



SAND POINT/MUNISING USCG LIFE SAVING STATION
PICTURED ROCKS NATIONAL LAKESHORE
Cultural Landscape Report and Environmental Assessment

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Public Review Draft



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Chapter 1. Introduction

Introduction

1 This document presents the Cultural
 2 Landscape Report and Environmental
 3 Assessment (CLR/EA) for the Sand Point/
 4 Munising United States Coast Guard (USCG)
 5 Life Saving Station at Pictured Rocks
 6 National Lakeshore (PIRO). This document
 7 is complemented by a Historic Structures
 8 Report (HSR), under separate cover, that
 9 details the development, condition of and
 10 treatment for the significant buildings.
 11
 12 This CLR/EA presents detailed
 13 documentation of Sand Point's historical
 14 development, existing condition and
 15 contributing features, and provides treatment
 16 recommendations that guide the long-
 17 term care and stewardship of the cultural
 18 landscape.
 19
 20 This work builds upon the numerous studies,
 21 investigations and documents that already
 22 exist for Sand Point. These include the 2004
 23 General Management Plan/EIS (GMP),
 24 2003 Resource Management Plan (RMP),
 25 2010 Long Range Interpretive Plan (LRIP),
 26 and 2005 Wildland Fire Management Plan
 27 (WFMP). The 2013 National Register of
 28 Historic Places (NRHP) Multiple Property
 29 Listing for U.S. Government Life Saving
 30 Stations provides a basis for the historical
 31 significance of the landscape and buildings.
 32
 33 The CLR/EA is the primary treatment
 34 document for the cultural landscape, and
 35 is used to guide implementation of the
 36 GMP preferred alternative for landscape
 37 resources. The Sand Point cultural landscape
 38 includes buildings, structures, walks, views,
 39 vegetation and spatial patterns established
 40 by and associated with the USCG. This
 41 document establishes a treatment philosophy
 42 and framework to provide cohesive
 43 recommendations for the cultural landscape.
 44 The CLR/EA establishes recommendations

1 that support operational and visitor use,
 2 enhance resource condition, support
 3 interpretive programming, and streamline
 4 compliance for implementation.
 5

Study Area

7
 8 Pictured Rocks National Lakeshore is on
 9 the south shore of Lake Superior within
 10 Michigan's Upper Peninsula. It features
 11 backcountry and drive-in campgrounds and
 12 trails, miles of sand beaches, and several
 13 maritime navigational sites. Sand Point/
 14 Munising USCG Life Saving Station is just
 15 north of Munising, Michigan (Figure 1-1).
 16 The study area encompasses the historic life
 17 saving station established during the 1930s
 18 by the USCG and covers the 7.11 acre (2.87
 19 hectares) area included in the historic USCG
 20 boundary (Figure 1-2).
 21
 22 Sand Point/Munising USCG Life Saving
 23 Station was established as one of a series of
 24 life saving stations along the shore of Lake
 25 Superior. In the late 19th century the Great
 26 Lakes region was experiencing a period
 27 of economic growth and the lakes were
 28 intensively used for transporting goods. The
 29 Great Lakes, and Lake Superior in particular,
 30 were difficult to navigate due to sudden
 31 storms and ships were forced to hug the
 32 shorelines due to the limitations of early
 33 navigation systems and the frequent need
 34 to re-supply with fuel (generally, cordwood
 35 prior to the Civil War and coal after). The
 36 Sand Point/Munising USCG Life Saving Station
 37 was one of the last life saving stations to be
 38 built on the Great Lakes, with construction
 39 commencing in 1933. From 1933 to 1958 it
 40 was an active life saving station. Changes in
 41 technology beginning in the 1940s led to the
 42 obsolescence of life saving stations including
 43 the Sand Point/Munising USCG Life Saving
 44 Station. It was demobilized in 1946 and
 45 officially decommissioned in 1961.



Figure 1-1. Context Map. Pictured Rocks National Lakeshore preserves 42 miles of the south shore of Lake Superior within Michigan Upper Peninsula between the communities of Munising and Grand Marais. It is significant for the spectacular multicolored sandstone cliffs (Pictured Rocks) that attain a height of almost 200 feet in some locations. Sand Point/Munising USCG Life Saving Station is just north of Munising, accessed by Sand Point Road. (source: Mundus Bishop 2016, Adapted from NPS Map)

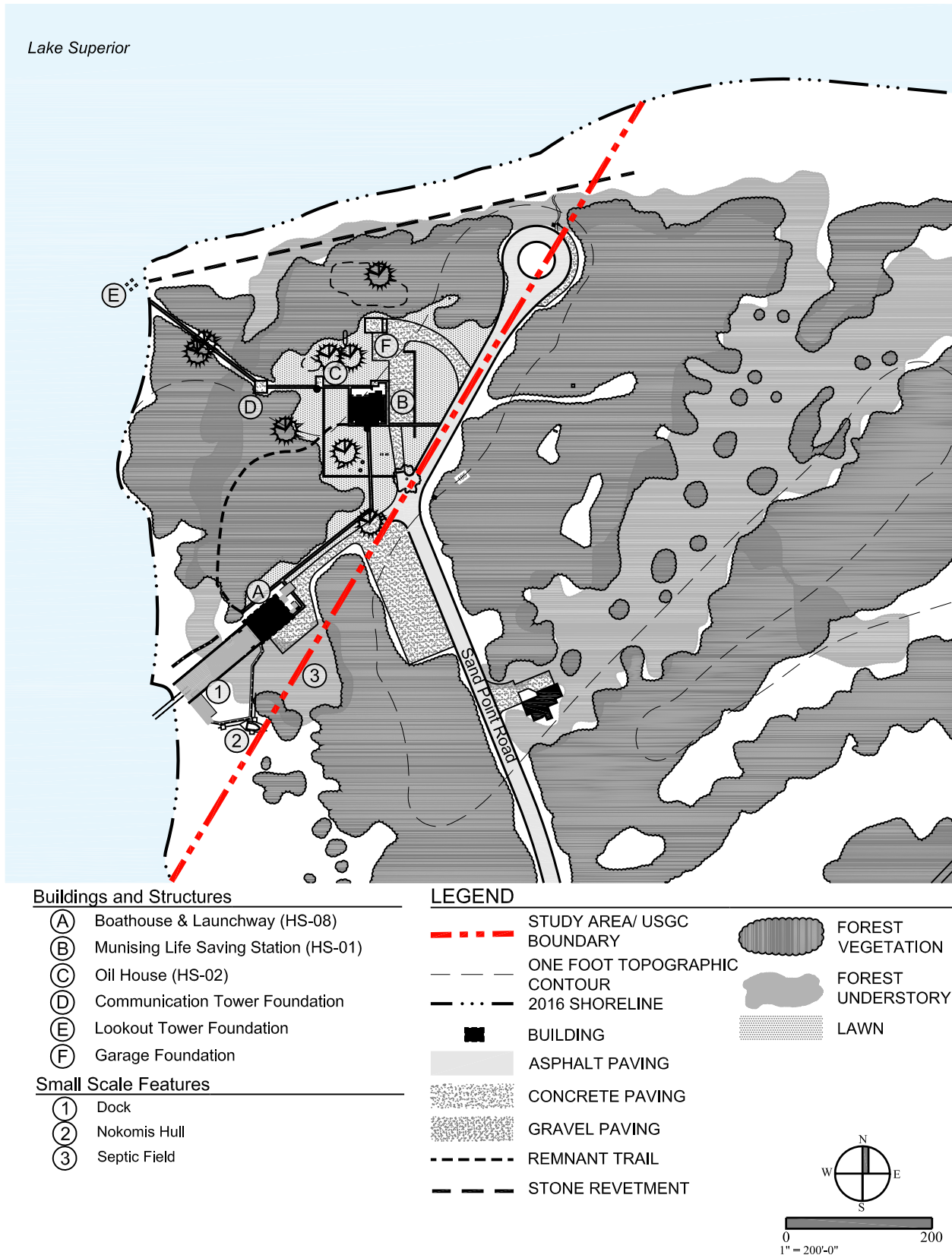


Figure 1-2. Study Area. The Sand Point/Munising USCG Life Saving Station cultural landscape includes buildings, structures, walks, views, vegetation and spatial patterns established by and associated with the USCG. (source: Mundus Bishop 2016)

1 Sand Point/Munising USCG Life Saving Station
2 was developed on the geological formation
3 of Sand Point, a prominent natural feature
4 along the coast of Lake Superior that juts into
5 Munising Bay. The location was ideal for a life
6 saving station due to the 270 degree views
7 of the water and the level, sandy topography.
8 The lookout tower was placed at the end of
9 Sand Point where crew monitored the water.
10 The natural vegetation was maintained sparse
11 and low to provide views to and from the lake.
12
13 The Michigan State Historic Preservation
14 Office determined in 1999 that Sand Point /
15 Munising Life Saving Station is eligible for the
16 NRHP. It is significant under Criterion A due
17 to its association with the maritime heritage
18 of the Upper Great Lakes, and under Criterion
19 C as it represents the final era of life saving
20 station design. Its period of significance of
21 1933 to 1958 reflects its use as a life saving
22 station.
23
24 Features of the cultural landscape include
25 concrete walks and curb, former building
26 foundations, historic vegetation, views,
27 archeological and ethnographic resources,
28 and three historically significant buildings
29 — Munising Life Saving Station (HS-01),
30 Munising Life Saving Station Oil House
31 (Oil House) (HS-02), and Munising Life
32 Saving Station Boathouse and Launchway
33 (Boathouse and Launchway) (HS-08). The
34 Sand Point/Munising USCG Life Saving Station
35 cultural landscape consists of a combination
36 of native woodlands, dune vegetation, lawn
37 and ornamental plantings. A sandy shoreline
38 with a failing revetment borders the study
39 area on three sides. Former keepers' quarters
40 lined Sand Point Road, where ornamental
41 vegetation, remnant foundations and other
42 archeological resources may be present.
43
44 Since the period of significance the cultural
45 landscape has become revegetated, the
46 shoreline has shifted submerging the lookout

1 tower, and walkways have settled into the
2 sand.

3 4 **CLR/EA Purpose and Need**

5
6 Purpose of this CLR/EA is to prepare critical
7 planning and design documents to guide the
8 ultimate treatment for the cultural landscape.
9 In conjunction with the Historic Structure
10 Report (HSR) the CLR/EA will serve as a
11 record of the history of the property including
12 pre-USCG, USCG, and NPS ownership and
13 provide documentation and analysis of
14 features. The two documents will provide
15 guidance on the long-term care of the site.
16 A cohesive treatment for the buildings and
17 cultural landscape will provide guidance
18 for repair and preservation of features that
19 support operational and visitor uses.

20
21 This project will guide the long-term
22 stewardship of the Sand Point/Munising
23 USCG Life Saving Station for the enjoyment
24 of current visitors and future generations
25 by improving cultural resource protection,
26 and providing a cohesive, unified visitor
27 experience.

28
29 Implementing the preferred alternative will
30 meet the following objectives.

- 31
32 • Focus maintenance efforts to maintain
33 conditions of historic buildings and
34 structures;
35
36 • More accurately represent cultural
37 landscape features characteristic between
38 1933 and 1958, when the historic
39 structure was in use as a life saving
40 station;
41
42 • More accurately represent historic
43 clearings and associated viewsheds
44 characteristic between 1933 and 1958,
45 when the historic structure was in use as
46 a life saving station;

- 1 • Provide a high quality (authentic) visitor
2 experience;
- 3
- 4 • Define visitor access and use of the
5 buildings and structures;
- 6
- 7 • Minimize increases to operations and
8 maintenance efforts.
- 9

10 **CLR/EA Need**

11
12 This CLR/EA addresses the need to preserve
13 the Sand Point/Munising USCG Life Saving
14 Station's historically significant structures
15 and features. This document will provide
16 the needed baseline documentation,
17 supplement existing historical data, provide
18 recommendations for future study, and
19 provide guidance for treatment and resource
20 protection.

21
22 This document is needed to record the
23 changes to the cultural landscape over
24 time, transfer knowledge about the cultural
25 landscape, and provide holistic and integrated
26 guidance for the longterm stewardship of
27 the cultural landscape. The document will
28 also be used to connect cultural landscape
29 maintenance to other resource management
30 plans and projects.

31 32 **CLR/EA Objectives**

33
34 The CLR/EA identifies landscape
35 characteristics and features that convey the
36 historical significance and character of the
37 property. The CLR/EA provides a holistic and
38 integrated plan for long-term preservation
39 and stewardship of the cultural landscape and
40 buildings. This report addresses the following
41 objectives.

- 42
- 43 • Perform an accessibility assessment for
44 the Sand Point/Munising USCG Life Saving
45 Station to identify barriers to universal
46 access.

- 1 • Develop treatment alternatives for
2 altering/expanding staff and visitor
3 parking, providing restrooms, and
4 increasing accessible pathways at the site.
- 5
- 6 • Provide support for engaging affiliated
7 tribes to increase knowledge and
8 potential interpretation of the theme
9 of aboriginal use of the area as well as
10 contemporary cultural significance to the
11 Ojibwe people. Very little is known about
12 indigenous use of Sand Point.
- 13
- 14 • Evaluate the need for a kayak launch area.
- 15
- 16 • Provide recommendations on locating
17 a barrier free vault toilet in a manner
18 compatible with the overall treatment
19 approach for the property.
- 20

21 In tandem with this CLR/EA, the HSR will
22 evaluate how the structures are used today
23 and recommend changes if needed. This
24 will include recommendations for building
25 stabilization, repair and maintenance,
26 and code compliance. Refer to the HSR for
27 additional objectives for the buildings.

Methodology

1 The CLR/EA was conducted at a thorough
2 level of investigation and documentation
3 for historical research, existing condition
4 assessment, and landscape analysis. The
5 thorough level research methodology, as
6 defined by the NPS, focused on the use
7 of select documentation of known and
8 presumed relevance, including primary and
9 secondary sources that are readily available.^{1.1}
10
11 The existing condition investigation was
12 conducted according to best practices. A
13 review of readily available documentation
14 was undertaken. It included information
15 from PIRO, Alger County Historical Society,
16 Northern Michigan University, National Park
17 Service's Denver Service Center - Technical
18 Information Center (NPS-TIC), National Park
19 Service's Midwest Archeological Center (NPS-
20 MWAC), and the Records of the 9th Coast
21 Guard District, Cleveland.
22
23 This review included planning documents,
24 administrative reports, technical reports,
25 natural resource studies, and correspondence.
26 Review of historical documentation included
27 historic drawings and photographs, and
28 correspondence from primary and secondary
29 sources. Background data provided by
30 the NPS was used to prepare drawings
31 and illustrations. This included original
32 construction drawings for the Sand Point/
33 Munising USCG Life Saving Station and recent
34 LiDAR information, Great Lakes Network I&M
35 imagery products, supplemented with field
36 observations and measurements.
37
38 Site investigations in June 2016 documented
39 existing conditions. Archeological research
40 focused on review of previous archeological
41 investigations. This CLR/EA did not include
42 any additional archeological investigations.

44 1.1 Page, Robert R., Cathy A. Gilbert, and Susan A. Dolan.
1998. *A Guide to Cultural Landscape Reports: Contents,
Processes and Techniques*. Washington D.C.: National Park
Service.

Park Purpose and Significance

1 PIRO was established in October 1966 by
2 Public Law 89- 668 to "preserve for the
3 benefit, inspiration, education, recreational
4 use, and enjoyment of the public, a significant
5 portion of the diminishing shoreline of the
6 United States and its related geographic
7 and scientific features." PIRO provides
8 access to, and preserves the natural beauty
9 and resources of this region, and provides
10 recreation and enjoyment.
11
12 The purpose of PIRO is to:
13
14 • Preserve a portion of the Great Lakes
15 shoreline for its geographic, scientific,
16 scenic, and historic features.
17
18 • Provide opportunities for public benefit
19 in recreation, education, enjoyment, and
20 inspiration.
21
22 • Protect the character and use of the
23 shoreline zone while allowing economic
24 utilization of the inland buffer zone
25 renewable resources.
26
27 PIRO extends 42 miles along the south shore
28 of Lake Superior between the communities of
29 Munising and Grand Marais. It is significant
30 for the spectacular multicolored sandstone
31 cliffs (Pictured Rocks) that extend about 12
32 miles along Lake Superior in the western
33 portion of PIRO and attain a height of almost
34 200 feet. The eastern portion of PIRO contains
35 the perched Grand Sable Dunes, which rise
36 more than 300 feet above the lake. The dunes,
37 a major park attraction, are a rare occurrence
38 in the Great Lakes region and contain
39 uncommon plant species and communities.^{1.2}
40
41 PIRO is within a day's drive of several
42 major metropolitan areas and offers

44 1.2 PIRO GMP, 3.

1 many recreational attractions. Numerous
 2 picturesque waterfalls cascade over the
 3 Pictured Rocks and the inland escarpment.
 4 Lake Superior and the inland lakes
 5 accommodate boating, fishing, and swimming,
 6 and backcountry areas are ideal for camping
 7 and hiking. PIRO has a variety of cultural
 8 resources that depict the maritime, iron,
 9 logging, and histories of the area. Winter
 10 activities include ice fishing, snowshoeing,
 11 cross-country skiing, and snowmobiling.^{1.3}
 12
 13 The Long-Range Interpretive Plan describes
 14 the significance of PIRO in the following
 15 statements.^{1.4}

- 16
 17 • PIRO affords public access to a
 18 spectacular and diverse segment of the
 19 Lake Superior shoreline.
 20
- 21 • Unmatched in their scenic value, the
 22 200-foot high Pictured Rocks cliffs
 23 rise perpendicular from Lake Superior
 24 creating a mosaic of rock form, color and
 25 texture, enhanced by cascading waterfalls.
 26
- 27 • Five square miles of pristine sand dunes
 28 and their unique plant communities,
 29 perched atop 300- foot sand banks, rise
 30 abruptly at the shore of Lake Superior.
 31
- 32 • Twelve miles of unspoiled and
 33 undeveloped Lake Superior beach
 34 contrast the Pictured Rocks cliffs and
 35 Grand Sable Dunes.
 36
- 37 • Bedrock geology and glacial landforms
 38 create a tapestry of topography marked
 39 by streams, inland lakes and a diversity of
 40 associated vegetation.

43 1.3 PIRO GMP, 3.

44 1.4 PIRO LRIP, 3-6.

- 1 • The shoreline offers extraordinary
 2 and inspirational scenic vistas of Lake
 3 Superior, the largest body of fresh water
 4 on earth.
 5
- 6 • PIRO offers a variety of affordable year
 7 round recreational opportunities for
 8 appropriate public use.
 9
- 10 • Within a distinct area, PIRO contains a
 11 spectrum of cultural resources focused on
 12 the human use of Lake Superior and the
 13 shoreline.
 14
- 15 • Lying in a transition zone between boreal
 16 and eastern hardwood forest, PIRO's
 17 scientifically recognized collection of flora
 18 and fauna is found nowhere else within
 19 the Lake Superior Basin.
 20
- 21 • Pictured Rocks is the only NPS area with a
 22 legislated buffer zone.
 23
 24
 25
 26
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 28
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 44

Management

The study area consists of the Sand Point/Munising USCG Life Saving Station, part of PIRO, managed by the National Park Service (NPS). The management of PIRO is primarily guided by the 2004 GMP, 2003 Resource Management Plan (RMP), 2010 LRIP, and the 2005 WFMP.

The GMP recommends the following actions.

- Expanded opportunities for visitor use by providing additional and more convenient access to significant park features.
- Efforts would continue to restore PIRO to as natural a state as possible, with proposed areas to be designated as Wilderness. Natural ecological processes would be allowed to occur, and restoration programs would be initiated where necessary.^{1.5}
- The GMP recommended NPS operations move from Sand Point and be relocated adjacent to the Munising maintenance facility. If this were to occur, Sand Point would be managed to provide visitors with opportunities to learn about Coast Guard history.
- The Munising Life Saving Station (HS-01) and Boathouse and Launchway (HS-08) would be rehabilitated/preserved to protect the architectural values associated with their period of significance (1933 to 1946, with an emphasis on the 1940s).
- The cultural landscape would be rehabilitated and preserved, to reflect the ambiance and most significant elements of the period of significance. The site would also be actively interpreted.

1.5 PIRO GMP, 3.

- The first floor of the Munising Life Saving Station would be restored to the 1940s Coast Guard era, and the Station, Boathouse and Launchway would be interpreted.^{1.6}

The 2010 LRIP presents a vision for PIRO's interpretive future including recommendations for visitor experience; new interpretive media; and staffing, partnership, and research needs.

- Four topics were identified as primary interpretive themes: change, diversity, protection, and magnificence. The interpretive themes cover the changes to geology and human activity; diversity of natural resources and people; protection of natural and historic resources; and the magnificence of PIRO with its range of breathtaking settings, from magically intimate forest paths to spectacular vistas of the largest, deepest, coldest, and most pristine of the Great Lakes.^{1.7}

- The LRIP recommends seeking funding to significantly expand the museum exhibits in the Sand Point boathouse.^{1.8} The plan recommends new waysides to tell the stories of the U.S. Life Saving Service and U.S. Coast Guard. The narratives could be presented at multiple locations, including Sand Point.^{1.9}

- If administrative offices were moved from Sand Point, the LRIP recommends the former Munising Life Saving Station be refurnished (1940s) on the first floor, with the second floor remodeled for seasonal staff housing. The grounds

1.6 PIRO GMP, 61.

1.7 PIRO LRIP, 3-6.

1.8 PIRO LRIP, 49.

1.9 PIRO LRIP, 54.

would be restored to their 1940s appearance.^{1.10}

The WFMP's overriding goal is restoration or maintenance of the historic scene and the associated cultural resources, while providing for firefighter and public safety, protection of natural, and cultural resources, and human developments from wildfire.^{1.11}

Management Issues

Several management issues were identified at the project outset through PIRO staff, during the existing conditions evaluation, and from the GMP, RMP, and LRIP. Treatment recommendations assist in addressing the following identified management issues.

Protection of Cultural Resources

Several threats to cultural resources from non-contributing features and environmental issues are of concern. The Sand Point cultural landscape has been impacted over time by modifications and natural processes that have diminished its integrity.

The original design of the circulation system was modified in the 1970s and again in the 1990s by the NPS when a road and parking area were formalized adjacent the Munising Life Saving Station (HS-01). The vehicular route was modified which damaged small scale features and changed the circulation patterns.

The functional use patterns of the working Munising Life Saving Station are difficult to discern due to loss of the Communications Tower and Lookout Tower, and dense vegetation in areas previously cleared.

^{1.10} PIRO LRIP, 59.

^{1.11} PIRO WFMP, i.

Deferred maintenance has resulted in vegetation that has become overgrown and ornamental vegetation that has expanded into areas not previously planted. Sidewalks and boardwalks have been damaged due to weathering and erosion, and have not been repaired.

The Launchway is partially covered in sand, and guidance is needed on its preservation or repair.

The shoreline at Sand Point is highly volatile and frequently shifting. Loss of sand at Sand Point has altered the sediment cycle and appearance of the site - although this may be a natural, cyclical occurrence.

Sand Point Shoreline Revetment

Sand Point shoreline revetment was completed between 1989 and 1990. The revetment was installed incorrectly and does not function as designed. It unintentionally disrupted the once open beach landscape.

The effects of the shoreline revetment is being evaluated in a separate EA, currently in draft form. One Revetment EA alternative evaluates replacing the revetment with new material, properly installed. Another alternative evaluates removing the revetment and restoring the sand. Climate models are unclear as to the changes anticipated in lake level and are inconclusive on future flooding of the area.

Vegetation Resources and Management

Vegetation has regrown in places where it was historically cleared. Views to and from the water from the Munising Life Saving Station (HS-01) are no longer apparent. The dense vegetation does not reflect the historic character; however PIRO is concerned about removing vegetation due to the difficulty

1 of re-establishing vegetation on sand and
2 problems with invasive plant species.
3
4 Original or volunteers from original
5 ornamental/planted vegetation remain in
6 some areas, specifically at the row of former
7 keepers' quarters. Plants include common
8 garden species: honeysuckle (*Lonicera spp.*),
9 lilac (*Syringa spp.*), and asparagus (*Asparagus*
10 *officinalis*). These are non-native but have not
11 been problematic. Several original pine trees
12 remain from the earliest development of the
13 site from the 1930s.

14 15 Sensitive Ethnographic and Archeological 16 Resources

17 Archeological sites occur within the study
18 area and future work will be needed to
19 identify and protect these areas. There are
20 known burial sites, however little is known
21 about indigenous use of Sand Point. There is
22 an opportunity to engage affiliated tribes to
23 increase the park's knowledge and potential
24 interpretation of the theme of aboriginal use
25 of the area as well as contemporary cultural
26 significance to the Ojibwe.

27
28 Wildlife Resource and Management
29 Wildlife includes merlins (*Falco columbarius*),
30 peregrines (*Falco peregrinus*), bald eagles
31 (*Haliaeetus leucocephalus*), golden eagles
32 (*Aquila chrysaetos*), sandhill cranes (*Grus*
33 *canadensis*), northern long-eared bats
34 (*Myotis septentrionalis*), and little brown
35 bats (*Myotis lucifugus*). Northern long-eared
36 bats, a threatened/endangered species, may
37 roost in the attic of the Munising Life Saving
38 Station. Little brown bats, which are not
39 currently listed as endangered, also roost in
40 the building. White-Nose Syndrome, a disease
41 caused by fungus and associated with severe
42 bat mortality, has been found in multiple
43 Michigan counties, including Alger County.
44 The disease is a critical issue for all bats, and

1 could lead to more bat species being federally
2 listed as endangered.

3
4 Recreational Kayak Launch and Beach Access
5 The number of visitors is increasing
6 throughout the region, including PIRO and
7 the adjacent National Forest. Individuals and
8 commercial recreational boating operations
9 share parking and access to the water.
10 Parking areas are often full during the busy
11 summer season. Beach use at Sand Point is
12 very popular and kayak use is increasing.
13 Evaluation is needed into the feasibility of
14 incorporating a kayak launch in the general
15 area.

16
17 Commercial kayak operations carpool to the
18 boat launch at Sand Point. This area is heavily
19 used and recommendations are needed on
20 how to best manage visitor use.

21
22 A permanent comfort station is needed within
23 the study area, in addition to the one at the
24 swim beach. A barrier free vault toilet should
25 be incorporated into the cultural landscape
26 in a manner compatible with the treatment
27 approach and recommendations for the
28 property.

29
30 Future Use of the Munising Life Saving Station
31 The Munising Life Saving Station (HS-01) is
32 currently headquarters for PIRO, however the
33 park would like to relocate to a new facility
34 for offices in the long-term. Staffing in the
35 current building is maximized, and the weight
36 of the office on the second floor is a structural
37 issue.

38
39 The building unofficially serves visitors, who
40 enter to use the restroom or stamp their NPS
41 passport. If administrative staff moves out,
42 then the building could be employed for more
43 public and/or interpretive uses.

44

Environmental Assessment

Accessibility and Architectural Barriers

An accessibility assessment for the Munising Life Saving Station (HS-01) is required to identify barriers to universal access. Accessibility is needed for staff and visitor use of the Munising Life Saving Station. The park is required to provide basic accessibility to the main entry, office, and restroom. The Boathouse also requires accessible access and paths need to be modified for accessibility.

The Environmental Assessment (EA) is provided to evaluate potential effects on resources from the proposed treatment alternatives and a no action alternative. This CLR/EA provides the decision-making framework that: 1) analyzes a reasonable range of alternatives to meet objectives of the proposal; 2) evaluates potential issues and impacts to PIRO's resources and values; and 3) identifies mitigation measures to lessen the degree or extent of these impacts.

This EA evaluates in detail impacts to two types of cultural resources - historic structures and cultural landscapes, and two categories of vegetation resources - native vegetation and non-native ornamental and invasive, exotic plant species. Some impact topics were dismissed because the project would result in no more than minor effects. No major effects were identified as a result of implementing the proposed alternatives in an initial analysis of effects.

The public, regulatory agencies, tribal partners, and other stakeholders have had an opportunity to comment on this CLR/EA. Comments received will be considered in the final evaluation of effects.

Scoping

Scoping is an early and open process to determine the breadth of issues and alternatives to be addressed in an EA. Park staff and resource professionals of the NPS Midwest Regional Office conducted internal scoping. This interdisciplinary process defined the purpose and need, identified potential actions to address the need, determined the likely issues and impact topics, and identified the relationship of the proposed action to other planning efforts at PIRO.

1 As part of tribal consultation, scoping letters
2 were sent to federally recognized tribes for
3 consultation with PIRO on September 15,
4 2016, to determine if any ethnographic or
5 other resources are in the project area and
6 to inquire whether local tribes wanted to be
7 involved in the environmental compliance
8 process. The tribes and governments that
9 received letters were:

- 10
- 11 • Bad River Band of Lake Superior Tribe of
 - 12 Ojibwe Indians
 - 13 • Bay Mills Indian Community of Michigan
 - 14 • Fond du Lac Band of Lake Superior
 - 15 Ojibwe
 - 16 • Grand Portage Band of Ojibwe Indians
 - 17 • Keweenaw Bay Indian Community
 - 18 • Lac Courte Oreilles Band of Lake Superior
 - 19 Ojibwe Indians
 - 20 • Lac du Flambeau Band of Lake Superior
 - 21 Ojibwe Indians
 - 22 • Lac Vieux Desert Band of Lake Superior
 - 23 Ojibwe Indians
 - 24 • Red Cliff Band of Lake Superior Ojibwe
 - 25 Indians
- 26

27 The NHPA (16 USC 470 et seq.) requires
28 the consideration of impacts on cultural
29 resources, either listed in or eligible to be
30 listed in, the National Register. Park staff sent
31 a scoping letter to the Michigan SHPO on
32 September 15, 2016 to solicit input on issues
33 of concern. PIRO will continue to consult
34 with the SHPO to determine the effects of
35 the action alternatives on eligible historic
36 resources and to develop mitigation for
37 impacts on historic features, if any, from the
38 preferred alternative.

39

40 In compliance with Section 7 of the
41 Endangered Species Act, PIRO also sent a
42 scoping letter on September 15, 2016 to the
43 U.S. Fish and Wildlife Service (USFWS) to
44 solicit input on issues of concern. As part of
45 formal Section 7 consultation, the NPS will
46 also forward this CLR/EA and NPS' effects

1 determination to the USFWS to determine
2 if they concur with the NPS' findings of
3 effect, and whether additional conservation
4 measures are needed to protect listed species.

6 **Issues and Impact Topics**

7

8 An important part of the decision-making
9 process is seeking to understand the
10 consequences of making one decision
11 over another. This CLR/EA identifies the
12 anticipated impacts of possible actions on
13 certain resources, park visitors, and park
14 staff. The impacts are organized by topic, such
15 as "vegetation" or "cultural resources." Impact
16 topics serve to focus the environmental
17 analysis and ensure the relevance of impact
18 evaluation.

19

20 Impact topics were developed from the
21 questions and comments brought forth
22 during scoping; site conditions; staff
23 knowledge of resources; and any laws,
24 regulations, policies, or orders applicable
25 to the project. Some topics were dismissed
26 from detailed analysis because the resource is
27 not present in the study area or because the
28 treatment alternatives would either have no
29 effect on the impact topic, or the effects would
30 be negligible to minor. Some impact topics
31 were retained even though the effects of the
32 alternatives would be negligible to minor
33 because the impact topic is a particularly
34 sensitive resource, or was identified as an
35 important topic in scoping.

36

37 As a general rule, an issue or impact topic is
38 carried forward for detailed analysis if:

- 39
- 40 • the environmental impacts associated
 - 41 with the issue are central to the proposal
 - 42 or of critical importance;
 - 43
 - 44 • a detailed analysis of environmental
 - 45 impacts related to the issue is necessary
 - 46 to make a reasoned choice between
 - 47 alternatives;

- the environmental impacts associated with the issue are a point of contention among the public or other agencies; or
- there are potentially significant impacts to resources associated with the issue.

Impact Topics Selected for Analysis

The topics evaluated in detail in this CLR/EA are:

- Historic structures;
- Cultural landscapes;
- Vegetation;
- Visual resources;
- Visitor experience;
- Wildlife;
- Park operations.

Impact Topics Dismissed from Further Consideration

According to NPS guidance on preparing Environmental Assessments (EAs), it is not necessary to carry an issue or impact topic forward for detailed analysis simply because a resource is present or is affected. Detailed analysis under each alternative is reserved for significant issues (i.e., pivotal issues or issues of critical importance) that will play a key role in making a decision on selecting a preferred alternative. Other than the retained impact topics previously listed, remaining impact topics were eliminated from consideration because either the resources are not present in the areas proposed for management implementation or because the effects, if any, would be negligible to minor, either with impacts alone or with mitigation measures. Because they are often considered in EAs or were preliminarily identified during scoping and are dismissed in this CLR/EA, reasons for dismissing certain impact topics or issues are summarized below.

Geology and Soils

While geologic resources contribute to the significance of PIRO, the treatment alternatives would have little to no impact on site geology because no subsurface excavation is anticipated to be deep enough to affect important or unusual geologic formations. Any activities proposed on the Sand Point/Munising USCG Life Saving Station would have negligible effects on soils because activities would occur within previously disturbed areas, would not significantly affect the soil profile, and/or would include measures to minimize or avoid changes in soil erosion.

Wetlands

Large-scale vegetation inventory mapping of vegetation communities on Sand Point depicts more than 30 acres of wetland-dominated vegetation communities, including Leatherleaf – Sweetgale Shore Fen, Dogwood – Willow Swamp, and Northern Water-lily Submerged Aquatic Wetland. None of these communities is mapped in the study area. The inventory also depicts about .2 acres of White Pine – Red Maple Swamp occurring in the study area.^{1.12} Although not dominated by wetlands, White Pine – Red Maple Swamp communities may include patches of wetlands in seasonally saturated or poorly draining areas. Small wetlands may also be present in the study area in roadside ditches or depressions in the generally upland White Pine/Blueberry/Dry-Mesic Forest that is the dominant community in the study area.^{1.13} Proposed treatment alternatives would primarily be in developed or disturbed areas or in the dry-mesic forest, although some treatment alternative activities, such as removing sediment from the boat ramp, may impact wetlands if they are present in the

^{1.12} Kevin Hop, Sara Lubinski, and Jennifer Dieck. *National Park Service Vegetation Inventory Program: Pictured Rocks National Lakeshore, Michigan. Natural Resource Report NPS/GLKN/NRR-2010/201*. (Fort Collins, CO: U.S. Department of the Interior, National Park Service 2010).

^{1.13} Hop, Lubinshi, And Dieck, *Vegetation Inventory Program*.

1 sediment. Areas of vegetation that would be
2 impacted by treatment alternative activities
3 would be surveyed for wetlands prior to
4 initiating work. If wetlands were identified
5 within the activity footprint, impacts would
6 be avoided by revising the activity, if possible.
7 If unavoidable impacts would occur because
8 of the activity, NPS would comply with
9 the provisions of Executive Order 11990
10 (Protection of Wetlands), NPS Director's
11 Order #77-1 (Wetland Protection), the Clean
12 Water Act, and state regulations and would
13 minimize impacts as much as practicable.
14 With minimization, unavoidable impacts
15 would have a small effect on wetlands,
16 particularly in the overall context of Sand
17 Point wetlands, so wetlands were dismissed
18 as an impact topic.

19

20 Special Status Species

21 Special status species include species listed
22 as threatened or endangered under the
23 Endangered Species Act and other species
24 considered sensitive by the park, including
25 species listed by the State of Michigan that
26 are either state threatened, endangered,
27 or of special concern. The NPS is aware of
28 federally endangered and threatened species
29 in the park, including northern long-eared bat
30 (*Myotis septentrionalis*) documented on Sand
31 Point.^{1.14} As part of informal consultation with
32 the US Fish and Wildlife Service (see Chapter
33 7) on the presence of listed species in the
34 study area and the potential project effects
35 on the species, the NPS prepared a technical
36 report that evaluated if suitable habitat
37 for listed species is present in and around
38 the study area and whether the proposed
39 treatment alternatives would affect species
40 known to be, or with potential to be, present
41 (under NPS review). Based on the findings

42

43 1.14 Kruger, Laura, and Rolf Peterson. Occurrence of
44 Temperate Bat Species at Three National Parks in the
45 Great Lakes Region. Natural Resource Technical Report
46 NPS/GLKN/NRTR-2008/128. (National Park Service, Fort
Collins, Colorado, 2008).

1 of the technical report, with mitigation
2 measures included in the treatment
3 alternatives, the NPS does not anticipate
4 that any of the proposed alternatives would
5 have more than insignificant or discountable
6 adverse effects on federally listed species.
7 NPS will continue to consult with US Fish and
8 Wildlife Service on effects while finalizing the
9 CLR/EA and selecting an alternative. NPS also
10 determined that, with mitigation measures,
11 adverse impacts to state listed species would
12 be somewhat noticeable and long-term, but
13 not substantial. Because effects on special
14 status species would not be substantial, they
15 are not further evaluated.

