roof; the single-story bath wing at the east with a low-slope shed roof; and the two-story stair wing at the north with a

low-slope shed roof

- Horizontal log wall construction with cementitious daubing and exposed log ends of varying dimensions.
- Brick chimney centered on the north side of the building.
- Low-slope shed roof dormers: three at the south façade and one at the north side
- Shingle cladding on dormer sidewalls (concealed or no longer extant)
- Eaves with fascia boards and no gutters
- Single-story covered porch wraps the south façade
- Low-slope hipped porch roof
- Log columns supporting the porch, log balustrade between columns, and exposed log porch rafters and wood decking
- Load bearing log exterior walls with cementitious daubing and white wash
- Wood framed double-hung windows with either single, double, or three divided paned sash inclusive of hardware.
- Main entrance stile and rail double doors with multiple divided panes inclusive of hardware.
- Stile and rail wood doors with half lites
- Exterior stair at the west side of the building to access the mid-rise of the interior staircase (note that this stair does not remain and its completion cannot be substantiated with available documentation)
- Metal screening with wood frame enclosing the perimeter of the wrap porch with wood-framed screened double doors at the main entrance

Interior - First Floor

- Original Lodge configuration consisting of an open living and dining space in the primary block with a north kitchen wing, north stair hall wing, a west bathroom wing, and east bathroom wing (since removed)

1.1 Lee H. Nelson, FAIA, Preservation Brief 17: Architectural Character: identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character (Washington, DC: National Park Service, Technical Preservation Services, 1988).

1.2 Character defining features of the landscape are prominent or distinctive aspects, qualities, or characteristics of a cultural landscape that contribute significantly to its physical character. Land use patterns, vegetation, furnishings, decorative details, and materials may be such features.

- Narrow tongue-and-groove maple flooring with stained and varnished finish
- Exposed log walls with horsehair oakum and cementitious daubing
- Brick fireplace centrally located on the north wall of the living room consisting of a brick mantel with denticulation; bas-relief plaster above the firebox depicting a Native American bison hunting scene; and raised brick hearth with brass fenders
- Painted 1x4 casing around windows and doors with simple butt joints
- Exposed ceiling comprised of second floor log structure and underside of wood floor decking
- Painted log column centrally located in the Living Room
- Wood stairs leading to second floor
- Cast iron sink, cupboards, and open shelving in the kitchen and pantry area

Interior - Second Floor

- Six bedrooms accessed by a central hallway
- Diagonally-laid narrow tongue-and-groove wood flooring
- Exposed log exterior walls
- Wood-framed interior partition walls
- Unpainted 1x5 wall base
- Unpainted 1x4 casing around windows and doors with butt joints
- Unpainted five-panel stile and rail wood doors with brass hardware
- Enameled cast iron corner lavatories in each bedroom.

Additional Contributing Features Identified by the 2019 Sand Island Cultural Landscape Report^{1,3}

Natural systems and features:

- Lake Superior
- Geology
- Topography

Spatial organization:

- Association of buildings to the landscape and lake

Views:

- Views between the West Bay Club and the lake and mainland

Vegetation:

- Lawn
- Old field
- Fruit trees
- Roses
- Open-grown trees

Circulation:

- West Bay Road remnants
- Logging and other road remnants

Buildings and Structures:

- West Bay Club Lodge
- Icehouse
- Tool shed
- Bridge remnant

Small Scale Features:

- Water tower ruins
- Concrete stairs

Archaeological Features:

- Ruin 1
- Ruin 2
- Underwater deck remnants

1.3 Contributing features are individual elements or landscape characteristics extant from the period of significance that contribute to the cultural landscape of West Bay Club.

Non-contributing features do not contribute to the cultural landscape because they were not present during the period of significance, do not relate to the documented significance of the property, no longer possess historical integrity, or are no longer capable of yielding important information relevant to the significance of the property.

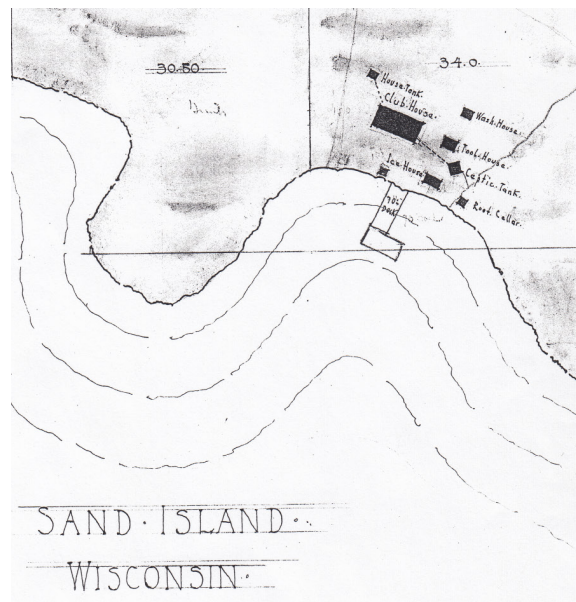


Figure 1-56. West Bay Club retains its original orientation to Lake Superior and location at the center of West Bay Club, surrounded by outbuildings (Buechner & Orth Papers, manuscripts Div., Anderson Library, University of Minnesota, Minneapolis. Filed with Frank Eha Hunting Lodge plans. Original in ink on paper, ND).

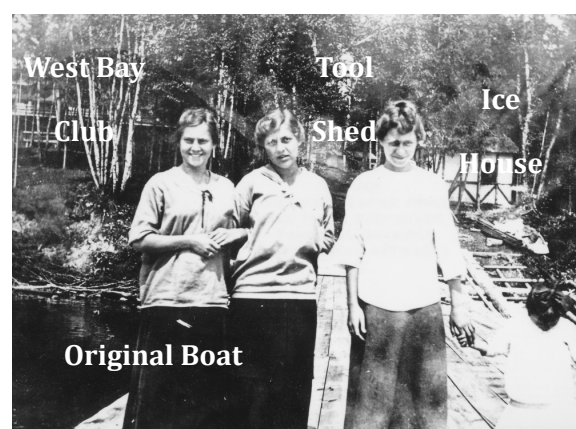


Figure 1-57. Historic physical and visual relationships are altered by the loss of the original dock, the walk from the dock to West Bay Club Lodge, outbuildings, and erosion that continues to modify landform and impact original concrete stairs and Ice House (APIS Library Collection, West Bay Club, IID7g-1915C_01).

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West Bay Club Lodge

Conditions Summary

Site				
Uniformat II Outline Data				
Category	Topic	Subtopic	Condition Rating	Deficiency Rating
G	BUILDING SITEWORK			
G10	Site Preparation			
	G1030	Site Earthwork - Drainage		Critical
G20	Site Improvements			
	G2030	Pedestrian Paving - Access		Serious and Minor
	G2040	Site Development	Fair	Serious
	G2050	Landscaping	Fair	Serious

Architecture				
Uniformat II Outline Data				
Category	Topic	Subtopic	Condition Rating	Deficiency Rating
B	SHELL			
B20	Exterior Enclosure			
	B2010	Exterior Walls	Fair and Poor	Critical
	B2010	Exterior Walls - Trim and Millwork	Fair and Poor	Minor
	B2020	Exterior Windows	Poor	Serious
	B2030	Exterior Doors	Fair and Poor	Serious
B30	Roofing			
	B3010	Roof Coverings	Fair and Poor	Critical
	B3020	Roof Openings - Chimney	Poor	Serious
C	INTERIORS			
C10	Interior Construction			
	C1020	Interior Doors	Fair	Minor
C30	Interior Finishes			
		Living Room (101)	Fair and Poor	Minor
		Kitchen (102)	Poor and N/A	N/A
		Men's Bath (104)	Fair and Poor	Minor
		Stair Hall (105)	Poor	Minor
		Second Floor	Fair and Poor	Minor

Structural				
Uniformat II Outline Data				
Category	Topic	Subtopic	Condition Rating	Deficiency Rating
A	SUBSTRUCTURE			
A10	Foundations			
	A1010	Standard Foundations	Poor	Critical
B	SHELL			
B10	Superstructure			
	B1010	Floor Construction	Poor	Critical
	B1020	Roof Construction	Poor	Critical
		Lateral Force Resisting System	Poor	Minor
B20	Exterior Enclosure			
	B2010	Exterior Walls - Structure	Poor to Good	Critical

Mechanical				
Uniformat II Outline Data				
Category	Topic	Subtopic	Condition Rating	Deficiency Rating
D	SERVICES			
D30	HVAC			
	D3020	Heat Generating Systems	N/A	N/A
	D3030	Cooling Generating Systems	N/A	N/A
	D3040	Distribution Systems - Ventilation	Poor	Critical
D40	Fire Protection			
	D4010	Sprinklers	N/A	

Plumbing				
Uniformat II Outline Data				
Category	Topic	Subtopic	Condition Rating	Deficiency Rating
D	SERVICES			
D20	Plumbing			
	D2010	Plumbing Fixtures	Fair and Poor	Minor
	D2090	Other Plumbing Systems - Piping	N/A	Minor

Electrical				
Uniformat II Outline Data				
Category	Topic	Subtopic	Condition Rating	Deficiency Rating
D	SERVICES			
D50	Electrical			
	D5010	Electrical Service & Distribution	N/A	N/A
	D5020	Lighting and Branch Wiring	Fair to Poor	N/A
	D4090	Other Electrical Systems - PV	N/A	Critical*

* As relates to electrical power for building ventilation.

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West Bay Club Lodge: Feature Description and Condition Assessment

Site

Site - Site Design

West Bay Club is located along the steep bluffs of Lake Superior that drop twenty to thirty feet to the rocky shoreline below. West Bay Club Lodge and surrounding outbuildings are clustered north of the bluffs on a relatively flat site with topography rising gently to the north and dropping to a ravine to the east. Buildings are oriented for views to the south of Lake Superior and the mainland with West Bay Club Lodge sited to be visible from Lake Superior.

West Bay Club Lodge is prominently set within the center of a small clearing surrounded by dense forest with breaks in bluff vegetation for clear views to Lake Superior. Its primary façade is oriented south towards Lake Superior with secondary entrances to the north and east.

Historic concrete stairs remains partially intact along the bluff. The concrete stairs lead to Icehouse and a non-extant dock set below West Bay Club Lodge. A road remnant and West Bay Road connect West Bay Club Lodge to a modern dock to the south and a logging road. West Bay Road connects West Bay Club Lodge to Sand Island's East Bay. The road remnant and West Bay Club Lodge retain historic alignments but are overgrown with woody vegetation and unmaintained.

Condition: Fair

West Bay Club Lodge's historic spatial organization and site design are modified by the loss of historic site features, successional vegetation, and erosion. West Bay Club Lodge retains its orientation to West Bay, prominent location along the bluff overlooking Lake Superior, and proximity to outbuildings sited to be subordinate to West Bay Club Lodge



Figure 1-58. West Bay Club Lodge is set in a small clearing surrounded by forest (Mundus Bishop, 2022).



Figure 1-59. West Bay Club retains historic orientation and views to Lake Superior and the mainland (Mundus Bishop, 2022).



Figure 1-60. Original concrete stairs descend the bluff to Ice House (Mundus Bishop, 2022).



Figure 1-61. West Bay Club Existing Condition (Mundus Bishop, adapted from 2019 Sand Island CLR Map).

while being in close proximity to support recreational and domestic use of the site. Historic relationships are altered by the loss of the historic dock and subsequent modifications to visual and physical connections between West Bay Club Lodge, Icehouse, concrete stairs, dock, and lake.

The setting is modified by the removal/collapse of outbuildings, loss of circulation routes and historic dock, encroachment of successional vegetation into areas of historically open old field and lawn surrounding West Bay Club Lodge, shoreline erosion, and reduction of land area between West Bay Club Lodge and the shoreline.

Circulation patterns varied through the period of significance but generally consisted of routes from West Bay Club to East Bay and Lake Superior. Documentation of routes within West Bay Club is limited. Extant features include concrete stairs, bridge ruins, and road traces.

The site is generally in fair condition. Stormwater to the north of West Bay Club Lodge flows directly to a low point at the foundation of the kitchen. Topography to the east and west of West Bay Club Lodge generally slopes to perimeter drainage swales, with several low points along the foundation. Repair of perimeter drainage swales is needed to establish positive drainage away from the building.

Vegetation encroaches on historically open clearings surrounding West Bay Club Lodge and historic roads. Vegetation management is needed to preserve the clearing surrounding West Bay Club Lodge, repair and preserve open views to Lake Superior and the mainland, and repair historic circulation patterns.



Figure 1-62. The setting is modified by the loss of historic circulation features, including the bridge and road east of Ice House (Mundus Bishop, 2022).



Figure 1-63. Topography slopes from the north to West Bay Club Lodge with stormwater ponding along the hillside and a low point at the kitchen (Mundus Bishop, 2022).



Figure 1-64. Vegetation encroaches the historically open clearing to the north West Bay Club Lodge (APIS Library Collection, West Bay Club, IID&g-unk_14) .

Site - Small Scale and Archeological Features

Small scale features are primarily associated with the historic recreational (West Bay Club Lodge) use of the site. This includes ruins of a water tower to the north of West Bay Club Lodge and concrete stairs and dock remnants to the south of West Bay Club Lodge.

Condition: Fair

Small scale features are in good to fair condition.

Water tower ruins indicate the location of a collapsed water tank built in 1913. Water tower ruins are in poor condition. Historic concrete stairs are set west of Icehouse to the clearing at the top of the bluff. Concrete stairs mark the historic location of a walk extending from the non-extant, historic dock up the bluff to West Bay Club. Lower stairs are impacted by erosion and are in poor condition. The upper nine stairs, including the “EHA” stair, are in good condition.

Archeological features include dock cribbing below the water surface. This cribbing likely marks the location of the original 1913 dock. Ruin 1 is possibly a wash house associated with the original complex. Ruin 2 is possibly guest or caretaker living quarters. Both ruins are located in thick undergrowth.^{1.1}

Historic photographs indicate small scale features varied during the period of significance. Historic small scale features included clotheslines, fences, a picnic table, and a flagpole.



Figure 1-65. Concrete stairs remain from the period of significance and mark the location the original walk between the non-extant dock and West Bay Club (Mundus Bishop, 2022).



Figure 1-66. Water tower ruins indicate the location of the original water tank (Mundus Bishop, 2022).

1.1 NPS, 2019 Sand Island CLR, 3-122, 3-123. Dense vegetation restricted access and field documentation of the ruins by both the 2019 CLR and this HSR.

Site - Vegetation

West Bay Club Lodge is set in a small clearing of old field vegetation and mown lawn surrounded by forest. The forest is largely comprised of balsam fir, spruce, cedar, birch, aspen, white pine, and American mountain ash. Shrubs and young poplar, hazelnut, and aspen trees encroach the historically open clearing. Lawn is mown around West Bay Club Lodge to manage encroaching woody plants and preserve views to Lake Superior. Old field, located to the north and west of West Bay Club Lodge, is comprised of grasses, sedges, and shrubs. Individual trees grow within the open lawn between West Bay Club Lodge and bluff and a group of roses is located along the front porch of the West Bay Club Lodge.^{1.2}

Condition: Fair

Historic photographs indicate vegetation surrounding West Bay Club Lodge varied through the period of significance. Historic photographs indicate patterns similar to present-day—a clearing in the forest with low grasses surrounding West Bay Club Lodge and individual trees south of West Bay Club Lodge. These patterns and extant vegetation, fruit trees, and rose bushes contribute to the cultural landscape. Limited farming and gardening historically occurred onsite but the location of these activities is not documented.^{1.3 1.4}



Figure 1-67. Rough mown lawn historically surrounded West Bay Club Lodge (APIS Library Collection, West Bay Club, IID&g-1925C_01).



Figure 1-68. Trees to the south of the building framed views to the lake (Gertrude Wellisch Album, APIS 05b.3).



Figure 1-69. West Bay Club Lodge retains its historic vegetation patterns of a small clearing with low grasses surrounded by forest (Mundus Bishop, 2022).

1.2 NPS, 2019 Sand Island CLR, 3-122, 3-118, 3-119.

1.3 NPS, 2019 Sand Island CLR, 3-122, 3-118.

1.4 Six fruit trees were documented in 2019 to the north of West Bay Club Lodge. Dense vegetation prevented access and identification of all six trees during field documentation completed for this HSR.

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West Bay Club Lodge

Architecture

Architecture - Roofing System

Historic drawings indicate a composition roof assembly, without indication of a shingle or roll format. Early photographs show a rolled roofing during the period of significance (see figure 1-16, ca. 1925 from APIS Library Collection, West Bay Club).

The roofing assembly is consistent across the varied planes of the lodge roof. In 2017, a mineral-surfaced rolled roofing was installed across the entire roof. At the eaves, a pre-finished metal flashing and drip edge is visible tucked underneath the roofing. This flashing conceals approximately 1/2-inch of the fascia.

At the eaves, a painted fascia trim conceals the square-cut rafter ends. The fascia trim is typically 1x7, except at the second floor north and south eaves and at the dormers, where the fascia consists of a 1x4. Existing fascia differs from the historic drawings, which depict exposed rafter tails. The west eave over the porch lacks a fascia, leaving the square-cut ends of log rafters exposed.

Where the low-slope roofs meet the exterior log walls, approximately 8-to-12-inches of sidewall flashing is exposed. The flashing terminates between two horizontal logs and is hammered to match the profile of the log which it wraps. This condition is present at the shed roofs of the Men's Bath (104), Kitchen (102), and the Stair Hall (105), and at the hipped roof covering the porch. Note that unlike the pre-finished flashing at eaves, this sidewall flashing and all flashing around the chimney appear to be an unfinished softer metal, likely lead. Images from the most recent roofing campaign indicate that the lead sidewall flashing dates to 2017.



Figure 1-70. The Lodge, viewed from southeast. (AH, 08/01/2022)



Figure 1-71. Drip edge and varying fascia boards on the southwest eave and dormer. (AH, 08/01/2022)



Figure 1-72. Flashing terminating over logs onto mineral-surfaced rolled roofing. (AH, 08/01/2022)

A brick chimney penetrates the gable roof between the north dormer and the Stair Hall (105) roof. This intersection is problematic, as described in the condition assessment below. An over-sized cricket extends along the east and west sides of the chimney onto the adjacent low-slope shed roofs. Limited access precluded verification of wall flashing at the south. Wall flashing on the west and east side of the chimney are not stepped, maintaining the same height and terminating on the adjacent saddle. Front flashing is appropriately tucked into the masonry and terminates on the gable roof below. However, the front flashing appears to be too low on the chimney.

Historic drawings indicate shingle siding applied to dormer sidewalls. However, in historic images, vertical boards are visible. Currently, asphalt roofing is folded upwards at the sidewall connection. This is lapped by a triangular sheet of mineral-surfaced rolled roofing, tacked to the sidewall in lieu of a cladding. No sidewall flashing was observed.

A single run of gutter, approximately 10-feet in length, is attached to the east eave of the Men's Bath (104) wing.

Condition: *Fair and Poor*

The roofing system is mostly in fair condition with poor condition at the Kitchen roof which has accelerated deterioration. The newer mineral-surfaced rolled roofing was recently installed in 2017 and is generally performing well. Water-staining visible at the underside of roof sheathing in the second floor is indicative of past water intrusion. Although water-staining is widespread, areas of concentrated damage exist above the stairs and along the south end of the building. The mineral-surfaced rolled roofing has an inconsistent and uneven surface with



Figure 1-73. The chimney is positioned tightly between a bedroom dormer and stair dormer (AH, 08/01/2022)



Figure 1-74. Single gutter run on east side of the Men's Bath. (AH, 08/01/2022)



Figure 1-75. Failure of the kitchen wing roof rafters has resulted in noticeable deflection. (AH, 08/01/2022)

wrinkling, a condition that can accelerate water infiltration.

Note that the existing roofing was installed in 2017 following failure of the previous similar mineral-surfaced rolled roofing, which was installed 8 years prior. Based on this information and manufacturer's recommendations, it can be expected that the existing roofing will require replacement around 2025.

Active leaks and severe water damage are concentrated at the Kitchen (102) wing, where roofing was not replaced during the 2017 campaign. This low-slope shed roof and its connection to the north face of the log wall have both failed and are in critical need of repair, although it is structurally unsafe to do roofing work.

Flashing around the chimney appears to be preventing water entry. The chimney is located at a complex joint between two roof dormers and flashing appears to be loosely lapped and contributing to the water intrusion issues at this location.

Sheathing and roof structure of the Kitchen (102) roof were observed to be deteriorating during Al O'Bright's 1984 visit to the site and have significantly worsened over the intervening thirty years. A hole in the roof, approximately 6-inches in diameter, funnels rainfall directly into the Kitchen (102). See the Structural section for an evaluation of the roof structure.

Debris scattered across the Kitchen (102) roof consisting of brick and wood scraps have fallen from the chimney above. Bio-growth and grass was observed growing on the Kitchen roof. As noted above, no sidewall flashing was observed where this



Figure 1-76. Debris covers the Kitchen roof and areas of the roofing are missing and torn. (AH, 08/01/2022)



Figure 1-77. Missing fascia on the west porch eave, showing exposed square-cut log ends. (AH, 08/01/2022)

roof meets the north wall. The asphalt roofing is saturated, deteriorated, and pulled back from the building at this connection. Areas of missing and torn roofing were observed across the Kitchen roof. Near the center of the north eave, fascia is broken and asphalt roofing is torn.

There are pronounced low-slope shed roofs at the dormers and Kitchen and Stair Hall wings with slopes less than 2:12. This low slope is problematic as it contributes to greater snow accumulation in winter and does not adequately direct drainage towards eaves.

At the west eave over the porch, fascia is missing, leaving the square-cut ends of log rafters exposed.

Architecture - Exterior Walls

The exterior wall assembly consists of a traditional log construction with horsehair oakum, wood strip fill, and a cementitious lime daubing. Horsehair oakum, which appears to be original, was observed in various interior locations. The oakum has been replaced in select areas with stuffed newspaper. Several campaigns of cementitious lime daubing have been applied at the interior and exterior face of walls. Although the date of each daubing campaign is not known, the observed assembly is consistent with the historic condition.

Logs vary in diameter from approximately 8 to 11 inches. See the Structural section for a description and assessment of the structural log walls.

Where protected by the overhanging roof porch, the exterior face of the wall assembly has an applied white wash. Black and white historic images do not clearly show the presence of a white wash, and thus is not



Figure 1-78. Exterior log walls at the west side of the building. (AH, 08/01/2022)



Figure 1-79. Horsehair oakum on the east wall of Bedroom (205). (AH, 08/01/2022)



Figure 1-80. Exterior walls are least deteriorated where protected under the porch roof. (AH, 08/01/2022)

confirmed to be a historic condition. It does appear however, that the white wash was applied to all exterior faces of the log walls and has likely weathered significantly where not protected.

A similar white wash is applied to the interior face of the log walls in Kitchen (102).

Condition: *Fair and poor*

The exterior walls are in typically in fair to poor condition. See the Structural section for an assessment of structural logs. Note that logs were generally observed to be in best condition where most protected from weather and elevated from groundwater. Such conditions were observed at the west, south, and east walls beneath the overhanging porch roof.

