National Park Service
U.S. Department of the Interior



GRAND MARAIS USCG LIFESAVING STATION
PICTURED ROCKS NATIONAL LAKESHORE
Cultural Landscape Report

PMIS # 227908

October 2020



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In compliance with Secretary's Order 3380, the overall project cost for this two volume study is $406,926.10.

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Acknowledgments

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Grand Marais US Coast Guard Station
CULTURAL LANDSCAPE REPORT
Pictured Rocks National Lakeshore

Grand Marais, Michigan

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NPS PMIS # 227908

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Chapter 1: Introduction

Introduction

This document presents the Cultural Landscape Report (CLR) for Grand Marais United States Coast Guard Lifesaving Station (Grand Marais USCG Lifesaving Station) within Pictured Rocks National Lakeshore (PIRO) in Michigan's Upper Peninsula.

This CLR is the primary treatment document for the cultural landscape associated with the Grand Marais USCG Lifesaving Station. In conjunction with the Historic Structure Report (HSR), this CLR will serve as a record of the history of the property including pre-United States Life-Saving Service and United States Lighthouse Board development, USCG development, and the present-day NPS and USCG ownership. The two documents will provide guidance for the long-term care of the site. A cohesive treatment for the buildings and cultural landscape will provide guidance for repair, additions and upgrades, and preservation of features that support operational and visitor uses.

This CLR presents detailed documentation of Grand Marais USCG Lifesaving Station's historical development, existing condition, analysis of integrity and identification of contributing features. The separate Historic Structures Report (HSR) presents the development, condition, and treatment for the historic buildings. This document establishes a treatment philosophy and treatment recommendations to guide long-term care and stewardship of the cultural landscape. Recommendations support operational and visitor use, enhance resource condition, and support interpretative programming.

This work builds upon previously developed studies, investigations, and documents for Grand Marais USCG Lifesaving Station. These include PIRO's Foundation Document, Long Range Interpretive Plan (LRIP), and several other plans and resource reports. Treatment recommendations are consistent with the park's General Management Plan (GMP)/ Environmental Impact Statement (EIS).



Figure 1-1. Grand Marais United States Coast Guard Lifesaving Station within Pictured Rocks National Lakeshore (PIRO) in Michigan's Upper Peninsula (source: Mundus Bishop, 2019).

Study Area

Pictured Rocks National Lakeshore (PIRO) is located along the south shore of Lake Superior within Michigan's Upper Peninsula. PIRO features backcountry and drive-in campgrounds and trails, miles of sand beaches, and several maritime navigational sites. Grand Marais USCG Lifesaving Station (the study area) is located within PIRO.

The study area is in the town of Grand Marais, Michigan on the eastern end of the park. It consists of the study area's cultural landscape, four historic buildings—Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Harbor of Refuge Dwelling (HS-20) and USCG Equipment Building. All are associated with the historical development of the lifesaving station and light station.

Grand Marais USCG Lifesaving Station originated as both a lifesaving station and a light station in the 1880s. The site was established as one of a series of stations along a treacherous stretch of Lake Superior known as the "graveyard of the Lakes" due to the number of vessels and lives lost. During the early years of station development throughout Lake Superior, Grand Marais represented the single station along the ninety-eight mile stretch between Deer Park and Marquette. [1.1]

1.1 "Coast Guard Station, Built in 1900, Razed." The Escanaba Daily Press, August 27, 1943.

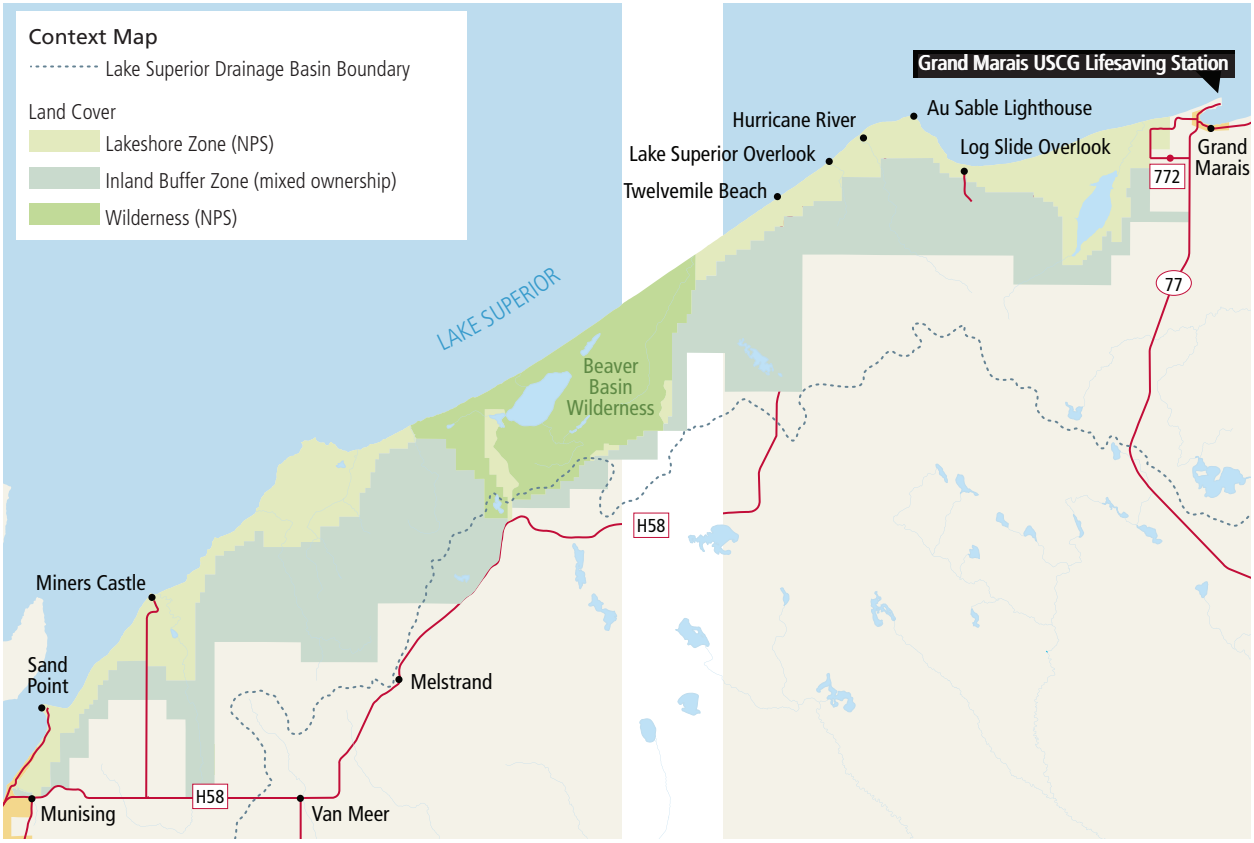


Figure 1-2. Grand Marais USCG Lifesaving Station is a component of Pictured Rocks National Lakeshore. (Mundus Bishop, adapted from NPS PIRO Map).



Figure 1-3. Existing condition of Grand Marais USCG Lifesaving Station. The cultural landscape includes spatial patterns, buildings, structures, circulation, and vegetation established by the Revenue Marine, United States Life-Saving Service, and USCG.

In the late 19th century the Great Lakes region experienced economic growth and Lake Superior became intensively used for transporting goods. The lake was difficult to navigate due to sudden and intense storms, forcing ships to hug the shorelines due to the limitations of early navigation systems and the frequent need to re-supply with fuel (generally, cordwood prior to the Civil War and coal after). The need for navigational aids was identified in the 1850s, particularly once the United States Army Corps of Engineers dredged a navigational access channel into Grand Marais Harbor authorized by the River and Harbor Act in 1880. This opened Grand Marais to increased lake traffic and assisted in the growth of the region's ore and lumber industries.

Grand Marais was developed as a lifesaving station and light station through the work of two sister agencies—the U. S. Lighthouse Board and the United States Life-Saving Service (USLSS). Development began in 1900 when the United States Life-Saving Service (USLSS) built a lifesaving station. The building, structures and site were oriented toward Grand Marais Harbor's West Bay as it enabled boats to be launched directly into the protected harbor during storms. The station dwelling was sited with clear sight lines from the watchtower to the channel, lake, and harbor with boat storage and living quarters under one roof. Soon afterwards, the United States Lighthouse Board built a beacon tower, light, bell, and light keeper's dwelling on the outer end, and along a strip of land, along West Pier. The building and lights were set with clear sight lines to the Navigational Channel. [1.2]

Staffing needs increased for the USLSS by the 1930s requiring an expanded facility. The station was designed and organized as a complex of separate buildings and spaces that provided specific functions—administration, living quarters, boathouses, garages, equipment sheds, and other purposes—essential for the efficient functionality of the station. Buildings and structures were connected visually and physically by walkways and a central loop road. [1.3]

The role of actively staffed lifesaving light and lifesaving stations on Lake Superior began diminishing in the 1960s. By 1966 Grand Marais Station was one of only a few stations in operation. The USCG continued to invest in the study area through navigational upgrades, building repairs, and utility and infrastructure modifications. Many outbuildings and structures were removed sometime after 1966.

The study area is significant (under NRHP's Criterion A, at the local level) for its association with the history of lighthouse and life saving activities on Lake Superior. It is also significant (under NRHP's Criterion C) for embodying the distinctive characteristics of light station and United States Coast Guard station design from the late nineteenth century to the 1930s. The Inner and Outer Lights are listed in the NRHP (Criterion A and C) for their role as navigational aids embodying and exemplifying skeletal tower lighthouses of the late nineteenth century to the early twentieth century." [1.4]

1.2 "Coast Guard Station, Built in 1900, Razed."
1.3 U.S. Department of the Interior, *U.S. Government Lifesaving Stations Nomination Form*, 37.
1.4 HSR and U.S. Department of the Interior, National Park Service. *Grand Marais Harbor of Refuge Inner and Outer Lights Nomination Form*. Washington D.C.: National Park Service, 2012, 12.

Project Objectives

This CLR addresses the need to preserve and rehabilitate Grand Marais USCG Lifesaving Station's historically significant structures and cultural landscape, address staff and visitor access and compliance with building and life safety code requirements.

This document will provide needed baseline documentation, record changes to the cultural landscape over time, supplement existing historical data, provide recommendations for further study, and provide holistic guidance for treatment and resource protection. The document will connect cultural landscape maintenance to other resource management plans and projects.

This CLR addresses the following objectives.

- Document the development and existing condition of the historic landscape.
- Perform an accessibility assessment for all buildings to identify barriers to universal access.
- Develop treatment options for altering/ expanding staff parking, providing accessible staff restrooms, and accessible pathways at the site.
- Develop treatment options for continued administrative and residential use of buildings while providing public access to the site.
- Develop treatment options for locating a barrier free vault toilet in a manner compatible with the overall treatment approach for the property.

Report Methodology

This document was prepared in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes* and *A Guide to Cultural Landscape Reports,*[1.5] conducted at a thorough-level investigation and documentation. A review of select documentation of known and presumed relevance included readily available primary and secondary sources. These included data from PIRO, Northern Michigan University, Grand Marais Historical Society, and Records of the 9th United States Coast Guard District, Cleveland. Planning documents, administrative reports, technical reports, natural resource studies, and correspondence were reviewed. Review of historical documentation included drawings and photographs, and correspondence from primary and secondary sources.

Background data provided by the NPS was used to prepare drawings and illustrations. This included original construction drawings, supplemented with field observation and measurements.

Site investigations in the fall of 2019 documented existing conditions. The existing condition investigation was conducted according to best practices.

This CLR did not include archeological investigations.

1.5 Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan, *A Guide to Cultural Landscape Reports: Contents, Processes and Techniques* (Washington D.C.: National Park Service, 1998).

Park Purpose and Significance

Pictured Rocks National Lakeshore was established by Public Law 89-668 on October 15, 1966 to "preserve for the benefit, inspiration, education, recreational use, and enjoyment of the public, a significant portion of the diminishing shoreline of the United States and its related geographic and scientific features."

PIRO extends from the communities of Munising and Grand Marais for 42 miles along the south shore of Lake Superior. Multicolored sandstone cliffs extend 12 miles along the western portion of PIRO and reach heights of almost 200 feet. The eastern portion of PIRO includes Grand Sable Dunes which rise more than 300 feet above the lake. The dunes are a major attraction and a rare occurrence in the Great Lakes region.[1.6]

The *General Management Plan* describes the significance of PIRO in the following statements.[1.7]

- Preserves and affords public access to a spectacular and diverse segment of the Lake Superior shoreline.
- Bedrock geology and glacial landforms provide significant topographic relief marked by streams, inland lakes, and a diversity of associated vegetation.
- The shoreline offers extraordinary and inspirational scenic vistas of Lake Superior, the largest surface area of fresh water on earth.
- PIRO offers a variety of affordable year-round recreational opportunities for appropriate public use.
- The lakeshore contains a spectrum of cultural resources focused on the human use of Lake Superior and its shoreline.
- Lying in a transition zone between boreal and eastern hardwood forest, the lakeshore's scientifically recognized assemblage of flora and fauna is representative of associations unique to the Lake Superior Basin.

1.6 U.S. Department of the Interior, National Park Service, *Final General Management Plan and Wilderness Study Environmental Impact Statement, Pictured Rocks National Lakeshore* (Munising: National Park Service, 2004), 3.
1.7 U.S. Department of the Interior, *PIRO General Management Plan*, 13-14.

Management

The study area is managed by multiple public agencies. The NPS owns and manages Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and the surrounding grounds. NPS leases Harbor of Refuge Dwelling (HS-20) to Burt Township for a museum operated by Grand Marais Historical Society. The USCG owns the Equipment Building, Inner Range Light, Outer Range Light, and launchway to the west. NPS is in the process of acquiring the Equipment Building. The United States Army Corps of Engineers owns and manages East Pier, West Pier, and navigation channel. Burt Township owns and manages Agate Beach.

Management Issues

Several management issues were identified through discussions with PIRO staff, during the existing conditions evaluation, and from reviewing the GMP and LRIP. Treatment recommendations assist in addressing the following identified management issues.

Public Use

The study area maintains administrative and operational uses at Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Equipment Building. Public use at Agate Beach, West Pier, gravel parking areas, and the Harbor of Refuge Dwelling (HS-20) is increasing. Guidance is needed on how to best manage visitor use.

Operational Needs

Limited parking is available for administrative and operational uses at Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Equipment Building. Guidance is needed on how to meet existing and future parking needs in a manner compatible with the cultural landscape.

Vegetation Resources and Management

Mature trees from the period of significance are overgrown and present potential hazards to historic structures and visitors. Guidance is needed for vegetation management.

Resource Management

The beach and dune landscape supports federally listed species and critical habitat known to be present in the study area—pitcher's thistle (*Cirsium pitcherii*) and piping plover (*Charadrius melodus*). Guidance is needed to address resource protection and how to best manage visitor use in these areas.

Accessibility and Architectural Barriers

An accessibility assessment is needed to identify barriers to access. Accessibility is needed for staff and public use. Limits to providing access to first floors of buildings may impact future interior uses.

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Chapter 2: Site History

Introduction

This chapter presents an overview of the physical evolution of the study area from its origins as lands inhabited by American Indians to its development for navigational and lifesaving functions. This later period, from the 1800s through present-day, is characterized by development by the United States Life-Saving Service (USLSS) and United States Coast Guard (USCG) and subsequent alterations by the NPS, United States Coast Guard Auxiliary, United States Army Corp of Engineers, and Burt Township.

Native Ojibwe people inhabited the study area for centuries prior to European American settlement. As shipping and commerce grew on Lake Superior in the 1800s, the site's location and setting prompted its development as a light station with a navigational channel, piers, and lights. The site was further developed as a lifesaving station by the USLSS and USCG. The USLSS and USCG established a pattern of buildings, structures, circulation routes and vegetation that exists today. This site was established as part of Pictured Rocks National Lakeshore in 1996.

This chapter begins with a historical overview of the development of the region and study area. It is followed by a statement of significance for the study area, including a rationale for the recommended period of significance of 1898 to 1961. It concludes with a chronology of physical development and change, divided into six periods of development.

Historical Context and Overview

Small groups of prehistoric inhabitants used the southern shores of Lake Superior for hundreds of years on a seasonal basis. Archeological studies reveal a subsistence pattern of spring and fall fishing with hunting and winter and summer plant collecting. Archaic fishing camps occurred along the ancient shoreline of Lake Superior, portions of which are visible in Grand Marais. [2.1]

Ojibwe people used sheltered bays like the one at Grand Marais as camps during their seasonal travels along the lakeshore and written accounts document the presence of an eighteenth-century Ojibwe village at Grand Marais.

Commercial traffic began on Lake Superior in the 1840s. Dangerous cliffs, offshore reefs, and storms imperiled mariners and aids to navigation were developed along the coast of Lake Superior. The United States Government recognized the strategic location of Grand Marais, the only natural harbor along a ninety-mile stretch of Lake Superior shoreline between Grand Island and Whitefish Point, and reserved land for a lighthouse in 1853, designating it a harbor of refuge in 1880. The development of a navigational channel and piers, authorized by The River and Harbor Act in 1880, opened Grand Marais to increased lake traffic.

The town of Grand Marais was platted in 1883 and by the 1890s was an important center of the region's lumber industry, with five mills on the bay, about 400 vessels arriving annually, and nearly 150,000 tons of lumber shipments per year. [2.2]

2.1 M. Nieves Zedeno, Richard W. Stoffle, Fabio Pittaluga, Genevieve Dewey-Hefley, R. Christopher Basaldu, and Maria Porter, *Traditional Ojibway Resources in the Western Great Lakes, Final Report* (Tucson: Bureau of Applied Research in Anthropology, The University of Arizona, 2001), 118, 122.

2.2 U.S. Department of the Interior, National Park Service, *Submerged Cultural Resources Study, Pictured Rocks National Lakeshore* (Munising: National Park Service, 1989), 15.

Grand Marais originally consisted of two separate components, a light station and a lifesaving station. Light station development included a beacon tower, light, and bell, and light keeper's dwelling. Lifesaving station development included boat storage and living quarters under one roof.

Congress appropriated funds to the Treasury Department's Revenue Marine division in 1871 to hire paid employees to staff its system of federally supported lifesaving stations and the number of federal lifesaving stations grew. The United States Life-Saving Service (USLSS) was established as a separate agency within the Treasury Department in 1878. Professionally staffed lifesaving stations expanded along the nation's coasts. The USLSS station in Grand Marais was built in 1900 as an integrated dwelling and boathouse with a launchway.

The "Act to Create the Coast Guard" of 1915 merged the USLSS with the Revenue Cutter Service. [2.3] Maritime life saving continued as a core mission for the United States Coast Guard (USCG) and many Life-Saving Service Stations became USCG lifeboat stations. Grand Marais USCG Lifesaving Station operations grew, and additional facilities were built between the 1920s and 1962. The study area developed as a complex of separate buildings and spaces providing specific functions—administration, living quarters, boathouse, garages, equipment sheds, and other purposes. The distinct spaces were essential for the efficient functionality of the station.

Decreased maritime activity and development of new technology in the decades following the end of the Second World War reduced the need for actively staffed lifesaving stations. Commercial fishing on Lake Superior collapsed in the 1950s and USCG began decommissioning stations throughout the Great Lakes. By the 1970s Grand Marais was one of a few stations operating on Lake Superior and handled few emergency calls. USCG decommissioned the station in 1981.

Following the station's decommissioning command and operations transitioned to a United States Coast Guard Auxiliary unit. Transition of buildings to the National Park Service initiated in 1990. The NPS continues to use station buildings and landscape for administration purposes and employee residences. The proximity of the station to the public pier (west pier) lends to the study area's use as a public park/open space.

2.3 U.S. Department of the Interior, *U.S. Government Lifesaving Stations Nomination Form*, 1.

Statement of Significance

Grand Marais Harbor of Refuge Inner and Outer Lights were listed in the National Register of Historic Places (NRHP) in 2012. However, the boundary of nomination was limited to the footprint of the two light tower structures, and the west pier on which the two structures sit. The towers were listed under Criterion A for their "association with local events in Alger County related to Federal efforts to provide for an integrated system of navigational aids throughout the United States" and under Criterion C as "embodying and exemplifying distinctive aspects of architectural design and engineering characteristic of skeletal tower lighthouses built on crib and pier foundations in the Great Lakes from the late nineteenth century to the early twentieth century."

In a letter dated November 15, 1990, the Acting State Historic Preservation Officer determined the "intact historic buildings"to be eligible for listing in the National Register of Historic Places.

Grand Marais USCG Lifesaving Station is potentially eligible for listing in the NRHP under the "U.S. Government Lifesaving Stations, Houses of Refuge, and Pre-1950 U.S. Coast Guard Lifeboat Stations" Multiple Property (MPDF) listing. Under this MPDF, certified by the Keeper of the National Register of Historic Place in 2013, the Grand Marais USCG Lifesaving Station meets requirements for this listing.

Grand Marais Harbor of Refuge was established in 1880 by the Rivers and Harbors Act of 1880. A protected channel was constructed in 1883. The station originally consisted of two separate components, a light station and a life saving station, both established in the late 1890s. The light station consisted of two range lights, an outer (1895) and inner (1898) light tower on either end of the west pier. A keeper's dwelling was added in 1908. The original life saving station was built in 1900. The building and site, which were an integrated dwelling and boathouse, was replaced in the 1930s by a boathouse and launchway (1932, in ruins and outside the project boundary), Station Dwelling (HS-18), and Equipment Building (1939). The original station building was demolished in 1943. The United States Coast Guard decommissioned the station in 1981.

Grand Marais USCG Lifesaving Station is significant under National Register Criterion A at the local level, for its association with the history of lighthouse and life saving activities on Lake Superior. Grand Marais was the only natural harbor along a ninety-mile stretch of shoreline between Grand Island and Whitefish Point. It served as a haven for the lake's original inhabitants, Ojibwe people, as well as French explorers in the eighteenth-century. The United States Government confirmed its strategic importance by reserving the land for a lighthouse in 1853, and then designating it as a Harbor of Refuge in 1880. The light station has guided mariners into the harbor for more than a hundred years, from the lumber industry of the turn of the twentieth century, through the commercial fishing industry of the early to mid-twentieth century, to the sport fishers and pleasure boaters of the late twentieth century and today. The United States Coast Guard (originally the Life Saving Service) monitored and protected ships and their crews for over eighty years, saving many lives in the process.

Grand Marais USCG Lifesaving Station is also significant under National Register Criterion C for embodying the distinctive characteristics of light station and Coast Guard station

design from the late nineteenth century to the 1930s. Harbor of Refuge Dwelling (HS-20) is a good example of an early twentieth century dwelling built to facilitate the work of the station's keeper. Due to the relative isolation of the station and the harsh conditions at the exposed end of "Coast Guard Point," a sturdy, weather-tight dwelling was critical to the function of keeping the towers lit and the fog signal active. The building retains a moderate level of integrity with the most significant impacts being alterations to the upper level siding and the windows. The NPS and the Grand Marais Historical Society have incrementally repaired the building using historic documentation with the intent of addressing these areas of integrity in the future.

United States Coast Guard Station buildings, including the Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Equipment Building, embody the distinctive characteristics of the station complex form. Station Dwelling (HS-18) is the only remaining example of the 1934 Roosevelt station design in Michigan. Officer in Charge Dwelling (HS-19) and Equipment Building were also built to standard United States Coast Guard designs. The station overall retains a high degree of integrity. Officer in Charge Dwelling (HS-19) generally retains its 1920s appearance. Station Dwelling (HS-18) has some impacts to its integrity including aluminum siding and window and door replacement, but overall exhibits the characteristics of its original design. Equipment Building, which is not yet under NPS ownership has the lowest degree of integrity, having been extensively remodeled in the early 1980s. However, its form and massing contribute to the overall integrity of the cultural landscape.

The recommended period of significance for the Grand Marais USCG Lifesaving Station is 1895 to 1961. The beginning date represents the date when the United States Lighthouse Board was granted permission to occupy the outer end of West Pier and built a beacon tower equipped with a light and bell. The Range Lights nomination selected 1961 as the end of the period of significance due to it being 50 years before the nomination was written, and because the east and west piers were rebuilt, and the lights relocated that year. After this period, the United States Coast Guard began altering the buildings and cultural landscape in ways that were inconsistent with the station's original design and materials.

Periods of Landscape Development

Six periods of landscape development describe the physical evolution of the Grand Marais USCG Lifesaving Station cultural landscape from the earliest use of the area by American Indian groups through present-day.

The beginning and end of each period corresponds to and documents major physical changes within the study area's cultural landscape.

- Indigenous Occupation to ca. 1839
- Shipping and Navigation (ca. 1840 to 1894)
- **Early Lifesaving Station and Light Station (1895 to 1914)**
- **United States Coast Guard Lifesaving Station (1915 to 1961)**
- United States Coast Guard Lifesaving Station Closure (1962 to 1980)
- NPS Development (1981 to present)

Two periods of development describe the period of significance (1895 to 1961) for the study area (in bold). Narrative text, photographs, drawings, and illustrations describe each period of landscape development. Introductory paragraphs generally describe the cultural landscape as it appeared during that period of development.

Indigenous Occupation to ca. 1839

Small groups of indigenous peoples used the southern shore of Lake Superior for hundreds of years on a seasonal basis. Archeological studies reveal a subsistence pattern of spring and fall fishing with hunting and plant collecting as complementary winter and summer activities. [2.4]

The natural harbor at Grand Marais has long been a haven for travelers along the southern shore of Lake Superior. Ojibwe people used sheltered bays like the one at Grand Marais as camps during their seasonal travels along the lakeshore. Maps of eighteenth century French explorers and traders identified the harbor as “Le Grand Marais" which translates to “The Great Marsh.” It could also be a mistranslation for “Le Grand Mare” or “Great Pond” as the Ojibwe called the harbor “Kitch-bitobig,” or “Great Pond.”

1400 to 1600 CE

Ethnographic resource studies suggest American Indians occupied the region during the late Woodland period. Seasonal villages along the coast gave rise to lakeshore fishing and inland mixed crop farming. [2.5]

1600 to 1850

Ojibwe people used sheltered bays like the one at Grand Marais as camps during their seasonal travels along the lakeshore.

French fur traders arrived on Lake Superior in the 17th century in search of beaver pelts. [2.6]

1661

The shoreline along Lake Superior in the current-day Pictured Rocks National Lakeshore was documented and described by a French explorer. [2.7]

2.4 Zedeno, et al, *Traditional Ojibway Resources*, 122.
2.5 Zedeno, et al, *Traditional Ojibway Resources*, 26-27.
2.6 Stonehouse, *Historic Resource Study: PIRO*, 35.
2.7 Stonehouse, *Historic Resource Study: PIRO*, 21.

1774
French traders drew a map of the area and identified the landmark of "le Grand Marais." The French word "Marais" meaning "marsh," referred to the landscape vegetation around the present-day Grand Marais Harbor and East Bay.[2.8]

1800s
The Government Land Office of the Michigan Territory mapped land cover and vegetation of Grand Marais in the early to mid-1800s.

This survey documented the Grand Marais landscape as sand dunes and a beech-maple-hemlock forest.

The outlet of Sucker River near East Bay was a shrub swamp/emergent marsh surrounded by mixed conifer swamp. [2.9]

Swamps consisted of mixed conifers including cedar, black spruce, and hemlock. [2.10]

1820
A ship captain documented the Michigan Territory and described Grand Marais as a swamp that "opens about a mile on the lake between sandbanks of moderate height, but appears to spread to a great width back. It is filled with swampy growth and dead pines as far as the eyes can reach." [2.11]

1826
In July 1826 the United States Superintendent of Indian Affairs toured the Great Lakes and observed the remains of an Ojibwe encampment in Grand Marais Bay. He speculated the Ojibwe camped at Grand Marais on their way to Drummond Island.[2.12]

1836 to 1837
The Ojibwe relinquished lands in the Upper Peninsula to the United States Government following the Treaty of Washington between representatives of Ojibwe and Odawa tribes and the United States. [2.13]

1837
Michigan was established as a state.

2.8 Stonehouse, *Historic Resource Study: PIRO*, 22.
2.9 Michigan State University Extension, "Michigan Vegetation circa 1800." Michigan Natural Resource Inventory, accessed December 17, 2019, https://mnfi.maps.arcgis.com/apps/StorytellingSwipe/index.html?appid=c285e9eab9774c77a36d8726474fa408 .
2.10 Fredrick Stonehouse, *Historic Resource Study, Pictured Rocks National Lakeshore, Michigan* (Munising: National Park Service, 1981), 116.
2.11 Stonehouse, *Historic Resource Study: PIRO*, 24-25.
2.12 Thomas L. McKenney, Sketches of a Tour to the Lakes (Baltimore: Fielding Lucas, Jr., 1827), 221. See also M. Nieves Zedeno, Richard W. Stoffle, Fabio Pittaluga, Genevieve Dewey-Hefley, R. Christopher Basaldu, and Maria Porter, "Traditional Ojibway Resources in the Western Great Lakes: An Ethnographic Inventory in the States of Michigan, Minnesota, and Wisconsin," (Tucson, Arizona: University of Arizona in Tucson Bureau of Applied Research in Anthropology, prepared for the National Park Service Midwest Regional Office, 2001), 72, 123, 131. An Ojibway consultant interviewed for the Zedeno, et. al. study mentioned the village of a fishing clan at Grand Marais but it was not clear where this was located or when it was occupied.
2.13 U.S. Department of the Interior, *PIRO General Management Plan*, 126.

Shipping and Navigation (ca. 1840 to 1894)

Shipping became a major activity on Lake Superior in the 1840s. To aid in navigation, the United States Government appropriated funds, reserved land, and planned for the development of navigational aids and a lifesaving station in Grand Marais between the 1850s and mid-1890s. This strategic location was the only natural harbor along a ninety-mile stretch of the Lake Superior shoreline between Grand Island and Whitefish Point. During this period land was reserved for a lighthouse, Grand Marais Harbor was established as a harbor of refuge, a navigational channel was built to open Grand Marais Harbor to Lake Superior, Burt Township was established, and the United States Life-Saving Service (USLSS) became a separate agency developing a network of lifesaving stations.

1840s
Michigan's Upper Peninsula experienced an industrial boom with large-scale extraction of ore, and development of the lumber and commercial fishing industries. [2.14]

Commercial traffic and shipping became a major activity on Lake Superior. Dangerous cliffs, offshore reefs, and stormy seas imperiled mariners. [2.15]

1848
The United States Congress appropriated funds to the United States Treasury Department's Revenue Marine Division to build and equip lifesaving boathouse stations along the New Jersey Coast. Funds were eventually appropriated to other states to build lifesaving stations. [2.16]

ca. 1850s
A strip of land completely separated present-day Grand Marais Harbor from Lake Superior. Wave action eroded the strip of land and two spits formed, one to the east (Lonesome Point) and another to the west (to the east of present-day navigational channel to Grand Marais Harbor).[2.17]

1853
The United States Government reserved ten-acres of land in Grand Marais for a lighthouse as this was the only natural harbor along a ninety-mile stretch of the Lake Superior shoreline between Grand Island and Whitefish Point. [2.18]

1855
St. Mary's Falls Ship Canal opened at Sault Ste. Marie. This enabled ships to travel between Lake Superior and the lower Great Lakes. [2.19]

1860s
The first European American settlement was established at Grand Marais. Angus McDonald, an agent for the owner, Peter Barbeau of Sault Ste. Marie, established a trading post on East Bay.[2.20]

Conable and Sons established a fishery on the north side of Grand Marais Harbor.[2.21]

2.14 U.S. Department of the Interior, *Grand Marais HSR,* 1-7.
2.15 U.S. Department of the Interior, *PIRO General Management Plan*, 127.
2.16 U.S. Department of the Interior, *U.S. Government Lifesaving Stations Nomination Form*, 1.
2.17 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 6. Spits are landforms caused by the deposition of sediment by prevailing waves along coasts.
2.18 U.S. Department of the Interior, *Grand Marais HSR,* 1-7.
2.19 U.S. Department of the Interior, *Grand Marais HSR,* 1-7.
2.20 Stonehouse, *Historic Resource Study: PIRO*, 40.
2.21 Grand Marais Historical Society. *Images of America: Grand Marais. Mount Pleasant*: Arcadia Publishing, 2009, 7.

1870s
Emil Endress settled in Grand Marais and expanded his family's commercial fishing business to include passenger and packet freight services for the south shore of Lake Superior. Lumber operations began in the early 1870s and the first sawmill began operating on West Bay in 1879.[2.22]

A small village engaged in fishing and lumbering established on the south side of the harbor. [2.23]

1871
The United States Congress appropriated funds to the United States Treasury Department's Revenue Marine Division to hire employees to staff its system of federally supported lifesaving stations. The number of lifesaving stations grew. [2.24]

1878
The United States Life-Saving Service (USLSS) was established as a separate agency within the Treasury Department. The USLSS developed a network of professionally-staffed lifesaving stations across the nation's coasts in the following decades. Facilities at a typical USLSS station included a building with living quarters and boat storage, a flagpole, wreck pole, lookout tower, equipment storage shed, privies, and water collection systems. [2.25]

1880
Grand Marais Harbor was established as a harbor of refuge by the River and Harbors Act of 1880. [2.26]

The Act also authorized the 'Federal Navigation Project at Grand Marais Harbor' for the dredging of a deep channel bisecting the peninsula. Two parallel timber crib jetties set 500-feet apart supported the navigational channel, opening Grand Marais Harbor to Lake Superior and increased lake traffic. [2.27]

1882
Burt Township was established. [2.28]

1883
Town of West Grand Marais, Michigan was platted by Wellington Burt. The plat noted the 'Government Land Reserved for a Lighthouse' on the peninsula at the west end of the harbor. [2.29]

1883 to 1885
East and West Piers were built. The piers were 700-feet long by 20.5-feet wide timber crib structures, spaced 500-feet apart, and built on a blanket of stone. [2.30]

2.22 Grand Marais Historical Society. *Grand Marais*, 7, 8.
2.23 Grand Marais Historical Society. *Grand Marais*, 7, 8.
2.24 U.S. Department of the Interior, *U.S. Government Lifesaving Stations Nomination Form*, 1.
2.25 U.S. Department of the Interior, *U.S. Government Lifesaving Stations Nomination Form*,1.
2.26 U.S. Department of the Interior, *Grand Marais HSR,* 1-9.
2.27 U.S. Army Corps of Engineers, Detroit District. *Major Rehabilitation Evaluation Report*, 1.
2.28 U.S. Department of the Interior, *Grand Marais HSR,* 1-8.
2.29 "Plat of the Town of West Grand Marais, Michigan," original dated May 1883 with annotations by Office of the Lighthouse Board, August 1895, scanned document provided by United States Coast Guard, Civil Engineering Unit, Cleveland, Ohio.
2.30 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 9.

1883 to 1903
Two parallel timber crib jetties were built to follow the 20-foot contour on Lake Superior. The jetties were cut through the west spit. The tip of the west spit created Gull Island. [2.31]

1885 to 1903
West Pier was extended by 1,112-feet. The extension structure was built on a blanket of stone and reinforced with riprap. [2.32]

1890s
Grand Marais became an important center for the lumber industry with five mills on East Bay, 400 vessels arriving in the harbor annually, and nearly 150,000-tons of lumber shipped per year. [2.33]

1891 to 1895
The U. S. Lighthouse Board requested an appropriation to build a light at Grand Marais beginning in 1891 and repeated this request for the next several years. The War Department, which had gained authority over the lands, granted permission for the light in 1893, but funds were not appropriated until 1895. [2.34]

1892
East Pier was extended by 250-feet. West Pier was extended by 100-feet. Extensions were wood-pile structures filled with sand and stone. [2.35]

1893
A rail line was established in 1893 between Grand Marais and Seney. The line facilitated movement of lumber from the interior of the peninsula to the sawmills of Grand Marais. [2.36]

2.31 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 1, 7.
2.32 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 9.
2.33 U.S. Department of the Interior, *PIRO Submerged Cultural Resources Study*, 15.
2.34 U.S. Department of the Interior, *Grand Marais HSR,* 1-10.
2.35 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 9.
2.36 U.S. Department of the Interior, *Grand Marais HSR,* 1-13.