16

17 Water Resources

18 The Clean Water Act and NPS Management
19 Policies 2006 direct the NPS to protect park
20 waters and avoid pollution of park waters
21 by human activities. Revegetating disturbed
22 areas and other permanent drainage and
23 erosion-control measures would minimize
24 the potential for short-term adverse effects
25 to water quality. The potential for impacts to
26 water quality from the treatment alternatives
27 would be local, short-term, and minor.

28

29 Floodplains/Coastal Processes

30 Although one of the treatment alternatives
31 includes removing and disposing an
32 estimated 150 cubic yards of sand in the
33 Launchway, the effect on the floodplain would
34 be negligible and the proposed alternatives
35 would not change the floodplain status of
36 areas of the study area mapped as being in the
37 floodplain. The alternatives would also not
38 change the structure, composition, or function
39 of the floodplain. Additionally, none of the
40 proposed alternatives would interfere with or
41 alter natural coastal processes. Because there
42 would be no effect on floodplains or coastal
43 processes, these topics were dismissed from
44 further consideration. While there would be
45 no effect on coastal processes, Sand Point is a
46 State of Michigan Coastal Zone Management

1 Area and the NPS will provide the state with
 2 NPS' Consistency Determination under the
 3 Coastal Zone Management Act (16 United
 4 States Code [U.S.C.] § 146(c) and Code of
 5 Federal Regulations Part 930 Subpart (C) for
 6 the ultimately selected treatment alternative.

8 Indian Trust Resources

9 The federal Indian trust responsibility is
 10 a legally enforceable fiduciary obligation
 11 on the part of the United States to protect
 12 tribal lands, assets, resources, and treaty
 13 rights. Secretarial Order 3175 requires that
 14 any anticipated impacts to Indian trust
 15 resources from a proposed project or action
 16 by Department of the Interior agencies
 17 be explicitly addressed in environmental
 18 documents. The order represents a duty to
 19 carry out the mandates of federal law with
 20 respect to American Indian and Alaska Native
 21 tribes. Because none are present on the
 22 Munising Life Saving Station or Sand Point,
 23 the proposed alternatives would have no
 24 effect on Indian trust resources.

25

26 Ethnographic Resources

27 Ethnographic resources are defined by
 28 the NPS as any "site, subsistence, or other
 29 significance in the cultural system of a group
 30 traditionally associated with it." No specific
 31 issues related to ethnographic resources
 32 have been identified within the boundary
 33 of the study area.^{1.15} Although a previously-
 34 disturbed, 19th century Ojibwe cemetery is
 35 located 200 meters south of the Munising
 36 Life Saving Station (HS-01), it is outside of
 37 the study area and none of the treatment
 38 alternatives include activities at or within
 39 50 meters of this location.^{1.16} Because

40

41 1.15 M. Nieves Zedeno et. al., Traditional Ojibwe Resources
 42 in the Western Great Lakes: An Ethnographic Inventory
 43 in the States of Michigan, Minnesota, and Wisconsin
 44 (Tucson, Arizona: University of Arizona in Tucson Bureau
 45 of Applied Research in Anthropology, prepared for the
 46 National Park Service Midwest Regional Office, 2001).

1.16 Schilling, Timothy. Sand Point Archeological Investigation,
 Trip Report. Unpublished document, MWAC, 2016.

1 ethnographic resources are not known
 2 to occur in the study area, and because
 3 appropriate steps would be taken to
 4 protect any ethnographic resources that are
 5 inadvertently discovered or disclosed during
 6 on-going tribal consultation, ethnographic
 7 resources were dismissed as an impact topic.

8

9 Environmental Justice

10 Executive Order 12898, "General Actions
 11 to Address Environmental Justice in
 12 Minority Populations and Low-Income
 13 Populations" requires all federal agencies
 14 to incorporate environmental justice into
 15 their missions by identifying and addressing
 16 the disproportionately high and/or adverse
 17 human health or environmental effects of
 18 their programs and policies on minorities and
 19 low-income populations and communities.
 20 The proposed treatment alternatives would
 21 have no direct effect on minority or low-
 22 income populations because none are present
 23 on Sand Point and there would be no indirect
 24 effects that would affect minority or low-
 25 income populations outside of PIRO, if any are
 26 present.

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Chapter 2. Site History

Introduction

1 The Sand Point cultural landscape
2 encompasses the 7.11 acres developed
3 by the USCG and the natural landform of
4 Sand Point. The study area was used by the
5 native Ojibwe people for centuries prior to
6 European American settlement. Development
7 by the USCG began in the 1930s with
8 the establishment of a formal pattern of
9 buildings, structures, circulation routes and
10 vegetation that exists today. Established as
11 part of Pictured Rocks National Lakeshore
12 in 1968, portions of the cultural landscape
13 have been modified by the NPS to meet
14 contemporary needs.

15
16 The site history provides a description of
17 the cultural landscape through the use of the
18 area by American Indians, early settlement
19 by European Americans, development by
20 the USCG, and subsequent alterations by
21 the NPS. This includes the construction of
22 the Munising Life Saving Station (HS-01)
23 and Boathouse (HS-08); circulation routes,
24 vegetation, and changes to the shoreline over
25 time.

26
27 This chapter begins with a historical overview
28 of the development of the region and
29 study area. This is followed by a statement
30 of significance describing the historical
31 significance of Sand Point / Munising USCG
32 Life Saving Station, and a description of the
33 period significance of 1932 to 1958.

34
35 This chapter includes four periods of
36 landscape development, from the earliest
37 settlement by American Indians to the
38 present-day. The four periods of development
39 include: 1.) Indigenous occupation to ca.1850;
40 2.) European American Settlement (ca.1850
41 to 1932); 3.) U.S. Coast Guard Development
42 (1933 to 1958); and 4.) NPS Development
43 (1960 to present).

44

Historical Context and Overview

1 Sand Point was a strategic location inhabited
2 for hundreds of years by Anishinaabe-
3 speaking Ojibwe people who camped at
4 various locations around the southern
5 shore of Lake Superior. In particular, there
6 are historical accounts of an Ojibwe village
7 between Munising and Sand Point in the 18th
8 and 19th centuries, where the people fished,
9 hunted, and harvested wild or cultivated rice.
10 An Ojibwe cemetery was located on Sand
11 Point, and remained in active use into the
12 early 20th century.

13

14 While European Americans such as French fur
15 traders had been present in the Upper
16 Peninsula since the 17th century, the first
17 permanent white settlement of the area began
18 in the early to mid 1800s. During the latter
19 decades of the 19th century, a number of
20 industries in the Upper Peninsula drew more
21 settlers to the area. These included logging,
22 iron smelting, and commercial fishing; along
23 with a small tourist industry.

24

25 In 1900, three hundred thousand acres of
26 land in Alger County, including a tract on
27 Sand Point, were purchased by the Cleveland
28 Cliffs Iron Company, the largest independent
29 producer of iron ore in the United States.
30 There is no evidence that, aside from the a
31 proposed silica sand operation, the company
32 logged or otherwise utilized the land it
33 owned at Sand Point. In the early 1930s, the
34 Cleveland Cliffs Company agreed to provide
35 land on Sand Point to the United States Coast
36 Guard for a new station.

37

38 The United States government had been
39 engaged in maritime life saving operations
40 since 1848, when the U.S. Congress
41 appropriated the first funds to build and
42 equip life saving stations on the East Coast.

43

44

Statement of Significance

1 The U.S. Life-Saving Service was officially
2 incorporated as a separate agency in 1878.
3 The first life-saving stations appeared on
4 the Great Lakes in the early 1870s including
5 several on Lake Superior. In 1900 a station
6 was established at Grand Marais. There were
7 also many lighthouses built on Lake Superior
8 in the late 19th and early 20th centuries. At
9 the time the Lighthouse Service was separate
10 from the Life-Saving Service, and it remained
11 so until 1939. In 1915 the Life-Saving Service
12 merged with the Revenue Cutter Service to
13 form the United States Coast Guard.

14
15 Interestingly, the decision to build a Coast
16 Guard Station at Sand Point came at a period
17 when the Coast Guard was in a period of
18 contraction rather than expansion. The Great
19 Depression resulted in reduced funding
20 for the Coast Guard and the service went
21 through a period of reorganization. Fifteen
22 lifeboat stations on the East Coast were
23 decommissioned while construction of Sand
24 Point was underway. Additional closures
25 continued during the 1930s.

26
27 The Sand Point/Munising USCG Life Saving
28 Station was an active station from its
29 construction from 1932 to 1933 until it
30 was decommissioned in 1961. The station
31 personnel were active in local rescues
32 for over two decades before the site was
33 decommissioned, however they rarely
34 participated in any high-profile rescue
35 operations.

36
37 Following the station's decommissioning,
38 the property reverted to the Cleveland Cliffs
39 Iron Company, who donated it to the City of
40 Munising. In turn, in 1968 the City deeded
41 the land and station buildings to the National
42 Park Service following the establishment of
43 the Pictured Rocks National Lakeshore. The
44 NPS continues to use the station buildings
45 and landscape for administration and
46 interpretive purposes.

1 The Sand Point/Munising USCG Life Saving
2 Station has not been listed in the National
3 Register of Historic Places (NRHP), or on
4 any local or state listings of historic places.
5 Other Life Saving/Coast Guard stations in
6 Michigan previously listed either as individual
7 structures or as contributing to a district
8 include Sleeping Bear Point Life Saving
9 Station (built 1901, designated 1979), South
10 Manitou Island Life Saving Station (built
11 1901, designated 1983), North Manitou
12 Island Life Saving Station (built 1875,
13 designated 1998), and Pointe aux Barques
14 Life Saving Station (built 1876, designated
15 1995). The scope of work for this project
16 notes that the station was determined eligible
17 for listing in 1999 under Criterion A due to its
18 association with the maritime heritage of the
19 Upper Great Lakes, and under Criterion C, as
20 it represents the final era of life saving station
21 design. Pursuit of National Register listing is a
22 stated internal National Park Service goal, but
23 not part of the current project.

24
25 Sand Point/Munising Life Saving Station is
26 potentially eligible for listing in the NRHP
27 under the "U.S. Government life saving
28 Stations, Houses of Refuge, and Pre-1950
29 U.S. Coast Guard Lifeboat Stations" Multiple
30 Property Documentation Form (MPDF).
31 Under this MPDF, certified by the Keeper of
32 the National Register in 2013, Sand Point/
33 Munising Life Saving Station meets the
34 requirements for listing.

35
36 Built in 1932 to 1933 on Sand Point, east of
37 Munising, Michigan, Sand Point/Munising
38 USCG Life Saving Station is an example of
39 the station complex property type where
40 the living quarters, boat storage and other
41 functions were dispersed in multiple
42 dwellings around the property. This property
43 type replaced the earlier integrated station
44 type (in which living quarters and boat
45 storage were in the same building) in the

1 early 20th century when the Coast Guard
 2 began using larger and heavier boats and
 3 required more storage that could not
 4 be accommodated in a single building.
 5 Typical elements of the station complex
 6 type represented at Sand Point/Munising
 7 Life Saving Station were a boathouse with
 8 launchway, living quarters, lookout station,
 9 flagpole, and miscellaneous outbuildings such
 10 as a garage and oil house.

11
 12 The Coast Guard selected station locations
 13 based on a number of factors. These
 14 included proximity to areas that would make
 15 navigation in a particular area dangerous
 16 (shoals, rocks, currents), ease of access to the
 17 water and visibility from the water, position
 18 relative to coverage by other stations, and
 19 degree of protection from storms and other
 20 weather factors. A good station would have
 21 a slightly elevated area where the personnel
 22 in the station could easily see the water and
 23 where the buildings would be somewhat
 24 protected from storms and high water, as
 25 well as a level area near the water where the
 26 station boats could be quickly launched from
 27 a separate boathouse. Sand Point/Munising
 28 USCG Life Saving Station was built midway
 29 along the southern Lake Superior shoreline
 30 between existing stations at Marquette to the
 31 west and Grand Marais to the east. Its location
 32 along the east side of South Bay across from
 33 Grand Island meant it was relatively protected
 34 from the notorious fury of Lake Superior, but
 35 still closer to the open water than the main
 36 part of Munising. The siting of the boathouse
 37 on the south side of the point provided
 38 further protection, while the relatively
 39 elevated location of the living quarters gave it
 40 good visibility toward the lake, augmented by
 41 the watchtower west of the quarters.

42
 43 Coast Guard stations were organized by a
 44 naval structure with its personnel serving in
 45 various ranks. The military-style operation

1 of a station (as opposed to the more family-
 2 oriented Lighthouse Service) resulted in
 3 specific elements such as barracks-style
 4 rooms in the living quarters, mess halls rather
 5 than dining rooms, and separate quarters
 6 including a bedroom and office for the officer
 7 in charge. In addition to their regular life-
 8 saving drills, crews were required to perform
 9 most of the maintenance and upkeep of
 10 the station. Station facilities were regularly
 11 inspected by the commanding officer and by
 12 district inspectors. This included maintenance
 13 of the station's landscape to present a "ship-
 14 shape" appearance. This meant the vegetation
 15 did not block sightlines and crew could easily
 16 access the boathouse and other storage
 17 facilities in an emergency (again, contrasted
 18 to the more domestic character of the
 19 landscape at civilian light stations during this
 20 same period).

21
 22 From its establishment in the 1870s, the
 23 Life-Saving Service/Coast Guard utilized
 24 standard designs for its station buildings. This
 25 practice, implemented first in the Lighthouse
 26 Service in the 1850s, made it more efficient
 27 and less expensive to construct stations even
 28 in remote locations. The service utilized a
 29 series of standard designs throughout the late
 30 19th and early to mid 20th centuries. Sand
 31 Point/Munising USCG Life Saving Station is
 32 an excellent example of the Chatham design,
 33 created in 1914, just before the establishment
 34 of the Coast Guard, and popular into the
 35 mid to late 1940s. At least 30 stations
 36 around the country were built to this design,
 37 characterized by a symmetrical, two-story
 38 living quarters with minimal trim and
 39 typically painted standard Coast Guard colors
 40 of white with a red shingle roof and trim.
 41 This design exhibited some minor variations,
 42 typically at the roofline. Sand Point/Munising
 43 USCG Life Saving Station has a "kick" at the
 44 base of the first floor that was an interesting
 45 variation of the typical Chatham design.

1 Sand Point/Munising USCG Life Saving
2 Station is significant under National
3 Register Criterion A, at the local level, for
4 its association with the history of maritime
5 transportation and life saving activities
6 on Lake Superior. Although built when the
7 Coast Guard was in a period of contraction
8 following the Great Depression, the need for a
9 station at Sand Point reflected the continued
10 importance of shipping on Lake Superior
11 during this period, and the continued
12 dangers posed by the often uncertain marine
13 conditions on the massive lake. While the
14 crew at Sand Point only participated in a few
15 notable rescues, the logs reflect the day-to-
16 day importance of their less well-known
17 duties — rescuing fishermen, pleasure
18 boaters, and other mariners who fell into
19 harm's way on the lake. The occupation of the
20 Sand Point Station was short, only 25 years,
21 due to improvements in technology that
22 made boats safer and gave individual stations
23 greater range. However, during that period,
24 the station served an important function in
25 the Munising area.

26
27 Sand Point/Munising USCG Life Saving
28 Station is significant under National Register
29 Criterion C for embodying the distinctive
30 characteristics of the station complex style
31 of landscape design and the Chatham style
32 of architecture, both standard designs
33 of the Coast Guard during the early 20th
34 century. The station retains integrity overall,
35 with some minor impacts. It has integrity
36 of location, design, setting, materials,
37 workmanship, feeling, and association. The
38 most significant impacts to integrity are
39 the loss of the watch tower and some other
40 minor associated features. The cultural
41 landscape has also been impacted by beach
42 fluctuations, previous attempts to stabilize
43 the shoreline, and reduction of visibility due
44 to the subsequent overgrowth of trees and
45 vegetation. The cultural landscape around

1 the living quarters has integrity and retains
2 the crucial functional connection to the
3 boathouse, a character-defining feature of
4 life saving stations. The buildings in general
5 retain most of their historic materials, and
6 replacement materials have generally been
7 in kind. A few minor alterations adapted
8 the living quarters to office use and the
9 installation of exhibits and storage in the
10 boathouse, but these have generally been
11 compatible and have minimally impacted
12 integrity.

13
14 The period of significance for Sand Point/
15 Munising USCG Life Saving Station is 1932
16 to 1958, the period during which it was an
17 active Coast Guard facility. This reflects the
18 significant associations of the property with
19 the Coast Guard's life saving operations and
20 its architectural significance as a exemplar of
21 life saving station design.

Periods of Landscape Development

- 1 Four periods of landscape development
- 2 describe the physical evolution of the
- 3 Sand Point cultural landscape from the
- 4 earliest use of the area by American Indian
- 5 groups through present-day.
- 6
- 7 The beginning and end of each period
- 8 corresponds to and documents, points
- 9 of major physical change in the cultural
- 10 landscape of Sand Point.
- 11
- 12 • Indigenous occupation to ca.1850
- 13
- 14 • European American Settlement (ca.1850
- 15 to 1932)
- 16
- 17 • U.S. Coast Guard Development (1933 to
- 18 1958)
- 19
- 20 • NPS Development (1960 to present)
- 21
- 22 The following narrative text, photographs,
- 23 drawings, and illustrations describe
- 24 each period of landscape development.
- 25 Introductory paragraphs provide an overview
- 26 of how the cultural landscape appeared
- 27 during that period of development.
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Figure 2-1. Old Sand Point Cemetery. The cemetery was actively cared for by the Ojibwe ca. 1886. (source: Keweenaw NHP, Lake Superior Collection Management Center)

1 Indigenous Occupation to ca.1850

2
3 The early landscape of Sand Point provided an
4 easy resting place for American Indians who
5 traveled by canoe on Lake Superior. Part of a
6 larger village, settlement on Sand Point was
7 seasonal. A cemetery was established near
8 the point as early as the mid-1800s. Early
9 photographs and sketches show a landscape
10 dominated by sandy dunes, and interspersed
11 with tall groves of conifer trees.

12

13 3,000 to 1,000 BP

14 During the Late Archaic period, the northern
15 forests changed from a predominantly mesic
16 ecosystem to boreal forest ecosystems and
17 to northern hardwoods forest ecosystems.
18 American Indians in the Great Lakes forest
19 region were organized in small hunting and
20 gathering bands but showed sedentism,
21 agricultural specialization, and long distance
22 trade in some regions, such as the lower
23 peninsula of Michigan.^{2.1}

24

25 1150 AD to 1450 AD

26 Research suggests that the geologic formation
27 of Sand Point was formed between 500 to 800
28 years ago.^{2.2}

29

30 1400 to 1600

31 The Ojibwe, Potawatomis and/or Ottawas,
32 may have resided in the Sand Point area
33 during the Juntunen phase of the late
34 Woodland period, ca. AD 1400-1600.^{2.3}
35 During this time, the seasonal village complex
36 gave rise to the lakeshore fishery complex
37 along the lakes. Mixed crop farming extended
38 further inland to include wetland areas. It was
39 in this age of increased specialization that
40 the Anishinaabe peoples (ancestral or proto-
41 Ojibwe) migrated into the region.^{2.4}

42

43 2.1 Zedeno, et. al., *Traditional Ojibwe Resources*, 27.

44 2.2 Fisher, Timothy G. et al., Coastal geology and recent
45 origins for Sand Point, Lake Superior, *Papers in the Earth
and Atmospheric Sciences*. Paper 418. 2014, 24.

46 2.3 Zedeno, et. al., *Traditional Ojibwe Resources*, 26.

2.4 Zedeno, et. al., *Traditional Ojibwe Resources*, 27.

1 In the 17th century French fur trappers
2 arrived in the Great Lakes region. The first
3 written reports appear at this time. Trade
4 between the trappers and the Ojibwe became
5 an important source of food for the French
6 and goods such as guns, tobacco, and textiles
7 for the Ojibwe.^{2.5}

8

9 1600 to ca. 1850

10 Sandy beaches, coves and sheltered bays
11 located intermittently along the southern
12 shore of Lake Superior were choice camping
13 places for Ojibwe parties traveling by canoe.
14 These natural features offered dry ground
15 and protection from the elements, as well as
16 places to gather wild rice and hunt.^{2.6}

17

18 Sand Point was a strategic location for the
19 Ojibwe who camped at various locations
20 around the southern shore of Lake Superior.
21 The aboriginal population had three
22 connected villages referred to as the South
23 Bay. This included villages at Bay Furnace,
24 Sand Point, and Grand Island. The villages of
25 the South Bay were connected through the
26 annual subsistence and ceremonial cycles.

27

28 A single band of Ojibwe could be as large as
29 600 people consisting of around 30 families
30 or clans, 20 persons each. These clans each
31 had a symbolic animal which represented its
32 collective identity and talents. The main clans
33 were the crane, catfish, bear, martin, wolf and
34 loon.^{2.7}

35

36 Typically, beginning in the summer bands
37 would unite at a large seasonal village along
38 the coasts: they would fish for sturgeon,
39 plant vegetable gardens, plant and harvest
40 wild rice and gather seasonal berries and
41 mushrooms.^{2.8} At the end of the summer
42 months, the tribe would begin drying and

43

44 2.5 Levine, Michelle. *The Ojibwe*. Lerner Publications, 2007.

45 2.6 Zedeno, et. al., *Traditional Ojibwe Resources*, 72.

46 2.7 Levine, Michelle. *The Ojibwe*. Lerner Publications, 2007.

2.8 Levine, Michelle. *The Ojibwe*. Lerner Publications, 2007.



1 storing food and prepare to move to winter
 2 camps. Fishing was a prominent activity this
 3 time of year. After inventories were made and
 4 transportation made ready, the band would
 5 disperse into family units and move to winter
 6 camps. The Ojibwe built wigwams, meat
 7 drying racks, and tanned hides and mended
 8 and sewed clothing. Men hunted large game
 9 and waterfowl in the winter months. At the
 10 advent of spring the Ojibwe moved to maple
 11 sugar camps such as those found on Grand
 12 Island. They would also hook and line fish,
 13 gather cedar bark which was used for a
 14 variety of objects and tools. As the seasons
 15 changed, the Ojibwe would move to their
 16 summer garden camps along the lakeshore
 17 and begin the annual cycle again.^{2.9}

18
 19 Grand Island and Munising bay were rich
 20 natural areas necessitating less travel than
 21 other areas in the Lake Superior region. A
 22 wealth of plant and animal resources made
 23 this area ideal for year-round settlement. The
 24 swampy grounds south of Sand Point were
 25 an important source for rice, both wild and
 26 cultivated.

27
 28 Places at and near the South Bay were
 29 connected through kinship and family
 30 ties, and ceremonies conducted at these
 31 locations. Ceremonies were held at solstices
 32 and equinoxes as well as during times of
 33 gathering.

34
 35 While European Americans such as French fur
 36 traders had been present in the Upper
 37 Peninsula since the 17th century, the first
 38 permanent white settlement of the area began
 39 in the early to mid 1800s. During the latter
 40 decades of the 19th century, a number of
 41 industries in the Upper Peninsula drew more
 42 settlers to the area. These included logging,
 43 iron smelting, and commercial fishing; along
 44 with a small tourist industry. Ojibwe people

45
 46 2.9 Levine, Michelle. *The Ojibwe*. Lerner Publications, 2007.

1 continued to occupy this area through out
 2 that time, engaging in trade and negotiating
 3 for their rights to the land and their historic
 4 use of it through treaties.

5
 6 ca. 1850

7 The Ojibwe established a cemetery at Sand
 8 Point, which was actively cared for by the
 9 Ojibwe in ca. 1886. It contained burials of
 10 non-Ojibwe fishermen from Powell Point as
 11 well as older Ojibwe burials.^{2.10}

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 46 2.10 Zedeno, et. al., *Traditional Ojibwe Resources*, 128, 153-55.

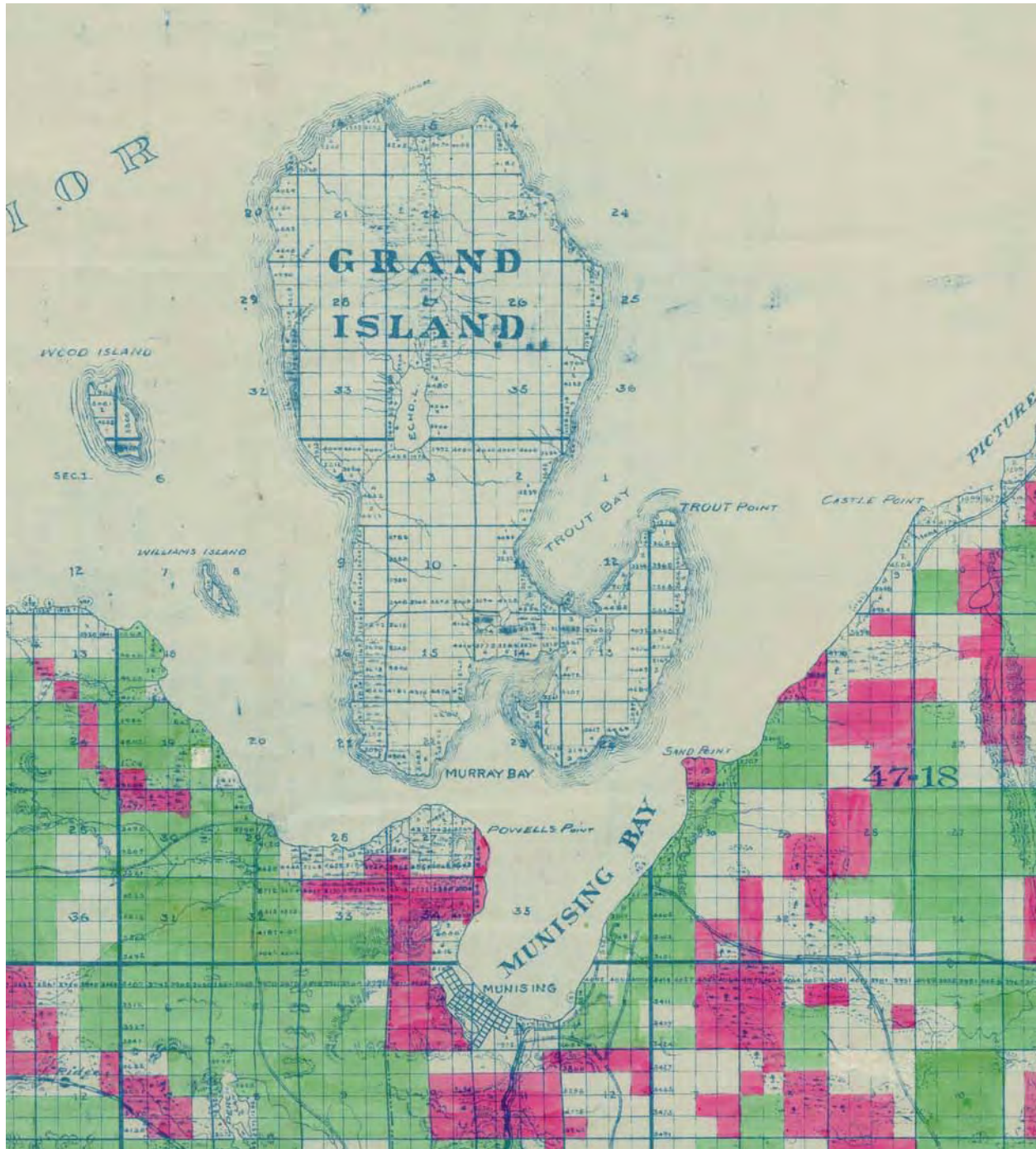


Figure 2-3. Land owned by mining companies in the mid-Upper Peninsula. The pink denotes land owned by the Cleveland Cliffs Iron Co, green for the Munising Company. (source: "Land Owned by Mining Companies in the mid-Upper Peninsula," 1913, Archives of Michigan.)

1 European American Settlement

2 (ca.1850 to 1932)

3
4 Pictured Rocks became well-known for its
5 scenic qualities soon after the first European
6 Americans arrived in the region. The natural
7 resources brought settlers who established
8 logging and mining communities nearby. Sand
9 Point was acquired by the Cleveland Cliffs
10 Iron Company, who planned to clear cut the
11 timber and open a silica sand mine. However
12 it appears that their plans were never
13 realized.

14

15 1850

16 Munising town site was platted but never
17 developed.^{2.11}

18

19 1867

20 Munising Township organized.^{2.12} Logging,
21 iron smelting, agriculture, commercial fishing,
22 and tourism were all important industries
23 in the late 19th and early 20th centuries. No
24 evidence was found to suggest there were
25 logging or fishing camps on Sand Point.

26

27 1870s

28 United States Life Saving Service was
29 established. The first life saving stations
30 opened on Lake Superior.^{2.13}

31

32 1880s, ca.

33 Sand Point used for Methodist camp meetings
34 as well as seasonal Ojibwe camps.

35

36 1885

37 Alger County was formed from Schoolcraft
38 County.^{2.14}

39

40

41 2.11 Charles A. Symon, Ed., *Alger County: A Centennial History, 1885-1985* (Munising, MI: Alger County Historical Society, 1986), 154.

43 2.12 Symon, *Alger County: A Centennial History*, 6.

44 2.13 Frederick Stonehouse, *Historic Resource Study, Pictured Rocks National Lakeshore, Michigan* (National Park Service 1981), 2.

46 2.14 Symon, *Alger County: A Centennial History*, 8.

1 1895/ 1896

2 Ground was cleared for a town site and
3 Munising was founded. A large number of
4 sawmills were part of the town in its early
5 years.^{2.15}

6

7 1900

8 Cleveland Cliffs Iron Company purchased
9 300,000 acres in Alger County. They planned
10 to clear cut the land for timber and sell the
11 cleared land for agriculture.^{2.16}

12

13 Grand Marais Life Saving Station opened.

14

15 1905

16 An article in the Marquette Daily Mining
17 Journal in September 1905 described
18 active burials at the Sand Point cemetery by
19 Ojibwe.^{2.17}

20

21 1909

22 Munising Range Lights were put into regular
23 service.^{2.18} They replaced the ineffective Grand
24 Island East Channel Light to guide vessels
25 safely into the Munising harbor.

26

27 1915

28 The U.S. Life Saving Service merges with the
29 Revenue Cutter Service to form the United
30 States Coast Guard.

31

32 1929 to 1933

33 Economic decline connected to the stock
34 market crash and Great Depression lead to
35 reductions in federal expenditures and the
36 reorganization of the Coast Guard for more
37 efficiency. Funding for life saving operations
38 was reduced and 15 lifeboat stations were

39

40 2.15 Symon, *Alger County: A Centennial History*, 155.

41 2.16 Institute for Community Development, *The Proposed Pictured Rocks National Lakeshore: An Economic Study* (National Park Service, 1963), 7. The ownership of the property prior to Cleveland Cliffs' purchase was not found during research.

44 2.17 Cited in Stonehouse, *Historic Resource Study*, 1.

45 2.18 Stonehouse, *Historic Resource Study*, 99.

46

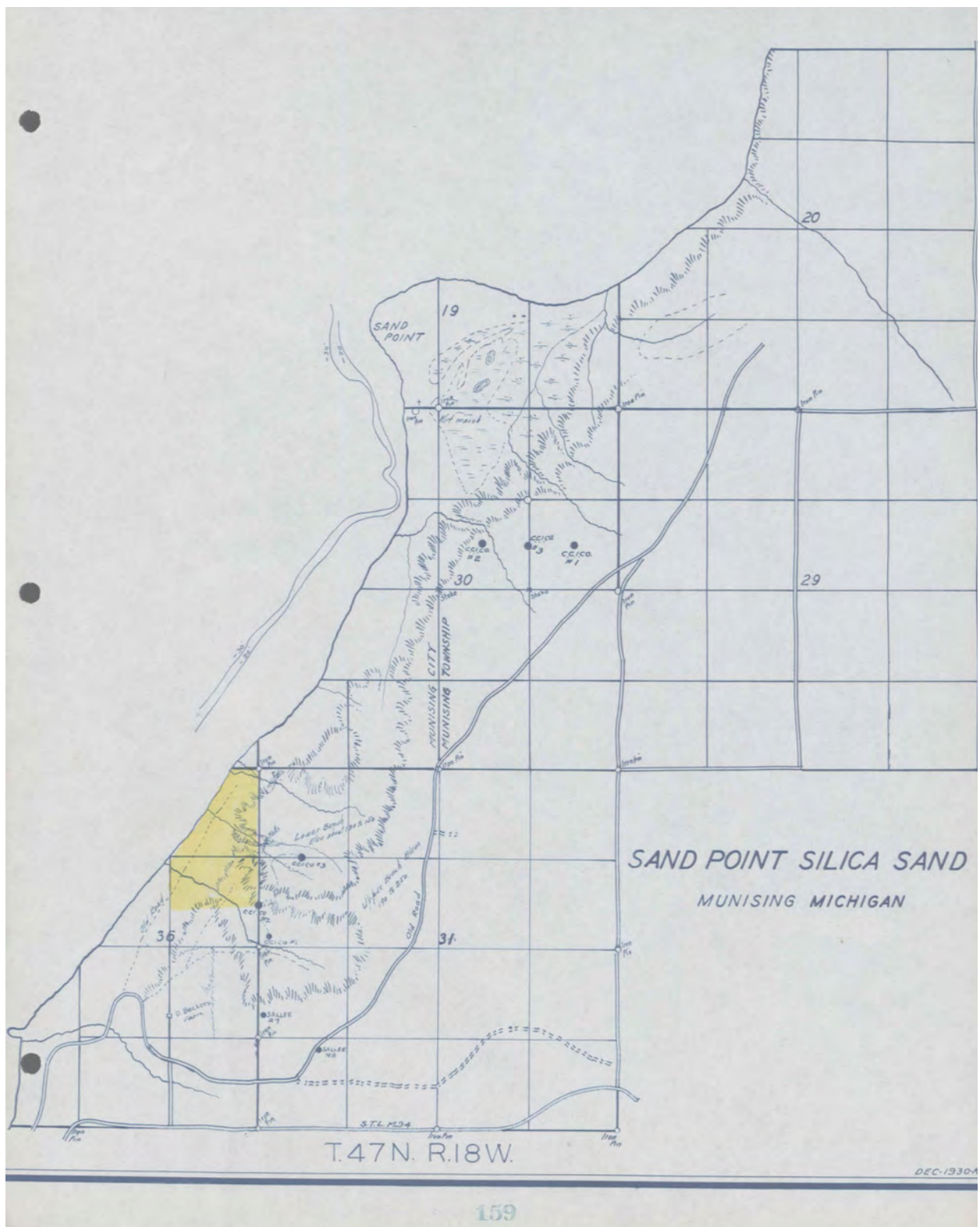


Figure 2-4. Plat map depicting proposed silica sand facility at Sand Point from the 1931 report. Prepared by R.A. Brotherton for the Cleveland Cliffs Company (source: PIRO Archives)

1 deactivated in 1933, mostly on the East Coast,
 2 with more closures into the late 1930s.^{2.19}
 3
 4 1931
 5 Cleveland Cliffs Company investigated
 6 opening a silica sand plant near Sand Point.
 7 In his report, R. A. Brotherton recommended
 8 subdividing the section and setting corners,
 9 as well as running contours on the land from
 10 which the sand would be mined (Figure
 11 2-4).^{2.20}
 12
 13 1932
 14 May 2: Cleveland Cliffs Company annual
 15 report noted Conveyance number 5049, dated
 16 May 2, 1932, to the United States of America
 17 for \$1 (Figure 2-5). The remarks column
 18 stated "Coast Guard Station site. Nominal
 19 charge. Expect this will be paid in 1933.
 20 Invoice rendered August 15, 1932." Payment
 21 not noted in subsequent annual reports.^{2.21}
 22 The quit claim deed notes: "For Coast Guard
 23 Station, in case same is not used for such
 24 purpose for 2 yrs said lot to revert to first
 25 party with all buildings thereon."^{2.22}
 26
 27 May 6: The Marquette Daily Mining Journal
 28 reported the federal government sent bids out
 29 for the construction of the new Coast Guard
 30 Station the previous day. Congressman [Frank
 31 P.] Bohn had secured an appropriation of
 32 \$60,000 for the station, which was originally
 33 planned for Grand Island. Sand Point was
 34 instead selected as a better location. It noted
 35 that the station would be erected "at the base
 36
 37 2.19 Daniel Koski-Karell, Ph.D. et. al. *National Register of*
 38 *Historic Places Multiple Property Documentation Form for*
 39 *U.S. Government Life Saving Stations, Houses of Refuge and*
 40 *pre-1950 U.S. Coast Guard Lifeboat Stations* (National Park
 41 Service, 2013), E-14.
 42 2.20 "Cleveland Cliffs Iron Company Land Records, Subseries
 43 2: Agents Annual Reports of the Land Department
 44 1904-1942, Land Department Report for the Year Ending
 45 December 31, 1931". Central Upper Peninsula and
 46 Northern Michigan University Archives. Accessed June
 2016. <http://archives.nmu.edu/ci/Land.html>. 114-5.
 2.21 "Cleveland Cliffs Iron Company Land Records," 135.
 2.22 Transcription of Quit Claim Deed in PIRO Lands Files, Box
 13, Folder 144.