Much of the daubing has failed. Wood strip fill is mostly intact and in fair condition. At the south façade, approximately 95% of daubing is missing above the porch roof and 70% is missing below the porch roof. Approximately 70% of daubing is missing on the east walls. Near the mid-height of the wall, where most exposed, approximately 90% is missing, while much of the daubing remains where more protected. An estimated 80% of daubing is missing on the north walls. At the west wall, approximately 60% of daubing is missing. At the interior, daubing is similarly missing. Approximately 50% of daubing remains.

Where remaining, daubing at the exterior and interior is cracked and loose. A thorough identification of loose and intact daubing was beyond the scope of this assessment. Light from the exterior is visible through gaps of varying sizes between the log, predominantly on the north side of the building.

The exterior daubing has a concave profile,



Figure 1-81. Interior face of exterior log walls, viewed from Bedroom (203). (AH, 08/01/2022)



Figure 1-82. Concave profile of exterior daubing, viewed at the south façade. (AH, 08/01/2022)



Figure 1-83. White wash applied to the interior of logs walls in Kitchen (102). (AH, 08/01/2022)

which thins at the ends. When exposed to temperature swings and weathering, these thin ends can break, as observed across all walls. In some instances, the daubing was observed to flare out at the top, a detail which can lead to water intrusion in the wall assembly and accelerated failure of the daubing. This has likely contributed to the loss of daubing.

White wash remains only at areas protected by the overhanging porch roof, along the west, south, and east walls. Elsewhere, white wash has been lost due to weather.

Architecture - Exterior Brick Masonry

The chimney consists of a mortared red brick. See the Architecture - Roofing System section for a description of the flashing around the chimney.

Historic drawings indicate that the chimney was intended to have a parged cementitious exterior coating. However, historic images show only exposed brick, consistent with the existing condition. At the top, the cap appears to have been masonry. However, the details of the cap are not discernible in historic photographs.

As noted in the Historical Background section, much of the chimney was removed in 2019, reducing its overall height. A wood cap was installed over the chimney at this time. This new cap consists of unpainted 1x boards of varying widths. The chimney was inaccessible for up-close investigations, but the wood cap appears to be clad in a thin roofing material, likely a mineral-surfaced rolled as seen elsewhere.

Condition: Poor

The chimney is in poor condition. The new cap appears to have halted water intrusion in



Figure 1-84. The brick chimney was partially disassembled and capped in 2019. (AH, 08/01/2022)



Figure 1-85. Spalled brick on the north face of the chimney. (AH, 08/01/2022)

an effort to stabilize the structure. However, the mineral-surfaced rolled roofing atop the cap is anticipated to be past or nearing its expected useful life.

Mortar is largely intact. Approximately 30% brick faces are spalled. This combination indicates that the mortar mixture is too hard and does not allow bricks to swell and contract with varying temperatures and moisture levels. Although the age of the mortar is not known, it may have been re-pointed some time after construction. When the building was constructed, softer mortars were typically used with clay brick.

Spalling, as observed on brick faces at the chimney, is detrimental to the integrity of the brick. The outermost layer of each brick has the greatest resistance to weathering. Once this layer is lost, the exposed brick face will deteriorate more rapidly. See the Structural section for an assessment of settlement at the chimney.

Architecture - Exterior Trim and Millwork

Exterior trim and millwork includes window trim, door trim, and fascia boards.

Exterior window trim consists of 1x4 painted wood boards with butt joints. Windows sills of 1x boards typically sit atop a log without an apron.

Exterior door trim consists of 1x4 square cut wood trim with butt joints. All exterior door trim is painted.

Eaves are clad in fascia of varying width, from 1x4 to 1x7. See the Architecture - Roofing System section for additional discussion of the fascia as integrated in the roofing assembly.



Figure 1-86. Porch fascia at south façade. (AH, 08/01/2022)



Figure 1-87. Window at first floor on south façade. The porch has provided protection for this trim. (AH, 08/01/2022)



Figure 1-88. Deteriorated sill at of east window on the north wall. (AH, 08/01/2022)

Condition: *Fair and Poor*

Exterior trim and millwork is typically in fair condition with areas of poor condition.

Window trim is in fair to poor condition. Trim on windows located on the first floor beneath the porch roof is most protected and in fair condition. At these windows, paint on the trim is peeling, but approximately 95% of paint remains. Trim at other first floor windows is more exposed and has peeled away primarily at or near the sill. Approximately 90% of sill paint and 10% of casing paint is missing at these windows.

Deterioration of the wood sill was observed at the eastern-most window on the north side of the building. This sill is saturated, rotted, and hosting a thin film of bio-growth. No sill remains at the window on the north wall of the Kitchen wing.

Window trim on the second floor is more exposed to weathering. Typically, 50% of paint remains. The remaining paint on window trim is heavily checked and peeling. Similar to at the first floor, paint is mostly missing at window sills and near the base of casing.

Sills at the second floor windows appear to be in fair condition, except at the two north windows. These two sills are adjacent to saturated, rotted logs and are themselves beginning to show signs of rot. Both sills appeared damp, but could not be inspected up close due to restricted roof access. Light bio-growth was observed on both of the north sills.

As noted in the Structural section, settlement of the exterior walls was observed. This has impacted the framed openings and trim surrounding all windows, most severely



Figure 1-89. Deteriorated window sill at the north dormer (second floor). (AH, 08/01/2022)



Figure 1-90. Exterior door trim to Kitchen (102). Note the missing trim on right side of opening. (AH, 08/01/2022)



Figure 1-91. Fascia boards at west wall. Note missing board on porch eave. (AH, 08/01/2022)

at the north side of the building. See the Architecture - Windows section for a condition assessment of windows.

Exterior door trim is in fair condition. Approximately 5% of paint is missing on exterior door trim. Most trim is intact, with the exception of casing around the door to Kitchen (102), where the 1x4 trim on the north side of the door opening is missing. Grade has risen at this location and the remaining trim is partially buried and in poor condition.

Fascia boards are generally in fair condition. As noted in the Architecture - Roofing System section, the entire length of fascia board at the west eave of the porch roof is missing. Approximately 15% of boards are bowed or deformed as a result of structural movement.

Paint is thin, worn, and checked where remaining on fascia boards. Approximately 90% of paint is missing on fascia at the west walls. At the north, approximately 75% of paint is missing.

Architecture - Exterior Porch

A porch wraps the south half of the first floor. As a result of rising grade and settlement of the building (discussed further in the Site and Structural sections), the porch is approximately 3-to 12-inches above grade. The porch is protected by a hipped shed roof.

Log columns, spaced approximately 8-feet apart, wrap the porch perimeter. Slender log railings, approximately 3-inches in diameter, span columns at roughly 36-inches above the decking elevation. Each railing is supported by log balusters and diagonal log struts. All have trace remnants of white paint.

Historically, the porch was enclosed with



Figure 1-92. The wraparound porch, viewed from southeast. (AH, 08/01/2022)



Figure 1-93. Railing and balusters remaining on south façade of porch. (AH, 08/01/2022)



Figure 1-94. Existing wood decking at porch (AH, 08/01/2022)

screens and accessed by a set of screened double doors aligning with the main entry on the south façade. Two wood steps led down from the double doors to grade, which have since been removed in their entirety. Between columns, a more slender log column sat outboard of the railing to reinforce the screen. The screens and associated doors no longer remain. The railing and balusters remain only at a portion of the east side of the porch and at the east half of the south façade.

The wood decking was replaced sometime after Al O'Bright's 1984 site visit, as his field drawings indicate a condition consistent with historic drawings and images. Historically, the porch appears to have been clad in 4-inch wide decking boards, either tightly spaced or with a tongue and groove or shiplap profile. Boards ran perpendicular to the face of the building, meeting with a herringbone pattern at the southeast and southwest corners.

Although the existing wood decking is of the same material as the historic, the craftsmanship and detailing differs. The existing wood decking consists of gapped 2x boards of varying widths: from 4-1/2-inches to 12-1/2-inches. Gaps between boards vary, up to approximately 1/2-inch. There is no skirt beneath the decking at the perimeter. Similar to the existing condition, boards run perpendicular to the face of the building. However, the decking boards change direction with a butt joint aligned with the south façade, which differs from the historic herringbone joint. No evidence of paint was observed on the decking boards.

At the underside of the porch roof, structural framing and sheathing is exposed without any applied soffit.

See the Structural section for the porch



Figure 1-95. Facing north along the east side of the wraparound porch. (AH, 08/01/2022)



Figure 1-96. Structural members and roof sheathing are exposed above the porch. (AH, 08/01/2022)



Figure 1-97. Remaining porch elements are weathered and cracked. (AH, 08/01/2022)

structure, including floor framing, exposed roof structure, and supporting roof columns.

Condition: *Fair*

The porch is generally in fair condition.

See the Structural section for a condition assessment of structural porch elements, including the log columns. Temporary shoring supporting the porch roof is also discussed in the Structural section. Paint on the columns is worn, particularly near the base.

The railing is in poor condition with approximately 60% of the railing and balusters missing. Remaining elements are weathered, cracked, and in fair to poor condition.

Wood decking is in fair to poor condition. Boards are weathered. At their ends, boards are cracked and lightly cupped. In various locations along the perimeter, boards are in contact with plants and grade.

Architecture - Windows

Interior wood trim typically consists of 1x4 wood boards with butt joints and a 1x4 apron sill. On the first floor, all wood elements, including trim, are painted at the exterior and interior. On the second floor, all interior wood elements are unpainted. No evidence of varnish on second floor windows was observed.

There are three types of windows. As noted in the following conditions assessment, settlement and resulting distortions have limited operability of most windows. As such, operability was not tested.

Type A

Type A windows are double-hung three-over-three windows. Lites are arranged



Figure 1-98. Type A window exterior, located at Men's Bath, south wall. (AH, 08/01/2022)



Figure 1-99. Type A window interior, viewed from Living Room (101). (AH, 08/01/2022)

three wide in each sash. Muntins have a thin beveled profile, which appears to be original. Hardware at the top sash includes pins and at the bottom sash consists of two jamb-mounted locks. There are five instances of Type A windows:

- Men's Bath (104), south wall: measures 44-inches tall by 31-inches wide.
- Living Room (101) north wall: measures 52-inches tall by 34-inches wide. The bottom sash has been modified to allow a gas line penetration.
- Kitchen (102) east wall: measures 52-inches tall by 34-inches wide.
- Kitchen (102) north wall: measures 52-inches tall by 34-inches wide.
- Hall (201) north wall: measures 53-inches tall by 36-inches wide. This window has a wood-framed screen on the exterior and a green roll-down shade on the interior. A 2-inch diameter hole has been drilled through the bottom sash and wood screen.



Figure 1-100. Green roll-down shades are extant on the interior of some Type A and Type B windows. (AH, 08/01/2022)



Figure 1-101. Exterior of Type B window in dormer on south façade. (AH, 08/01/2022)



Figure 1-102. Interior of Type B window in Hall (201). (AH, 08/01/2022)



Figure 1-103. Paired Type B windows on south façade, viewed from exterior. (AH, 08/01/2022)

Type B

Type B windows are double hung three-over-one windows. Muntin profile and window hardware are similar to Type A windows.

There are 19 instances of Type B windows, nine on the first floor and ten on the second. On the first floor, two sets of Type B windows flank the front door on the south façade. Each window set is divided by a 4-inch wide center mullion. A similar set is located on the second floor within the center dormer of the south façade.

Type B windows on the first floor measure 3-feet wide by 5-feet tall with Type B windows on the second floor measuring 3-feet wide by 4-feet-6-inches tall. The paired Type B windows on the second floor each measure approximately 2-feet-6-inches wide by 4-feet-6-inches tall.



Figure 1-104. Interior of Type B window, viewed from Bedroom (204). Note water staining at the window sill. (AH, 08/01/2022)



Figure 1-105. Exterior of Type C window. (AH, 08/01/2022)



Figure 1-106. Interior of Type C window. (AH, 08/01/2022)

Type B windows on the second floor typically have a green roller shade mounted to the interior of the cased opening.

Type C

There is one instance of this double hung two-over-two window type, located in the Stair Hall (105). The bottom sash jamb has a lock and a metal curtain rod is attached to the top wood trim. A rolled green shade is also attached to the interior of the frame. Wood elements are painted on both exterior and interior sides.

Condition: *Poor*

Windows are generally in poor condition. Structural shifts have distorted the framed openings, preventing operation. In many cases, window sash are distorted such that triangular gaps have developed around the glazing. This is most severe at the Type C window in the Stair Hall (105) and was observed at all first floor windows.

Wood elements of second floor windows are consistently water-stained. This is most severe near the base of the window.



Figure 1-107. Type A window at the north wall of Living Room (101). Broken glazing with rough putty patch. (AH, 08/01/2022)



Figure 1-108. Cracked glazing at Men's Room (104), south wall. (AH, 08/01/2022)



Figure 1-109. Exterior of Type A window at Kitchen (102) north wall. Note the missing sill and bottom sash (AH, 08/01/2022)



Figure 1-110. Type A window at Hall (201), north wall, viewed from interior. (AH, 08/01/2022)

Glazing putty is roughly applied and is typically cracked from weathering. Instances where glazing or sash are damaged or missing are noted below.

Type A

- Living Room (101) east window on the north wall: Glazing in one of the bottom lites is broken and has been roughly patched with putty. A 1-inch diameter hole has been drilled in the base of the bottom sash to accommodate a gas line.
- Kitchen (102) east wall: A notch has been cut in the base of the bottom sash to accommodate a since-removed gas line.
- Kitchen (102) north wall: The sill and bottom sash are missing. This window is boarded from the interior with a sheet of plywood.



Figure 1-111. Type B window at Living Room (101) west wall, viewed from exterior. Note the missing bottom sash and cracked lite at top left. (AH, 08/01/2022)



Figure 1-112. Interior of north Type B window at Living Room (101), west wall. (AH, 08/01/2022)



Figure 1-113. Interior of Type B window in Bedroom (203), west wall. Note the plastic film covering window and bottom sash to the left of the window. (AH, 08/01/2022)

- Hall (201), north wall: The exterior screen is falling off the window. A hole has been drilled in the base of the bottom sash.

Type B

- Living Room (101) west wall, south window: The bottom sash is missing and one of the top lites is cracked.
- Living Room (101) west wall, north window: Glazing in the bottom sash is broken and plastic film is loosely taped over the opening.
- Living Room (101) south wall, immediately east of the front door: The bottom lite has a large crack that has been patched with silicone.
- Bedroom (203) west wall, south window: The bottom sash has been removed and is stored below the window. The interior of the window is concealed by a plastic film.
- Bedroom (204) south wall, east window: Glazing in the bottom sash is broken with shards deposited on the roof below. A plastic film conceals the interior face of the window.
- Bedroom (205) south wall window: One of the top lites is broken. The bottom sash is significantly deteriorated at the bottom left.
- Bedroom (205) east window: One lite in the top sash is cracked. Glazing in the bottom sash is broken and mostly missing.

Type C

One lite in the bottom sash is cracked. As noted above, this window is severely distorted by structural shifts. Triangular gaps have formed around each glazing pane and around each sash, precluding operation. Bio-growth is evident on the bottom sash and glazing near the sill.



Figure 1-114. Interior of paired Type B windows in Bedroom (204). (AH, 08/01/2022)



Figure 1-115. Interior of east Type B window in Bedroom (205). Note broken glazing in bottom sash. (AH, 08/01/2022)

Architecture - Exterior Doors

There are two types of exterior doors, both are painted wood with lites. As noted in the Architecture - Exterior Trim and Millwork section, all exterior door trim is painted.

Type A

There are two Type A doors, which are paired together and act as the Lodge's primary entrance. Both doors swing inward. Centrally located on the south façade, the overall opening measures approximately 60-inches wide by 84-inches tall. Each door is approximately 30-inches wide. A wood astragal attached to the west door adds an additional 1/2-inch of width. A built-up wood threshold spans the opening.

These wood stile and rail doors have 15 lites above a single raised panel. All wood elements are painted at the exterior and the interior.

Hardware at the exterior consists of a brass knob without an escutcheon and a newer keyed deadbolt, both on the east door. Small holes below the knob indicate previous hardware that has since been removed. A padlock-style latch is mounted to both doors. Interior hardware consists of a brass door knob and thumb latch on a rectangular escutcheon. Two ball hinges are visible at the interior face of each door.

Type B

Type B doors are of wood stile and rail construction with a square half-lite over three raised wood panels. Wood elements are painted on both exterior and interior sides. There are three instances of Type B doors:

- At the south wall of Men's Bath (104):
This is a left-hand, in-swing door, measuring 30-inches wide by 80-inches tall.



Figure 1-116. Exterior of Type A doors. (AH, 08/01/2022)



Figure 1-117. Interior of Type A doors. (AH, 08/01/2022)

- At the mid-level landing in Stair Hall (105): This is a right-hand, in-swing door, measuring 30-inches wide by 80-inches tall.
- At the east wall of Kitchen (102): This left-hand out-swing door has been removed from the framed opening and is stored in Bedroom (202). A sheet of plywood is used to cover the opening. The opening has been distorted by structural shifts and measures approximately 32-inches wide by 72-inches tall.

Exterior hardware typically consists of a brass door knob and keyed lock on a rectangular escutcheon. Interior hardware includes a brass door knob and thumb latch on a rectangular escutcheon. Each door has two ball hinges.

Condition: Fair and poor

Type A

The Type A doors are in fair condition. Glazing putty is mostly missing. Approximately 25% of paint is missing on both sides of each door. Operability is difficult. Only the east door is operable and closing it requires excessive force. The integral latch does not meet when closed, requiring use of the padlock-style latch to hold the door closed.



Figure 1-118. Opening for Type B door on east wall of Kitchen (102). (AH, 08/01/2022)



Figure 1-119. Exterior of Type B door at south wall of Men's Bath (104). (AH, 08/01/2022)



Figure 1-120. Interior of Type B door at south wall of Men's Bath (104). (AH, 08/01/2022)

Operability of this door is poor as the west leaf does not function and the east leaf does not fully close.

Type B

Type B doors are in fair and poor condition. All glazing appears to be intact.

The Type B door leading to the Men's Bath (104) is operable and its glazing is intact. Paint is scratched and worn. This door is in fair condition.

The Type B door at the Stair Hall (105) has been rendered inoperable by a series of modifications. The stairs which served this door (or were intended to be built here, as evidence of their completion has not been uncovered during investigations) do not exist. At the exterior, a wood 1x6 board has been nailed across the opening to prevent its use. Both door knobs have been removed. This door is in poor condition. Approximately 25% of paint is missing at the exterior and the interior face is coated with debris.

The Type B door at the Kitchen (102) is in poor condition. This door has been removed and is stored in Bedroom (202). The opening is distorted such that it is wider at the base. No threshold remains at this door. A 6x6 wood member has been placed where the threshold belongs and is partially submerged below grade.



Figure 1-121. Hardware and holes on exterior of Type A doors. (AH, 08/01/2022)



Figure 1-122. Exterior of Type B door at Stair Hall (105). (AH, 08/01/2022)



Figure 1-123. Interior of Type B door at Stair Hall (105). Note missing knob. (AH, 08/01/2022)

Architecture - Interior Doors

Interior door trim typically consists of 1x4 wood boards with butt joints. Door trim is painted on the first floor and unpainted on the second floor, where it is stained without varnish.

Type C

There is one instance of a Type C interior door, leading from the Living Room (101) into the Kitchen (102), which has right-hand, in-swing operation. This door is the same as the Exterior Type B doors with a half-life above three raised wood panels. Hardware consists of a brass knob and lock on a rectangular escutcheon on both sides. On the Living Room (101) side, a padlock-style latch has been added above the door knob. Two ball hinges are visible on the Kitchen (102) side of the door. This door measures 30-inches wide by 82-inches tall and is painted on both sides.

Type D

Six of these 5-panel stile and rail doors were historically located on the second floor, leading to bedrooms from the Hall (201). Two have been removed and relocated: one now resides in the Icehouse (see the Icehouse existing conditions section) and one connects the Stair Hall (105) to the Living Room (101) at the base of the stairs. Each Type D door has a brass knob and rectangular escutcheon and two ball hinges. These doors are stained and do not have an applied varnish or paint, except as noted below. Type D doors measure 32-inches wide by 80-inches tall.

There are five instances of Type D interior doors:

- Living Room (101) to Stair Hall (105): This is a right-hand swing door which has been removed from its historic location. Both faces of the door are painted. This door sits atop the bottom tread of the



Figure 1-124. The Type B door for the Kitchen (102) have been removed and is stored in Bedroom (202). (AH, 08/01/2022)



Figure 1-125. Type C door, viewed from Kitchen (102). (AH, 08/01/2022)

stairs without a threshold. Two wood members frame the opening on either side, however, there is no head above the door.

- Hall (201) to Bedroom (202): This is a left-hand swing door. On the Hall (201) face, "2" is scrawled in pencil. Behind the strike plate is an ad hoc shim, torn from a cardboard box of Ignacio Haya Gold Label cigars.
- Hall (201) to Bedroom (203): This is a right-hand swing door. On the Hall (201) face, "3" is scrawled with pencil in a cursive handwriting.
- Hall (201) to Bedroom (204): This is a right-hand swing door. No writing was observed on the face of the door.
- Hall (201) to Bedroom (205): This is a left-hand swing door. On the Hall (201) face, "5" is scrawled in pencil.

Where doors remain upstairs, debris and staining on the floors indicate threshold strips were previously located under each door but have since been removed.



Figure 1-126. Type D doors have ball joint hinges. (AH, 08/01/2022)



Figure 1-127. Type D door leading from Hall (201) to Bedroom (203). (AH, 08/01/2022)



Figure 1-128. Cigar box shim behind the Bedroom (202) Type D door strike plate. (AH, 08/01/2022)



Figure 1-129. Three of the Type D doors are numbered in pencil. (AH, 08/01/2022)

Condition: Fair

Type C

The Type C door is in poor condition. Structural shifts have distorted the framed opening, precluding operation of the door. A thin plastic sheet has been taped over the Living Room (101) side of the door. Glazing is intact, but paint is scratched and worn and coated with debris.

The threshold has fallen with the removal of the Kitchen (102) floor and is approximately 3-to 6-inches below the base of the door.

Type D

Type D doors are generally in good to fair condition, operation of all doors is limited.

- Living Room (101) to Stair Hall (105): This door is in fair condition. Two coats of roughly applied paint were observed. The door is operable, however the latch does not meet in the closed position as a result of structural shifts distorting the frame.
- Hall (201) to Bedroom (202): This door is in fair condition with some light water-staining near the base, however, temporary structural shoring through the framed opening prevents operation.



Figure 1-130. Debris and staining in door openings indicate thresholds previously spanned each door opening. (AH, 08/01/2022)



Figure 1-131. Type C door, viewed from Living Room (101). Note the distortion of the framed opening and the plastic sheet taped over the interior of the door. (AH, 08/01/2022)



Figure 1-132. Type D door leading to Stair Hall (105), viewed from Living Room (101). (AH, 08/01/2022)

- Hall (201) to Bedroom (203): This door is in poor condition. The door is lightly water-stained, most severely near the base of the door, and does not close. Due to structural settlement, the door binds against the floor when pulled closed.
- Hall (201) to Bedroom (204): This door is in fair condition and is lightly water-stained. Temporary structural shoring through the framed opening prevents operation.
- Hall (201) to Bedroom (205): This door is in fair condition and is lightly water-stained. Operation is difficult.



Figure 1-133. Type D door from Hall (201) to Bedroom (203). (AH, 08/01/2022)



Figure 1-134. Type D doors from Hall (201) to Bedroom (205). (AH, 08/01/2022)

Architecture - First Floor Interior Finishes

There are no applied finishes concealing structure at the walls or ceilings in first floor rooms.