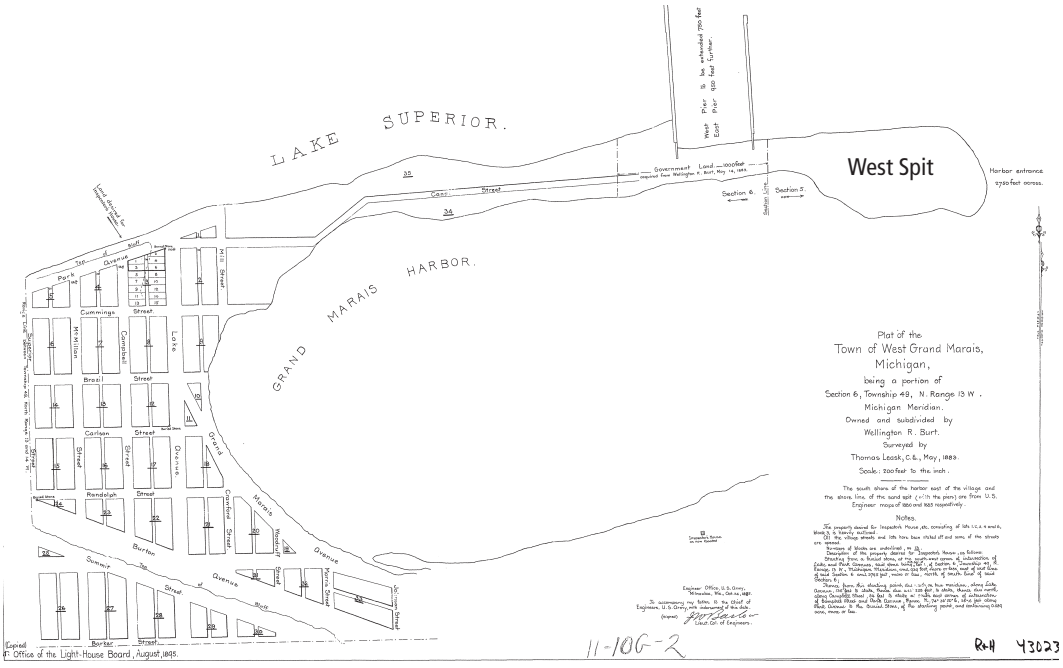


Figure 2-1. Town of West Grand Marais platted in 1883. The town included the west end of the harbor and the peninsula west of the U.S. Government's land reserved for a lighthouse (source: United States Coast Guard, Civil Engineering Unit, Cleveland, OH).

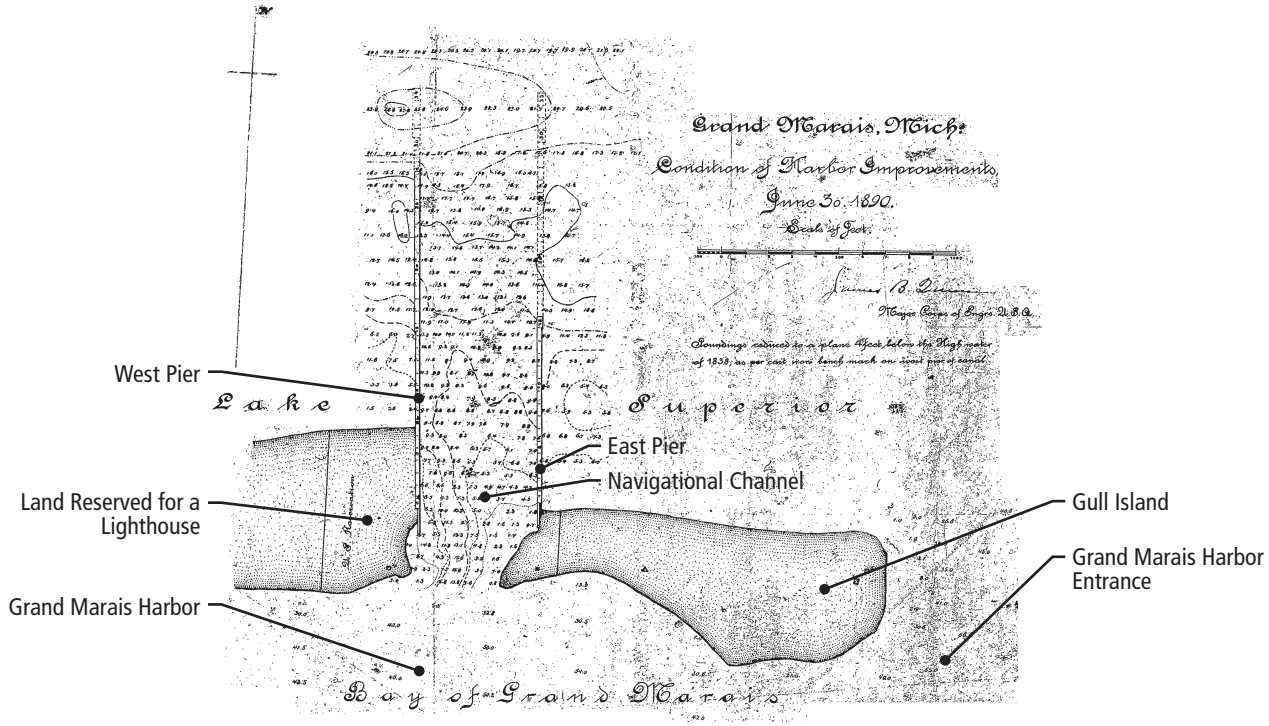


Figure 2-2. Condition of Grand Marais Harbor improvements, 1890 (source: United States Coast Guard, Civil Engineering Unit, Cleveland, OH).

Early Lifesaving Station and Light Station (1895 to 1914)

The study area was developed as a lifesaving station and light station through the work of two sister agencies—the U. S. Lighthouse Board and the United States Life-Saving Service (USLSS). The USLSS developed two parcels for the lifesaving station siting the station dwelling and associated outbuildings and features adjacent to West Bay with clear sight lines to Lake Superior. The sheltered location enabled the professionally staffed USLSS to launch boats directly into the protected harbor during storms.

The United States Lighthouse Board occupied the outer end and a strip of land along West Pier where a light tower and a dwelling for the keeper were built. The building and associated outbuildings and features were set along West Pier with clear sight lines to the Navigational Channel and lights.

1895
Funds were appropriated to the United States Lighthouse Board to build a light at Grand Marais. The United States Lighthouse Board was granted permission to occupy the outer end of West Pier. A beacon tower equipped with a light and bell was built, and a 200-feet wide strip was reserved for the light-keeper's dwelling. [2.37]

The United States Lighthouse Board built a fog horn and Outer Range Light on the northern-most point of West Pier. The 34-foot tall steel tower assisted ships in navigating dangerous shoals, sand bars, reefs, and other potential hazards within shipping terminals. [2.38]

1895 to 1897
The River and Harbor Act was amended to construct a 5770-foot long timber pile dike on the east peninsula of Grand Marais Harbor. The pile dike prevented waves from forming in the harbor and hitting logging ships. The diffracted waves eroded the south shoreline directly across from the entrance to the channel and the shoreline to the west of the pier. [2.39]

1896
The first keeper's dwelling was built. The United States Lighthouse Board described the building as "a shanty erected under the lee of a pile of driftwood." [2.40]

The population of Grand Marais reached 2000 residents where increased logging had improved the economy. A single mill could produce 40-million-board-feet in one year. [2.41]

1897
In December 1897 the Secretary of the United States Treasury purchased four lots from the Marais Lumber Company in West Grand Marais for use as a lifesaving station. The lots were adjacent to the United States Lighthouse Board property. [2.42]

1897 to 1899
Inner Range Light, sited on the southern terminus of West Pier, was designed and built by the Office of L.H. Engineer, 11th Dist., Detroit. [2.43]

A wood boardwalk connected Inner Range Light with Outer Range Light.

2.37 Lamont, *Memorandum for Occupation for Light-House Purposes*.
2.38 U.S. Department of the Interior, National Park Service Cultural Resources, *Inventory of Historic Light Stations* (Washington D.C.: U.S. National Park Service, 1994), 176, ix.
2.39 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 7.
2.40 U.S. Department of the Interior, *Grand Marais HSR,* 1-13.
2.41 Stonehouse, *Historic Resource Study: PIRO*, 1981, 119.
2.42 U.S. Department of the Interior, *Grand Marais HSR,* 1-12.
2.43 Grand Marais Harbor of Refuge, Michigan - Rear Tower, Office of Lighthouse Engineer, 11th District, 1879.



Figure 2-3. Early Lifesaving Station and Light Station, 1895 to 1914 (source: Mundus Bishop, 2020).

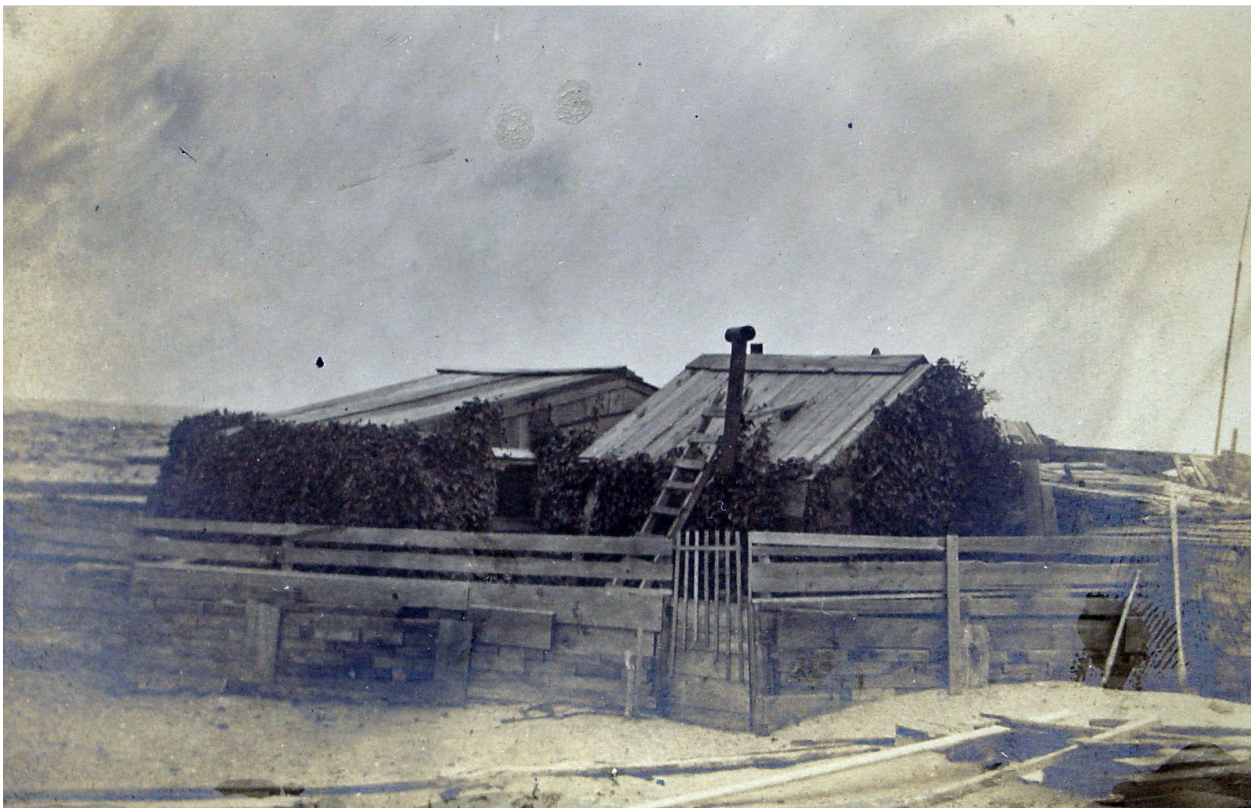


Figure 2-4. The first keeper's dwelling was completed in 1896. The U.S. Lighthouse Board described the structure as "a shanty erected under the lee of a pile of driftwood" (source: Grand Marais Historical Society).

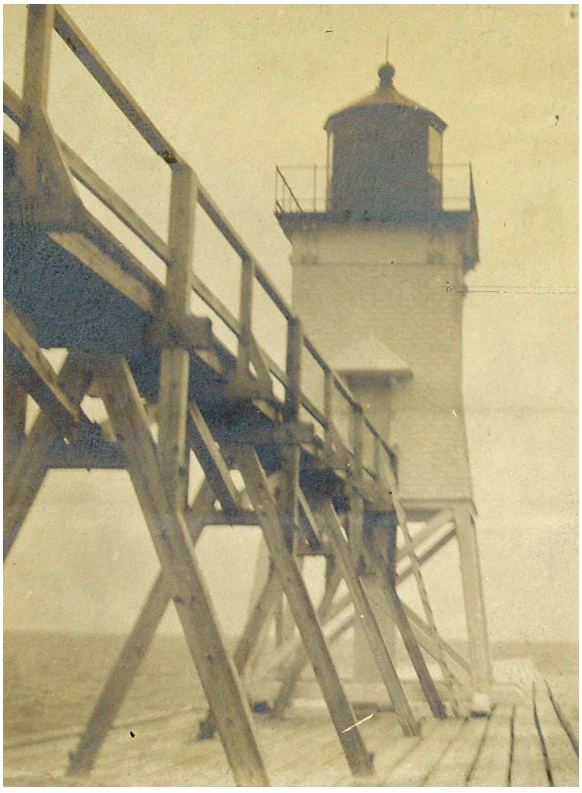


Figure 2-5. An elevated trestle and platform built provided access to Outer Range Light when waves washed over West Pier (source: Grand Marais Historical Society).



Figure 2-6. Inner Range Light (source: Grand Marais Historical Society).

1899 to 1900
Construction of the USLSS Life-Saving Service Station began in 1899 on the four lots purchased in 1897, adjacent to the United States Lighthouse Board lands. [2.44]

The USLSS completed the lifesaving station in 1900. The station building followed the USLSS's standard designs employed for all its buildings. The building at Grand Marais was based on a Shingle style building, and was one of twenty-eight stations built with this design across the nation. It was an "integral station" with boat storage and living quarters under one roof. A four-story watch tower provided views to Lake Superior and Grand Marais Harbor. [2.45]

The site included a flagpole along with a platform and launchway that extended from the station dwelling to Grand Marais Harbor. A seawall lined the harbor edge. Outbuildings were located north of the station dwelling and included a storehouse, pump, shop and privy. Wood decking provided connecting walks around the building and between structures. A powerboat slip was just west of the launchway.

1901 to 1902
An elevated trestle and platform were built to provide keeper access to the Outer Range Light when waves washed over West Pier.

United States Department of Agriculture built a weather signal tower at USLSS station. [2.46]

1905 to 1907
Stone reinforcement was added along the timber pile dike. [2.47]

1907
The War Department appropriated funds to the United States Lighthouse Board for construction of a new keepers dwelling, and granted formal permission for the board to occupy a 5,000 square foot parcel of land near the inner end of West Pier. [2.48]

1908
The United States Lighthouse Board completed construction of the keeper's dwelling—Harbor of Refuge Dwelling (HS-20). The building was built from plans duplicated from the Munising Range Lights keeper's dwelling. The rectangular two-story building included brick walls on the basement and first floor, stucco on metal lath on the second floor, steam heating, and a metal slate roof. [2.49]

The construction included a well, cistern, tile drain that extended to the navigational channel, privy, powerhouse, oil house, and flagpole.

1909 to 1910
The last of the white pine in the region was cut. Grand Marais' largest sawmill, the Marais Lumber Co. closed. The railroad spur was abandoned the following year. [2.50]

1914
West Pier timber crib structures were repaired. Crib-fill stone were installed in outer portion of pier. [2.51]

2.44 U.S. Department of the Interior, *Grand Marais HSR,* 1-12.
2.45 U.S. Department of the Interior, *Grand Marais HSR,* 1-12.
2.46 U.S. Department of the Interior, *Grand Marais HSR,* 1-14.
2.47 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.
2.48 U.S. Department of the Interior, *Grand Marais HSR,* 1-14.
2.49 U.S. Department of the Interior, *Grand Marais HSR,* 1-17.
2.50 Stonehouse, *Historic Resource Study: PIRO*, 1981, 119.
2.51 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.



Figure 2-7. Grand Marais Life-Saving Station (source: Grand Marais Historical Society).



Figure 2-8. Grand Marais Life-Saving Station boat storage and launchway (source: Grand Marais Historical Society).

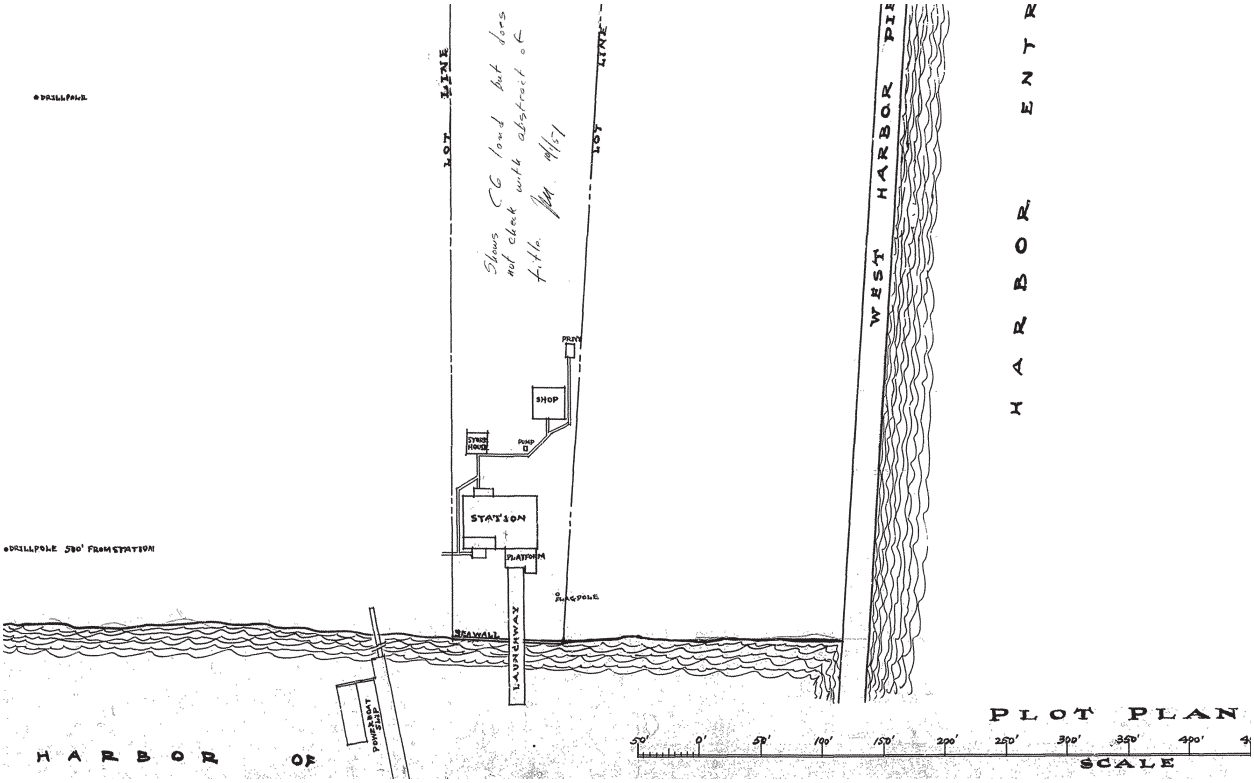


Figure 2-9. Grand Marais Life-Saving Station constructed. The "integral station" included boat storage and living quarters under one roof (source: United States Coast Guard, Civil Engineering Unit, Cleveland, OH).

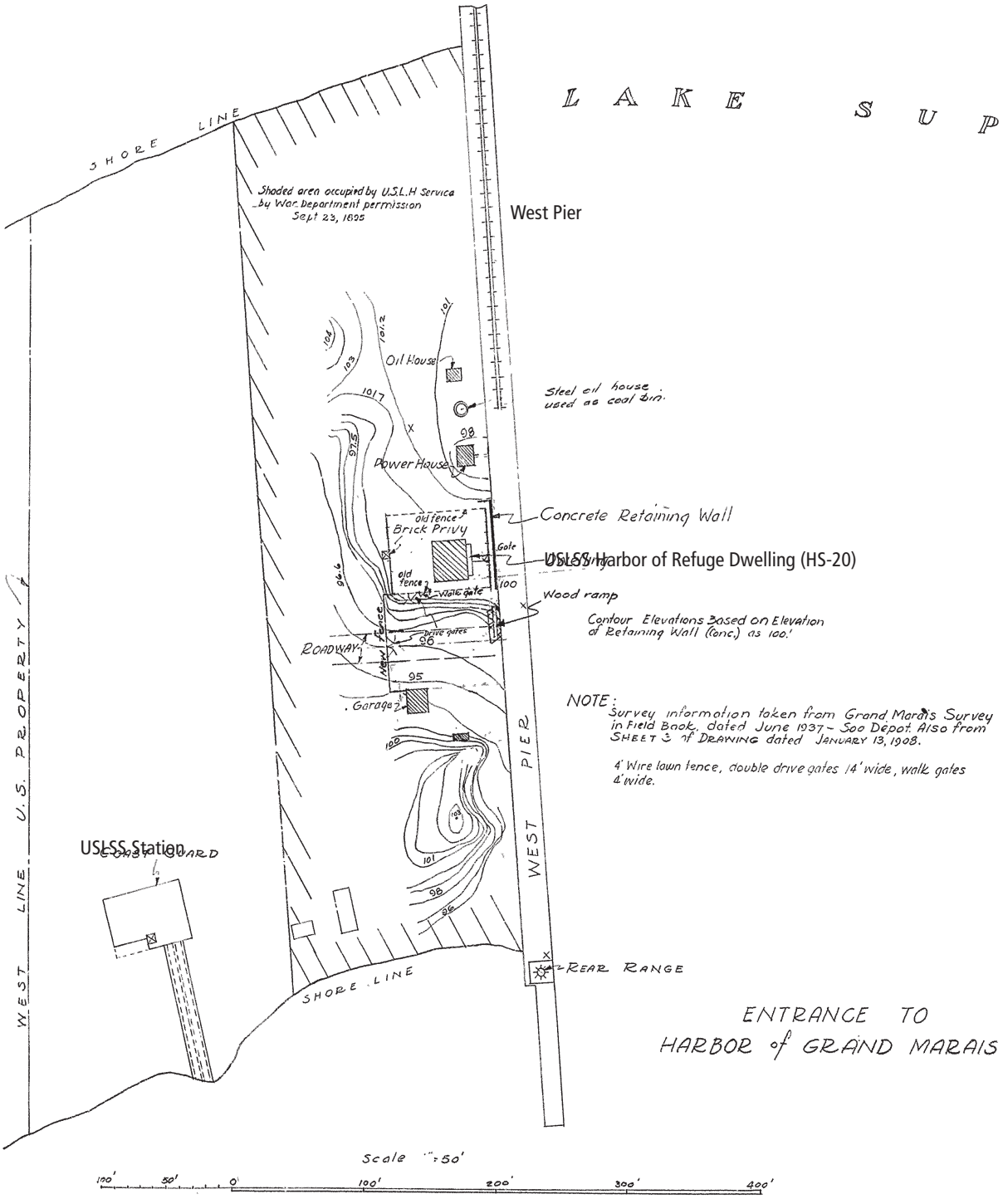


Figure 2-10. The U.S. Lighthouse Board's light keeper's dwelling (source: United States Coast Guard, Civil Engineering Unit, Cleveland, OH, ca. 1908).



Figure 2-11. The U.S. Lighthouse Board's light keeper's dwelling and powerhouse built adjacent to West Pier (source: Grand Marais Historical Society).



Figure 2-12. A wood and wire fence enclosed the U.S. Lighthouse Board's light keeper's dwelling (source: Grand Marais Historical Society).

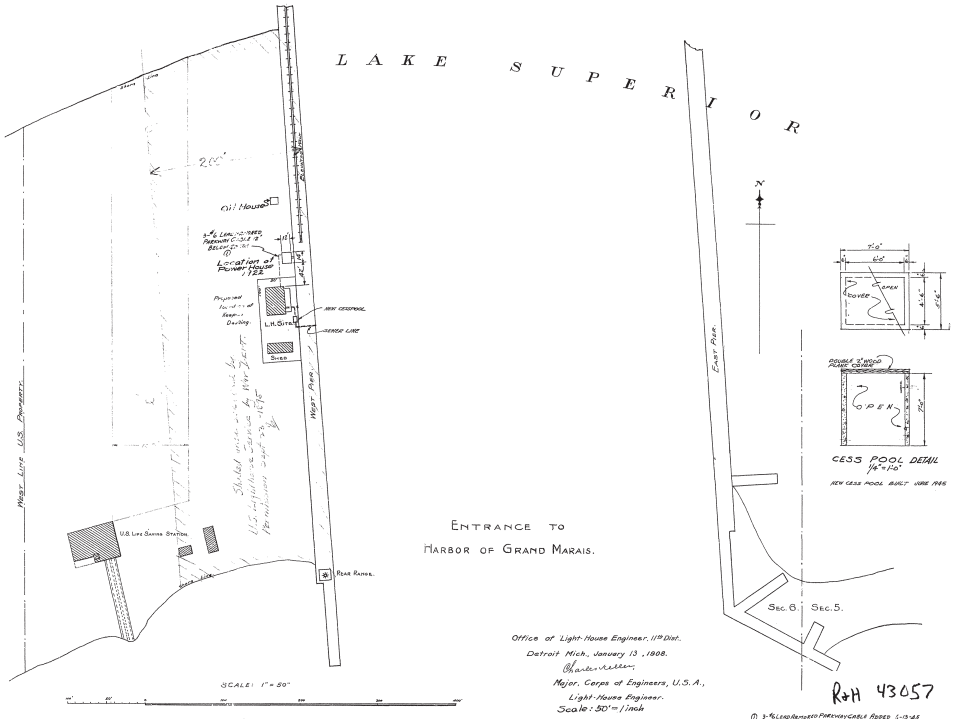


Figure 2-13. The United States Lighthouse Board's light keeper's dwelling site (source: United States Coast Guard, Civil Engineering Unit, Cleveland, OH, ca. 1908).

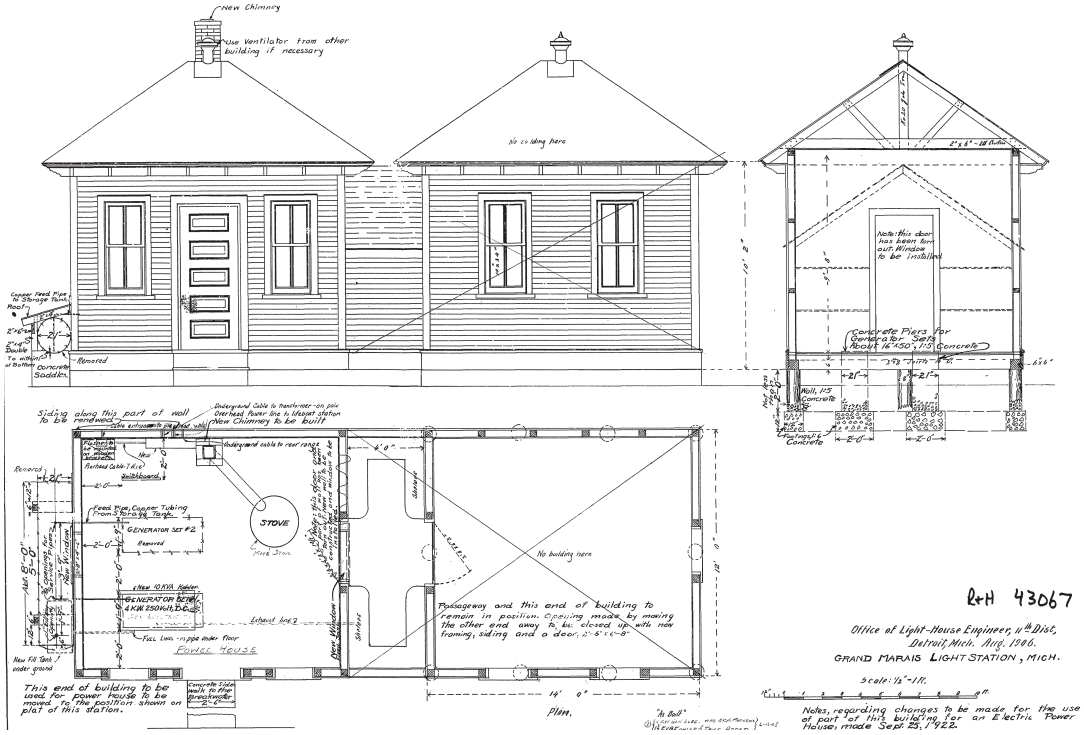


Figure 2-14. The United States Lighthouse Board's powerhouse (source: United States Coast Guard, Civil Engineering Unit, Cleveland, OH, ca. 1908).

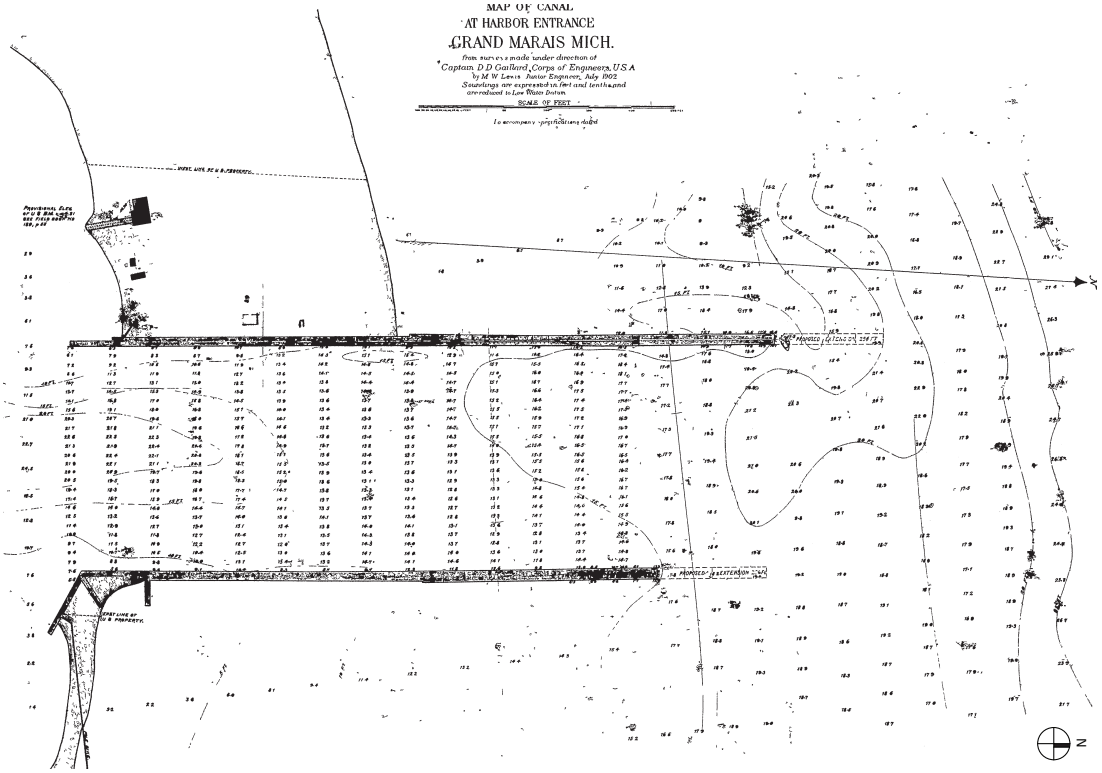


Figure 2-15. Grand Marais Harbor (source: United States Coast Guard, Civil Engineering Unit, Cleveland, OH, ca. 1902).

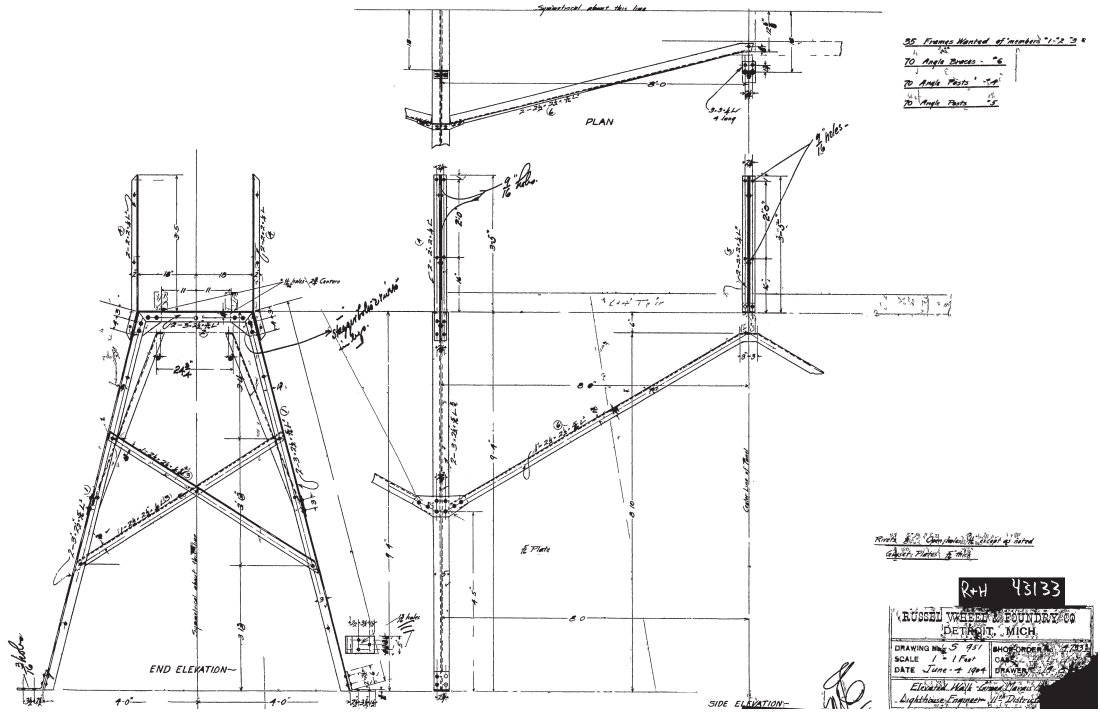


Figure 2-16. Elevated Trestle to Outer Range Light (source: United States Coast Guard, Civil Engineering Unit, Cleveland, OH, ca. 1906).

United States Coast Guard Lifesaving Station (1915 to 1961)

For five decades the study area was an active United States Coast Guard lifesaving station, eventually being known as "Coast Guard Point." The initial lifesaving station and Harbor of Refuge (HS-20) were expanded with the addition of Officer in Charge Dwelling (HS-18) in the 1920s. Facilities expanded again in the late 1930s. The station was designed and organized as a complex of buildings and spaces providing specific functions—administration, living quarters, boathouses, launchways, garages, equipment sheds, etc.