1 of the point near the old Ojibwe cemetery."^{2.23}
 2 On the same day, the Munising News ran a
 3 similar story, noting that local contractors
 4 George Leiphart and William Muffett had
 5 received the invitation to bid. This article also
 6 notes that there were no definite plans for
 7 construction of a roadway to the station.^{2.24}
 8
 9 May 25: Bids were submitted for the Live
 10 Saving Station. They called for a "two-story
 11 frame dwelling, 30 feet by 45 feet, with
 12 concrete foundations; a one-story frame
 13 boathouse, 37 feet by 55 feet, with creosoted
 14 pile foundation; a creosoted wood pile and
 15 timber marine launchway, 32 feet by 128 feet;
 16 two creosoted pile and timber bulkheads,
 17 each 129 feet long; and a creosoted timber
 18 and pile landing wharf, 10 feet by 40 feet;
 19 together with all necessary excavation,
 20 grading, dredging, etc." Forty bid invitations
 21 were sent out, with fifteen returned, ranging
 22 from \$42,230 to \$26,750.^{2.25}
 23
 24 June 3: G. A. Gustafson of Iron Mountain was
 25 awarded the construction contract for the
 26 station. Gustafson was the low bid at \$26,700.
 27 Fifteen other bidders from around the region
 28 (as far as Chicago) sent in bids up to \$42,230.
 29 Gustafson had also recently been awarded
 30 a contract to construct a concrete highway
 31 bridge over the Au Train river.^{2.26}
 32
 33 June 6: "Munising Coast Guard Station"
 34 officially designated by the Coast Guard.^{2.27}
 35
 36 July 29: Construction began on the station
 37 with the landing of a scow and equipment by
 38 Anderson and Meade of Marquette, who were
 39
 40 2.23 "New Coast Guard Station Approved," *The Daily Mining*
 41 *Journal*, May 6, 1932, 4.
 42 2.24 "Ask Bids on Coast Guard Station," *The Munising News*,
 43 May 6, 1932, 1.
 44 2.25 *Munising U.S.C.G. Station, Pictured Rocks National*
 45 *Lakeshore*. U.S. Department of the Interior, National Park
 46 Service.
 2.26 "Gustafson Low on Station Job," *The Munising News*, June
 3, 1932, 1.
 2.27 *Munising USCG Station Pamphlet*.

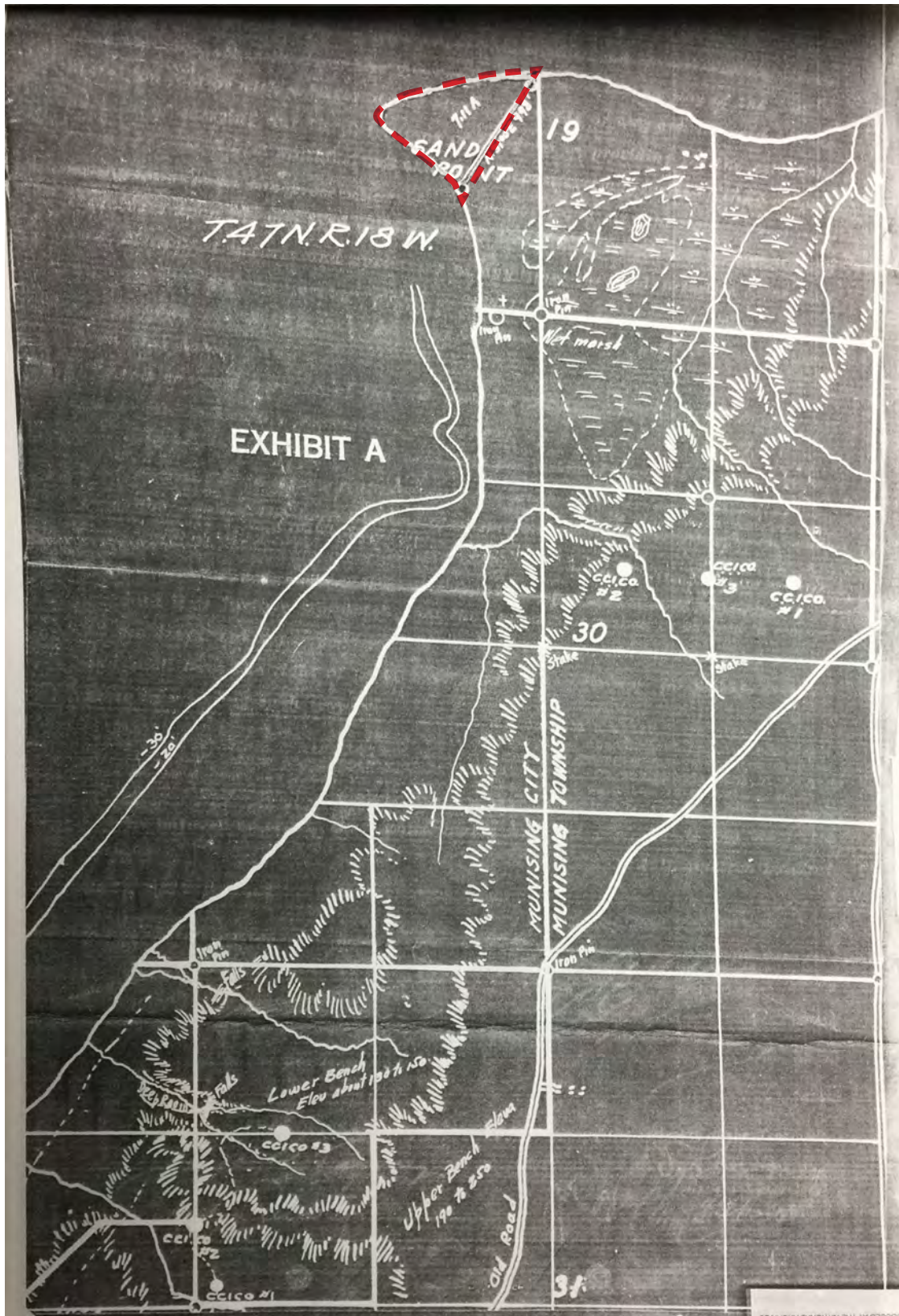


Figure 2-5. Map illustrating portion of land set aside for the U.S. Coast Guard Station, 1932. The 7.11 acre plot encompassed the tip of Sand Point. (source: PIRO Archives)

1 subcontracted for the pile driving and marine
 2 work. The crew began dredging out a spot
 3 near the shore for unloading materials.^{2.28}

4
 5 August 17: A 7.11 acre plot at Sand Point
 6 was acquired from the Cleveland Cliffs
 7 Iron Company for \$1.00. This is the date of
 8 record.^{2.29}

9
 10 The Lookout Tower and watch house
 11 were manufactured by McClintic-Marshall
 12 Corporation of Bethlehem, PA. It was one
 13 of eight, total cost for all eight was \$2,092.
 14 Contractor F. A. Hunnelwell erected it for
 15 \$865.80.^{2.30}

16
 17 Fall: Survey for the Sand Point Road was
 18 undertaken by the Cleveland Cliffs Company.
 19 It passed over land being considered for the
 20 silica sand project.^{2.31}

21
 22 December: Work on the road to Sand Point
 23 was halted because there was a question as
 24 to whether the federal government or the city
 25 would pay for it. The right of way for the road
 26 had been cleared but none of the “grading,
 27 grubbing, and gravelling” had been done.^{2.32}

28
 29 Construction of the station was delayed due
 30 to a shortage of yellow pine lumber for the
 31 boathouse.^{2.33}

32

33

34

35

36

37

38

39

40 2.28 “Scow Arrives at Sand Point to Make Ready,” *The Munising*
 41 *News*, July 29, 1932, 1.

42 2.29 *Munising USCG Station Pamphlet*

43 2.30 *Munising USCG Station Pamphlet*

44 2.31 “Cleveland Cliffs Iron Company Land Records,” 127.

45 2.32 “Halt Work on New Road to Station,” *The Munising News*,
 December 2, 1932, 1.

46 2.33 “New Guard Station,” *Ironwood Daily Globe*, December 7,
 1932, 6.

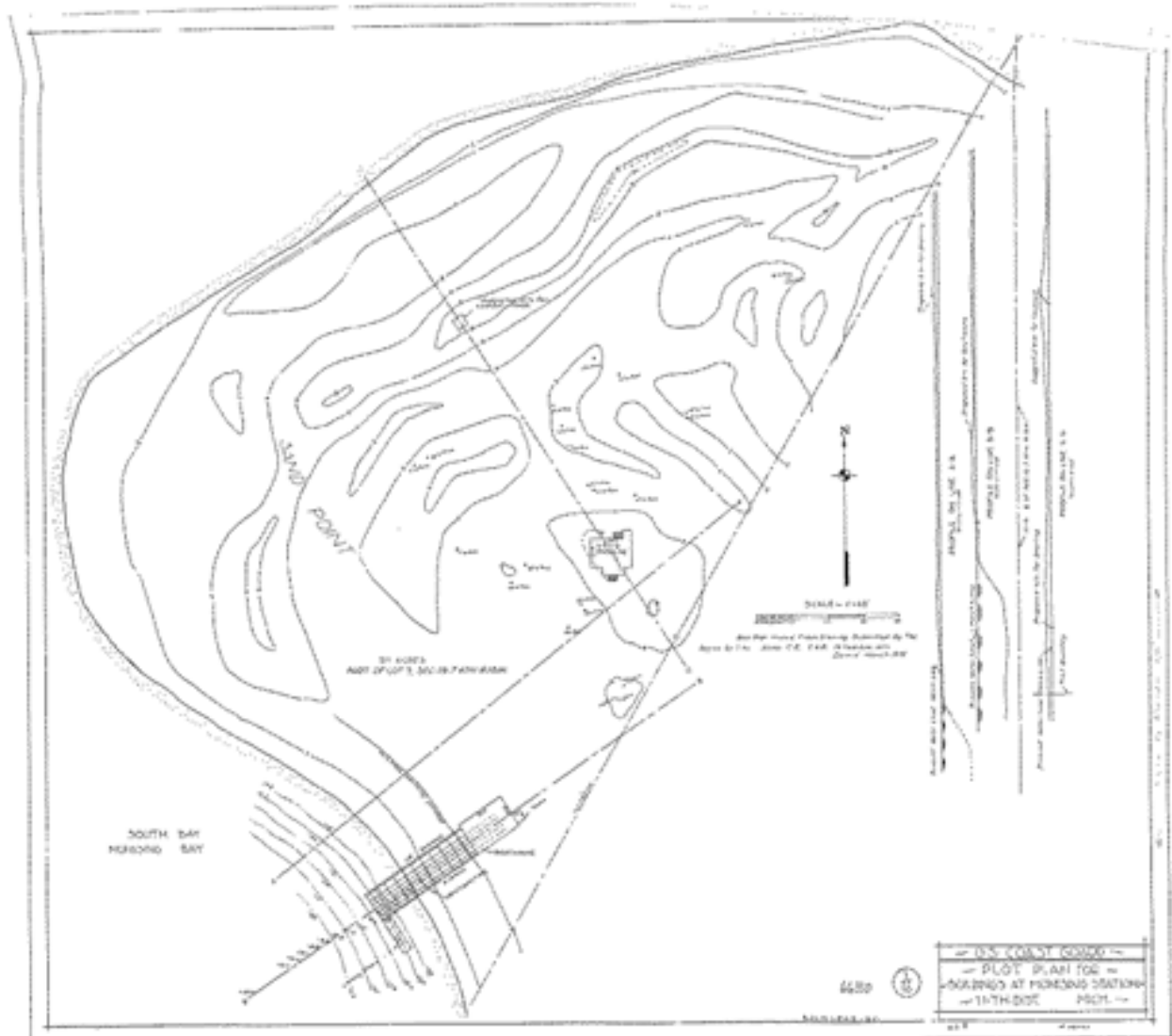


Figure 2-6. Plot plan of the new station, 1932. (source: PIRO Archives)

1 U.S. Coast Guard Development (1933 to 1958)

2
3 During development and use of Sand Point by
4 the U.S. Coast Guard, the overall appearance
5 of the cultural landscape took on a strict,
6 formal military-esque aesthetic of trimmed
7 lawn and straight paths with clear lines of
8 sight. Trees were removed to provide crucial
9 views to the water and between buildings and
10 structures. The station complex was designed
11 as a series of separate buildings that provided
12 specific functions (housing, boathouse,
13 storage, etc.). The topography was modified
14 to give the appearance that the Munising Life
15 Saving Station (HS-01) was set on a plinth,
16 surrounded by a concrete curb that enclosed
17 a short mown lawn. A residential area with
18 ornamental vegetation was set across Sand
19 Point Road. The beach was excavated to
20 create the Launchway, where access to and
21 from the water was vital to operations.

22 23 1933

24 April 1: The station was officially accepted
25 by the supervising engineer and a caretaker
26 assigned until the assigned crew could
27 arrive.^{2.34}

28
29 April 11: the Senior Civil Engineer for the
30 USCG reported that the Sand Point/Munising
31 USCG Life Saving Station buildings were
32 ready for occupancy. He noted that the work
33 “comprised a dwelling, for the personnel, with
34 all modern conveniences including hot water
35 heating system, toilet facilities and electric
36 lights, a boathouse with two track launchway,
37 a landing wharf, and the usual steel flag tower
38 and drill pole.” The memorandum referenced
39 enclosed photographic views of the dwelling,
40 boathouse, launchway and landing dock,
41 dated March 3, when “there was considerable
42 snow and ice remaining in the locality.”^{2.35}

44 2.34 *Munising USCG Station Pamphlet*

45 2.35 Julian P. Latham Memorandum for Operations,
46 Washington D.C. April 11, 1933. Photographs were not
attached to the document.

1 May 15: The Marquette Daily Mining Journal
2 noted that while the Marquette Coast Guard
3 Station had resumed its summer duties, the
4 Munising Station was still waiting for their
5 boats, which were trapped in Marquette by
6 ice in Munising Bay.^{2.36}

7
8 May 16: The station was officially
9 commissioned; two weeks late due to delays
10 in transferring boats and equipment from
11 Marquette because of thick ice in Munising
12 Bay. The crew totaled ten. The station had
13 four boats, a motor lifeboat, motor surfboat,
14 surfboat, and skiff. The station had a truck but
15 it had to remain in storage as the road from
16 Munising to Sand Point was not complete.^{2.37}

17
18 The crew was mustered at 8:00 am in
19 uniform; orders were read and the national
20 ensign was hoisted. The Officer in Charge, J.
21 F. Janssens, inspected the station buildings
22 and apparatus and found all to be in excellent
23 condition.^{2.38}

24
25 May 20: Three station boats arrived at
26 Munising Station. These were a 36 foot boat
27 with a 90hp motor and two 26 foot surf boats.
28 Captain John F. Janssens was in command of
29 the station of eight men, instead of the ten
30 originally expected. Crew members were
31 George A. Smith, boatswains mate, first class;
32 Fred O. Hella, motor machinist, first class;
33 Lloyd Campbell, George T. Salminen, Leon
34 Parks, Tolvi Linnamaki, and Bror E. Carlson.
35 Six of the crew were married and planned to
36 build homes near the station “as soon as the
37 site can be procured.” Crew members were
38 responsible for the cost of building their own
39 home. The road was still incomplete, as was

41 2.36 “Coast Guards Doing Routine Summer Duty,” *The Daily*
42 *Mining Journal*, May 15, 1933, 3.

43 2.37 *Munising USCG Station Pamphlet*. Date of commission is
44 confirmed by a memorandum from the Commandant of
the Eleventh USCG District to the Commandant of the
USCG, PIRO Archives.

45 2.38 Allison to Commandant (via Commander, Eleventh
46 District), Munising, MI, May 16, 1933.



Figure 2-7. Munising Life Saving Station (HS-01) and Communication Tower, 1933. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-8. Munising Life Saving Station (HS-01) and Boathouse and Launchway (HS-08), 1933. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-9. Boathouse and Launchway (HS-08), 1933. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-10. Station beach and lookout tower; undated but probably circa 1930s. (source: Alger County Historical Society)

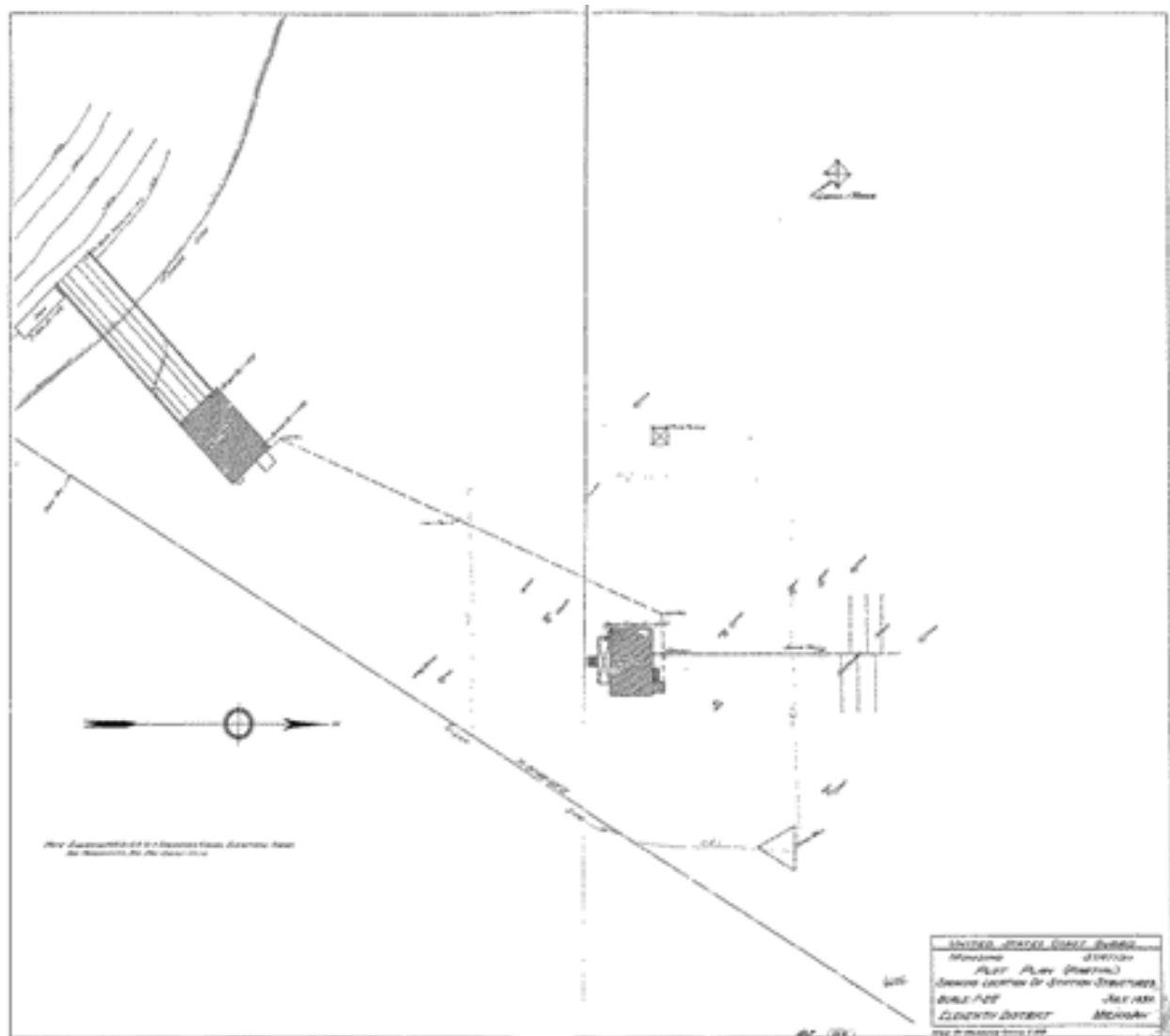


Figure 2-11. Sand Point/Munising USCG Life Saving Station, plot plan showing location of structures, 1933.
(source: PIRO Archives)

1 the placement of telephone and power lines.
 2 In addition to the buildings, there was a 55
 3 foot steel flag tower. There was no wireless
 4 station; distress calls were instead telephoned
 5 from Sault Ste. Marie, Grand Marais, or
 6 Marquette.^{2.39}

7
 8 Work was started on the Sand Point road as a
 9 County Aid project.

10
 11 December: The Civil Works Administration
 12 (CWA) took over the project. By the end of
 13 December, the right-of-way had been cut out
 14 and three-quarters of a mile of grading and 1
 15 ½ miles of grubbing completed.^{2.40}

16
 17 1934
 18 April: The CWA was a short-lived program
 19 in the hard winter of 1933-34, and work
 20 on the Sand Point Road by the CWA had
 21 been abandoned several months prior. New
 22 bids were to be submitted to continue the
 23 work under the Federal Emergency Relief
 24 Administration (FERA). "Numerous" graves
 25 were uncovered along the road during the
 26 previous fall and winter and reinterred
 27 nearby.^{2.41}

28
 29 June: The crew had increased to ten,
 30 consisting of the Officer in Charge, boatswains
 31 mate, motor machinist, and seven surfmen.
 32 No improvements had been made to the
 33 grounds, with the reason cited as the delay in
 34 finishing the road to the station, which was
 35 "now under construction." It was expected
 36 that a lawn would be built around the station
 37 when the road was completed and a truck
 38 assigned to the station. The crew experienced
 39 difficulty with the water supply, which was
 40 yellow in color and contaminated with fine

41
 42 2.39 "Coast Guards Get Most of Equipment," *The Daily Mining*
 43 *Journal*, May 20, 1933, 5; "New Guard Station," *Ironwood*
 44 *Daily Globe*, December 7, 1932, 6.

44 2.40 "Cleveland Cliffs Iron Company Land Records," 127.

45 2.41 "Sand Point Project," *The Escanaba Daily Press*, April 15,
 46 1934, 5. Zedeno, et. al., *Traditional Ojibwe Resources*, 156-
 7. Zedeno et al dates the road construction to 1936.

1 sediment. A new spring had been found
 2 near the station and the crew planned to
 3 pipe water from this spring to eliminate the
 4 sediment.^{2.42}

5
 6 November: The crew was now eleven
 7 in number. They were still awaiting the
 8 completion of the road so they could haul
 9 black dirt and clay to fill in around the
 10 station. The District commander noted that
 11 a new sidewalk was needed around the
 12 station and from the station to the signal
 13 tower and recommended this be done under
 14 contract rather than by the crew. He noted
 15 that the road was nearly complete, with
 16 expenditure estimated at nearly \$80,000.
 17 Road construction was hampered by springs
 18 which kept washing out the road.^{2.43} The road
 19 was eventually completed later that year.

20
 21 The construction of Sand Point Road was
 22 substantially completed in the fall of 1934.
 23 Cleveland Cliffs Company Annual Report
 24 for 1934 stated, "This road was practically
 25 completed during the year but there still
 26 remains considerable work to be done to
 27 put the road in good shape. FERA labor
 28 does not accomplish much, due to lack of
 29 proper supervision and the small amount
 30 of work done by the men during the hours
 31 worked. Work done on these Government
 32 projects costs four to five times more than it
 33 should."^{2.44} No mention of this road was found
 34 in the 1935 report.

35

36

37

38

39

40

41

42

43

44 2.42 T.S. Klinger to Commandant, Green Bay, WI, June 29, 1934.

45 2.43 S.F. Gray to Commandant, Green Bay, WI, November 2,
 1934.

46 2.44 "Cleveland Cliffs Iron Company Land Records," 134.

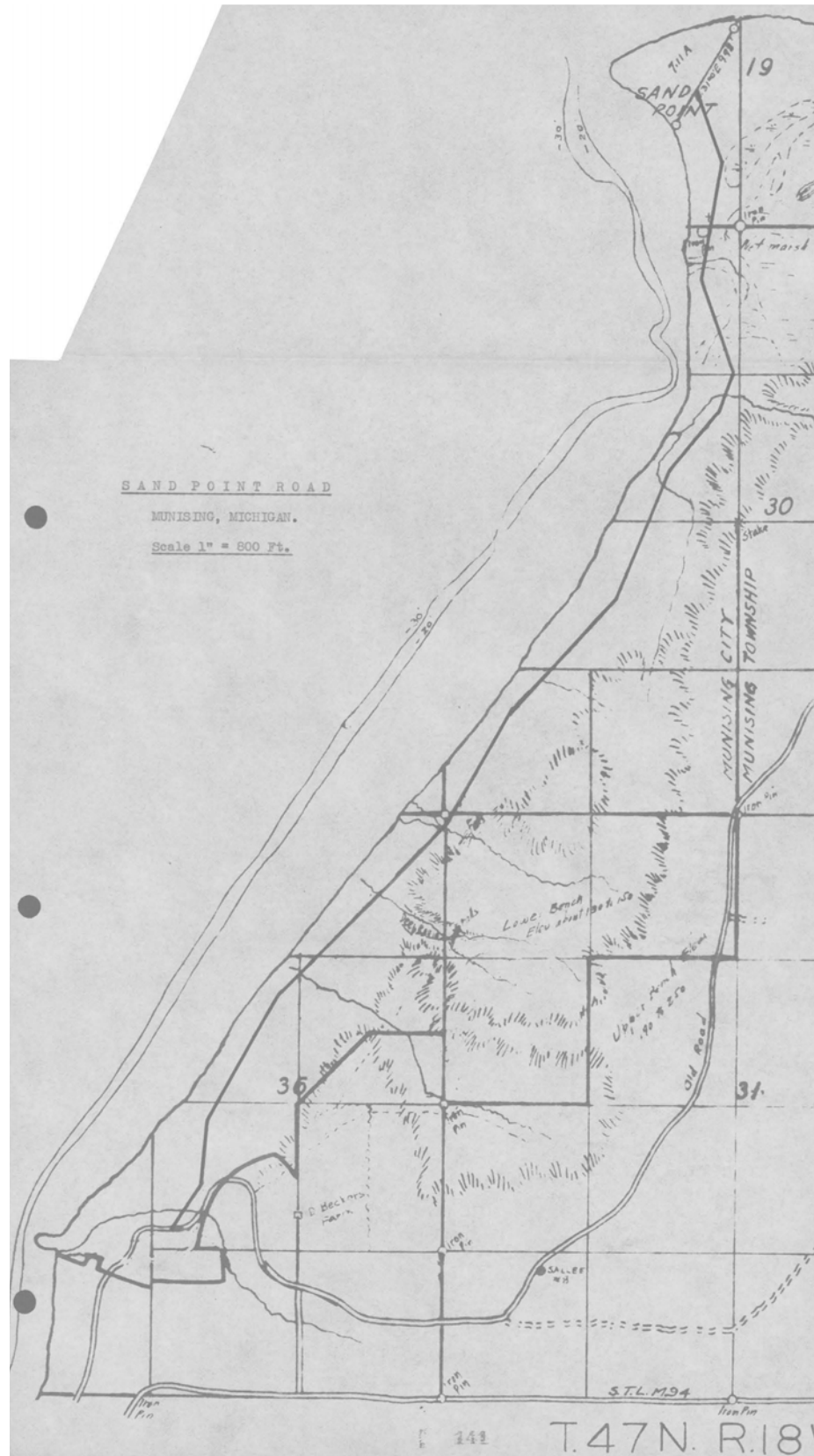


Figure 2-12. Sand Point Road from Annual Report, 1933. (source: PIRO Archives)

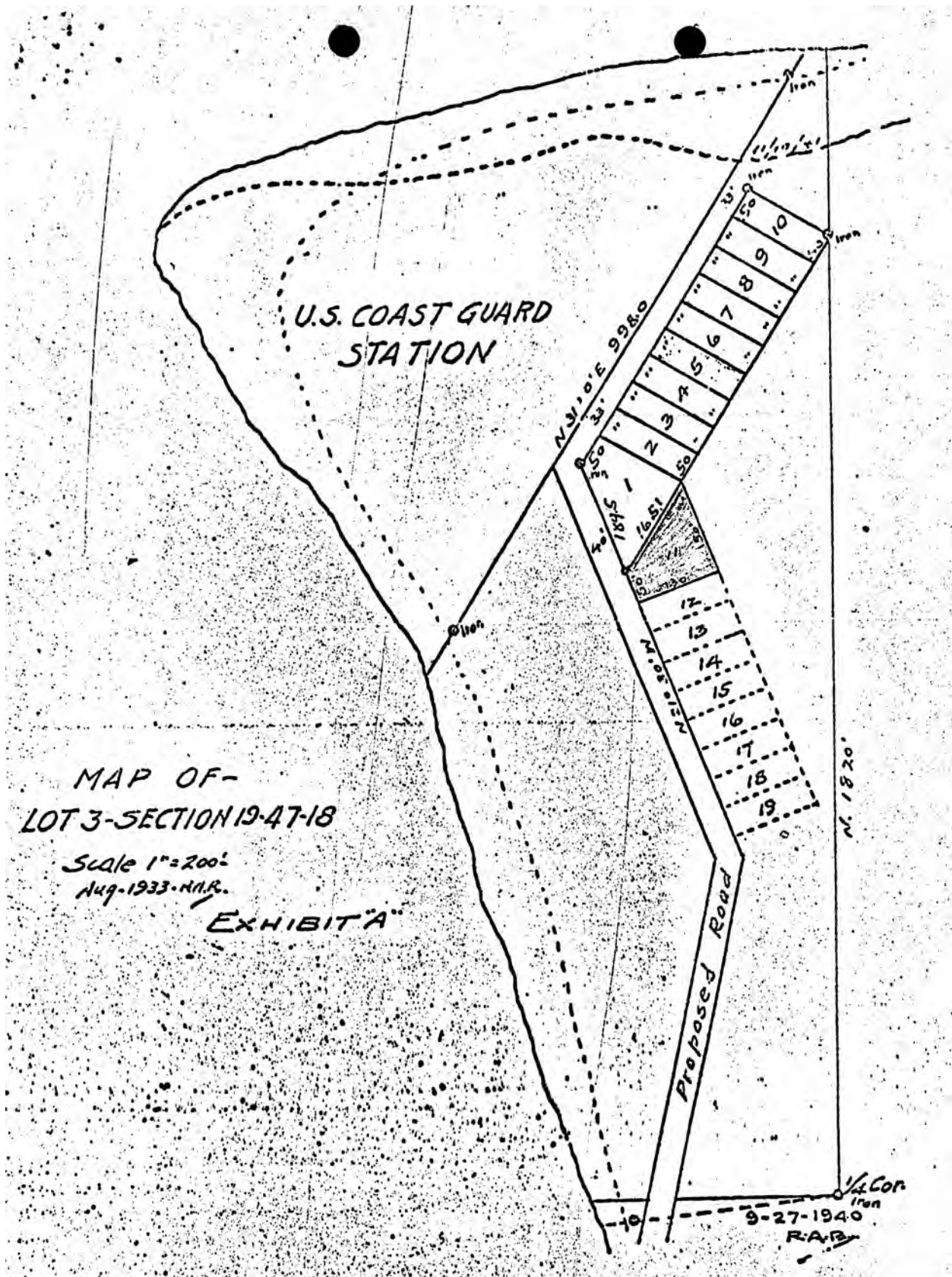


Figure 2-13. Many of the crew were married, and plans were developed to build homes across Sand Point Road. (source: PIRO Archives; Map of Lot 3 - Section 19-47-18, 1933.)

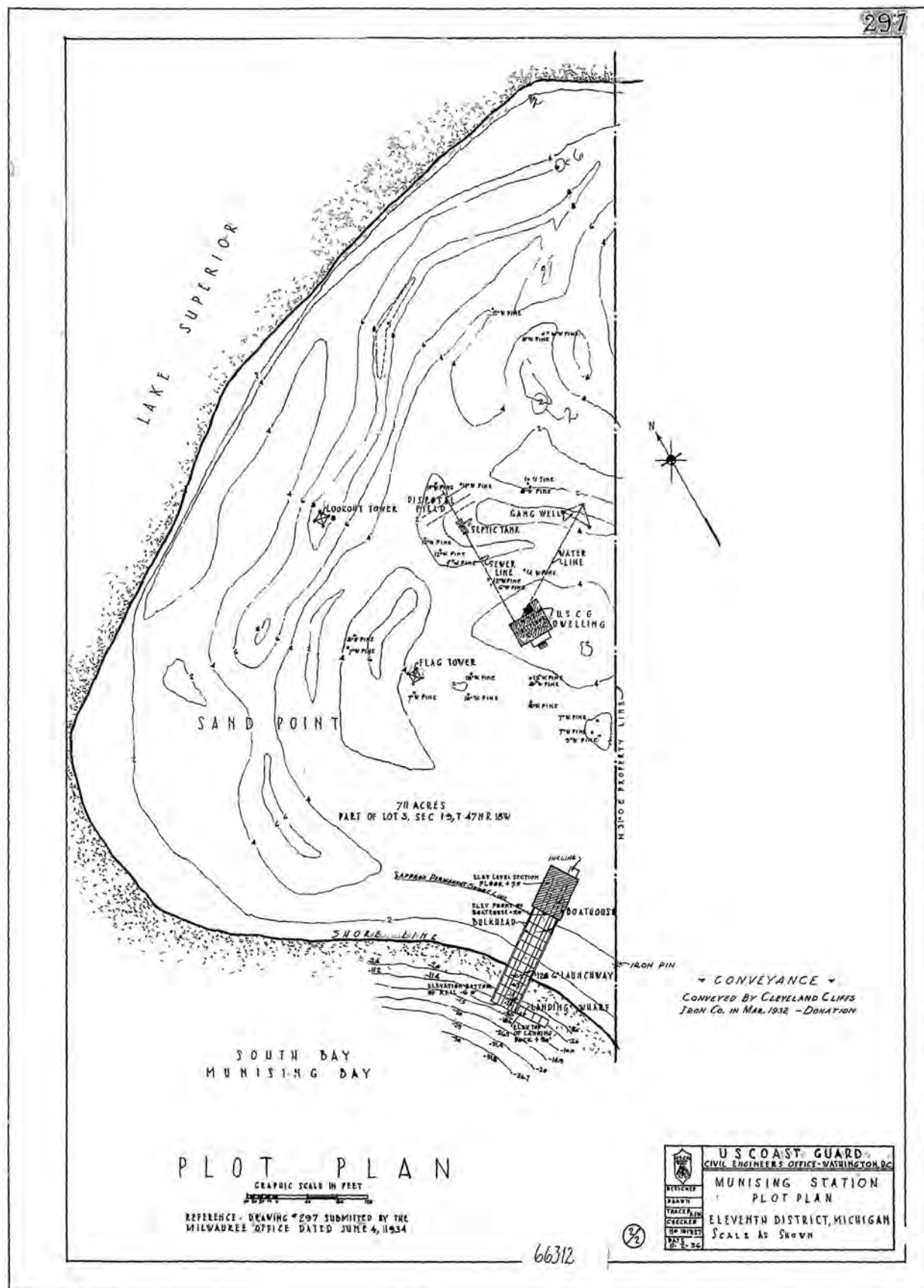


Figure 2-14. Munising Station Plot Plan, 1934. (source: PIRO Archives)



Figure 2-15. The design of the station relied upon easy water access and views to Lake Superior. In the 1930s, a view from the lake to the Boathouse, Launchway and dock, and the Life Saving Station was available. (source: PIRO Archives)



Figure 2-16. In 1934 the grounds of the Life Saving Station were complete, with a perimeter walk and lawn surrounding the building. (source: PIRO Archives)

1 1936

2 August/September: Three crew members
3 from Munising assisted in fighting a forest fire
4 on Isle Royale.^{2.45}

5
6 In general, the crew responded to
7 emergencies about two times a month,
8 typically for small fishing or pleasure
9 craft that were overdue or disabled. They
10 occasionally had to search for missing ice
11 fishermen.^{2.46}

12

13 1937

14 May: Work begins on a Works Progress
15 Administration (WPA) project to improve the
16 Coast Guard grounds. The project included
17 construction of 490 feet of curbing, grubbing,
18 clearing and filling grounds, and other
19 incidental work. It was noted the grounds
20 were practically impossible to travel.^{2.47}

21

22 1940

23 The 1940 census listed 14 men at the Life
24 Saving Station, ranging in age from 19 to 58.
25 Eight of them had been at the station since at
26 least 1935, while the remainder were newer
27 to the station. Of the men, eleven were listed
28 as married, but apparently their families were
29 not counted in the census as none of their
30 spouses or families were listed as living in
31 the same county. The names were not divided
32 by household, so it is not possible to tell who
33 was living in the station and who in married
34 quarters.^{2.48}

35

36 January 1: The Munising crew took over
37 responsibility for the Munising Range
38 Light.^{2.49} [The Coast Guard and Lighthouse
39 Service had merged in 1939]

40

41 2.45 Stonehouse, *Historic Resource Study*, 99.