See the Structural section for exposed systems and log walls. The exterior log wall assembly, as described in the Architecture - Exterior Walls section, consists of horsehair oakum, wood strip fill, and a cementitious lime daubing. This assembly is the same on the interior as the exterior, except that more of the horsehair oakum is visible and later newspaper oakum is also exposed.

Remnants of abandoned mechanical and electrical systems are exposed throughout the first floor.

Living Room (101)

As noted above, the log walls and second floor framing remain exposed, consistent with the historic condition. At the north wall, west of the chimney, a newer infill wall has been added. This wall, loosely clad in an unpainted sheet of 1/4-inch plywood, conceals the space beneath the stairs. Above the door to the Stair Hall (105), remnants of 1/8-inch fiberboard (also referred to by the proprietary name, Sackett Board), are torn and hanging.

The brick fireplace centered on the north wall consists of a dark gray-red brick deeply tooled mortar joints. The fireplace is approximately 7-feet wide, with a firebox measuring approximately 4-feet wide. Light yellow high-fire bricks line the firebox. A steel lintel is concealed at the firebox opening behind a wythe of bricks. Above this is an inset plaster relief depicting a Native American bison hunting scene.



Figure 1-135. Facing northeast in Living Room (101). (AH, 08/01/2022)



Figure 1-136. Facing northwest in Living Room (101). (AH, 08/01/2022)



Figure 1-137. Facing southeast in Living Room (101). (AH, 08/01/2022)

The mantle consists of a single brick course atop a brick dentil band. A raised brick hearth is wrapped in a steel skirt with cast bronze finials and decorative fasteners.

A barrel stove has been added south of the fireplace. The L-shaped stove pipe penetrates the south face of the chimney, where a 10-inch diameter hole has been cut. Above this, a structural beam is pocketed into the center of the chimney.

Stained and varnished 1x2 tongue and groove boards run east-west at the floor. These tight-grain boards are maple.



Figure 1-138. Facing southwest in Living Room (101). (AH, 08/01/2022)



Figure 1-139. Concealed steel lintel and light yellow high-fire bricks lining the firebox. (AH, 08/01/2022)



Figure 1-140. Inset plaster relief above the firebox opening. (AH, 08/01/2022)



Figure 1-141. A steel skirt wraps the raised brick hearth and cast bronze elements. (AH, 08/01/2022)



Figure 1-142. Barrel stove adjacent to fireplace. (AH, 08/01/2022)

Kitchen (102)

Roof framing in the Kitchen (102) remains exposed, as noted previously. Some members are painted near the perimeter of the room.

As noted above, the log walls remain exposed. This is likely consistent with the historic condition. Walls in this room have a white-wash finish coat. In the pantry area, remnants of cupboards and open shelving are mounted to the north and south walls. On the west side of the Kitchen (102), where log ends protrude at a salient corner, a few painted 1x6 tongue and groove wall boards remain. An ogee-profile chair-rail and trim caps the wallboards.

Floors remain only in the pantry area at the northwest corner of the room, where 1x6 tongue and groove boards run north-south. Remnants of plywood sheets sit among exposed grade in the Kitchen (102).

A cast-iron sink and an unpainted wood counter-top are mounted to the west wall. A portion of a tree stump sits beneath counter-top and appears to be supporting it.

A portion of the brick chimney penetrates the south wall near the ceiling. A metal flue cap indicates a connection for a since-removed stove.

Men's Bath (104)

The roof structure and log walls remain exposed in the Men's Bath (104), as noted above. The floor finish consists of painted 2x6 tongue and groove boards, running north-south.

A plywood counter atop 2x6 wood posts sits against the north wall. Two wood brackets for hanging equipment are mounted high on the north wall.



Figure 1-143. Facing west in Kitchen (102). (AH, 08/01/2022)



Figure 1-144. South wall in Kitchen (102). Note brick chimney protruding near the ceiling. (AH, 08/01/2022)



Figure 1-145. Facing northwest in Kitchen (102). (AH, 08/01/2022)

Stair Hall (105)

This is a double-height space enclosing the half-turn staircase. As noted above, ceiling structure and log walls are exposed. At the north wall, above the bottom run of stairs, the top of the wall is infilled with 1/8-inch fiberboard. The landing is finished in unpainted 2x6 tongue and groove flooring. Similar tongue and groove boards finish the floor beneath the stairs.

Eight steps on the bottom run and seven steps above make up the stair. Risers do not have consistent heights, but are typically about 8-inches tall. Treads consist of unpainted 2x12 boards, which are trimmed down for a shallower tread in some instances. At the nosing, treads extend 2-inches beyond the riser.

A 1x4 board, approximately 16-inches above stair nosings, acts as a guardrail. A 1x6 guard runs beneath the guardrail and the stairs. Both boards are unpainted and span each run without balusters, terminating at a vertical 2x6 on the landing. No other handrails exist.



Figure 1-146. Facing west in Men's Bath (104). (AH, 08/01/2022)



Figure 1-147. North wall of Stair Hall (105). (AH, 08/01/2022)



Figure 1-148. Stair step and landing in Stair Hall (105). (AH, 08/01/2022)



Figure 1-149. Facing south in Stair Hall (105) from landing. (AH, 08/01/2022)

Condition: *Fair and poor*

Finishes are in fair and poor condition throughout the first floor.

See the Structural section for an assessment of the structural log walls. Approximately 20% of daubing is missing, except in the Kitchen (102) where 90% of daubing is missing. Daubing which remains is heavily cracked.

Living Room (101)

Finishes in this room are in fair to poor condition.

Plywood and fiberboard on the north wall are warped, water-stained and in poor condition. Large gaps in the log wall and significant missing wood strip fill were observed on the north wall, east of the fireplace.

The brick masonry fireplace is in fair condition. Efflorescence due to moisture intrusion is present on all exposed faces. Mortar is roughly applied, with spots on the face of bricks. Mortar joints are overall in good condition. Where the structural beam is pocketed in the face of the chimney, the joint is roughly mortared.

The firebox is in poor condition. High-fire bricks in the firebox are charred with soot from use. Most joints in the firebox have lost mortar. Debris and brick particles have fallen into the firebox during previous chimney work.

Metal elements around the hearth are in fair to poor condition. The steel skirt is rusted and bronze elements are heavily tarnished.

The plaster relief above the firebox is darkened with soot. White paint, applied over the finish coat, is cracked and peeling.



Figure 1-150. Partially missing and loose daubing on the log walls. (AH, 08/01/2022)



Figure 1-151. North wall of Living Room (101). Note the large gaps in the log wall and missing wood strip fill. (AH, 08/01/2022)



Figure 1-152. Brick masonry fireplace in Living Room (101). Note efflorescence. (AH, 08/01/2022)

Tongue and groove floorboards are generally in fair condition, exhibiting a light cupping from moisture exposure. Although debris coats the floor, the varnished finish appears to be largely intact. As noted in the Structural section, significant settlement has caused planar distortions across the floor. At the base of the stairs, the wood flooring has split at a joint between boards and those connected to the stairs have risen to form a large gap.

Kitchen (102)

Finishes in the Kitchen (102) are largely missing and where remaining are in poor condition. Significant water intrusion through the north wall and roof has accelerated deterioration of remaining materials.

White wash remains on most walls, except the center of the north wall where deterioration is most significant. As noted in the Structural section, these logs are significantly deteriorated. During the time of investigations, the north wall was soft and wet to the touch and hosting fungi.

Tongue and groove boards on the west wall are rotted near the ground and coated with debris. Casework is worn, coated with debris, and exhibiting mildew and rot near the ground.

As noted previously, floors remain only in the northwest corner of the room. These boards are significantly deteriorated and in poor condition. Plywood laid directly atop grade in the Kitchen (102) is in an even more advanced state of deterioration. Moss and a large pooling water were observed on the ground in the Kitchen (102). During investigations, heavy rainfall resulted in standing water across much of the room.



Figure 1-153. Tongue and groove floorboards in Living Room (101). (AH, 08/01/2022)



Figure 1-154. Water intrusion has accelerated deterioration of the roof and walls in Kitchen (102). (AH, 08/01/2022)



Figure 1-155. Deterioration of the north wall of Kitchen (102) is significant. (AH, 08/01/2022)

Men's Bath (104)

This room is in fair condition. The floor finish is worn and coated with debris. Approximately 40% of paint on floorboards is missing. Two boards closest to the east wall are rotted.

Stair Hall (105)

As noted in the Structural section, the stairs have been subject to significant settlement and movement. Flooring beneath the stairs is largely concealed with debris, but where visible are significantly rotted. During heavy rainfall, water pooled in this area and loose boards floated in the water.

Although the stairs have moved, they appear to be in fair condition. Treads are coated with debris, but appear to be intact.

The fiberboard on the south wall is darkened and water-stained and in poor condition.



Figure 1-157. Deteriorated Kitchen floors have been removed except for a remnant in the northwest corner. (AH, 08/01/2022)



Figure 1-158. Flooring in the Men's Bath (104) is worn, covered with debris, and missing paint. (AH, 08/01/2022)



Figure 1-156. Extant floors in the Kitchen (102) are significantly deteriorated. Casework is rotted at the bottom. (AH, 08/01/2022)



Figure 1-159. Flooring beneath the stairs is concealed with debris. (AH, 08/01/2022)

Architecture - Second Floor Interior Finishes

Ceilings are typically missing throughout the second floor, allowing the roof structure to be visible above. Remnants indicate that ceilings were unpainted 1/8-inch fiberboard with painted 1x2 battens. This was applied to flat and sloped ceilings.

Exterior log walls remain exposed without an applied finish, as seen in the first floor rooms. Interior partition walls are wood-framed and clad in a 1/8-inch fiberboard and battens, which appears to be the historic finish. The base trim consists of a stained 1x5 wallbase with a square profile which does not appear to have an applied varnish.

The floor finish consists of 1x3 tongue and groove wood boards, unvarnished and laid diagonally. This is consistent in all second floor rooms.

As noted in the Structural section, temporary structural shoring has been erected throughout the second floor.

Hall (201)

The ceiling finish has been removed in Hall (201), save for a few sheets of fiberboard which rest atop the ceiling framing on the west end of the room. Wall base is missing on the west wall, but remains at the south.

On the north wall, adjacent to the central dormer, the brick chimney runs exposed from floor to ceiling. The bottom half of the chimney has dark gray-red brick and top half has a lighter red brick. The transition is approximately 39-inches above the finish floor. This may indicate two campaigns of construction, such as a repair of the top half, or simply two sources of brick during initial construction. A capped flue penetration near the roof plane indicates a since-removed



Figure 1-160. Exposed ceiling structure in Hall (201). (AH, 08/01/2022)



Figure 1-161. Diagonal board floors, facing east in Hall (201). (AH, 08/01/2022)

stove. The location of this stove is indicated by a thin sheet of metal tacked to the floor in front of the chimney.

Bedroom (202)

Where the ceiling is flat, on the south side of the room, the fiberboard finish remains. There is no finish applied to the underside of the sloped roof structure on the north half of the room. However, nail patterning indicates that a finish previously existed here.

A cast iron corner sink is mounted to the walls in the southwest corner. Although a closet is indicated on the historic plans on the north side of the room, this does not appear to have been built. A wood shelf is mounted to the west wall.

Bedroom (203)

A strip of the fiberboard ceiling remains only at the north end of the room. At the dormer, fiberboard remains only on the sidewalls.

No wall base exists in this room. A wall-mounted cast-iron sink occupies the northwest corner of the room.

Bedroom (204)

The fiberboard ceiling finish remains only in the northwest corner of the room and on the west half of the dormer. No wall base exists in this room. A cast-iron corner sink occupies the northwest corner of the room.

Bedroom (205)

The fiberboard finish no longer remains at the ceiling and is extant only on the sidewalls of the dormer. The 1x5 wall base remains at the west wall and at the west half of the north wall, only. A cast-iron corner sink occupies the northeast corner of the room.



Figure 1-162. Facing northeast in Hall (201). (AH, 08/01/2022)



Figure 1-163. Facing west in Hall (201). (AH, 08/01/2022)



Figure 1-164. Facing southwest in Bedroom (202). (AH, 08/01/2022)

Condition: *Fair and poor*

Finishes in the second floor rooms are overall in poor condition. Fiberboard is mostly missing at the ceiling (approximately 15% remains). All remaining fiberboard on the walls and ceiling is warped, darkened from moisture damage, and in poor condition.

Wall base is in fair condition. The unvarnished wood is lightly water-stained throughout. Approximately 65% of wall base remains.

In Bedroom (203) significant debris from mud-dauber insects was found. Several of the insects' mud nests were observed on exposed roof framing near the west gable.



Figure 1-166. Facing east in Bedroom (203). (AH, 08/01/2022)



Figure 1-167. Facing west in Bedroom (204). (AH, 08/01/2022)



Figure 1-165. Facing west in Bedroom (203). (AH, 08/01/2022)



Figure 1-168. Facing southwest in Bedroom (204). (AH, 08/01/2022)

The floors are overall in fair condition with areas of poor condition. Near the chimney on the north side of Hall (201), caution tape has been strung up to deter walking on the significantly deteriorated boards in this area. Water intrusion has left the boards soft and rotted. Similarly, boards near the window on the south end of Bedroom (204) are rotted from water intrusion. Elsewhere, the floor boards are coated with debris and worn, but in fair condition.



Figure 1-170. Dormer in Bedroom (205). (AH, 08/01/2022)



Figure 1-171. Remaining fiberboard ceiling finishes are warped and water damaged. (AH, 08/01/2022)



Figure 1-169. Cast-iron sink in corner of Bedroom (204). Note darkened and water-stained adjacent wall finishes. (AH, 08/01/2022)



Figure 1-172. Water intrusion has significantly damaged the floor boards in Hall (201). (AH, 08/01/2022)

Architecture - Code and Life Safety

As a National Park Service building, any proposed rehabilitation is governed by the 2021 International Building Code (IBC) and its related family of codes.

Existing Building Code

The IEBC, International Existing Building Code, applies to the repair, alteration, change of occupancy, addition to and relocation of existing buildings. Within this code, work is categorized into Alteration Levels 1, 2, and 3 depending on the amount of work anticipated within the building. Additional categories include Change of Occupancy, Additions, Historic Buildings and Relocated Buildings. Requirements of the code are limited to work areas of the project for Levels 1-3. This means that Alteration projects are not required to upgrade the entire building per current code, just elements that are within the project work area dependent on the nature of alteration work. Change of Use projects trigger more thorough upgrades and the building must be brought up to current code requirements for the new use. Three alternatives for future use are proposed in the treatment section. Two of these alternatives propose providing visitor access to the Living Room (101), which would trigger a change of use. All alternatives recommend providing visitor access to the exterior porch which wraps the south half of the building.

Construction Type

Buildings and structures are classified as one of the five construction types in the IBC. The construction type defines the fire resistance rating of the building structure, exterior walls and interior walls.

The Lodge is construction type VB non-sprinklered. Per section 602.5 “Type V construction is that type of construction in

which the structural elements, exterior walls and interior walls are any material permitted by this code.” Furthermore, type VB includes all type V construction which does not contain fire-resistance rated assemblies.

Existing Area

Living Room (101)	1,015 nsf
Kitchen (102)	235 nsf
Men’s Bath (104)	90 nsf
Hall (201)	450 nsf
Bedroom (202)	150 nsf
Bedroom (203)	195 nsf
Bedroom (204)	185 nsf
Bedroom (205)	180 nsf
Total:	2,685 nsf (3,220 gsf)

gsf - gross square feet
nsf - net square feet

Use and Occupancy Classification

The Lodge is currently unoccupied with occasional storage use in select rooms. However, no formal change of use has been undertaken. As such, the Lodge must be evaluated per its historic use, which is classified as Residential Group R-3.

Per IBC section 310.4.2, Residential Group R-3 includes “owner-occupied lodging houses with five or fewer guest rooms and 10 or fewer total occupants.”

Building Height

Table 504.3 indicates allowable height in feet based on construction type and occupancy. Per that table, a Type VB building of Group R-3 occupancy can be up to 40-feet tall without being sprinklered. The Lodge is approximately 23-feet tall.

Table 504.4 provides the allowable height in stories based on the same information. The height of the Lodge is limited to three stories.

Occupant Load

Occupant load is dependent on the function of the space. The IBC does not treat restrooms as occupied spaces, but as ancillary to other functions. The Residential function, with an occupant load of 200 gross, is applied to the Lodge.

Occupant load factor by room is provided below, per IBC table 1004.5:

Living Room (101)	5
Kitchen (102)	1.1
Men's Bath (104)	0
Hall (201)	2.2
Bedroom (202)	0.7
Bedroom (203)	0.9
Bedroom (204)	0.9
<u>Bedroom (205)</u>	<u>0.9</u>
Total:	11.7 persons

Means of Egress

Occupant load determines the required size of egress pathway along with the number of exits. Per IEBC section 804.5.1, two egress doorways must serve the area impacted by work if the occupant load exceeds 50 or the travel distance exceeds 75-feet.

The IEBC provides an exception for historic buildings, as outlined in section 1203.3: *Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be approved, provided that, in the opinion of the code official, there is sufficient width and height for a person to pass through the opening or traverse the means of egress.*

The Men's Bath (104) is not connected internally to the other interior spaces and has no occupant load. This room is served by a single in-swing door with 28-inch clear width. Level change at the door varies up to approximately 2-inches. The Men's Bath (104)

is not served by a code compliant means of egress.

Two doors provide entry to the rest of the building. Neither of these doors are code compliant as an exit.

Centered on the south façade is the main entry: a set of double-doors which lead into the Living Room (101) from the covered exterior porch. Although the interior finish floor is approximately 6-1/2-inches above the porch deck, a built-up wood threshold brings the level-change at this door to approximately 9-inches. Both leaves of this double-door are intended to swing in-ward to provide a 60-inch clear width. However, as noted in the Architecture - Doors section, one leaf in this double door is inoperable due to structural settlement. When the operable leaf is open, clear width is approximately 28-inches. The door does not latch when closed, requiring a pin to hold it in the closed position from the exterior.

On the east wall of the Kitchen wing is the second entry to the first floor. This is a cased door opening which once contained an out-swing door. When winterized or unoccupied, a sheet of plywood is mounted over the door opening. The cased opening measures approximately 32-inches in width, but varies due to structural settlement. Level change at the threshold varies. At the interior, grade is exposed and is roughly 8-inches lower than exterior grade. A wood member spans the threshold, bringing the level change to approximately 11-inches.

Fire Suppression

NPS Director's Order 58 section 9.1.8 requires consideration for fire suppression of structures to "prevent loss of human life and minimize damage to historic property

resources.”

Per IBC section 310.4.2, lodging houses classified as R-3 must be equipped with an automatic sprinkler system.

Other Code Items

Section 1011 of the IBC provides requirements for stairs “serving occupied portions of a building.” Stairs serving the second floor of the Lodge do not comply with this section. Riser height typically exceeds the 7-inch maximum at approximately 7-5/8-inches. Tread depth and riser height does not comply with 1011.5.4 Dimensional Uniformity, as they vary greatly with some risers as short as 3-inches. Nosings typically extend 2-inches beyond the face of risers, exceeding the 1-1/4-inch maximum. This, however, also varies.

The landing depth perpendicular to the path of travel varies from 28-to 43-inches, but does not meet the required 48-inch depth per section 1011.6.

Per section 1011.11, stairways are required to be served by handrails on each side. The stairs lack handrails. Two boards act as guards. These, however, are located 16-inches above the nosings, significantly shy of the required 42-inches. Openings in the guard exceed the minimum 4-inches as outlined in section 1015.4.

Condition: *Poor*

Prior to undertaking any alterations, a full code study should be undertaken to address impacts and code requirements triggered by the project and its intended use.

Existing Building Code

If a full building rehabilitation and/or change of use is undertaken, non-

compliant conditions will be required to be addressed, or exceptions approved by the region’s authority having jurisdiction. However, IEBC allowances for historic buildings allow provisions in the context of the historic character of the building. This code is “founded on broad-based principles intended to encourage the use and reuse of existing buildings while requiring reasonable upgrades and improvements.” This also limits extents of required upgrades to the work area(s).

Construction Type

Since there are no restrictions within the VB construction type, the Lodge is in compliance.

Use and Occupancy Classification

Based on plans for future use, a change in occupancy is anticipated. This will require a full code study. Recommend conducting this full code study following programming efforts as part of a separate future design phase.

Building Height

The building is within the three-story and 40-foot tall restrictions and therefore is in compliance.

Means of Egress

The means of egress is in poor condition. There is no code-compliant means of egress from any space in the building.

Per the IEBC, one compliant means of egress must serve each space. The Men’s Bath (104) must be served by an exit, as must the first floor.

Fire Suppression

There is no fire suppression system currently installed in the building.

Other Code Items

The stairs serving the second floor of the Lodge are not compliant with IBC section 1011. Additionally, no handrails are provided and guards are insufficient.

IEBC section 1203.3 for egress paths in historic buildings, cited previously, may provide a route through which an exception is granted for some non-compliant stair elements. However, if the stairs are removed and reconstructed, they will need to be constructed to meet the IBC.

Architecture - Accessibility

Per the Architectural Barriers Act (ABA), it is required that buildings provide one access point to the building entrance, access routes from the entrance to public spaces on the level of the main entry and an accessible restroom.

Currently, the main entry on the south façade is accessed by the covered exterior porch. No steps or ramp are provided to the porch level, which is located 3-to 12-inches above grade. Porch decking boards are uneven and gapped.

At the main entry leading to the Living Room (101), a level change of approximately 9-inches precludes accessible entry. Additionally, clear width of the door opening is 27-inches. The door knob has a twist-operation and is not accessible.

The door to the Men's Bath (101) is also accessed via the exterior porch. This door has a 28-inch clear width and varying level change which is as great as 2-inches. Door hardware is also twist-operation.

The door to the Kitchen (102) consists of a cased opening with a plywood panel, screwed to the frame. When open, the frame

allows 28-inches of clear width. Level change from exterior grade to exposed grade at the exterior is uneven. A wood member spanning the threshold creates a barrier, with a total level change of approximately 11-inches.

Condition: *Poor*

The Lodge is not ABA-compliant. No accessible route to the porch or entries is provided. Entries are not ABA-compliant, and once inside, floors are uneven.

West Bay Club Lodge

Structural

Structural - General System Description

The West Bay Club is a two-story wood structure constructed in 1913. The structure has no traditional foundation, rather it is constructed of stacked log walls supported by logs directly on the earth and some randomly placed stacks of lumber and concrete blocks. The roof is framed with dimensional lumber while the first and second floors are framed with logs. Please note that all dimensional lumber member sizes noted thus (2x6) indicate that the member is of nominal dimensions while if noted thus (2" x 6") the actual dimensions are listed. See the descriptions below for further information on each structural system.