The station's layout and aesthetic followed the USCG's standard designs for settings, arrangement of buildings and functions for efficiency and visibility, and standard architectural plans. The overall appearance reflected a formal unified aesthetic of trimmed lawns, orthogonal organization, and clear lines of sight. A separate site for the launchway and boathouse was on a point oriented towards West Bay.

USLSS station building and associated shops, garages, site features, and infrastructure were razed in 1943. Officer in Charge Dwelling (HS-19), Station Dwelling (HS-18), USCG boathouse and launchway, and associated infrastructure and site features remained in place.

1915
The "Act to Create the Coast Guard" was signed by President Woodrow Wilson. This merged the United States Life-Saving Service (USLSS) with the Revenue Cutter Service and created the United States Coast Guard (USCG). The USLSS station was redesignated as a USCG station with maritime life saving continuing as an important USCG duty. Many USLSS stations became USCG lifeboat stations. [2.52]

ca. 1920s
USCG Officer in Charge Dwelling (HS-19) was completed. Date of construction is unknown. [2.53]

An oilhouse, garage, concrete platform, drainage field (septic), connecting walks, and lawn were installed at the same time. [2.54]

1922
The installation of the Type 'C' Diaphone to the Outer Range Light was completed. [2.55]

1931 to 1932
USCG boathouse and launchway were built on a spit of land pointing into West Bay. The site was separate from the USLSS station, located to the southwest, and south of Canal Street on the north shore of West Bay. [2.56]

1936 to 1942
East and West Pier repairs were completed. Repairs included deck planking and crib-fill stone replacement. [2.57]

1938
Plans were completed for Grand Marais USCG Lifesaving Station. Proposed improvements included two buildings, infrastructure and connecting walks / slabs, and retention of existing buildings and infrastructure [2.58]

2.52 U.S. Department of the Interior, *U.S. Government Lifesaving Stations Nomination Form*, 1.
2.53 U.S. Department of the Interior, *Grand Marais HSR,* 1-25.
2.54 USCG files, Grand Marais Plot Plan 7-25-38, 2 of 23.
2.55 Installation of Type "C" Diaphone in Old Wooden Tower, Office of the Light House Engineer 11th District, Detroit, MI, 1922.
2.56 U.S. Department of the Interior, *Grand Marais HSR,* 1-26.
2.57 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.
2.58 USCG files, Grand Marais Plot Plan 7-25-38, 2 of 23.

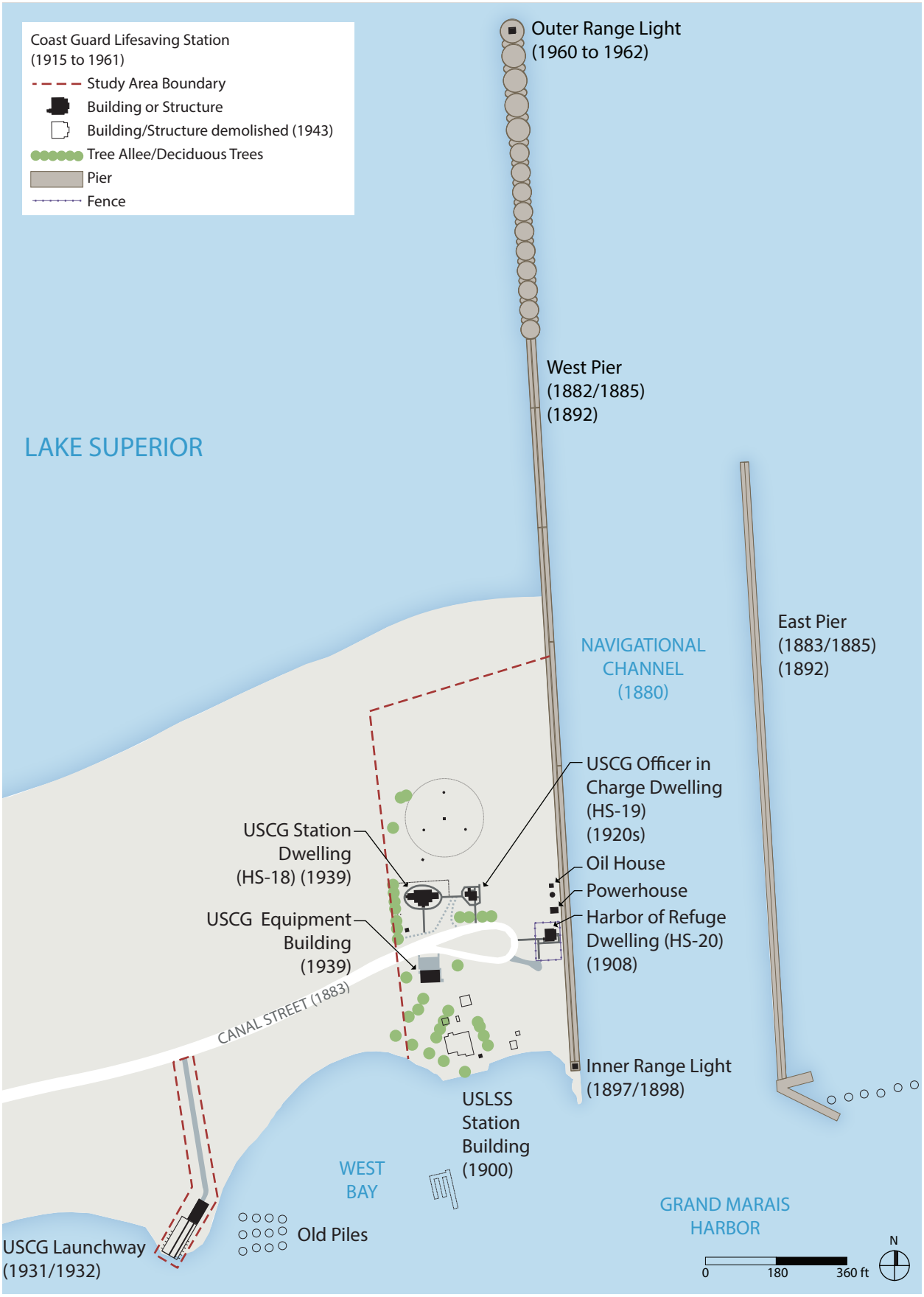


Figure 2-17. Coast Guard Lifesaving Station, 1915 to 1961 (source: Mundus Bishop, 2020).



Figure 2-18. USLSS from Grand Marais Harbor, looking north (source: Grand Marais Historical Society, 1927).



Figure 2-19. Boathouse and launchway on West Bay (source: Grand Marais Historical Society, 1927).

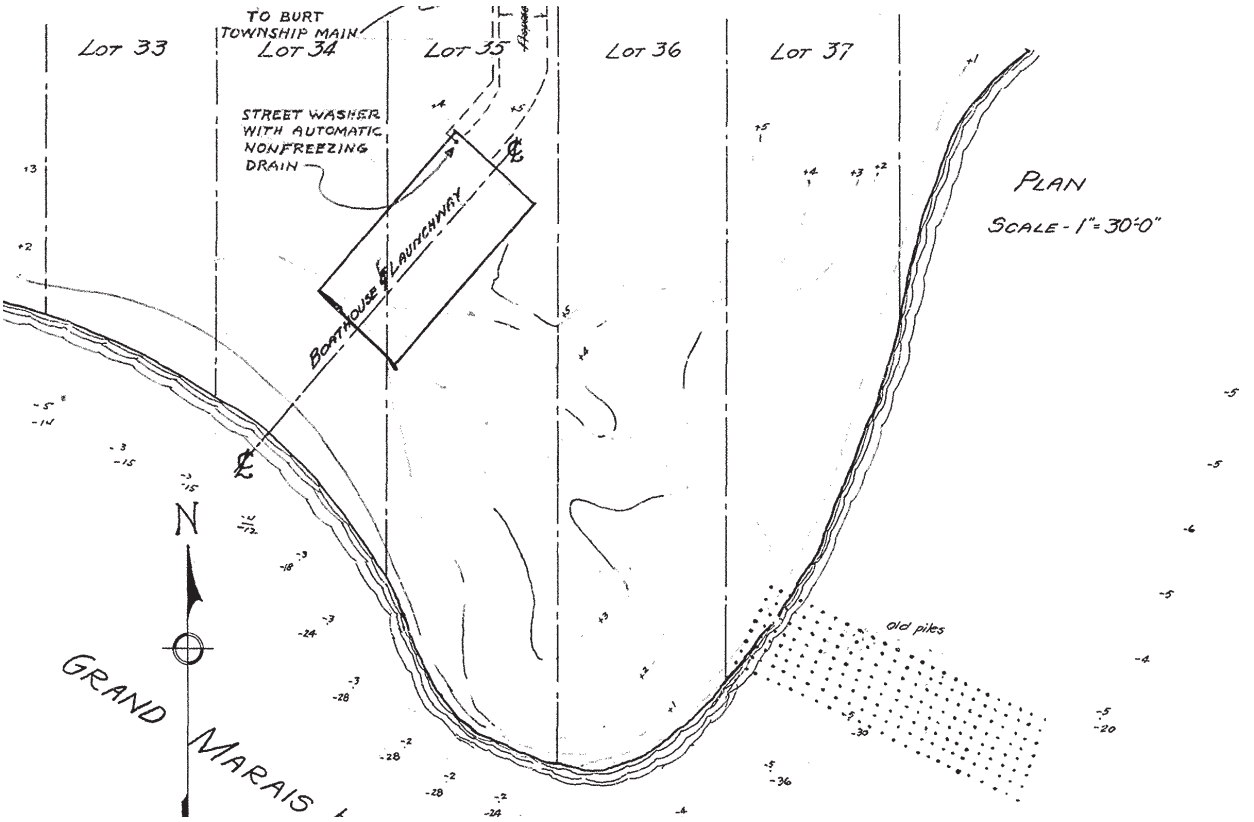


Figure 2-20. Boathouse and launchway (ca. 1931) on a point extending into West Bay (source: Grand Marais Historical Society).



Figure 2-21. Boathouse and launchway construction, ca. 1930 (source: Grand Marais Historical Society, 1931).

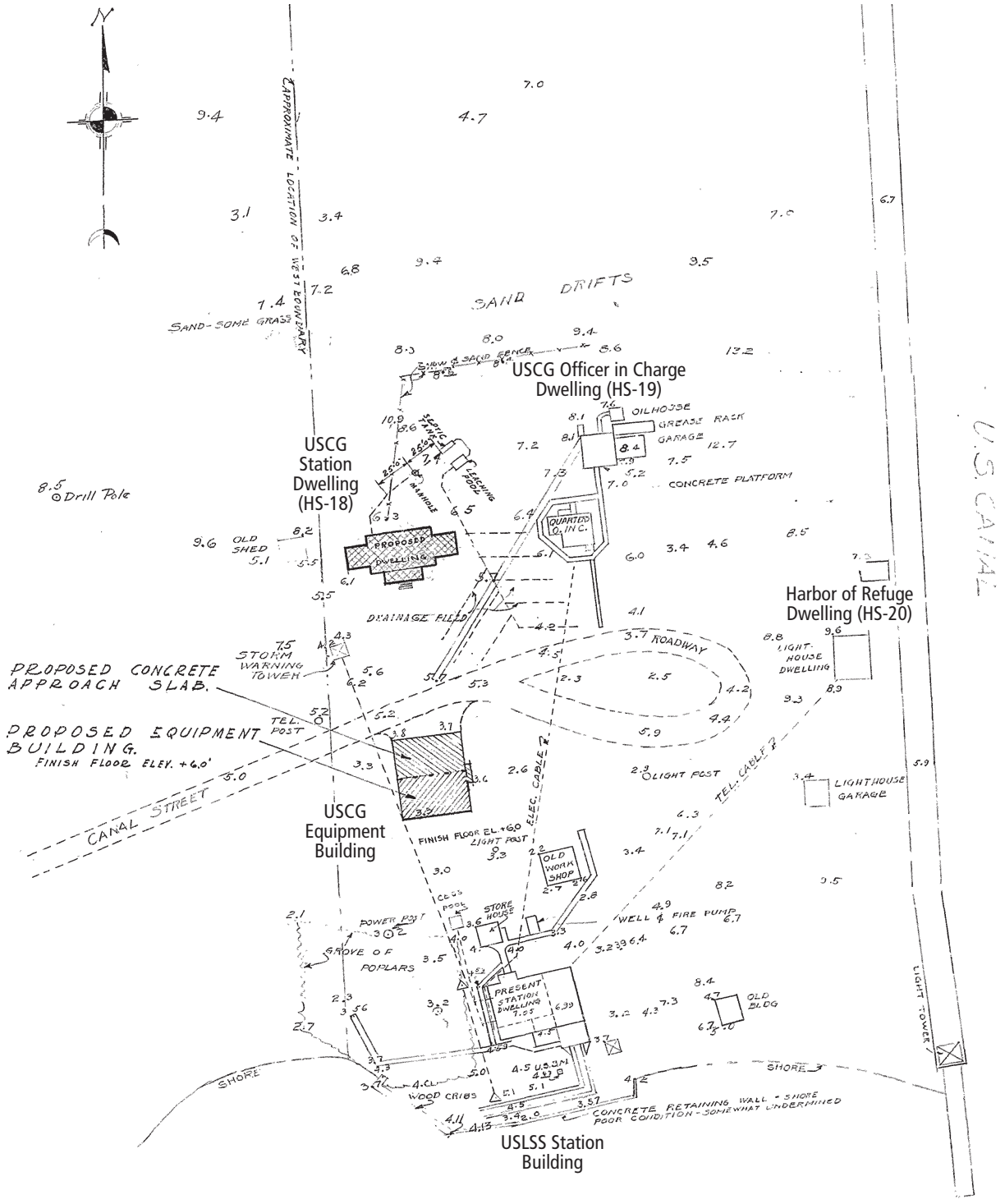


Figure 2-22. Grand Marais Plot Plan, dated 7-25-38, documents the 1920s and 1930s additions of buildings, structures and site infrastructure once the study area became a USCG lifesaving station reservation (source: United States Coast Guard, Civil Engineering Unit, Cleveland, OH, 1938).

1939
USCG Station Dwelling (HS-18) with associated infrastructure and site features were built north of Canal Street, set west of USCG Officer in Charge Dwelling (HS-19) and north of USLSS station building. The building combined dormitory, office, and watch tower functions. It was prominently sited along Canal Street with clear sight lines to Lake Superior from the upper level watch tower.

The building was set in a formal space surrounded by a symmetrical oval walk and lawn. Concrete walks connected to the adjacent buildings, parking, and Canal Street. The setting was defined by a curb on the south and low concrete perimeter walls on the east, west, and north. A row of balsam poplar trees lined the west concrete wall. Infrastructure included a septic tank and leaching field and a storm warning tower. [2.59]

USCG Equipment Building and a concrete approach slab pad were built south of Canal Street. [2.60]

Both buildings were designed in the “1934 Roosevelt Design,” a style of the 1930s and 1940s not attributed to any single architect. They were built to the USCG's standard architectural plans, and the study area was developed as a standard station complex where functions were dispersed. [2.61]

The USLSS station building remained in place as did its associated outbuildings and infrastructure—storehouse, old workshop, old building, walks, wood crib and concrete retaining walls at the shoreline, cess pool, power and light, telephone cable, and 'grove of poplars.' Concrete retaining walls and shore were noted to be in "poor condition - somewhat undermined." [2.62]

USCG Harbor of Refuge Dwelling (HS-20) remained in place as did its oil house, garage, privy, fence, gate and infrastructure. [2.63]

The landscape north of USCG Station Dwelling (HS-18) towards Lake Superior was noted as "sand - some grass" and "sand drifts." [2.64]

The United States Bureau of Lighthouses (successor of the United States Lighthouse Board and United States Lighthouse Service) merged with the USCG. This brought both stations under one service for the first time since their establishment.

After 1939
The pile dike began to deteriorate. Gull Island remained in place.[2.65]

2.59 USCG files, Grand Marais Plot Plan 7-25-38, 2 of 23.
2.60 USCG files, Grand Marais Plot Plan 7-25-38, 2 of 23.
2.61 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.
2.62 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.
2.63 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.
2.64 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.
2.65 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 7.



Figure 2-23. Concrete retaining wall at USLSS station building in disrepair (source: Grand Marais Historical Society, 1929).



Figure 2-24. USLSS Life-Saving Service Station's building, outbuildings, and features such as the wood platform and launchway, flagpole, remained in place until 1943. The storm warning tower and allees of trees remain today (source: Grand Marais Historical Society).



Figure 2-25. Station Dwelling (HS-18)'s site included a storm warning tower, and a lawn setting enclosed by low concrete walls with a tree allee along the west property line (source: Grand Marais Historical Society).



Figure 2-26. Grand Marais USCG Lifesaving Station and Outer Light from entrance into Navigational Channel from Lake Superior (source: Grand Marais Historical Society).

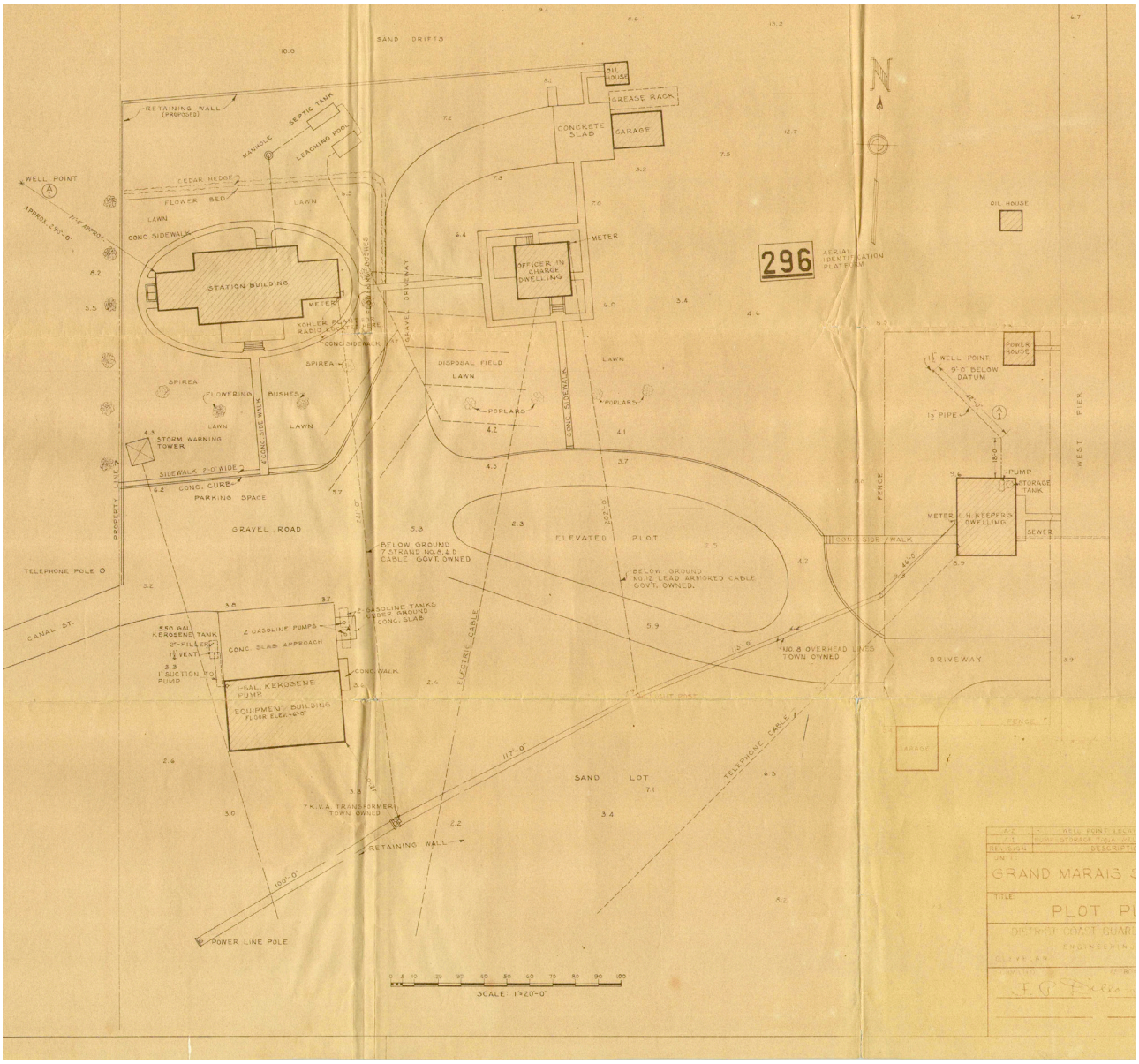


Figure 2-27. USCG's 1940s Plot Plan documents an active functioning site with extensive infrastructure and a developed setting. The north concrete retaining wall was not in the location noted in the plan but was in the location noted as the cedar hedge. No evidence of a cedar hedge has been identified (United States Coast Guard, Civil Engineering Unit, Cleveland, OH filed, Grand Marais Plot Plan 0-25-40).

1940
Grand Marais USCG Lifesaving Station was an active functioning site with extensive infrastructure and a developed setting. Underground gas tanks and two gas pumps were adjacent to USCG Equipment Building. Six trees lined the concrete retaining at USCG Station Dwelling (HS-18). No evidence of the cedar hedge and flower beds noted on the 1940s Plot Plan have been identified. Shrubs were set within the lawn.

A gravel drive extended from Canal Street between the two buildings, ending at a concrete pad at USCG Officer in Charge Dwelling's (HS-19) garage and oilhouse. Concrete sidewalks connected the buildings.

A wood post with wire mesh fence defined the setting of Harbor of Refuge Dwelling (HS-20), which included a garage, drive and oil house. An aerial identification platform was north of the building. Overhead and underground lines and cabling connected to all buildings. [2.66]

1942
A well point connection and line were installed to service Harbor of Refuge Dwelling (HS-20). The well point was just north of the building. [2.67]

1943
USLSS station building was razed. It is assumed the adjacent storehouse, old workshop, and old building along West Bay were also razed and infrastructure associated with all buildings was abandoned. [2.68]

A well point connection, located to the north on the adjacent property, and line were installed to service USCG Station Dwelling (HS-19). [2.69]

1950
The River and Harbor Act funded an 802-foot extension of West Pier. [2.70]

The commercial fishing industry on Lake Superior collapsed.

USCG decommissioned stations across the Great Lakes. [2.71]

1950 to 1951
Concrete cap superstructure was installed on East Pier. This extended the pier's elevation to six-feet above the low water datum. [2.72]

1953
Catwalk added between the two platforms of the launchway. [2.73]

2.66 "USCG files, Grand Marais Plot Plan 9-25-40
2.67 "USCG files, Grand Marais Plot Plan 9-25-40
2.68 "Coast Guard Station, Built in 1900, Razed." The Escanaba Daily Press, August 27, 1943.
2.69 "USCG files, Grand Marais Plot Plan 9-25-40
2.70 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 1.
2.71 U.S. Department of the Interior, *Grand Marais HSR,* 1-37.
2.72 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.
2.73 Grand Marais Station, Grand Marais, Mich. - New Catwalk, United States Coast Guard, Cleveland, OH, 1952.



Figure 2-28. Grand Marais USCG Lifesaving Station ca. 1939 to 1943 (source: Grand Marais Historical Society).



Figure 2-29. Grand Marais USCG Lifesaving Station ca. 1939 to 1943 (source: Grand Marais Historical Society).

1960
The timber pile dike disintegrated after years of erosion. Loss of the dike caused material that had deposited along it to disperse into the East Bay and the southern shore of the Grand Marais Harbor. Gull Island (Lost Island/Seagull Island) began to erode and was completely submerged by 1973. [2.74]

1960 to 1962
An 802-foot long cellular sheet-pile breakwater extension was built at the lake-ward end of West Pier. The breakwater was filled with dredged material and capped with cover stone. Riprap stone was placed at toes of cells. West Pier's crest elevation extended to eight-feet above the low water datum. [2.75]

1961
United States Army Corps of Engineers rebuilt West Pier. Inner and Outer Range Lights were placed in their current positions. [2.76]

2.74 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 7.
2.75 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 7.
2.76 U.S. Department of the Interior, *Grand Marais HSR,* 1-38.



Figure 2-30. Grand Marais USCG Lifesaving Station post 1943 (source: Grand Marais Historical Society).

United States Coast Guard Lifesaving Station Closure (1962 to 1980)

The role of light and life saving stations on Lake Superior began diminishing in the 1960s. By 1966 Grand Marais USCG Lifesaving Station was one of only a few stations in operation. The USCG continued to invest in the study area through navigational upgrades, building repairs, and utility and infrastructure modifications. These included new gas and propane tanks and service, and septic system additions. The only major installation was antenna tower, anchor and pull boxes. Outbuildings and structures were likely removed after 1966. [2.77]

1962 to 1970s
Building repairs included window and door replacement, and re-siding of Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and Equipment Building. [2.78]

A trailer, noted as being "facilities privately maintained," was located south of USCG Equipment Building. A paint locker was located adjacent to West Pier, north of Harbor of Refuge Dwelling (HS-20). [2.79]

1963
An 80-foot antenna tower and radial ground system were installed north of USCG Station Dwelling (HS-18). This included a wood picket fence around the ground anchor—five-foot height by ten-foot square. The system was connected to the building two pull boxes (one at the building) and a four-inch duct. [2.80]

1964
USCG lifeboat launch was remodeled to include a motorized carriage to launch a forty-foot boat. [2.81]

1965
A VHF tower was proposed at the southwest corner of USCG Station Dwelling but was not built. A new 3/4" water supply to USCG Officer in Charge Dwelling was proposed. [2.82]

1966
Pictured Rocks National Lakeshore was established.[2.83]

1966 to 1975
By 1966, Grand Marais was one of only a handful of stations operating on Lake Superior.

USCG repaired and modified the site to improve function and lifesaving duties. No major construction occurred after the antenna tower installation, other than additional propane tanks and service. Propane tanks and service were added. A 'drained field' and four-inch septic line were added to service Harbor of Refuge Dwelling (HS-20) by 1970 likely replacing the original septic line that daylighted into Lake Superior. [2.84]

Outbuildings and structures likely removed after 1966 include the oil house, garage, and underground grease rack at Officer in Charge Dwelling (HS-19). Harbor of Refuge

2.77 USCG, Plot Plan, 8-27-70 and 2-7-75. Outbuildings and structures associated with Officer in Charge Dwelling and Harbor of Refuge do not appear on USCG plot plans documenting modifications.
2.78 U.S. Department of the Interior, *Grand Marais HSR,* 1-37.
2.79 USCG, Plot Plan, 8-27-70
2.80 USCG, New 80' Antenna Tower & Radial Ground System Inst'l, 2-15-63
2.81 USCG, Remodeled Motor Lifeboat Launching Carriage To Accommodate Forty Foot Utility Boat, 1964
2.82 USCG, VHF Installation, 1965
2.83 U.S. Department of the Interior, *PIRO General Management Plan*, *i*. The study area was not included at that time.
2.84 USCG, Plot Plan, 8-27-70

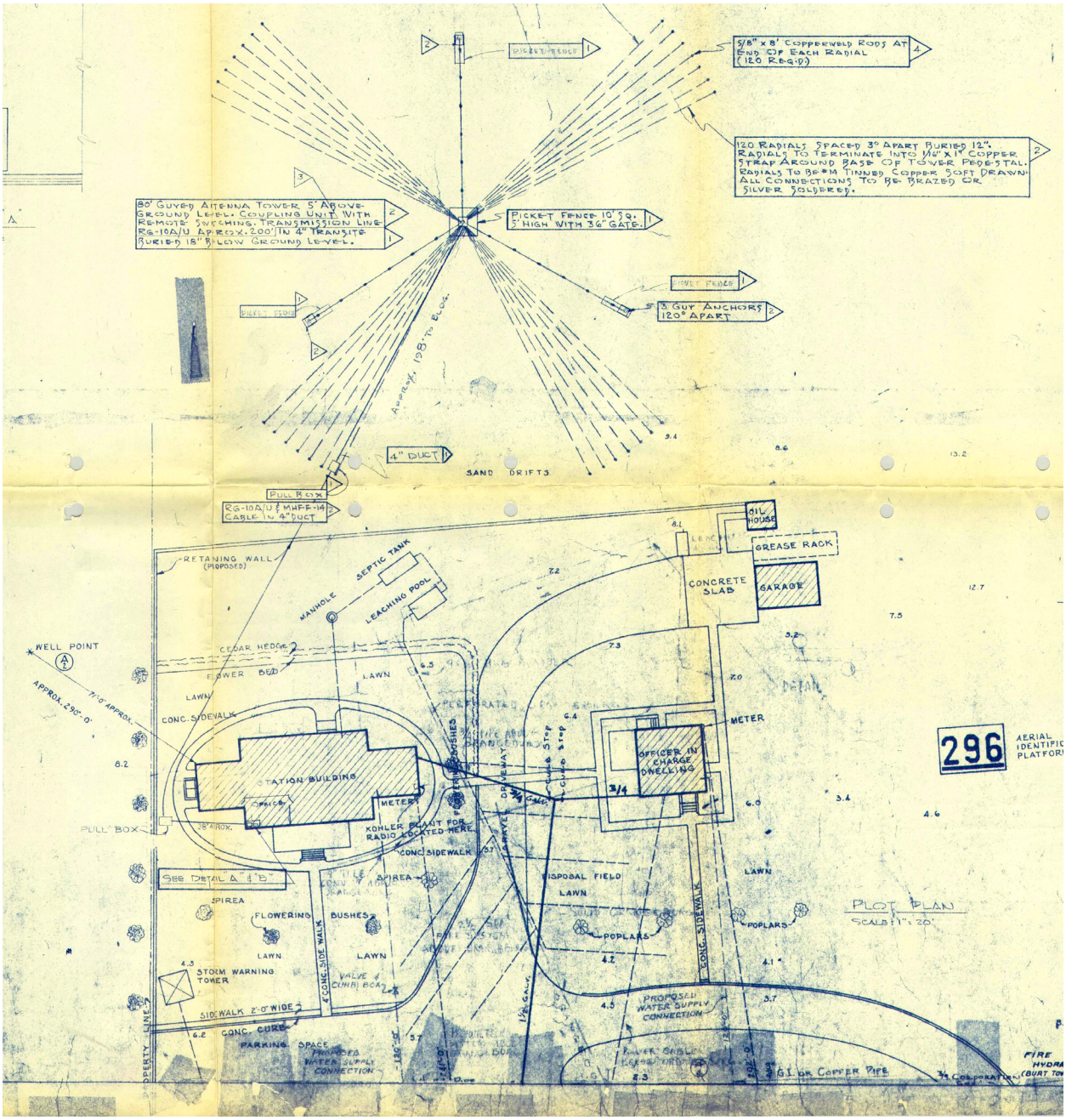


Figure 2-31. An antenna tower and radial ground system was installed north of USCG Station Dwelling (HS-18) in 1963. A central ground anchor was enclosed by a wood picket fence (source: PIRO USCG files, 2-15-63).

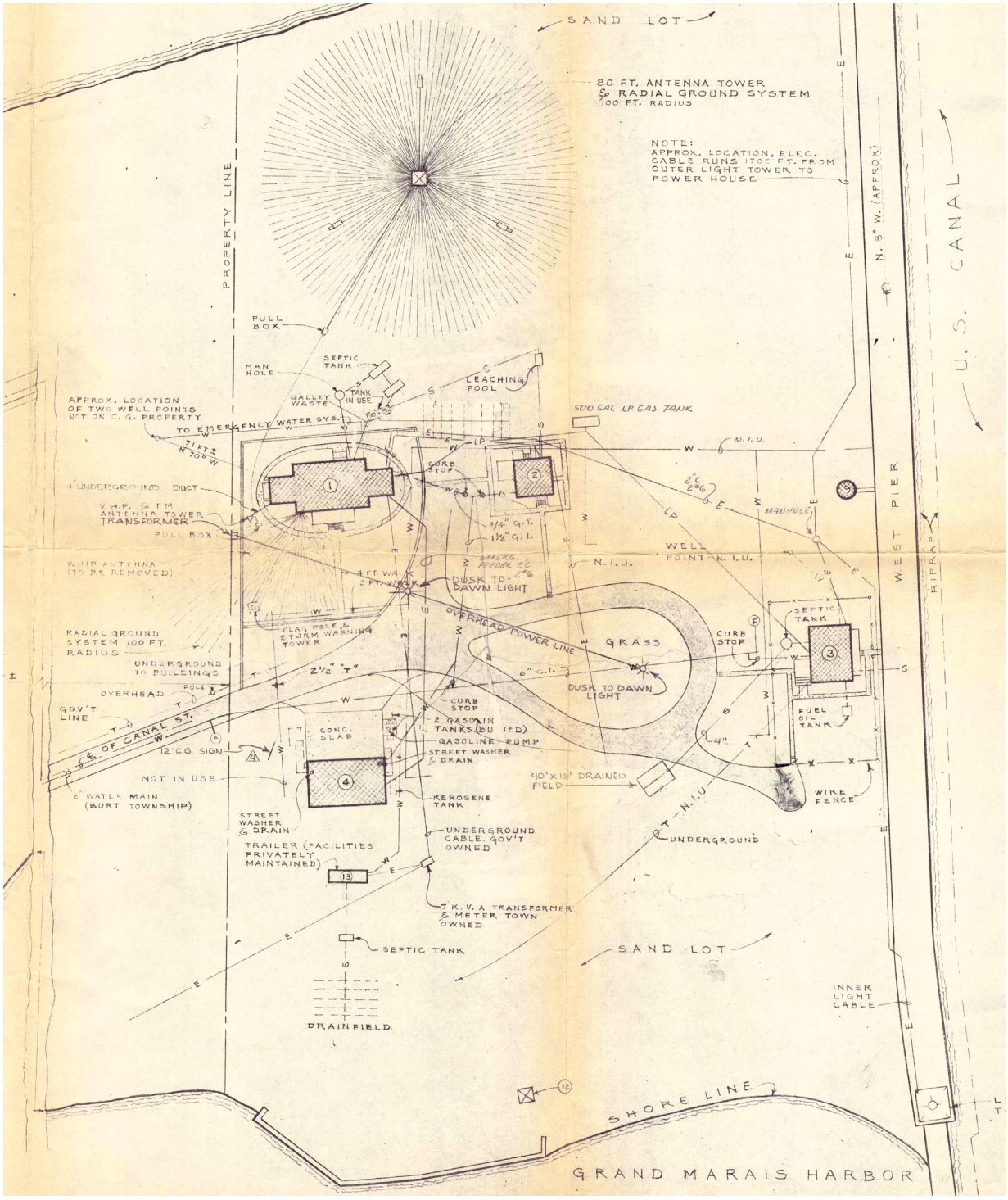


Figure 2-32. Propane tanks and service were added as was a 'drained field' for Harbor of Refuge Dwelling (HS-20) by 1970 (source: PIRO USCG files, 8-27-70).