42 2.46 Stonehouse, *Historic Resource Study*, 99.

43 2.47 "WPA Coast Guard Project Launched," *The Escanaba Daily Press*, May 8, 1937, 12.

44 2.48 United States Census Bureau, *1940 Census* (Alger County, Michigan), Enumeration District No 2-11, Sheet 1-A. The 1950 census will not be available until 2022.

46 2.49 Stonehouse, *Historic Resource Study*, 99.

1 November 7: Wreck of the Sparta. First of
2 two large vessel rescues that the station
3 participated in.^{2.50}

4

5 November 12: Munising Crew participated in
6 second major rescue, of the steamer Sinola on
7 Northern Lake Michigan near Fayette.^{2.51}

8

9 1936 to 1941

10 Crew fluctuated between ten and thirteen
11 men.^{2.52}

12

13 1940s

14 Ca.: Smuck House and other residences were
15 built as Coast Guard personnel residences,
16 east of Sand Point Road.

17

18 1941

19 October: Crew members attempted to rescue
20 a bull moose from a rock ledge along the bluff
21 at Miner's Castle. They are unable to reach the
22 ledge due to rough seas, and the moose found
23 his own way off the ledge.^{2.53}

24

25 Following Pearl Harbor (entry of U.S. into
26 World War II), the station personnel initially
27 decreased due to transfers, but numbers
28 afterward increased to a high of 28 men
29 during World War II.^{2.54}

30

31 The Munising Station was used as a training
32 facility during WWII. Recruits arrived from
33 the Detroit recruiting station.^{2.55}

34

35 December: Following storms that washed
36 away 80 feet of the shoreline, the Newell
37 Stickney and Ed Ruspakka houses were
38 moved about 1,000 feet south of their former
39 locations. The north end of Sand Point road
40 was also covered with lake sand. Construction

41

42 2.50 Stonehouse, *Historic Resource Study*, 99.

43 2.51 Stonehouse, *Historic Resource Study*, 99.

44 2.52 *Munising USCG Station Pamphlet*.

45 2.53 Stonehouse, *Historic Resource Study*, 99.

46 2.54 *Munising USCG Station Pamphlet*.

46 2.55 Stonehouse, *Historic Resource Study*, 99.



Figure 2-17. Munising Life Saving Station (HS-01) and Communication Tower, ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-18. Three women and a girl with the Boathouse [at Munising Station], ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-19. Aerial photograph of the USCG station, ca. 1940s. Taken in winter or spring, Sand Point Road is clearly seen in the lower section of the photograph, along with the system of concrete pedestrian walks. The Lookout Tower was sited at the top of the point, top of the image. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-20. The House near the Life Saving Station, ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-21. Boathouse and Launchway (HS-08), ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-22. The Lookout Tower at the end of Sand Point was a prefabricated metal structure that was removed once the station was decommissioned, c 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-23. Munising Life Saving Station (HS-01) and Communication Tower, ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-24. Munising Life Saving Station (HS-01), ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-25. Cutting grass at Munising Life Saving Station (HS-01), ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-26. Houses at Munising Life Saving Station, January 1943. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-27. Houses at Munising Life Saving Station, January 1943. (source: Keweenaw NHP, Lake Superior Collection Management Center)

1 of a drainage sewer with a dead-end was
 2 planned to help combat water damage.^{2.56}
 3
 4 1945
 5 The Launchway was dredged and extended,
 6 likely due to low water levels.^{2.57}
 7
 8 1946
 9 December: The six-room home of Martin
 10 Hendrickson at the Life Saving Station
 11 was destroyed by fire. Another home had
 12 been destroyed the previous May. The local
 13 newspaper report noted that firefighters were
 14 delayed in getting water onto the fire because
 15 their truck could not get close enough to the
 16 water to run the hose, due to the soft sand
 17 beach. The only firefighting equipment at the
 18 station was a pump which also failed due to
 19 low water. There was no hydrant system at
 20 Sand Point.^{2.58}
 21
 22 1949
 23 August: The Coast Guard proposes
 24 decommissioning the Sand Point station.
 25 Representatives of the city of Munising
 26 and Alger County as well as many local
 27 organizations testified at a U.S. Maritime
 28 Service board meeting objecting to the
 29 closure. The local community cited the
 30 station's protection of the S.S. South
 31 American, the Grand Island ferry, Pictured
 32 Rocks Boat Service, coal boats, local pleasure
 33 craft, commercial fisheries, and sport trollers
 34 as among those who benefited from the
 35 station. The decision was to be made later, but
 36 the station was not actually decommissioned
 37 for another nine years.^{2.59}
 38
 39
 40
 41
 42 ^{2.56} "Storms Wash Out Shoreline," *The Escanaba Daily Press*,
 43 December 5, 1941.
 44 ^{2.57} USCG drawings.
 45 ^{2.58} "Hendrickson Home Destroyed in a Fire Wednesday at
 46 Noon," *The Escanaba Daily Press*, December 12, 1946, 13.
 47 ^{2.59} "Munising Opposes Plan to Abandon Coast Guard Unit,"
The Escanaba Daily Press, August 19, 1949, 2.

1 1957 to 1958
 2 The National Park Service conducted a survey
 3 to determine the suitability of the Pictured
 4 Rocks area for inclusion in the National Park
 5 system.
 6
 7 1958
 8 September 10: The Coast Guard "ceased
 9 all operations upon the premises."^{2.60} The
 10 responsibilities of the Coast Guard were
 11 transferred to the Coast Guard Auxiliary
 12 which was headquartered in the Range
 13 Light Building on West Munising Avenue.^{2.61}
 14 Changes in technology, including the use of
 15 helicopters and large offshore cutters, and
 16 improvements in vessel safety, had made
 17 the lifeboats and station crews obsolete.
 18 The Munising station operated with a
 19 skeleton crew for some time before it was
 20 decommissioned.^{2.62}
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 43
 44 ^{2.60} L. J. Hoch, *Attorney's Report of Title, Munising Lifeboat*
 45 *Station, Alger County, Michigan*.
 46 ^{2.61} Symon, *Alger County: A Centennial History*, 174.
 47 ^{2.62} Stonehouse, *Historic Resource Study*, 100.





Figure 2-28. Munising Station from the Ice, 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-29. Man and Boy at Munising Life Saving Station, ca. 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-30. Munising Life Saving Station with open windows in winter, ca. 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-31. Training at Munising Life Saving Station, ca. 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-32. Road to Munising Life Saving Station in winter, ca. 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-33. The Lookout Tower in winter, ca. 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-34. Munising Life Saving Station in winter, ca. 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-35. Aerial photograph, winter or spring. The complex was completed in 1934 with the Life Saving Station at the center, surrounded by lawn and a concrete curb. The system of pedestrian walks connected the complex to the residences across the road, bottom of photograph, 1948. (source: Keweenaw NHP, Lake Superior Collection Management Center)

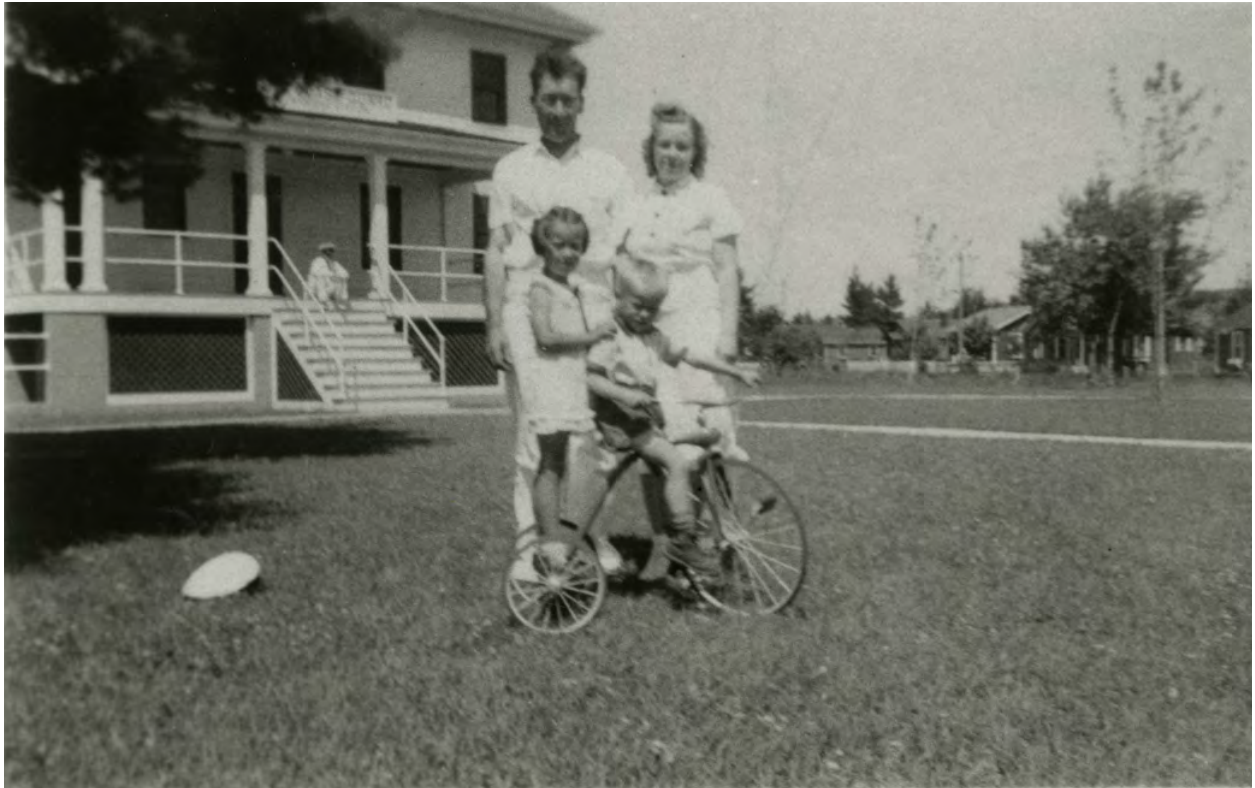
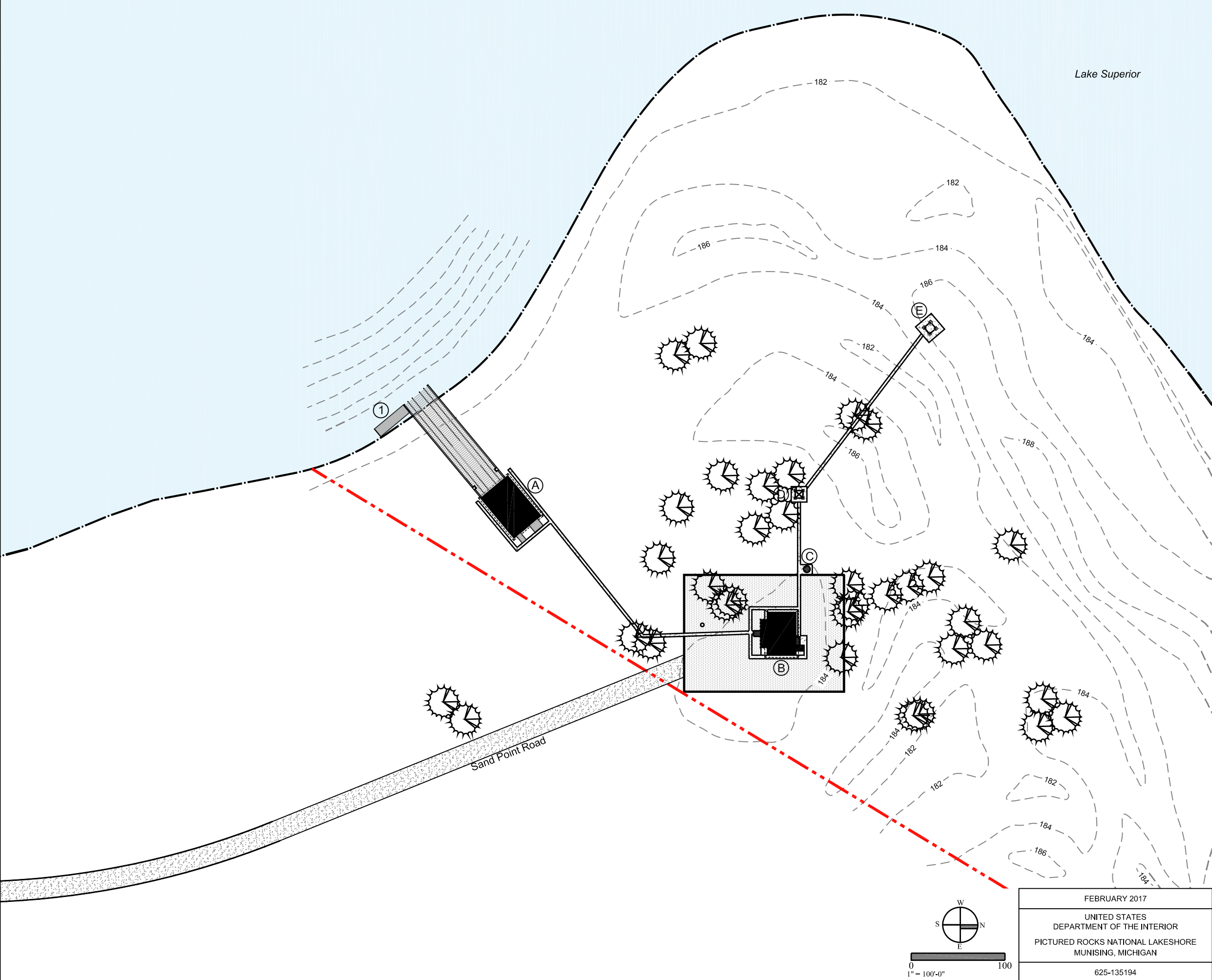


Figure 2-36. Family at Munising Life Saving Station, ca. 1950. (source: Bud Campbell Photographs, Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-37. Sand Point, 1960s. (source: PIRO Archives)



LEGEND

STUDY AREA/ USGC
BOUNDARY

185

ONE FOOT TOPOGRAPHIC CONTOUR

BUILDING

CONCRETE PAVING

CONCRETE CURB

GRAVEL PAVING

1934 SHORELINE

LAWN

RAILS

WOOD DECK

FLAGPOLE

CONIFER TREES

Buildings and Structures

A

Boathouse & Launchway (HS-08)

B

Munising Life Saving Station (HS-01)

C

Oil House (HS-02)

D

Communication Tower

E

Lookout Tower

Small Scale Features

1

Wood Dock

Sources:
1932 Building Plot Plan, 1933 Map of Lot 3 - Section 19-47-18, 1934 Station Plot Plan

W
N
E
S

0

100

1" = 100'-0"

FEBRUARY 2017		TITLE OF PROJECT CULTURAL LANDSCAPE REPORT AND ENVIRONMENTAL ASSESSMENT	
UNITED STATES DEPARTMENT OF THE INTERIOR		TITLE OF DRAWING ILLUSTRATION 2-1 1934 HISTORIC PERIOD PLAN	
PICTURED ROCKS NATIONAL LAKESHORE MUNISING, MICHIGAN		NAME OF PARK SAND POINT/MUNISING USCG LIFE SAVING STATION	
625-135194		REGION MIDWEST	COUNTY ALGER STATE MICHIGAN 2-43

1 NPS and Later Development (1960 to 2 present)

3
4 After the USCG ceased operations at Sand
5 Point and PIRO was established as a National
6 Lakeshore, the NPS adapted the Life Saving
7 Station into park headquarters and modified
8 the site to meet park needs. Access to the
9 buildings and site was expanded with new
10 parking areas and walks. The terminus of
11 Sand Point Road was modified into a turn
12 around. The homes across Sand Point Road
13 were removed, as were the Lookout and
14 Communication Towers. The grounds were
15 maintained immediately adjacent to the Life
16 Saving Station but elsewhere vegetation
17 grew naturally. In the early 1990s a stone
18 revetment was added to the north shoreline
19 to prevent continued erosion of the beach.

21 1960

22 An inventory of the Munising Station by
23 the Coast Guard Board of Survey notes that
24 the station had not been used “for about
25 three years,” and that the buildings are in
26 poor condition and present “an unsightly
27 appearance.” This document also noted a
28 clause requiring the property to be returned
29 to Cleveland Cliffs Company if the USCG
30 decommissioned it. The report concluded
31 that the Munising Lifeboat station was
32 surplus to the needs of the Coast Guard and
33 should be deeded back to the Cleveland Cliffs
34 Company.^{2.63}

36 1961

37 The United States deeded the Sand Point/
38 Munising USCG Life Saving Station property
39 back to the Cleveland Cliffs Company for \$1.
40 Instrument dated May 10, 1961, recorded
41 September 5, 1961.^{2.64}

44 2.63 Proceedings of a Board of Survey, Supply Section, 9th
45 Coast Guard District, June 14, 1960.

45 2.64 Transcription of Quit Claim Deed in PIRO Lands Files, Box
46 13, Folder 144.

1 1962

2 The Cleveland Cliffs Company deeds the Sand
3 Point property to the City of Munising for
4 \$1. Instrument dated December 12, 1962,
5 recorded January 23, 1963.^{2.65}

7 1963

8 A few private cabins were located on Sand
9 Point on land leased from the Cleveland Cliffs
10 Company. A developing residential area was
11 also present on Sand Point, unrelated to the
12 life saving station complex.^{2.66}

14 1966

15 Pictured Rocks National Lakeshore was
16 established by the United States Congress.

18 1968

19 April: The Munising City Commission and
20 the NPS were in talks over the donation of
21 the Sand Point property. The city planned
22 to retain the Boathouse and move it “back”
23 to Munising over the ice. The city was also
24 concerned about maintenance of Sand Point
25 Road given the foreseen increase in park
26 traffic.^{2.67}

27
28 May 31: The City of Munising executed a
29 quit claim deed (as a donation) to the United
30 States for the property at Sand Point. It had
31 previously been used as a public park and
32 picnic area.^{2.68} The City of Munising retained
33 the right to use and/or move the Boathouse
34 for two years, after which it would become
35 NPS property. The city was to remove the
36 paint locker, and under a “gentlemen’s
37 agreement” the NPS would defer fee

38 2.65 Warranty Deed, Cleveland Cliffs to City of Munising.
39 December 12, 1962.

40 2.66 Institute for Community Development, Continuing
41 Education Service, Michigan State University. *The
42 Proposed Pictured Rocks National Lakeshore, An Economic
43 Study* (U.S. Department of the Interior, National Park
44 Service, 1963), 16-17.

44 2.67 Hugh P. Beattie to For the File. April 5, 1968.

45 2.68 “Court Action Approved by Munising to Regain Sand Point
46 Property,” *The Mining Journal*, September 2, 1971, 2



Figure 2-38. Sand Point, 1974. (source: PIRO Archives)

1 collection for the beach and picnic ground as
2 long as possible.^{2.69}

3
4 June: PIRO issued purchase orders in the
5 amount of \$7,999.89 for initial deferred
6 maintenance work prior to moving into the
7 Life Saving Station. They expected to occupy
8 the building in early August.^{2.70} The NPS
9 requested that the city immediately remove
10 the paint locker as it interfered with the
11 development of the lawn.^{2.71}

12

13 1971

14 May 3: The U.S. Government purchased
15 mineral interests on the Sand Point property
16 from the Cleveland Cliffs Iron Company.^{2.72}

17

18 August: The United States Attorney General
19 sent a memorandum to the Secretary of
20 the Interior confirming the United States
21 Government held valid title to the Sand
22 Point property. The City of Munising, State
23 of Michigan, and the public retained public
24 easements and riparian rights.^{2.73}

25

26 September: The City of Munising authorizes
27 civil action against the United States to return
28 the 12 acres at Sand Point it donated in
29 1968, citing lack of funding appropriations to
30 develop Pictured Rocks National Lakeshore,
31 and the failure of expected tourism revenue
32 to offset the loss of tax revenue from NPS
33 land.^{2.74}

34

35 2.69 Tract Record and Valuation Data of Land to be Acquired
36 (Tract PIRO-2001), Pictured Rocks National Lakeshore,
37 Sand Point. U.S. Department of the Interior, National Park
38 Service, 1968

39 2.70 Hugh P. Beattie to Regional Director, Northeast Region,
40 Munising, MI, June 19, 1968.

41 2.71 Brooks Hamilton to the City of Munising, Munising, MI,
42 June 12, 1968.

43 2.72 Robert J. Pantone to Assistant Attorney General, July 13,
44 1971.

45 2.73 Attorney General to Honorable Rogers C. B. Morton,
46 Washington, D. C., August 12, 1971.

47 2.74 "Court Action Approved by Munising to Regain Sand
48 Point Property," *The Mining Journal*, September 2, 1971,
49 2; "Munising Will Sue U.S. for Park Land," *The Milwaukee*
50 *Journal*, September 3, 1971.

1 November: Norman Davidson, Park Manager,
2 prepared a rebuttal which was never
3 published. He noted that the city had not filed
4 the suit and the threatened suit was "nothing
5 more than a publicity gag."^{2.75}

6

7 1972

8 November: Perhaps in response to the
9 city of Munising's threatened civil action
10 the prior year, the National Park Service
11 allocated over \$200,000 for the construction
12 of roads and trails and work to buildings
13 and utilities at Pictured Rocks National
14 Lakeshore in 1973. Proposed work cited
15 included the construction of trails, overlooks,
16 campgrounds, picnic grounds, and parking
17 areas.^{2.76} A 1975 article suggested this work
18 was delayed due to spending restrictions (see
19 below).

20

21 1974

22 June 12: The City of Munising's salvage rights
23 to the Boathouse expired.^{2.77}

24

25 ca. 1975

26 A garage was built north of the Life Saving
27 Station, set on a concrete pad. The service
28 drive east of the building was expanded into a
29 loop drive. A fenced gas tank was added to the
30 rear yard.

31

32 September: A local newspaper article noted
33 that the funds appropriated for improving
34 the park in 1972 were delayed due to federal
35 spending restrictions in previous years. U.S.
36 Representative Philip E. Ruppe had been
37 "applying pressure" to the NPS to release the
38 funds and the director of the NPS had written
39 to Ruppe promising to contract for the work.
40 The funding was estimated at \$769,000
41 in addition to \$84,000 which had already

42

43 2.75 Norman H. Davidson to Director, Northeast Region,
44 Munising, MI, November 11, 1971.

45 2.76 "U.P..The Peninsula!" *The Ironwood Daily Globe*,
46 November 29, 1972, 19.

47 2.77 Irving L. Dunton to Chief, Park Maintenance - Pictured
48 Rocks. August 1, 1974.



1 been spent. It was targeted for planning and
2 construction of roads, trails, parking, picnic
3 and sanitation facilities at Miner's Basin,
4 Miner's Castle Overlook, Munising Falls, and
5 Sand Point. Stabilization and improvement
6 work was already underway at Sand Point. An
7 additional appropriation of \$191,000 was in
8 planning for fiscal year 1976.^{2.78}

10 1976

11 The NPS removed five residences and
12 associated outbuildings east of Sand Point
13 Road.^{2.79}

15 June-August: Youth Conservation Corps
16 workers restore a docking and shore facility
17 at Sand Point near Pictured Rocks National
18 Lakeshore headquarters. They also were
19 noted as having dismantled old buildings,
20 so it may have been this group that removed
21 the residences and outbuildings east of Sand
22 Point Road.^{2.80}

24 1984

25 A fuel station was built by the NPS at Sand
26 Point, north of the Life Saving Station.

28 A gravel trail was added to connect the Life
29 Saving Station with the Boathouse, where
30 an outdoor maritime exhibit was installed.
31 A garage/storage area was added north of
32 the Boathouse, and parking south of the
33 Boathouse was expanded.

35 The staff parking area east of the Life Saving
36 Station was expanded. A visitor parking area
37 was added to the west side of Sand Point
38 Road.

43 2.78 Tom Ochiltree, "Prodding Finally Works," *The Escanaba*
44 *Daily Press*, September 29, 1975, 2.

45 2.79 Based on historic photographs, PIRO Archives.

46 2.80 "Wilderness is Home," *The Escanaba Daily Press*, August
20, 1976.

1 1986

2 The National Park Service allocated \$510,000
3 to pave Sand Point Road; the City of Munising
4 would pave 0.67 miles while the NPS would
5 pave the other 1.13 miles.^{2.81}

7 1989 to 1990

8 Sand Point Road was modified with a circular
9 turnaround at its northern terminus.

10 A 615-foot rock revetment was installed to
11 halt erosion of the beach at Sand Point. The
12 revetment was installed in two phases. It
13 spanned the terminus of Sand Point Road and
14 the tip of the point.

16 1991

17 Three underground storage tanks were
18 removed from Sand Point. Subsequent soil
19 testing showed no further remediation was
20 necessary.^{2.82}

22 NPS spreads rocks along the north shore of
23 Sand Point to curb erosion and protect the
24 station building.^{2.83}

26 1998

27 Site Development and Landscape
28 Rehabilitation Plan prepared (draft). It
29 recommended rehabilitation of the landscape
30 and buildings with interpretation to the
31 1940s. It noted that "only the grounds inside
32 the perimeter concrete 'wall' were maintained
33 in a manicured fashion by the 'coasties.'"^{2.84}

35 2003

36 The Munising City Commission approved two
37 resolutions requesting that the NPS return
38 more than 700 acres of land, including the 12
39 acres at Sand Point, to the city. The city cited
40 as reasons the early closure of a landfill that

42 2.81 "Park Road to be Paved," *Detroit Free Press*, February 23,
1986, 10.

43 2.82 Clifton Clark to Grant Petersen, October 2, 1992.

44 2.83 "Protests Rock Park," *Detroit Free Press*, November 17,
1991, 26.

45 2.84 Munising Station - U.S. Coast Guard (Ret), Site
46 Development and Landscape Rehabilitation Plan. 1998.



Figure 2-40. Munising Station, undated but estimated as 1980s. (source: PIRO Archives)

1 was originally provided in exchange for the
2 Sand Point property, the original donation of
3 the site specifically for the park headquarters
4 (the NPS was exploring plans to relocate
5 the headquarters elsewhere), concerns
6 over stewardship of cultural resources by
7 the NPS, and concerns that the NPS, as a
8 majority landowner in the city did not pay
9 taxes or make any payments in lieu of taxes as
10 reasons.^{2.85}

11

12 2006

13 The Smuck Garage was demolished.^{2.86}

14

15 2008

16 The septic mound at Sand Point was relocated
17 to provide a more appropriate setback from
18 the shoreline.^{2.87}

19

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43 ^{2.85} "City Wants Park Property," *The Munising News*, December
44 10, 2003, 1; John Pepin, "Munising Wants Park Land
45 Returned," *The Mining Journal*, December 14, 2003, 1A.

46 ^{2.86} Section 106 for Removal of Smuck Garage in Maintenance
files, PIRO.

^{2.87} Plan and correspondence in Maintenance Files, PIRO.



Figure 2-41. The yard behind the Life Saving Station, 1980. A fenced yard and garage at far left, with staff parking and drive. (source: PIRO Archives)



Figure 2-42. Munising Life Saving Station, 1982. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-43. Munising Life Saving Station, 1982. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-44. The Boathouse with a boat on the Launchway, the wood fence was built by the NPS, 1985. (source: PIRO Archives)



Figure 2-45. The Life Saving Station soon after the NPS took ownership, 1969. (source: PIRO Archives)



Figure 2-46. The NPS widened the service drive, expanded staff parking and added a garage behind the Life Saving Station, 1977. (source: PIRO Archives)

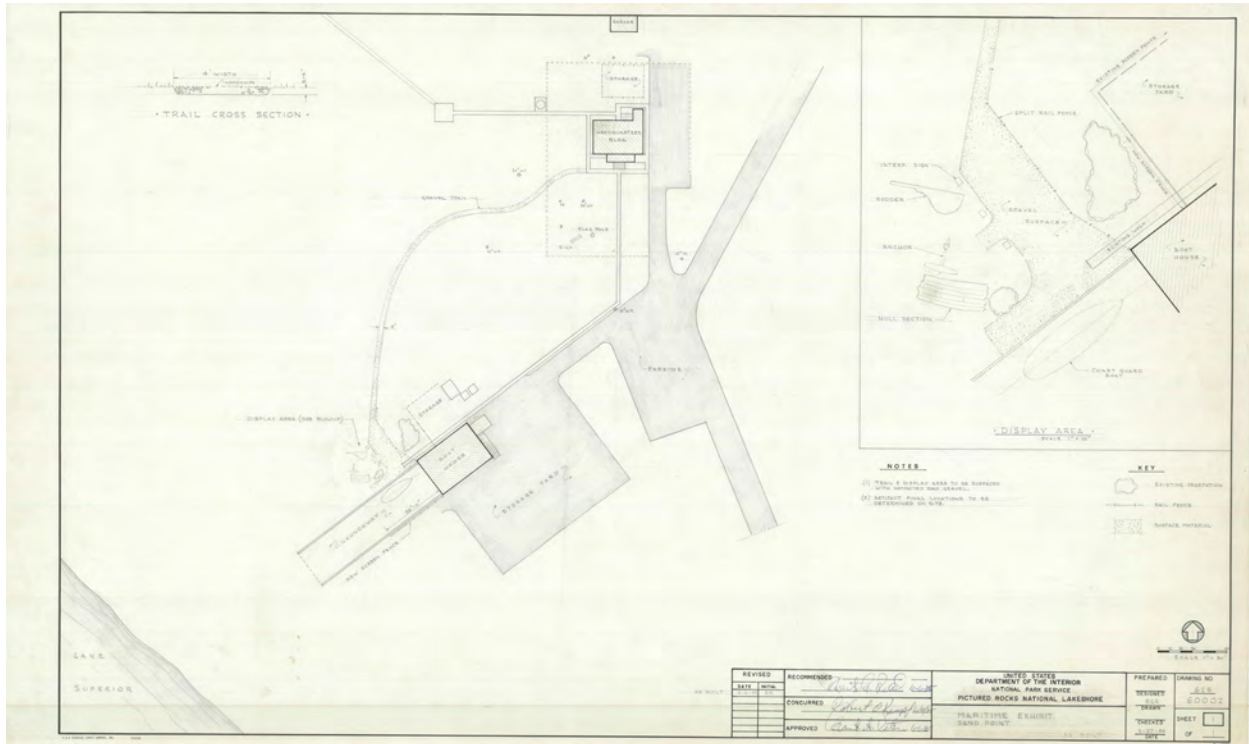


Figure 2-47. Maritime Exhibit, Sand Point, 1984. The trail and exhibit are non-extant. (source: PIRO Archives)

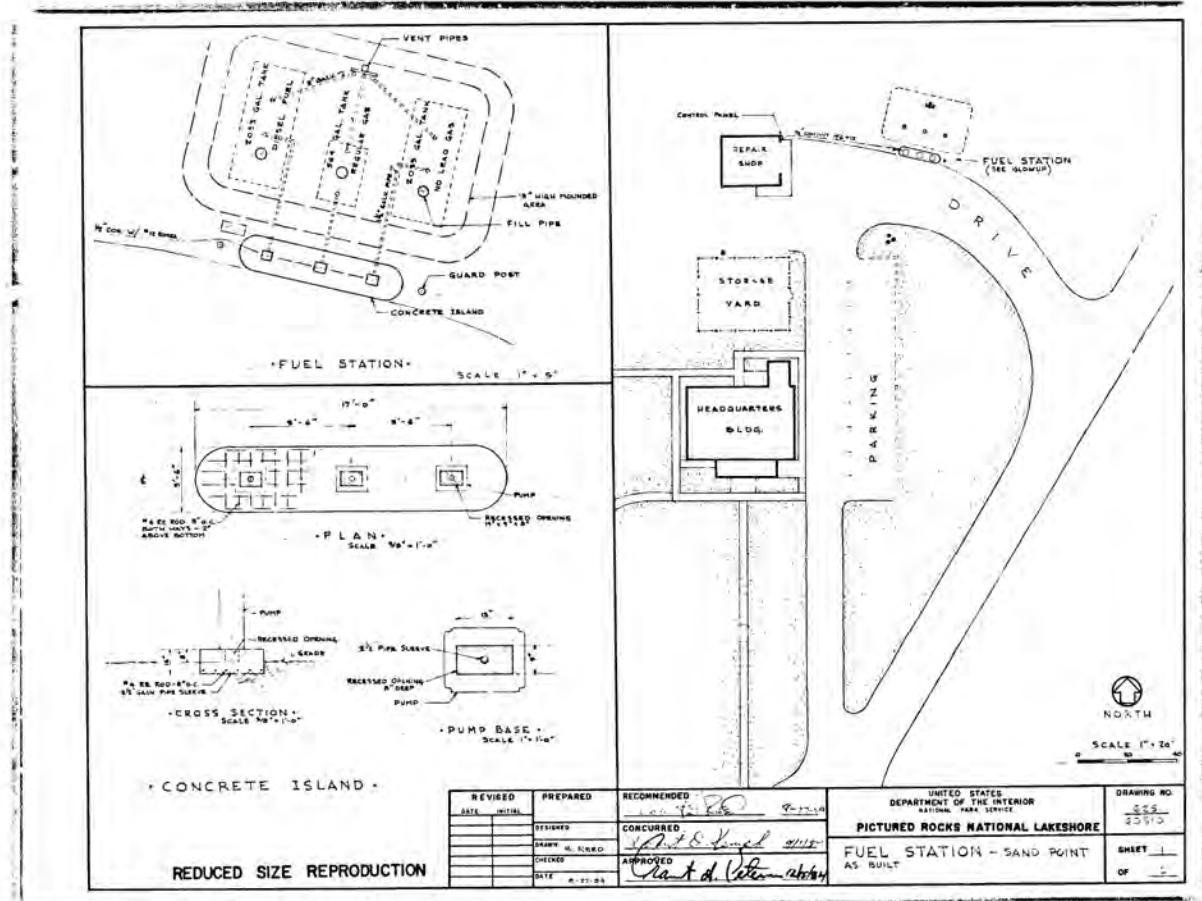


Figure 2-48. Fuel Station at Sand Point, 1984. (source: PIRO Archives)



Figure 2-49. The revetment was built in two stages, from the terminus of Sand Point Road to the tip of Sand Point, 1991. (source: PIRO Archives)