The structural investigation included as part of this HSR started with a review of all background documents. The on-site structural investigation included two-and-a-half days on site with one engineer. Once on site, the building structure was visually observed to verify the construction of the building, identify high level conditions of the structural elements, and identify areas in need of more in-depth investigation. The areas in need of additional investigation were then looked at closer with the help of non-destructive evaluation tools such as a tape measure, an awl (for finding wood deterioration), a camera, and flashlights. Since wood deterioration was identified as a major issue around the building, additional measures were taken to determine the extent of deterioration of the wood structural elements throughout the building by up-close visual inspection and sounding with a mallet as this technique is quick and allowed the engineer to assess much of the accessible structure in the short amount of time on site. The extents of the wood deterioration



Figure 1-173. Southeast corner of the West Bay Club (CBB, 08/01/2022)



Figure 1-174. North side of the West Bay Club (CBB, 08/01/2022)



Figure 1-175. Floor joist supported on stack of lumber (CBB, 08/01/2022)

were further confirmed in several discreet locations by utilizing a specialized tool called a resistograph or a resistance drill that can determine the depth and extents of concealed deterioration in a wood member. This tool gently pushes the wood fibers aside as it enters the member and if it encounters sound wood, the tool will pick up and record a resistance using an integrated stylus on a strip of wax paper. If the bit hits deteriorated material, the resistance significantly drops and is recorded with the integrated stylus. All of the findings from the visual inspection through the resistograph readings were documented in a set of field notes for the preliminary structural analysis and report writing that occurred once back in the office.

Please note that the level of structural investigation performed was appropriate in order to provide a description, condition, and general recommendation for each structural element of the building for a Historic Structures Report. However, another site visit by a structural engineer to gather additional information to perform in-depth structural analysis of the structural systems may be necessary prior to the Construction Document phase of this project.

Structural - Foundation

The perimeter walls of the structure are founded on sill logs bearing directly on the earth. It is unknown if the logs originally spanned between foundation elements such as boulders, however, the original drawings indicate that the bottom logs were simply buried in the earth. Along the south portion of the west elevation where the sill log is no longer extant, some joist ends are founded on a myriad of elements such as concrete pads and stacks of lumber.

The base of the interior log column could not



Figure 1-176. Concrete foundation under the chimney (CBB, 08/01/2022)



Figure 1-177. Crawlspace under the first floor between two joists (CBB, 08/01/2022)

be accessed at the time of the site visit, but it is assumed that it either is founded on a boulder that is now buried in soil or that it bears directly on the earth.

The chimney is founded on a concrete mass with a footprint matching that of the base of the chimney at 2'-10 ½" by 7'-0 ½". The foundation extends approximately 16" above the current crawlspace grade level and it is unknown how far below grade the footing extends. It is unknown if the footing is reinforced.

Condition: *Poor*

The foundation of the West Bay Club is in poor condition. Since the perimeter log sills and other wood elements such as some joists, dropped beams, and columns are in direct contact with earth, the soil conducts moisture to the wood causing wood decay fungi to flourish and deteriorate the wood structural elements. This deterioration mechanism is exacerbated by poor site and roof drainage details which cause water to run through and around the crawlspace of the building. Because of this flow of water, the grade level of the crawlspace has built up over time. Now the dropped log beams and the joists in some areas are in direct contact with the soil.

As evidenced by the depression in the first floor around the base of the center column supporting the second floor girder, there is either no foundation element under the column or it has deteriorated over time. Although not visible at the time of the site visit, it is likely that the base of the column is in direct contact with the soil floor of the crawlspace and is deteriorating due to decay fungi infestation.

The chimney foundation is settling differentially with more settlement towards

the north and less to the south.

Structural - Floor Framing

The first floor framing in the Living Room (101) consists of log joists spanning in the east-west direction between sill logs at the exterior of the building and two dropped log beams at the interior of the structure located approximately at third points of the building length. The larger ends of the logs cut for the joists were laid on the west side of the building (12" to 16" in diameter) and taper to 6" to 8" on the east side of the building. The joists are notched to bear on the sill logs and dropped log beams, and the spacing between joists varies from 3'-6" to 4'-6". The sizes and exact locations of the dropped log beams are unknown, but they currently bear directly on the soil of the crawlspace. The joists are topped with 1 ½" x 5 ½" horizontal tongue and groove decking and a layer of hardwood finish floor. Per microscopic analysis of a small sample taken from a first floor joist, the species of tree used to construct the floor framing is Eastern Spruce.

The first floor framing in the Men's Bath (104) consists of 6" to 7" diameter log joists spanning east-west between remnants of an exterior sill log and the interior log wall. It is assumed that the first floor of the Women's Bath (103) (now removed) was framed in a similar fashion.

The majority of the first floor framing in the Kitchen (102) is no longer in place. In the small area of floor remaining north of the Stair Hall (105), the floor framing consists of 9 ½" diameter log joists spanning east-west with 1 ½" x 5 ½" tongue and groove sheathing. Documentation from a 1984 site visit by Al O'Bright indicates that at the time, the remainder of the floor framing in the Kitchen consisted of log sleeper joists with a

plywood floor.

The porch floor framing consists of 2" deep by variable width decking that spans between the exterior wall of the building, a timber beam at the perimeter of the porch, and a log beam at the midspan. Along the south and east elevations, the porch perimeter beam is 6" x 6" and spans across stacked supports that don't align with the columns above. The log beam at the decking midspan is 7 1/2" in diameter. Along the west elevation, the porch floor framing was re-built sometime after the original construction of the building; it currently consists of a 4" x 4" perimeter beam supported by built up lumber at the locations of the porch columns above. There is a 7" diameter log beam supported by randomly spaced chunks of logs at the deck midspan.

The second floor framing consists of log joists spanning in the east-west direction between the exterior stacked log walls and a dropped log girder at the midspan of the floor. The joists are spliced at the girder and are spaced at 3'-6" to 4'-2". The diameters of the log joists taper with the larger ends located to the east and west, and the smaller ends at the center. The girder is composed of two adjacent logs which both taper from 12" to 7" in diameter from north to south. The girder pockets into the brick masonry chimney to the north and the log wall to the south, where it bears above a door opening and is connected to the wall with a side anchor bolt. The girder is supported at its midspan by a log column, notched on two sides to support both logs. The two girder logs are through-bolted together in three locations: near both ends and at the column. Per microscopic analysis of a small sample taken from a second floor joist, the species of tree used to construct the floor framing is Eastern Hemlock.



Figure 1-178. Interior of the Living Room (101). Note the second floor framing elements (CBB, 08/01/2022)



Figure 1-179. Deteriorating floor joist visible from the crawlspace (CBB, 08/01/2022)



Figure 1-180. Active carpenter ant activity at the southwest corner of the lumber supporting the porch (CBB, 08/01/2022)

Condition: *Poor*

The first floor framing of the of building is in poor condition. Where visible, the dropped beams are in direct contact with the soil floor of the crawlspace and are deteriorating due to decay fungi. The crawlspace grade has risen high enough in some locations that even some of the joist bottoms are in direct contact with soil. This close proximity to the soil and excess amounts of moisture allowed under the building (as evidenced by the excessive amounts of biogrowth and pools of standing water in the visible areas of the crawlspace) indicate that a majority of the floor framing is likely deteriorated. This issue has likely been present for many decades as the replacement floor framing of the Kitchen (102) described in the 1984 Al O'Bright field notes has already completely deteriorated.

Additionally, the first floor framing does not have the live load capacity to support an increased live-load associated with the suggested future uses of the building. See the Structural Applicable Codes & Load Requirements section for further discussion.

The porch floor is in poor condition. Similar to the first floor of the building, many of the beams are either in direct contact with soil or are bearing on lumber supports that are in direct contact with soil. Not only are members deteriorating due to decay fungi infestation, but there is also evidence of some carpenter ant damage to the framing and supports. This infestation is active at the southwest corner of the porch.

The second floor of the building is in poor condition. Although there are no signs of widespread deterioration or major distress, it does not have the Code required load capacity to support many functions. See the Structural Applicable Codes and Load Requirements

section for further discussion. Under the north dormer where water is entering the structure through poor roof drainage details, some of the flooring and subflooring is deteriorating.

Structural - Roof & Ceiling Framing

The two-story core of the structure has a gable roof with an east-west running ridge that slopes on a 7:12 pitch. It is framed with 2" x 6" rafters spaced at 24" on center. 2" x 4" collar ties are side lapped and connected to each rafter pair with (3) face nails. The collar ties are approximately 5'-9 ½" below the ridge elevation. Cripple walls running in the east-west direction support the rafters at the collar tie connection. These cripple walls were recently added and are not original. Shoring posts and beams were observed on the first floor that align with the cripple wall locations above. There is a 2" x 8" ridge board that is spliced in the middle of the length of the ridge; the rafters are fastened to the ridge board with two toe nails on each side (4 total). At the gable ends, there are 2" x 4" diagonal kickers from the ridge down to the fourth collar ties inboard of the gable walls. This primary roof is topped with 7/8" x 8" tongue and groove sheathing. Per microscopic analysis of a small sample taken from a rafter, the species of tree used to construct the roof framing is Eastern white pine.

On the south elevation of the roof, there are three shed dormers with a 1:12 pitch framed with 2" x 4" rafters and a 2" x 6" header. On the north elevation, one shed dormer and the shed roof of the Stair Hall (105) frame into the main roof. The north dormer roof was recently reframed with new 2x rafters and sheathing framing to a single 2x header. The Stair Hall roof has a 2 ½:12 pitch and consists of 1 ½" x 5 ¾" rafters spaced at approximately 20" on center. The rafters are



Figure 1-181. Main roof framing. Note the rafters and the collar ties (CBB, 08/01/2022)



Figure 1-183. Shoring on the first floor supporting the cripple wall on the second floor (CBB, 08/01/2022)



Figure 1-182. Cripple wall installed at the joint of the collar tie and the rafters to strengthen the roof framing (CBB, 08/01/2022)



Figure 1-184. Gable end wall diagonals (CBB, 08/01/2022)



Figure 1-185. Typical dormer framing (CBB, 08/01/2022)

supported by a 1 ½" x 5 ¾" header at the main gable roof and by the exterior log wall of the Stair Hall.

The single story Kitchen (102) at the north of the building has a shed roof with a 2 ½:12 pitch. It is framed with 2" x 6 ¼" rafters spaced at 3'-0" to 3'-4" on center. The rafters are supported on the north kitchen exterior wall and bear on the north log wall of the main structure; there is no ledger connection.

The roof of the single story Men's Bath (104) is topped with a shed roof at the same elevation as the porch roof. 4 ½" to 5 ½" diameter log rafters span from the east log wall of the Living Room (101) to the exterior east wall of the Men's Bath.

The wrap around porch has a shed roof with a 3 ½:12 pitch. The framing consists of 3" to 4" diameter log rafters spaced at 4'-0". At the east and west porches, there are random 2x rafters in between some of the log rafters that were likely placed after the original construction date. The porch rafters span between a 2" x 4" ledger nailed to the exterior stacked log wall of the house and a 4" to 5" diameter log beam at the perimeter of the porch. Where the shed roofs intersect at the porch corners, there is a 4" to 5" diameter hip rafter. The rafters extend 2'-0" beyond the perimeter log beam. 5" to 7" diameter log posts, spaced at approximately 8'-0", support the perimeter porch beam. The log posts bear on the porch decking. Wood posts supporting the hip rafters at their midspan have been added since the original construction. The porch roof is sheathed with 1 ¼" x 5 ½" to 7 ½" horizontal decking.

There is no ceiling on the first floor, rather the second floor joists are exposed. Although there is not a ceiling currently installed on the



Figure 1-186. Men's Bath (104) roof framing (CBB, 08/01/2022)



Figure 1-187. Deteriorating roof framing in the Kitchen (102) (CBB, 08/01/2022)

second floor, there is evidence that the ceiling finishes were fastened to the underside of the roof rafters and collar ties.

Condition: *Poor*

The roofs of the West Bay Club are in poor structural condition. The main roof framing does not have the calculated capacity to support the snow load associated with the site. Since there are no elements spanning between the rafter pairs at the top of wall level such as rafter ties, the rafter ends have thrust outwards, rolling the top of the second floor walls slightly outwards. This issue has been temporarily addressed by the installation of the cripple walls where the collar ties meet the rafters, however, this solution renders portions of the second floor unusable, the shoring posts and beams on the first floor are unsightly, and the shoring posts on the first floor bear on the first flooring and framing which is already inadequate (see the Floor Framing section).

There are several other minor issues at the main roof. Some water staining on the rafters indicates previous leaks in the roofing that appear to have been ameliorated. The northeast gable end kicker is missing. One rafter (the 6th rafter from the east wall on the south side of the gable roof) has split.

The dormers on the main roof are also in poor condition because they too do not have the calculated capacity to support the snow load associated with the site. This is exacerbated by the flat orientation of some of the dormer rafters and the inadequate or missing support headers between the main roof rafters. The north dormer roof framing recently had to be replaced likely because of water intrusion through a bad drainage detail between the adjacent chimney and the roof.



Figure 1-188. Chimney on the north wall of the Living Room (101) (CBB, 08/01/2022)



Figure 1-189. Deteriorating wall framing in the Kitchen (102) (CBB, 08/01/2022)

The roof of the Men's Bath (104) is in poor condition. The rafters are not adequate to support the snow load associated with the site and the northernmost rafter is deteriorated due to decay fungi infestation.

The Kitchen (102) roof is in poor condition. Due to poor roof drainage details above, excess water is focused on this roof and has caused major damage. Most of the roof framing (both rafters and sheathing) is deteriorated due to decay fungi infestation through active leaks in the roof. Also, the framing does not have adequate capacity to support the snow load associated with the site.

The porch roof is in poor condition. The framing does not have adequate capacity to support the snow load associated with the site. The ledger connection of the porch roof to the main building wall is inadequate. Because of poor roof drainage details, the ends of some of the rafters adjacent to the main building are deteriorating due to decay fungi infestation. Also, the porch roof framing that used to bear on the walls of the Women's Bath (105) that was previously removed, was left unsupported. A shoring post has been added since to help the issue, but it is not adequate for a permanent solution.

Structural - Wall Framing

The walls of the building are of stacked round log construction with interlocking, notched corners, wood strip fill and daubing. Per microscopic analysis of small samples taken from different wall logs, the species of tree used to construct the walls is Eastern Hemlock. Around the first floor, the logs are generally between 10" and 12" in diameter. Around the second floor, the logs are generally between 6" and 8" in diameter. At the corners, the logs are saddle-notched



Figure 1-190. Separation of north wall of the Living Room (101) and chimney (CBB, 08/01/2022)



Figure 1-191. South face of the chimney. Note the bearing of the second floor beam, the opening for the barrel stove pipe, and the fireplace opening (CBB, 08/01/2022)



Figure 1-192. Rust jacking of the steel lintel at the fireplace opening (CBB, 08/01/2022)

together.

The chimney is constructed of brick masonry and has a footprint of 2'-10 ½" by 7'-0 ½" at the base. Above the fireplace, the chimney steps down in footprint twice. A steel lintel supports the fireplace opening on the first floor.

Condition: *Poor to Good*

The log walls are in good condition throughout a majority of the structure, however there are particular locations in poor condition. Several primary areas are affected by deterioration caused by decay fungi infestation. These include the base of the entire perimeter of the building, the north wall of the Living Room (101) adjacent to the chimney (35%±) including second floor wall under the north dormer, most of the Kitchen (102) walls (70%±), the bases of the Stair Hall (105) walls (25%±), the northeast corner of the Men's Bath (104) (65%±), and some of the crowns or log ends where not protected by an overhanging roof (50%±). Please note that these extents are approximate and extrapolated from the results of on-site non-destructive evaluation techniques described in the Structural - General System Description. It is anticipated that there are additional, small, isolated locations of deterioration that were not detected during the site visit, especially at the second floor walls where not accessible from the exterior. This deterioration is caused by poor site and roof drainage around the building.

See the elevation views of the building overlaid with the areas of anticipated deterioration in the Appendix.

Another mechanism causing harm to areas of the log walls are some sort of wood-deteriorating insect, likely carpenter ants

or a beetle (per previous documentation). Evidence of the infestation in the form of frass or wood shavings on lower logs or the floor below, is visible in the north and east walls of the Stair Hall (105) (5%± of the walls) and on the north wall of the Living Room (101) (5%± of the wall).

The chimney is in fair condition. Although it is generally showing no widespread signs of distress, the steel lintel over the fireplace opening is inadequate and is corroding. It is likely inadequately sized to support the chimney above the fireplace opening because there is an arched-shaped crack over the opening indicating that the chimney has self-created a load path. Also, the steel lintel is not galvanized or treated in a way to prevent corrosion so overtime, it has started to corrode. As the metal corrodes, it expands via a mechanism called rust jacking. The rust jacking is causing the mortar joints and brick units to crack, especially at the ends of the fireplace opening. There are also some cracks emanating from the opening in the chimney for the barrel stove pipe and the second floor beam pocket.

Structural - Lateral Force Resisting System

The lateral force-resisting system (LFRS) of the structure consists primarily of the log perimeter walls which are stiffened by the wood-framed first and second floor diaphragms along with the roof diaphragm. The integral notched corners of the perimeter log walls also provide lateral resistance.

Condition: *Good*

The lateral force-resisting system is in good condition showing no signs of distress caused by lateral forces. There is no indication that the system may have been overloaded during a previous lateral event.

Although a Code-required LFRS upgrade has not been triggered by a change in Risk Category (see further discussion in the Applicable Codes & Load Requirements below), it is best practice to upgrade certain elements of the system to increase the system's resistance to major lateral loads given the change in our understanding of how buildings behave during a lateral event since the original construction date of the building. For example, several Code-required connections between structural elements, such as anchors from the roof framing to the wall framing or the wall framing to the foundation, were not found or could not be verified during the limited scope site visit for this report.

Structural - Applicable Codes & Load Requirements

The code references for this assessment include the 2021 International Building Code (IBC), the 2021 International Existing Building Code (IEBC), and ASCE 7-16 Minimum Design Loads for Buildings and Other Structures. The specific load requirements for the West Bay Club are based on the type of occupancy and geographical location of the building.

Before being abandoned, the West Bay Club primarily served a residential function. In the future, the first floor may be utilized for public access while the second floor will be closed off to access. All of these uses classify the structure as Risk Category II for standard occupancy, therefore there is no change in Risk Category associated with the change in use.

The required floor live load capacities per ASCE 7-16 for the building uses are as follows: residential – 40 pounds per square foot (psf) and public assembly – 100 psf.

The ground snow load required for the site per ASCE 7-16 is 60 psf. This ground snow load translates to a flat roof snow load on the structure of 51 psf per ASCE 7-16 when wind exposure (1.0), thermal conditions (1.2), and importance based on Risk Category (1.0) are considered.

The ultimate design wind speed at the West Bay Club per ASCE 7-16 Figure 26.5-1B is 105 miles per hour (mph). The equivalent nominal wind speed is 82 mph.

The West Bay Club falls within Seismic Design Category A per the United States Geological Survey (USGS). The Seismic Design Category is a classification given to a structure that is based on the Risk Category of the building and the severity of the design earthquake ground motion at the site. The earthquake ground motion properties of the site are cataloged by the USGS. The two mapped acceleration parameters for the site per the USGS and confirmed by Yeh and Associates (the geotechnical engineer) are short period ($S_s = 0.041$ g) and 1 second period ($S_1 = 0.016$ g). Without site specific soil testing, site soil conditions are assumed to comply with Site Class D resulting in a Seismic Design Category for the structure of A. Since the flat roof snow load is greater than 30 psf, 20% of the snow load must be added into the seismic weight of the structure. Please note that these are low values which indicate that the probability of seismic activity is low. Wind forces will likely govern in an in-depth lateral analysis of the building to be included in a future design phase.

Condition: Poor to Fair

The first floor framing, second floor framing, the roof framing, the porch roof framing are all undersized for the applied live and snow loads.

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West Bay Club Lodge

Mechanical

Mechanical - General System Description

There are no active mechanical systems within the building. There are forms of heating systems within the building, including hookups for a since removed boiler in the Kitchen (102) used to heat water.

Mechanical - Heating

The building has multiple previous sources of heat including a rustic barrel stove and fireplace. Installed in the 1980s, the barrel stove replaced the original coal-fired stove. The barrel stove vent is ducted directly into the fireplace chimney. Likewise, a previous flue penetration exists in the chimney of the second floor, indicating a previous stove.

Condition: N/A

Due to the inoperability of system and/or missing components and deteriorated and capped condition of chimney.

Mechanical - Cooling

The building has no mechanical cooling.

Condition: N/A

Mechanical - Ventilation

Ventilation for the building was provided by operable windows and doors.

Condition: Poor

Due to inoperability of window's current state.

Mechanical - Fire Protection

The building has no fire protection system.

Condition: N/A



Figure 1-193. Rustic barrel stove (AH, 08/01/2022)

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West Bay Club Lodge

Plumbing

Plumbing - General System Description

The plumbing for the building consisted of water and waste lines to sinks and free-standing bathtubs within the building. These systems have been inoperable for an extended period of time and many pipes cut and removed. The water distribution system and waste lines are not reusable.

Plumbing - Fixtures

The plumbing fixtures consist of a kitchen sink, four (4) corner lavatories, and a utility sink. The kitchen sink and corner lavatories are in fair condition. The utility sink is in poor condition.

Historic fixtures once located in the Women's and Men's Baths are no longer extant.

Condition: Fair/Poor

Plumbing - Piping

The plumbing piping is exposed to the fixtures and has been cut and removed in large sections. The system is no longer usable.

Condition: N/A



Figure 1-194. West wall of kitchen (AH, 08/01/2022)



Figure 1-195. Sink in Southwest bedroom (AH, 08/01/2022)



Figure 1-196. Sink in Men's bathroom (AH, 08/01/2022)

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West Bay Club Lodge

Electrical

Electrical - Main Distribution

There is no electrical distribution on site. There was once a generator on site, but no remnants of it remain.

Electrical - Wiring and Devices

There are remnants of a junction box and wiring to one ceiling mounted light fixture. There are no other wiring or power devices on site.

Condition: N/A

Electrical - Lighting

There is one ceiling mounted light fixture and it is inoperable as there is no power source to the fixture. Previous light fixtures were gas powered and have been removed. The surface mounted gas piping remains to the locations of previous gas powered fixtures. A single gas lamp remains in the Living Room (101), which was installed by the Peter's family in the 1970s to replace the historic fixture, which had been removed.

Condition: Poor to Fair



Figure 1-197. Abandoned Light Fixture (AH, August 2022)



Figure 1-198. Abandoned Gas Piping (AH, August 2022)

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Icehouse

General Building Description

The Icehouse has shifted and leans south along the hillside, towards Lake Superior. Elements of the building are significantly distorted and out of plane. A utility strap has been wrapped around the building, tying it back to a tree to the north. Unstable conditions prevented interior access during site investigations and limited exterior investigations on the downhill (south) side. See the Structural Section for a more detailed description of the structural system and its condition.

Site

The Icehouse is perched on a steeply sloping wooded hillside, which continues east and west of the building. A large grassy clearing to the north contains the West Bay Lodge. To the south, the hillside descends towards the rocky shore of the lake. The Icehouse has been moved north, away from the eroding shoreline. However, its siting and spatial relationships are largely consistent with the historic condition.

Building Overall

The Icehouse is a one-story building with a rectangular footprint that measures approximately 16-feet by 10-feet 8-inches.

At the center of the gable roof ridge is a cupola with wood louvered vents. The cupola and primary roof are clad in a rolled asphalt roofing material. A front-facing gable roof with a 1-foot eave overhang caps the Icehouse.

The interior is divided into two spaces by a north-south dividing wall. An interior door, which appears to have been taken from the adjacent West Bay Club Lodge, connects the two interior spaces.