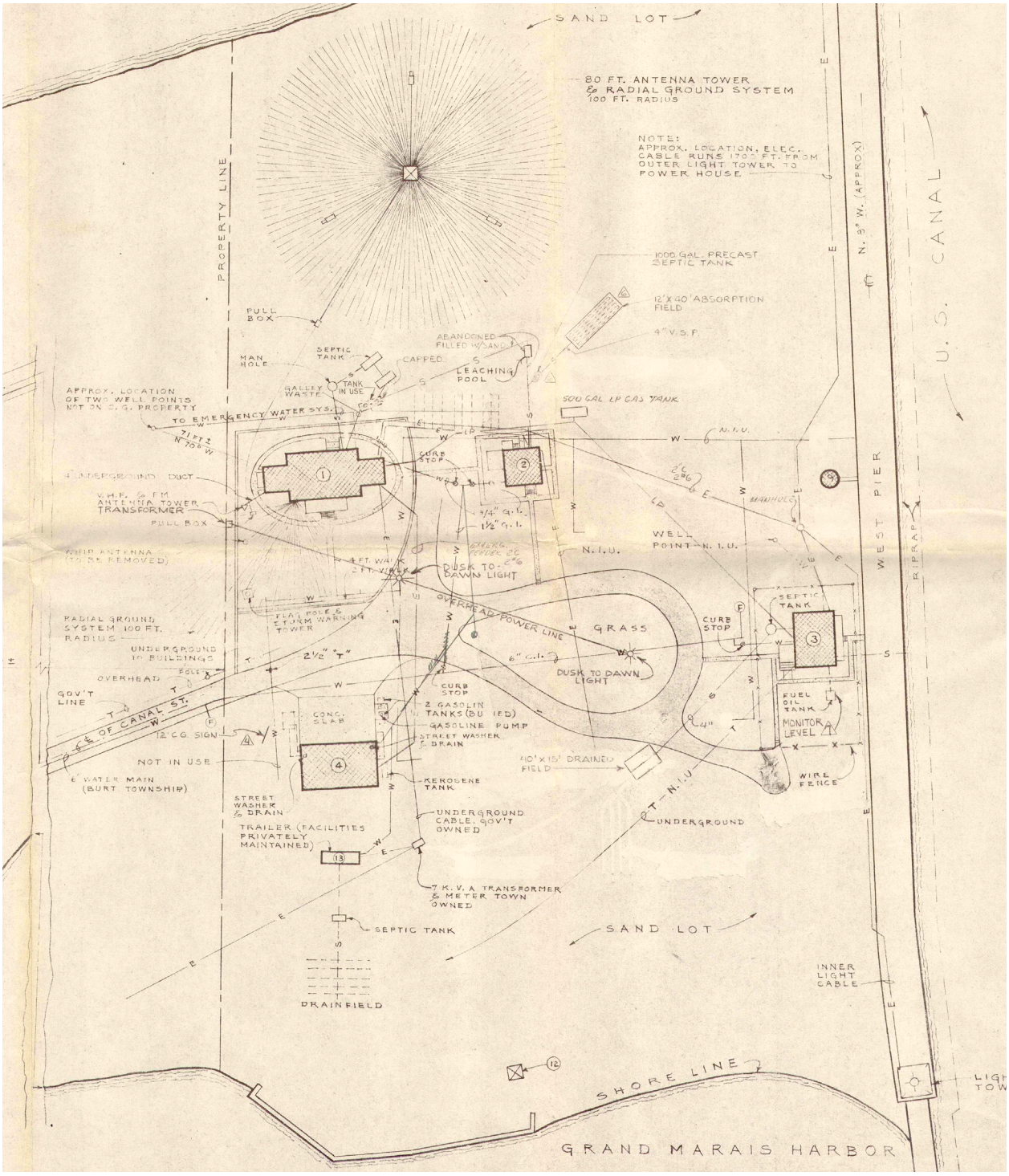


Figure 2-33. A buried septic tank, septic line and an absorption field were added and the previous the leaching pool was abandoned and filled with sand (source: PIRO USCG files, 2-7-75).

Dwelling's (HS-20) oil house, powerhouse, privy, and garage were removed. [2.85]

1969 to 1973
Portions of East and West Piers were capped with concrete. Crest elevations were extended to seven-feet above the low water datum. [2.86]

1974
USCG's 1975 Plot Plan documented the as-built septic system. The 1964 system included a buried 1000-GAL precast septic tank, line, and absorption field north of USCG Officer in Charge Dwelling. The previous leaching pool was abandoned and filled with sand. [2.87]

1975
USCG Grand Marais Lifesaving Station was receiving few emergency calls by the mid-1970s. The station was the last land-based contact with the freighter the Edmund Fitzgerald before it sank in 1975 near Whitefish Point.

1978
USCG completed the new boathouse and launchway. [2.88]

1979
USCG Commander visited the Grand Marais Lifesaving Station to evaluate the feasibility of closing the station. The station was described as "beautifully clean and well maintained."

USCG announced its intention to decommission the station the following year. The local community objected and Michigan Governor, William Millikin, requested USCG operate the station on a seasonal basis. [2.89]

2.85 USCG, Plot Plan, 8-27-70 and 2-7-75. Outbuildings and structures associated with Officer in Charge Dwelling and Harbor of Refuge do not appear on USCG plot plans documenting modifications.
2.86 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.5
2.87 USCG, Plot Plan, 2-7-75
2.88 U.S. Department of the Interior, *Grand Marais HSR,* 1-52.
2.89 U.S. Department of the Interior, *Grand Marais HSR,* 1-39

NPS Development (1981 to present)

Following the USCG'S 1979 command, Grand Marais USCG Lifesaving Station was decommissioned in 1981. Operations were transferred to a United States Coast Guard Auxiliary unit. The transition of three buildings—Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Harbor of Refuge Dwelling (HS-20)—to the NPS for inclusion in Pictured Rocks National Lakeshore was initiated in 1990. The NPS currently uses two buildings and the site for administration and operational purposes. The NPS, in partnership with the GMHS, manages Harbor of Refuge Dwelling (HS-20) for interpretation.

1981
Grand Marais USCG Lifesaving Station was deactivated. Command and operations were transferred to United States Coast Guard Auxiliary Flotilla 28-12 9(CR).

Early to mid-1980s
The USCG renovated USCG Equipment Building for use as offices, meeting spaces and garage spaces for the USCG Auxiliary Flotilla. The building's two east garage bays were enclosed and renovated as office space, which included removal of the garage doors. The side door and windows were relocated to the east elevation, and a new entry door was installed.

1985
NPS began the renovation of Station Dwelling (HS-18) and Officer in Charge Dwelling (HS-19). Roofs on both buildings were removed and cedar shingles installed and stained. [2.90]

1986
The USCG dismantled the radial ground system.

East and West Piers were repaired by the U.S. Army Corps of Engineers. The timber pile dike was classified as deteriorated and in ruins. [2.91]

1990
The transfer of the USCG owned buildings to the NPS was initiated. The transfer was complicated by the ownership history of the land. Harbor of Refuge Dwelling (HS-20) and Officer in Charge Dwelling (HS-19) were in "custody" of the USCG but built on land owned by the U.S. Army Corps of Engineers. This required the Corps to issue a ten-year lease to the NPS for the land.

All buildings were outside PIRO's official boundaries, resulting in the NPS negotiating a 99-year lease on the property.

Michigan's State Historic Preservation Office (SHPO) determined four historic buildings—Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and Equipment Building (Station Garage)— to be eligible for listing in the NRHP under Criterion A and C.

1996
Legislation enabling acquisition of the USCG owned buildings by the NPS was signed.

1997
The lease for Harbor of Refuge Dwelling (HS-20) was transferred to the NPS. USCG retained Equipment Building and 4.16 acres of land. [2.92]

2.90 U.S. Department of the Interior, *Grand Marais HSR,* 1-42.
2.91 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 10.
2.92 U.S. Department of the Interior, *Grand Marais HSR,* 1-44.

Early 2000s
GMHS and NPS executed a new operating agreement for Harbor of Refuge Dwelling (HS-20) with GMHS responsible for minor and routine maintenance, and the NPS responsible for exterior and major building and structural work and oversight and clearances for work.

Harbor of Refuge Dwelling (HS-20) was rehabilitated with interior repairs, e.g., wallpaper and non-historic trim removal, new drywall, wainscoting, and paint/wallpaper, and electrical and lighting upgrades. The NPS installed a new roof, painted and repaired the porch and exterior trim, and replaced windows and aluminum siding. [2.93]

2001 to 2002
Officer in Charge Dwelling (HS-19) was rehabilitated as park housing. Interior repairs included replacement of doors and windows (ca. 1960s) with replicative historic units, removal of aluminum siding, installation of insulation, and replacement of fixture and heating system. Exterior repairs included replacement of drop siding and rafter tails and replacement of non-historic concrete porch front steps to match historic steps.

Station Dwelling (HS-18) was rehabilitated with interior painting, porch roof and watchtower deck membrane roofs removal and replacement, and electrical system upgrades. [2.94]

2011
Harbor of Refuge Dwelling (HS-20) porch was replaced. [2.95]

2012
Inner and Outer Range Lights were listed in the NRHP with a period of significance of 1898 to 1961—the date of the oldest extant light to fifty years prior to the date of the listing. This also represented the rebuilding of West Pier.

Station Dwelling (HS-18) boiler was replaced.

The NPS issued an emergency scope of work for replacement of the roof of Harbor of Refuge Dwelling (HS-20). The asphalt roof installed in 2005 failed and water damage was detected in 2012. Work included rebuilding the entire west dormer and rotted rafters.

2012
Remnants of the timber pile dike breakwater along East Pier were removed. A new stone breakwater was constructed. [2.96]

2019
The process was initiated for the NPS to acquire Equipment Building from United States Coast Guard (USCG). [2.97]

2.93 U.S. Department of the Interior, *Grand Marais HSR,* 1-47.
2.94 U.S. Department of the Interior, *Grand Marais HSR,* 1-46.
2.95 U.S. Department of the Interior, *Grand Marais HSR,* 1-49.
2.96 "Army Corps of Engineers Grand Marais breakwater repair project scheduled to begin," Army Corps of Engineers Website, August 10, 2012.
2.97 U.S. Department of the Interior, *Grand Marais HSR,* 1-49.

Chapter 3: Existing Condition Assessment and Landscape Analysis

Introduction

This chapter presents the existing condition of the cultural landscape and analyzes integrity according to landscape characteristic. Photographs, existing condition matrices, and illustrative analysis diagrams describe the cultural landscape through the assessment of eight landscape characteristics.

This assessment was undertaken to understand the cultural landscape as a whole, identify and document qualities that contribute to its historic character, and identify individual features that contribute to its significance.

Site investigations in April and September 2019 documented existing condition of the cultural landscape. Existing condition is evaluated using the following criteria.

- Good – Those features of the landscape that do not require intervention. Only minor or routine maintenance is needed at this time.

- Fair – Some deterioration, decline, or damage is noticeable; the feature may require immediate intervention. If intervention is deferred, the feature will require extensive attention in a few years.

- Poor – Deterioration, decline, or damage is serious; the feature is seriously deteriorated, damaged, or presents a hazardous condition. Due to the level of deterioration, damage or danger, the feature requires extensive and immediate attention.

This document evaluates and analyzes the study area according to landscape characteristics that include tangible and intangible aspects. These landscape characteristics collectively create the historic character of Grand Marais USCG Lifesaving Station and aid in understanding its cultural importance. The following eight landscape characteristics are included.

- **Natural Systems and Features** are those natural aspects that have influenced the development and physical form.

- **Archeological Sites** are areas containing surface and subsurface remnants related to historic or prehistoric land use.

- **Land Use** is the organization, form, and shape of the landscape in response to land use.

- **Spatial Organization, Topography, and Views** are the arrangement of elements creating the ground, vertical, and overhead planes that define and create space, including the arrangement of topography, buildings, and vegetation. Topography is the three-dimensional configuration of the landscape surface. Views are features that create or allow a range of vision which can be natural or designed and controlled.

- **Circulation** are features and materials that constitute systems of movement.

- **Buildings and Structures** are three-dimensional man-made constructs.

- **Small Scale Features** are the human-scaled elements that provide detail and function.

- **Vegetation** is indigenous or introduced trees, shrubs, vines, groundcovers, herbaceous materials, and natural vegetative cover.

Assessment of Integrity

Integrity is the ability of a cultural landscape to convey its significance. Grand Marais USCG Lifesaving Station is assessed to determine if the landscape characteristics that shaped the cultural landscape during the period of significance are present today. Integrity is evaluated according to seven aspects or qualities: location, design, setting, materials, workmanship, feeling, and association.

Seven Aspects of Integrity

Location is the place where the cultural landscape was constructed or a historic event occurred.

Setting is the physical environment of the cultural landscape.

Feeling is the cultural landscape's expression of the aesthetic or historic sense of a particular period of time.

Materials and Workmanship. Materials are physical elements that were combined or deposited during period(s) of time and in a particular pattern or configuration to form the cultural landscape. Workmanship includes the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Design is the combination of elements to create the form, plan, space, structure, and style of the cultural landscape.

Association is the direct link between the important historic event or person and a cultural landscape.

The cultural landscape retains integrity in location, setting, materials, workmanship, and association.

- Grand Marais USCG Lifesaving Station retains integrity in location and setting. The physical environment associated with the development of the study area as a lifesaving station remains in the original location. The building complex and its relationship to Lake Superior, Grand Marais Harbor and navigational channel remain from the period of significance.

- Grand Marais USCG Lifesaving Station retains integrity in materials and workmanship. Contributing features associated with the cultural landscape retain the original simple material palette and workmanship aesthetic of the USLSS and USCG. Buildings, structures, and circulation retain materials from original construction. These include a simple material palette of wood, brick, and concrete used in both buildings and circulation routes. Contemporary fencing, benches, signs, trash receptacles, and memorials contrast the historic material palette and workmanship.

- Grand Marais USCG Lifesaving Station retains integrity of association as a station through the extant designed landscape and buildings. The extant Station Dwelling (HS-18), Office in Charge Dwelling (HS-19), and Equipment Building retain association by their continued use.

The cultural landscape has diminished integrity in design and feeling.

- Grand Marais USCG Lifesaving Station has diminished integrity in design. The cultural landscape retains its original arrangement of buildings and structures arranged around Canal Street and orientation to Lake Superior and Grand Marais Harbor.

  The design of the study area is modified by the introduction of new patterns in the cultural landscape. Adjacent development, mature vegetation, and the addition of gravel parking areas and small scale features—memorials, benches, trash receptacles, and signs—throughout the study area diminishes the design of the station's historically open landscape.

  The planting design of the study area was minimal and remains visible in today's landscape but is diminished by the loss of uniform tree plantings. Tree allees were established to delineate boundaries at Station Dwelling (HS-18) and USLSS Station Building (non-extant). The planting design is diminished by gaps in allees where trees have died or been removed. The loss of trees at USLSS Station Building modifies the uniformity of allees and contributes to the appearance of scattered tree plantings.

- Grand Marais USCG Lifesaving Station has diminished integrity in feeling. The study area is no longer an active lifesaving station and the feeling of an active, working landscape no longer remains.



Figure 3-1. Mature vegetation and the addition of gravel parking areas and small scale features diminishes the design of the historically open landscape (source: Mundus Bishop, 2019).

Contributing and Non-Contributing Features

Contributing features are individual elements or landscape characteristics extant from the period of significance that contribute to the integrity of Grand Marais USCG Lifesaving Station.

Non-contributing features are elements added to the study area after the period of significance. They do not contribute to the integrity of the cultural landscape. Some non-contributing features are compatible with the historic character of the cultural landscape.

Table 3-1. Contributing and Non-Contributing Featu

Spatial Organization, Topography, and Views		Contributing	Non-Contributing
Relationship between the buildings—Station Dwellin	), Officer	•	
in Charge Dwelling (HS-19), Harbor of Refuge Dwellin	)), Station		
Garage—and Lake Superior and Grand Marais Harbor			
The settings of Station Dwelling (HS-18), Officer in Ch	elling (HS-	•	
19), Harbor of Refuge Dwelling (HS-20), and Station G			
Historic setting and spaces of USLSS station (building	-extant)	•	
Views to and from Lake Superior, Grand Marais Harbo	ews	•	
between buildings and structures			
Views towards Station Dwelling (HS-18), Officer in Ch	elling (HS-	•	
19), Harbor of Refuge Dwelling (HS-20), and Station G	om Canal		
Street and Burt Township			
Views to/from Inner and Outer Range Lights		•	
Circulation		**Contributing**	**Non-Contributing**
Canal Street		•	
Station Dwelling (HS-18) Vehicular and Pedestrian Ci	—	•	
Walkways, Parking			
Officer in Charge Dwelling (HS-19) Vehicular and Ped		•	
Circulation—Walkways, Parking, Access Drive			
Equipment Building Concrete Parking		•	
Road Trace (east of Equipment Building)			•
Navigational Channel		•	
West Pier		•	
East Pier		•	
Pile Dike		•	
West Bay Crib Ruins		•	
Harbor of Refuge Dwelling (HS-20) East/South Walkv	Stairs	•	
Harbor of Refuge Dwelling (HS-20) West Walkway an			•
Launchway			•
Burt Township Gravel Parking (north and south)			•
Dune Trails			•

Table 3.1 (continued) Contributing and Non-Contributing Features

Buildings and Structures	Contributing	Non-Contributing
Station Dwelling (HS-18)	•	
Station Dwelling (HS-18) Storm Warning Tower	•	
Officer in Charge Dwelling (HS-19)	•	
Officer in Charge Dwelling (HS-19) Shed		•
Harbor of Refuge Dwelling (HS-20)	•	
Equipment Building	•	
Equipment Building Storm Warning Tower	•	
Outer Range Light	•	
Inner Range Light	•	
Concrete Retaining Wall (along West Bay shoreline)	•	
Small Scale Features	**Contributing**	**Non-Contributing**
Study Area		
Utility Poles (6)		•
Regulatory Signage (13)		•
Interpretive Signage (1)		•
Picnic Tables		•
Fire Hydrants		•
Parking Boulders (43)		•
“Grand Marais Commercial Fishermen’s Memorial” Marker		•
“Grand Marais Commercial Fishermen’s Memorial” Flagpole		•
“Grand Marais Commercial Fishermen’s Memorial” Benches		•
Station Dwelling (HS-18)		
Perimeter Wall	•	
Curb	•	
Pull Box 1	•	
Pull Box 2	•	
Antenna Tower and Radial Ground System Concrete Blocks	•	
Park ID Sign		•
Propane Tank		•
Grill		•
Picnic Table		•
Officer in Charge Dwelling (HS-19)		
Propane Tank		•
Propane Tank Picket Fence		•
Chain Link Fence		•
Picnic Table		•
Satellite Dish		•
Raised Garden Beds		•

Table 3.1 (continued) Contributing and Non-Contributing Features

Small Scale Features	Contributing	Non-Contributing
Harbor of Refuge Dwelling (HS-20)		
Trash Can		•
Granite Slab		•
"Light Keepers Museum" Sign		•
Garden Marker and Memorial Bench		•
Memorial Bench and Concrete Slab		•
Chain Link Fence		•
Farm Equipment		•
Trash Can		•
Granite Slab		•
Equipment Building		
Picnic Table		•
Garbage Can		•
"Property of the United States Coast Guard" ID Signs		•
"U.S. Coast Guard" ID Sign		•
Riprap along Concrete Retaining Wall		•
Vegetation	**Contributing**	**Non-Contributing**
Study Area		
Lawn	•	
Dune Vegetation	•	
Station Dwelling (HS-18)		
Lawn	•	
Balsam Poplar Tree Allee (7)	•	
Evergreen Tree (1)		•
Officer in Charge Dwelling (HS-19)		
Lawn	•	
Balsam Poplar Tree Allee (4)	•	
Evergreen Tree (1)		•
Harbor of Refuge Dwelling (HS-20)		
Lawn	•	
Lilac Shrub		•
Ornamental Foundation Plantings		•
Equipment Building		
Lawn	•	
Balsam Poplar Trees (17)	•	



Figure 3-2. The relationship between Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Equipment Building and Grand Marais Harbor contribute to the integrity of Grand Marais USCG Lifesaving Station (source: Mundus Bishop, 2019).

Existing Condition and Analysis

Natural Systems and Features Existing Condition and Analysis

The study area is in Burt Township, Alger County, Michigan on the south shore of Lake Superior. The region is characterized by cold winters with significant snow accumulation, mild summers, and sudden strong storms on Lake Superior.

Glaciers occupied the region during the Pleistocene Epoch. During the Wisconsinan glacial stage a thick sheet of ice covered the Upper Peninsula. Glacial deposits and melt created a variety of modern landforms including Lake Superior and the beach ridge landform of Grand Marais.[3.1]

The study area's natural systems and features are inherently linked to its physical development. Grand Marais Harbor was an inland lake with a connection to Lake Superior from Sucker River. Wave action eroded material from the shoreline and formed two spits from Grand Marais Harbor to Lake Superior. A navigational channel was cut through the west spit in the late 1800s.[3.2] The harbor is comprised of a deep basin on the west (West Bay) and a shallow marshy region on the east (East Bay). An accretion fillet (Agate Beach) formed west of the navigational channel. By 1939 beach accretion and growth lakeward stopped. The beach began to grow lakeward again with the extension of the West Pier in the 1960s. Today, the beach is converging toward full maturity.[3.3]

Beach and dunes characterize much of the study area landscape. Agate Beach consists of sand, pebbles, and cobble near the shoreline with a backbeach area of embryo dunes and more mature dunes further inland. Cobble areas near West Pier are patchy and interspersed with sand, indicating a more dynamic environment.[3.4]

The beach and dune landscape support federally listed species and critical habitat known to be present in the study area—pitcher's thistle (*Cirsium pitcherii*) and piping plover (*Charadrius melodus*). Pitcher's thistle, federally listed as threatened, occurs as semi-isolated populations on sandy dunes, dry interdunal areas, and cobble shores. Pitcher's thistle has been observed near West Pier between the northern parking lot and Agate Beach. The study area is within U.S. Fish and Wildlife Service designated critical habitat for piping plover. Piping plover, federally listed as endangered in the Great Lakes region, are found on islands and mainland shorelines of the Great Lakes that are sparsely vegetated sandy habitats associated with wide, unforested dunes.[3.5]

Analysis of Integrity

Natural systems and features are a characteristic feature of the cultural landscape and remain similar to the period of significance. The location along a navigational channel with views to the water and protected access to a deep basin was a logical location for Grand Marais USCG Lifesaving Station. Grand Marais Harbor, Lake Superior, and the beach and dune landscape contribute to the significance of the cultural landscape.

3.1 U.S. Department of Agriculture, Natural Resources Conservation Service, *Landforms of the Upper Peninsula, Michigan* (Washington D.C.: U.S. Department of Agriculture, 2006).
3.2 U.S. Army Corps of Engineers, *Major Rehabilitation Evaluation Report*, 6.
3.3 U.S. Army Corps of Engineers, Detroit District, *White Paper on Discussion of Physical and Biological Impacts of the Proposed Grand Marais Breakwater Alternatives verses the No Project Scenario* (Detroit: U.S. Army Corps of Engineers, 2006), 3.
3.4 U.S. Army Corps of Engineers, Detroit District, *Biological Assessment for the Pile Breakwater Reconstruction at Grand Marais Harbor, Michigan* (Detroit: U.S. Army Corps of Engineers, 2006), 8.
3.5 U.S. Army Corps of Engineers, *Biological Assessment Pile Breakwater*, 8.

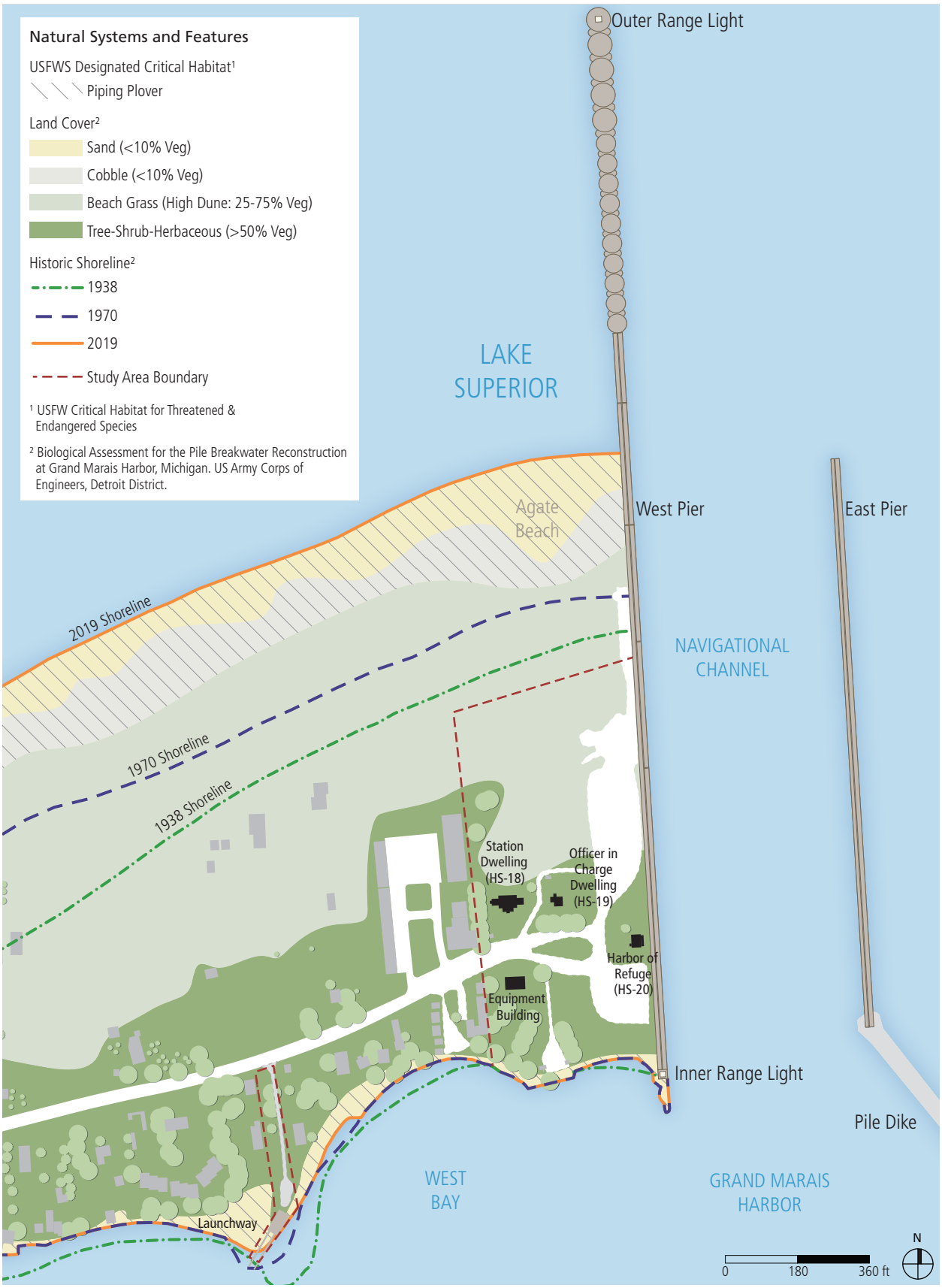


Figure 3-3. Natural systems and features remain similar to the period of significance. Dune and tree-shrub-herbaceous landcover dominates the landscape (source: Mundus Bishop, 2020).

Archeological Sites Existing Condition and Analysis

The study area includes archeological sites from the period of significance and may include archeological sites that pre-date European arrival in the region. Photographs and plans from the period of significance indicate the presence of non-extant buildings, structures, and small scale features throughout the study area.

Analysis of Integrity

Archeological sites associated with abandoned subsurface utilities and infrastructure may exist throughout the study area. Archeological sites associated with Grand Marais USCG Lifesaving Station and various other outbuildings may be extant. Further investigation is needed to determine the location, condition, and significance of archeological features.

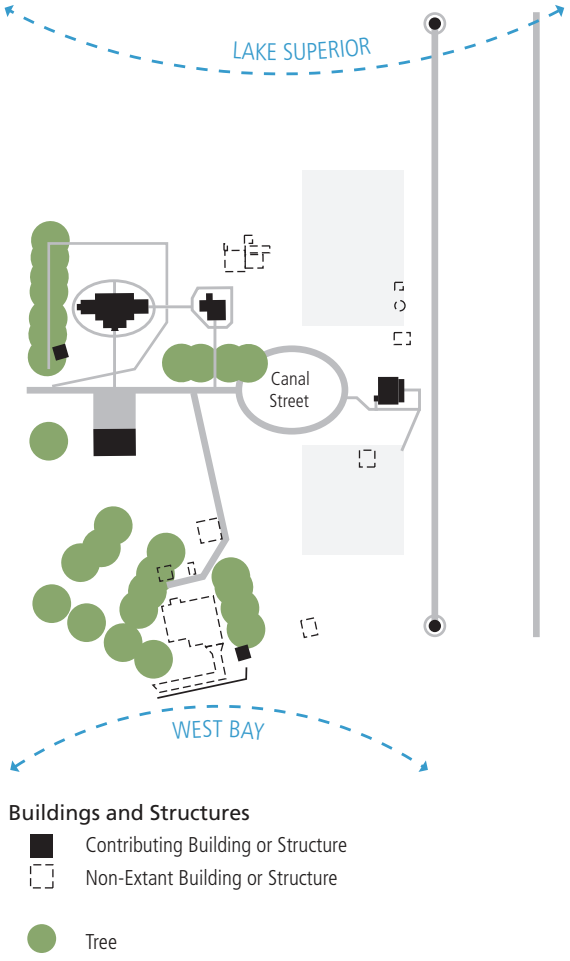


Figure 3-4. Archeological sites associated with non-extant buildings and structures may be extant throughout the study area (source: Mundus Bishop, 2020).

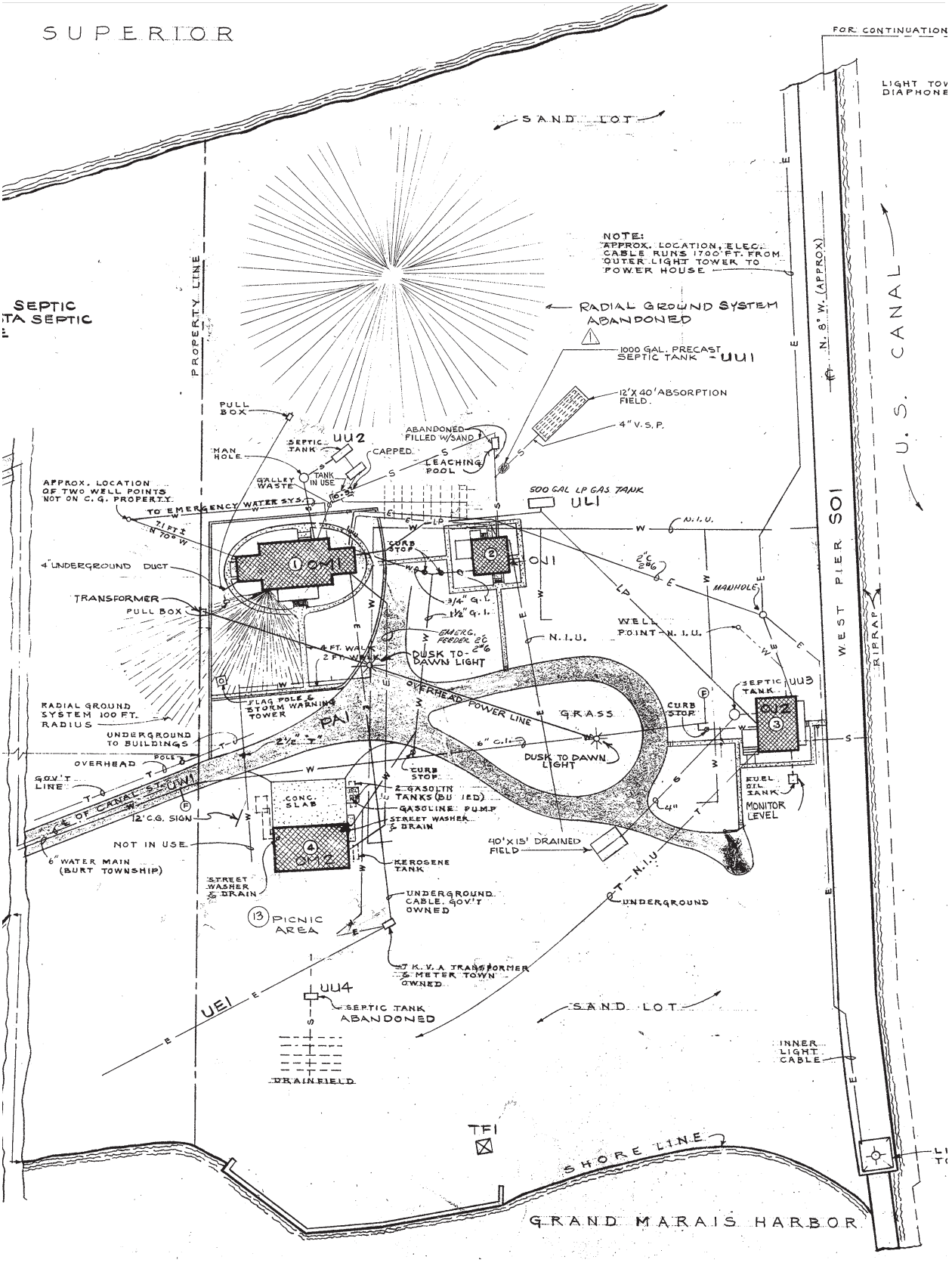


Figure 3-5. Plot Plan of infrastructure and utilities that may be abandoned in place, 1986 (source: United States Coast Guard, Civil Engineering Unit, Cleveland, Ohio).

Land Use Existing Condition and Analysis

Grand Marais USCG Lifesaving Station is a component of Pictured Rocks National Lakeshore (PIRO). PIRO's present-day land use is a publicly accessible National Lakeshore for the benefit, inspiration, education, recreational use, and enjoyment of the public.

Portions of the study area are currently owned and managed by NPS, United States Coast Guard Auxiliary, United States Army Corps of Engineers, and Burt Township. Study area uses include administrative offices, seasonal employee residences, storage, interpretation, memorials, public beach access and parking, and historic buildings and structures. NPS leases Harbor of Refuge Dwelling (HS-20) to Burt Township for a museum operated by Grand Marais Historical Society.

Grand Marais Harbor is primarily used by recreational boaters. Motels and seasonal private residences line the study area's western boundary.

Analysis of Integrity

Operations historically associated with lifesaving and rescue are no longer present. Daily activities associated with the period of significance included performing lifesaving drills, standing watch in the tower, patrolling the shoreline, and performing maintenance and upkeep of the station. When the USCG ceased operations the site no longer served its founding mission to rescue and aid in the navigation of boats.



Figure 3-6. Land use today includes a mix of administrative and public uses (source: Mundus Bishop, 2020).

Spatial Organization, Topography, and Views
Existing Condition and Analysis

The spatial organization of the cultural landscape is arranged around a central loop road (Canal Street) with buildings oriented to Lake Superior, West Bay, and navigational channel.

East and West Piers were built to establish a navigational channel to Grand Marais Harbor. Inner and Outer Range Lights were erected on the lake and harbor ends of West Pier. The United States Life-Saving Service (USLSS) sited the non-extant station building along West Bay with clear sight lines to West Bay. The sheltered West Bay location enabled the USLSS to launch boats directly into the protected harbor during storms. The United States Lighthouse Board sited Harbor of Refuge Dwelling (HS-20) along the West Pier with clear sight lines to the navigational channel.