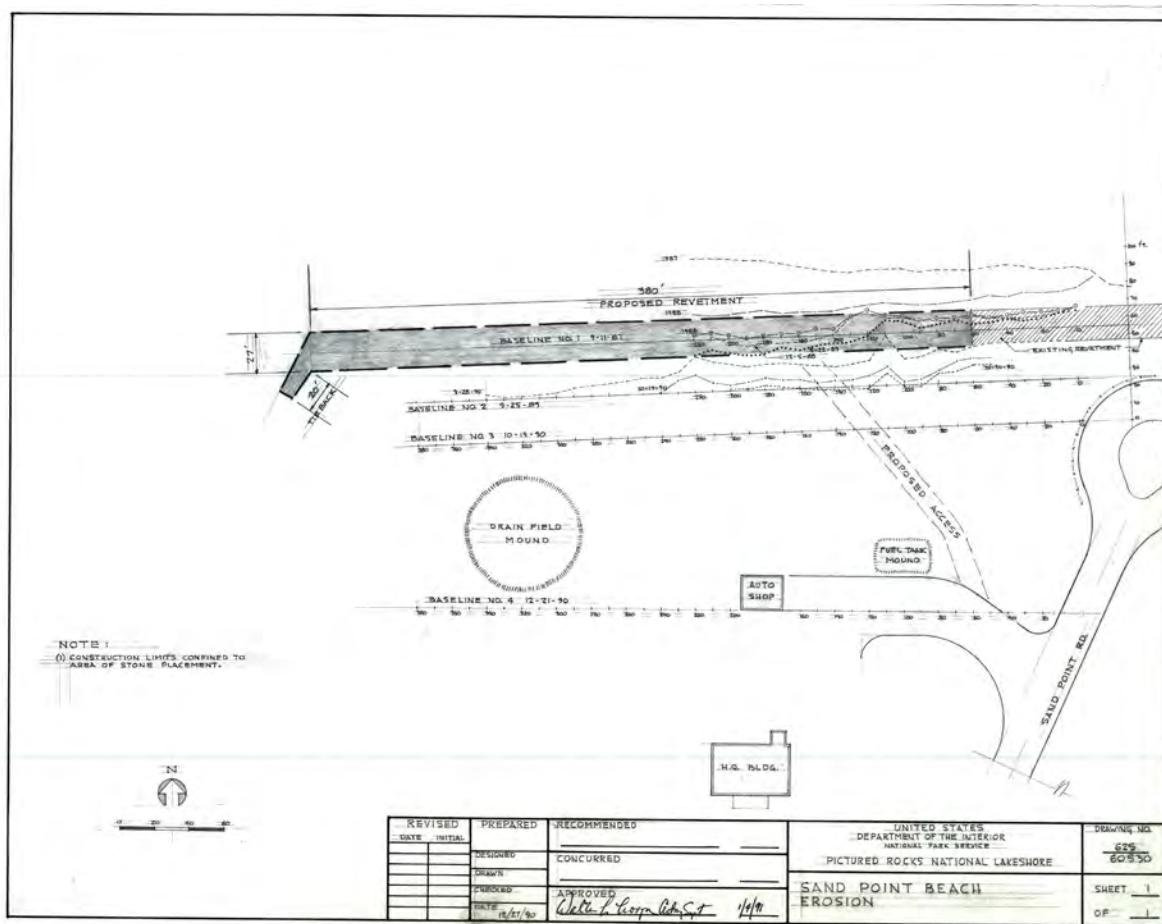
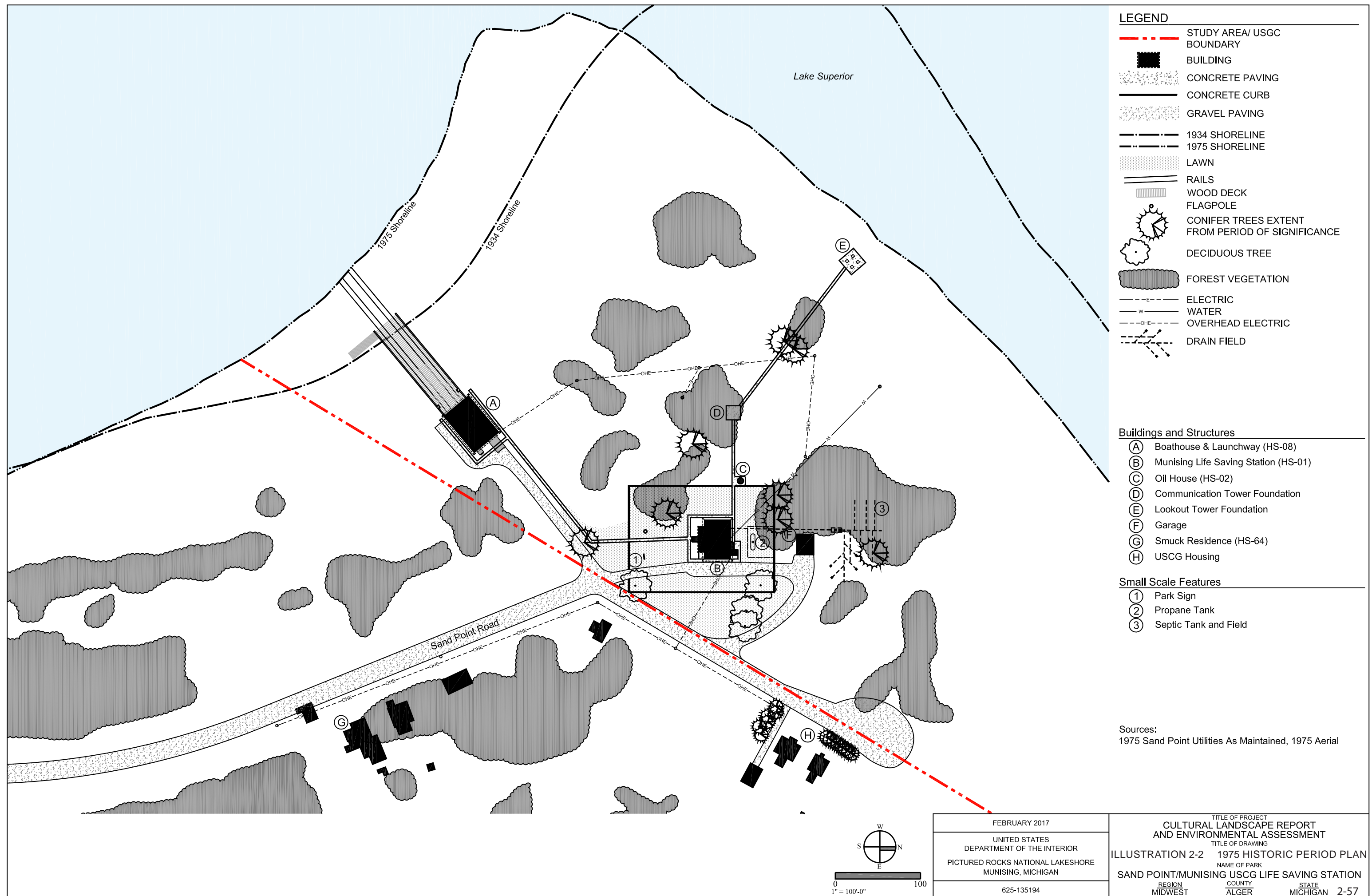


Figure 2-50. The second phase of the beach revetment work, 1991. (source: PIRO Archives)



Chapter 3. Existing Condition Assessment and Landscape Analysis

Introduction

1 This chapter provides a current condition
2 and integrity analysis of Sand Point's cultural
3 landscape using a series of ten landscape
4 characteristics. Individual current conditions
5 and integrity analyses are assessed for each
6 landscape characteristic through narratives,
7 photographs, illustrations, and/or matrices.
8
9 This assessment was undertaken to
10 understand the cultural landscape as a whole,
11 to document those qualities that contribute
12 to its historic character and to identify
13 individual features that contribute to its
14 significance. Site investigations recorded the
15 existing condition of the cultural landscape in
16 June 2016.
17
18 The existing condition is evaluated using the
19 following criteria:
20
21 Good – Those features of the landscape that
22 do not require intervention. Only minor or
23 routine maintenance is needed at this time.
24
25 Fair – Some deterioration, decline, or damage
26 is noticeable; the feature may require
27 immediate intervention. If intervention is
28 deferred, the feature will require extensive
29 attention in a few years.
30
31 Poor – Deterioration, decline, or damage is
32 serious; the feature is seriously deteriorated
33 or damaged, or presents a hazardous
34 condition. Due to the level of deterioration,
35 damage or danger, the feature requires
36 extensive and immediate attention.
37
38 Landscape characteristics include tangible
39 and intangible aspects of a landscape. These
40 characteristics collectively provide the
41 historic character and aid in understanding
42 cultural importance. The characteristics
43 serve as categories under which individual
44 features are listed. Features were documented

1 and evaluated according to ten landscape
2 characteristics:
3
4 Natural Systems and Processes are those
5 naturally occurring geologic, hydrologic,
6 and climatic aspects that influence the
7 development of physical features.
8
9 Archeological Sites are areas containing
10 surface and subsurface remnants related to
11 historic or prehistoric land use.
12
13 Land Use is the organization, form and shape
14 of the landscape in response to land use.
15
16 Spatial Organization is the arrangement of
17 elements creating the ground, vertical and
18 overhead planes that define and create space,
19 including the arrangement of topography,
20 buildings, and vegetation.
21
22 Topography is the three-dimensional
23 configuration of the landscape surface
24 characterized by features and orientation.
25
26 Viewshed and Vistas contain natural or man-
27 made features that create or allow varying
28 range of vision on a landscape.
29
30 Circulation are features and materials that
31 constitute systems of movement including
32 vehicular and pedestrian routes.
33
34 Buildings and Structures are three-
35 dimensional man-made constructs.
36
37 Small Scale Features are elements that
38 provide detail and diversity combined with
39 function and aesthetics.
40
41 Vegetation includes indigenous or introduced
42 trees, shrubs, vines, ground covers,
43 herbaceous and graminoid plant species.
44

Assessment of Integrity

1 Integrity is the reflection of a cultural
2 landscape's significance. Integrity is assessed
3 to determine if the landscape characteristics
4 that shaped the landscape during the period
5 of significance are present as they were
6 historically. Integrity is evaluated according
7 to seven aspects or qualities: location, setting,
8 feeling, materials, workmanship, design, and
9 association. These aspects are defined as
10 follows:

11
12 Location is the geographic site where the
13 cultural landscape was constructed or where
14 an historic event occurred.

15
16 Setting is the physical environment of the
17 cultural landscape.

18
19 Feeling is the cultural landscape's expression
20 of the aesthetic or historic sense of an
21 identified period of time.

22
23 Materials are the cultural landscape's
24 physical composition, elements combined or
25 deposited during the identified period(s) of
26 development and in a particular pattern or
27 configuration.

28
29 Workmanship includes the physical evidence
30 of the crafts of a particular culture or
31 people during any given period in history or
32 prehistory.

33
34 Design is the combination of elements that
35 create the form, plan, space, structure,
36 function, and style of the cultural landscape.

37
38 Association is the direct link between an
39 important historic event or person and a
40 cultural landscape.

41
42 The Sand Point/Munising USCG Life Saving
43 Station cultural landscape retains integrity

1 in six aspects: location, setting, materials,
2 workmanship, design, and association. The
3 landscape has diminished integrity in feeling.

4
5 Location and Setting
6 The study area retains integrity of location
7 and setting. The physical environment
8 associated with the development of Sand
9 Point/Munising USCG Life Saving Station
10 remains in the original location. The setting of
11 lake and lakeshore, relationship to the water,
12 sand beach and Forest Vegetation are part
13 of the setting that remain from the period
14 of significance. Over time the setting has
15 changed due to natural processes that have
16 altered the physical environment, however
17 the setting remains similar to the historic.

18
19 Feeling
20 Integrity of feeling is compromised due to the
21 loss of features, views, vegetation patterns,
22 and use of the site by the USCG. The loss of
23 the geologic formation of Sand Point, with
24 its large expanse of sand and the growth of
25 trees into previously open areas has affected
26 the spatial character and has diminished
27 the integrity of feeling. No longer an active
28 station, the study area does not function as it
29 did historically, and the feeling of an active,
30 working landscape no longer exists.

31
32 Materials and Workmanship
33 Contributing features associated with
34 the cultural landscape retain original
35 workmanship and materials. The buildings,
36 structures, and walks retain materials from
37 the original 1930s construction. Original
38 materials include wood and concrete, used
39 in both buildings and circulation routes.
40 Contemporary additions have continued
41 to use this simple material palette and
42 workmanship aesthetic.

43

Contributing and Non-Contributing Features

1 Design

2 The Sand Point/Munising USCG Life Saving
3 Station retains integrity of design. The
4 cultural landscape retains its original
5 arrangement of buildings and structures as
6 a series of working spaces, connected by a
7 series of orthogonal walks.

8
9 The poor condition of concrete walks and
10 concrete curbs, loss of original views and
11 damage caused by erosion has diminished
12 the integrity of design. Modifications have
13 introduced new patterns into the landscape
14 that do not reflect the historic condition,
15 specifically at the boardwalk and expanded
16 parking areas.

17 18 Association

19 The cultural landscape retains integrity of
20 association with the USCG, through the extant
21 designed landscape and buildings. The extant
22 Munising Life Saving Station (HS-01), Oil
23 House, and Boathouse retain association by
24 their continued use.

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1 **Natural Systems and Features**

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3 *Contributing Features*

- 4 • Sand Point (coastal geology)
- 5 • Lake Superior
- 6 • Native Vegetation

7

8 **Spatial Organization**

9

10 *Contributing Features*

- 11 • Formal arrangement and use areas of
12 USCG Station
- 13 • Relationship between USCG Station and
14 Lake
- 15 • Open space around Munising Life Saving
16 Station (HS-01)

17

18 **Viewshed and Vistas**

19

20 *Contributing Features*

- 21 • Views to / from Lake Superior
- 22 • Views between buildings and structures
- 23 • View to Munising Life Saving Station (HS-
24 01) from Sand Point Road

25

26 **Topography**

27

28 *Contributing Features*

- 29 • Level topography
- 30 • Constructed plinth at Munising Life
31 Saving Station (HS-01)

32

33 **Circulation**

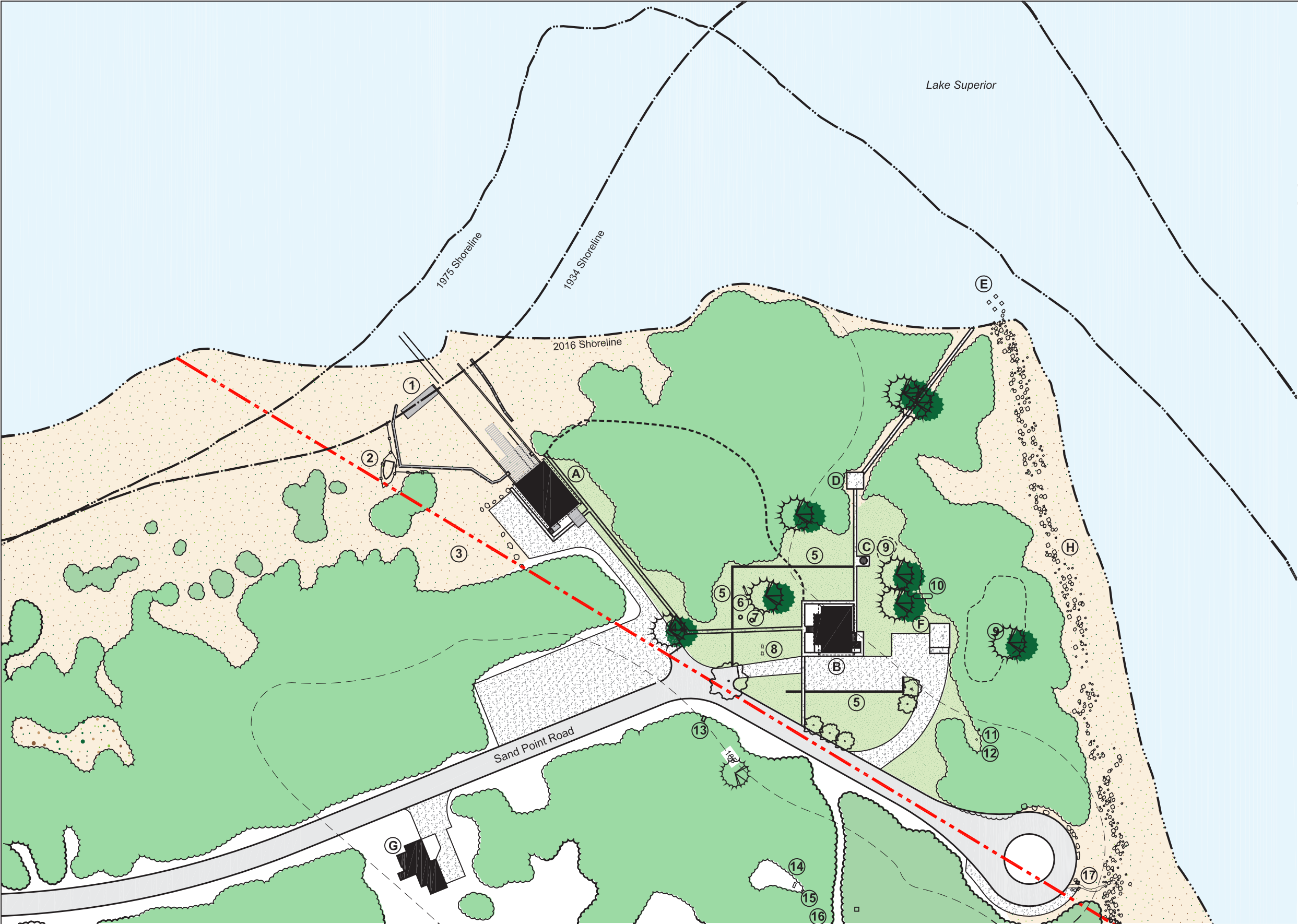
34

35 *Contributing Features*

- 36 • Sand Point Road
- 37 • Boathouse Drive
- 38 • North South Main Walk
- 39 • Walk to Boathouse
- 40 • Station Walks
- 41 • Walk to Towers
- 42 • Boathouse Walk

43

1	<i>Non-Contributing Features</i>	1	<i>Non-Contributing Features</i>
2	• Visitor Parking	2	• Boat Hull
3	• Service Road / Staff Parking	3	• Split Rail Fence
4	• Dock	4	• Septic Mound
5	• Boardwalk	5	• Boulder Edge
6	• Abandoned Trail - Boathouse to Munising	6	
7	Life Saving Station (HS-01)	7	Vegetation
8	• Informal trails to beach	8	
9		9	<u>General</u>
10	Buildings and Structures	10	<i>Contributing Features</i>
11		11	• Forest Vegetation
12	<i>Contributing Features</i>	12	• Ornamental Vegetation
13	• Munising Life Saving Station (HS-01)	13	
14	• Oil House (HS-02)	14	<u>Munising Life Saving Station</u>
15	• Boathouse	15	<i>Contributing Features</i>
16	• Launchway	16	• White Pines
17	• Lookout Tower Foundation	17	• Lawn
18	• Communications Tower Foundation	18	
19		19	<i>Non-Contributing Features</i>
20	<i>Non-Contributing Features</i>	20	• Maple Tree Row
21	• Garage Foundation	21	
22	• Rock Revetment	22	
23		23	
24	Small Scale Features	24	
25		25	
26	<u>Munising Life Saving Station</u>	26	
27	<i>Contributing Features</i>	27	
28	• Concrete curb	28	
29	• Flagpole	29	
30		30	
31	<i>Non-Contributing Features</i>	31	
32	• Headquarters Sign	32	
33	• Interpretive Sign	33	
34	• Picnic Tables	34	
35	• Propane Tank	35	
36	• Sign Footings	36	
37	• Septic	37	
38	• Septic Mound	38	
39	• Concrete Pad / Garage Foundation	39	
40		40	
41	<u>Boathouse</u>	41	
42	<i>Contributing Features</i>	42	
43	• Boat Trolley (ND)	43	
44		44	
45		45	
46		46	



LEGEND

STUDY AREA/ USGC BOUNDARY

185

ONE FOOT TOPOGRAPHIC CONTOUR

BUILDING

ASPHALT PAVING

CONCRETE PAVING

CONCRETE CURB

GRAVEL PAVING

1934 SHORELINE

1975 SHORELINE

2016 SHORELINE

STONE REVETMENT

REMNANT TRAIL

BOARDWALK

RAILS

WOOD DECK

SPLIT RAIL FENCE

FLAGPOLE

BOULDER EDGE

CONIFER EXTANT FROM PERIOD OF SIGNIFICANCE

DECIDUOUS TREE

FOREST VEGETATION

LAWN

BEACH GRASS / DUNE VEGETATION

Sources:
Google Maps 2016, 1975 Sand Point Utilities as Maintained, 1984 Maritime Exhibit Sand Point, 1975 Site Analysis, USGS Maps, 2016 MB Field Investigation

Buildings and Structures

- (A)

Boathouse & Launchway (HS-08)
- (B)

Munising Life Saving Station (HS-01)
- (C)

Oil House (HS-02)
- (D)

Communication Tower Foundation
- (E)

Lookout Tower Foundation
- (F)

Garage Foundation
- (G)

Smuck Residence (HS-64)
- (H)

Stone Revetment

Small Scale Features

- (1)

Dock
- (2)

Boat Hull
- (3)

Current Septic Field
- (4)

Interpretive Sign
- (5)

Concrete Curb
- (6)

Park Sign
- (7)

Flagpole
- (8)

Sign Remnants
- (9)

Former Septic Field
- (10)

Propane Tank
- (11)

Electric Panel
- (12)

Well
- (13)

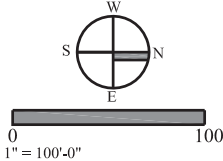
Concrete Pad
- (14)

Satellite
- (15)

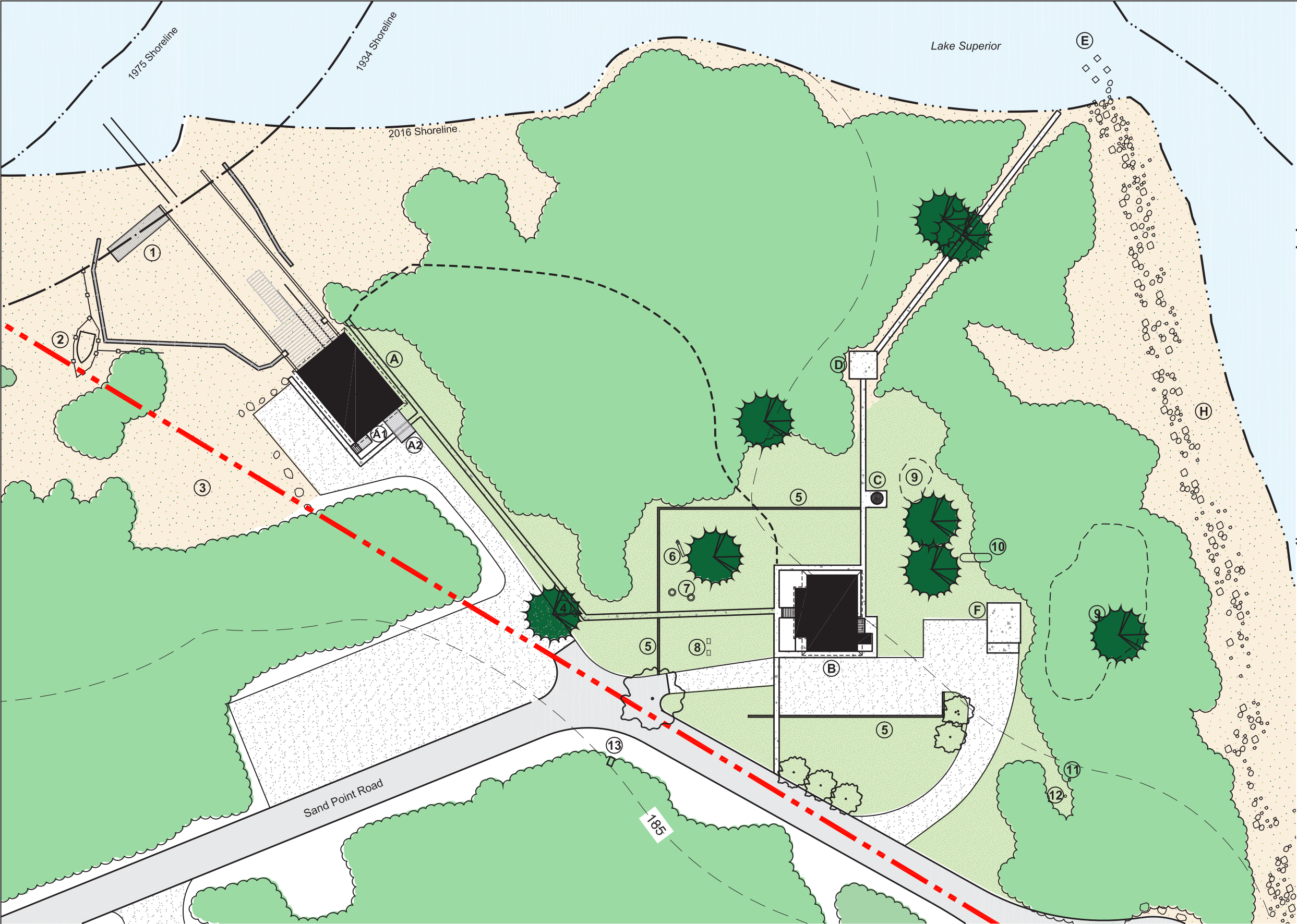
Well
- (16)

Remnant Stone Chimney
- (17)

Interpretive Sign



FEBRUARY 2017	TITLE OF PROJECT CULTURAL LANDSCAPE REPORT AND ENVIRONMENTAL ASSESSMENT		
UNITED STATES DEPARTMENT OF THE INTERIOR	TITLE OF DRAWING ILLUSTRATION 3-1 STUDY AREA EXISTING CONDITION PLAN		
PICTURED ROCKS NATIONAL LAKESHORE MUNISING, MICHIGAN	NAME OF PARK SAND POINT/MUNISING USCG LIFE SAVING STATION		
625-135194	REGION MIDWEST	COUNTY ALGER	STATE MICHIGAN 3-5



LEGEND

STUDY AREA/
USGC BOUNDARY

185

ONE FOOT TOPOGRAPHIC
CONTOUR

BUILDING

ASPHALT PAVING

CONCRETE PAVING

CONCRETE CURB

GRAVEL PAVING

1934 SHORELINE

1975 SHORELINE

2016 SHORELINE

STONE REVETMENT

REMNANT TRAIL

BOARDWALK

RAILS

WOOD DECK

SPLIT RAIL FENCE

FLAGPOLE

BOULDER EDGE

CONIFER EXTANT FROM
PERIOD OF SIGNIFICANCE

DECIDUOUS TREE

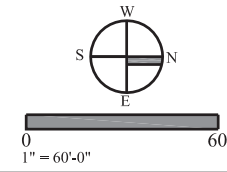
FOREST VEGETATION

LAWN

BEACH GRASS / DUNE
VEGETATION

Sources:
Google Maps 2016, 1975 Sand Point Utilities as
Maintained, 1984 Maritime Exhibit Sand Point, 1975 Site
Analysis, USGS Maps, 2016 MB Field Investigation

Buildings and Structures		Small Scale Features		
(A) Boathouse & Launchway (HS-08)	(D) Communication Tower Foundation	(1) Dock	(6) Park Sign	(12) Well
(A1) Boathouse Stairs	(E) Lookout Tower Foundation	(2) Boat Hull	(7) Flagpole	(13) Concrete Pad
(A2) Boathouse Ramp	(F) Garage Foundation	(3) Septic Field	(8) Sign Remnants	
(B) Munising Life Saving Station (HS-01)	(H) Stone Revetment	(4) Interpretive Sign	(9) Former Septic Field	
(C) Oil House (HS-02)		(5) Concrete Curb	(10) Propane Tank	
			(11) Electric Panel	



FEBRUARY 2017

UNITED STATES
DEPARTMENT OF THE INTERIOR
PICTURED ROCKS NATIONAL LAKESHORE
MUNISING, MICHIGAN

625-135194

TITLE OF PROJECT
CULTURAL LANDSCAPE REPORT
AND ENVIRONMENTAL ASSESSMENT

TITLE OF DRAWING
ILLUSTRATION 3-2 USCG STATION EXISTING CONDITION PLAN

NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION

REGION
MIDWEST

COUNTY
ALGER

STATE
MICHIGAN

3-7

Existing Condition and Analysis by Landscape Characteristic

1 Natural Systems and Features

2
3 Sand Point/Munising USCG Life Saving
4 Station is situated on the south shore of
5 Lake Superior. The region is typified by cold
6 winters, mild summers, and sudden strong
7 storms on the lake.

8
9 The shoreline exposes visible bedrock that
10 dates to the Paleozoic Era (about 600-270
11 million years). The exposed formations are
12 composed of sandstones originally deposited
13 by relatively shallow continental seas.
14 Remnants of these sandstones, which are rich
15 in plant and animal fossils, form the Pictured
16 Rocks escarpment and its colorful cliffs.^{3.1}

17
18 During the Pleistocene, the region was
19 repeatedly covered by advancing and
20 retreating continental ice sheets that
21 dramatically affected the Great Lakes
22 landscape. The last of four glaciers to move
23 across the region, the Wisconsinan advances,
24 retreated about 10,000 years ago. They
25 molded the modern regional topography
26 including the geological formation of Sand
27 Point.

28
29 Glacial and post-glacial history contributed
30 to the development of varied soils, and are
31 a factor in weathering of Sand Point. Two
32 soil types have been identified for the study
33 area.^{3.2}

34 Wurtsmith-Deford Complex

35 This soil is found on outwash plains and
36 beach ridges, on level to 6 percent slopes.
37 This soil formed in sandy beach deposits,
38 and is typically composed of 1 to 4" of

39
40
41 3.1 Anderson, Olive M. Pictured Rocks National Lakeshore.
Munising, MI: Bayshore Press, 1988, 9.

42 3.2 National Resources Conservation Service. *Soil Survey of*
43 *Alger County Michigan*. USDA, 2013.

1 decomposed plant material with a base of
2 sand. The soil is moderately well drained,
3 has rapid permeability, and is typically not
4 flooded or ponded. Due to the beach sand
5 as parent material, this soil has a severe soil
6 blowing hazard.^{3.3}

7 Deford Muck

8 This soil is found on slopes of zero to 2
9 percent, in depressions, drainageways, and
10 flats. This soil is poorly drained, with frequent
11 ponding. Typically this soil has between 1
12 to 4" of muck and sandy muck, on a base of
13 fine sand. There is a moderate hazard of soil
14 blowing.^{3.4}

15
16
17 A wider variety of soil types occur within
18 PIRO, which support a diversity of flora and
19 floral and faunal habitats, including forests,
20 swamps, lakes, dunes, beaches, and cliffs.^{3.5}
21 Within the study area, forest dominates the
22 landscape with deciduous trees and conifers
23 growing on the inland portions of the study
24 area and dune grasses at the shoreline.

25
26 The majority of the study area is covered
27 with hemlock - white pine - northern
28 hardwood forest, and white pine - red pine
29 - oak forest. Other forest-types found in
30 the study include boreal forest, jack pine
31 forest, black spruce and tamarack swamp
32 forests. Most of the uplands in PIRO are
33 dominated by sugar maple (*Acer saccharum*)
34 and yellow birch (*Betula alleghaniensis*),
35 with American beech (*Fagus grandifolia*)
36 present in various amounts. Eastern hemlock

37
38 3.3 NRCS. *Soil Survey of Alger County Michigan*. USDA, 2013,
219; 351.

39 3.4 NRCS. *Soil Survey of Alger County Michigan*. USDA, 2013,
40 220, 303.

41 3.5 Chadde, Steve W. *Plants of Pictured Rocks National*
42 *Lakeshore: A Complete, Illustrated Guide to the Plants*
43 *of America's First National Lakeshore*. Calumet, MI:
PocketFlora Press, 1996. 2.



Figure 3-1. PIRO is named for the exposed rocks of colorful sandstone that have been eroded into cliffs, caves and arches next to Lake Superior, such as Miners Castle. (source: Gregg Bruff NPS 2009)



Figure 3-2. Lake Superior reached record setting water levels in the mid-1980s, resulting in very rapid retreat (erosion and inundation) of the northern Sand Point shoreline. The NPS added a rock revetment to the north edge of Sand Point, in foreground of photograph. The sand beach has rebuilt, but not to the extent that existed during the period of significance. (source: Mundus Bishop 2016)

1 (*Tsuga canadensis*) and white pine (*Pinus*
2 *strobus*) are interspersed in the hardwood
3 forests, occasionally becoming dominant.
4 Jack pine (*Pinus banksiana*) and red pine
5 (*Pinus resinosa*) are prevalent on well-drained
6 sand flats, such as Sand Point. Beaches along
7 Lake Superior include dunal vegetation
8 such as American beachgrass (*Ammophila*
9 *breviligulata*), sand cherry (*Prunus pumila*),
10 and jack pine. Additional plant communities
11 occur less frequently, including black spruce
12 (*Picea mariana*) and tamarack (*Larix laricina*)
13 swamp forests, fens, and swamp shrublands.
14

15 The diverse forest and wetland communities
16 of the study area are home to more than 40
17 mammal species. To date, more than 180 bird
18 species have been documented in the area.
19 Some reside in PIRO all year, some are present
20 only seasonally, and others are only observed
21 during migration. Six species of bats have
22 been recorded within PIRO.^{3.6} They are little
23 brown bat (*Myotis lucifugus*), federally listed
24 northern long-eared bat (*M. septentrionalis*),
25 eastern red bat (*Lasiurus borealis*), hoary bat
26 (*L. cinereus*), silver-haired bat (*Lasionycteris*
27 *noctivagans*), and big brown bat (*Eptesicus*
28 *fuscus*). White-Nose Syndrome, a disease
29 caused by fungus and associated with severe
30 bat mortality, has been found in multiple
31 Michigan counties, including Alger County
32 where Sand Point/Munising USCG Life
33 Saving Station is located. The disease was
34 first found in Michigan in late winter 2014
35 and confirmed in Alger County on March 4,
36 2015.^{3.7} This disease may lead to bat species
37 being listed as threatened or endangered in
38 the future.

39 3.6 Kruger, Laura, and Rolf Peterson. Occurrence of
40 Temperate Bat Species at Three National Parks in the
41 Great Lakes Region. Natural Resource Technical Report
42 NPS/GLKN/NRTR-2008/128. National Park Service, Fort
43 Collins, Colorado. 2008.

44 3.7 O'Brian, Dan. First bats to die from white-nose syndrome
45 this winter reported in Keweenaw County, Michigan.
46 Michigan DNR sick or dead bird mammal observation
report, Michigan Department of Natural Resources. www.
whitenosesyndrome.org 2015.

1 The natural systems and features of Sand
2 Point influenced its physical development.
3 Sand Point is a cusped foreland composed
4 of beach ridges and swales. The point was
5 formed and migrated southwest by longshore
6 drift, a process of sediment transport. During
7 longshore drift waves created by wind and
8 storms meet the existing shoreline at an
9 angle and deposit sediment eroded from the
10 nearby geologic features.^{3.8} Winds blowing
11 from the northwest across Lake Superior
12 have a fetch near 300 kilometers.^{3.9} These
13 constant directional winds affect the direction
14 of erosion and accretion across Sand Point.
15 Optically stimulated luminescence (OSL)
16 dating techniques support this theory
17 showing a relative and absolute trend of
18 younger beach ridges from southeast to
19 northwest along Sand Point.^{3.10}

20
21 The geologic formation of the point jutting
22 into Munising Bay, was a logical location for
23 the Sand Point/Munising USCG Life Saving
24 Station. The point provided observational
25 views and easy boat access to the lake. The
26 Station was organized and arranged in
27 response to the natural formation, with the
28 Lookout Tower at the end of the point, the
29 Boathouse (HS-08) to the south, and the
30 Munising Life Saving Station (HS-01) further
31 inland. The native vegetation was modified
32 as part of the USCG activities, with vegetation
33 removed to provide views towards Lake
34 Superior.

35
36 3.8 Sand Point Revetment / Environmental Assessment
37 Pictured Rocks National Lakeshore, Michigan US
38 Department of the Interior, National Park Service, 2015,
39 21.

40 3.9 Fisher, Timothy G.; Krantz, David E.; Castaneda, Mario R.;
41 Loope, Walter L.; Jol, Harry M.; Goble, Ronald J.; Higley,
42 Melinda C.; DeWald, Samantha; and Hanson, Paul R.,
43 Coastal geology and recent origins for Sand Point, Lake
44 Superior, Papers in the Earth and Atmospheric Sciences.
45 Paper 418. 2014, 24.

46 3.10 Fisher, Timothy G. Determining the Origin and Dynamics
of Coastal Processes of Sand Point at Pictured Rocks
National Lakeshore. University of Toledo, Department of
Environmental Sciences, 2008, 2.



Figure 3-3. Forests dominate the landscape with deciduous trees and conifers growing on the inland portions of the landscape, and dune grasses at the shoreline. (source: Mundus Bishop 2016)



Figure 3-4. On the south side of the point the lakeshore cuts inland resulting in some vegetation being flooded. (source: Mundus Bishop 2016)

The natural systems and features are a characteristic feature of the study area. In the 1980s the sand at Sand Point began to recede, increasing concern for flooding of the historic buildings. In response, the NPS added a rock revetment to the northern edge of the beach from the terminus of Sand Point Road to the former Lookout Tower on the point. Current studies are evaluating the effects the revetment has had and is having, upon the natural dynamic processes of sand scouring and deposition.^{3.11} Initially the revetment secured the shoreline and abated flooding. However, the revetment causes the current longshore dynamics of Lake Superior at Sand Point to be altered. The result is sand moving off shore rather than along shore. Waves diffract around the revetment creating a “hot spot” at the tip of Sand Point and force erosion along the southern shoreline.^{3.12} The revetment is deteriorating. It is expected to fully fail, leading to erosion behind the revetment that would threaten the Life Saving Station.^{3.13} Prior to construction of the revetment on the shoreline, Sand Point was much more extensive although it had shifted, eroded and changed over time. The revetment has not prevented further erosion or shoreline retreat of the northern shoreline and has been the catalyst to further erosion of the southern shoreline.^{3.14}

The addition of the revetment disrupted what was once a single surface of sand across

^{3.11} Sand Point Revetment / Environmental Assessment Pictured Rocks National Lakeshore, Michigan US Department of the Interior, National Park Service, 2015, 57.

^{3.12} Young, Robert S. An Analysis of Coastal Erosion and Management Issues at Sand Point, Pictured Rocks National Lakeshore. Department of Geosciences and Natural Resources Management, Western Carolina University, 2004, 5.

^{3.13} Sand Point Revetment / Environmental Assessment Pictured Rocks National Lakeshore, Michigan US Department of the Interior, National Park Service, 2015, 57.

^{3.14} Young, Robert S. An Analysis of Coastal Erosion and Management Issues at Sand Point, Pictured Rocks National Lakeshore. Department of Geosciences and Natural Resources Management, Western Carolina University, 2004, 5.

the point, and disrupts the natural aesthetic and dynamics of the shoreline. Sand Point provided a natural overlook across Lake Superior and was the reason for establishing the Sand Point/Munising USCG Life Saving Station at this location. The natural geology and ecology contribute to the significance of the cultural landscape.

Archeological Sites

The study area includes a number of archeological sites that pre-date European arrival in the region as well as historic archeological sites from the USCG.