Figure 1-199. South wall of Icehouse from Lake Superior. (AH, 08/01/2022)



Figure 1-200. Northeast corner of the Icehouse. (AH, 08/01/2022)

West (Front) Façade

The west façade of the building is generally symmetrical. Structural unpainted log members span the gable end. Where the exterior door is missing, a framed opening remains, centered on the west façade and framed by two unpainted logs. Additional structural logs wrap the base of the façade.

North (Side) Wall

The north wall is vertically divided by structural logs. The wood louvers on the cupola are visible from this side.

The north wall has two window openings. One opening is in the second bay from the east side. This opening occupies the full width between vertical logs and is centered vertically on the wall. No window remains in the opening. The other opening is located within the eastern-most bay. This small square opening is located high on the wall and contains only a metal screen.

East (Rear) Wall

The east wall is generally similar to the west façade but lacks a door opening. Structural log members span this gable end in a similar formation. Vertical logs divide the wall. The bottom third of the wall is wrapped with additional expressive logs.

South (Side) Wall

The south wall of the building is similar to the north wall. The wood louvers on the cupola are visible from this side.

Vertical structural log columns divide the south wall. Similar to the other walls, expressive logs wrap the base of the wall.

The south wall has one window in the second bay from the east side of the building.



Figure 1-201. West façade of the Icehouse. (EAV, 08/01/2022)



Figure 1-202. North wall of the Icehouse. (EAV, 08/01/2022)



Figure 1-203. East wall of the Icehouse. (EAV, 08/01/2022)

Interior

The interior of the building could not be accessed so all observations are from exterior openings.

The interior of this building is a two-part plan divided by a north-south interior partition wall added after construction. The west room, which is accessed via the exterior door opening, is approximately 5-feet by 10-feet in plan. A door in the interior partition wall leads to the east room, which is approximately 9-feet by 10-feet in plan.

The original floor to ceiling height appears to have been just greater than 7-feet. However, due to sloped surfaces and planar distortions, the floor to ceiling height varies significantly.

Character Defining Features

The historic nature of significant buildings and structures is defined by their character, which is embodied in their identifying physical features. Character-defining features can include the shape of a building; its materials, craftsmanship, interior spaces, and features; and the different components of its surroundings.^{1,1}

The following list identifies existing character-defining features of the Icehouse.

Site^{1,2}

- Views to Lake Superior

1.1 Lee H. Nelson, FAIA, Preservation Brief 17: Architectural Character: identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character (Washington, DC: National Park Service, Technical Preservation Services, 1988).

1.2 Character defining features of the landscape are prominent or distinctive aspects, qualities, or characteristics of a cultural landscape that contribute significantly to its physical character. Land use patterns, vegetation, furnishings, decorative details, and materials may be such features.



Figure 1-204. South wall of the Icehouse. (EAV, 08/01/2022)



Figure 1-205. Interior of west room and door to east room from exterior door opening. (EAV, 08/01/2022)



Figure 1-206. Interior of east room from window. (EAV, 08/01/2022)

- Location within a small clearing along the bluff
- Relationship to West Bay Club Lodge, concrete stairs, and Lake Superior

Exterior

- Simple rectangular massing with single gable roof running lengthwise
- Single-story structure
- Cedar post and beam foundation system
- Vertical log pole external frame with horizontal and diagonal members.
- Centrally located cupola with gable roof and fixed wood louver vents
- Window opening on the north and south walls
- Painted tongue-and-groove shiplap siding
- Exposed log rafters at the eaves without fascia boards or gutters

Interior

- Unpainted board finishes throughout
- Simple unpainted wood board window trim
- Two-room interior plan with the interior partition oriented north-south
- Unpainted five-panel stile and rail wood door with brass hardware

Additional Contributing Features Identified by the 2019 Sand Island Cultural Landscape Report^{1.3}

Views:

- Views between the West Bay Club and the lake and mainland

Buildings and Structures:

- Icehouse

Small Scale Features:

- Concrete stairs

1.3 Contributing features are individual elements or landscape characteristics extant from the period of significance that contribute to the cultural landscape of West Bay Club.

Non-contributing features do not contribute to the cultural landscape because they were not present during the period of significance, do not relate to the documented significance of the property, no longer possess historical integrity, or are no longer capable of yielding important information relevant to the significance of the property.

Icehouse

Conditions Summary

Site				
Uniformat II Outline Data				
Category	Topic	Subtopic	Condition Rating	Deficiency Rating
G	BUILDING SITEWORK			
G20	Site Improvements			
	G2040	Site Development	Fair	Serious and Minor
	G2050	Landscaping	Fair	Serious and Minor

Architecture				
Uniformat II Outline Data				
Category	Topic	Subtopic	Condition Rating	Deficiency Rating
B	SHELL			
B20	Exterior Enclosure			
	B2010	Exterior Walls	Fair to Poor	Serious
	B2020	Exterior Windows	Poor	Serious
	B2030	Exterior Doors	Fair and N/A	Serious
B30	Roofing			
	B3010	Roof Coverings	Poor	Serious
	B3020	Roof Openings - Cupola	Fair	Serious
C	INTERIORS			
C30	Interior Finishes			
	C3010	Wall Finishes	Poor	Serious
	C3020	Floor Finishes	Poor	Serious
	C3030	Ceiling Finishes	Poor	Serious
F	SPECIAL CONSTRUCTION & DEMOLITION			
F20	Selective Building Demolition			
		Documentation		Serious

Structural				
Uniformat II Outline Data				
Category	Topic	Subtopic	Condition Rating	Deficiency Rating
A	SUBSTRUCTURE			
A10	Foundations			
	A1010	Standard Foundations	Poor	Critical
B	SHELL			
B10	Superstructure			
	B1010	Floor Construction	Poor	Critical
	B1020	Roof Construction	Poor	Critical
		Lateral Force Resisting System	Poor	Critical
B20	Exterior Enclosure			
	B2010	Exterior Walls - Structure	Poor	Critical

Icehouse: Feature Description and Condition Assessment

Site

Site - Site Design

West Bay Club is located along steep bluffs that drop 20 to 30 feet to the rocky shoreline below. West Bay Club development is clustered north of the bluffs on a relatively flat site with topography rising gently to the north. Buildings are oriented for views to the south of Lake Superior and the mainland with West Bay Club Lodge sited to be visible from Lake Superior.

Icehouse is prominently set on the edge of the bluff. Its primary façade is oriented west. A historic set of concrete stairs remain partially intact to the west of Icehouse.

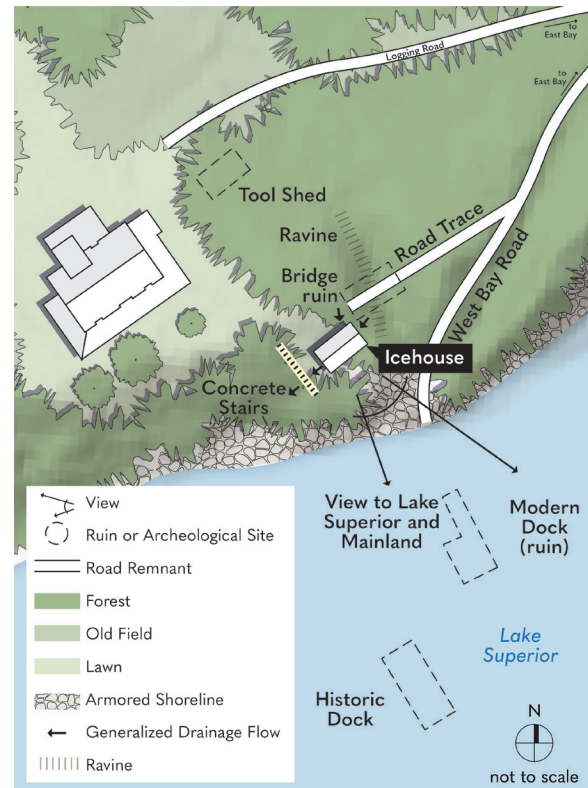


Figure 1-207. Icehouse Existing Condition (Mundus Bishop, adapted from 2019 Sand Island CLR Map).

Condition: *Fair*

Icehouse's historic spatial organization and site design are diminished by continued bluff erosion. Icehouse retains its orientation to Lake Superior and its prominent location along the bluff. The setting is modified as the bluff continues to erode. Advanced erosion has shifted Icehouse and concrete stairs out of their historic alignments. Icehouse is currently lashed to a tree to prevent the building from further collapsing down the eroded bluff. Stormwater may further contribute to erosion and decreasing stabilization of lands surrounding Icehouse. The setting is further modified by the loss of the historic dock which altered the physical relationship between Lake Superior, the dock, concrete stairs, and Icehouse.

Site - Small Scale and Archeological Features

Small scale features are primarily associated with the historic recreational (West Bay Club Lodge) use of the site. This includes concrete stairs and dock remnants to the south of West Bay Club Lodge.

Condition: *Fair*

Small scale features are in good to fair condition.

Historic concrete stairs are set west of Icehouse to the clearing at the top of the bluff. Lower stairs are impacted by erosion and are in poor condition. The upper nine stairs, including the "EHA" stair, are in good condition.



Figure 1-208. Icehouse retains its original orientation to Lake Superior and concrete stairs (Mundus Bishop, 2022).



Figure 1-209. Bluff erosion at Icehouse (Mundus Bishop, 2022).



Figure 1-210. Stormwater flow diverted to/below Icehouse (Mundus Bishop, 2022).

Icehouse

Architecture**Architecture - Roofing System**

The front-facing gable roof is clad with green mineral-surfaced rolled roofing, applied to board sheathing. This was installed in 2017, in coordination of the Lodge re-roofing. No building paper or roofing membrane was observed. Galvanized metal flashing with a drip edge laps the board sheathing. At the eaves, the asphalt roofing laps the flashing. However, the flashing is applied over the asphalt roofing at rake ends with visible caulked nails heads.

Unpainted and roughly de-barked logs act as fascia at the west, south, and east. Log rafters at the north eave are exposed with square-cut ends and no fascia.

A centrally located cupola, addressed in the following section, is clad in a similar asphalt roof roofing assembly with galvanized metal fascia and exposed eaves.

Condition: Poor

The roofing system is in poor condition. The asphalt roofing is wrinkled, loose, and gapped. Debris has gathered on the north slope of the roof. Ceiling boards are stained, indicating a past roof leak which appears to have been addressed during the most recent re-roofing campaign in 2017. Rolled roofing has a short lifespan, with expected replacement due in approximately 2025.

Architecture - Cupola

The cupola is clad in horizontal 1-inch by 4-inch tongue and groove boards, painted white. At the north and south sides, openings framed by 1x6 boards contain fixed wood louvers. Exposed 2x4 framing continues to the cupola roof. All wood elements of the cupola are painted.



Figure 1-211. The Icehouse roof and cupola, viewed from north façade. (AH, 08/01/2022)



Figure 1-212. Eave condition at the northeast corner showing metal flashing, drip edge, and asphalt roofing, and log fascia on west façade. (AH, 08/01/2022)



Figure 1-213. Cupola, viewed from south. (AH, 08/01/2022)

Condition: *Fair*

The cupola is in fair condition. Paint is worn, particularly near the base of the cupola where exposure is greatest.

The cupola could not be assessed from the attic beneath due to restricted access during investigations.

Architecture - Exterior Walls

The exterior wall assembly consists of a wood-framed cavity wall clad on both sides with 1x6 shiplap boards, painted at the exterior and unpainted at the interior. As access into the structure was restricted for safety, the presence of insulative materials within the wall cavity could not be determined. No building paper or membrane was observed within the wall assembly.

Exterior walls are clad in 1-inch by 6-inch shiplap boards, painted white. Shiplap siding meets with a butt joint at corners without trim. Structural logs, roughly de-barked and unpainted, wrap the building in a waddle pattern.

The gable ends on the east and west walls have two sets of diagonal logs following the roof slop, joining at a central vertical log. The exterior walls also have horizontal logs running around the bottom third of the walls. Small vertical logs run from the ground up to the horizontal log and small diagonal logs run between the corners.

Condition: *Fair to Poor*

The exterior walls are in fair to poor condition. As the building has shifted, siding boards near or in contact with the ground have been impacted and are now buried, broken, significantly deteriorated, or missing.

Where siding is most protected, near the



Figure 1-214. Exterior wall assembly, viewed on north façade. (AH, 08/01/2022)



Figure 1-215. Logs at gable ends, viewed on west façade. (AH, 08/01/2022)



Figure 1-216. Siding boards near the ground have deteriorated as a result from building shifting. (AH, 08/01/2022)

underside of eaves, paint is largely intact. Deteriorations, bio-growth, and cracked boards is consistent along the bottom half of the north wall.

Some boards are cracked and missing paint, especially in boards closer towards the ground. Some boards are bent, broken, and/or rotten. Some boards are buried and cannot be assessed. Significant structural movement has caused some boards to bend, break, and come unattached to the structure.

There is significant deterioration in the bottom 3-feet of the north wall. The paint is peeling and missing in some areas. Significant bio-growth is evident. The boards along the ground have rotten.

The log structure has deteriorated in several places.

Architecture - Windows

The Icehouse has three windows:

Type A

This is a newer aluminum double-hung window with single lites in the top and bottom sash. Wood trim approximately 2-inches thick surrounds the window.

Type B

This is a framed window opening void of any screens or windows, without trim. This opening is 2-feet 9-inches wide by 3-feet 3-inches tall. There are remnants of hinge hardware along the west side of this opening, likely indicative of a past shutter attachment.

Type C

This is a framed window opening with a screen, approximately 8-inches tall by 6-inches wide. Painted, 1-inch wood trim surrounds the opening.



Figure 1-217. Bio-growth and rotting is extant in the bottom half of the south façade. (AH, 08/01/2022)



Figure 1-218. Peeling paint and significant bio-growth is extant on the north façade. (AH, 08/01/2022)



Figure 1-219. Type A window, viewed on south façade. (AH, 08/01/2022)

Condition: *Poor*

Windows are in poor condition. Glazing is intact at the Type A window. Unstable structural conditions prevented up-close investigation of this window and operability could not be tested.

Windows are missing at the Type B and Type C locations. The framing around these two openings are damaged by structural settlement.

Architecture - Doors

Type A

This interior door consists of five panels in a stile and rail frame. The door is unpainted. It is possible that this door was removed from the Lodge to be used in the Icehouse.

Type B

A framed door opening on the west façade indicates the location of an exterior door which no longer remains. The opening is approximately 28-inches wide. Structural settlement prevented an accurate measurement of the opening height. There is no exterior trim around the door opening.

Condition: *Poor*

Type A

Due to restricted access for safety, this door was assessed from a distance and operability could not be tested. As a result of structural movement, the door does not appear to be operable. However, it otherwise appears to be in fair condition with minor scratches.

Type B

The door at this opening is no longer extant.



Figure 1-220. Type B and Type C windows, viewed from north. (AH, 08/01/2022)



Figure 1-221. Type A door, viewed from Type B opening. (AH, 08/01/2022)



Figure 1-222. Floor and wall finish in Room (100), looking northeast. (AH, 08/01/2022)

Architecture - Interior Finishes

The interior of the building could not be accessed so all observations are from exterior openings.

West Room (100)

The ceiling of the West Room (100) is finished with wood boards approximately 6-inches wide. A framed vent opening is a mesh screen is located near the center of the east wall.

The interior walls are finished with tongue-and-groove wood boards. The boards of the interior partition wall to the west appear to be approximately 6-inches in width. The finishes of the rest of the walls appear to be wider and varied, but exact measurements could not be taken. Boards are typically unfinished. There is light paint on some boards, suggesting they may have been salvaged from elsewhere.

The floors are finished with 2x6 tongue-in-groove boards running east to west without an applied finish.

East Room (101)

Finishes in the East Room (101) are similar to those in the West Room (100).

Centered on the ceiling are two unpainted plywood panels. The north wall could not be assessed due to restricted access.

Condition: *Poor*

Interior finishes in the Icehouse are in poor condition. The ceiling boards are typically water-stained. Gaps visible between wall boards are evidence of the structural movement. Wall boards are also typically water-stained. Floor boards are only lightly stained, however the floor plane is greatly distorted, as noted in the Structural section.



Figure 1-223. Opening between Room (100) and Room (101), looking southeast. (AH, 08/01/2022)



Figure 1-224. Ceiling finish in Room (101). (AH, 08/01/2022)



Figure 1-225. Wall finishes looking southeast. (AH, 08/01/2022)

Architecture - Code and Life Safety

As a National Park Service building, any proposed rehabilitation is governed by the 2021 International Building Code (IBC) and its related family of codes.

Existing Building Code

The IEBC, International Existing Building Code, applies to the repair, alteration, change of occupancy, addition to and relocation of existing buildings. Within this code, work is categorized into Alteration Levels 1, 2, and 3 depending on the amount of work anticipated within the building. Additional categories include Change of Occupancy, Additions, Historic Buildings and Relocated Buildings. Requirements of the code are limited to work areas of the project for Levels 1-3. This means that Alteration projects are not required to upgrade the entire building per current code, just elements that are within the project work area dependent on the nature of alteration work. Change of Use projects trigger more thorough upgrades and the building must be brought up to current code requirements for the new use. It is proposed that this building be demolished, with historic materials salvaged for possible future reconstruction.

Construction Type

Buildings and structures are classified as one of the five construction types in the IBC. The construction type defines the fire resistance rating of the building structure, exterior walls and interior walls.

The Icehouse is construction type VB non-sprinklered. Per section 602.5 "Type V construction is that type of construction in which the structural elements, exterior walls and interior walls are any material permitted by this code."

Existing Area

Total: 160 gsf

gsf - gross square feet

Note that measurements of the building were conducted from the exterior due to restricted access.

Use and Occupancy Classification

The Icehouse is unoccupied with no interior access. However, no formal change of use has been undertaken. As such, the Icehouse must be evaluated per its historic use, which is classified as Storage Group S.

Building Height

Table 504.3 indicates allowable height in feet based on construction type and occupancy. Per that table, a Type VB building can be up to 40-feet tall without being sprinklered. The Icehouse is approximately 12-feet tall.

Occupant Load

Occupant load is dependent on the function of the space. Based on the historic use, the Accessory Storage Area function, with a factor of 300 gross, is applied. This results in an occupant load of 0.53, or 1 person.

Means of Egress

Occupant load determines the required size of egress pathway along with the number of exits. Per IEBC section 804.5.1, two egress doorways must serve the area impacted by work if the occupant load exceeds 50 or the travel distance exceeds 75-feet.

The IEBC provides an exception for historic buildings, as outlined in section 1203.3: *Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be approved,*

provided that, in the opinion of the code official, there is sufficient width and height for a person to pass through the opening or traverse the means of egress.

One door opening serves the Icehouse. This opening varies in width, due to structural settlement, providing approximately 28-inches of clear width. There is no door panel remaining. At the threshold, the steeply sloped hillside sits 6-to 14-inches below the sloped and uneven finish floor.

Fire Suppression

NPS Director's Order 58 section 9.1.8 requires consideration for fire suppression of structures to "prevent loss of human life and minimize damage to historic property resources."

Condition: N/A

Prior to undertaking any alterations, a full code study should be undertaken to address impacts and code requirements triggered by the project.

Existing Building Code

If the building is reconstructed following the recommended deconstruction, it may be considered a new construction, rendering use of the IEBC non-applicable.

Use and Occupancy Classification

If the building is reconstructed, a full code study would be required, based on the intended use at that time.

Fire Suppression

There is no fire suppression system currently installed in the building. If the building is reconstructed, *Director's Order 58: Structural Fire Management* should be consulted and fire suppression needs assessed based on the new location and use.

Architecture - Accessibility

Per the Architectural Barriers Act (ABA), it is required that buildings provide one access point to the building entrance, access routes from the entrance to public spaces on the level of the main entry and an accessible restroom.

Condition: N/A

The Icehouse is not ABA-compliant. No accessible route to the entry is provided. The entry is not ABA-compliant, and once inside, floors are uneven.

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Icehouse

Structural**Structural - General System Description**

The Icehouse is a one-story wood-framed structure built into the hillside adjacent to the lake and is constructed of a double wall framing system of flat dimensional lumber studs and log posts supported directly on the earth. The gable roof is framed with logs while the first floor is framed with dimensional lumber. Please note that all dimensional lumber member sizes noted thus (2x6) indicate that the member has nominal dimensions while if noted thus (2" x 6") the actual dimensions are listed. See the descriptions below for further information on each structural system.

Structural - Foundation

The perimeter log posts of the structure are buried in soil and assumed to be founded directly on the earth. It is unknown if a foundation element, such as a boulder, originally supported the logs either in its original location or in its current location. The grade around the Icehouse slopes down steeply towards the water from north to south. At the north, the first floor is at or below grade, whereas at the south there is a crawl space below the first floor.

Condition: Poor

The foundation of the Icehouse is in poor condition. As the hillside has eroded towards the lake over time, the structure has translated downhill sympathetically since there are not any foundation elements in place to resist this movement or force. The Icehouse is currently strapped to trees to the north to keep it from collapsing or translating down the hill into the lake.

Since the perimeter log posts and other wood elements such as some joists, are in direct



Figure 1-226. South wall of Icehouse (CBB, 08/02/2022)



Figure 1-227. Front (West) and North (Side) walls of Icehouse (CBB, 08/02/2022)

contact with earth, the soil harbors moisture against the wood causing wood decay fungi to flourish and deteriorate the wood structural elements. This deterioration mechanism is exacerbated by poor site drainage details which cause water to run through and around the crawlspace of the building.

Structural - Floor Framing

The first floor framing in the Icehouse consists of 3 ½" x 3 ½" dimensional lumber joists spaced at approximately 3'-2", spanning in the north-south direction between 2x lumber rim joists at the exterior perimeter of the building. The joists are topped with 1 ½" x 5 ¼" horizontal tongue and groove decking.

Condition: Poor

The first floor of the of building is in poor condition. Where visible, at the north end of the building, the joists are in direct contact with the soil floor and are likely deteriorating due to decay fungi infestation. At the south end the floor, the floor framing has separated from the wall and is cantilevering from the north wall of the structure.

Structural - Roof & Ceiling Framing

The structure has a gable roof with a wood framed cupola at the center of the ridge. The roof is framed with 3 ½" diameter log rafters aligned and notched to bear on the exterior log posts which are spaced at approximately 3'-2". There is a 3 ½" diameter log tie at the top of the wall, aligned with and supported by the perimeter posts that also acts as the ceiling framing. There is a king post and two diagonal web logs at the exterior of the gable end walls; however, in the attic space, there are no verticals or web members. The roof is sheathed with 1x6 horizontals boards.

The cupola is framed with 2x4 studs; it is enclosed with louvers at the north and south



Figure 1-228. Biological growth and wood rot at north façade (CBB, 08/05/2022)



Figure 1-229. Floor framing of the Icehouse as seen from the crawlspace (CBB, 08/05/2022)



Figure 1-230. Separation between floor and wall framing (CBB, 08/05/2022)

and horizontal board sheathing at the east and west. The cupola has a gable roof with two dimensional lumber rafter pairs and horizontal board sheathing.

Condition: *Poor*

Overall, the roof framing is in poor condition. The ridge has sagged indicating that there is not adequate restraint to keep the roof framing from thrusting. The exposed rafter ends are severely deteriorated due to decay fungi infestation.