USCG expanded the established infrastructure when staffing needs exceeded facility capacity. USCG facilities, in place today, were designed and organized as a complex of separate buildings providing specific functions—administration, living quarters, boathouses, garages, equipment sheds, and other purposes.[3.6] The spaces were essential for the efficient functionality of the station and were connected visually and physically by walkways and a central loop road. The Station Dwelling (HS-18) is prominently set in a formally arranged space with symmetrical walks and lawn enclosed by curb to the south and east, low wall to the north, and low wall and allee of balsam poplar trees to the west. The Officer in Charge Dwelling (HS-19) and Equipment Building were sited adjacent to Station Dwelling (HS-18) and oriented to Canal Street and the water. The overall

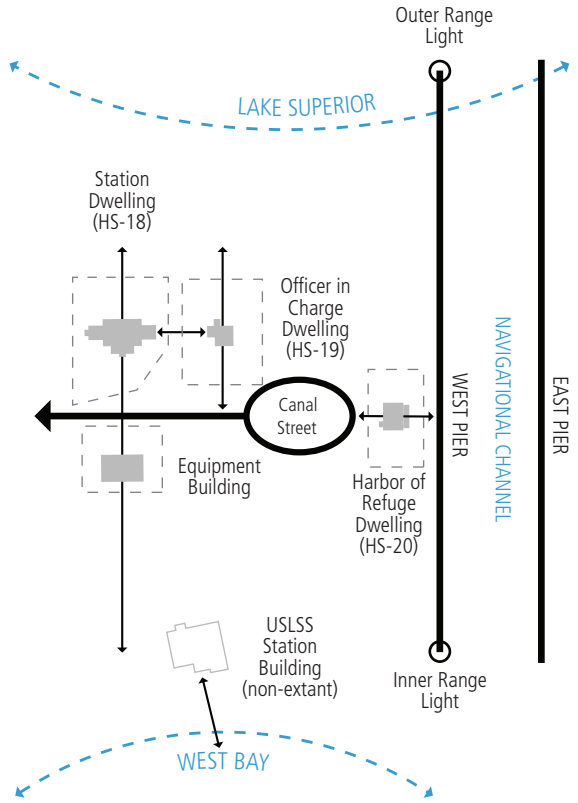


Figure 3-7. The cultural landscape is arranged around a central loop road (Canal Street) and buildings are oriented to Lake Superior, West Bay, and navigational channel. USCG facilities were designed and organized as a complex of separate buildings providing specific functions. Spaces were connected visually and physically by walkways and a central loop road (source: Mundus Bishop, 2020).

3.6 U.S. Department of the Interior, *U.S. Government Lifesaving Stations Nomination Form*, 37.

appearance of the cultural landscape reflects a formal military aesthetic of trimmed lawns, orthogonal organization, and clear lines of site.[3.7]

The topography is primarily level, with sand dunes creating ridges north of the study area. The low, level topography of the site provided easy access to West Bay. Harbor of Refuge Dwelling (HS-20) is slightly elevated above the native topography and constructed West Pier.

Sand accumulation west of the jetties has expanded the beach lakeward 600 feet since the 1880s.[3.8] A series of historic photographs indicate nominal shoreline change between 1939 to 1953. Extension of the west jetty in the 1960s resulted in further trapping of sediment and subsequent beach growth to its present size.[3.9] Coastal processes continue to modify the shoreline and dune topography between Station Dwelling (HS-18) and Officer in Charge Dwelling (HS-19).

Primary viewsheds from the study area include views to Lake Superior and views across West Bay, views from the Station Dwelling (HS-18) lookout tower, views to and from Inner and Outer Range Lights, and views between buildings. Mature vegetation and adjacent development obscures views from Canal Street to the study area. Dune topography and chain link fences obscure views to and from Lake Superior and navigational channel.

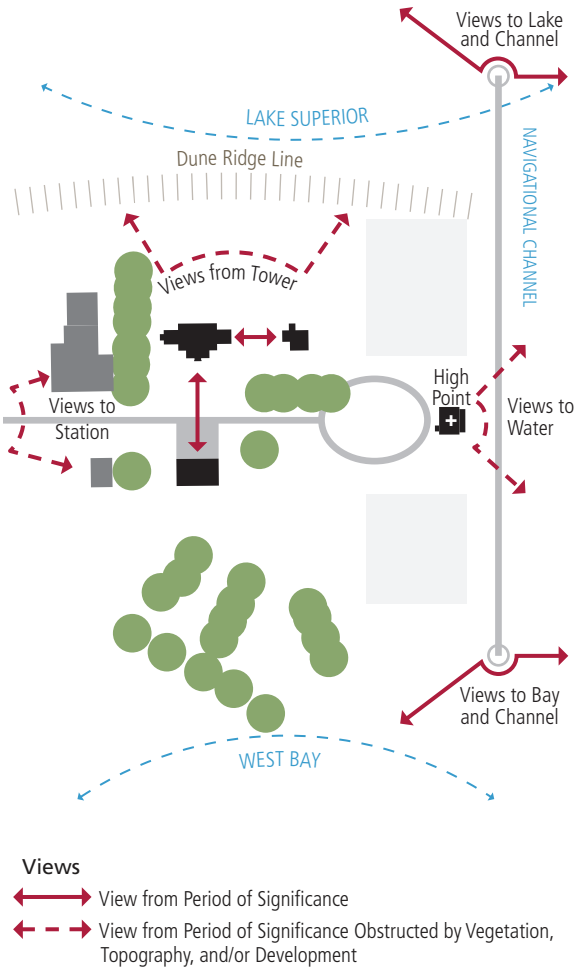


Figure 3-8. Mature vegetation, topography, and adjacent development alters views from the period of significance (source: Mundus Bishop, 2020).

3.7 WM. H. A. Herbst, *A Manual for Lifeboat Stations* (n.p.: United States Coast Guard, Treasury Department, 1949).
3.8 U.S. Army Corps of Engineers, *Biological Assessment Pile Breakwater*, 25.
3.9 U.S. Army Corps of Engineers, *Physical and Biological Impacts of the Proposed Grand Marais Breakwater*, 3.

Analysis of Integrity

Spatial organization has changed since the period of significance and integrity is diminished by the loss of structures after 1962. Major buildings and structure remain and their arrangement and orientation to the water and central loop road (Canal Street) remains. Spatial organization is modified by the addition of large gravel parking areas in the 1990s to the north and south of the Harbor of Refuge Dwelling (HS-20). Public use at gravel parking areas and increased vehicular traffic along Canal Street impacts connectivity between use areas.

Views at the study area have changed since the period of significance. Historically views were more open between buildings and the water. Views from Station Dwelling (HS-18) lookout tower and the Inner and Outer Range Lights were critical to the station's mission to monitor and help boats in danger. Today mature vegetation and motel development west of Station Dwelling (HS-18) diminishes views to buildings and the water. Topographic changes diminish the visual relationship to Lake Superior. Historic photographs indicate dunes were lower in elevation allowing for views to/from Station Dwelling (HS-18) and Officer in Charge Dwelling (HS-19) to Lake Superior. Chain link fencing to the north and east of Harbor of Refuge Dwelling (HS-20) obscures views to and from the water.



Figure 3-9. The orientation of Harbor of Refuge Dwelling (HS-20) to the navigational channel remains similar to the period of significance. A fence parallel to West Pier obscures views to the water (source: Mundus Bishop, 2019).



Figure 3-10. Adjacent development obscures views to the study area (source: Mundus Bishop, 2019).



Figure 3-11. Topographic changes resulting from dune process diminishes the visual relationship between Agate Beach and buildings (source: Mundus Bishop, 2019).

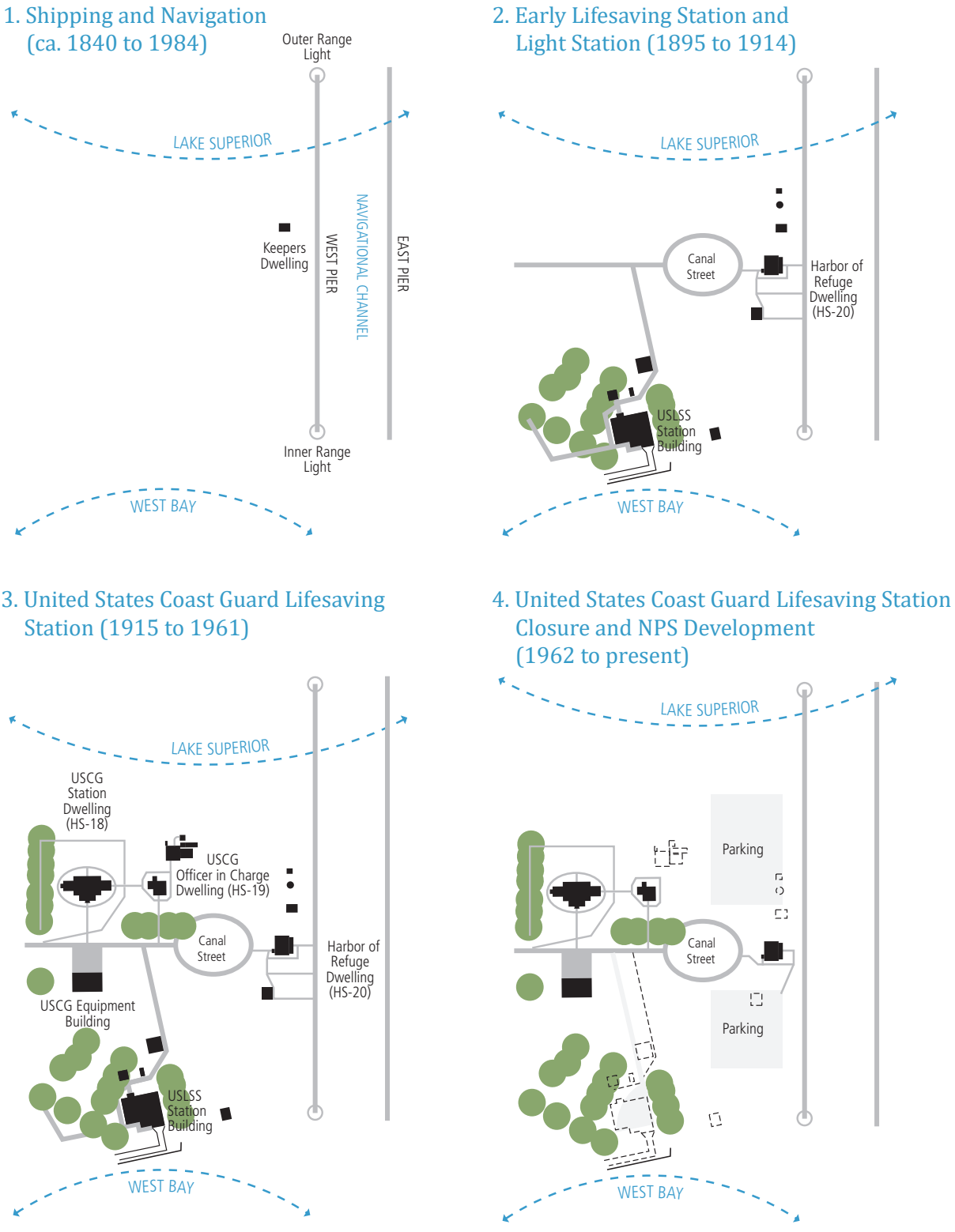


Figure 3-12. The arrangement of buildings and structures remains similar to the period of significance. Buildings and structures extant during the periods of development are indicated in solid black. Non-extant buildings and structures are indicated in black dashed outlines (source: Mundus Bishop, 2020).



Figure 3-13. The cultural landscape was arranged around Canal Street and buildings were oriented to Lake Superior, West Bay, and navigational channel (source: Grand Marais Historical Society).



Figure 3-14. Spatial organization from the period of significance is modified by the addition of gravel parking areas and associated visitor amenities (source: Mundus Bishop, 2019).

Table 3-2. Spatial Organization, Topography, and Views

Feature	Description	Condition	Contributing/Non-Contributing
Relationship between the buildings—Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), Station Garage—and Lake Superior and Grand Marais Harbor	Design of the study area, arranged around Canal Street, oriented to Lake Superior, the navigational channel, and West Bay.	Fair	Contributing
The settings of Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and Station Garage	Design of structures set in open lawn lined by trees.	Good	Contributing
Historic setting and spaces of USLSS station (buildings are non-extant)		Good/Fair	Contributing
Views			
Views to and from Lake Superior, Grand Marais Harbor, and views between buildings and structures		Good/Fair	Contributing
Views towards Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and Station Garage from Canal Street and Burt Township		Fair	Contributing
Views to/from Inner and Outer Range Lights		Good	Contributing

Circulation Existing Condition and Analysis

Circulation includes vehicular, pedestrian, and water routes. Canal Street provides the single vehicular route between Grand Marais and the study area. Pedestrian walkways are arranged symmetrically around buildings and connect buildings in an efficient institutional fashion. Vehicular, pedestrian, and water routes were essential for the efficient functionality of the study area.

Vehicular circulation includes Canal Street, gravel access drives, and parking areas. Canal Street bisects the study area and provides direct access to Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), Equipment Building, and two gravel parking areas. Canal Street terminates as a circular route west of Harbor of Refuge Dwelling (HS-20). A gravel parking area south of Harbor of Refuge Dwelling (HS-20) provides museum and visitor parking. A gravel parking area north of Harbor of Refuge Dwelling (HS-20) provides visitor parking. Staff parking areas include gravel pull-in spaces south of Station Dwelling (HS-18), gravel access drive west of Officer in Charge Dwelling (HS-19), and concrete slab north of the Equipment Building. A non-extant filling station was built east of the Equipment Building concrete slab. A native surface road trace west of the Equipment Building provides administrative access from Canal Street to the location of the non-extant lifesaving station along West Bay.

Pedestrian circulation is primarily comprised of building access routes. Orthogonal walkways at Station Dwelling (HS-18) and at the Officer in Charge Dwelling (HS-19) provide access between buildings, parking areas, and building entrances. The walkways parallel building facades and reinforce the formality of the cultural landscape. Walkways at Harbor of Refuge Dwelling (HS-20) are less formal, providing access from the gravel parking directly to the front and back entrances. A narrow walkway comprised of boardwalk and concrete surfacing connects the gravel parking area south of Harbor of Refuge Dwelling (HS-20) to the building. Two native surface pedestrian trails connect the northern parking lot to Agate Beach. The West Pier provides an informal north-south pedestrian route from the Inner Range Light to the Outer Range Light.

Water circulation includes the navigation channel and access points along West Pier and at the launchway west of the study area. The launchway is not publicly accessible.



Figure 3-15. Circulation remains from the period of significance with additions facilitating contemporary uses (source: Mundus Bishop, 2020).



Figure 3-16. Gravel parking at Station Dwelling (HS-18) dates to the period of significance (source: Mundus Bishop, 2019).



Figure 3-17. A road trace east of the Equipment Building provides administrative access from Canal Street to the location of the non-extant lifesaving station along West Bay (source: Mundus Bishop, 2019).



Figure 3-18. The gravel parking area north of Harbor of Refuge Dwelling (HS-20) alter the cultural landscape (source: Mundus Bishop, 2019).



Figure 3-19. Stormwater flows and collects at a low point south of Canal Street (source: Mundus Bishop, 2019).



Figure 3-20. Two native surface pedestrian trails connect the northern parking lot to Agate Beach (source: Mundus Bishop, 2019).



Figure 3-21. Pedestrian walks arranged symmetrically around Station Dwelling (HS-18) remain from the period of significance (source: Mundus Bishop, 2019).



Figure 3-22. The Launchway to the west of the study area is in poor condition (source: Mundus Bishop, 2019

Analysis of Integrity

Circulation patterns remain similar to the period of significance. The configuration of Canal Street is similar to the period of significance with replacement of gravel surfacing to asphalt and modifications to alignment in response to changes in access to Harbor of Refuge Dwelling (HS-20) and gravel parking areas. Gravel parking areas built in the 1990s introduced vehicular traffic into previously undeveloped areas. This changed the character of Canal Street from a limited use route to a public road. The addition of the southern gravel parking area eliminated the driveway south of Harbor of Refuge Dwelling (HS-20). Use and maintenance of access drives west of the Equipment Building and north of the Officer in Charge Dwelling (HS-19) has lessened and today the routes are less defined.

Pedestrian routes remain as a system of symmetrical walkways connecting buildings as originally built. Historic maps and photographs illustrate several alignment modifications to building access routes at Harbor of Refuge Dwelling (HS-20). Historic photographs illustrate a timber boardwalk walkway connecting from a non-extant garage to a timber boardwalk along West Pier to the main entrance of Harbor of Refuge Dwelling (HS-20). Additional route modifications reflect changes to the location of the west building entrance and Harbor of Refuge Dwelling (HS-20) parking. Native surface beach trails provide access from parking to Agate Beach and are not part of the historic circulation pattern.

The navigation channel remains an active water route. The launchway west of the study area is no longer actively used and boat launches along West Bay are non-extant. Water access remains along West Pier.

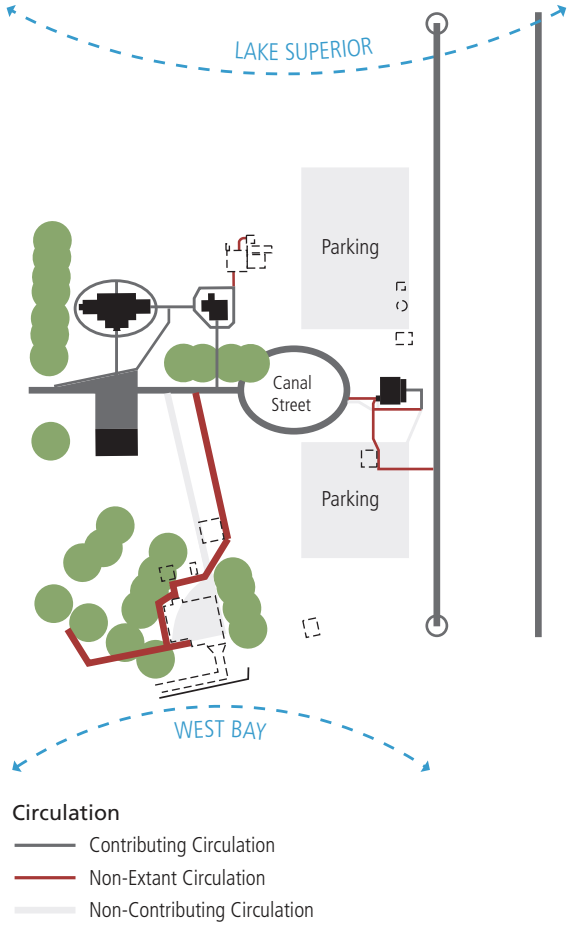


Figure 3-23. Circulation remains similar to the period of significance with modifications to walkways and the addition of parking areas (source: Mundus Bishop, 2020).

Table 3-3. Circulation

Feature	Description	Condition	Contributing/ Non-Contributing
Vehicular Circulation			
Canal Street	25' +/- wide two-lane asphalt paved road. Road ends west of Harbor of Refuge HS-20.	Good	Contributing
Station Dwelling (HS-18) Vehicular Parking	20' +/- to 8' +/- wide gravel surface.	Fair	Contributing
Officer in Charge Dwelling (HS-19) Access Drive and Parking	12' +/- wide gravel access drive/parking.	Fair	Contributing
Equipment Building Concrete Parking	55' +/- wide concrete slab.	Good	Contributing
Burt Township Gravel Parking (north)	22' +/- wide gravel entrance drive. 125' x 300' gravel parking. Large boulders line north and west edges. Riprap lines east boundary.	Fair	Non-Contributing
Burt Township Gravel Parking (south)	140' x 140' (+/-) square gravel parking area. Large boulders line west and south edges. Riprap line east boundary.	Fair	Non-Contributing
Road Trace	9' +/- wide native surface drive from Canal Street to shore of West Bay.	Fair	Non-Contributing
Pedestrian Circulation			
Station Dwelling (HS-18) Walkways	3' wide concrete sidewalk.	Fair	Contributing
Officer in Charge Dwelling (HS-19) Walkways	3' wide concrete sidewalk.	Fair	Contributing
Harbor of Refuge Dwelling (HS-20) West Walkway and Stairs	3' wide concrete sidewalk from Canal Street to the porch on the west facade.	Fair	Non-Contributing
Harbor of Refuge Dwelling (HS-20) East/South Walkway and Stairs	2' wide timber boardwalk walkway from gravel parking to west concrete walk. 2'-6" wide concrete walk from timber boardwalk to main entrance stairs.	Fair	Contributing
Dune Trails	Native surface trail from north parking lot to beach. Width varies.	Fair	Non-Contributing
Water Circulation			
Navigation Channel	500' wide channel defined by East and West Piers.	Good/Fair	Contributing
West Pier	2714' long concrete and steel sheet-pile pier.	Good	Contributing
East Pier	1695' long concrete and steel sheet-pile pier.	Good	Contributing
West Bay Crib (ruins)	Ruins of former boat launchway and house.	Poor	Contributing
Launchway	Concrete ramp with timber decking to the southwest of the study area. Boathouse is non-extant.	Poor	Non-Contributing

Building and Structures Existing Condition and Analysis

The cultural landscape includes four buildings, several structures, and foundations of non-extant structures. Prominent buildings include Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and Equipment Building. The Historic Structures Report (HSR), written in conjunction with this CLR, provides a detailed building chronology and analysis.

Remnant concrete pads mark the location of non-extant structures. The non-extant lifesaving station was critical to early United States Life-Saving Service operations and is marked by several concrete pads, a concrete retaining wall (along West Bay shoreline), and balsam poplar trees south of the Equipment Building. Concrete blocks and metal vaults mark the location of antenna tower and radial ground system components located to the west and north of Station Dwelling (HS-18). Concrete pads mark the location of the garage, grease rack, and oil house associated with the Officer in Charge Dwelling (HS-19) and power house and oil house associated with Harbor of Refuge Dwelling (HS-20).

Structures include East Pier and West Pier. The piers parallel the navigational channel and are constructed of cellular steel sheet-pile and concrete. Outer Range Light, a 34-foot tall steel tower, is located at the northern end of West Pier. Inner Range Light, a 55-foot tall cast iron tower, is located at the southern end of West Pier. The lights are owned by USCG and operated as automated federal aids to navigation. Additional structures critical to the function of an active lifesaving station include storm warning towers at Station Dwelling (HS-18) and Equipment Building.

Analysis of Integrity

Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), Equipment Building, along with their associated original features and arrangement contribute to the significance of the cultural landscape. The overall arrangement of buildings and structures retain integrity but is modified by the removal of the USLSS station Building and additional structures key to the operations of a working station.

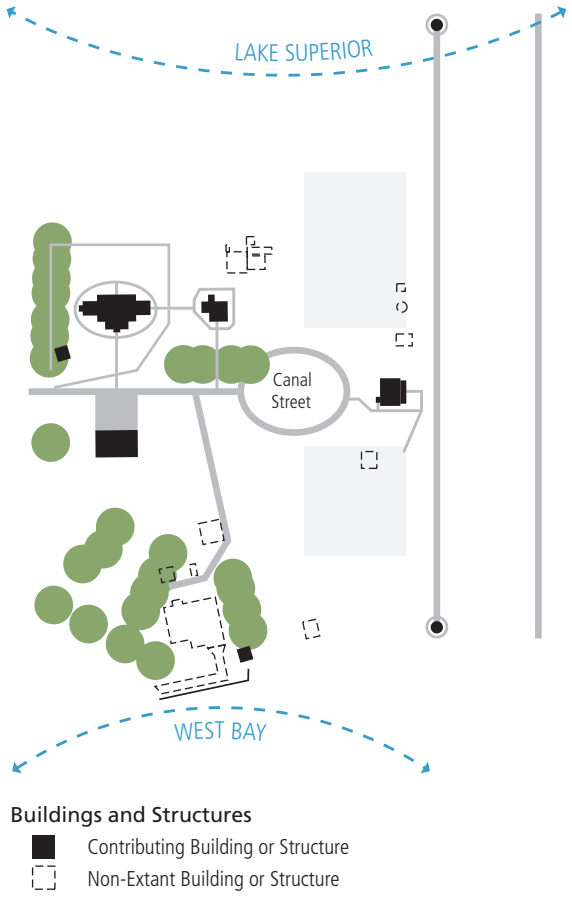


Figure 3-24. The overall arrangement of buildings and structures retains integrity but is modified by the removal of the USLSS station building and additional structures key to the operations of a working station (source: Mundus Bishop, 2020).



Figure 3-25. Buildings and structures contribute to the significance of the cultural landscape (source: Mundus Bishop, 2020).



Figure 3-26. Station Dwelling (HS-18) (source: Mundus Bishop, 2019).



Figure 3-27. Equipment Building (source: Mundus Bishop, 2019).



Figure 3-28. Officer in Charge Dwelling (HS-19) (source: Mundus Bishop, 2019).



Figure 3-29. Inner Range Light (source: Mundus Bishop, 2019).



Figure 3-30. Harbor of Refuge Dwelling (HS-20) (source: Mundus Bishop, 2019).



Figure 3-31. Outer Range Light (HS-20) (source: Mundus Bishop, 2019).

Table 3-4. Buildings and Structures

Feature	Description	Condition	Contributing/Non-Contributing
Station Dwelling (HS-18)	re:HSR	re:HSR	Contributing
Station Dwelling (HS-18) Storm Warning Tower	Metal construction, damage at base.	Fair	Contributing
Officer in Charge Dwelling (HS-19)	re:HSR	re:HSR	Contributing
Officer in Charge Dwelling (HS-19) Shed	10' x 15' wood storage shed located to the north of Officer in Charge Dwelling (HS-19).	Good	Non-Contributing
Harbor of Refuge Dwelling (HS-20)	re:HSR	re:HSR	Contributing
Equipment Building	re:HSR	re:HSR	Contributing
Equipment Building Storm Warning Tower	Equipment Building storm warning tower.	Good	Contributing
Outer Range Light	34' tall steel tower with enclosed service room. Equipped with an automated modern beacon mounted on an open-air table on the service room's roof. Fog signal is attached to the deck's northern side.	Good	Contributing
Inner Range Light	55' tall cast iron tower with enclosed service room and lantern. Equipped with a Fresnel lens.	Good	Contributing
Concrete Retaining Wall (along West Bay shoreline)	Concrete retaining wall along West Bay shoreline. Large sections are missing.	Poor	Contributing

Small Scale Features Existing Condition and Analysis

Small scale features include those extant during the period of significance and additions from after the period of significance. Contributing small scale features consist of a concrete wall, concrete curbs, and pull boxes dating from the period of significance. The curb to the south and east and wall to the north and west define the area of lawn at Station Dwelling (HS-18). Extant pull boxes and several concrete blocks north of Station Dwelling (HS-18) were components of the 80-foot antenna tower and radial ground system.

Non-contributing contemporary small scale features serve visitor and administrative functions. Features include signs, chain link fences, picnic tables, grills, benches, and utility infrastructure (propane, fire hydrants, etc.). A memorial centered in the gravel parking area south of Harbor of Refuge Dwelling (HS-20) commemorates Grand Marais commercial fisherman. The memorial includes a stone marker, flagpole, and benches.

Analysis of Integrity

Extant small scale features include a concrete wall and curb at Station Dwelling (HS-18). Pull boxes and concrete blocks associated with the antenna tower and radial ground system remain visible in the landscape.

Historic photographs indicate small scale features during the period of significance also included laundry lines at each of the buildings and a flag pole, perimeter fencing, and an aerial identification platform at Harbor of Refuge Dwelling (HS-20). Fences appear to have been low wood posts with wire mesh. These features are non-extant.

Recent additions diminish the formal, maintained spaces of the study area.

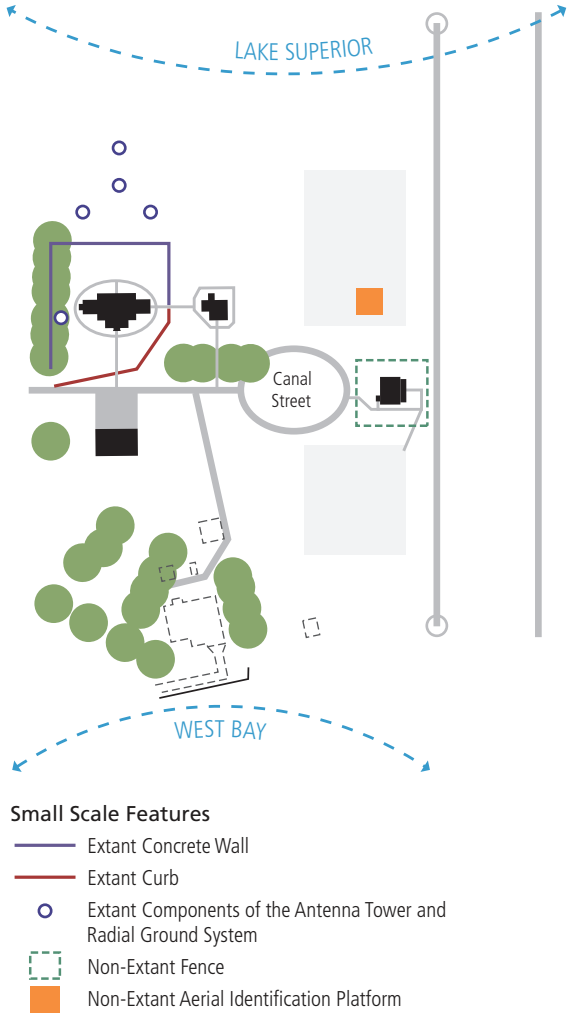


Figure 3-32. Extant small scale features from the period of significance include the concrete wall and curb and features supporting USCG operations (source: Mundus Bishop, 2020).



Figure 3-33. Non-contributing small scale features include benches, memorials, boulders, and a flagpole (source: Mundus Bishop, 2019).



Figure 3-34. Contributing small scale features at Station Dwelling (HS-18) include a concrete wall. The propane tank, grill, and picnic table are non-contributing (source: Mundus Bishop, 2019).



Figure 3-35. Non-contributing small scale features—picnic tables, trash cans, markers, and signage—accommodate visitor use (source: Mundus Bishop, 2019).

Table 3-5. Small Scale Features

Feature	Description	Condition	Contributing/Non-Contributing
Study Area			
Utility Poles (6)		Good	Non-Contributing
Regulatory Signage (13)		Good	Non-Contributing
Interpretive Signage (1)		Good	Non-Contributing
Picnic Tables		Good	Non-Contributing
Fire Hydrants		Good	Non-Contributing
Parking Boulders (43)	Large boulders delineating edge of gravel parking.	Good	Non-Contributing
"Grand Marais Commercial Fishermen's Memorial" Marker		Good	Non-Contributing
"Grand Marais Commercial Fishermen's Memorial" Flagpole		Good	Non-Contributing
"Grand Marais Commercial Fishermen's Memorial" Benches (2)	Metal benches painted pink and placed to the east and west of the memorial.	Fair	Non-Contributing
Station Dwelling (HS-18)			
Perimeter Wall	2' concrete retaining wall located to the north and west of Station Dwelling (HS-18). Several areas of the wall are cracked. Cracking is caused by root system growth of trees near the northwest corner. Vertical cracks are spaced relatively uniformly along the entire length of the wall. These cracks occur at the ends of embedded reinforcing rail ties. Rail ties appear to be not lapped.	Fair	Contributing
Curb	Concrete curb located to the south (2' wide by 6" high) and east (8" wide by 6" high) of Station Dwelling (HS-18).	Fair	Contributing
Pull Box 1	Pull box metal lid and vault. Wires removed, tubing remains.	Good	Contributing
Pull Box 2	Pull box metal lid and vault. Wires removed, tubing remains.	Good	Contributing
Antenna Tower and Radial Ground System Concrete Blocks	Concrete blocks north of Station Dwelling (HS-18).	Fair.	Contributing
Park ID Sign	"Grand Marais Ranger Station" wood sign on stone base (9'-3" x 2' x 1'-8"). Lichen growth on stone.	Good	Non-Contributing
Propane Tank	North end of HS-18.	Good	Non-Contributing
Grill		Poor	Non-Contributing

Feature	Description	Condition	Contributing/Non-Contributing
Picnic Table	Steel tube picnic table with wood benches and table top.	Poor	Non-Contributing
Officer in Charge Dwelling (HS-19)			
Propane Tank		Good	Non-Contributing
Propane Tank Picket Fence	5' tall picket fence along the west, south, and east side of propane tank.	Good	Non-Contributing
Chain Link Fence	4' tall perimeter chain link fence.	Poor	Non-Contributing
Picnic Table	Steel tube picnic table with wood benches and table top.	Good	Non-Contributing
Satellite Dish			Non-Contributing
Raised Garden Beds	Three 4' x 4' raised garden beds with timber edging.	Poor	Non-Contributing
Harbor of Refuge Dwelling (HS-20)			
Trash Can	Wood slat trash can on concrete pad next to "Light Keepers Museum" sign.	Poor	Non-Contributing
Granite Slab	4' x 5' x 42" tall rough cut granite slab. "Captain Francis Wood, Evelyn Wood and Norman Wood" painted on stone.	Good	Non-Contributing
"Light Keepers Museum" Sign	Wooden "Light Keepers Museum" sign to the south west of Harbor of Refuge Dwelling (HS-20).	Good	Non-Contributing
Garden Marker	"Trudy McDonald Historical Garden" marker attached to south façade.	Good to Fair	Non-Contributing
Garden Memorial Bench	4' wood slat bench with "Senacal" marker.	Fair	Non-Contributing
Memorial Bench and Concrete Slab	Marked "Jordan"		Non-Contributing
Chain Link Fence	5' fence to the north and east.	Poor	Non-Contributing
Farm Equipment	Components of farm equipment along the east façade of the building.	Poor	Non-Contributing
Equipment Building			
Picnic Table			Non-Contributing
Garbage Can			Non-Contributing
"Property of the United States Coast Guard" ID Signs			Non-Contributing
"U.S. Coast Guard" ID Sign	Picnic table with wood benches and table top.	Fair	Non-Contributing
Riprap along Concrete Retaining Wall			Non-Contributing

Vegetation Existing Condition and Analysis

Vegetation includes lawn, mature allees, canopy trees, ornamental plantings, and dune vegetation. Lawn surrounds Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and Equipment Building. An allee of mature balsam poplar trees line the wall west of Station Dwelling (HS-18) and define the site of the non-extant lifesaving station. Mature balsam poplar trees define the front lawn of Officer in Charge Dwelling (HS-19). Ornamental plantings are sparse, consisting of a mature lilac shrub and annual plantings at the foundation of Harbor of Refuge Dwelling (HS-20), and goldenrods along West Pier.

Dune vegetation occurs south of Agate Beach. Agate Beach consists of sand, pebbles, and cobble near the shoreline with a backbeach area consisting of embryo dunes and more mature dunes further inland. A population of Pitcher's thistle is within in the study area. The plant is found only in the dunes and shoreline along Lakes Superior, Lake Michigan, and Lake Huron. Pitcher's thistle is protected by the Endangered Species Act and listed as a federally threatened species.



Figure 3-36. Dune vegetation south of Agate Beach (source: Mundus Bishop, 2019).



Figure 3-37. Ornamental plantings at Harbor of Refuge Dwelling (HS-20) (source: Mundus Bishop, 2019).



Figure 3-38. Mature trees mark the edge of non-extant USLSS station (source: Mundus Bishop, 2019).



Figure 3-39. Allees of balsam poplar trees, open lawn, and dune vegetation contributes to the significance of the cultural landscape (source: Mundus Bishop, 2020).

Analysis of Integrity

The planting design of the original USCG Lifesaving Station was minimal and remains visible in today's landscape. Recommendations for the design of the grounds were not extensive but came with standard USCG guidance: "the grounds shall present a neat appearance, rough places shall be leveled, lawns and shrubbery, if any, shall be trimmed."[3.10] The USCG focused on establishing lawn around structures. Manicured lawn established in the immediate vicinity of buildings and transitions to native grasses outside walks, walls, and fencelines. Trees were planted to delineate boundaries and were sparingly set within open lawn.

Extant balsam poplar tree allees and lawn are contributing features and maintain the historic design intent as a formal space with perimeter tree plantings. There are gaps in allees where trees have died or been removed. The loss of trees at USLSS Station Building (non-extant) modifies the uniformity of allees and contributes to the appearance of scattered tree plantings.