Archeological site 20AR265 is a 19th century Ojibwe cemetery on Sand Point Road.^{3.15} A portion of this cemetery was damaged during construction of the road in the 1930s. Oral history interviews indicate that human remains were removed and re-interred nearby.^{3.16}

A photograph dated to 1886 indicates the cemetery's use in the late 19th century, although the cemetery may date to an earlier time.^{3.17} First-hand testimonies assert the cemetery was in place and was taken care of until at least 1918. There were approximately two dozen graves within the cemetery, enclosed by picket fences. The cemetery held both American Indian and non-Indian burials.

The first archeological survey of PIRO included investigations at Sand Point for American Indian remains. In the late 1980s and early 1990s, MWAC conducted ground penetrating radar and shovel testing, with ambiguous results.^{3.18}

^{3.15} Schilling, Timothy. Sand Point Archeological Investigation, Trip Report. Unpublished document, MWAC, 2016.

^{3.16} Zedeno, et. al., *Traditional Ojibway Resources*, 155-57.

^{3.17} Zedeno, et. al., *Traditional Ojibway Resources*, 155-57.

^{3.18} Schilling, Timothy. Sand Point Archeological Investigation, Trip Report. Unpublished document, MWAC, 2016.

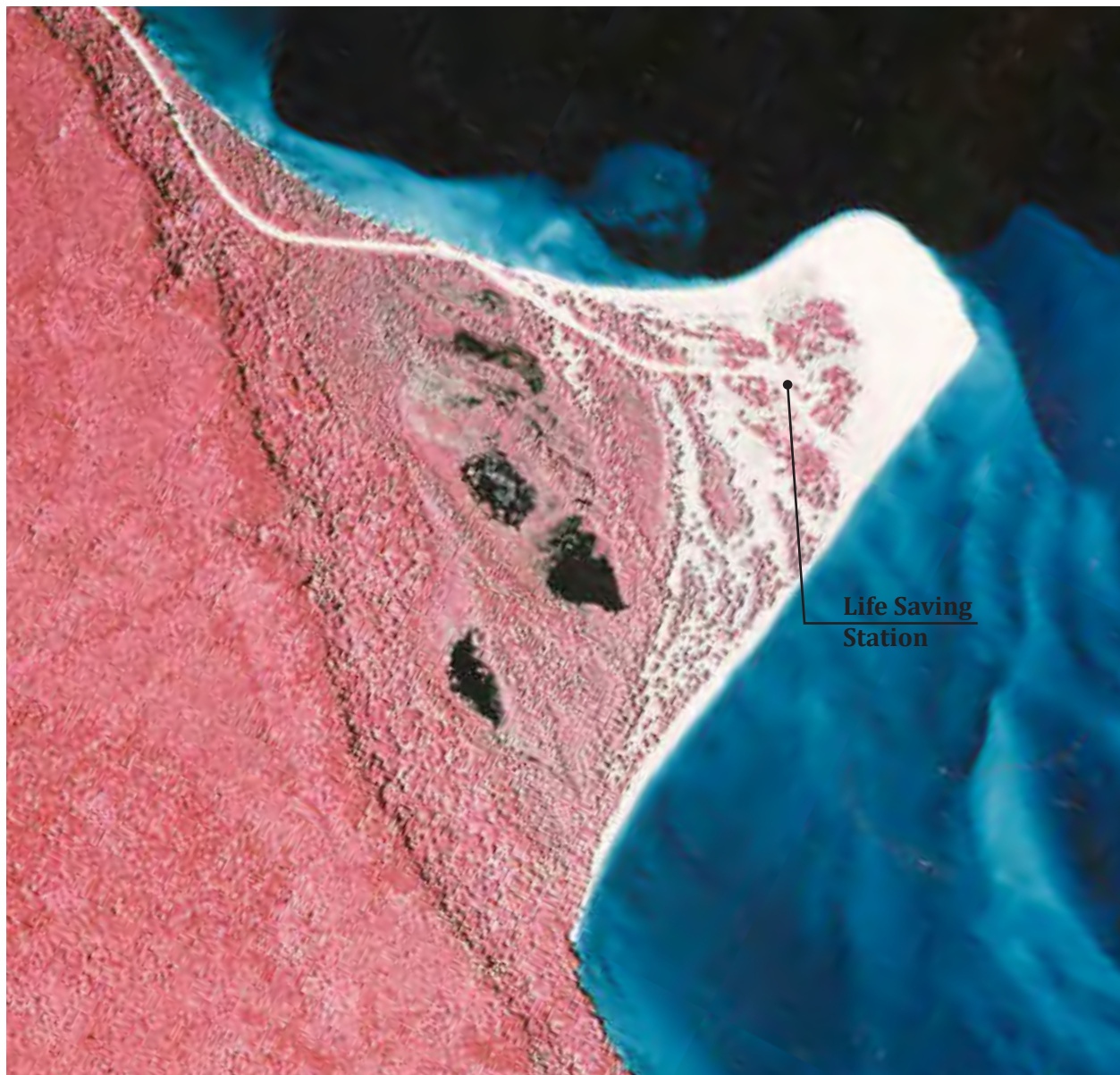


Figure 3-5. The geological formation of Sand Point extends from the shoreline to the base of the elevated plateau to the east (left in photograph). The sand at Sand Point was a dominant feature of the landscape during the period of significance. Aerial of Sand Point, 1978. (source: PIRO Archives)



Figure 3-6. Erosion has removed much of the sand at Sand Point since the 1970s, altering the appearance of the point. "Aerial of Sand Point, 1994." (source: PIRO Archives)



Figure 3-7. Since the 1970s the shoreline has shifted with additional sand accumulating south of the point. "Aerial of Sand Point, 2016." (source: Google Earth)

1 The study area included the Ojibwe
 2 settlement of South Bay. This area was
 3 inhabited by members of the Grand Island
 4 band of Ojibwe until the late 1800s.^{3.19} South
 5 Bay included three connected villages at Bay
 6 Furnace, Sand Point, and Grand Island. Oral
 7 history accounts describe the marshland at
 8 Sand Point as a location for gathering and
 9 cultivating wild rice, a staple of the Ojibwe
 10 diet.^{3.20}
 11
 12 Archeological resources also include those
 13 from the historic period. Archeological site
 14 20AR422 is the remnants of a boat that
 15 may have been an early Coast Guard launch.
 16 The boat was left abandoned on the beach.
 17 In 1986, an informal investigation was
 18 undertaken on the boat. Even though a state
 19 site number was assigned to the remains,
 20 there were doubts on the site's significance
 21 and integrity. It is not known how the boat
 22 arrived the site but recent winter storms have
 23 further deteriorated the remnants.^{3.21}

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44 3.19 Zedeno, et. al., *Traditional Ojibway Resources*, 154.

45 3.20 Zedeno, et. al., *Traditional Ojibway Resources*, 157.

46 3.21 Schilling, Timothy. Sand Point Archeological Investigation,
 Trip Report. Unpublished document, MWAC, 2016.

1 Land Use

2
 3 Sand Point/Munising USCG Life Saving Station
 4 is within Pictured Rocks National Lakeshore
 5 (PIRO). Previously built and operated by
 6 the USCG, the study area is now owned and
 7 managed by the NPS. PIRO is 73,235 acres
 8 in size, and its current land use is a publicly
 9 accessible National Lakeshore that preserves
 10 and protects the unique geology and
 11 ecosystem associated with the south shore of
 12 Lake Superior.

13

14 The study area's land use has changed from
 15 the period of significance. The study area
 16 includes administrative offices, interpretative
 17 areas, public access to the beach, and historic
 18 buildings and structures. The NPS provides
 19 staff housing in the Smuck Residence,
 20 adjacent to the study area. South of the
 21 station, along Sand Point Road, is a swimming
 22 beach, boat launch, and nature trail.

23

24 Historically the station was used differently
 25 than today. The crew had four boats (motor
 26 lifeboat, motor surf, surfboat, and skiff) which
 27 were stored in the Boathouse and launched
 28 into Lake Superior via the Launchway.
 29 Crews were required to perform life-saving
 30 drills, keep watch in the Lookout Tower, and
 31 perform maintenance and upkeep of the
 32 station. Maintenance included upkeep of the
 33 station's landscape to present a "ship-shape"
 34 appearance. This meant the vegetation did
 35 not block sightlines and crew could easily
 36 access the Boathouse in an emergency. Once
 37 the USCG ceased all operations in 1958, the
 38 site no longer served its founding mission to
 39 rescue boats and crewmen on Lake Superior.

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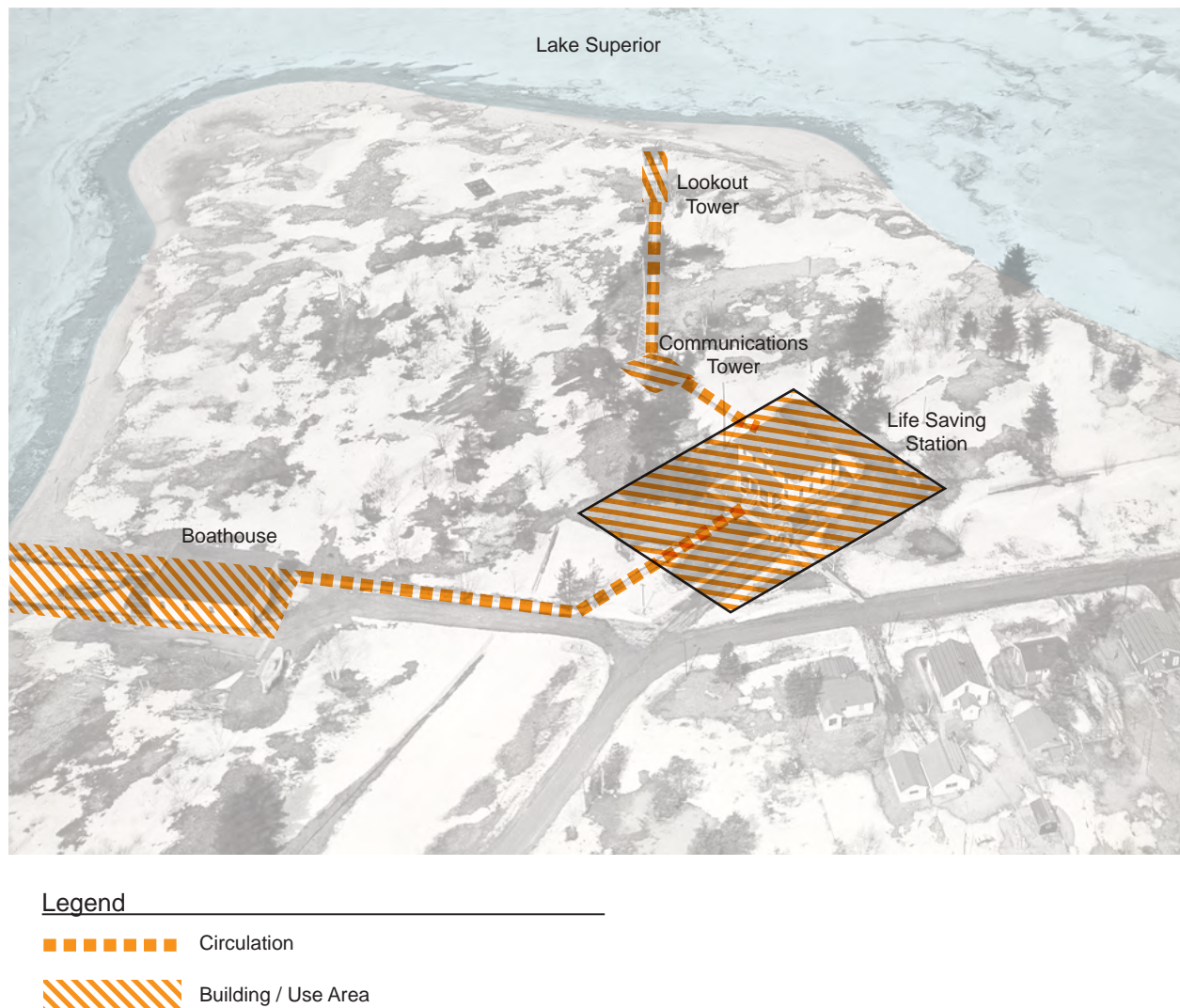


Figure 3-8. The four components of the Sand Point/Munising USCG Life Saving Station were integrated for successful operation – Lookout Tower, Communications Tower, Boathouse and Life Saving Station. These four spaces were connected visually by clearings in the vegetation and physically by walkways. The arrangement of the station was influenced by the geography of the point and arranged as an efficient system. These relationships have been diminished due to vegetation that obscures the visual relationship between these spaces and the poor condition of the walks. (source: PIRO Archives / Mundus Bishop 2016)

1 Spatial Organization

2
3 The spatial organization of the cultural
4 landscape is arranged about the natural
5 geography of the point. The Munising Life
6 Saving Station (HS-01) is the most prominent
7 feature, set in a formally arranged space
8 with perimeter walks and lawn enclosed by
9 a concrete curb. The Boathouse (HS-08) is
10 aligned perpendicular to the lakeshore, with
11 clear lines of sight to the water.
12
13 The USCG designed and organized the station
14 into separate uses and activities, divided
15 into four main components – Lookout Tower,
16 Communications Tower, Boathouse (HS-08)
17 and Munising Life Saving Station (HS-01).
18 The station was designed as a complex of
19 separate buildings that provided specific
20 functions (housing, boathouse, storage, etc.).
21 These spaces were essential for the efficient
22 workings of the station and were connected
23 visually by clearings in the vegetation, and
24 physically by walkways. The Munising Life
25 Saving Station (HS-01) was designed and
26 sited as the most prominent feature, set at
27 the end of Sand Point Road and raised slightly
28 above the adjacent terrain, located south

1 of the point, it offered ease of access to the
2 water. The Lookout Tower was at the tip of
3 the point, positioned to provide the best view
4 of passing ships. The overall appearance
5 of the cultural landscape took on a formal
6 military-esque aesthetic of trimmed lawn and
7 orthogonal paths with clear lines of sight.
8
9 The spatial organization has changed since
10 the period of significance. The arrangement
11 of buildings and structures, oriented to the
12 water, and response to the natural terrain
13 remains. But the visual relationships between
14 use areas and to the water has diminished
15 over time. The loss of the Lookout and
16 Communications Towers disrupts the spatial
17 pattern that existed historically as these
18 prominent towers no longer mark the tip of
19 Sand Point. The understanding of the study
20 area as a working station is more difficult
21 without the Lookout Tower. The spatial
22 organization has been further diminished
23 due to vegetation that obscures the visual
24 relationship between spaces, and the
25 poor condition of the walks that limits the
26 connectivity that once occurred between use
27 areas.

28

Matrix 3-1. Spatial Organization Matrix

SPATIAL ORGANIZATION			
Feature	Description	Condition	"Contributing / Non-Contributing"
Formal arrangement and use areas of USCG Station	4 components of USCG Station: Life Saving Station, Communications Tower, Lookout Tower, and Boathouse/Launchway.	Good/Fair	Contributing
Relationship to Lake Superior	Deliberate design of the station, arranged in around the geology of Sand Point, oriented to Lake Superior.	Fair	Contributing
Open space at Life Saving Station	Life Saving Station set as prominent feature on raised terrain, set in open lawn surrounded by tall trees.	Good	Contributing



Figure 3-9. The Life Saving Station was designed as the most prominent feature. A formal system of walks connected structures, and views to the water were clearly visible, 1944. (source: PIRO Archives)



Figure 3-10. Since the period of significance, the spatial organization has been modified by the expanded staff parking area and loss of views to the water. (source: Mundus Bishop 2016)



Figure 3-11. The Launchway was placed south of the point, in a sheltered location from strong winter storms. The twin sets of rails are partially extant. The dock, at left, is a reconstruction in an historic location at the end of the Launchway. (source: Mundus Bishop 2016)



Figure 3-12. The Boathouse is oriented perpendicular to the water with the main entrance on the water side of the building. (source: Mundus Bishop 2016)



Figure 3-13. The topography is primarily level, with sand dunes creating small natural ridges across most of the study area. As part of the site design, the USCG modified the topography at the Life Saving Station, adding fill and leveling the space into a plinth, enclosed by a concrete curb, on which the building sits. This level topography remains from the period of significance but has been modified by the expanded staff parking area at right. (source: Mundus Bishop 2016)

1 **Topography**

2

3 The cultural landscape is at the northwest
4 edge of Sand Point, a prominent geological
5 feature along Munising Bay. The complex of
6 buildings, structures, walks, and plantings
7 are organized in response to the shape of
8 the point, which provides level and easy
9 access to the water. The Munising Life Saving
10 Station (HS-01) and adjacent lawn is set on a
11 small rise, slightly elevated above the native
12 topography.

13

14 The topography was modified by the USCG in
15 the 1930s, who brought in clay soil to modify
16 the grounds around the Munising Life Saving
17 Station (HS-01). The new material was used
18 as fill to create a plinth for the building and
19 yard. The topography was altered as part
20 of construction of the Launchway (HS-08),
21 which required removal of sand for the pile
22 and timber bulkhead and the descent of the
23 launch into the lake. The Launchway was
24 extended in the 1940s and re-dredged to
25 accommodate the shifting shoreline.

26

27 The subtle change to the topography at
28 the Munising Life Saving Station (HS-01)
29 exists today and has been unmodified since
30 the period of significance. An exception is
31 near the staff parking area where the grade
32 drops away from the building to the east
33 more abruptly than it did historically. At the
34 Launchway, the topography has changed since
35 the period of significance due to sand that has
36 washed into the launch. This does not reflect
37 the historic condition and diminishes the
38 integrity of the constructed topography.

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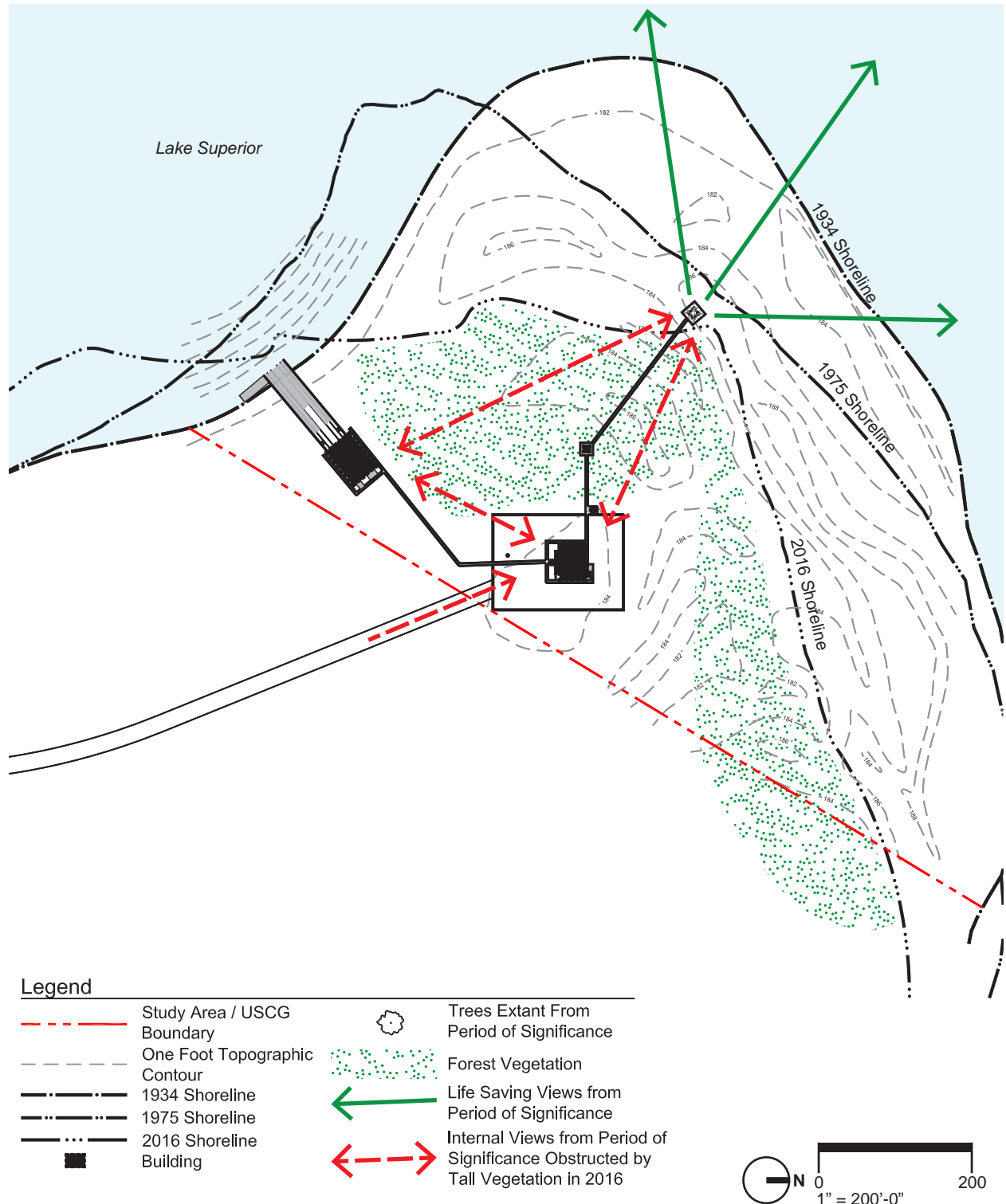


Figure 3-14. The views associated with the USCG development have changed since the period of significance. Historically the vegetation was less dense, allowing for open views across the study area. These views were essential to the successful life saving operations undertaken by the USCG. Over time vegetation has grown into the once open spaces, obscuring views to the water and the internal views and sight-lines between structures. (source: Mundus Bishop 2016)

1 Viewshed and Vistas

2

3 The primary viewshed from Sand Point is

4 across Lake Superior to Grand Island, Miners

5 Castle, and Munising Bay. From the tip of the

6 point, close to the former Lookout Tower, the

7 viewshed is towards the bay to the south and

8 to the lake to the north and northeast. Further

9 inland, a view of the water is from Sand Point

10 Road towards the road terminus, and from

11 Sand Point Road towards the Boathouse.

12 Views between buildings and former

13 structures, and to the water are obscured by

14 vegetation and are in poor condition.

15

16 Historically, the viewshed was more open

17 between the station and the water than it

18 is at present. A view to the water was of

19 paramount importance to the mission of

20 monitoring and helping boats and crewmen

21 in danger. At an elevated position the Lookout

22 Tower filled a crucial role in keeping watch

23 but the entire complex relied upon open

24 views to the water, including those from the

25 Munising Life Saving Station (HS-01) and the

26 Boathouse (HS-08). Today these views are

27 non-extant due to vegetation that has grown

1 in locations where, during the period of

2 significance, the height of the vegetation was

3 shorter and was primarily low shrubs and

4 grasses (Figure 3-15).

5

6 The views at Sand Point have changed from

7 the period of significance. After the station

8 closed, vegetation was no longer managed

9 resulting in growth that obscures views that

10 were once necessary for USCG operations.

11 Views that existed between the Munising

12 Life Saving Station (HS-01) and the lake are

13 non-extant. Views between the Boathouse

14 and Launchway (HS-08) and lake are in

15 good condition. Along the walkway to the

16 Communications Tower and Lookout Tower,

17 the vegetation has become so dense that the

18 visual connection between these historic

19 features is diminished.

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Matrix 3-2. Viewshed and Vistas Matrix

VIEWSHED AND VISTAS			
Feature	Description	Condition	"Contributing / Non-Contributing"
Views to / from Lake Superior	View from Sand Point to Grand Island, Miner's Castle, and Munising Bay.	Fair/Poor	Contributing
View to Life Saving Station from Sand Point Road	View from the main vehicular entrance at Sand Point Road towards the Life Saving Station. Framed by tall trees either side of road	Good	Contributing



Figure 3-15. The view from the Lookout Tower to Lake Superior was needed to keep watch for troubled ships on the lake. (source: PIRO Archives)



Figure 3-16. A similar view today, looking towards Grand Island. The view remains open across the beach but smaller trees encroach upon the view. (source: Mundus Bishop 2016)



Figure 3-17. The view from Sand Point towards Munising Bay. The point provided a wide cone of vision and was the basis for the USCG establishment. The foundation of the Lookout Tower can be seen as four submerged concrete blocks on the right of the photograph. (source: Mundus Bishop 2016)



Figure 3-18. The open view from the Boathouse and Launchway remains, contributing to the character and history of the cultural landscape. (source: Mundus Bishop 2016)



Figure 3-19. The Station Walk at the north connects the Life Saving Station to the Oil House, and continues on towards the former Lookout Tower. (source: Mundus Bishop 2016)



Figure 3-20. The walk to the former Communications Tower is covered with dirt and debris. Vegetation obscures the view between the Life Saving Station and the former tower. (source: Mundus Bishop 2016)



Figure 3-21. The walk between the Communications Tower and the Lookout Tower is in fair condition, portions are covered by encroaching vegetation. (source: Mundus Bishop 2016)



Figure 3-22. Sand Point Road is the only vehicular route into the study area. The visitor parking provides approximately 15 spaces including one accessible space. (source: Mundus Bishop 2016)

1 Circulation

2
3 The circulation of Sand Point includes
4 vehicular, pedestrian, and water routes.
5 Circulation routes are arranged in response
6 to the geographic point, with Sand Point Road
7 as the only vehicular route that connects Sand
8 Point to Munising. The system of pedestrian
9 walks is arranged orthogonally in efficient,
10 military fashion, to connect buildings and
11 structures. Sand Point Road terminates at a
12 circular turnaround at the north end of the
13 study area.

14
15 Vehicular circulation routes are
16 predominantly orthogonal in response to the
17 buildings, and include parking for visitors
18 and staff. A large gravel rectangular parking
19 area is at the southwest end of the study
20 area. Informal parking is at the turnaround at
21 the terminus of Sand Point Road. Driveways
22 connect to the Munising Life Saving Station
23 (HS-01) and Boathouse (HS-08) with parking
24 areas adjacent to each building for staff.

25
26 Pedestrian circulation is arranged as a system
27 of orthogonal paths connecting buildings and
28 structures. The walks at the Munising Life
29 Saving Station (HS-01) follow the building
30 facades and reinforce its formality. A wooden
31 boardwalk zigzags from the Boathouse (HS-
32 08) to the boat hull and Dock to the west.
33 Additional informal pedestrian trails lead to
34 the beach from the Boathouse and from the
35 terminus of Sand Point Road.

36
37 Sand Point Road remains the same narrow
38 road as originally built in the 1930s.
39 The visitor parking was added in the 1970s
40 by the NPS, with the terminus of Sand Point
41 Road formalized into a turnaround at the
42 same time.

43
44 The staff parking near the Munising Life
45 Saving Station (HS-01) was originally a
46 narrow drive that provided vehicular access

1 to the building for the USCG's single truck.
2 The staff parking expanded the narrow drive,
3 created a drive, and provided parking at the
4 east edge. A garage and fuel station were
5 added to the rear of the building at the same
6 time both are non-extant. The addition of
7 the staff parking and drive has disrupted the
8 historic arrangement of the circulation routes.
9 These modifications dispersed vehicular
10 traffic into areas that were previously lawn
11 spaces or were undeveloped.

12
13 Pedestrian routes have remained as a system
14 of orthogonal paths connecting buildings
15 and use areas as originally built. Some walks
16 have been damaged, due to erosion of the
17 lakeshore, particularly at the northwest end
18 towards the Lookout Tower foundation, and
19 a portion of the Station Walk that extended to
20 the east. Near the Boathouse, the orthogonal
21 walks have been covered by a ramp on the
22 east side, and other portions are in poor
23 condition. The boardwalk and informal trails
24 are not part of the historic circulation pattern.

25
26 Water routes do not reflect the historic
27 arrangement since the Boathouse and
28 Launchway are no longer actively used.
29 Historically, the Launchway was sited on the
30 southwest corner of the point, to be sheltered
31 from the strong winds that would come from
32 the north. With the absence of the USCG
33 activities, water access from this location is
34 no longer utilized, except informally. Today,
35 water access is easiest from the terminus
36 of Sand Point Road or the visitor parking.
37 Visitors may carry their small watercraft
38 down to the shoreline. Formalized water
39 access, with a boat ramp, is located south of
40 the study area.

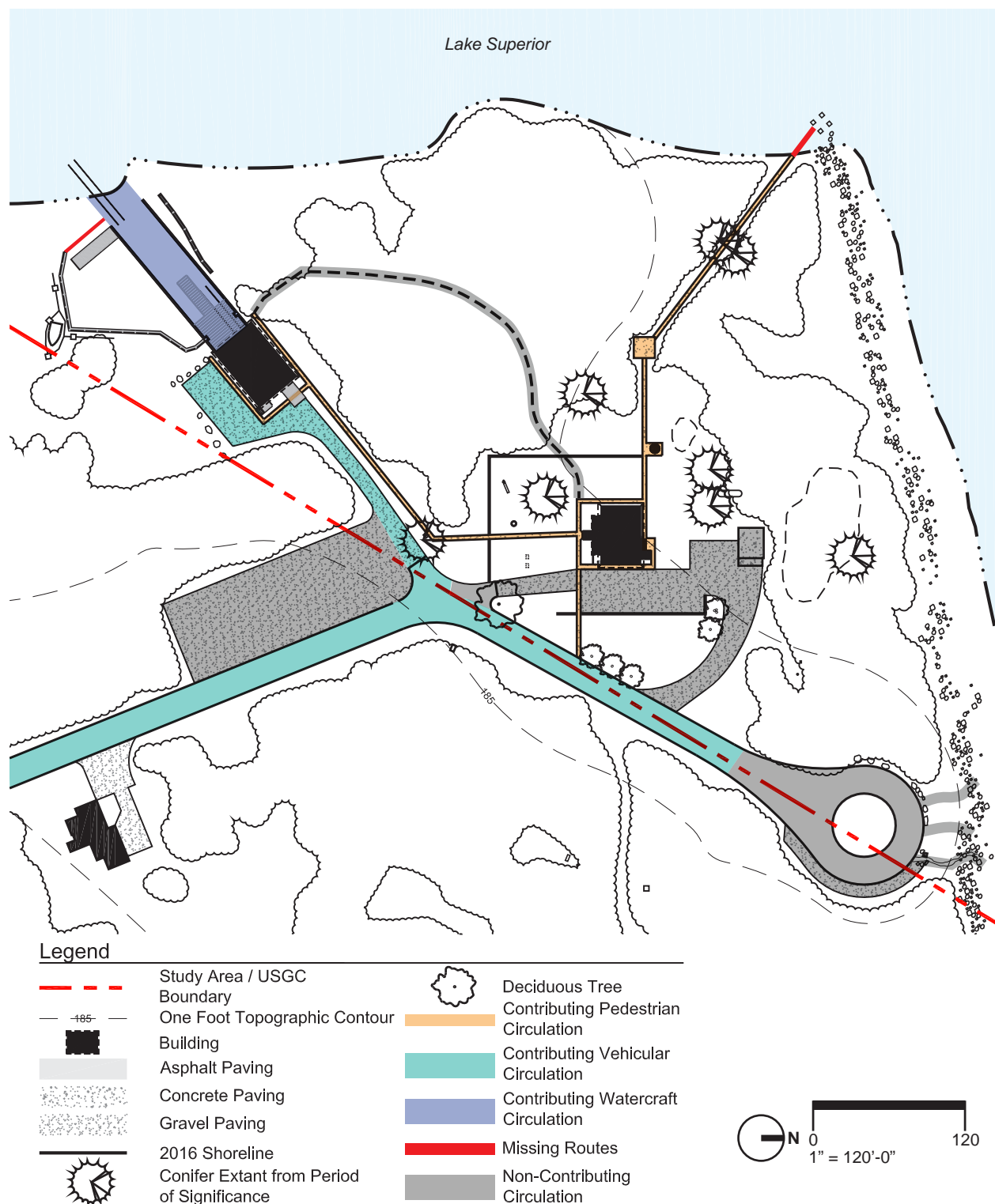


Figure 3-23. Circulation routes have remained in-tact from the period of significance. The overall circulation pattern remains, but the expanded vehicular circulation routes and poor condition of many walks threatens the integrity of the original design. (source: Mundus Bishop 2016)

Matrix 3-3. Circulation Matrix

CIRCULATION			
Feature	Description	Condition	"Contributing / Non-Contributing"
Vehicular Circulation			
Sand Point Road	2-lane asphalt paved road 22' wide +/- . Road ends at beach, one-way circular loop. Gravel pull-out, 10' wide	Good	Contributing
Visitor Parking Area	60' wide +/- gravel surfaced. 1 HC reserved space	Fair	Non-Contributing
Boathouse Drive	12' wide gravel surfaced. Authorized vehicles only. Extends to south of Boathouse, edged with boulders	Fair	Contributing
Service Road / Staff Parking	4-asphalt paved entrance shared with Boathouse Drive, 12' wide at entry; gravel paved (wider than 12' wide); Gravel over asphalt paving surfaced parking area = begins at original walk (edged by original walk at building; front; 34' wide; east edge is concrete curb). 90' long edged by concrete curb at north edge. Gravel surfacing between station and garage pad (24' deep to wider and 30' wide)	Good	Non-Contributing
Pedestrian Circulation - General			
Informal Trails	From road terminus to beach	Good	Non-Contributing
Pedestrian Circulation - Station			
North South Main Walk	40" wide concrete paving, scored at 6' intervals; 40"x6' scoring; cracks; section at plus 1/2" diff; functions as one direction for accessible route	Fair to Good	Contributing
Walk to Boathouse	3' wide concrete paving; scored at 6' intervals. Spalling in sections, especially close to Boathouse	Fair	Contributing
Station Walks	East - Extends from front walk to building edges	Good to poor	Contributing
	South - 40" wide along front of Station, 8'-5" to 8'-9" from building ; crosses parking to road; section at road is original (poor); section at drive - new / replacement; replacement stones at entrance including flared section	Good to poor	Contributing
	West - 36" wide, original - lichen / gray; 3' from building; concrete pans at ends of gutters (2) at north end and south end	Good	Contributing
	North - 36" wide, follows building pattern, 22"x16" wide integral drain pan, 22" from building; slopes toward building; extends to Oil House and to beach to towers; concrete pad at base of stairs	Good	Contributing
Concrete Pads	East - 8'-7" newer concrete pad at basement door	Good	Contributing
	West - 18" long 44" out, concrete pad to door under porch, newer drain pad - 14"x28"(2) at each end	Good	Contributing
Walk to Towers	34-35" wide, 6' scorelines. Northwest end of walk washed out and eroded by lake	Fair to Poor	Contributing



Figure 3-24. Sand Point Road provides access to a service road and staff parking area, which were expanded to the east after the period of significance by the NPS. (source: Mundus Bishop 2016)



Figure 3-25. After the period of significance, the terminus of Sand Point Road was formalized into a paved loop turn around. Informal parking occurs along the outer edge of the road. (source: Mundus Bishop 2016)

CIRCULATION			
Feature	Description	Condition	"Contributing / Non-Contributing"
Pedestrian Circulation - Boathouse			
Boathouse Walk	East side of Boathouse, 36" wide; portion removed or obscured by newer ramp	Fair to Poor	Contributing
	North side of Boathouse, 36" wide; ends just west of Boathouse	Fair to Poor	Contributing
	South side of Boathouse, 36" wide, slopes toward building approximately 21" from building	Fair	Contributing
Dock	Located south of and next to launchway. 10' wide +/-; 40' long +/- at same height as launchway edge; 2' from launchway. 4"x10' dim with spikes on top. Joists 10x12 dim. Set on columns with cross bracing. Sand submerges posts nearly to joists	Good to Fair	Non-Contributing
Boardwalk	24"x12' or less - length varies, 2x8 dimensional lumber x 12'	Good/Fair	Non-Contributing
	North side of Boathouse, 6x12 2 sides dimensional lumber 13" above grade, (2) 2x10 dimensional lumber inside vertical begins west of Boathouse towards lake, where it slopes into sand at water edge	Poor	Non-Contributing
	South side of Boathouse, 23" wide; 2x8 (3) decking on 6x8 +/- post set on grade. Extends south west to boat hull then to deck	Good/Fair	Non-Contributing
	Steps - (2) wood steps to Launchway, north and south sides, 4'x2' 2R top 33"x46"	Good	Non-Contributing
Abandoned Trail - Boathouse to Station	Remnants of route, +/- 5' wide	Poor	Non-Contributing



Figure 3-26. The service drive connects to the Boathouse on the west, and is in its original width and alignment. (source: Mundus Bishop 2016)



Figure 3-27. The small parking area to the south of the Boathouse is lined with large boulders and provides staff parking only. This parking area has been expanded since the period of significance. (source: Mundus Bishop 2016)



Figure 3-28. The North South Main Walk provides an accessible walking surface from the visitor parking area to the front of the Life Saving Station. (source: Mundus Bishop 2016)



Figure 3-29. The Station Walk at the south facade of the Life Saving Station is in fair condition; damaged where the entrance drive crosses the sidewalk, at rear of photograph. (source: Mundus Bishop 2016)



Figure 3-30. The Station Walk on the southeast corner of the Life Saving Station is in fair condition. (source: Mundus Bishop 2016)



Figure 3-31. The Station Walk on the east side is damaged adjacent to the staff parking area. (source: Mundus Bishop 2016)



Figure 3-32. The North South Main Walk has been damaged at the south end by erosion and uplift due to tree roots, especially where it turns towards the Boathouse, above. (source: Mundus Bishop 2016)



Figure 3-33. The Station Walk extended to the east, to connect to the residences on the opposite side of Sand Point Road. This portion of the walk is in poor condition. (source: Mundus Bishop 2016)



Figure 3-34. The walk to the Lookout Tower is damaged by erosion of the beach, and the end of the walk has washed out. (source: Mundus Bishop 2016)



Figure 3-35. The walk to the Lookout Tower disappears into the sand. The loss of the walk diminishes the integrity of the circulation pattern. (source: Mundus Bishop 2016)



Figure 3-36. Concrete walks surround the Boathouse on three sides. The east walk has been covered over by the ramp, and is in poor condition. (source: Mundus Bishop 2016)



Figure 3-37. The porch and steps, and ramp into the Boathouse are recent additions in historic locations, although the ramp was shorter historically. Note poor condition of concrete walk in foreground. (source: Mundus Bishop 2016)



Figure 3-38. The concrete walk at the south facade of the Boathouse, in foreground, is in poor condition. The boardwalk, at left, connects to the Launchway with a wooden step. (source: Mundus Bishop 2016)



Figure 3-39. The boardwalk introduces a new, meandering circulation pattern to the landscape, which historically focused on straight, linear routes. (source: Mundus Bishop 2016)



Figure 3-40. The boardwalk leads to the boat hull, behind fence in background, and then turns towards, where portions of the boardwalk are washed out. (source: Mundus Bishop 2016)



Figure 3-41. The Launchway is in fair to poor condition. Today, water routes do not reflect the historic pattern because the Launchway and Boathouse are no longer actively used. (source: Mundus Bishop 2016)



Figure 3-42. USCG Life Saving Station is the most prominent building in the landscape, with a formal arrangement of walks and lawn surrounding the structure. (source: Mundus Bishop 2016)



Figure 3-43. The Oil House is a prefabricated metal structure, placed to the northwest of the Life Saving Station. (source: Mundus Bishop 2016)

1 **Buildings and Structures**

2
3 The cultural landscape includes two buildings,
4 several structures, and several foundations
5 of former structures. The most prominent
6 building is the Munising Life Saving Station
7 (HS-01). It is a 2 1/2 story Colonial Revival,
8 built similarly to other USCG buildings of the
9 1930s, with a formal arrangement of walks
10 and lawn surrounding the structure. The
11 Boathouse is the second prominent building
12 in the study area, also built in the 1930s as
13 part of the USCG operations. The Launchway
14 was built at the same time, and today is
15 partially obscured by sand and vegetation.
16 The Oil House is northwest of the Munising
17 Life Saving Station. A more detailed building
18 chronology and analysis is provided in the
19 Historic Structures Report (HSR), written in
20 conjunction with this CLR/EA.