Structural - Wall Framing

The Icehouse is framed with a double wall construction which served to insulate the structure. The exterior log wall posts, spaced at approximately 3'-2" and aligned with each rafter pair, vary in diameter from 3" to 5". The exterior sheathing consists of $\frac{3}{4}$ "x7 $\frac{1}{4}$ " horizontal boards. The inner wall is framed with flat 2x studs at an unknown spacing and sheathed with 1x horizontal board that vary in width.

Around the four perimeter walls there are 3" to 5" diameter girts 5'-4" below the top of the wall and 3" diameter diagonal logs between the log posts below the girts.

Condition: *Poor*

Overall, the walls are in poor condition. The Icehouse is currently strapped to trees to the north to keep it from collapsing. The wood rot, which is extensive throughout the building, is most severe at the tops and bottoms of the perimeter wood posts. The condition is generally worst on the north wall; here, biological growth is rampant on the lower portion of the log posts and exterior sheathing likely due to the natural downhill drainage of the site. At the south wall, one of the log posts has broken where the girt connects and kicked away from the structure



Figure 1-231. Interior of the Icehouse. Note that the ceiling finishes are attached to the underside of the rafter ties (CBB, 08/05/2022)



Figure 1-232. Broken southwest post that is kicked out below the girt (CBB, 08/05/2022)

at the base.

Structural - Lateral Force Resisting System

The lateral force resisting system consists of the wood framed shear walls and floor and roof diaphragms.

Condition: *Poor*

The lateral system is in poor condition and has failed. The walls have racked to the south as the structure translates down the hillside as it erodes. The floor framing has separated from the wall framing causing discontinuities in the LFRS system from the floor diaphragm to the walls and foundations.

Although a Code-required LFRS upgrade has not been triggered by a change in Risk Category (see further discussion in the Applicable Codes & Load Requirements below), it is best practice to upgrade certain elements of the system to increase the system's resistance to major lateral loads given the change in our understanding of how buildings behave during a lateral event since the original construction date of the building. For example, several Code-required connections between structural elements, such as anchors from the roof framing to the wall framing or the wall framing to the foundation, were not found or could not be verified during the limited scope stie visit for this report.

Structural - Applicable Codes & Load Requirements

The code references for this assessment include the 2021 International Building Code (IBC), the 2021 International Existing Building Code (IEBC), and ASCE 7-16 Minimum Design Loads for Buildings and Other Structures. The specific load requirements for the Icehouse at the West Bay Club are based on the type of occupancy

and geographical location of the building.

Before being abandoned, the Icehouse was primarily utilized for storage. In the future, the first floor may be utilized for public access. These uses classify the structure as Risk Category II for standard occupancy.

The required floor live load capacities per ASCE 7-16 for the building uses are as follows in pounds per square foot (psf): light storage – 125 psf and public assembly – 100 psf.

The ground snow load required for the site per ASCE 7-16 is 60 psf. This ground snow load translates to a flat roof snow load on the structure of 51 psf per ASCE 7-16 when wind exposure (1.0), thermal conditions (1.2), and importance based on Risk Category (1.0) are considered.

The ultimate design wind speed at the Icehouse per ASCE 7-16 Figure 26.5-1B is 105 miles per hour (mph). The equivalent nominal wind speed is 82 mph.

The Icehouse falls within Seismic Design Category A per the United States Geological Survey (USGS). The Seismic Design Category is a classification given to a structure that is based on the Risk Category of the building and the severity of the design earthquake ground motion at the site. The earthquake ground motion properties of the site are cataloged by the United States Geological Survey (USGS). The two mapped acceleration parameters for the site per the USGS are short period ($S_s = 0.041\text{ g}$) and 1 second period ($S_1 = 0.016\text{ g}$). Without site specific soil testing, site soil conditions are assumed to comply with Site Class D resulting in a Seismic Design Category for the structure of A. Since the flat roof snow load is greater than 30 psf, 20% of the snow load must be added into the

seismic weight of the structure. Please note that these are low values which indicate that the probability of seismic activity is low. Wind forces will likely govern in an in-depth lateral analysis of the building to be included in a future phase.

Condition: *Poor*

The roof framing, roof decking, and the floor framing of the structure are inadequate for the Code required loading on their specific systems.

As mentioned in the LFRS description above, since there is little to no lateral-specific detailing, it is in the best interest of the building and its occupants to strengthen the LFRS where possible and prudent.

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Icehouse

Mechanical

Mechanical - General System Description

There are no active mechanical systems in the Icehouse. A rooftop cupola with fixed louver vents provides passive ventilation of the attic.

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Icehouse

Plumbing

Plumbing - General System Description

There are no active plumbing systems in the Icehouse.

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PART 2: Treatment and Use

Treatment Overview

Presented after the Existing Conditions and Condition Assessment, the treatment section presents recommendations for the repair, protection and stewardship of the West Bay Club Lodge and Icehouse. Treatment recommendations are founded on review of historic documentation, assessment of existing conditions, current and proposed building use, and application of the Secretary of the Interior's Standards for Preservation and Rehabilitation.

The Park's General Management Plan laid groundwork for the preservation of the West Bay Club^{1.1}:

If the West Bay Club on Sand Island was to come under NPS management during the life of the plan, park managers would preserve the West Bay Club and interpret the historic story using nonpersonal interpretation (e.g., waysides). The historic road between the West Bay Club and East Bay would be reestablished as a trail, provided it can be built in an environmentally sound manner. The dock would be rehabilitated, if necessary, so it would be available for public overnight use. If economically feasible, the club would be adaptively reused (which may require rehabilitation or restoration) to permit some public overnight use of the structure. (If it is not economically feasible, overnight designated camping would be permitted near West Bay; the dock would be available for public overnight use.)

Plans for site development to increase interpretive opportunities and visitor access are noted in the Foundation Document^{1.2}:

Develop and implement site-specific management direction for former life estates on Bear Island and at West Bay... Build a trail to connect the Hansen Farm with existing trail network, and re-establish a trail along the historic road from East to West Bay.

The future use and goals for the West Bay Club are documented in the Park's 2022 Resource Stewardship Strategy^{1.3}:

- *Complete and implement a historic structure report for West Bay Club (PMIS 131296, FY 2022) (p.63)*
- *Expand the cultural landscape report vegetation treatment recommendations to include OU light and West Bay Club (p. 63)*
- *Develop partnership agreement with historic preservation partners for the long-term management and preservation of West Bay, Wellisch, Hansen Farm, Benson Camp, and use of occupancy resources. (p. 64)*
- *Identify strategies with current and past use and occupancy holders for long-term sustainability and care of most historically significant use and occupancy structures on Sand and Rocky Islands. (p. 65)*
- *Work with stakeholders to develop alternatives for preservation and visitor use at Wellisch Cabin and West Bay Lodge. (p. 65)*

Three treatment alternatives for each element were presented at the 80% Draft HSR deliverable. A February 2023 treatment workshop was conducted with the Park, NPS, Apostle Islands Historic Preservation Conservancy (AIHPC), and Wisconsin State Historic Preservation Office (SHPO) to determine the preferred treatment as presented here. Refer to the appendix for

1.1 *General Management Plan, Wilderness Management Plan, and Environmental Impact Statement: Apostle Islands National Lakeshore*, nps.gov/apis, April 2011, page 166.

1.2 *Foundation Document Overview: Apostle Islands National Lakeshore, Wisconsin*, nps.gov/apis, 2017, page 4.

1.3 *Resource Stewardship Strategy: Apostle Islands National Lakeshore*, nps.gov/apis, 2022.

the treatment alternatives as presented and documentation of the treatment workshop.

Treatments selected during the workshop are presented here and reflect constraints imposed by a remote site and limited funding.

Treatment Priorities

Treatment priorities are classified as one of three options:

- Critical
- Serious
- Minor

A Critical Deficiency of a feature or elements exists where:

- There is advanced deterioration that has resulted in failure of the building feature or element or will result in its failure if not corrected within 2 years, and/or;
- There is accelerated deterioration of adjacent or related building materials as a result of the feature or element's deficiency, and/or;
- There is a threat to the health and safety of the user.

A Serious Deficiency of a feature or element exists where:

- There is deterioration that if not corrected within 2 to 5 years will result in the failure of the building feature or element, and/or;
- A threat to the health and/or safety of the user may occur within 2 to 5 years if the deterioration is not corrected, and/or;
- There is deterioration of adjacent or related building materials and/or systems as a result of the deficiency of the feature or element.

A Minor Deficiency of a feature or element exists where:

- Standard preventative maintenance practices and building conservation methods have not been followed, and/or;
- There is a reduced life expectancy of affected or related building materials and/or systems, and/or;
- There is a condition with long-term impact beyond 5 years.

Part 2 Organization

Part 2 contains recommended treatments. Each element that was addressed for each building in Part 1 is identified and assigned a priority. Then, a description of the recommended treatment(s) is provided.

Treatment and Use Recommendations

West Bay Club Lodge

The recommended treatment for the Lodge is rehabilitation. This allows for altering a building to adapt to changing or continuing uses while preserving the historic character. The building was historically used for lodging. However, future planned use will change to visitor day use of the first floor. The second floor will remain unoccupied with occasional NPS access for maintenance.

The preferred treatment, as identified in the February 2023 treatment workshop is summarized here.

Access to the building is provided along the West Bay Road and historic logging road. Two paths diverge from the logging road, providing ABA-compliant access to the Lodge porch at the west and Lodge interior via a north door.

Significant log deterioration and failure of the roof structure were observed at the kitchen, as documented in the Structural existing conditions assessment. As detailed in the appended treatment workshop minutes, it was determined by the Park and stakeholders that removal of the kitchen should be recommended in this HSR. Historic circulation and access to the second floor is retained via the stairs, which are rehabilitated.

Stabilization of the brick chimney includes partial deconstruction to accommodate structural work at the foundation. The chimney is then reconstructed with salvaged bricks to its current height. A small solar PV panel is mounted atop the chimney to power crawlspace ventilation. This placement is intended to reduce visibility of the PV panel.

The porch structure is repaired or replaced and decking is replaced to match the historic condition. Railings and columns are

rehabilitated and reconstructed to the historic configuration without screening.

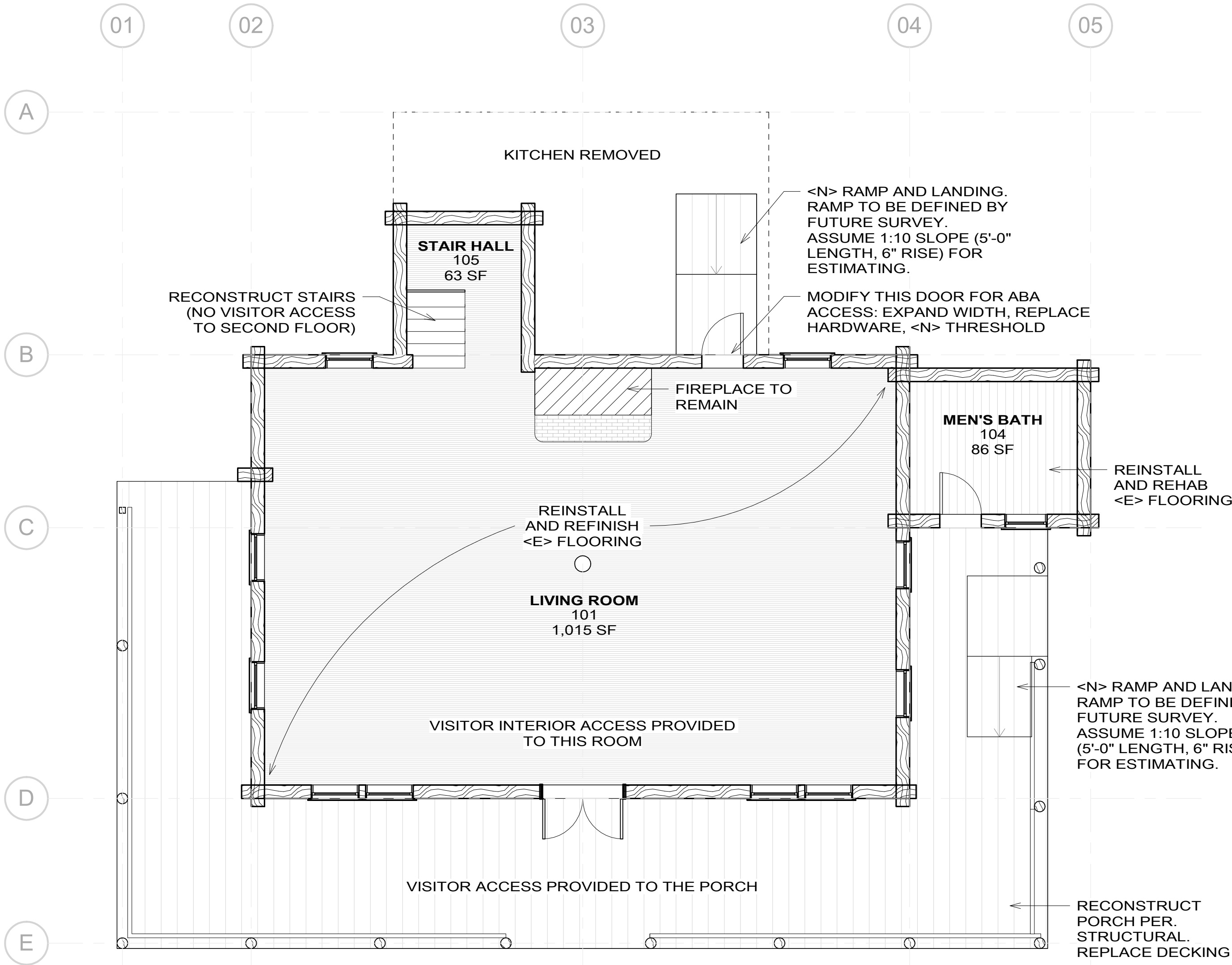
Rehabilitation of the windows is approached in two phases. First, windows are protected in place with temporary shutters. Following structural work, windows are fully rehabilitated and outfitted with operable storms and screens.

Class C Construction Cost Estimate

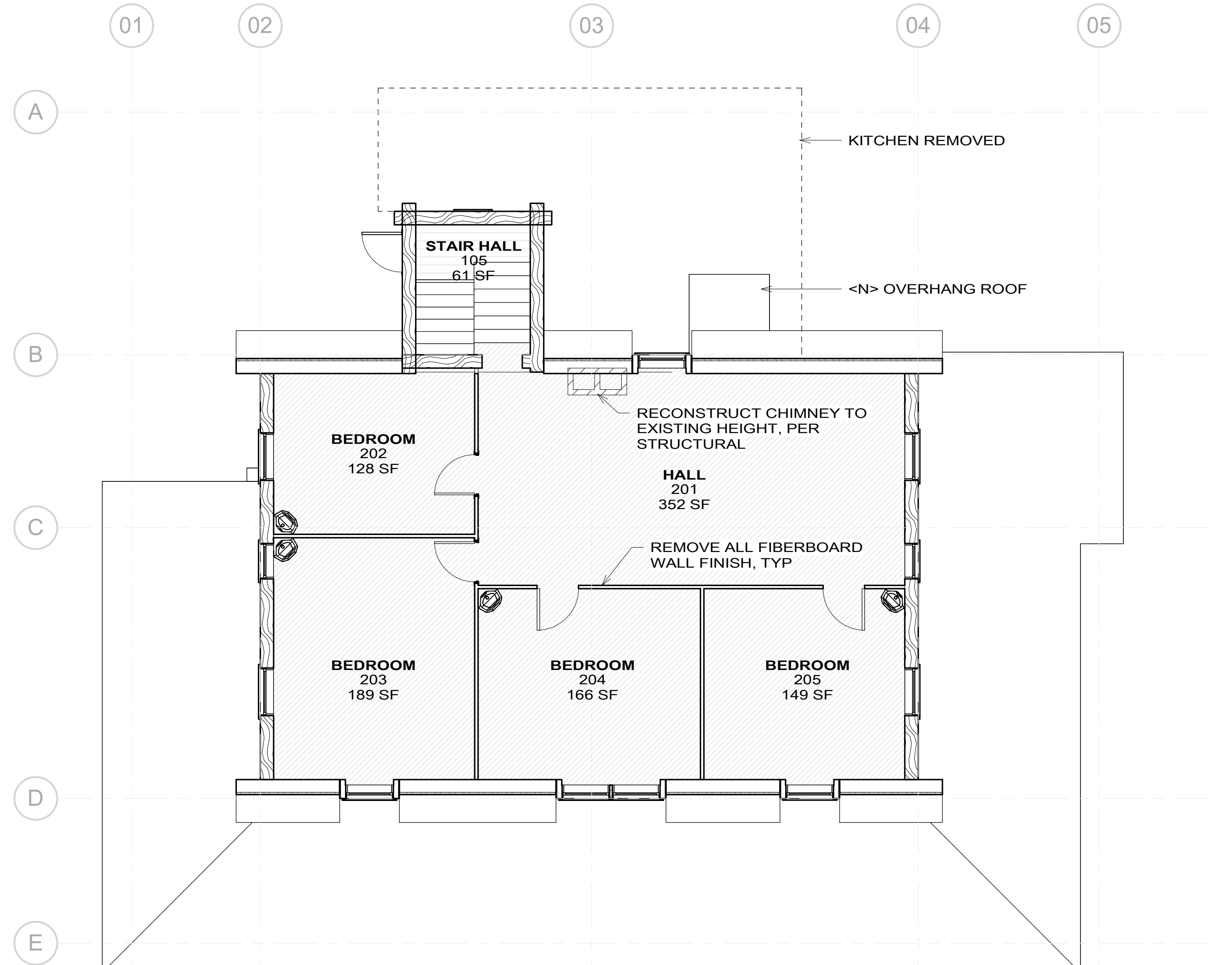
Due to limited NPS funding for repair and rehabilitation of the vacant West Bay Club on remote Sand Island, the Park is prepared to collaborate with partners, such as the Apostle Islands Historic Preservation Conservancy, to undertake required improvements. This section of the report outlines work required to protect and preserve the building for limited day use. The Class C Construction Cost Estimate included here as Appendix N provides a conceptual plan for a phased project approach that identifies priority work in incremental stages.

The Class C Construction Cost Estimate from the 80% Draft HSR, which includes the considered treatment alternatives, is also included as Appendix L.

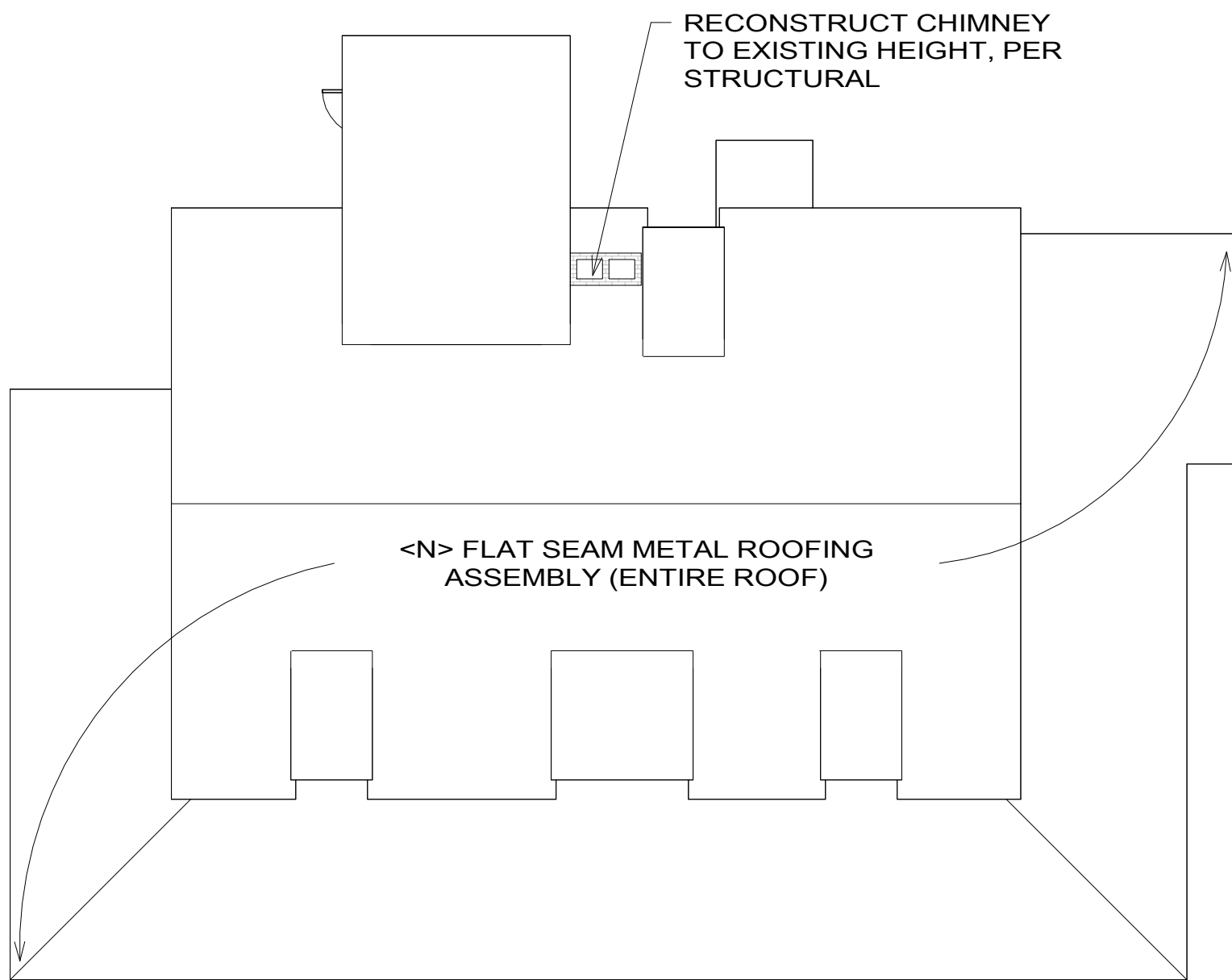
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1 FIRST FLOOR - PREFERRED TREATMENT
A1.1 SCALE (A)



3 SECOND FLOOR - TREATMENT
A1.1 SCALE (A)



2 ROOF - TREATMENT
A1.1 SCALE (B)

SUMMARY OF PREFERRED TREATMENT:
ACCESS TO THE BUILDING IS PROVIDED ALONG THE WEST BAY ROAD AND HISTORIC LOGGING ROAD. TWO PATHS DIVERGE FROM THE LOGGING ROAD, PROVIDING ABA-COMPLIANT ACCESS TO THE LODGE PORCH AT THE WEST AND LODGE INTERIOR VIA A NORTH DOOR.

SIGNIFICANT LOG DETERIORATION AND FAILURE OF THE ROOF STRUCTURE WERE OBSERVED AT THE KITCHEN, AS DOCUMENTED IN THE STRUCTURAL EXISTING CONDITIONS ASSESSMENT. AS DETAILED IN THE APPENDED TREATMENT WORKSHOP MINUTES, IT WAS DETERMINED BY THE PARK AND STAKEHOLDERS THAT REMOVAL OF THE KITCHEN SHOULD BE RECOMMENDED IN THIS HSR. HISTORIC CIRCULATION AND ACCESS TO THE SECOND FLOOR IS RETAINED VIA THE STAIRS, WHICH ARE REHABILITATED.