Historic drawings indicate non-extant flowering shrubs along the south and east walkways to Station Dwelling (HS-18). Small trees appear in early photographs of Harbor of Refuge Dwelling (HS-20). Harsh conditions along West Pier impacted vegetation establishment and the trees do not appear in photographs after the early 1900s.



Figure 3-40. Contributing vegetation includes manicured lawn and allees of balsam poplar trees (source: Mundus Bishop, 2020).

3.10 Herbst, *A Manual for Lifeboat Stations.*



Figure 3-41. The USCG established manicured lawn in the immediate vicinity of buildings. Lawn transitioned to native grasses outside walks, walls, and fences (source: Mundus Bishop, 2020).



Figure 3-42. Extant allees of balsam poplar trees line the front of Officer in Charge Dwelling (HS-19) (source: Grand Marais Historical Society).



Figure 3-43. Early photographs of Harbor of Refuge Dwelling (HS-20) indicate an allee of trees planted along West Pier (source: Grand Marais Historical Society).

Table 3-6. Vegetation

Feature	Description	Condition	Contributing/Non-Contributing
Study Area			
Lawn	Turf east of the Equipment Building.	Good	Contributing
Dune Vegetation	Between edge of shoreline and lawn surrounding Grand Marais USCG Lifesaving Station.	Fair	Contributing
Station Dwelling (HS-18)			
Lawn	Turf surrounding the building.	Good	Contributing
Balsam Poplar Trees (7)	Seven balsam poplar trees lining the western property line. Gaps exist where trees have died or been removed.	Fair	Contributing
Evergreen Tree (1)		Good	Non-Contributing
Officer in Charge Dwelling (HS-19)			
Lawn	Turf surrounding the building.	Good	Contributing
Balsam Poplar Trees (4)	Four balsam poplar trees lining Canal Street.	Good	Contributing
Evergreen Tree (1)		Good	Non-Contributing
Harbor of Refuge Dwelling (HS-20)			
Lawn	Turf surrounding the building.	Good	Contributing
Lilac Shrub	Large lilac shrub north of the building.	Good	Non-Contributing
Ornamental Foundation Plantings	Annual heirloom planting beds lining the foundation to the east and south of Harbor of Refuge Dwelling (HS-20).	Good	Non-Contributing
Equipment Building			
Lawn	Turf surrounding the building.	Good	Contributing
Balsam Poplar Trees (17)	12 balsam poplar trees marking the extents of the non-extant lifesaving station. Several balsam poplar trees within the open lawn south of Equipment Building.	Good	Contributing

Chapter 4: Treatment Recommendations and Implementation

Introduction

This chapter presents treatment guidance to inform current and future planning and design for Grand Marais USCG Lifesaving Station. General treatment guidance provides actions and recommendations to guide the rehabilitation of the study area. Detailed treatment guidance is provided for site design and individual landscape characteristics—archeological sites, land use, spatial organization, circulation, buildings and structures, small scale features, and vegetation.

Recommendations are based upon review of historical documentation, assessment of existing condition, analysis of integrity, and application of the Secretary of Interior's standards and guidelines as they apply to the treatment of historic landscapes. Treatment recommendations address management goals presented in Chapter 1, which includes protection of natural and cultural resources and additions for contemporary use.

This treatment guidance supports the rehabilitation of Grand Marais USCG Lifesaving Station through preservation and repair of contributing features and historic character, conservation of the natural landscape, and addition of appropriate compatible features.

This chapter presents detailed treatment guidance for specific topics and individual landscape characteristics. Treatment guidance is provided in narrative and graphic form to describe and illustrate acceptable actions.

Treatment Goals

The following goals assist in determining the desired landscape condition and appropriate stewardship guidance for protecting the character and ambiance of the cultural landscape.

1. Preserve extant contributing features.

2. Reveal the cultural landscape by representing and repairing important characteristics from the period of significance.

3. Improve understanding of the overall system of lifesaving station along Lake Superior by incorporating interpretation of landscape resources that have been repaired or reestablished.

4. Aid in preserving natural resources by managing vegetation, protecting federally listed species, and protecting critical habitat known to be present in the study area.

5. Provide ABAAS parking and access to Station Dwelling (HS-18), Harbor of Refuge Dwelling (HS-20), and Equipment Building.

6. Encourage sustainability and resiliency.

Rehabilitation Treatment Approach

The recommended treatment for Grand Marais USCG Lifesaving Station is rehabilitation. This treatment approach emphasizes preservation of the historic station and allows for the repair and addition of compatible improvements.

Rehabilitation is defined as the act or process of making possible a compatible use through repairs, alterations, or additions if those portions or features that convey its historic, cultural or architectural values are preserved.

Rehabilitation allows for new additions to be integrated within the cultural landscape in a manner that preserves established patterns, spaces, features, and scale of the historic station. Additional actions include those that preserve, restore, or repair contributing features and qualities that contribute to the study area's historic character.

All future work planned for the cultural landscape will be guided by *The Secretary of the Interior's Standards for the Treatment of Historic Properties – Historic Landscapes*. Appendix C summarizes terminology used in this CLR to describe recommended actions.

Treatment Guidance

Treatment recommendations for the study area directs the rehabilitation and preservation of the Grand Marais USCG Lifesaving Station as a whole. These recommendations provide holistic guidance to protect significant cultural resources, repair contributing features, reestablish diminished views, repair settings, and allow contemporary additions.

The overall vision is to enhance the visitor experience and understanding of the station as a working landscape and to improve the functionality of the station for NPS administrative and residential uses.

Treatment recommendations emphasize the historic institutional design of the study area as a working landscape. Treatment recommendations identify locations where rehabilitation is needed to reveal historic features, retain character, and maintain integrity. The formal setting of the Grand Marais USCG Lifesaving Station will be reestablished by repairing concrete walls, walks, and curbs, and highlighting the historic composition of open lawn and allees of trees.

Rehabilitation will reveal components of the original institutional landscape to enhance visitor understanding of daily activities associated with rescue and navigational aid.

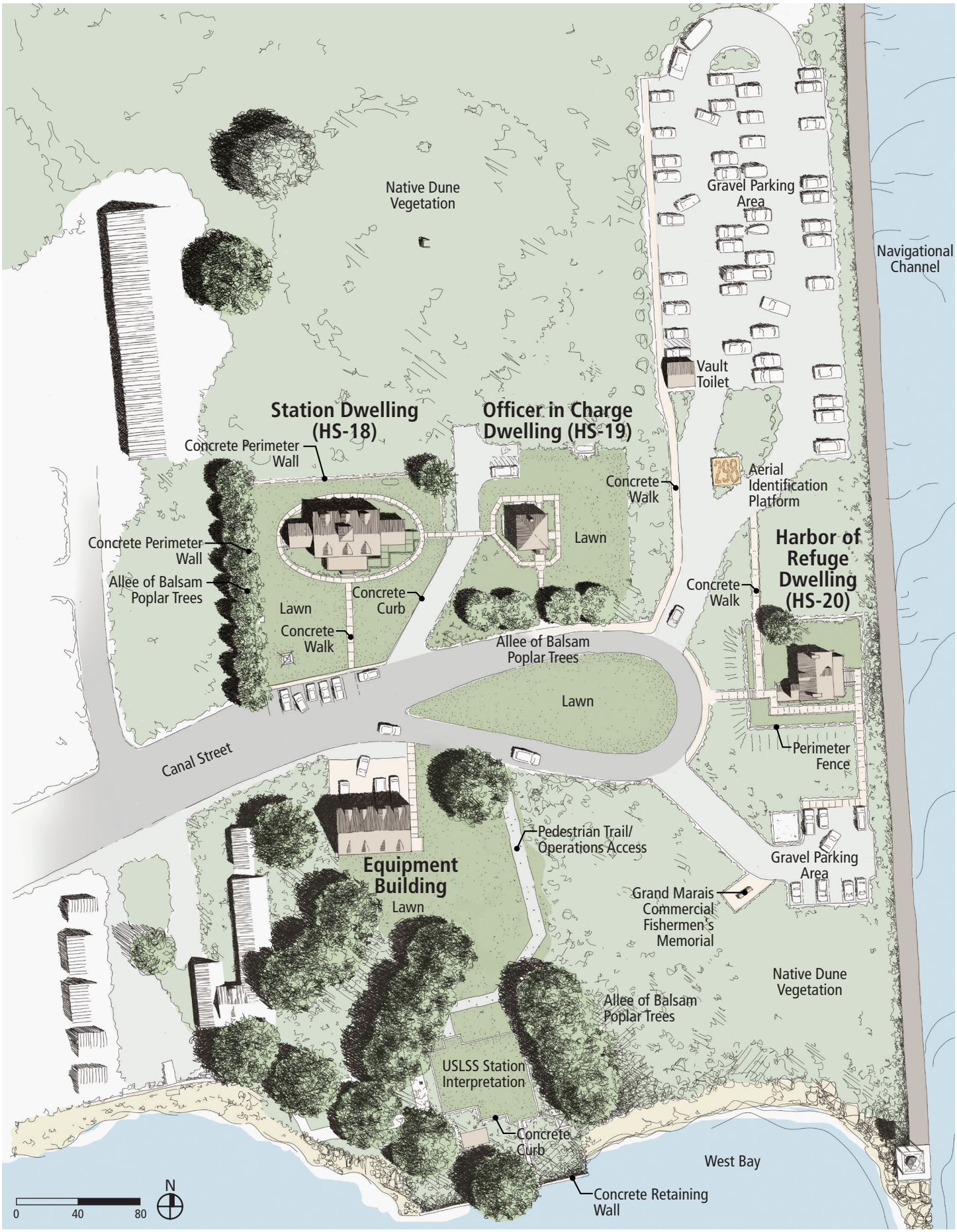


Figure 4-1. The formal setting of Grand Marais USCG Lifesaving Station will be reestablished by repairing concrete walls, walks, and curbs, the historic composition of open lawn and allees of trees, and significant views (source: Mundus Bishop, 2020).

Natural Systems and Features
Natural systems and features of Grand Marais USCG Lifesaving Station are inherently linked to its physical development. The location along a navigational channel with views to the water and protected access to a deep basin was a logical location for Grand Marais USCG Lifesaving Station.

Treatment recommendations aim to protect the natural setting of the study area.

1. Continue to work with the United States Fish and Wildlife Service to protect and enhance native dune vegetation.

    a. Monitor and remove non-native plant species.

    b. Formalize routes through dunes and encourage visitors to utilize established routes. Revegetate social trails.

2. Protect and enhance federally listed species and critical habitat known to be present in the study area—pitcher's thistle (*Cirsium pitcherii*) and piping plover (*Charadrius melodus*).

    a. Monitor piping plover breeding pairs, nests, and chicks fledged.

    b. Conduct regular field surveys to verify known and record new occurrences of pitcher's thistle.



Figure 4-2. Protect and enhance dune vegetation and critical habitat (source: Mundus Bishop, 2020).



Figure 4-3. Formalize routes through dunes (source: Mundus Bishop, 2019).

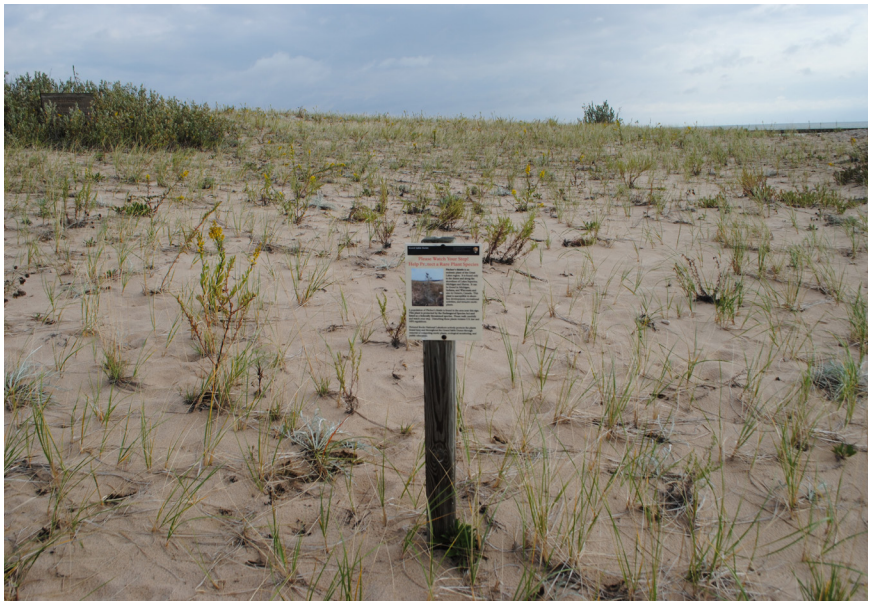


Figure 4-4. Continue to work with the United States Fish and Wildlife Service to protect and enhance piping plover habitat (source: Mundus Bishop, 2019).

Archeological Sites
The study area includes archeological sites from the period of significance and may include sites pre-dating European arrival in the region. Photographs and plans from the period of significance indicate the presence of non-extant buildings, structures, and small scale features throughout the study area.

Treatment recommendations identify measures to preserve and protect known and potential archeological sites.

1. Protect known and potential archeological sites.

    a. Protect concrete blocks and metal vaults associated with the antenna tower and radial ground system.

2. Conduct investigations to determine the location, condition, and significance of archeological features. Obtain an Archaeological Resources Protection Act permit before conducting archeological investigation on parklands.

3. Consult with MWAC when conducting archeological investigations. Where appropriate, include other agencies (SHPO or federally recognized tribes) in consultation.

4. Consult with affiliated tribes to identify themes and approaches to interpreting their history at Grand Marais.

5. Consider physical markings, waysides, and other measures to interpret non-extant features or below grade resources associated with the historic lifesaving station landscape.

    a. Verify footprint of non-extant USLSS station building through archeological investigation. Mark the building footprint using a simple concrete curb.

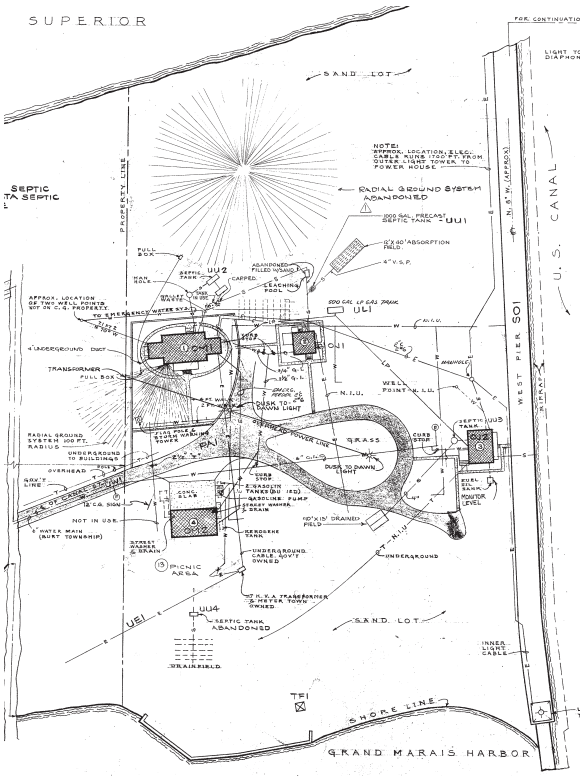


Figure 4-5. Plot Plan of infrastructure and utilities that may be abandoned in place, 1986. Archeological sites associated with abandoned subsurface utilities and infrastructure likely exist throughout the study area. (source: United States Coast Guard, Civil Engineering Unit, Cleveland, Ohio).

Land Use

Study area uses include administrative offices, seasonal employee residences, storage, interpretation, memorials, public beach access and parking, and historic buildings and structures. Operations historically associated with lifesaving and rescue are no longer present.

Treatment recommendations provide measures to accommodate and improve access to the cultural landscape and day uses, facilitate administrative functions on the site, and aid in the interpretation of daily activities associated with rescue and navigational aid.

1. Preserve historic land use patterns and features. Repair features, spaces and patterns that express historic land use.

2. Design and locate new day use or interpretive features to minimize disruption to historic land use patterns and features.

3. Consider coordination with Burt Township to establish building setback requirements applicable to future redevelopment of adjacent properties.

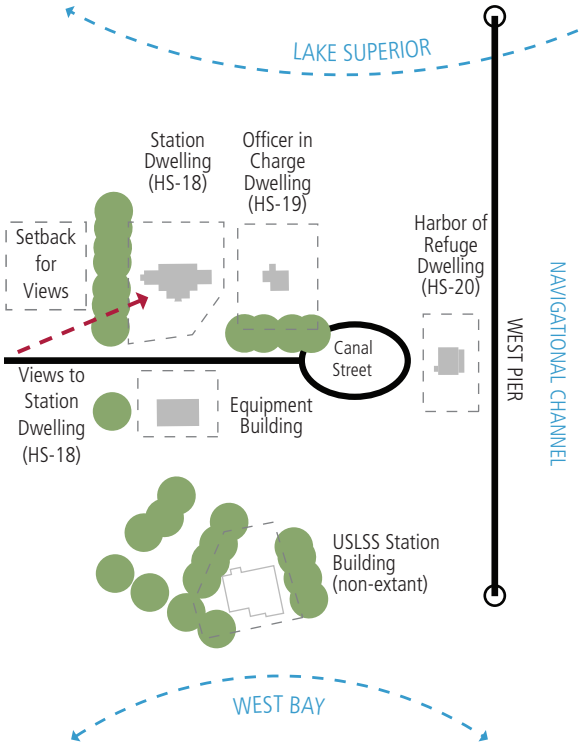


Figure 4-6. Preserve spaces expressing historic land use—Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), Equipment Building, USLSS station building. Consider coordination with Burt Township to establish a building setback and reestablish the visual entry experience (source: Mundus Bishop, 2020).



Figure 4-7. Preserve and repair characteristic spatial qualities that contribute to the historic setting of the Grand Marais USCG Lifesaving Station (source: Mundus Bishop, 2020).

Spatial Organization, Topography, and Views
The spatial organization of the study area is arranged around a central loop road (Canal Street) with buildings oriented to Lake Superior, West Bay, and navigational channel. Grand Marais USCG Lifesaving Station was built as a complex of distinct spaces essential for the efficient functionality of the station and were connected visually and physically by walkways and a central loop road.

The overall appearance of the cultural landscape reflects a formal institutional aesthetic of trimmed lawns, orthogonal organization, and clear lines of site but is modified by the addition of large gravel parking areas.

Treatment recommendations aim to preserve and repair characteristic spatial qualities that contribute to the historic setting.

1. Preserve the setting of the study area including those landscape characteristics that create this setting—spatial organization, topography, and views.

2. Preserve spatial relationships of buildings and structures sited in relationship to Canal Street, Lake Superior, navigational channel, and West Bay.

3. Preserve and repair the historic composition of open lawn, allees of trees, perimeter fences, and concrete curbs and walls.

    a. Preserve and repair the historic composition of open lawn, allee of trees, orthogonal walks, and perimeter wall and curbs that define Station Dwelling (HS-18).

    b. Preserve and repair the historic composition of open lawn and allee of trees that define Officer in Charge Dwelling (HS-19).

    c. Preserve and repair the historic composition of open lawn, perimeter fence, and orthogonal walks at Harbor of Refuge Dwelling (HS-20).

    d. Preserve and repair the historic composition of open lawn at Equipment Building.

    e. Preserve and repair the open lawn and allees of trees that define the setting of the non-extant USLSS station building.

4. Respect historic patterns and relationships to ensure the spatial composition is preserved when adding new features.

5. Maintain clear sight lines to Lake Superior and across West Bay, from the Station Dwelling (HS-18) lookout tower, to and from Inner and Outer Range Lights, and between buildings.

6. Repair and manage contributing views.

    a. Remove the chainlink fence at Harbor of Refuge Dwelling (HS-20). Maintain clear sight lines from Harbor of Refuge Dwelling (HS-20) to Navigational Channel and Inner and Outer Range Lights.

    b. Repair the visual entry experience from Canal Street towards Station Dwelling (HS-18). Coordinate with Burt Township to establish building setback requirements applicable to future redevelopment of adjacent properties.

7. Preserve natural topography characterized by the shifting sand that creates dunes and subtle variations in grade. Allow for natural processes to modify the topography so long as cultural resources are not damaged.

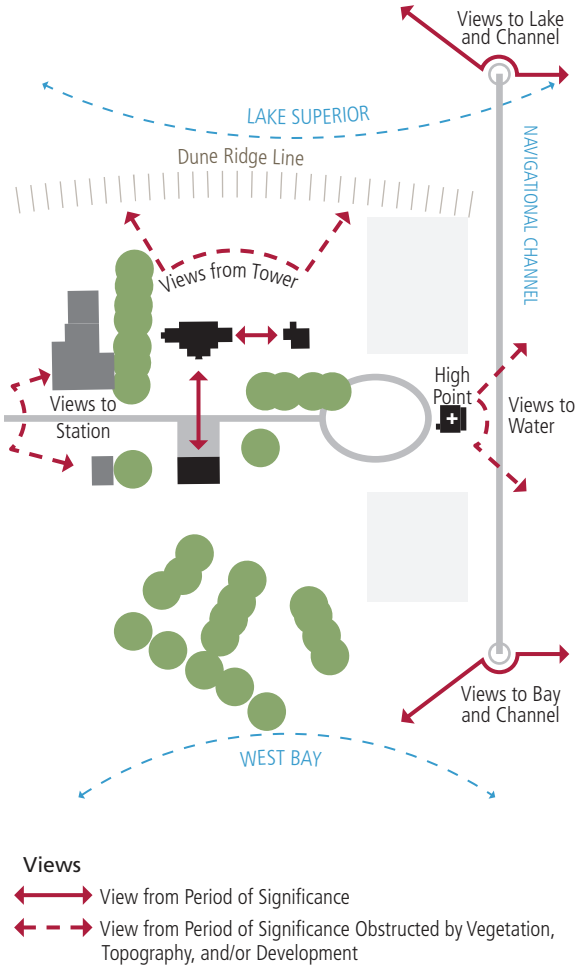


Figure 4-8. Repair and manage contributing views (source: Mundus Bishop, 2020).

Circulation

Grand Marais USCG Lifesaving Station circulation includes vehicular, pedestrian, and water routes. These routes were essential for the functionality of the active station. Canal Street provided the sole vehicular route from Grand Marais to the study area. Pedestrian walkways were arranged symmetrically around buildings and connected buildings in an efficient military fashion.

Circulation patterns remain similar to the period of significance modifications to walkways and the addition of gravel parking areas.

Treatment recommendations identify measures to preserve and repair contributing circulation routes, modify non-contributing gravel parking areas that impact the historic setting, enhance visitor use, and meet current standards providing ABAAS access.

Circulation - Vehicular

1. Maintain the alignment of Canal Street as a contributing features.

2. Consider collaboration with Burt Township to reduce the width of the road trace east of the Equipment Building as a shared use pedestrian and operational vehicle route. Consider ABAAS compliant surfacing.[4.1]

3. Modify the driveway east of Station Dwelling (HS-18) for a shared vehicular access route to ABAAS parking and accessible route from ABAAS parking to the ABAAS building entrance at Station Dwelling (HS-18).

    a. Remove the drive east of the ABAAS parking area and revegetate as native dune vegetation.

4. Provide parking for park staff at Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Equipment Building.

    a. Approximately 12 spaces are needed for park staff. Provide overflow parking at gravel parking areas.

    b. Maintain eight (8) spaces south of Station Dwelling (HS-18).

    c. Maintain four (4) spaces at Equipment Building. Sign and stripe the easternmost space as an ABAAS space.

    d. Provide two (2) ABAAS spaces northwest of Officer in Charge Dwelling (HS-19).

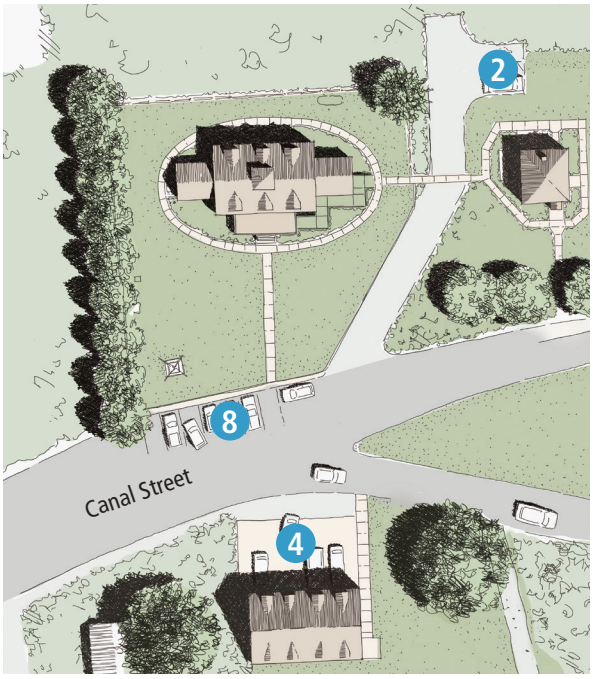


Figure 4-9. Provide parking for park staff—8 at Station Dwelling (HS-18), 2 at Officer in Charge Dwelling (HS-18), and 4 at Equipment Building (source: Mundus Bishop, 2020).

4.1 Examples of ABAAS compliant surfacing includes asphalt, concrete, stabilized crushed stone or decomposed granite, or poured in-place pervious pavement.

5. Consider collaboration with Burt Township and the United States Army Corps of Engineers to formalize the gravel parking area north of Harbor of Refuge Dwelling (HS-20) and reduce the impact upon the setting of the cultural landscape.

    a. Establish a turnaround at the north end of the parking area. Adequate turning radii is needed for trailers, RVs, and United States Army Corp of Engineers staging. Locate the northern edge of the parking area to minimize impacts to native dune vegetation and threatened and engaged species.

    b. Relocate picnic and interpretive amenities outside of areas of known federally listed species and critical habitat area—pitcher's thistle (*Cirsium pitcherii*) and piping plover (*Charadrius melodus*).

    c. Provide two (2) ABAAS parking spaces adjacent to the new vault toilet.

    d. Revegetate landscape to match surrounding native dune vegetation.

6. Consider collaboration with Burt Township and the United States Army Corps of Engineers to formalize the gravel parking area south of Harbor of Refuge Dwelling (HS-20) and reduce the impact upon the setting of the cultural landscape.

    a. Reduce the size of the gravel parking area to provide 12 parking spaces for volunteers and visitors.[4.2] Provide two (2) ABAAS parking spaces.

    b. Locate parking area to reestablish the historic setting of open lawn surrounding Harbor of Refuge Dwelling (HS-20).

    c. Provide overflow parking at north gravel parking area.

    d. Revegetate landscape to match lawn vegetation to the north and native dune vegetation to the east, south, and west.

    e. Maintain Grand Marais Commercial Fishermen's Memorial.

4.2 Standard is 1 space/1000 SF of museum space.



Figure 4-10. Grand Marais Station ca. 1939 to 1943 (source: Grand Marais Historical Society).

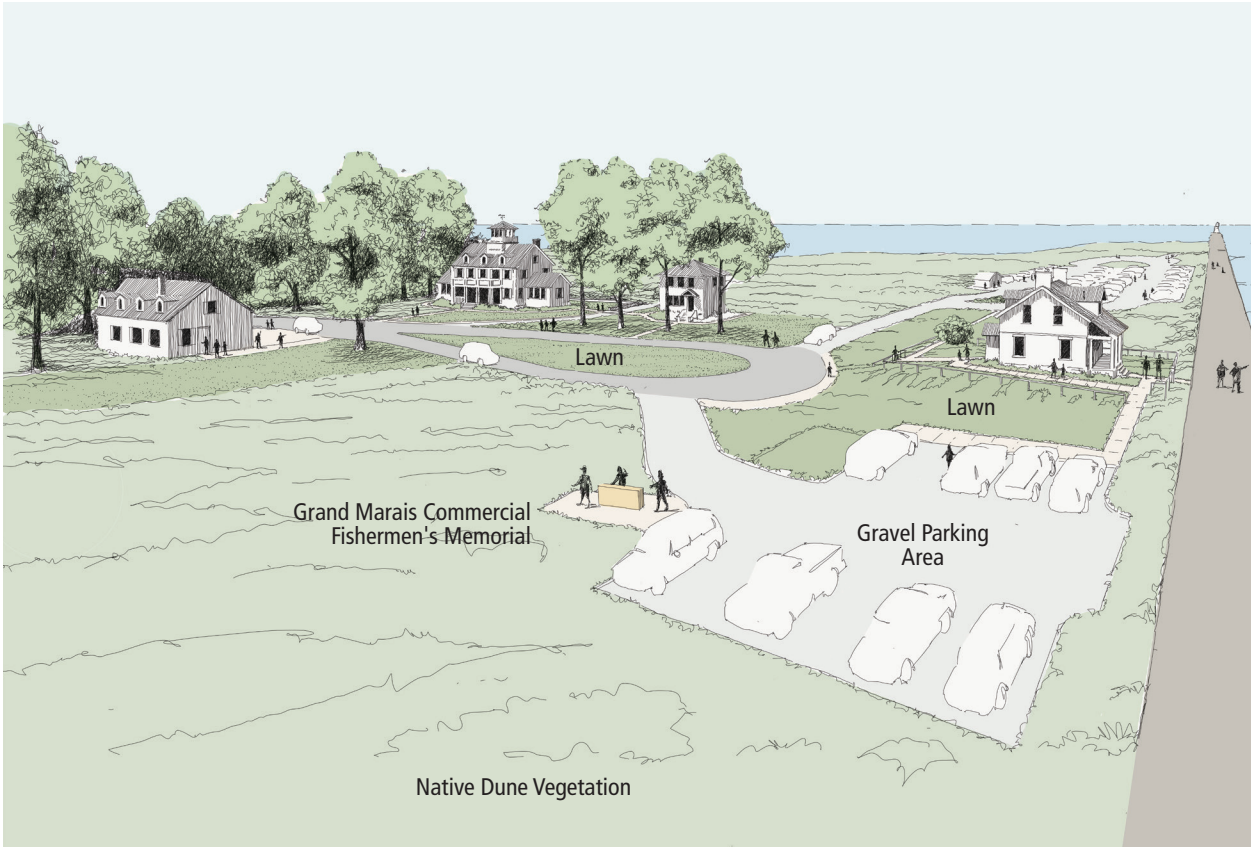


Figure 4-11. Consider collaboration with Burt Township and the United States Army Corps of Engineers to reduce the impact upon the setting of the cultural landscape (source: Mundus Bishop, 2020).

Circulation - Pedestrian

1. Preserve the historic width, material, and alignment of contributing concrete walks.

2. Repair contributing concrete walks, ensuring level surfaces and grades for accessibility and safety.

3. Realign the walkway and stairs from Canal Street to the west entrance of Harbor of Refuge Dwelling (HS-20) to match the historic walkway alignment.

4. Consider collaboration with the United States Army Corps of Engineers to remove and discourage informal trails.

    a. Establish one (1) clear route from parking area north of Harbor of Refuge (HS-20) to Lake Agate Beach to protect dune vegetation and habitat.

    b. Revegetate social trails.

5. Consider providing ABAAS accessible routes to interpretive sites along a walking tour of Grand Marais USCG Lifesaving Station.

6. Provide ABAAS access to Station Dwelling (HS-18), Harbor of Refuge Dwelling (HS-20), and Equipment Building.

    a. Widen the width of the walkway from the ABAAS parking northeast of Station Dwelling (HS-18) to the provide access into Station Dwelling (HS-18) with an interior lift on the north facade (refer to HSR recommendations). Provide landing/resting areas to meet current ABAAS requirements.

    b. Provide a walkway from the ABAAS parking south of Harbor of Refuge Dwelling (HS-20) to provide access into Harbor of Refuge (HS-20) with an interior lift on the west facade (refer to HSR recommendations). Ensure walkway width and landing/resting areas meet current ABAAS requirements.

    c. Provide a walkway from the ABAAS vault toilet north of Harbor of Refuge Dwelling (HS-20) to provide access into Harbor of Refuge (HS-20) with an interior lift on the west facade (refer to HSR recommendations). Ensure walkway width and landing/resting areas meet current ABAAS requirements.

    d. Provide a walkway from the ABAAS parking north of Equipment Building to provide access into Equipment Building on the east facade (refer to HSR recommendations). Walkway width is currently ABAAS compliant. Provide landing/resting areas to meet current requirements.

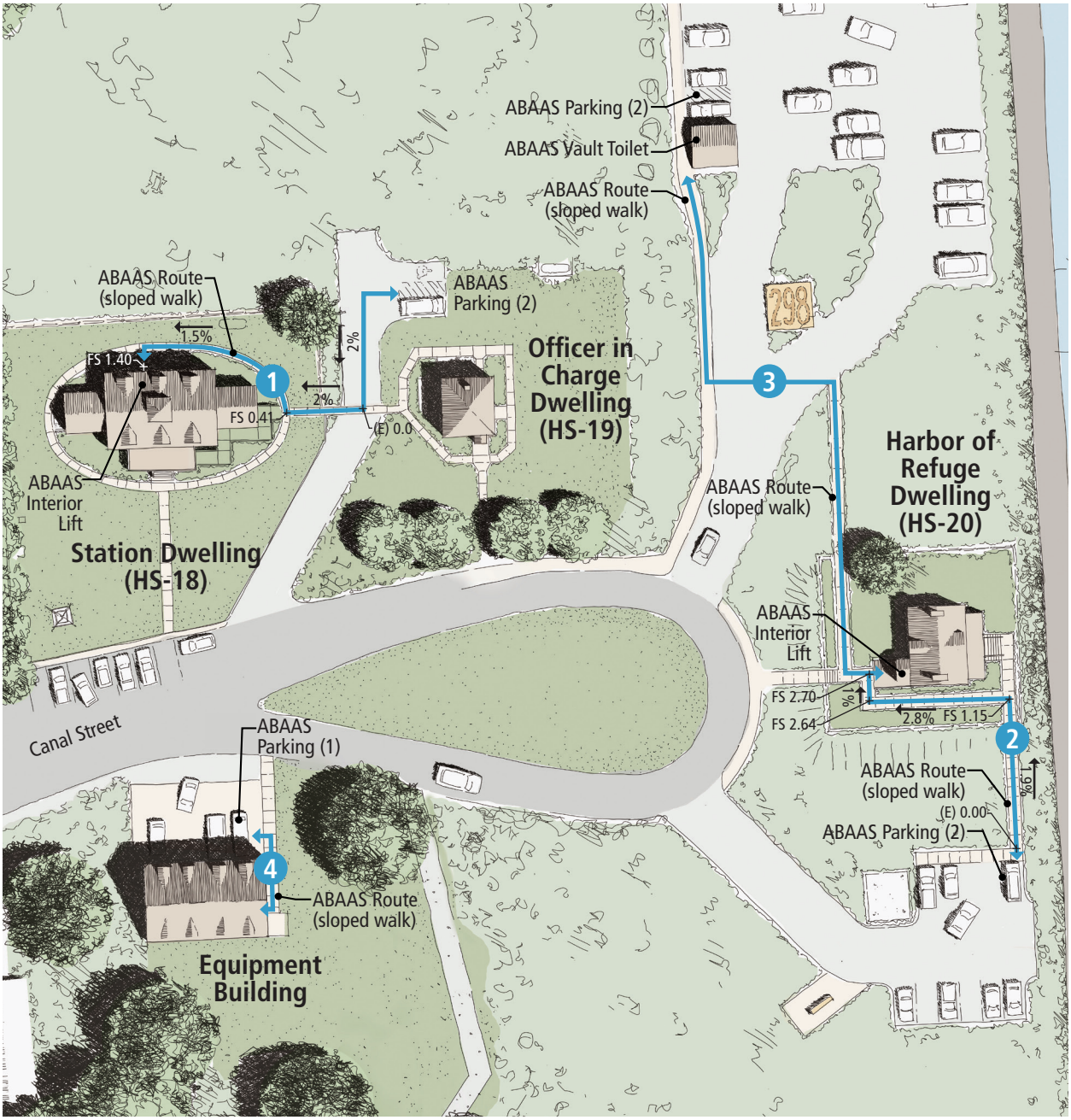


Figure 4-12. Provide ABAAS access to Station Dwelling (HS-18) 1, Harbor of Refuge Dwelling (HS-20) 2 and 3, and Equipment Building 4 (source: Mundus Bishop, 2020).