21
22 Two non-extant structures key to the
23 operating station are marked by remnant
24 foundations. The first, a Communications
25 Tower northwest of the Munising Life Saving
26 Station (HS-01), is marked by a square
27 concrete pad. The second, the Lookout Tower
28 further to the northwest, has a submerged
29 foundation beneath Lake Superior. The
30 foundation is visible as four concrete blocks
31 with bolts.

32
33 A rock revetment is at the north edge of the
34 study area, between the tip of Sand Point
35 and the terminus of Sand Point Road. The
36 revetment is built of large, irregular sharp-
37 edged boulders. In some places the revetment
38 is mostly covered by sand, in other places it is
39 visible.

40
41 The Munising Life Saving Station (HS-01), Oil
42 House (HS-02), Boathouse and Launchway
43 (HS-08) were built in the 1930s, and
44 have had few alterations since that time.
45 As designed and built, the buildings and
46 structures were arranged in a V-shape, in

1 response to the natural geography of Sand
2 Point. The Munising Life Saving Station (HS-
3 01) was placed the furthest inland and the
4 other structures placed at the edge of the
5 lake. The removal of the Communications
6 Tower and Lookout Tower diminished the
7 historic arrangement because these two
8 structures were key components of the
9 working station. Recent additions to the
10 buildings and structures have been minimal
11 and include replacement of the east ramp at
12 the Boathouse, and slight reconfiguration of
13 interior spaces inside the Life Saving Station.
14 Overall, the historic building arrangement
15 retains integrity.



Figure 3-44. The Boathouse was constructed in the 1930s by the USCG, sited on the west side of the study area, facing Munising Bay. The east facade, above, originally had an exterior ramp and stairs. These features have been rebuilt in a similar fashion to the historic, but the exterior stair faces a different direction (south rather than east) and the ramp has been extended further to the east. (source: Mundus Bishop 2016)



Figure 3-45. The Launchway, in foreground, was constructed of two bulkheads flanking either side, and two sets of metal rails that carried the USCG boats in and out of the water. When originally constructed, the waterline was closer to the Boathouse. The Launchway was extended in the 1940s as a result of the naturally shifting shoreline. (source: Mundus Bishop 2016)

Matrix 3-4. Buildings and Structures Matrix

BUILDINGS AND STRUCTURES			
Feature	Description	Condition	"Contributing / Non-Contributing"
Life Saving Station	"2½-story Colonial Revival wood frame building with hipped roof. Measures 45' x 24' and south entrance porch, 6' x 27'. Poured concrete foundation, +/- 4' above grade. Single hipped-roof dormers on the front and rear elevations, interior brick chimney on the eastern side of the roof. Entrance porch, 8 wood steps. North entrance with steps; basement entry on east side. "	Good	Contributing
Oil House	1 story prefabricated metal circular structure, 8-feet in diameter, conical roof. The walls are made of three riveted steel sections. Set on concrete pad, weathered 9'-7 1/2" (EW) x 11'-7 1/2" (NS)	Good	Contributing
Boathouse	1 story wood frame structure with shingle siding, hip roof, and wood pier foundation. 4 doors: (3) garage doors, 1 on east accessed by ramp (10'-9"x17'-10"); 2 on west lead to Launchway; (1) standard door accessed by 4 stairs. East half of Boathouse is historic rescue boat and exhibit panels, open to visitors.	Good	Contributing
Launchway	Wood ramp to water with (2) rail lines (1 extant). Edged with heavy timber bulkhead on either side. Lake end is partially obscured by sand and soil, vegetation in center. Trolley for moving boats, on south rail. (2) 2x6 framed box pedestrian decks access launchway from boardwalk at the south and steps at the north.	Fair to Poor	Contributing
Lookout Tower Foundation	(4) Concrete beveled tops with bolts, submerged in lake. Foundation is all that remains of the non-extant prefabricated metal Lookout Tower placed at the tip of Sand Point	Poor	Contributing
Communications Tower Foundation	Concrete level pad, metal foundations. All that remains of non-extant Communications Tower	Fair	Contributing
Shop	Non-Extant	N/A	N/A
Garage Foundation	Square concrete pad with center drain.	Fair	Non-Contributing
Rock Revetment	Angular rock; never properly placed = wrong size; from Lookout Tower to parking area	Fair	Non-Contributing



Figure 3-46. The Launchway is in fair to poor condition. Sand and vegetation have covered the west end of the Launchway, diminishing the spatial relationship that once existed between the structure and the lake. Northwest winds across Lake Superior shift the sands at Sand Point, creating a general trend of younger beach ridges from southeast to northwest along Sand Point. (source: Mundus Bishop 2016)



Figure 3-47. The foundation of the Communications Tower is covered by dirt and debris, and enclosed by dense forest, making it difficult to discern the scale of the structure that once stood here. (source: Mundus Bishop 2016)



Figure 3-48. The extant foundation of the Lookout Tower is visible as four concrete block submerged in the lake. Loss of the structure has negatively impacted the pattern of buildings and structures across the cultural landscape. The loss of sand at Sand Point is part of the natural cycle of beach erosion and accretion. (source: Mundus Bishop 2016)



Figure 3-49. The rock revetment at the north edge of the study area is a non-contributing feature added in the early 1990s. It does not reflect the historic condition of the landscape. (source: Mundus Bishop 2016)



Figure 3-50. The concrete curb at the south edge of the Life Saving Station is the most easily seen portion of the curb that once framed the formal outdoor space around the building. (source: Mundus Bishop 2016)



Figure 3-51. The concrete curb at the east edge is in poor condition and does not enclose the formal lawn space, as was the original design intent. (source: Mundus Bishop 2016)

1 **Small Scale Features**

2

3 Contributing small scale features consist of
4 a concrete curb and flagpole that date from
5 the period of significance. The concrete curb
6 frames the edge of a square lawn around
7 the Munising Life Saving Station (HS-01).
8 Portions of the curb are in poor condition.
9 The flagpole is a steel pole on a concrete pad
10 in front of the Munising Life Saving Station.

11

12 Other small scale features are recent
13 additions that provide visitor or
14 administrative functions. These features
15 include signs and interpretive waysides,
16 fences, and utility infrastructure (electric
17 boxes, septic tanks).

18

19 Historically, small scale features included a
20 sign for the USCG and flagpole, the concrete
21 curb around the Munising Life Saving Station
22 (HS-01), as well as electric poles. The electric
23 poles are non-extant, likely removed once
24 the USCG decommissioned the station. The
25 concrete curb was modified on the east side
26 of the Munising Life Saving Station, when the
27 staff parking area and drive was expanded.
28 Portions of the curb were either removed or
29 have been covered by fill material. The loss
30 of the continuous curb framing a rectangular
31 space around the building has damaged the
32 legibility of the feature and disrupted the
33 formal space around the building. The other
34 recent small scale features are minimal in
35 scale and are relatively unobtrusive.

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Figure 3-52. Historically significant small scale features include the original flagpole installed by the USCG, and the concrete curb that surrounds the Life Saving Station, in foreground. The Headquarters sign is a recent addition, but does not distract from the historic setting. (source: Mundus Bishop 2016)

Matrix 3-5. Small Scale Features Matrix

SMALL SCALE FEATURES			
Feature	Description	Condition	"Contributing / Non-Contributing"
Small Scale Features - Life Saving Station			
Concrete curb	6" wide - surrounds Station. Concrete curb disappears in places, covered by gravel or grass in many areas. Missing/eroded at east edge between road and parking area - asphalt drive covers section at south edge	Poor	Contributing
	East	Poor	Contributing
	South	Missing to Fair to Good	Contributing
	West - Impacted by tree at south west corner; lichen covered / covered by lawn / plants in sections; disappears at north end at Oil House / lilac	Fair	Contributing
	North - edge only apparent at parking	Poor	Contributing
Flagpole	Steel pole; painted with braced at base with steel beams painted white or concrete base - painted green - 52" diameter. Sits on concrete pad - 16'-8 1/2" (NS) x 16'-6 1/2" (EW)	Good	Contributing
Headquarters Sign	Painted wood sign on rubble stone base with timber (3) verticals. Sign says 'Headquarters Pictured Rocks National Lakeshore'	Good	Non-Contributing
Interpretive Sign	At main walk / walk to Boathouse, NPS standard	Good	Non-Contributing
Picnic Tables	(2) - north lawn, NPS standard	Good	Non-Contributing
Propane Tank	North end of Station	Good	Non-Contributing
Sign Footings	(2) Concrete footings, mark location of former NPS sign	Fair	Non-Contributing
Septic	Former septic field, north of Station. 48'x4'	N/A	Non-Contributing
Septic mound	Abandoned septic mound northwest of Station. Too close to building	N/A	Non-Contributing
Small Scale Features - Boathouse			
Boat Hull	Remains of a boat	Poor	Non-Contributing
Split-Rail Fence	3 rail; 4' height +/-; along south boardwalk; enclosing boat hull	Fair	Non-Contributing
Septic Mound	South of Boathouse.	Good	Non-Contributing
Boulder Edge	Boulders edge Boathouse Drive and the terminus of Sand Point Road	Good	Non-Contributing
Boat Trolley	Iron cart at Launchway	Fair	Part of Museum Collections



Figure 3-53. Non-contributing small scale features occur at the terminus of Sand Point Road, including wayfinding sign, trash receptacle, and the boulder edge along the turnaround. (source: Mundus Bishop 2016)



Figure 3-54. The concrete foundation remains of a garage that was added by the NPS and later removed. (source: Mundus Bishop 2016)



Figure 3-55. The split-rail fence, boardwalk, and boat hull in background, are non-contributing features. (source: Mundus Bishop 2016)



Figure 3-56. Boat trolley used to maneuver boats into the water along the rails. (source: Mundus Bishop 2016)



Figure 3-57. During the period of significance, the USCG allowed the larger pine trees to remain, but kept the rest of the vegetation low. Note the level, even stand of lawn around the Life Saving Station. (source: Alger County Historical Society, c. 1940; annotation by Mundus Bishop)

1 Vegetation

2
3 Vegetation includes lawn, native trees and
4 shrubs, dune vegetation, and ornamental
5 vegetation. Lawn occurs surrounding the
6 Munising Life Saving Station (HS-01) and staff
7 parking area, and a few trees are set within
8 the lawn. Several white pine trees are extant
9 from the period of significance. Deciduous
10 and evergreen trees occur throughout
11 the study area, along with predominantly
12 low shrubs and groundcovers. In a few
13 locations, the water table is high and the
14 plant composition changes to near marsh-
15 like conditions, with reeds and rushes. Dune
16 vegetation occurs in a narrow strip between
17 the waterline and edge of the woodland.

18
19 The intersection of the mown lawn and
20 native vegetation is a sharp line on the east
21 side of the Munising Life Saving Station,
22 where the concrete curb separates the two
23 vegetation types. Ornamental vegetation is
24 predominantly located across Sand Point
25 Road from the station, at the location of the
26 former Keepers' Quarters. Some ornamental
27 vegetation also occurs north of the Munising
28 Life Saving Station.

29
30 The planting design for Sand Point/Munising
31 USCG Life Saving Station established during
32 the 1930s was minimal, but is evident
33 in today's landscape. The USCG did not
34 extensively plant vegetation and focused
35 efforts on establishing a formal lawn around
36 the Munising Life Saving Station (HS-01).
37 Recommendations for the design of the
38 grounds were not extensive, but came with
39 standard USCG recommendations that "the
40 grounds shall present a neat appearance,
41 rough places shall be leveled, lawns and
42 shrubbery, if any, shall be trimmed."^{3.22} White
43 pine trees that were already standing were
44 allowed to remain, while other trees were

45
46 3.22 Herbst, WM. HA. A Manual for Life Boat Stations, Part B.
US Coast Guard, 1949.

1 removed, in order to establish clear lines of
2 sight to the water. Some of the white pine
3 trees are extant from this time. By the 1960s
4 the native forest had begun to reestablish in
5 the former clearings.

6
7 Plantings were revised in the 1970s to expand
8 the formal lawn beyond the concrete curb to
9 the edge of the road. After the removal of the
10 Keepers' Quarters, after 1975, the ornamental
11 vegetation was no longer cared for and has
12 spread into new areas. Known invasive, exotic
13 plant species at PIRO include Bishops Goat
14 Weed or goutweed (*Aegopodium podagraria*)
15 and forget-me-not (*Myosotis sylvatica*).
16 Possible invasive exotic species include
17 asparagus, honeysuckle (*Lonicera spp.*),
18 Rose (*Rosa spp.*), sedum, locust, narcissus
19 (*Narcissus spp.*), and iris.

20
21 The overall planting design has been modified
22 since the period of significance. Extant trees
23 and lawn from the 1930s are contributing
24 features, and maintain the historic design
25 intent as a formal space with prominent
26 evergreen trees. The growth of smaller trees
27 and shrubs into the formerly open areas
28 obscures views and spatial relationships.
29 Natural reforestation, forest succession,
30 and maturation of extant forest trees,
31 combined with lawn expansion and spread of
32 ornamental vegetation have diminished the
33 integrity of the planting design.

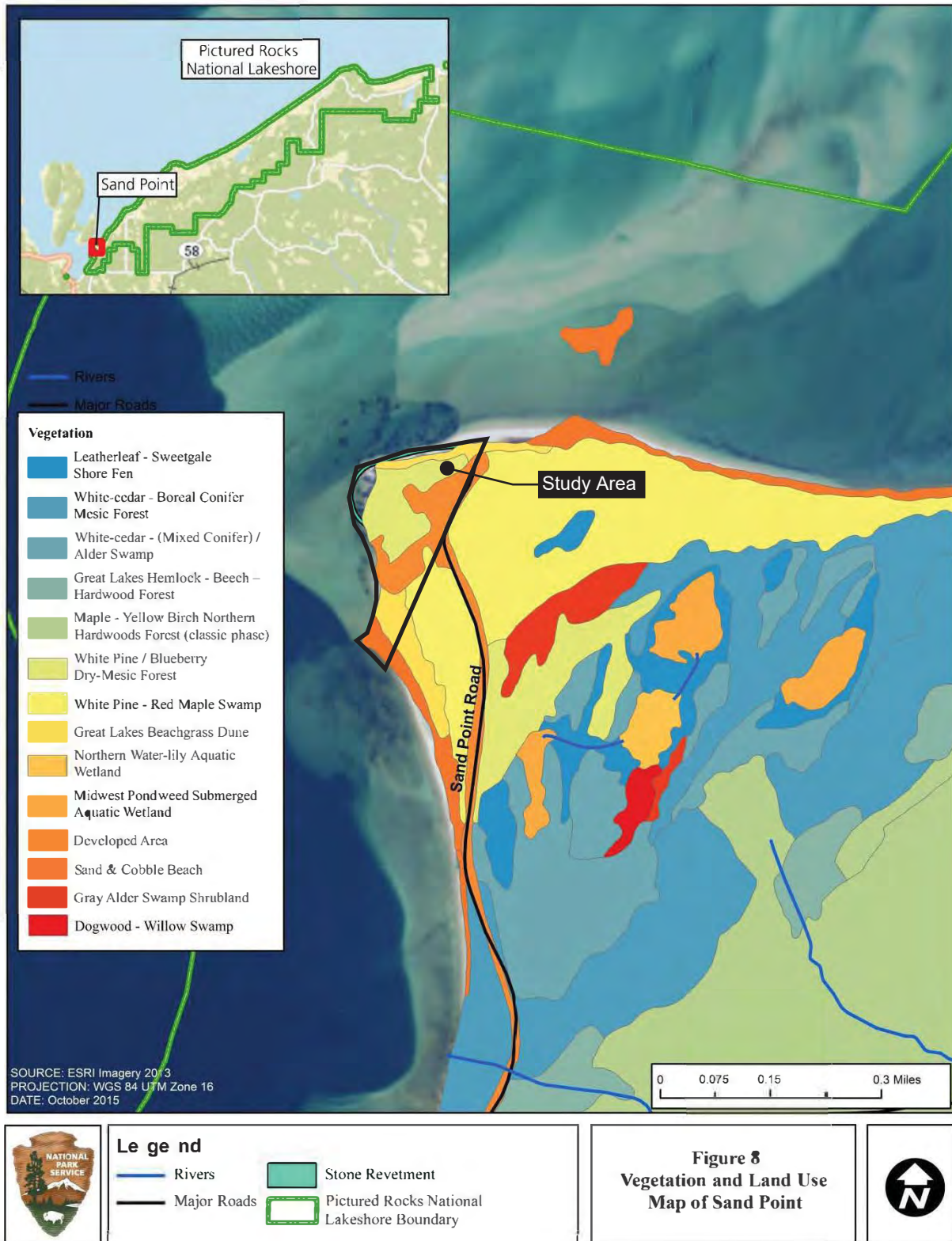


Figure 3-58. Vegetation and Land Use Map of Sand Point. (source: Environmental Assessment for Sand Point Revetment, November 2015)

Matrix 3-6. Vegetation Matrix

VEGETATION			
Feature	Description	Condition	"Contributing / Non-Contributing"
Vegetation - General			
Dune Vegetation	Between edge of woodland and shoreline. Missing/damaged adjacent revetment	Fair	Contributing
Forest Vegetation	Dominant trees include: Birch; Ash; White Pine; Red Pine; Alder; Aspen; Cedar; Sugar Maple; Spruce. Dominant shrubs include: Dogwood; Blueberry; Rosa blanda; Serviceberry; Strawberry; Chokecherry	Good to Fair	Contributing
Ornamental Vegetation	At former keepers houses; north of Station	Good to Fair	Contributing
Vegetation - Station			
Maple Trees	(4) Sugar maples between road and Station.	Good	Non-Contributing
White Pines	Several 24" to 32" dia. pine trees surround Station	Good	Contributing
Lawn	Turf, south, north, west of Station. East of staff parking area. Kentucky bluegrass/Orchardgrass	Good	Contributing
Vegetation - Keepers Houses			
Ornamental Vegetation	At former keepers houses; plants include: Asparagus (<i>Asparagus officinalis</i>) Honeysuckle (<i>Lonicera spp</i>) Common Lilac (<i>Syringa vulgaris</i>) Rose (<i>Rosa spp</i>) Lily-of-the-Valley (<i>Convallaria majalis</i>) Sedum (<i>Sedum spp</i>) *Forget-me-not (<i>Myosotis sylvatica</i>) *Bishops Goat Weed (<i>Aegopodium podagraria</i>) Apple (<i>Malus spp</i>) Locust (<i>Robinia pseudoacacia</i>) Narcissus (<i>Narcissus spp</i>) Bearded Iris (<i>Iris spp</i>) * invasive, exotic species	Fair	Contributing

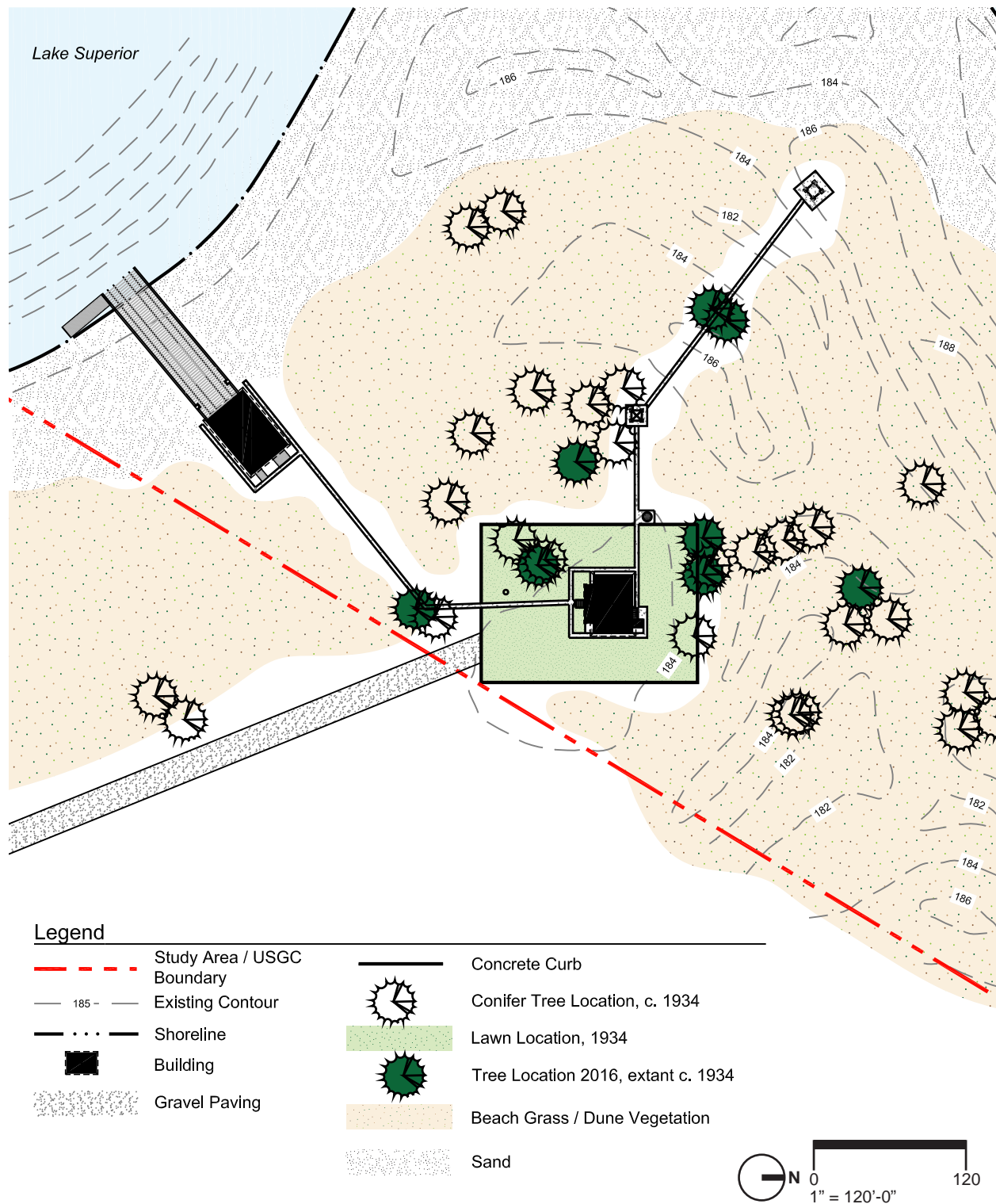


Figure 3-59. Several trees remain from the period of significance, identified on a plan from 1934. It appears that these trees were not deliberately planted, but were allowed to remain, while many of the other trees and tall shrubs were removed to provide necessary views to the water. A formal lawn was established around the Life Saving Station, bounded on all edges by a concrete curb. (source: 1932 Building Plot Plan, 1933 Map of Lot 3 - Section 19-47-18, 1934 Station Plot Plan, Mundus Bishop 2016)

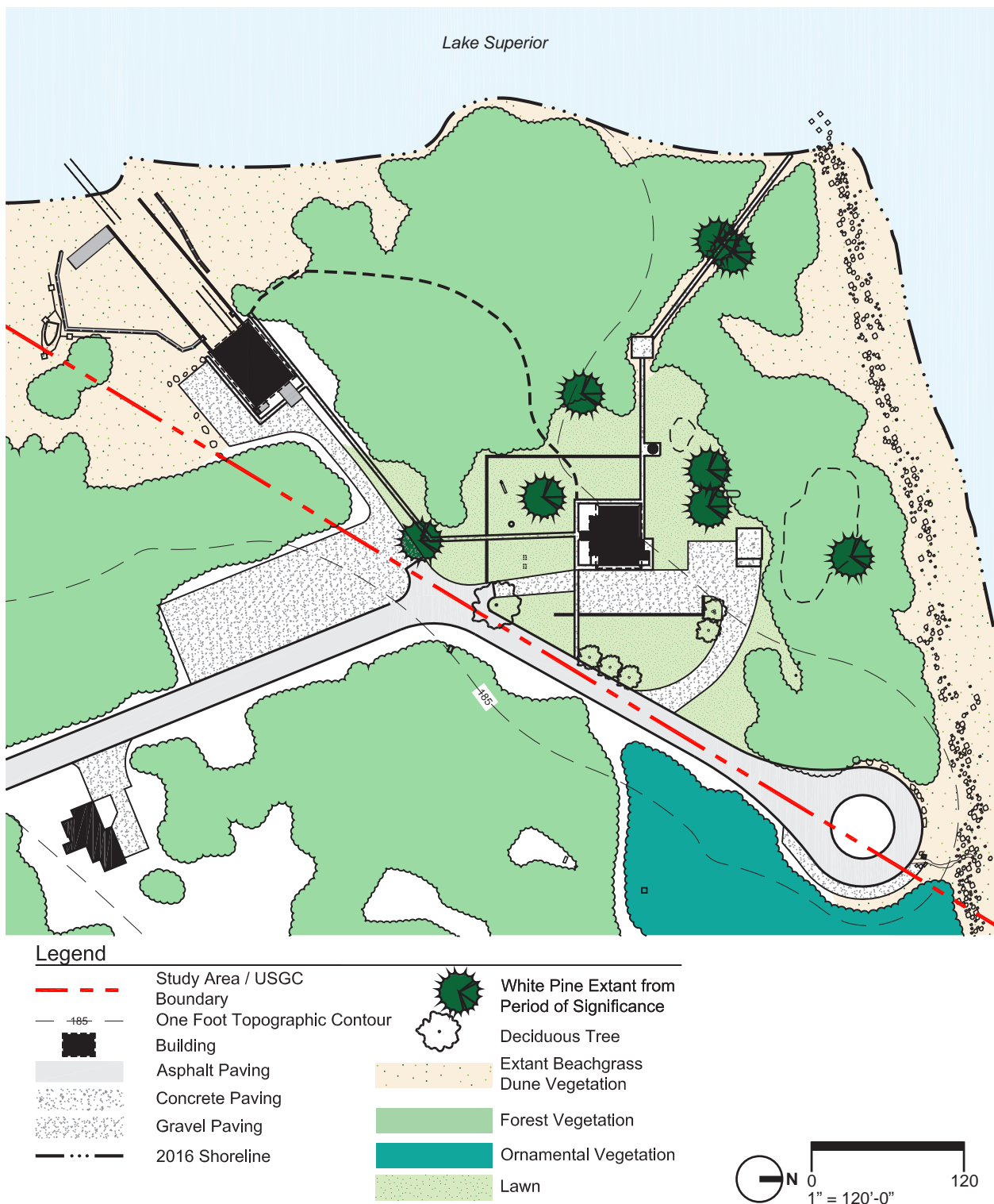


Figure 3-60. Existing vegetation includes native trees and shrubs, dune vegetation, and ornamental vegetation. Several white pine trees and a formal lawn are extant from the period of significance. (source: Mundus Bishop 2016)



Figure 3-61. Forest vegetation at the Boathouse and Launchway was kept clear for views of the water. In this winter photograph, note the view of Grand Island across the bay, in background at left of photograph, date unknown. (source: PIRO Archives)



Figure 3-62. Since the closing of the station, dune grasses and smaller vegetation have regrown into once cleared areas, including within the Launchway. Note the view to Grand Island is no longer apparent due to growth of mature forest trees. (source: Mundus Bishop 2016)



Figure 3-63. The concrete curb maintains the line between formal lawn and unmown lawn to the west, right side, of the photograph. (source: Mundus Bishop 2016)



Figure 3-64. Ornamental vegetation remains from the former residences at Sand Point, including lilac, honeysuckle, lily of the valley, and apple trees. (source: Mundus Bishop 2016)



Figure 3-65. Birch are a common tree species in the study area, and have regrown in areas that had been cleared by the USCG. (source: Mundus Bishop 2016)



Figure 3-66. White pine trees from the period of significance are in good condition and contribute to the historic character of the station. (source: Mundus Bishop 2016)

Affected Environment

1 This section describes the resources
2 potentially impacted by the treatment
3 alternatives. It is organized by impact topics
4 that were derived from scoping sessions
5 - historic structures; cultural landscapes;
6 native vegetation; and non-native ornamental
7 and invasive, exotic plant species. More
8 detailed information on biological resources
9 in PIRO may be found in the GMP and in
10 documents referred to in the text and cited in
11 the bibliography.^{3.23} Where applicable, links
12 to documents available on the Internet are
13 provided in the bibliography.

14 **Historic Structures and Cultural Landscapes**

16
17 The following is a summary of the historic
18 structures and cultural landscape features
19 associated with the station. The structures
20 and landscape features are fully described in
21 chapter 2.

22
23 The Michigan State Historic Preservation
24 Office determined in 1999 that the Munising
25 (Sand Point) Station is eligible for the
26 National Register of Historic Places. The
27 station is significant due to its association
28 with the maritime heritage of the Upper Great
29 Lakes, and because it represents the final era
30 of life saving station design. It also relates to
31 several broad patterns of upper Midwest and
32 Great Lakes history, including the growth of
33 commercial shipping, commercial fishing, and
34 the development of recreational boating.

35
36 The station represents the evolution from
37 utilitarian structures to cohesive complexes
38 designed by professional architects. The
39 station also represents the development of
40 standardized facilities created in response
41 to the need for an organized federal service
42 to provide maritime aid. It retains nearly all

44 ^{3.23} PIRO GMP.

1 the primary and contributing structures and
2 landscape features needed for a self-sufficient
3 life saving station.

4
5 Although vegetation now screens views
6 between structures and the lakeshore and
7 obscures landscape features, the complex
8 (structures and landscape together) retains
9 a high degree of integrity in terms of
10 location, design, setting, feeling, association,
11 workmanship, and materials.

12 13 Historic Structures

14 The complex contains contributing buildings
15 that were constructed in 1933 following
16 standardized plans drawn by United States
17 Life Saving Service architects. The period of
18 significance, 1933-1946, reflects its active use
19 as a fully-staffed life saving station. In 1946 it
20 was demobilized and staffed with a skeleton
21 crew until it was officially decommissioned in
22 1961. The existing station structures include
23 Munising Life Saving Station (HS-01), Oil
24 House (HS-02), Boathouse and Launchway
25 (HS-08). Generally, the structures are in good
26 repair and modifications have been sensitive
27 to their historic character. Currently, the
28 Boathouse and Life Saving Station do not
29 meet accessibility standards and do not have
30 functional fire suppression systems.

31 32 Cultural Landscape

33 Landscape features associated with the
34 station include a system of concrete walks
35 that have settled into the sand, former
36 building foundations, historic vegetation
37 and woodlands, lawn, and concrete lawn
38 edging. The station landscape includes a
39 sandy shoreline with a rock revetment.
40 Since the period of significance, the station
41 has revegetated and now has a character of
42 turf and large trees with woody shrub and
43 herbaceous understory. Currently, boardwalks
44 provide access to the boathouse. Remnants

1 of the life saving operation are still present in
2 the wooded areas, including the foundations
3 of keepers' quarters that lined the access
4 road. The concrete footings for the lookout
5 tower are visible just off the shoreline.
6 Archeological remains associated with the
7 station may be present as well.

8
9 Fire prevention and lack of vegetation
10 management to maintain views to and from
11 the station have resulted in dense vegetation
12 in areas that had little to no vegetation
13 during the period of significance. The change
14 in vegetation and resulting changes in
15 views affect the integrity of the connections
16 between the station and Lake Superior during
17 the period of significance.

18 19 **Native Vegetation**

20
21 The park is at the northwestern limits of the
22 hemlock-white pine-northern hardwood
23 forest and contains elements of boreal
24 forest. Most of the uplands in the park are
25 covered by a forest dominated by sugar maple
26 (*Acer saccharum*) and yellow birch (*Betula*
27 *alleghaniensis*), with American beech (*Fagus*
28 *grandifolia*) present in various amounts.
29 Eastern hemlock (*Tsuga Canadensis*) and
30 white pine (*Pinus strobus*) are present in the
31 hardwood forests, occasionally becoming
32 dominant. Jack pine (*Pinus banksiana*) and
33 red pine (*Pinus resinosa*) are prevalent on
34 well-drained sand flats, such as Sand Point.
35 Beaches along Lake Superior include dunal
36 vegetation such as American beachgrass
37 (*Ammophila breviligulata*), sand cherry
38 (*Prunus pumila*), and jack pine. Additional
39 plant communities occur less frequently in
40 the park, including wet mesic forests, wet
41 forests, fens, and swamp shrublands.

42
43 An in-depth inventory and mapping of
44 vegetation communities present in the park

45
46

1 was reported upon in May 2010.^{3.24} Vegetation
2 communities present in the station include
3 White Pine/Blueberry Dry-Mesic Forest,
4 Great Lakes Beachgrass Dune, and White
5 Pine/Red Maple Swamp (Figure 3-58). Areas
6 of sand and cobble beach and developed area
7 are also present.

8 9 White Pine/Blueberry Dry-Mesic Forest

10 This is the most prevalent community on
11 the station, covering 3.49 acres (49 percent)
12 of the station. In general, the community is
13 found in sites ranging from flat to moderately
14 sloping northwest- and west-facing outwash
15 plains and interdune flats. Soils are well-
16 drained sand. The unvegetated surface is
17 made up almost entirely of leaf litter (97-100
18 percent cover) with some wood. In the park,
19 the dry white pine forest occurs only in very
20 small pockets near Lake Superior, including
21 Sand Point. Tree canopy is dominated by
22 eastern white pine (*Pinus strobus*) with lesser
23 amounts of paper birch (*Betula papyrifera*),
24 black spruce (*Picea mariana*) and red pine
25 (*Pinus resinosa*). The shrub layer is dominated
26 by eastern teaberry (*Gaultheria procumbens*),
27 lowbush blueberry (*Vaccinium angustifolium*),
28 velvetleaf huckleberry (*Vaccinium*
29 *myrtilloides*), northern mountain-ash (*Sorbus*
30 *decora*), and twinflower (*Linnaea borealis*).
31 Western bracken fern (*Pteridium aquilinum*)
32 dominates the herbaceous layer; other
33 species include bluebead (*Clintonia borealis*),
34 bunchberry dogwood (*Cornus canadensis*),
35 moccasin flower (*Cypripedium acaule*), and
36 wavy hairgrass (*Deschampsia flexuosa*).