STABILIZATION OF THE BRICK CHIMNEY INCLUDES PARTIAL DECONSTRUCTION TO ACCOMMODATE STRUCTURAL WORK AT THE FOUNDATION. THE CHIMNEY IS THEN RECONSTRUCTED WITH SALVAGED BRICKS TO ITS CURRENT HEIGHT. A SMALL SOLAR PV ARRAY IS MOUNTED ATOP THE CHIMNEY TO POWER CRAWLSPACE VENTILATION. THIS PLACEMENT IS INTENDED TO REDUCE VISIBILITY OF THE PV ARRAY.

THE PORCH STRUCTURE IS REPAIRED OR REPLACED AND DECKING IS REPLACED TO MATCH THE HISTORIC CONDITION. RAILINGS AND COLUMNS ARE REHABILITATED AND RECONSTRUCTED TO THE HISTORIC CONFIGURATION WITHOUT SCREENING.

REHABILITATION OF THE WINDOWS IS APPROACHED IN TWO PHASES. FIRST, WINDOWS ARE PROTECTED IN PLACE WITH TEMPORARY SHUTTERS. FOLLOWING STRUCTURAL WORK, WINDOWS ARE FULLY REHABILITATED AND OUTFITTED WITH OPERABLE STORMS.

NOTE: THIS IS A SUMMARY OF ARCHITECTURAL RECOMMENDATIONS. SEE THE ATTACHED HSR TREATMENT SECTION FOR THE FULL SCOPE OF RECOMMENDATIONS, INCLUDING SITE, ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL.

**PRELIMINARY
HSR
NOT FOR
CONSTRUCTION**

DESIGNED:
N/A
GADD
EAV/VAC
TECH REVIEW:
EMH
DATE:
07/05/2023

SUB SHEET NO.

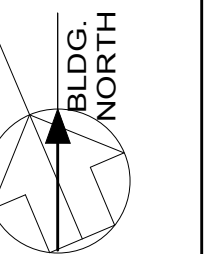
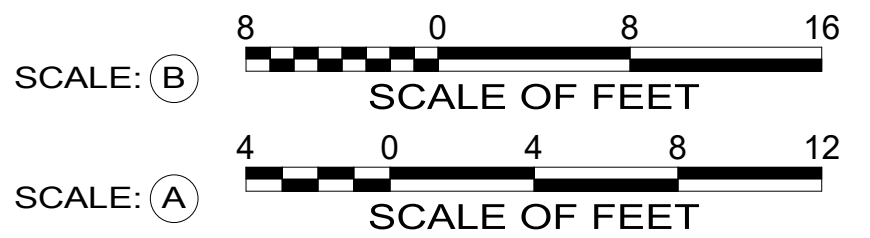
A1.1

TITLE OF SHEET
**LODGE - TREATMENT
PLANS**
WEST BAY CLUB HSR, SAND ISLAND
APOSTLE ISLANDS NATIONAL LAKESHORE

DRAWING NO.

PMIS/PKG NO.
191296

SHEET
OF



West Bay Club Lodge

Site

West Bay Club Lodge will be rehabilitated to repair contributing features and ensure preservation of the cultural landscape. The following actions build upon recommendations of the 2019 Sand Island CLR to address evolving site conditions.

Site - Drainage

Priority: *Critical*

The following describes actions necessary for positive site drainage.

Complete a topographic survey of West Bay Club to inform the design of drainage swales, a construction access route, and ABAAS accessible route.

Establish and maintain positive drainage to direct surface water away from West Bay Club Lodge.

Capture and route roof run-off away from the building. Slope ground surface away from the building for a minimum distance of ten (10) feet. Provide an underdrain/foundation drain along the north side of the building. Place the four (4) inch perforated pipe bedded in free-draining gravel, wrapped in a geotextile filter material. Install below frost depth if feasible.

Repair and regularly maintain drainage swales to the north, east, and west of West Bay Club Lodge.

Direct concentrated runoff through swales and underdrains to drainage swales to the north, east, and west of West Bay Club Lodge to minimize erosion of the bluff and maintain slope stability.

Site - Accessibility

Priority: *Serious*

The following describes actions necessary to establish a construction access route and an ABAAS-compliant route to the east porch and north entry of West Bay Lodge.

Provide a route to transport construction materials and heavy equipment from Lake Superior to West Bay Club Lodge. Where feasible, repair original alignments of West Bay Road and Logging Road.

Provide an ABAAS-compliant route to the east porch and north entry of West Bay Lodge reusing the temporary construction access route. Ensure walkway widths, surfacing, landing, resting areas, and handrails meet current ABAAS requirements.

Site - Overall Rehabilitation

Priority: *Serious*

Preserve contributing vegetation and allow removal where vegetation presents a hazard to buildings.

Remove and replant rosebush after regrading. Ensure positive drainage away from the building.

Preserve and maintain the open clearing surrounding West Bay Club Lodge. Maintain 30-foot (minimum) fire buffers around buildings.

Preserve and maintain views to Lake Superior from West Bay Club Lodge and to West Bay Club Lodge from Lake Superior. Prune and/or do not replace trees to maintain and repair these views.

Retain contributing ruins including tool shed and bridge.

Preserve contributing small scale features including concrete stairs and water tower ruins.

Site - Overall Rehabilitation

Priority: *Minor*

Repair and maintain the original West Bay Road alignment as a trail connecting West Bay Club, West Bay boat dock, West Bay campsites, and East Bay.

Preserve road trace and logging road.

Provide self-guided interpretive information. Ensure placement does not detract from the historic setting, is subordinate to West Bay Club Lodge, and does not diminish or obstruct historic views.

Prune apple trees, remove and prune woody species away from remaining apple trees and identify species. Consider reeplanting the orchard based on historical research of orchard location and species.

Preserve archeological features. Conduct formal evaluations to determine contributing status and treatment guidance.

Allow non-contributing operations features that provide a needed function—solar panels, radio repeater. Ensure infrastructure is of a scale, material, and color that harmonizes with the historic setting and aesthetic.



Figure 2-1. West Bay Club Treatment (Mundus Bishop, adapted from 2019 Sand Island CLR Map).

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West Bay Club Lodge

Architecture

Architecture - Documentation

Priority: *Serious*

The building has undergone several changes since the most thorough recent documentation in 1984, including planar distortions associated with settlement and the loss of the west (Women's Bath) wing. These planar distortions require additional measurement and documentation when developing scaled drawings, versus a building with plumb walls and level floors.

Based on the advanced deterioration observed and critical need for replacement or removal of deteriorated elements, it is recommended that the building be thoroughly documented in its current state. This documentation should serve as a record of the historic fabric and a basis for future rehabilitation design. The level of documentation should be consistent with Historic American Building Survey (HABS) Measured Drawing Guidelines.

Given the complexity and planar distortions of the log building, if laser measuring, such as Lidar, is to be considered, then care should be given in the selection of a contractor. Additionally, the type and quantity of data to be obtained should be clearly specified. If a drone is to be used as part of the scanning process, coordination with and approval by Park management will be required.

Lidar measuring may eliminate the need for a survey crew to gather topographic information, but would require a trained technician with laser-scanning equipment.

Architecture - Roofing System

Priority: *Critical*

The existing mineral-surfaced rolled roofing is mostly in fair condition, having been replaced in 2017. However, based on previous repair timelines and manufacturer's recommendations, the roofing is nearing its expected end of life and will likely require replacement around 2025. It is recommended that the existing roofing system be replaced concurrent with other rehabilitation work. Removal of the roofing should be coordinated with structural upgrades.

Remove the existing roofing and all associated underlayments and accessories. With the roofing and flashing removed, inspect the roof sheathing for additional water damage and replace where deteriorated per Structural recommendations.

With the removal of the Kitchen wing, the scope of roofing replacement includes the remaining existing roofs (2,850 sf) and a new sloped door hood at the north wall (25 sf). The new door hood should sit within the footprint of the existing Kitchen wing to protect the new entry below while providing a visual cue to the removed form. Roof slope should be studied further in design. Note that while the existing Kitchen roof slope is too shallow and should not be matched, the new roof must appear similar.

Several replacement roofing assemblies were considered. Standing seam metal roofing provides increased durability and lifespan versus the existing roofing, however the visual appearance is distinctly different from the flat appearance of roll roofing. It is recommended that a roofing assembly which provides a similar flat appearance with increased durability be provided. While in-kind replacement is most appropriate, a

more durable alternative material, such as horizontal flat seam metal roofing, should be explored during a future design project, given the challenges of the remote location. Lifespan of the selected roofing material, and the longevity provided for the building, should be considered.

The attached cost estimate assumes a new Class A roofing assembly (2,875 sf) to include flashing, underlayment, and flat seam metal roofing. Note that two layers of underlayment are recommended by metal roofing manufacturers for low-slope applications, such as the porch roof and roof dormers. The cost estimate also accounts for a full-roof ice and water shield.

Roofing replacement should be coordinated with new sheathing and work at the roof structure, per Structural.

Provide tin-zinc coated copper flashing where the low-slope shed roofs meet the exterior log walls. Similar to the existing condition, the flashing should follow the log profile and terminate at the joint between logs.

At the eaves, provide pre-finished metal flashing with a drip edge. Provide a gutter and downspout along the east eave of the Men's Bath roof. The gutter and downspout should be historically compatible and appropriately sized. A six-inch galvanized half-round gutter is recommended. Ensure that the gutter slopes downward and provide a downspout extension to direct drainage away from the building. Coordinate with site work to ensure water drainage continues out through the site and not back toward the building.

See the Architecture - Exterior Trim and Millwork section for fascia trim recommendations.

The chimney cricket and flashing should be further inspected during roofing replacement. Replace flashing around the chimney in coordination with roofing replacement and masonry repairs. See the Architecture - Exterior Brick Masonry section for more information.

Boards at the dormer sidewalls visible in historic images appear to be applied vertically. Although historic drawings indicate shingles in these locations, there is no evidence that shingles were applied. A tongue and groove or ship-lap profile would be appropriate for this application. Recommend a white cedar or wood species which is naturally rot-resistant and light in coloration. Recommend providing a stain which contains mildicide and fungicide to deter future mildew and fungal growth. Alternatively, the Park has had success with a drip-applied preservative treatment on cedar shingles. This could be considered as a treatment for the board siding which would provide ease of maintenance for the Park.

Architecture - Exterior Walls

Priority: *Critical*

Recommend a full-scale rehabilitation of daubing and wood strip fill. All wood strip fill and daubing repair should occur after structural repairs have been completed.

Remove all loose and failing cementitious daubing. It is anticipated that 10% or less of the existing daubing will remain. Replace in kind or re-attach wood strip fill where loose or missing (assume 15% replacement and 25% re-attachment of loose strips). Apply a new cementitious daubing which matches the historic in composition and color. Craftsmanship of the existing or historic daubing should not be matched, as this has contributed to deterioration of daubing and

increased opportunity for water intrusion. Care should be taken to match the trowel markings present in the historic daubing.

Daubing should be applied with a minimum overall thickness of 1-inch, and overall should not vary in thickness by more than 1/4-inch. The resultant profile should be convex with a downward slope, to encourage positive drainage away from the joint rather than into the wall. The amount and thickness of the wood fill strips behind the daubing is what varies in order to maintain the appropriate edge locations and thickness of the daubing for each log void being filled.

Daubing is the least durable portion of a log construction building, as the exterior component most vulnerable to temperature changes, solar exposure, and weathering. As such, the daubing should be seasonally inspected and repaired. During seasonal maintenance, loose or failing daubing should be carefully removed and replaced with a lime cement daubing which matches the historic in composition and color.

Following daubing repair, provide a white-wash finish at the exterior face of logs.

At the interior face of log walls, similarly remove any loose or failing cementitious daubing. Gently re-pack oakum and newspaper infill. Provide oakum where missing (assume 20%). Replace in kind or re-attach wood strip fill where loose or missing (assume 5% replacement and 10% re-attachment of loose strips). Apply a new cementitious daubing which matches the historic in composition, color, and craftsmanship. See the Architecture - Interior Finishes section for additional treatment of interior walls.

Provide new oakum, wood strip fill, and cementitious daubing where logs are replaced, per Structural recommendations (assume 15% of all joints).

At dormer sidewalls, replace the vertically-applied rolled roofing detail in favor of a board siding with sidewall flashing. Remove the rolled roofing and inspect the wall assembly beneath. It is anticipated that the rolled roofing is applied directly over board sheathing at the sidewalls. Assess the board sheathing condition and replace where deteriorated. Provide a building wrap over top of the sheathing. Provide pre-finished metal step flashing at the sidewall connection. Utilize furring strips for mounting board siding over the building wrap to encourage positive drainage of moisture.

See the structural section for repair of log walls in coordination with the removal of the Kitchen wing and repair of the Stair wing.

Architecture - Exterior Brick Masonry

Priority: *Serious*

Treatment of the chimney should begin



Figure 5-2. Michigan Island Lighthouse at APIS. Ventilation fan with PV panel is attached atop the rear chimney at image left. (AH, 2012)

with a mortar composition analysis, testing samples from the interior and exterior. It is suspected that the exterior brick masonry has been re-pointed. The existing mortar is not compatible with the bricks as it is too firm and does not allow bricks to expand and contract. This has caused spalling of the brick faces.

Following mortar composition analysis, carefully deconstruct the chimney to the underside of the second floor framing and salvage bricks, per the Structural section. Reconstruct to the existing height. See the Structural section for additional information.

Future use of the fire place is not anticipated as multiple factors restrict its use, such as Park policy, Director's Order 58: Structural Fire Management, and section 2111 of the International Building Code. Since the chimney opening is non-functional, it can be used for an exhaust fan to ventilate the crawlspace. Provide an exhaust fan with integrated single PV panel atop the chimney, per Mechanical recommendations. Provide metal flashing and drip edge.

As evidenced in the included images of Michigan Island Lighthouse, this location will mitigate visual impact of the PV.

Architecture - Exterior Trim and Millwork

Priority: *Minor*

Replace in kind deteriorated window trim in coordination with window rehabilitation. Replace the wood window sill and 50% of exterior trim at the following windows:

- Living Room (101) east window on the north wall
- Hall (201) north window at dormer
- Bedroom (205) south window
- Stair Hall (105) north window



Figure 5-3. Michigan Island Lighthouse aerial view. Note ventilation fan with PV mounted atop capped chimney is not visible from the ground. (AH, 2012)

Prep and repaint all window and door trim.

Salvage fascia at the porch roof and re-install following reconstruction of the porch roof, per Structural. Provide new 1x7 fascia along the west eave of the porch roof (assume 25 linear feet). Anticipate replacement of 10% of fascia boards. Re-attach fascia where loose. Prep and re-paint all fascia boards.

Architecture - Exterior Porch

Priority: *Serious*

See the Structural section for the recommended reconstruction of the porch floor and roof structure.

Remove the porch decking to provide access for Structural work at exterior walls and floor framing. Salvage log columns for re-installation.

Reconstruct the porch in coordination with structural recommendations. Re-install salvaged log columns and provide new where missing or deteriorated (assume 4 new 8-inch diameter log columns). Prep and re-paint all columns.

Provide new decking to match the historic condition. Decking to consist of tightly spaced 4-inch width boards. Provide a herringbone-patterned joint at the southwest and southeast corners. Historic images indicate that the decking had a transparent finish, similar to the Living Room finish floor. Additional exploration of finishes is warranted in a future design project to select an appropriate transparent finish. Note that the appended cost estimate assumes a stained and varnished finish on decking boards.

In addition to salvaging log columns, salvage log railings and balusters for re-installation. Provide new log railings and balusters where missing or deteriorated (assume 100 lf). Prep and paint the columns, log railings, and balusters.

To create an ABA-compliant route to the porch, it is recommended that a ramp integral to the porch be provided. This should be studied further in a future, separate design project following a site survey. For cost estimating, assume that the ramp is located within the existing porch footprint on the east side, constructed as part of the porch reconstruction efforts. Site grading should be utilized to minimize ramp height so as to avoid additional railings and minimize visual impact.

Architecture - Windows

Priority: *Serious*

A phased approach to window repairs is recommended, such that windows can be stabilized prior to structural work and fully rehabilitated thereafter. For cost estimating, both stabilization and rehabilitation as described below is included.

Note that dependent upon actual phasing of work, removal of window sash may be necessary to protect glazing during structural work. This should be further coordinated during a future design project.

Phase I: Stabilization

The underlying principle behind the stabilization of windows is to allow for future rehabilitation while preventing further loss of historic fabric. Carefully remove broken glazing at the following windows:

- Living Room (101) west wall, south window: Remove cracked glazing in the top sash.
- Living Room (101) west wall, north window: Remove broken glazing in the bottom sash.
- Bedroom (204) south wall, east window: Remove broken glazing in the bottom sash.
- Bedroom (205) south window: Remove broken glazing in the top sash.
- Bedroom (205) east window: Remove broken glazing in the top and bottom sash.
- Stair Hall (105) north window: Remove broken glazing in the bottom sash.

Note that glazing which is cracked but stabilized is not recommended to be removed during this effort. Sash containing broken glazing may be removed and stored inside the building for future rehabilitation efforts. Off-site storage of sash is not recommended.

To prevent further damage and deterioration prior to rehabilitation, it is recommended that temporary shutters be installed at the exterior face of each window. A shutter which sits within the trim, in the location of a storm sash, is recommended. This should allow less water infiltration than a shutter applied over the face of the trim. Each shutter should be outfitted with fixed louver vents and insect screening to allow continued passive ventilation of the building.

Provide a plywood shutter at each window. Note that window openings are typically not square and plywood will need to be trimmed to fit each opening.

The method of shutter attachment should be considered to avoid damage to window trim and other wood elements. It is recommended that the plywood panels be toenailed into the adjacent trim to avoid attachment to the sash.

Preservation Brief 31: Mothballing Historic Buildings recommends a more reversible means of shutter attachment consisting of an interior horizontal strap, which is friction-fit to the window frame. This requires operability of both sash for a double hung window, or removal of sash altogether. As windows in the Lodge are of varying operability, the toenailed method as mentioned above is recommended for ease of install and protection of sash.

Phase II: Rehabilitation

Fully rehabilitate all windows (23 double-hung windows). Note that window operation was not tested during investigations and several sash appear to be inoperable due to structural settlement.

It is anticipated that some re-framing of window openings will be necessary where

distortion due to settlement is most extreme. For cost estimating, assume this occurs at five window openings. Note that this condition is most severe at the Stair Hall (105) north window.

The double-hung windows appear to be friction-hung rather than weighted. Carefully remove each sash for rehabilitation. Replace all cracked or broken glazing (9 instances observed, assume replacement of 5 additional lites).

Glazing putty is typically cracked, dry, and partially missing. Carefully remove all glazing putty in coordination with the glazing replacement noted above and provide new glazing putty. Strip sash of paint, prep, and re-paint. Prep and re-paint all wood elements of the windows. Rehabilitate hardware and replace locks where missing (assume replacement of eleven locks).

During rehabilitation, some sash and cased openings will require partial replacement or reconstruction to replace deteriorated wood. This applies to the bottom sash, sill, and some adjacent wood at the following locations:

- Living Room (101) east window on the north wall
- Hall (201) north window at dormer
- Bedroom (205) south window
- Stair Hall (105) north window

Two competing goals for the use and protection of windows are considered here: Window operation is a priority for the Park as the open windows are used to ventilate the building; Glazing has been broken as a result of driving winds and vandalism. As such, exterior storm windows intended for operable double-hung windows are recommended. Provide 23 custom-sized storm windows with an operable bottom

panel.

Architecture - Exterior Doors

Priority: *Serious*

Rehabilitate remaining exterior doors and salvage doors which are removed. With visitor access provided to the Living Room through the north door, modifications to this door for ABA-accessibility are required.

Operability of the Type A doors (main entry on the south façade) is limited as structural settlement has caused distortion of the opening. The west door does not open and the east door is difficult to close. Following structural work, carefully remove casing around the Type A doors and adjust the opening to incrementally increase head height as necessary for door operation. This may involve removing or replacing shims above the head. Re-install the door casing, replacing in kind where necessary. Prep and re-paint.

Remove and rehabilitate the Type A doors and the Type B door connecting to Men's Bath (104). During rehabilitation, replace the glazing putty at each lite, and prep and re-paint each door and its associated casing. Remove the padlock latch on the Type A doors and patch where impacted. Rehabilitate hardware on both doors to ensure smooth operation and locking ability.

At the Men's Bath (104) Type B door, remove and salvage the existing door knob and lockset. Provide a new code-compliant knob and lockset to allow this door to serve as a code complaint means of egress.

Remove and rehabilitate the Type B door at the Stair Hall (105) landing. Replace the glazing putty at the half-lite, prep and re-paint the door and re-paint the door and its associated casing. Hardware at this door is

not intended to be operable. Rehabilitate hardware, remove the exterior batten, and fix the door in the closed position.

The Type A doors at the main entry have a built-up wood threshold. Removal of the interior wood strip may be necessary to remove the west leaf. Replace this trim piece in kind. Replace also the quarter-round trim at the exterior following replacement of the porch decking. Prep and re-paint the wood threshold.

Remove and salvage the exterior door to the Kitchen (101) in coordination with removal of the Kitchen wing.

The Type C interior door which currently connects the Living Room (101) to the Kitchen (102) will become the primary means of visitor entry to the building interior with the removal of the Kitchen wing (also referred to as the north entry). As such, modifications for ABA-accessible passage are necessary. The door will also serve as a code-compliant means of egress.

This door is currently 30-inches wide, with approximately 28-inches of clear width. When re-framing the opening, expand its width to accommodate a 34-inch wide door. Expand the door panel during rehabilitation to 34-inches in width. Note that clear width during operation must be no less than 32-inches.

Although the existing hardware is historic, it is not accessible. Remove and salvage the historic lockset and replace with an ABA-compliant lever-operation latch and keyed lock.

As noted in the Site section, an ABA-compliant route to this door is included. Work at the

exterior will be necessary to provide a compliant route from the exterior path to the level of entry. Note that findings of the site survey and subsequent site grading design will inform the need for a ramp or graded approach. As this is unknown, assume a ramp is necessary. Where the path meets the level of entry, provide a wood-framed landing at the door exterior measuring 60-inches square. A ramp to the landing may be clad in wood or slip-resistant coated metal decking.

See the Architecture - Roofing System section for a description of the recommended new overhang roof to protect the entry.

Architecture - Interior Doors

Priority: *Minor*

Remove and salvage the Type D door at the base of the stairs. Infilled wall surrounding this door is a newer modification in poor condition and should be removed per the Architecture - Interior Finishes section.

Note that visitor access to the second floor is to be restricted. This requires a barrier at the base of the stairs. Provide a door at the base of the stairs in the same location as the existing Type D door. This new door may offer an opportunity for interpretive displays, which should be studied further in a future design project. Recommend providing a tempered glass door to allow visibility of the stairs.

See the Architecture - Exterior Doors section for work at the Type C door connecting the Living Room (101) and Kitchen (102).

Rehabilitate the remaining four interior doors. Gently clean each door to remove debris. Water-staining is not detrimental and can remain. Rehabilitate hardware to ensure smooth operation. Care should be taken to

retain the cigar box shim behind the strike plate at the door leading to Bedroom (202).

Following structural work, some doors may need to be trimmed at the base to avoid binding at the floor during operation. For cost estimating, assume this applies to two doors.

Architecture - First Floor Interior Finishes

Priority: *Minor*

This includes rehabilitation of the Living Room (101), Men's Bath (104) and Stair Hall (105).

See the Architecture - Exterior Walls section for rehabilitation of daubing and wood strip fill between logs. Historic photos indicate that logs were unfinished in these rooms without a white-wash. As such, logs should remain unfinished.