Buildings and Structures

Grand Marais USCG Lifesaving Station's cultural landscape includes four (4) buildings—Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and Equipment Building—and several structures built during the period of significance. Remnant concrete pads mark the location of non-extant structures. The non-extant USLSS Station was critical to early lifesaving operations and is marked by several concrete pads and a concrete retaining wall along West Bay shoreline.

The Historic Structures Report (HSR), written in conjunction with this CLR, provides treatment recommendations for Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and Equipment Building and associated utilities.

Treatment recommendations identify measures to preserve and repair historic building patterns and relationships.

1. Preserve contributing buildings and structures.

    a. Rehabilitate Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge (HS-20), and Equipment Building (refer to HSR treatment recommendations).

    b. Repair damage to base of Station Dwelling (HS-18) Storm Warning Tower.

    c. Preserve Equipment Building Storm Warning Tower.

2. Stabilize retaining wall along West Bay.

3. Remove non-contributing structures.

    a. Remove non-contributing Officer in Charge Dwelling (HS-19) shed.

4. Collaborate with the United States Army Corps of Engineers to provide an ABAAS accessible vault toilet at the gravel parking area north of Harbor of Refuge (HS-20).

    a. Locate vault toilet outside of primary viewsheds at a low elevation to be subordinate to historic buildings. Consider placement in approximate location of non-extant outbuildings.

    b. Ensure access to ABAAS parking spaces.

    c. Ensure vault toilet respects but does not imitate historic buildings, is designed in a contemporary style, and is a product of its own time. Ensure vault toilet design is compatible with the form, massing, and construction materials of historic architecture.

5. Collaborate with Burt Township to identify opportunities to connect to water and sewer lines (refer to HSR for septic system recommendations).

6. Ensure new generator(s) at the exterior of Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge Dwelling (HS-20), and Equipment Building are sited and designed to protect cultural and natural landscape (refer to HSR recommendations).

    a. Ensure placement of generators does not detract from the historic setting or diminish or obstruct views.

    b. Locate generators outside of views to primary facades of buildings.

    c. Ensure generators do not negatively interrupt the visitor experience.

Small Scale Features

Grand Marais USCG Lifesaving Station contributing small scale features consist of a perimeter wall, curbs, and pull boxes dating from the period of significance. Recent additions diminish the formal, maintained spaces of the study area.

Treatment recommendations identify measures to preserve small scale features that convey the historic character of the study area and enhance visitor and administrative uses.

1. Preserve contributing small scale features including the perimeter wall, curbs, and pull boxes at Station Dwelling (HS-18).

2. Repair the perimeter wall at Station Dwelling (HS-18).

    a. In conjunction with tree removal and replacement, repair wall. Realign the sections of the existing concrete wall. Pin and dowel the segments together.

    b. At the vertical cracks along the wall, excavate one (1) side of the wall and realign/plumb the different sections of the existing concrete wall.

3. Repair the curbs at Station Dwelling (HS-18).

    a. Repair damaged portions of the concrete curb by replacing in-kind missing portions.

4. Maintain the pull boxes at Station Dwelling (HS-18).

5. Reconstruct the non-extant aerial identification platform north of Harbor of Dwelling (HS-20) based on historic photography.

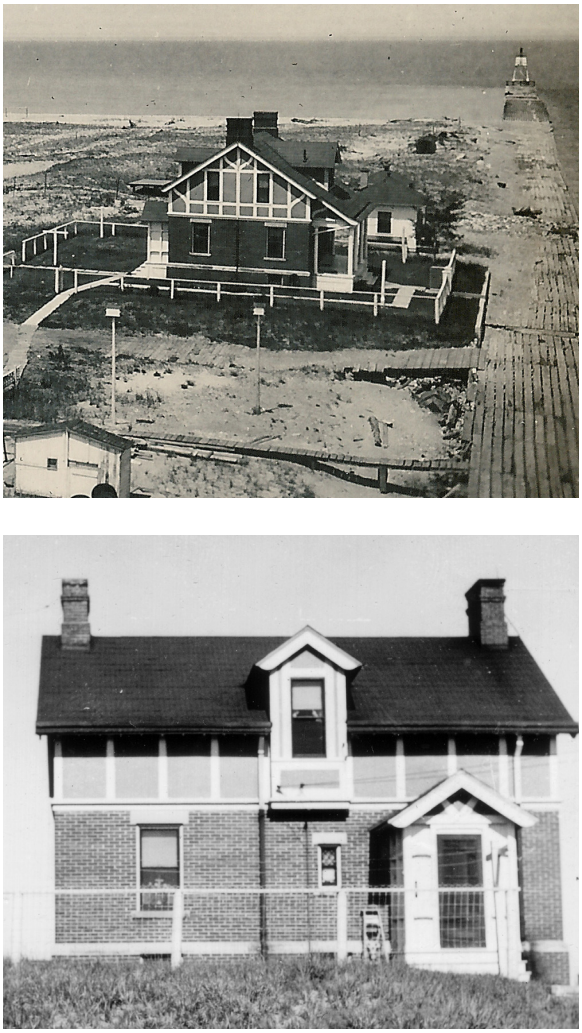


Figure 4-13. Historic photographs indicate perimeter fencing during the period of significance was low wood posts with wire mesh (source: Grand Marais Historical Society).

6. Remove chain link fence at Harbor of Refuge Dwelling (HS-20). Reestablish the non-extant perimeter fence at Harbor of Refuge Dwelling (HS-20).

    a. Design perimeter fence in a contemporary style compatible with the historic setting while also being proportional in height, mass, and scale to the non-extant fencing from the period of significance. Avoid mimicking or replicating the original fencing.

    b. Fencing should be transparent and of a height that does not exceed four (4) feet or impede views to or from the Harbor of Refuge Dwelling (HS-20).

    c. Acceptable materials include wood with wire mesh.

7. Maintain non-contributing features that provide a needed function (e.g., propane tanks, utility poles, regulatory signage).

8. Maintain the non-contributing Grand Marais Commercial Fishermen's Memorial.

9. Replace non-contributing small scale features such as picnic tables, benches, and fences to match the historic character. Ensure new features respect but do not imitate historic features, are designed in a contemporary style, and are products of their own time.

10. Allow new small scale features that facilitate contemporary functions and are compatible with the historic character.

    a. Ensure the design and placement of new small features do not detract from the historic setting.

    b. Ensure new features respect the established spatial organization and do not diminish or obstruct views.

    c. Ensure new features respect but do not imitate historic features, are designed in a contemporary style, and are products of their own time. Avoid introducing new features conveying a false sense of history.

11. Consider providing waysides to establish a walking tour revealing Grand Marais USCG Lifesaving Station's history as an active light and lifesaving station.

    a. Consider waysides at the north and south parking areas to provide orientation to Grand Marais USCG.

    b. Consider waysides at key points for interpretation as long as the number is minimized and design and placement does not detract from the historic setting.

12. Remove the non-contributing boulder edges from the north and south gravel parking areas.

Vegetation

The historic planting design was minimal and remains visible in today's landscape. Lawn was established in the immediate vicinity of buildings and transitioned to native grasses outside walks, walls, and fencelines. Trees delineated boundaries and were sparingly set within open lawn.

Treatment recommendations identify measures to preserve and reestablish patterns of the period of significance. This includes preserving open lawn, allees of trees, and native dune vegetation.

1. Preserve historic patterns of open lawn at Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge (HS-20), Equipment Building, USLSS station building site, and within the Canal Street island.

    a. Maintain the lawn to have a low (3") cut. Trim lawn away from edges of concrete walks, curbs, and walls to maintain a neat appearance.

    b. Monitor for weeds and bare patches. Repair damaged areas and maintain the lawn with an even cover of grass, with a minimum 90 percent grass cover. Remove invasive and volunteer plants from the lawn. Weeds and bare patches should not exceed 15 percent.

2. Establish hardy native dune grasses outside formal settings associated with Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), Harbor of Refuge (HS-20), Equipment Building, and USLSS station building site.

3. Preserve extant canopy trees, performing routine pruning to maintain tree health. Replace mature trees when they become hazards or die.

4. Preserve and restore allees of balsam poplar trees at Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Equipment Building.

    a. Perform pruning and thinning to maintain tree form and health. Replace mature trees when they become hazards or die.

    b. Replace missing trees with plantings of the same or similar tree species. If the same tree species is not desirable due to disease or horticultural reasons, allow the use of a similar form as the original.

    c. Allow new infill trees in anticipation of aging or hazard tree removal.

    d. Ensure consistent tree spacing and species selection.

    e. Consider views and spatial patterns when replacing or determining locations of new trees.

    f. Replace the allee of balsam poplar trees to the west of Station Dwelling (HS-18).

5. Selectively thin vegetation where it encroaches upon historic views to the water and buildings.

6. Ensure tree removal, pruning, and thinning complies with Endangered Species Act Section 7.

7. Protect native dune vegetation. Establish clear routes through sensitive ecological areas to Agate Beach.

8. Remove non-contributing foundations plantings at Harbor of Refuge Dwelling (HS-20) and replace with stone. Ensure positive drainage from building.

Sustainability and Resiliency
Treatment recommendations identify measures to encourage measures for sustainability and resiliency.

1. Meet current design imperatives for sustainability that protect the health, safety, and welfare of staff and visitors.

2. Ensure proposed sustainability infrastructure or facilities are planned, sited and designed to protect cultural and natural landscape.

    a. Locate sustainability infrastructure in areas traditionally used or identified as operations areas.

    b. Ensure scenic views and vistas are protected.

    c. If infrastructure is proposed for ground level or placement on a pole, ensure it does not obscure scenic views or vistas or negatively interrupt the visitor experience.

    d. Ensure sustainable infrastructure is of a scale, material, and color that harmonizes with the historic setting and aesthetic.

Implementation Guidance

Treatment guidance is provided as distinct actions with subtasks identified. This will guide preparation of Project Management Information System (PMIS) project statements.

Each treatment action is assigned a priority indicating when the treatment actions should be undertaken. Phase 1 (1 to 2 years) includes actions that are critical repairs or safety related changes; Phase 2 (2 to 5 years) includes serious repairs and rehabilitation needed to preserve integrity; and Phase 3 (5 years or greater) which includes long term, routine maintenance, restoration, or rehabilitation.

Table 4-1. Implementation

Priority 1 (1 to 2 years)		
Task ID	CLR Treatment Recommendation	CLR Task Component/FMSS Task Component
1	Provide ABA access to Harbor of Refuge (HS-20)	1. Provide walkway with landing/resting areas 2. Realign walkway from Canal Street to new entrance
2	Repair and maintain contributing views	1. Remove the chainlink fence at Harbor of Refuge Dwelling (HS-20).

Priority 2 (3 to 5 years)		
Task ID	CLR Treatment Recommendation	CLR Task Component/FMSS Task Component
3	Preserve setting of the study area	1. Repair surface of existing concrete walks 2. Repair Station Dwelling (HS-18) perimeter wall 3. Replace balsam poplar trees at Station Dwelling (HS-18) 4. Repair Station Dwelling (HS-18) curb 5. Remove Officer in Charge (HS-19) shed 6. Reestablish Harbor of Refuge Dwelling (HS-20) perimeter fence 7. Stabilize concrete retaining wall along West Bay
4	Modify gravel parking north of Harbor of Refuge Dwelling (HS-20)	1. Reduce parking lot size 2. Provide two (2) ABAAS parking spaces 3. Remove boulders marking edge 4. Provide sidewalks to Harbor of Refuge Dwelling (HS-18) 5. Revegetate with lawn to the north and native dune grasses to the east, south and west of parking
5	Provide park staff parking	1. Stripe eight (8) spaces south of Station Dwelling (HS-18) 2. Provide two (2) ABAAS parking spaces northwest of Officer in Charge Dwelling (HS-19)
6	Provide ABA access to Station Dwelling (HS-18)	1. Modify driveway east of Station Dwelling (HS-18) for shared vehicular and ABAAS access 2. Remove and revegetate drive east of ABAAS parking area 3. Widen walkway to ABAAS entrance and provide landing/resting areas
7	Repair contributing features	1. Repair damage to base of Station Dwelling (HS-18) Storm Warning Tower

Priority 3 (5 years or greater)		
Task ID	CLR Treatment Recommendation	CLR Task Component/FMSS Task Component
8	Mark non-extant features	1. Verify and mark footprint of USLSS station building 2. Rehabilitate road east of the Equipment Building as a shared use pedestrian and operational vehicle route
9	Provide parking for park staff at Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Equipment Building	1. Sign and stripe the easternmost space at Equipment Garage for as an ABAAS space
10	Modify gravel parking north of Harbor of Refuge Dwelling (HS-20)	1. Reduce parking lot size 2. Establish turn around north of parking area 3. Provide two (2) ABAAS parking spaces 4. Provide ABAAS vault toilet 5. Remove boulders marking edge 6. Relocate picnic and interpretive amenities 7. Reconstruct aerial identification platform
11	Protect dune vegetation	1. Formalize access to beach 2. Revegetate social trails

Appendices

Appendix A - Bibliography

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United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Grand Marais USCG Life Saving Station - CLR
Park:	Pictured Rock National Lakeshore
Park Alpha:	PIRO
PMIS Number:	227908
Estimate Date:	Nov 03, 2020 - v1.3
Prepared By:	Mark D. Hinrichs
Company:	ACC Cost Consultants, LLC
Address:	8060 SW Pfaffle St., Suite 110
City, State Zip:	Tigard, Oregon 97223
Phone:	503-718-0075

BACKGROUND SUPPORTING MATERIAL (Scope of Work):

This Cultural Landscape Report (CLR) presents a planning document for the landscaping at Pictured Rocks National Lakeshore in Munising, Michigan. It identifies characteristics and features that convey the historic significance and character of the Station Dwelling, Officer in Charge Dwelling, Harbor of Refuge Dwelling, and Equipment Building and provides a plan for long term preservation and stewardship.

SOURCE OF COST DATA:

Source of cost data is based on ACC's work history along with ACC's database of past and current projects. The Means City Cost Index adjusts for location factor and pricing. Pricing involves contacting local suppliers and vendors for price checks. This estimate is formulated on the estimator's professional judgment and experience. This estimate makes no warranty, expressed or implied, that the quantities, bids or the negotiated cost of the work will not vary from the estimator's opinion of probable construction cost.

ESTIMATE ASSUMPTIONS:

The cost estimate is based on the 95% CLR dated June 2020 and the recommended treatments within the CLR. Estimate assumes construction to take place 2021 for escalation purposes.

MAJOR CHANGES FROM PREVIOUS ESTIMATE:

N/A

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project:	Grand Marais USCG Life Saving Station - CLR
Park:	Pictured Rock National Lakeshore
Park Alpha:	PIRO
PMIS Number:	227908
Estimate Date:	Nov 03, 2020 - v1.3

DESCRIPTION OF MARK-UP & ADD-ONS:

Location Factor:	-18.00%	Basis of 2020 RS means = 102.4. Published Index Location, assume Traverse City, MI 86.8. Factor = 102.4/86.8= -1.18
Remoteness Factor:	21.60%	Site is 216 miles from published commercial center. Allow 1% per 10 miles - 216 / 10 = 21.6%
Wage Rate Factor:	0.00%	Not Required
State & Local Taxes:	6.00%	State (6.0%) Local (0%) Total 6.0%
Design Contingency:	25.00%	Preliminary Design (PD) documents consist of a Historic Structures Report and Treatment Report . Relatively simple scope but not completely defined, warrants a 25% contingency.
Standard. General Conditions:	17.50%	Typical range 10% to 20%, use 17.5% assuming all buildings to be done incrementally.
Government General Conditions:	5.00%	Typical range 5% to 10%, assume 5% for this project.
Historic Preservation Factor:	5.00%	All structures are historical and care will need to be taken during construction.
Contractor Overhead:	10.00%	Range is 10% to 25%. Use 10% for this submittal. Should be medium sized project.
Contractor Profit:	15.00%	Range is 10% to 25%. Use 15% for this submittal. There will be custom remodeling work.
Bonds and Permits:	3.176%	Bonds 1.105%, Insurance 1.039% & Permits 1.032%
Contracting Method Adjustment:	15.00%	verify procurement method
Annual Inflation Escalation Factor:	4.00%	Projected annual inflation rate.
Time Until Project Midpoint (Months)	12	Assume mid-point is November 2021.

OTHER COMMENTS:

This estimate is for direct construction cost only. It does not include furnishings & equipment, architect and engineer design fees, consultant fees, inspection and testing fees, plan check fees, hazardous material testing and removal, financing costs, nor any other normally associated development costs. This estimate assumes a sole-source general contractor. This is a probable cost estimate based on in-progress documentation provided by the architect. The actual bid documents will vary from this estimate due to document completion, detailing, specification, addendum, etc. The estimator has no control over the cost or availability of labor, equipment, materials, over market conditions or contractor's method of pricing, contractor's construction logistics and scheduling.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

PROJECT COST SUMMARY

Project: Grand Marais USCG Life Saving Station - CLR
Park: Pictured Rock National Lakeshore
Alpha: PIRO
PMIS: 227908

Estimate By: Mark D. Hinrichs
Date: Nov 03, 2020 - v1.3

Reviewed By: SJP
Date: 11/03/20

Item No.	Description	Quantity	Unit	Cost/Unit	Total	Total	Total	Total	Total	Total
1	Station Dwelling HS-18	1	VALUE	$90,250	$90,250					
2	Officer in Charge HS-19	1	VALUE	$23,600		$23,600				
3	Harbor of Refuge HS-20	1	VALUE	$246,259			$246,259			
4	Equipment Building	1	VALUE	$3,800				$3,800		
5	USLSS Interpretation	1	VALUE	$67,900					$67,900	
6	North Parking	1	VALUE	$83,800						$83,800
7	Not Used									
	Subtotal Direct Construction Costs				**$90,250**	**$23,600**	**$246,259**	**$3,800**	**$67,900**	**$83,800**
	Value of Government Furnished Property (GFP) Included in Direct Cost (see footnote)*				**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
	Direct Cost Subtotal without GFP				**$90,250**	**$23,600**	**$246,259**	**$3,800**	**$67,900**	**$83,800**
	Published Location Factor	-18.00%			-$16,245	-$4,248	-$44,327	-$684	-$12,222	-$15,084
	Remoteness Factor	21.60%			$19,494	$5,098	$53,192	$821	$14,666	$18,101
	Federal Wage Rate Factor	0.00%			$0	$0	$0	$0	$0	$0
	State & Local Taxes - 40% of Direct Costs	6.00%			$2,166	$566	$5,910	$91	$1,630	$2,011
	Design Contingency	25.00%			$22,563	$5,900	$61,565	$950	$16,975	$20,950
	Total Direct Construction Costs				**$118,228**	**$30,916**	**$322,599**	**$4,978**	**$88,949**	**$109,778**
	Standard General Conditions	17.50%			$20,690	$5,410	$56,455	$871	$15,566	$19,211
	Government General Conditions	5.00%			$5,911	$1,546	$16,130	$249	$4,447	$5,489
	Historic Preservation Factor	5.00%			$5,911	$1,546	$16,130	$249	$4,447	$5,489
	Subtotal NET Construction Cost				**$150,740**	**$39,418**	**$411,314**	**$6,347**	**$113,410**	**$139,967**
	Overhead	10.00%			$15,074	$3,942	$41,131	$635	$11,341	$13,997
	Profit	15.00%			$22,611	$5,913	$61,697	$952	$17,011	$20,995
	Estimated NET Construction Cost				**$188,425**	**$49,272**	**$514,143**	**$7,934**	**$141,762**	**$174,959**
	Bonds & Permits	3.18%			**$5,984**	**$1,565**	**$16,329**	**$252**	**$4,502**	**$5,557**
	Contracting Method Adjustment	15.00%			$28,264	$7,391	$77,121	$1,190	$21,264	$26,244
	Inflation Escalation	12	Months	4.00%	$8,907	$2,329	$24,304	$375	$6,701	$8,270
	Total Estimated NET Cost of Construction				**$231,580**	**$60,557**	**$631,897**	**$9,751**	**$174,230**	**$215,030**

* GFP costs are only used when the Government pre-purchases items, or provides other materials out of Government inventory, to be installed by contractor. Adjustments and Markup on GFP only include Inflation Escalation; No other adjustment factors or O&P markup have been applied.

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20
Summary Item 1	**Station Dwelling HS-18**	**Total Cost:**	$90,250

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G10		**SITE PREPARATION**					
Level 3 Code	**L**	**remove concrete walk**	**550**	**SF**	$ 1.38	$756	
Level 3 Code	M	remove concrete walk	550	SF	$ 1.00	$550	
Level 3 Code	E	remove concrete walk	550	SF	$ 0.13	$69	
Level 3 Code	**L**	**remove trees**	**9**	**EA**	$ 275.00	$2,475	west of station dwelling
Level 3 Code	M	remove trees	9	EA	$ 200.00	$1,800	
Level 3 Code	E	remove trees	9	EA	$ 25.00	$225	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE PREPARATION	**1**	**VALUE**	**$ 5,875.00**	**$5,875**	

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G20		**SITE IMPROVEMENTS**					
Level 3 Code	**L**	**repair concrete curb**	**190**	**LF**	$ 13.75	$2,613	station dwelling
Level 3 Code	M	repair concrete curb	190	LF	$ 10.00	$1,900	
Level 3 Code	E	repair concrete curb	190	LF	$ 1.25	$238	
Level 3 Code	**L**	**repair concrete wall**	**320**	**LF**	$ 41.25	$13,200	2' ht. pin & dowel
Level 3 Code	M	repair concrete wall	320	LF	$ 30.00	$9,600	
Level 3 Code	E	repair concrete wall	320	LF	$ 3.75	$1,200	
Level 3 Code	**L**	**repair walks, 36" wide**	**200**	**LF**	$ 8.25	$1,650	repoint concrete
Level 3 Code	M	repair walks, 36" wide	200	LF	$ 6.00	$1,200	
Level 3 Code	E	repair walks, 36" wide	200	LF	$ 0.75	$150	
Level 3 Code	**L**	**ABAAS route concrete walk**	**180**	**LF**	$ 22.00	$3,960	5' wide,from gravel drive
Level 3 Code	M	ABAAS route concrete walk	180	LF	$ 16.00	$2,880	
Level 3 Code	E	ABAAS route concrete walk	180	LF	$ 2.00	$360	
Level 3 Code	**L**	**gravel drive**	**550**	**SF**	$ 1.10	$605	
Level 3 Code	M	gravel drive	550	SF	$ 0.80	$440	
Level 3 Code	E	gravel drive	550	SF	$ 0.10	$55	
Level 3 Code	**L**	**gravel parking - stabilized**	**1850**	**SF**	$ 1.66	$3,071	ABAAS station dwelling
Level 3 Code	M	gravel parking - stabilized	1850	SF	$ 1.34	$2,479	

United States Department of the Interior
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Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20

Summary Item 1 **Station Dwelling HS-18** **Total Cost:** $90,250

Level 3 Code	E	gravel parking - stabilized	1850	SF	$ 0.50	$925	
Level 3 Code	**L**	**gravel parking - stabilized**	**1500**	**SF**	$ 1.66	$2,490	south of station dwelling
Level 3 Code	M	gravel parking - stabilized	1500	SF	$ 1.34	$2,010	
Level 3 Code	E	gravel parking - stabilized	1500	SF	$ 0.50	$750	
Level 3 Code	**L**	**ABAAS paved parking spots**	**2**	**EA**	$ 687.50	$1,375	
Level 3 Code	M	ABAAS paved parking spots	2	EA	$ 500.00	$1,000	
Level 3 Code	E	ABAAS paved parking spots	2	EA	$ 62.50	$125	
Level 3 Code	**L**	**interpretive waysides**	**2**	**EA**	$ 825.00	$1,650	
Level 3 Code	M	interpretive waysides	2	EA	$ 600.00	$1,200	
Level 3 Code	E	interpretive waysides	2	EA	$ 75.00	$150	
Level 3 Code		Description	0	UNIT	$ -	$0	
		- vegetation -					
Level 3 Code	**L**	**native dune vegetation**	**2800**	**SF**	$ 1.10	$3,080	plugs
Level 3 Code	M	native dune vegetation	2800	SF	$ 0.80	$2,240	
Level 3 Code	E	native dune vegetation	2800	SF	$ 0.10	$280	
Level 3 Code	**L**	**lawn**	**5700**	**SF**	$ 1.38	$7,838	plugs
Level 3 Code	M	lawn	5700	SF	$ 1.00	$5,700	
Level 3 Code	E	lawn	5700	SF	$ 0.13	$713	
Level 3 Code	**L**	**deciduous trees (2.5" caliper)**	**9**	**EA**	$ 137.50	$1,238	Balsam poplar
Level 3 Code	M	deciduous trees (2.5" caliper)	9	EA	$ 100.00	$900	
Level 3 Code	E	deciduous trees (2.5" caliper)	9	EA	$ 12.50	$113	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE IMPROVEMENTS	**1**	**VALUE**	**$ 79,375.00**	**$79,375**	

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20

Summary Item 1 **Station Dwelling HS-18** **Total Cost:** $90,250

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50		**OTHER SITE CONSTRUCTION**					
Level 3 Code	**L**	**repair storm warning tower, allowance**	**1**	**EA**	$ 2,750.00	$2,750	repair damage at base
Level 3 Code	M	repair storm warning tower, allowance	1	EA	$ 2,000.00	$2,000	repair damage at base
Level 3 Code	E	repair storm warning tower, allowance	1	EA	$ 250.00	$250	repair damage at base
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL OTHER SITE CONSTRUCTION	**1**	**VALUE**	**$ 5,000.00**	**$5,000**	

Uniformat II WBS Code		Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
TOTAL COST -		**Station Dwelling HS-18**	**1**	**VALUE**	**$ 90,250.00**	**$90,250**	

United States Department of the Interior
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LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20
Summary Item 2	**Officer in Charge HS-19**	**Total Cost:**	$23,600

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G10		**SITE PREPARATION**					
Level 3 Code	**L**	**remove shed**	**1**	**SUM**	$ 825.00	$825	
Level 3 Code	M	remove shed	1	SUM	$ 600.00	$600	
Level 3 Code	E	remove shed	1	SUM	$ 75.00	$75	
Level 3 Code	**L**	**remove chainlink fence**	**470**	**LF**	$ 2.75	$1,293	
Level 3 Code	M	remove chainlink fence	470	LF	$ 2.00	$940	
Level 3 Code	E	remove chainlink fence	470	LF	$ 0.25	$118	
Level 3 Code	**L**	**remove trees**	**4**	**EA**	$ 275.00	$1,100	
Level 3 Code	M	remove trees	4	sum	$ 200.00	$800	
Level 3 Code	E	remove trees	4	sum	$ 25.00	$100	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE PREPARATION	**1**	**VALUE**	**$ 5,850.00**	**$5,850**	

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G20		**SITE IMPROVEMENTS**					
Level 3 Code	**L**	**repair walks, 36" wide**	**200**	**LF**	$ 8.25	$1,650	repoint concrete
Level 3 Code	M	repair walks, 36" wide	200	LF	$ 6.00	$1,200	
Level 3 Code	E	repair walks, 36" wide	200	LF	$ 0.75	$150	
Level 3 Code	**L**	**interpretive waysides**	**1**	**EA**	$ 825.00	$825	
Level 3 Code	M	interpretive waysides	1	EA	$ 600.00	$600	
Level 3 Code	E	interpretive waysides	1	EA	$ 75.00	$75	
Level 3 Code		Description	0	UNIT	$ -	$0	

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20

Summary Item 2 **Officer in Charge HS-19** **Total Cost:** $23,600

		- vegetation -					
Level 3 Code	**L**	**lawn**	**4900**	**SF**	$ 1.38	$6,738	plugs
Level 3 Code	M	lawn	4900	SF	$ 1.00	$4,900	
Level 3 Code	E	lawn	4900	SF	$ 0.13	$613	
Level 3 Code	**L**	**deciduous trees (2.5" caliper)**	**4**	**EA**	$ 137.50	$550	Balsam poplar
Level 3 Code	M	deciduous trees (2.5" caliper)	4	EA	$ 100.00	$400	Balsam poplar
Level 3 Code	E	deciduous trees (2.5" caliper)	4	EA	$ 12.50	$50	Balsam poplar
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE IMPROVEMENTS	**1**	**VALUE**	**$ 17,750.00**	**$17,750**	

Uniformat II WBS Code		Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
TOTAL COST -		**Officer in Charge HS-19**	**1**	**VALUE**	**$ 23,600.00**	**$23,600**	

United States Department of the Interior
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LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20
Summary Item	**Harbor of Refuge HS-20**	**Total Cost:**	$246,259

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G10		**SITE PREPARATION**					
Level 3 Code	**L**	**remove gravel parking**	**16500**	**SF**	$ 0.55	$9,075	
Level 3 Code	M	remove gravel parking	16500	SF	$ 0.40	$6,600	
Level 3 Code	E	remove gravel parking	16500	SF	$ 0.05	$825	
Level 3 Code	**L**	**remove boulder edge**	**16**	**EA**	$ 26.95	$431	large landscape
Level 3 Code	M	remove boulder edge	16	EA	$ 19.60	$314	
Level 3 Code	E	remove boulder edge	16	EA	$ 2.45	$39	
Level 3 Code	**L**	**remove concrete walk**	**420**	**SF**	$ 1.38	$578	
Level 3 Code	M	remove concrete walk	420	SF	$ 1.00	$420	
Level 3 Code	E	remove concrete walk	420	SF	$ 0.13	$53	
Level 3 Code	**L**	**remove concrete stair**	**9**	**EA**	$ 24.75	$223	
Level 3 Code	M	remove concrete stair	9	EA	$ 18.00	$162	
Level 3 Code	E	remove concrete stair	9	EA	$ 2.25	$20	
Level 3 Code	**L**	**remove chainlink fence**	**130**	**LF**	$ 2.75	$358	
Level 3 Code	M	remove chainlink fence	130	LF	$ 2.00	$260	
Level 3 Code	E	remove chainlink fence	130	LF	$ 0.25	$33	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE PREPARATION	**1**	**VALUE**	**$ 19,389.00**	**$19,389**	

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G20		**SITE IMPROVEMENTS**					
Level 3 Code	**L**	**gravel parking**	**360**	**SF**	$ 1.10	$396	
Level 3 Code	M	gravel parking	360	SF	$ 0.80	$288	
Level 3 Code	E	gravel parking	360	SF	$ 0.10	$36	
Level 3 Code	**L**	**ABAAS gravel parking spots - stabilized**	**2**	**EA**	$ 687.50	$1,375	
Level 3 Code	M	ABAAS gravel parking spots - stabilized	2	EA	$ 500.00	$1,000	
Level 3 Code	E	ABAAS gravel parking spots - stabilized	2	EA	$ 62.50	$125	
Level 3 Code	**L**	**concrete walk, 5' wide**	**150**	**LF**	$ 22.00	$3,300	to Canal St. and stair
Level 3 Code	M	concrete walk, 5' wide	150	LF	$ 16.00	$2,400	

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20

Summary Item **Harbor of Refuge HS-20** **Total Cost:** $246,259

Level 3 Code	E	concrete walk, 5' wide	150	LF	$ 2.00	$300	
Level 3 Code	**L**	**ABAAS route, concrete walk, 5' wide**	**180**	**LF**	$ 22.00	$3,960	south parking to lift
Level 3 Code	M	ABAAS route, concrete walk, 5' wide	180	LF	$ 16.00	$2,880	
Level 3 Code	E	ABAAS route, concrete walk, 5' wide	180	LF	$ 2.00	$360	
Level 3 Code	**L**	**ABAAS route, concrete walk, 5' wide**	**290**	**LF**	$ 22.00	$6,380	from lift to vault toilet
Level 3 Code	M	ABAAS route, concrete walk, 5' wide	290	LF	$ 16.00	$4,640	from lift to vault toilet
Level 3 Code	E	ABAAS route, concrete walk, 5' wide	290	LF	$ 2.00	$580	from lift to vault toilet
Level 3 Code	**L**	**concrete stair**	**11**	**EA**	$ 165.00	$1,815	
Level 3 Code	M	concrete stair	11	EA	$ 120.00	$1,320	
Level 3 Code	E	concrete stair	11	EA	$ 15.00	$165	
Level 3 Code	**L**	**handrail, painted steel at ABAAS route**	**375**	**LF**	$ 55.00	$20,625	
Level 3 Code	M	handrail, painted steel at ABAAS route	375	LF	$ 40.00	$15,000	
Level 3 Code	E	handrail, painted steel at ABAAS route	375	LF	$ 5.00	$1,875	
Level 3 Code	**L**	**concrete pad / landing for / around vault toilet**	**300**	**SF**	$ 5.50	$1,650	
Level 3 Code	M	concrete pad / landing for / around vault toilet	300	SF	$ 4.00	$1,200	
Level 3 Code	E	concrete pad / landing for / around vault toilet	300	SF	$ 0.50	$150	
Level 3 Code	**L**	**concrete pad for Fisherman's Memorial**	**450**	**SF**	$ 5.50	$2,475	
Level 3 Code	M	concrete pad for Fisherman's Memorial	450	SF	$ 4.00	$1,800	
Level 3 Code	E	concrete pad for Fisherman's Memorial	450	SF	$ 0.50	$225	
Level 3 Code	**L**	**fence, 4' ht. wood posts w/ wire mesh**	**290**	**LF**	$ 27.50	$7,975	Harbor of Refuge
Level 3 Code	M	fence, 4' ht. wood posts w/ wire mesh	290	LF	$ 20.00	$5,800	Harbor of Refuge
Level 3 Code	E	fence, 4' ht. wood posts w/ wire mesh	290	LF	$ 2.50	$725	Harbor of Refuge
Level 3 Code	**L**	**interpretive waysides**	**2**	**EA**	$ 825.00	$1,650	
Level 3 Code	M	interpretive waysides	2	EA	$ 600.00	$1,200	
Level 3 Code	E	interpretive waysides	2	EA	$ 75.00	$150	
		- vegetation -					
Level 3 Code	**L**	**native dune vegetation**	**33900**	**SF**	$ 1.17	$39,663	plugs
Level 3 Code	M	native dune vegetation	33900	SF	$ 0.78	$26,442	plugs
Level 3 Code	E	native dune vegetation	33900	SF	$ 0.05	$1,695	plugs
Level 3 Code	**L**	**lawn**	**2100**	**SF**	$ 1.38	$2,888	plugs
Level 3 Code	M	lawn	2100	SF	$ 1.00	$2,100	plugs
Level 3 Code	E	lawn	2100	SF	$ 0.13	$263	plugs
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE IMPROVEMENTS	**1**	**VALUE**	**$ 166,870.00**	**$166,870**	

United States Department of the Interior
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Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20
Summary Item	**Harbor of Refuge HS-20**	**Total Cost:**	$246,259