Per the Structural section, the floor structure will require significant replacement. Access for this, requires removal of the first floor finish. Carefully remove and salvage the historic wood flooring in the Living Room (101), Men's Bath (104), and Stair Hall (105) in coordination with structural work. Recommend tagging or numbering individual floor boards to ensure proper re-installation. Following structural work, re-install the salvaged flooring.

Assume 20% replacement in kind of the 1x2 tongue and groove boards (200 sf) in the Living Room and 60% replacement in the Stair Hall (36 sf). Lightly sand, stain, and re-varnish the board flooring in these rooms (1,075 sf total). Care should be taken to select a stain which will achieve a coloration matching the existing.

As noted in the Mechanical section, provide an in-floor transfer grille to allow active

ventilation of the crawlspace. This can be located in the Stair Hall (105) to mitigate visual impact.

In the Men's Bath (104), assume 40% replacement of the 2x6 tongue and groove boards, including replacement of rotted boards at the east (35 sf). Prep and re-paint the board flooring in this room (86 sf).

Prep and re-paint the center log column and two overhead beams in the Living Room (101). Gently clean the beams prior to re-painting to remove soot near the fireplace.

At the north wall of the Living Room (101), remove the plywood panel and fiberboard in coordination with repair of the log wall per Structural.

Following the stabilization of the chimney and fireplace, repoint mortar joints, per Structural. A plaster conservator should undertake the stabilization and re-installation of the bas relief (approximately 1.5 sf).

In the Stair Hall (105) roof structure shall remain exposed at the ceiling. Reconstruct the wood stair. Wood stair elements should remain unfinished, without applied paint or varnish.

Architecture - Second Floor Interior Finishes

Priority: *Minor*

The primary intent is to remove materials impacted by water intrusion, mold and mildew, and insects. As noted in the Structural section, no use of this space is recommended. NPS will access the space on occasion for building maintenance.

Remove all fiberboard and battens throughout and allow wood framing to remain without an applied wall or ceiling finish. Refer to the

appended Hazardous Materials Report for guidance on mold mitigation procedures. Note that removal of some trim may be necessary in order to remove the fiberboard. Carefully remove and salvage the trim where necessary.

See the Architecture - Exterior Walls section for rehabilitation of daubing and wood strip fill between logs. Historic photos indicate that logs were unfinished in these rooms without a white-wash. As such, logs should remain unfinished.

Remove and replace in kind any deteriorated roof sheathing per Structural recommendations.

Floor boards near the north wall of Hall (201) were observed to be damp and softened with rot. Remove the impacted flooring (approximately 30 sf). Similar rotted flooring was observed at the south end of Bedroom (204). Remove this impacted flooring as well (approximately 20 sf). Replace in kind the 1x4 tongue and groove flooring where removed (approximately 50 sf). To account for a 20% contingency of flooring lost during removal for structural access, assume an additional 50 sf of new 1x3 tongue and groove flooring is provided. Sand and stain to match the historic.

Some of the board flooring will need to be removed to allow for replacement of decking below where deteriorated. Assume 200 sf of flooring is removed, salvaged, and re-installed following structural work.

Architecture - Code and Life Safety

Priority: *Critical*

Means of Egress

For this alternative, the Living Room (101) is used as a day shelter for visitors. As an

Assembly - Exhibit Gallery and Museum function, per IBC table 1004.5, an occupant load factor of 30 net is applied to this space. The resultant occupant load for the 1,015 square-foot room is 33 persons.

Per IBC table 1015.1, assembly spaces with one exit are restricted to a maximum occupant load of 49 persons. As such, one code-compliant exit must be provided for this space.

See the Architecture - Exterior Doors section which includes treatment the north exterior door to serve as a means of egress. This is the Type C interior door connecting the Living Room (101) and Kitchen (102), which becomes an exterior door with the removal of the Kitchen and Stair wings.

The rest of the building would be unoccupied and the Men's Bath (104) may be used for occasional storage. This most closely matches the Warehouse function in IBC table 1004.5, with a factor of 500 gross. The resultant occupant load for 90 sf Men's Bath (104) is 1 person. As such, egress must be provided from the Men's Bath (104), as well. See the Architecture - Exterior Doors section for improvements to this door for egress.

Fire Suppression

Per Director's Order 58: Structural Fire Management, a structural fire assessment should be completed by the Park to develop a plan to protect this cultural resource. A fire suppression system in full compliance with NFPA 13 will be nearly impossible based on the Lodge's remote location and lack of a reliable water source for sprinklers. An exception will require approval from the regional authority having jurisdiction.

Other Code Items

Reconstruction of the stairs will require a variance from the authority having jurisdiction, as there is not sufficient area within the existing footprint to provide code compliant riser, tread, and landing dimensions, per IBC section 1011. Provide code compliant handrails, wood-framed guard, and tread nosings in a manner which is sympathetic to the historic design intent.

Some accommodations for compliance, as permitted by the IEBC exceptions for historic buildings, may permit reconstructing the stair within the same footprint. This should be studied further in a future design phase.

Architecture - Accessibility

Priority: *Critical*

Visitor access is provided to the Living Room (101), via the north door. A new ramp, within the footprint of the reconstructed porch, provides access to the porch, only.

Note that as the main entry is not ABA-accessible, two separate routes are provided to the building interior and porch. The double door main entry would need to be replaced to accommodate sufficient clear-width. Additionally, there is a 9-inch level change between porch decking and the interior finish floor. Increasing the deck height would require modifications to the roof above to provide adequate clearance, and so modification of this door is not recommended.

See the Architecture - Exterior Doors section which includes treatment the north exterior door to serve as an ABA-compliant entry. This is the Type C interior door connecting the Living Room (101) and Kitchen (102), which becomes an exterior door with the removal of the Kitchen wing.

West Bay Club Lodge

Structural

Structural - Foundations

Priority: Critical

Carefully demolish the Kitchen (102) foundations.

After prepping the site soil per geotechnical recommendations, support sill, spandrel, and interior beam lines on galvanized steel grade beams over void form spanning between helical pier foundations. Support the porch posts on helical piers. Assume 66 total helical piers for estimating. Conceal the exposed portions of the foundation system with a sacrificial log skirt that will need to be replaced periodically.

Alternatively, the helical pier brackets could be directly attached to the bottom logs of the wall where in sound condition and installed from the interior crawlspace in order to conceal the brackets. This alternative would require more helical piers than the steel grade beam solution as the logs cannot span as far.

Coordinate the final elevation of the structure during the design phase once further information, such as a site survey, has been acquired. The final design elevation will need to take into consideration the site requirements, access, structural concerns, code requirements, and the building's historic relationship to the site.

At the center column, provide an adjustable column base on a reinforced concrete pile cap with ledgers for the floor framing. This configuration can be supported by one helical pier.

Excavate the crawlspace to provide a minimum of 18" clearance from the bottom of the joists. Crawlspace drainage

and ventilation requirements should be determined in a future design phase in coordination with overall site drainage.

Install a 4" diameter perforated pipe underdrain / foundation drain below frost depth, bedded in free-draining gravel and wrapped in a geotextile filter material along the north side of the building per the geotechnical recommendations.

Jack and plumb the existing concrete chimney footing and portion of the chimney to be salvaged as described in the Structural Wall Framing treatment recommendations. Verify the existing concrete chimney footing can span between new foundation underpinning elements by investigating the dimensions and reinforcement of the footing when the crawlspace is exposed. If the existing footing cannot span, augment the existing footing with a reinforced concrete footing beneath the existing footing. Underpin the concrete footing under the chimney with four helical piles (one located in each corner).

Structural - Floor Framing

Priority: Critical

Carefully demolish the remaining Kitchen (102) floor framing.

After shoring the building, carefully remove and salvage the existing flooring per the Architectural recommendations. Remove the subfloor in order to access the first floor framing and foundations from the interior of the building. Inspect the condition of the first floor framing members and remove elements of the first floor structure that are deteriorated (assume 95%±). Salvage any non-deteriorated framing members while supplementing the existing remaining framing with pressure-treated laminated veneer lumber (LVL), fire-retardant treated

wood, or steel members (please note that LVL material was used to create the cost estimate associated with this narrative, but final selection of the material should be studied in a future design phase). Where the floor framing is deteriorating, re-frame the floor with pressure-treated LVL members. Sheathe the framing with panel sheathing to support the salvaged finish flooring to be reinstalled.

Reconstruct the porch floor framing to match the footprint and profile of the original framing system with pressure treated timber and/or LVL framing.

Restrict use of the second floor to periodic access by two or three NPS personnel at a time. Do not use the space for storage.

Remove areas of deteriorated flooring and subfloor on the second floor and replace in kind.

Ledge the new floor framing to the side of the existing concrete chimney foundation once stabilized.

While shored for the chimney work, inspect the ends of the dropped second floor beam and second floor joists currently embedded in the brick chimney. Remove deteriorated material and replace with a structural dutchman or splice of the same species and dimensions if necessary. Wrap the ends of the framing members in vapor barrier and resupport on the reconstructed upper portion of the chimney.

Structural - Roof & Ceiling Framing

Priority: Critical

Carefully demolish the Kitchen (102) roof framing.

Strengthen the main roof by sistering each

rafter with full length (2) 1 ¾" x 7 ¼" LVL members. Install a dropped 2x8 gusset under the ridge board at each rafter pair. Install holdowns at each rafter pair just above the existing collar tie with a steel rod extending across the section of the roof. A turnbuckle will be installed at the center of the rod.

Replace the missing gable end kicker.

Sister any split rafters (assume 4 locations for pricing).

Strengthen the dormer roofs by adding additional 2x4 rafters at a tighter spacing and sistering the headers with LVL lumber between the existing rafters.

Strengthen the rafters in the Stair Hall (105) with 2x6 rafters in between the existing rafters. Provide blocking between the rafters at the third points of the rafter span. Strengthen the header supporting the south end of the rafters in the Stair Hall (105) with LVL or steel members.

Replace the deteriorated log rafter in the Men's Bath (104) with a log of matching dimensions and species. Strengthen the roof of the Men's Bath (104) by providing additional log rafters between the existing rafters. Remove and replace any deteriorated roof sheathing in place.

Remove and reconstruct the porch roof framing to match the profile of the existing with a properly flashed ledger connection at the wall. It will be necessary to add more rafters than the original construction or reinforce the log roof framing with steel beams.

Overlay the existing board sheathing on all roofs with panel sheathing to provide a

substrate for the new roofing materials.

Although LVL material has been utilized in the cost estimate associated with this narrative, please note that the recommendations suggesting the use of LVL material can be further studied in a future design phase with regards to flammability, depth, and aesthetics. Potential material alternatives include fire-retardant treated wood and steel.

Structural - Wall Framing

Priority: Critical

Carefully demolish the Kitchen (102) wall framing.

Shore the building and remove all deteriorated wall logs and replace in kind with logs matching the dimensions and species of the original. Where only portions of the logs are deteriorated, remove the deteriorated material and install a dutchman or splice repair.

- Around the entire perimeter of the building, assume the bottom two logs will need to be fully replaced.
- At the north wall of the Living Room (101), assume 35% of the wall area will require dutchman or splice repairs.
- At the walls of the Stair Hall (105), assume that 25% of the wall area will require a mix of full replacement and dutchman or splice repairs.
- At the walls of the Men's Bath (104), assume that 65% of the wall area will require dutchman or splice repairs.
- At the log crowns around the perimeter of the building, assume 50% will need to be replaced with dutchman or splices.
- Provide an allowance for deteriorated logs not previously identified. Assume 2% of the total wall area.

Install borate impel rods in the bottom two logs around the perimeter of the structure and at areas at high risk of deterioration. Drill holes on the interior of the structure at spacing required by the manufacturer in inconspicuous areas for impel rod installation and plug with a wood plug to match the surrounding log. Please note that the impel rods will need to be replaced periodically per the manufacturer's recommendations.

Coating the logs with a water repellent was considered, but is not recommended for several reasons. There is a high level of maintenance required to upkeep these coatings which could be difficult on this remote site. Also, there is a tendency for a small area of the coating to fail and trap moisture in the log rather than letting it dry out causing decay fungi to flourish and deteriorate the wood member.

Once the species of insect causing the infestations throughout the building are identified by an entomologist or other insect expert, eradicate the infestation using NPS approved chemicals. The Park has had success eradicating active infestations at other buildings in the area with a local exterminator that uses NPS approved chemicals such as Cy-Kick CS (cyfluthrin) for carpenter ant and powderpost beetle infestations. Note that this action will likely need to be repeated as cyclical maintenance.

Shore the dropped second floor beam and the two second floor joists bearing in the existing chimney. Deconstruct and salvage the materials of the top of the chimney down to the top of the fireplace where the brickwork steps down in footprint dimensions in order to salvage the fireplace and existing foundation. Jack and plumb the existing concrete chimney footing and

portion of the chimney to be salvaged to align with the log wall to the north. Underpin the chimney and foundation (see the Foundation recommendations) and reconstruct the chimney above the fireplace up to the current height of the chimney (several feet above the roof after the upper portion was removed in 2019). Utilize salvaged bricks from the existing upper portion of the chimney (assume 75% are salvageable) and point with a compatible mortar as determined by a material analysis of a sample of the original mortar. Provide an isolation joint between the back of the chimney and the log wall.

Inspect the corroding steel lintel over the fireplace opening. If the rust can be removed without significant section loss, remove the rust, strengthen the lintel with additional steel by welding another section on the backside of the existing lintel, and coat the lintel with a low-VOC galvanizing paint. If too much section loss has occurred, replace the lintel with a galvanized steel lintel.

Structural - Lateral Force Resisting System

Priority: Minor

Verify or provide a positive connection between the roof framing and the wall framing.

Provide strategically placed holdowns from the wall assembly to the new foundation system.

West Bay Club Lodge

Mechanical

Mechanical - Heating

Priority: N/A

Heating of the building is not recommended.

Mechanical - Cooling

Priority: N/A

Cooling of the building is not recommended.

Mechanical - Ventilation

Priority: Critical

Provide active crawlspace ventilation via a fan system. Fan and supporting PV panel to be mounted atop the chimney. See electrical for more information on the PV panel. Provide a 6-inch diameter duct down the chimney, terminating above the firebox. Provide an in-floor transfer grille in the first floor to provide air exchange from the crawlspace through the chimney.

Mechanical - Fire Protection

An active fire protection system is not recommended for the building based on limited power, supervisory alarming, and heating of the building not available. A structural fire management assessment and/or approval from the regional authority having jurisdiction will be required to provide an exception.

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West Bay Club Lodge

Plumbing

**Option A: Stabilization for Future
Preservation**

Plumbing - Fixtures

Priority: *Minor*

Remove and salvage the kitchen sink.

Lavatories and utility sink to remain in place
without operability.

Plumbing - Piping

Priority: *Minor*

Piping to remain in place without operability.

Piping should be removed as needed for
structural work.

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West Bay Club Lodge

Electrical

Electrical - Gas Light Fixtures and Piping

Priority: *Minor*

Fixture to remain inoperable and in place due to the historic nature.

Electrical - PV

Priority: *Critical*

Provide PV Panel, mounted on reconstructed chimney to serve crawlspace ventilation. Location of PV service to be coordinated during design. Battery needs to be assessed to meet ventilation requirements. PV systems require regular monitoring by Park staff.

Note that no solar-powered lighting is recommended, as this has not been identified as a need by the Park. Solar lighting would require additional PV panels, which would have a visual impact.

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Icehouse

The recommended treatment for the Icehouse is removal. Stabilization and relocation were considered as possible treatments. Stabilization of the building would require significant structural work, including the provision of a foundation and floor framing and strengthening of the roof. Construction logistics associated with stabilization of the structure would require tree removal and site excavation, thus destabilizing the hillside and jeopardizing the cultural landscape and primary asset of the site, the historic West Bay Lodge. It is estimated that approximately 25% of the Icehouse could be salvaged for reconstruction in a new location. As documented in the appended minutes, stakeholders determined that funds would be best allocated to preservation of the Lodge versus the Icehouse, a secondary feature which has already suffered significant loss by deterioration.

As such, stabilization and relocation of the structure were both considered but dismissed. Removal of the structure requires thorough documentation prior to deconstruction to inform future interpretation opportunities.

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Icehouse

Site

Icehouse will be deconstructed and removed. Historic American Buildings Survey (HABS) and Historic American Landscapes Survey (HALS) documentation will be completed prior to deconstruction.

The following actions build upon recommendations of the 2019 Sand Island CLR and address recent bluff erosion and destabilization of the Icehouse site. Actions promote bluff stabilization, protection of contributing views and features, and interpretation of Icehouse.

Site - Overall Rehabilitation

Priority: *Serious*

Preserve bluff vegetation to the extent possible with the deconstruction and removal of Icehouse. Consider maintaining a clearing at the Icehouse site. Repair with species that support bluff stabilization. Consider the height and spread of mature plants. Ensure plantings will not obscure views to/from West Bay Club Lodge.

Allow measures to support slope stabilization during and after the removal of the Icehouse (e.g., expand shoreline armor).

Protect contributing concrete stairs during and after the removal of the Icehouse.

Priority: *Minor*

Provide self-guided interpretive information marking the location of the Icehouse site. Ensure placement does not detract from the historic setting, is subordinate to West Bay Club Lodge, and does not diminish or obstruct historic views.

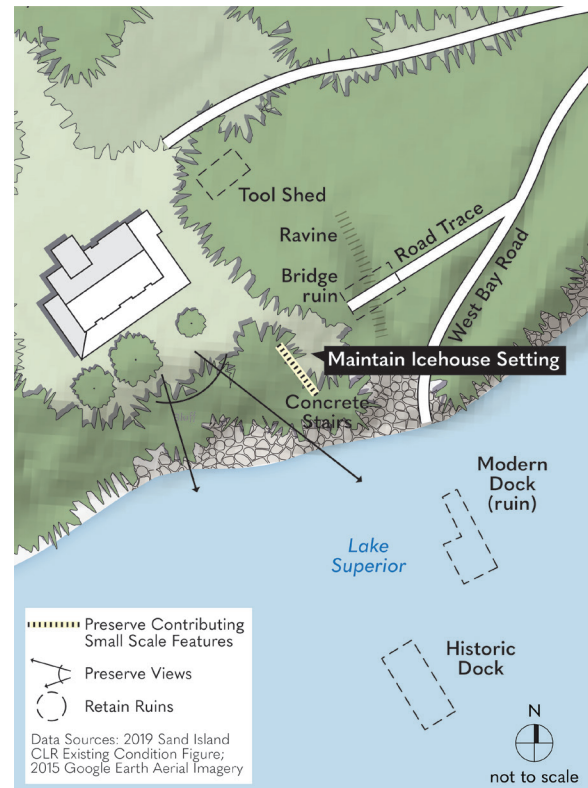


Figure 2-3. Icehouse Site Treatment (Mundus Bishop, adapted from 2019 Sand Island CLR Map).

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Icehouse

Architecture

Architecture - Documentation

Priority: *Serious*

The building has undergone several changes in recent years as a result of planar distortions associated with settlement. These planar distortions require additional measurement and documentation when developing scaled drawings, versus a building with plumb walls and level floors.

Based on the advanced deterioration observed, it is recommended that the building be thoroughly documented in its current state. This documentation should serve as a record of the historic fabric and a basis for future reconstruction design, to be conducted in a separate design project.

The level of documentation should be consistent with Historic American Building Survey (HABS) Guidelines. This may be achieved with either traditional manual methods, or a laser measuring system such as lidar. Data gathered by lidar would inform a digital model of the building and surrounding site with a high level of precision.

When selecting a method of documentation, the unique site constraints will need to be considered. Lidar measuring may eliminate the need for a survey crew to gather topographic information, but would require a trained technician with laser-scanning equipment.

Architecture - General System

Priority: *Critical*

Following documentation, carefully deconstruct the Icehouse. At this time, it is not anticipated that any material would be salvaged for reuse.

It is recommended that interpretive opportunities for the expression of the Icehouse be considered in a future design phase. Wayside signage, displays inside the Lodge, and virtual opportunities should be considered.

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Icehouse

Structural

Structural - Foundation

Priority: *Critical*

After documentation per the Architectural recommendations, deconstruct the existing foundations.

Structural - Floor Framing

Priority: *Critical*

After documentation per the Architectural recommendations, deconstruct the existing floor framing.

Structural - Roof & Ceiling Framing

Priority: *Critical*

After documentation per the Architectural recommendations, deconstruct the existing roof and ceiling framing.

Structural - Wall Framing

Priority: *Critical*

After documentation per the Architectural recommendations, deconstruct the existing wall framing.

Structural - Lateral Force Resisting System

Priority: *Critical*

After documentation per the Architectural recommendations, deconstruct the existing Lateral Force Resisting System.

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Icehouse

Mechanical

Mechanical - Heating/Cooling/Ventilation

Priority: N/A

Heating/Cooling/Ventilation of the building is not recommended.

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Icehouse

Plumbing

Plumbing

Priority: N/A

Plumbing of the building is not recommended.

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Appendix

Appendix A - Bibliography
Appendix B - Historic Drawings
Appendix C - 2022 Kick-off Meeting Minutes
Appendix D - Existing Conditions Drawings
Appendix E - 2022 Daubing Analysis Report
Appendix F - 2022 Wood Analysis Report
Appendix G - 2022 Geotechnical Report
Appendix H - 2022 Hazardous Materials Report
Appendix I - 2022 Life Safety Report
Appendix J - 2022 Log Deterioration Extents
Appendix K - Draft Treatment Alternatives
Appendix L - Class C Cost Estimate - Treatment Alternatives
Appendix M - Treatment Workshop Minutes
Appendix N - Updated Class C Cost Estimate with Conceptual Phasing
Appendix O - May 2023 Kitchen Wing Update from APIS

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Appendix B - Historic Drawings

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Appendix C - 2022 Kick-off Meeting Minutes

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Appendix D - Existing Conditions Drawings

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Appendix E -2022 Daubing Analysis Report

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Appendix F - 2022 Wood Analysis Report

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Appendix G - 2022 Geotechnical Report

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Appendix H - 2022 Hazardous Materials Report

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Appendix I - 2022 Life Safety Report

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Appendix J - 2022 Log Deterioration Extents

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Appendix K - Draft Treatment Alternatives

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Appendix L - Class C Cost Estimate - Treatment Alternatives

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Appendix M - Treatment Workshop Minutes

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Appendix N - Updated Class C Cost Estimate with Conceptual Phasing

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Appendix O - May 2023 Kitchen Wing Update from APIS

Following severe winter storms and record wet snowfall, the Park visited West Bay and gathered the following documentation. This documentation was shared with Anderson Hallas on 05/23/2023.

During the 2022-2023 winter season, the Kitchen Wing roof collapsed under significant snow loads. No other impacts to the building were observed. As of May 2023, the Icehouse remains standing, similar to conditions documented in this HSR. No images of the Icehouse were provided.



Figure 3-1. Lodge viewed from north. Kitchen Wing is at image center with significant roof collapse. (APIS, 05/23/2023)



Figure 3-2. Lodge viewed from southeast. No other damage from snow was apparent during the visit. (APIS, 05/23/2023)



Figure 3-3. Interior view of collapsed Kitchen roof. View facing northwest in the Kitchen. (APIS, 05/23/2023)

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WEST BAY CLUB STRUCTURES
APOSTLE ISLANDS NATIONAL LAKESHORE
Historic Structures Report

2023