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50		**OTHER SITE CONSTRUCTION**					
Level 3 Code	**L**	**vault toilet, 300 sf, no water, high-end custom**	**1**	**EA**	$ 33,000.00	$33,000	
Level 3 Code	M	vault toilet, 300 sf, no water, high-end custom	1	EA	$ 24,000.00	$24,000	
Level 3 Code	E	vault toilet, 300 sf, no water, high-end custom	1	EA	$ 3,000.00	$3,000	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL OTHER SITE CONSTRUCTION	**1**	**VALUE**	**$ 60,000.00**	**$60,000**	

Uniformat II WBS Code		Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
TOTAL COST -		**Harbor of Refuge HS-20**	**1**	**VALUE**	**$ 246,259.00**	**$246,259**	

United States Department of the Interior
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Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20
Summary Item	**Equipment Building**	**Total Cost:**	$3,800

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G20		**SITE IMPROVEMENTS**					
Level 3 Code	**L**	**repair walks - 60" wide**	**70**	**LF**	$ 8.25	$578	repoint concrete
Level 3 Code	M	repair walks - 60" wide	70	LF	$ 6.00	$420	
Level 3 Code	E	repair walks - 60" wide	70	LF	$ 0.75	$53	
Level 3 Code	**L**	**ABAAS gravel parking spots - stabilized**	**1**	**EA**	$ 687.50	$688	
Level 3 Code	M	ABAAS gravel parking spots - stabilized	1	EA	$ 500.00	$500	
Level 3 Code	E	ABAAS gravel parking spots - stabilized	1	EA	$ 62.50	$63	
Level 3 Code	**L**	**interpretive waysides**	**1**	**EA**	$ 825.00	$825	
Level 3 Code	M	interpretive waysides	1	EA	$ 600.00	$600	
Level 3 Code	E	interpretive waysides	1	EA	$ 75.00	$75	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE IMPROVEMENTS	**1**	**VALUE**	**$ 3,800.00**	**$3,800**	

Uniformat II WBS Code		Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
TOTAL COST -		**Equipment Building**	**2861**	**SF**	**$ 1.33**	**$3,800**	

United States Department of the Interior
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Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20
Summary Item	**USLSS Interpretation**	**Total Cost:**	$67,900

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G10		**SITE PREPARATION**					
Level 3 Code	**L**	**remove crusher fines path**	**6300**	**SF**	$ 0.55	$3,465	
Level 3 Code	M	remove crusher fines path	6300	SF	$ 0.40	$2,520	
Level 3 Code	E	remove crusher fines path	6300	SF	$ 0.05	$315	
Level 3 Code	**L**	**remove trees**	**9**	**EA**	$ 275.00	$2,475	
Level 3 Code	M	remove trees	9	SUM	$ 200.00	$1,800	
Level 3 Code	E	remove trees	9	SUM	$ 25.00	$225	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE PREPARATION	**1**	**VALUE**	**$ 10,800.00**	**$10,800**	

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G20		**SITE IMPROVEMENTS**					
Level 3 Code	**L**	**stabilize concrete retaining wall**	**130**	**LF**	$ 2.75	$358	
Level 3 Code	M	stabilize concrete retaining wall	130	LF	$ 2.00	$260	
Level 3 Code	E	stabilize concrete retaining wall	130	LF	$ 0.25	$33	
Level 3 Code	**L**	**concrete curb, 6" ht.**	**320**	**LF**	$ 13.75	$4,400	
Level 3 Code	M	concrete curb, 6" ht.	320	LF	$ 10.00	$3,200	
Level 3 Code	E	concrete curb, 6" ht.	320	LF	$ 1.25	$400	
Level 3 Code	**L**	**crusher fines walk**	**200**	**LF**	$ 1.93	$385	
Level 3 Code	M	crusher fines walk	200	LF	$ 1.40	$280	
Level 3 Code	E	crusher fines walk	200	LF	$ 0.18	$35	
Level 3 Code	**L**	**interpretive waysides**	**2**	**EA**	$ 825.00	$1,650	
Level 3 Code	M	interpretive waysides	2	EA	$ 600.00	$1,200	
Level 3 Code	E	interpretive waysides	2	EA	$ 75.00	$150	
		- vegetation -					
Level 3 Code	**L**	**native dune vegetation**	**6500**	**SF**	$ 1.15	$7,475	plugs
Level 3 Code	M	native dune vegetation	6500	SF	$ 0.80	$5,200	
Level 3 Code	E	native dune vegetation	6500	SF	$ 0.05	$325	
Level 3 Code	**L**	**lawn**	**11500**	**SF**	$ 1.38	$15,813	plugs

United States Department of the Interior
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LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20

Summary Item		**USLSS Interpretation**				**Total Cost:**	$67,900
Level 3 Code	M	lawn	11500	SF	$ 1.00	$11,500	
Level 3 Code	E	lawn	11500	SF	$ 0.13	$1,438	
Level 3 Code	**L**	**deciduous trees (2.5" caliper)**	**12**	**EA**	$ 137.50	$1,650	Balsam poplar
Level 3 Code	M	deciduous trees (2.5" caliper)	12	EA	$ 100.00	$1,200	
Level 3 Code	E	deciduous trees (2.5" caliper)	12	EA	$ 12.50	$150	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE IMPROVEMENTS	**1**	**VALUE**	**$ 57,100.00**	**$57,100**	

Uniformat II WBS Code		Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
TOTAL COST -		**USLSS Interpretation**	**1**	**VALUE**	**$ 67,900.00**	**$67,900**	

United States Department of the Interior
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Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20
Summary Item	**North Parking**	**Total Cost:**	$83,800

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G10		**SITE PREPARATION**					
Level 3 Code	**L**	**remove gravel parking**	**17400**	**SF**	$ 0.55	$9,570	
Level 3 Code	M	remove gravel parking	17400	SF	$ 0.40	$6,960	
Level 3 Code	E	remove gravel parking	17400	SF	$ 0.05	$870	
Level 3 Code	**L**	**remove boulder edge**	**24**	**EA**	$ 27.50	$660	
Level 3 Code	M	remove boulder edge	24	EA	$ 20.00	$480	
Level 3 Code	E	remove boulder edge	24	EA	$ 2.50	$60	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE PREPARATION	**1**	**VALUE**	**$ 18,600.00**	**$18,600**	

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G20		**SITE IMPROVEMENTS**					
Level 3 Code	**L**	**gravel parking**	**900**	**SF**	$ 1.10	$990	
Level 3 Code	M	gravel parking	900	SF	$ 0.80	$720	
Level 3 Code	E	gravel parking	900	SF	$ 0.10	$90	
Level 3 Code	**L**	**concrete walk, 5' wide**	**80**	**LF**	$ 22.00	$1,760	parking to Canal St.
Level 3 Code	M	concrete walk, 5' wide	80	LF	$ 16.00	$1,280	
Level 3 Code	E	concrete walk, 5' wide	80	LF	$ 2.00	$160	
		- vegetation -					
Level 3 Code	**L**	**native dune vegetation**	**22000**	**SF**	$ 1.10	$24,200	plugs
Level 3 Code	M	native dune vegetation	22000	SF	$ 0.80	$17,600	
Level 3 Code	E	native dune vegetation	22000	SF	$ 0.10	$2,200	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL SITE IMPROVEMENTS	**1**	**VALUE**	**$ 49,000.00**	**$49,000**	

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

LINE ITEM COST SUMMARY

Project:	**Grand Marais USCG Life Saving Station - CLR**	**Estimate By:**	Mark D. Hinrichs
Park:	**Pictured Rock National Lakeshore**	**Date:**	Nov 03, 2020 - v1.3
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**227908**	**Date:**	11/03/20
Summary Item	**North Parking**	**Total Cost:**	$83,800

Uniformat II WBS Code	Labor (L), Material (M), or Equipment (E)	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50		**OTHER SITE CONSTRUCTION**					
Level 3 Code	**L**	**aerial identification platform, 18' x 18' wood platform**	**1**	**EA**	$ 8,910.00	$8,910	incl painted number
Level 3 Code	M	aerial identification platform, 18' x 18' wood platform	1	EA	$ 6,480.00	$6,480	
Level 3 Code	E	aerial identification platform, 18' x 18' wood platform	1	EA	$ 810.00	$810	
Level 3 Code		Description	0	Unit	$ -	$0	
		SUBTOTAL OTHER SITE CONSTRUCTION	**1**	**VALUE**	**$ 16,200.00**	**$16,200**	

Uniformat II WBS Code		Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
TOTAL COST -		**North Parking**	**1**	**VALUE**	**$ 83,800.00**	**$83,800**	

Appendix C: Terminology

The following terminology is used in this CLR to describe recommended actions.[1]

Consider is to routinely evaluate if a treatment action can be undertaken. Budget constraints and long-term maintenance may result in delayed treatment action. As circumstances change, the treatment action should be reevaluated and eventually completed.

Design intent refers to the creative objectives that were applied to the development of a historic property.

Introduce is the addition of a new, nonhistoric feature compatible with the cultural landscape. This may also include the replacement of a missing historic feature.

In-kind refers to the replacement of features extensively deteriorated or missing parts of features using materials that match the historic detail, configuration, and appearance as closely as possible.

Maintain refers to measures that sustain the form, integrity and materials of contributing features, either on a regular basis or as a nonrecurring event.

Preserve refers to those measures necessary to sustain the existing form, integrity, and materials of contributing features. It includes initial stabilization work, where necessary, as well as ongoing preservation maintenance and repair of historic materials and features.

Protect refers to actions to safeguard a historic feature by defending or guarding it against further deterioration or loss. Such action is generally of temporary nature and anticipates future preservation treatment.

Reconstruct refers to the act or process of depicting, by means of new work, the form, features, and detailing of a non-surviving historic structure or any part thereof, for the purpose of replicating its appearance at a specific time in its original location.

Rehabilitate refers to the act or process of allowing a compatible use through repair, alteration, or additions as long as those features that convey the historical, cultural, or architectural values are preserved.

Repair refers to those measures that are necessary to correct deteriorated, damaged, or faulty materials of features. These measures are more extensive than regular maintenance and undertake work necessary to bring a contributing feature or area to good condition.

Restore refers to those measures necessary to accurately depict the form, features, and character of a property as it appeared during a particular period of time by means of the removal of features from other periods in history and reconstruction of missing features from the restoration period.

Retain are those actions that are necessary to allow a feature (contributing or noncontributing) to remain in place in its current configuration and condition.

Stabilize refers to those measures that require more work than standard maintenance practices, and that are necessary to prevent the further deterioration, failure, or loss of contributing features.

1 Adapted from The Secretary of the Interior's Standards for the Treatment of Historic Properties as amended and annotated, 1995 and http://www.nps.gov/dscw/definitions.htm.

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Appendix D: Treatment Options

Introduction

Treatment options for the repair, protection, and stewardship of the cultural landscape were discussed in the Treatment Work Session in April 2020 and served as a basis for developing the preferred treatment approach documented in Chapter 4.

The two options address repair of contributing features, removal of non-contributing features that impact the historic setting, and would provide accessibility and interpretation upgrades. Each option follows a rehabilitation approach to allow expanded uses and restore the USCG formal landscape design standard for its layout and aesthetic throughout the USCG sub-period of 1915 to 1961, but differ in the extent of modification proposed. Option A identifies more extensive recommendations to rehabilitate the cultural landscape and provide for expanded opportunities for interpretation.

Treatment Approach

Two options to the treatment of the cultural landscape were developed.[1] Both options follow a rehabilitation approach. Rehabilitation is the process of repairing and replacing deteriorated components and materials of the cultural landscape in association with alterations or new additions that would be necessary to enable a compatible use for the property. This treatment approach best assists the park in efforts to protect the cultural landscape as it allows for actions such as preservation, restoration, and repair. Removal of non-contributing features is allowed. Alterations and new features are allowed as long as the preservation of features that convey the historical and cultural values of the historic site is ensured.

The options address the rehabilitation of the cultural landscape by preserving contributing features and by revealing the patterns and features that existed during the period of significance. These patterns and features are essential components of the cultural landscape as they convey an authentic setting associated with an operating lifesaving station.

Common to All Actions

Common to all actions would include the following.

- Rehabilitate and preserve the cultural landscape to its period of significance.
- Protect known archeological sites. Conduct further archeological investigation to determine the location, condition, and significance of archeological features.
- Repair contributing vehicular and pedestrian circulation. Formalize gravel parking areas to facilitate use and reduce impact upon the historic setting.
- Provide ABAAS parking and access at Station Dwelling (HS-18) and Harbor of Refuge Dwelling (HS-20). Provide an ABAAS accessible vault toilet at the north gravel parking area.
- Remove non-contributing structures. Preserve contributing structures.
- Repair contributing small scale features. Remove non-contributing features or replace with features matching historic character.
- Maintain contributing vegetation. Selectively thin trees for views and manage for health.

1 Page et al., *A Guide to Cultural Landscape Reports.*

Table D-1. Treatment Options

Feature	Option A	Option B
Archeological Sites		
Archeological Sites	Protect known sites. Verify footprint of non-extant USLSS Station Dwelling and provide interpretation.	Protect known sites.
Circulation		
Vehicular Circulation	Repair. Modify gravel parking areas to formalize parking and reduce the impact upon the setting.	Repair. Modify gravel parking areas to formalize parking and reduce the impact upon the setting.
Pedestrian Circulation	Repair. Modify Harbor of Refuge Dwelling (HS-20) west walkway to match historic alignment. Reduce width of native surface drive west of Equipment Building for a pedestrian trail.	Repair. Modify Harbor of Refuge Dwelling (HS-20) west walkway to match historic alignment.
ABAAS Parking and Access Route	Provide ABAAS parking at Station Dwelling (HS-18) and Harbor of Refuge Dwelling (HS-20). Provide building access via lifts.	Provide ABAAS parking at Station Dwelling (HS-18) and parking area north of Harbor Refuge (HS-20). Provide building access via ramps.
Buildings and Structures		
Non-contributing shed north of Officer in Charge Dwelling (HS-19)	Remove.	Remove.
Day Use Restroom	Provide ABAAS accessible vault toilet at reconfigured north gravel parking area.	Provide ABAAS accessible vault toilet at reconfigured north gravel parking area.
Small Scale Features		
Contributing Features	Repair. Reconstruct non-extant aerial identification platform.	Repair
Non-contributing features	Replace amenities supporting park and visitor day use to match historic character.	Replace amenities supporting park and visitor day use to match historic character.
Vegetation		
Lawn	Maintain.	Maintain.
Trees	Selectively thin for views. Prune and thin for health.	Selectively thin for views. Prune and thin for health.
Dune Vegetation	Protect native vegetation. Revegetate social trails.	Protect native vegetation. Revegetate social trails.

Option A

Option A includes actions to repair the historic setting. This option utilizes a rehabilitation approach to allow features to be preserved, rehabilitated, reconstructed, or restored, and allows expanded use.

This option identifies expanded opportunities for interpretation. This option allows the most extensive change to existing conditions in order to rehabilitate the cultural landscape. Historic spatial patterns and views are restored. Building setbacks to the immediate west of Station Dwelling (HS-18) are considered to restore views to the study area. Archeological investigations are recommended to verify the footprint of the non-extant USLSS Station Dwelling and provide interpretation.

Improvements to pedestrian and vehicular circulation provide ABAAS access into Station Dwelling (HS-18) and Harbor of Refuge Dwelling (HS-20).

Rehabilitation projects include the following actions.

Archeological Sites

- Protect known archeological sites.
- Verify footprint of non-extant USLSS Station Dwelling through archeological investigation. Mark the footprint of the building using a simple concrete curb.

Spatial Organization / Views

- Preserve contributing spatial organization, views, and formal arrangement of spaces.
- Repair historic views and spatial relationships.

Circulation

- Preserve Canal Street, access drives, and pedestrian routes.
- Repair pedestrian concrete walkways. Modify the alignment of the walkway from Canal Street to the west entrance of Harbor of Refuge Dwelling (HS-20) to match historic walkway alignment.
- Modify the road trace drive east of the Equipment Building to maintain the alignment and reduce the width for a pedestrian trail.
- Modify gravel parking areas to formalize parking and reduce the impact upon the setting. Provide stabilized turf at the south parking area to accommodate overflow parking.
- Provide designated ABAAS parking spaces at Station Dwelling (HS-18), two designated ABAAS parking spaces at Harbor of Refuge Dwelling (HS-20), and two designated ABAAS parking spaces at the north gravel parking area.

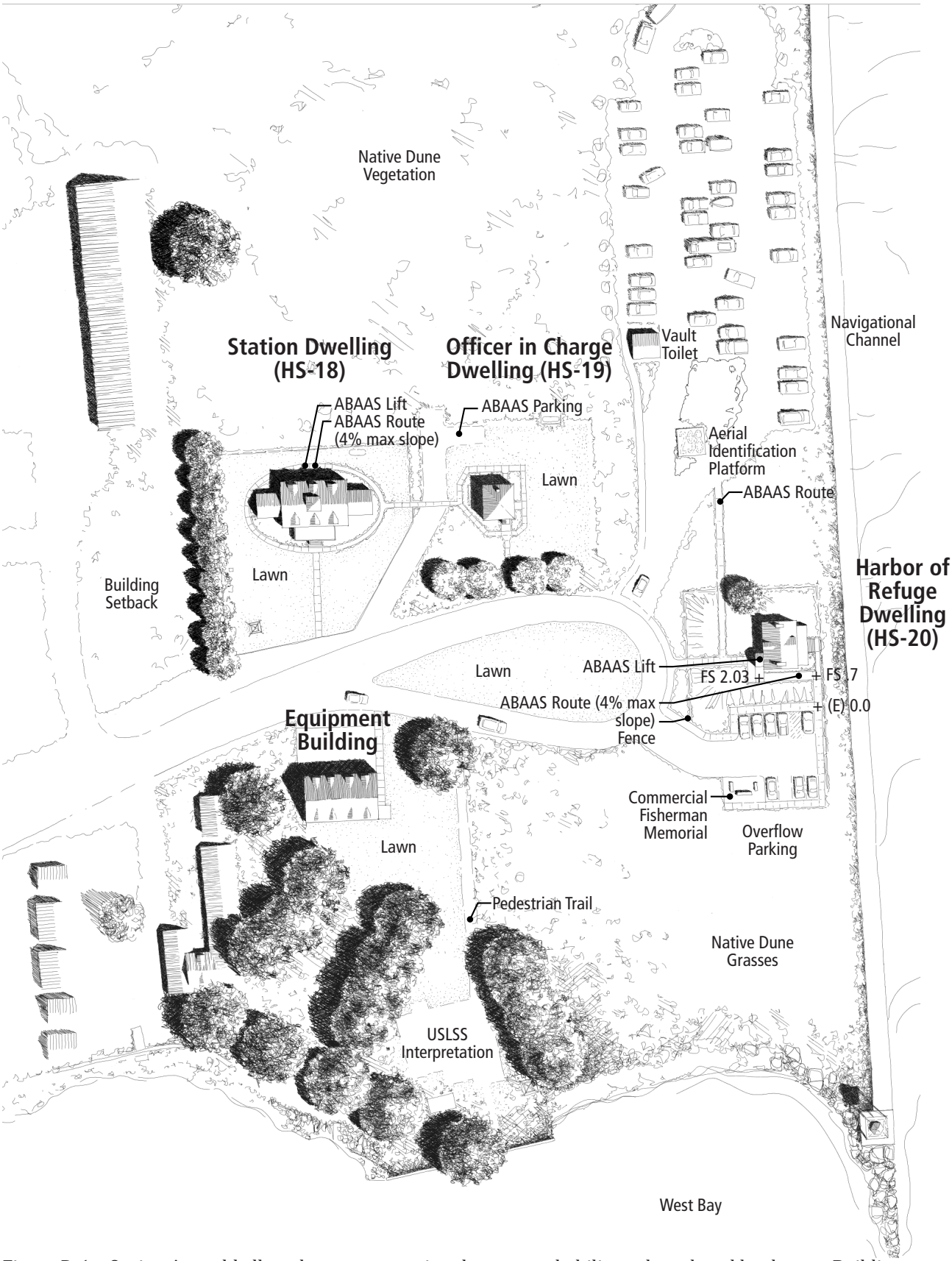


Figure D-1. Option A would allow the most extensive change to rehabilitate the cultural landscape. Building setbacks would be considered to restore views to the study area. Archeological investigations would be implemented to verify the footprint of the non-extant USLSS Station Dwelling and provide interpretation (source: Mundus Bishop, 2020).

- Provide ABAAS access to Station Dwelling (HS-18). Provide a six (6)-foot-wide sidewalk from the one (1) ABAAS parking space to a lift at a new entrance at the north facade of Station Dwelling (HS-18).

- Provide ABAAS access to Harbor of Refuge Dwelling (HS-20). Provide a six (6)-foot-wide sidewalk from the two (2) ABAAS parking spaces at the south parking area to a lift at the reconstructed west entrance.

- Repair drainage along Canal Street.

- Repair launchway.

- Revegetate dune social trails. Define one route from north parking area to Agate Beach.

Buildings and Structures

- Preserve Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Harbor of Refuge Dwelling (HS-20), and Equipment Building and settings. Provide ABAAS access into Station Dwelling (HS-18) and Harbor of Refuge Dwelling (HS-20).

- Preserve the Outer Range Light, Inner Range Light, and storm warning towers at Station Dwelling (HS-18) and Equipment Building.

- Remove non-contributing shed north of Officer in Charge Dwelling (HS-19).

- Provide an ABAAS accessible vault toilet at the north gravel parking area, sited out of the viewshed of the historic structures.

Small Scale Features

- Repair the concrete curb and wall at Station Dwelling (HS-18).

- Replace non-contributing small scale features such as picnic tables, benches, and fences to match the historic character.

- Remove chain link fence at Officer in Charge Dwelling (HS-19) and Harbor of Refuge Dwelling (HS-20).

- Provide a perimeter fence at Harbor of Refuge Dwelling (HS-20). Follow historic alignment and match historic character.

- Reconstruct the non-extant aerial identification platform north of Harbor of Dwelling (HS-20) based on historic photography.

Vegetation

- Maintain existing lawn surrounding Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Harbor of Refuge Dwelling (HS-20), and Equipment Building.

- Selectively thin vegetation where it encroaches upon historic views to the water and buildings.

- Preserve extant trees from the period of significance. Perform pruning and thinning to maintain tree form and health. Replace mature trees when they become hazards or die.

    - Replace the allee of balsam poplar trees to the west of Station Dwelling (HS-18).

- Protect native dune vegetation. Establish clear routes through sensitive ecological areas from north parking area to Agate Beach.

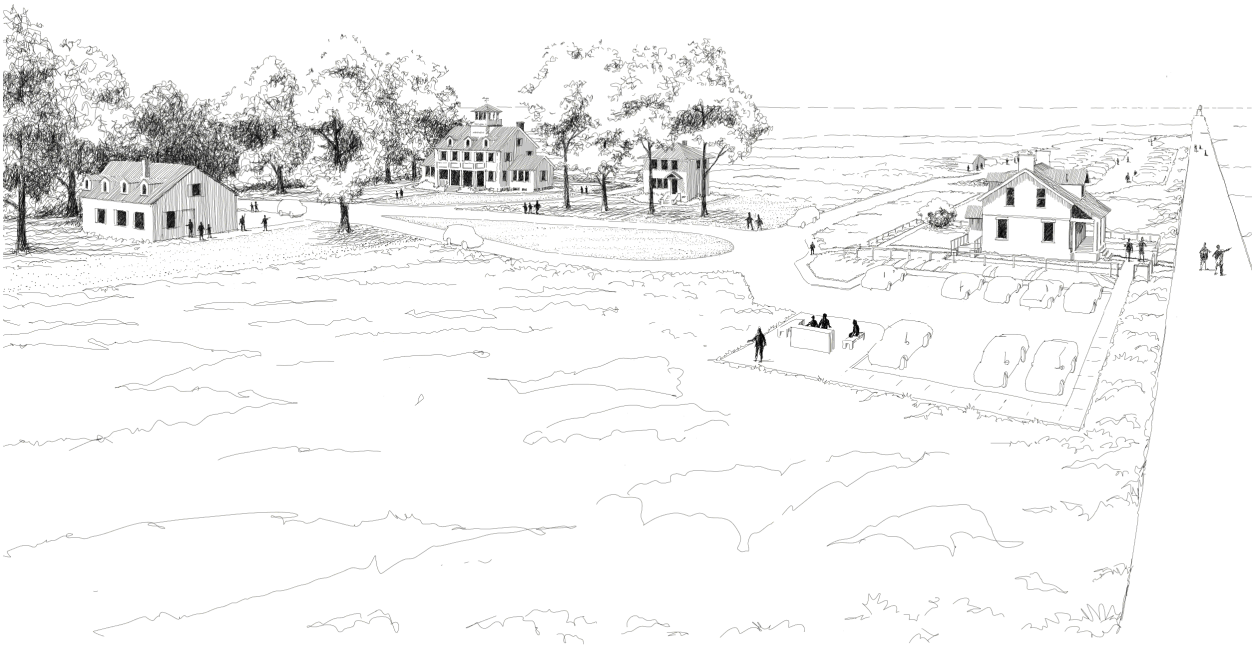


Figure D-2. Option A would restore the setting by formalizing parking south of Harbor of Refuge Dwelling (HS-20). ABAAS parking would be provided at Station Dwelling (HS-18) and Harbor of Refuge Dwelling (HS-20). A lift north of Station Dwelling (HS-18) and to the west of Harbor of Refuge Dwelling (HS-20) would provide ABAAS access to the buildings (source: Mundus Bishop, 2020).

Option B

Option B includes actions to repair the historic setting. This option utilizes a rehabilitation approach, which allows features to be preserved, rehabilitated, reconstructed, or restored and allows expanded use.

Option B identifies the minimum actions to maintain the cultural landscape and ensure its continued legacy. Improvements to pedestrian and vehicular circulation provide ABAAS access into Station Dwelling (HS-18) and Harbor of Refuge Dwelling (HS-20).

Rehabilitation projects include the following actions.

Archeological Sites

- Protect known archeological sites.

Spatial Organization / Views

- Preserve contributing spatial organization, views, and formal arrangement of spaces.
- Repair historic views and spatial relationships.

Circulation

- Preserve Canal Street, access drives, and pedestrian routes.
- Repair pedestrian concrete walkways. Modify the alignment of the walkway from Canal Street to the west entrance of Harbor of Refuge Dwelling (HS-20) to match historic walkway width and alignment.
- Modify gravel parking areas to formalize parking and reduce the impact upon the setting. Provide stabilized turf at the south parking area to accommodate overflow parking.
- Provide designated ABAAS parking spaces at Station Dwelling (HS-18), two designated ABAAS parking spaces at Harbor of Refuge Dwelling (HS-20), and two designated ABAAS parking spaces at the north gravel parking area.
- Provide ABAAS access to Station Dwelling (HS-18). Provide a six (6)-foot-wide sidewalk from the one (1) ABAAS parking space to an elevated platform ramp at the main entrance of Station Dwelling (HS-18).
- Provide ABAAS access to Harbor of Refuge Dwelling (HS-20). Provide a six (6)-foot-wide sidewalk from the two (2) ABAAS parking spaces at the south parking area to a ramp with low walls and handrails at the reconstructed west entrance.
- Repair drainage along Canal Street.
- Repair launchway as needed.
- Revegetate dune social trails. Define one route from north parking area to Agate Beach.

Buildings and Structures

- Preserve Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Harbor of Refuge Dwelling (HS-20), and Equipment Building and settings. Provide ABAAS access into Station Dwelling (HS-18) and Harbor of Refuge Dwelling (HS-20).
- Preserve the Outer Range Light, Inner Range Light, and storm warning towers at Station Dwelling (HS-18) and Equipment Building.
- Remove non-contributing shed north of Officer in Charge Dwelling (HS-19).

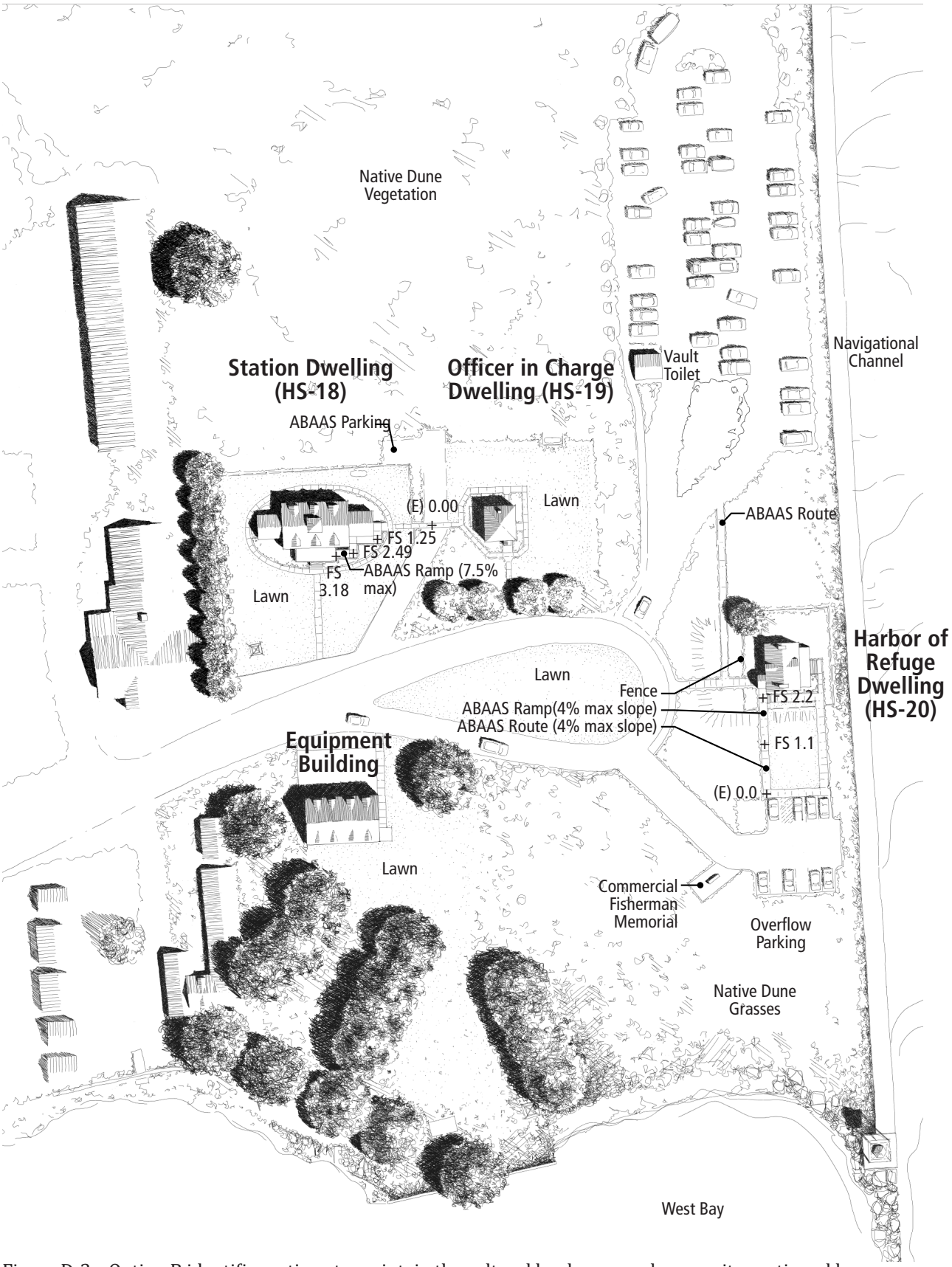


Figure D-3. Option B identifies actions to maintain the cultural landscape and ensure its continued legacy. Improvements would be made to circulation to provide ABAAS access into Station Dwelling (HS-18) and Harbor of Refuge Dwelling (HS-20) (source: Mundus Bishop, 2020).

- Provide an ABAAS accessible vault toilet at the north gravel parking area, sited out of the viewshed of the historic structures.

Small Scale Features

- Repair the concrete curb and wall at Station Dwelling (HS-18).
- Replace non-contributing small scale features such as picnic tables, benches, and fences to match the historic character.
- Remove chain link fence at Officer in Charge Dwelling (HS-19) and Harbor of Refuge Dwelling (HS-20).

Vegetation

- Maintain existing lawn surrounding Station Dwelling (HS-18), Officer in Charge Dwelling (HS-19), and Harbor of Refuge Dwelling (HS-20), and Equipment Building.
- Selectively thin vegetation where it encroaches upon historic views to the water and buildings.
- Preserve and restore perimeter tree plantings.
- Preserve extant trees from the period of significance. Perform pruning and thinning to maintain tree form and health. Replace mature trees when they become hazards or die.
    - Replace the allee of balsam poplar trees to the west of Station Dwelling (HS-18).
- Protect native dune vegetation. Establish clear routes through sensitive ecological areas from north parking area to Agate Beach.

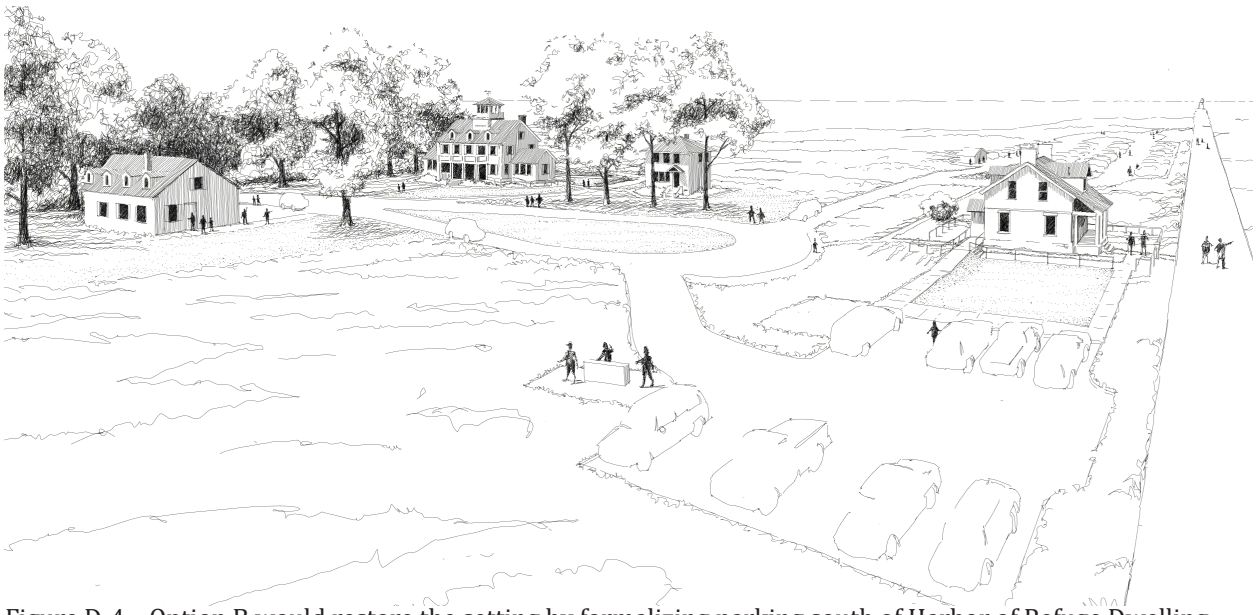


Figure D-4. Option B would restore the setting by formalizing parking south of Harbor of Refuge Dwelling (HS-20). ABAAS parking would be provided at Station Dwelling (HS-18) and Harbor of Refuge Dwelling (HS-20). Ramps of Station Dwelling (HS-18) and to the west of Harbor of Refuge Dwelling (HS-20) would provide ABAAS access to the buildings (source: Mundus Bishop, 2020).

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Cultural Landscape Report

2020