37 38 Great Lakes Beachgrass Dune

39 This community is present on .53 acres (7
40 percent) of the station along the shoreline
41 on stabilized foredunes subject to wave

43 ^{3.24} Kevin Hop, Sara Lubinski, and Jennifer Dieck. *National*
44 *Park Service Vegetation Inventory Program: Pictured*
45 *Rocks National Lakeshore, Michigan. Natural Resource*
46 *Report NPS/GLKN/NRR-2010/201*. (Fort Collins, CO: U.S.
Department of the Interior, National Park Service 2010).

1 action, shore ice buildup, and blowouts.
 2 The community is part of the cycle of sand
 3 erosion, deposition, and stabilization.
 4 The community is sensitive to human
 5 disturbances, including informal trails and
 6 dragging kayaks and small boats to and
 7 from the shore. Species present include
 8 short shrubs such as sandcherry (*Prunus*
 9 *pumila*), willows (*Salix spp.*), woolly beach-
 10 heather (*Hudsonia tomentosa*), common
 11 juniper (*Juniperus communis*), lowbush
 12 blueberry (*Vaccinium angustifolium*), and
 13 velvetleaf huckleberry (*Vaccinium myrtilloides*
 14 Michx.). Herbaceous species include the
 15 dominant American beachgrass (*Ammophila*
 16 *breviligulata*), little bluestem (*Schizachyrium*
 17 *scoparium*), field sagewort (*Artemisia*
 18 *campestris*), Virginia strawberry (*Fragaria*
 19 *virginiana*), and beach pea (*Lathyrus*
 20 *japonicus*).

21

22 White Pine/Red Maple Swamp

23 This community is present on .2 acres (2.8
 24 percent) of the station and is found in dune-
 25 and-swale complexes that are either flat or
 26 gently sloping. Soils are either seasonally
 27 flooded, somewhat poorly drained sandy
 28 loam over pure medium-fine-textured sand or
 29 well-drained sand. Tree canopy is dominated
 30 by red pine and eastern white pine, and may
 31 also include red maple (*Acer rubrum*) and
 32 black spruce. The shrub layer is dominated
 33 by dominated by leatherleaf (*Chamaedaphne*
 34 *calyculata*), lowbush blueberry (*Vaccinium*
 35 *angustifolium*), and velvetleaf huckleberry
 36 (*Vaccinium myrtilloides* Michx.). The sparse
 37 herbaceous understory includes wavy
 38 hairgrass (*Deschampsia flexuosa*), Canada
 39 mayflower (*Maianthemum canadense*), and
 40 narrowleaf cowwheat (*Melampyrum lineare*).

41

42

43

44

45

46

1 **Non-native Ornamental and Invasive, Exotic** 2 **Plant Species**

3

4 Non-native ornamental plant species are
 5 those that originate in other regions of the
 6 world and have been brought to the United
 7 States through human activities, usually for
 8 use in ornamental landscapes. Invasive, exotic
 9 plant species are also non-native species,
 10 brought intentionally or unintentionally,
 11 through human activities. They harm the
 12 environment and can cause extinctions of
 13 native plants and animals, reduce biodiversity,
 14 compete with native organisms for limited
 15 resources, and alter habitats in the park.
 16 Although not addressed in this EA, exotic
 17 species of fauna, insects, and pathogens also
 18 pose similar threats.

19

20 Several non-native ornamental plant
 21 species are present in the station (Matrix
 22 3-6). Although they are non-native, some
 23 ornamental species such as common lilac
 24 (*Syringa vulgaris*), asparagus (*Asparagus*
 25 *spp.*), and bearded iris (*Iris spp.*) are cultivars
 26 that do not tend to spread invasively. In
 27 contrast, periwinkle (*Vinca minor*) and
 28 forget-me-not (*Myosotis scorpioides*) are
 29 invasive, ornamental species that can spread
 30 aggressively. In addition to periwinkle
 31 and forget-me-not, invasive, exotic species
 32 including spotted knapweed (*Centaurea*
 33 *stoebe*), Eurasian water-milfoil (*Myriophyllum*
 34 *spicatum*), white sweet clover (*Melilotus*
 35 *albus*), and Japanese knotweed (*Fallopia*
 36 *japonica*). These species, along with others,
 37 are targeted for control or eradication in the
 38 park.

39

40

41

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Chapter 4. Treatment Alternatives

Introduction

1 This chapter presents treatment alternatives
 2 for the repair, protection and stewardship
 3 of the cultural landscape. These treatment
 4 alternatives were initially developed during
 5 the work session in June 2016 and refined in
 6 a work session October 2016. This chapter
 7 describes the no action and two action
 8 alternatives. The description of the no action
 9 alternative is presented first, followed by
 10 a description of each action alternative.
 11 A summary of the alternatives, organized
 12 by area, is presented as a matrix (Matrix
 13 4-1). Cost estimates are provided for each
 14 alternative, as an appendix.
 15
 16 The *No Action Alternative* provides a basis
 17 for comparison with the action alternatives.
 18 Under the no action alternative, contributing
 19 and non-contributing features would be
 20 preserved and maintained. The no action
 21 alternative includes current park projects,
 22 those planned for the foreseeable future, and
 23 recommendations included in the GMP.
 24
 25 The two *Action Alternatives* would focus
 26 on preserving contributing features,
 27 repairing the historic setting, and providing
 28 accessibility upgrades.
 29
 30 *Action Alternative A* would follow a
 31 preservation approach. It would repair
 32 contributing features, remove select non-
 33 contributing features that distract from
 34 the historic setting, and would provide
 35 accessibility upgrades. Alternative A explores
 36 the minimum actions recommended in
 37 order to maintain the cultural landscape
 38 and to ensure its continued integrity. The
 39 vision for Alternative A is to preserve the
 40 site and its features as they are currently,
 41 without introducing extensive new features.
 42 Actions would repair spatial connections
 43 between key areas, and vegetation would
 44 be thinned to reveal historic views. This

1 alternative would repair historic walks and
 2 small scale features so the landscape reads
 3 as a cohesive experience. In this alternative,
 4 the Munising Life Saving Station (HS-01)
 5 would be preserved with NPS administrative
 6 offices and limited visitor use. The visitor
 7 parking area would be supplemented with
 8 a vault toilet and additional parking. Non-
 9 contributing boardwalks would be repaired to
 10 provide access to the shoreline.
 11
 12 *Action Alternative B* would take a
 13 rehabilitation approach, which would allow
 14 expanded uses and repairs to features.
 15 Alternative B explores actions that enrich the
 16 cultural landscape from a visitor perspective.
 17 The setting of the Munising Life Saving
 18 Station (HS-01) would be restored to its
 19 formal USCG appearance as a prominent
 20 structure set within a well-maintained and
 21 neat landscape. This alternative restores
 22 historic views and connections between
 23 historic spaces. Visitors would be encouraged
 24 to explore the historic site and buildings to
 25 understand the USCG activities that took
 26 place at Sand Point. In this alternative, the
 27 Munising Life Saving Station (HS-01) would
 28 have expanded visitor uses and the NPS
 29 administrative offices would be relocated.
 30 Visitor experience would be accommodated
 31 in the interior of the Boathouse, which
 32 would be modified to house a new public
 33 restroom. The sand would be removed from
 34 the Launchway to reveal the historic structure
 35 and the rails would be restored. Vegetation
 36 would be removed to repair historic spatial
 37 patterns and views, and the front lawn and
 38 concrete curb would be restored to their full
 39 historic extents.

Treatment Approaches

1 Four distinct approaches to the treatment	1 by removing features from other periods in
2 of the cultural landscape were considered. ^{3.1}	2 history and reconstructing missing features
3 Brief descriptions of each treatment approach	3 from the restoration period.
4 follows.	4
5	5
6 <i>Preservation</i> is an appropriate treatment	6
7 approach for a cultural landscape with a	7
8 continuity of use and few modifications.	8
9 This approach is suited for a property	9
10 where its distinctive materials, features, and	10
11 spaces are intact, and for which extensive	11
12 modifications or additions are not required.	12
13 The preservation treatment approach allows	13
14 contributing features to be preserved,	14
15 restored, or repaired.	15
16	16
17 <i>Rehabilitation</i> is an appropriate treatment	17
18 approach for a cultural landscape with a	18
19 long period of significance, has undergone	19
20 few modifications, and has integrity in one	20
21 or more characteristics: location, setting,	21
22 materials, workmanship, feeling, and	22
23 association. Rehabilitation is appropriate	23
24 for a property where new additions are	24
25 contemplated. The rehabilitation treatment	25
26 approach allows features to be preserved,	26
27 rehabilitated, reconstructed, or restored.	27
28	28
29 <i>Reconstruction</i> is an appropriate treatment	29
30 approach for a cultural landscape with a vast	30
31 amount of documentation that would allow,	31
32 by means of new construction, the form,	32
33 features, and detailing of a non-surviving	33
34 features to be replicated to its appearance	34
35 at a specific period of time and in its historic	35
36 location.	36
37	37
38 <i>Restoration</i> is an appropriate treatment for	38
39 a cultural landscape with documentation	39
40 to accurately depict the form, features, and	40
41 character of earthwork complexes as it	41
42 appeared during a particular period of time	42
43	43
44 3.1 Page et al., <i>A Guide to Cultural Landscape Reports</i> .	44

Matrix 4-1. Treatment Alternatives Matrix

	No Action	Action Alternative A	Action Alternative B
Treatment Approach		preservation	rehabilitation
Circulation			
Staff Parking Area		reduce size and number of spaces	modify parking area to match historic size and arrangement. Expand NPS parking into formerly disturbed area east of Sand Point Road.
Visitor Parking Area		formalize layout, provide walkway from parking to vault toilet	expand in existing location with angled parking and room for pull-through trailer parking; provide parallel parking at east edge of Sand Point Road. Expand turning radius at end of road to accommodate large vehicles.
Station Walks		repair	repair contributing to full extent, reset and add material
Concrete Curb		repair where extant above grade	repair and reveal to full extent of curb
Boardwalk		repair boardwalk and dock	realign boardwalk to follow Launchway, extend boardwalk to dock
Accessibility		72' ramp west side of the Life Saving Station Ramp into Boathouse	heated Lift at Life Saving Station Ramp into Boathouse
Buildings and Structures			
Life Saving Station		maintain Admin use; limited visitor use; provide accessible ramp on building's west edge	remove Admin use; Expand Visitor Use; provide accessible lift at front entrance; repair setting
Boathouse		provide accessible ramp	Expand Visitor Use; open full interior; provide accessible ramp
Launchway		allow sand to remain	remove sand from interior and sides of the structure; restore rails
Restrooms	port-o-let	vault toilet at parking area	vault toilet at parking area as interim solution; long-term provide restroom at interior of Boathouse
Lookout and Communication Towers		preserve foundations	mark visually; new vertical element/ reconstruct Lookout Tower
Vegetation			
Lawn		maintain existing	restore to historic extent; establish lawn to within concrete curb and taller vegetation outside of curb
Woodland		select thinning to open views to the water; preserve extant trees from POS	in key locations, remove vegetation that obscures views to the water; preserve extant trees from POS; provide additional native low-growing shrubs and groundcovers in naturalistic plantings
Revetment	EA preferred alt	EA preferred alt	EA preferred alt

Treatment Goals

- 1 The following goals assist in determining the
2 desired landscape condition and appropriate
3 stewardship guidance for protecting the
4 character and ambiance of the cultural
5 landscape.
6
- 7 1. Preservation and rehabilitation actions
8 will protect the cultural landscape,
9 including its historic character and
10 individual features as these contribute to
11 its significance.
12
- 13 2. Cultural resources will be protected
14 through accepted practices including
15 preservation, stabilization, rehabilitation,
16 restoration and repair. The cultural
17 landscape will be protected by repairing
18 features and patterns, restoring missing
19 historic features, and by allowing removal
20 of noncontributing features.
21
- 22 3. Universal access will be improved to the
23 Boathouse, Life Saving Station and site.
24 Appropriate locations for new visitor
25 facilities including new restrooms,
26 parking and wayfinding will be addressed.
27
- 28 4. A strategy for maintenance and repair of
29 features will be identified, including level
30 of vegetation clearing to restore views,
31 repairs needed for walks, concrete curbs,
32 and other landscape features.
33
- 34 5. Opportunities for further research and
35 investigation, including archeological
36 investigations and other documentation
37 needs, will be identified.
38
- 39 6. Strategies for protection of threatened
40 and endangered species in coordination
41 with cultural resources will be identified.
42
- 43 7. The natural shoreline and vegetation that
44 contribute to the cultural landscape will
45 be retained and enhanced.

No Action Alternative

- 1 The no action alternative would include
2 actions undertaken as part of regular
3 operations. This provides a basis for
4 comparison with the action alternatives.
5 Under the no action alternative, the present
6 level of use, management, interpretation,
7 maintenance and operations would continue.
8 The no action alternative includes actions
9 identified in the GMP, LRIP, and actions
10 already identified and/or in-progress. As
11 identified in the GMP, LRIP, and Revetment
12 EA, the no action alternative would include
13 the following actions.
14
- 15 • The Munising Life Saving Station (HS-01),
16 Boathouse and Launchway (HS-08) would
17 be preserved to protect the architectural
18 values associated with their period of
19 significance (1933 to 1946, with an
20 emphasis on the 1940s).
21
- 22 • NPS operations would be removed from
23 Sand Point and relocated adjacent to the
24 Munising maintenance facility. When
25 this occurs, the LRIP recommends the
26 former Munising Life Saving Station be
27 refurbished to its 1940s appearance
28 on the first floor, with the second
29 floor as seasonal staff housing. The
30 grounds would be restored to the 1940s
31 appearance.^{3.2}
32
- 33 • Sand Point would be managed to provide
34 visitors with opportunities to learn about
35 Coast Guard history. The improved visitor
36 experience would expand the museum
37 exhibits in the Boathouse, and new
38 waysides would tell the stories of the U.S.
39 Life Saving Service and U.S. Coast Guard.
40
- 41 • The rock revetment along the shoreline
42 would be removed, and the area restored
43 with soft-engineering methods to
44 rehabilitate the shore and appearance of
45 Sand Point.

3.2 PIRO GMP, 61.

Action Alternative A

1 Action Alternative A would include repair and
2 improvement projects under consideration
3 as part of the No Action Alternative, and
4 would add actions to preserve and repair key
5 features of the cultural landscape.

6
7 Action Alternative A would utilize a
8 preservation approach and would maintain
9 and repair features as needed. This approach
10 does not utilize extensive modifications, but
11 focuses on repair of existing features and
12 spaces. Views that are currently missing
13 would be reestablished through tree
14 thinning and spatial connections between
15 key spaces would be restored (Illustration
16 4-1). Upgrades to accessibility and access
17 are included in this alternative. Preservation
18 projects include the following actions.

19 Spatial Organization / Views

- 20 • Preserve contributing spatial
21 organization, views and formal
22 arrangement of USCG spaces.
- 23
24 • Repair historic views and spatial
25 relationships by repairing walks and
26 partially reestablishing vegetation
27 patterns.
- 28
29 • Repair contributing views by thinning
30 vegetation in key locations.

31 Archeological Sites

- 32 • Protect known archeological sites.

33 Circulation

- 34 • Retain Sand Point Road, access drives, and
35 pedestrian routes.
- 36
37 • Repair network of pedestrian concrete
38 paths through cyclic maintenance.
- 39
40 • Repair non-contributing boardwalk.
41 Repair the reconstructed dock as needed
42 to match the historic USCG dock.

- 1 • Lessen the impact of the staff parking area
2 on by modifying the size and reducing the
3 number of spaces.

- 4 • Remove the non-contributing gravel area
5 to the south of the Boathouse.

- 6 • Modify the visitor parking area to
7 formalize the layout and improve ingress
8 and egress.

9 Buildings and Structures

- 10 • Preserve the Munising Life Saving
11 Station (HS-01) and its formal setting
12 with short mown lawn and orthogonal
13 walks. Provide universal access into the
14 structure with a ramp on the building's
15 west edge that connects to the front
16 porch.

- 17 • Preserve the Oil House through routine
18 and cyclic maintenance.

- 19 • Preserve the Boathouse and Launchway.
20 Allow sand to remain in Launchway, in
21 order to protect the structure. Provide an
22 accessible ramp into the Boathouse.

- 23 • Preserve the Communications Tower
24 foundation and the Lookout Tower
25 foundation.

- 26 • Remove non-contributing garage
27 foundation.

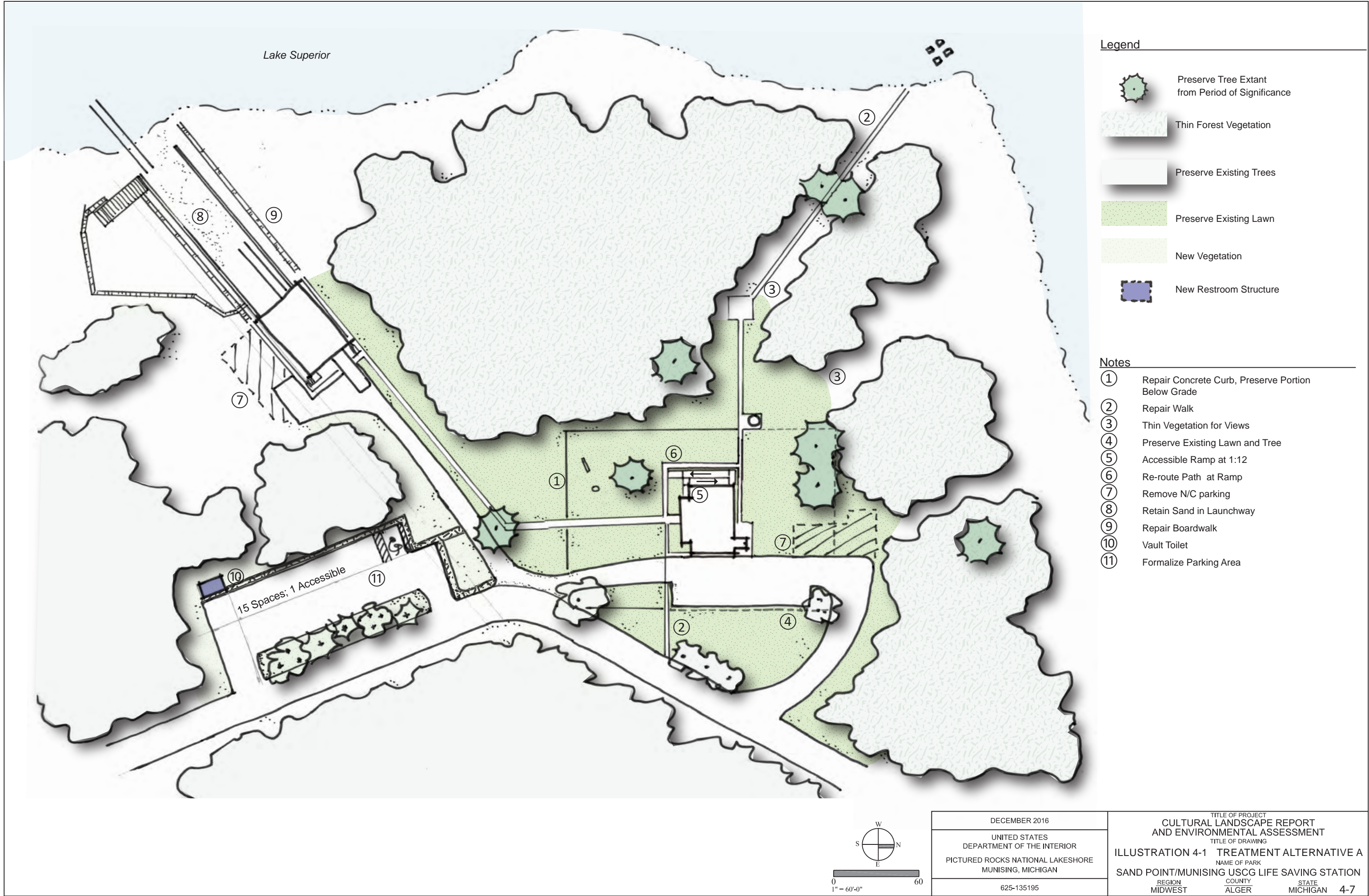
- 28 • Provide an accessible vault toilet at the
29 visitor parking area, sited out of the
30 viewshed of the historic structures.

31 Small Scale Features

- 32 • Repair the concrete curb around the
33 Munising Life Saving Station (HS-01)
34 where it is extant above grade.
- 35 • Remove fence and boat hull.

1 Vegetation

- 2 • Thin woodland vegetation where it has
3 encroached upon historic views to the
4 water.
5
6 • Maintain existing lawn surrounding the
7 Munising Life Saving Station (HS-01) .
8
9 • Preserve extant trees that date from the
10 period of significance.
11
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Action Alternative B

1 Action Alternative B would add actions
 2 to fully repair the historic setting. This
 3 alternative would utilize a rehabilitation
 4 approach in order to maintain the historic
 5 integrity of the cultural landscape.
 6 Rehabilitation is well-suited for the cultural
 7 landscape as it requires repair of features
 8 and adaptive reuse for contemporary and
 9 compatible uses.
 10
 11 This alternative would allow the most
 12 extensive change to existing conditions in
 13 order to rehabilitate the cultural landscape to
 14 the greatest extent possible. Historic spatial
 15 patterns and views would be restored, and
 16 greater visitor access throughout the site
 17 would be accommodated. This alternative
 18 identifies expanded opportunities for
 19 visitor contact, improved wayfinding, and
 20 greater legibility of the cultural landscape
 21 (Illustration 4-2). Rehabilitation projects
 22 include the following actions.

24 Spatial Organization / Views

- 25 • Preserve contributing spatial
 26 organization, views and formal
 27 arrangement of USCG spaces.
 28
- 29 • Repair to the full extent historic views and
 30 spatial relationships by restoring walks
 31 and vegetation patterns.
 32
- 33 • Repair contributing views by removing
 34 vegetation where it obscures historic
 35 views.

37 Archeological Sites

- 38 • Protect known archeological sites.
 39
- 40 • Consult with affiliated tribes to identify
 41 themes and approaches to marking and/
 42 or interpreting their history at Sand Point.
 43
 44

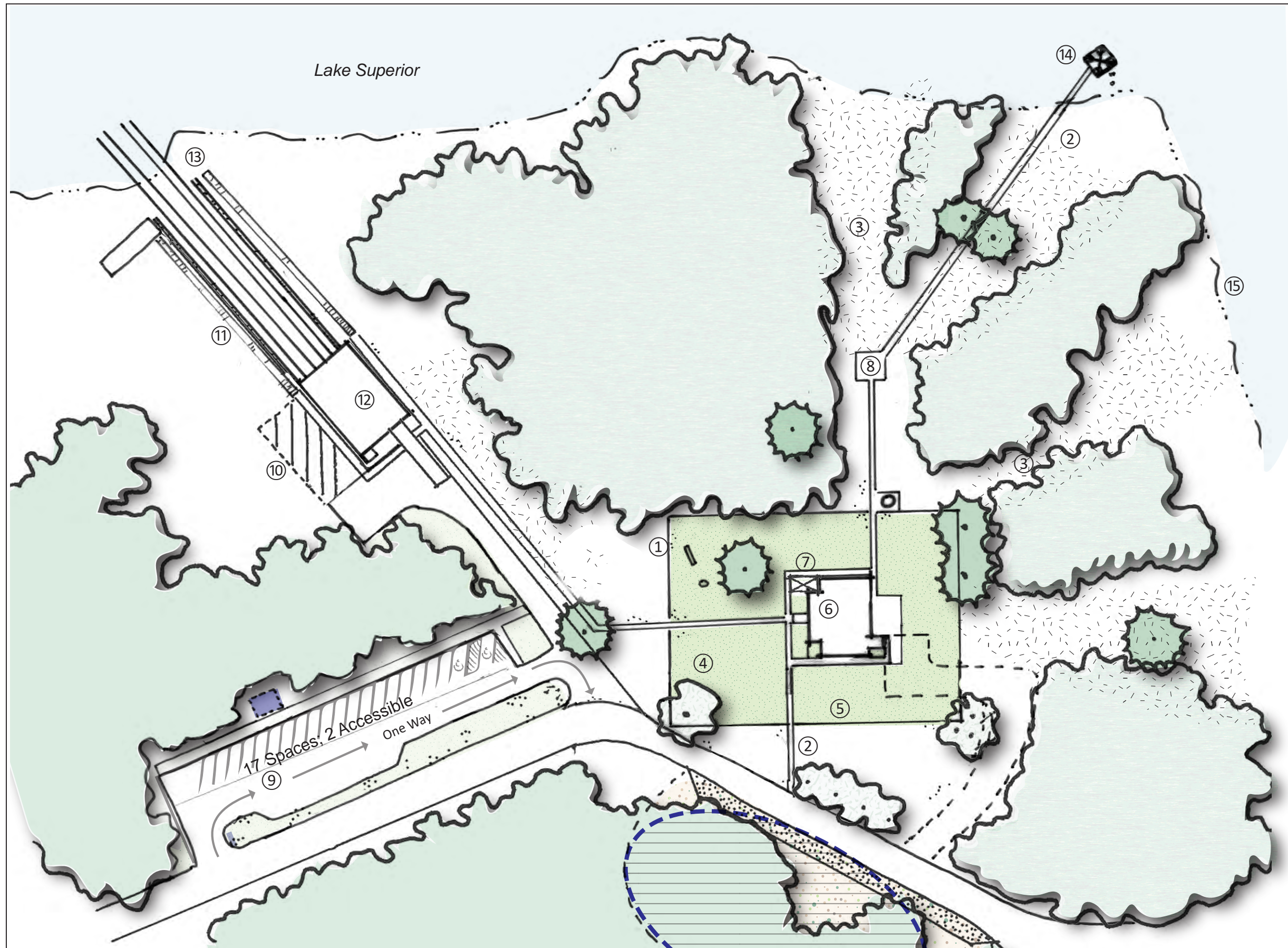
1 Circulation

- 2 • Retain Sand Point Road, access drives, and
 3 pedestrian routes.
 4
- 5 • Repair network of pedestrian concrete
 6 paths, resetting and adding material as
 7 needed to restore the full extent of the
 8 path.
 9
- 10 • Remove non-contributing boardwalk, as
 11 this route does not match the historic
 12 routes.
 13
- 14 • Repair the reconstructed dock as needed
 15 and to match the historic USCG dock.
 16 Provide additional boardwalks on either
 17 side of the Launchway, to connect with the
 18 dock and shoreline.
 19
- 20 • Remove staff parking area to restore the
 21 setting of the Munising Life Saving Station
 22 (HS-01).
 23
- 24 • Remove the non-contributing gravel area
 25 south of the Boathouse.
 26
- 27 • Expand the visitor parking and formalize
 28 the layout. Improve ingress and egress.
 29
- 30 • Allow parallel parking at the east edge
 31 of Sand Point Road as an interim parking
 32 solution. Long-term, expand parking and
 33 operations area in the formerly disturbed
 34 area east of Sand Point Road.
 35
- 36 • Maintain existing loop drive at the end of
 37 Sand Point Road. Expand the radius of the
 38 road terminus in order to accommodate
 39 larger vehicles.
 40

41 Buildings and Structures

- 42 • Restore the formal setting at the Munising
 43 Life Saving Station (HS-01) with short
 44 mown lawn, orthogonal walks, and raised

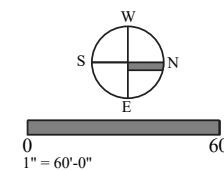
1	plinth that frames the building. Provide	1	• Preserve extant trees that date from the
2	universal access into the structure with an	2	period of significance.
3	exterior lift at the main entrance.	3	
4		4	• Add new trees and vegetation to blend the
5	• Preserve the Oil House through routine	5	expanded parking area with the setting.
6	and cyclic maintenance.	6	
7		7	• Protect native dune vegetation and
8	• Preserve the Boathouse and rehabilitate	8	encourage visitors to utilize established
9	with an accessible ramp into the	9	trails through sensitive ecological areas.
10	structure.	10	
11		11	
12	• Provide an interim vault toilet adjacent	12	
13	the visitor parking area. Long-term, locate	13	
14	a visitor restroom inside the Boathouse.	14	
15		15	
16	• Preserve the Launchway. Remove sand	16	
17	that obscures the form and function of	17	
18	the structure and reveal the edges of the	18	
19	bulkhead. Restore the rails where they are	19	
20	missing.	20	
21		21	
22	• Preserve the Communications Tower	22	
23	foundation and the Lookout Tower	23	
24	foundation. Consider adding a compatible,	24	
25	contemporary structure that would	25	
26	visually mark the height of these non-	26	
27	extant towers.	27	
28		28	
29	• Remove non-contributing garage	29	
30	foundation.	30	
31		31	
32	<u>Small Scale Features</u>	32	
33	• Repair the concrete curb around the	33	
34	Munising Life Saving Station (HS-01),	34	
35	revealing the full form of the curb.	35	
36		36	
37	<u>Vegetation</u>	37	
38	• Thin trees and vegetation where it	38	
39	encroaches on historic views to the water.	39	
40		40	
41	• Repair the lawn surrounding the Munising	41	
42	Life Saving Station (HS-01) to within the	42	
43	concrete curb as was the historic design	43	
44	intent.	44	
45		45	
46			



Legend

- Preserve Tree Extant from Period of Significance
- New Tree
- Thin Forest Vegetation
- Preserve Existing Trees
- Restore Lawn
- New Vegetation
- Interim Parallel Parking
- Future Parking
- Temporary Vault Toilet

- Notes**
- ① Repair Concrete Curb, full extent
 - ② Repair / Reconstruct Walk
 - ③ Remove Trees for Views
 - ④ Restore Lawn to Historic Extent
 - ⑤ Remove Parking Area
 - ⑥ Expand Visitor Use in Guard Station
 - ⑦ Accessible Lift
 - ⑧ Restore Communications Tower
 - ⑨ Expand Visitor Parking
 - ⑩ Remove Gravel Area
 - ⑪ Realign Boardwalk
 - ⑫ Rehabilitate Boathouse for Visitor Access and Restroom
 - ⑬ Remove Sand from Launchway and Restore Rails
 - ⑭ Restore Lookout Tower
 - ⑮ Shoreline Revetment to Follow EA Guidance



DECEMBER 2016	TITLE OF PROJECT CULTURAL LANDSCAPE REPORT AND ENVIRONMENTAL ASSESSMENT		
UNITED STATES DEPARTMENT OF THE INTERIOR	TITLE OF DRAWING ILLUSTRATION 4-2 TREATMENT ALTERNATIVE B		
PICTURED ROCKS NATIONAL LAKESHORE MUNISING, MICHIGAN	NAME OF PARK SAND POINT/MUNISING USCG LIFE SAVING STATION		
625-135195	REGION MIDWEST	COUNTY ALGER	STATE MICHIGAN 4-11

Mitigation Measures

- 1 The NPS places strong emphasis on
 2 protecting resources against potentially
 3 adverse impacts. Mitigation is used to avoid,
 4 prevent, or minimize adverse impacts during
 5 implementation of projects. Mitigation is
 6 also considered when treatment alternatives
 7 are developed. An alternative's potential
 8 impacts to resources are minimized
 9 whenever possible, while still meeting
 10 project objectives. For example, the extent
 11 of proposed vegetation management under
 12 each treatment alternative is the minimum
 13 necessary to meet the alternative's objectives.
 14 To further minimize impacts, general
 15 measures are implemented during and
 16 after construction. The following mitigation
 17 measures would be implemented as part of
 18 whichever treatment alternative is selected.
 19 The NPS may need to obtain federal and
 20 state environmental permits and, as part of
 21 that process, additional mitigation measures
 22 could be required by other agencies. The
 23 NPS would implement an appropriate level
 24 of monitoring throughout project activities
 25 to ensure that protective measures are being
 26 properly implemented and are achieving their
 27 intended results.
- 28
 29 **General Measures**
- 30
 31 The following general measures would be
 32 implemented during construction of any
 33 selected treatment alternative.
- 34
 35 • The work area limits would be clearly
 36 defined, fenced, flagged, and delineated to
 37 keep ground disturbance to a minimum.
 38 No disturbance would occur beyond these
 39 limits other than protection measures for
 40 erosion/sediment control.
- 41
 42 • All contractor employees and
 43 subcontractors and park seasonal,
 44 contract, and concession employees
- 1 would attend an orientation session(s)
 2 regarding park regulations focused
 3 on minimizing impacts on resources,
 4 human health and safety, and appropriate
 5 housekeeping.
- 6
 7 • All tools, equipment, barricades, signs,
 8 surplus materials, and rubbish would
 9 be removed from the project area upon
 10 project completion. Construction debris
 11 would be hauled from the park to an
 12 appropriate disposal location.
- 13
 14 • Staging, materials, and equipment would
 15 be in developed areas such as existing
 16 parking lots to the extent possible.

1 **Water Resources**

- 2
- 3 • If minor earthwork is necessary, standard
- 4 erosion-control measures such as silt
- 5 fencing would be used to minimize
- 6 erosion and the introduction of sediments
- 7 to aquatic habitat during and after
- 8 construction.
- 9
- 10 • All vehicle and equipment fueling would
- 11 occur more than 100 feet from any
- 12 surface water in a location where a fuel
- 13 spill would not be able to enter the water.
- 14
- 15 • A spill prevention and response plan that
- 16 regulates the use of hazardous and toxic
- 17 materials, such as fuels and lubricants
- 18 for construction equipment, would be
- 19 prepared.
- 20

21 **Wildlife and Species of Concern**

- 22
- 23 • Construction personnel would be
- 24 instructed on appropriate behavior in the
- 25 presence of wildlife and on proper storage
- 26 and handling of food, garbage, and other
- 27 attractants.
- 28
- 29 • Plans would identify areas of sensitive
- 30 vegetation to avoid (if any) and would
- 31 designate areas for stockpiling slash
- 32 material.
- 33
- 34 • To reduce noise disturbance and
- 35 limit impacts on breeding avian and
- 36 mammalian species, all tree and shrub
- 37 thinning and removal would be conducted
- 38 from October 1 to March 1, where
- 39 feasible.
- 40
- 41 • If tree and shrub thinning and removal
- 42 must occur between March 1 and October
- 43 1, field surveys for migratory bird nests
- 44 and cavities and bat roosts and nurseries
- 45 would be conducted prior to vegetation-
- 46 disturbing activities. Where active nests

1 or nurseries are present, vegetation

2 removal would not occur until after

3 the young have fledged, and ground-

4 disturbing activities would not occur

5 within 100 feet until the young have

6 fledged.

- 7
- 8 • Tree and shrub thinning would comply
- 9 with provisions of the final 4(d) Rule
- 10 for the Northern Long-Eared Bat (81 FR
- 11 1900, January 14, 2016) pertaining to
- 12 areas in which white-nose syndrome is
- 13 known to occur, which includes Alger
- 14 County.
- 15

16 **Native Vegetation and Non-native**

17 **Ornamental and Invasive, Exotic Species**

- 18
- 19 • Non-invasive ornamental tree and
- 20 shrub species would be used in cultural
- 21 landscape treatments.
- 22
- 23 • Disturbance to vegetation would
- 24 be avoided as much as possible and
- 25 contained to as small a footprint as
- 26 possible.
- 27
- 28 • Temporary barriers may be provided
- 29 to protect existing trees, plants, and
- 30 root zones not proposed for removal or
- 31 thinning. Trees or other plants would not
- 32 be removed, injured, or destroyed without
- 33 prior approval.
- 34
- 35 • All equipment entering the park would
- 36 be cleaned and pressure washed to
- 37 remove foreign soil, vegetation, and other
- 38 materials that may contain nonnative
- 39 seeds or vegetation.
- 40
- 41 • All disturbed areas would be revegetated
- 42 with native species. Revegetation
- 43 plantings, if necessary, would use native
- 44 species from genetic stocks originating in
- 45 the park, if possible. Revegetation efforts
- 46 would focus on recreating the natural

spacing, abundance, and diversity of native plant species. All disturbed areas would be restored as nearly as possible to preconstruction conditions shortly after construction activities are completed.

- To minimize introduction of exotic plant species, no hay bales would be used for mulch. Hay often contains seed of undesirable or harmful invasive exotic plant species. Therefore, on a case-by-case basis, the following materials may be used for any erosion control that may be necessary: rice straw, straws determined by the NPS to be weed-free (e.g., barley straw or winter wheat straw), cereal grain straw that has been fumigated to kill weed seed, and wood excelsior bales.
- NPS would prepare and implement a site-specific non-native and invasive exotic plant management plan for disturbed and restored areas. The plan would include monitoring and adaptive management measures and would remain active until plan success criteria are met. The plan would be consistent with the park's general and resource management plans.

Historic Structures and Cultural Landscapes

- Unless they are part of the project, known historic sites and isolated occurrences would be avoided during construction.
- Accordance with 36 CFR 800.13, Post Review Discoveries. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.
- The park would ensure that all personnel who work on the project are informed of the penalties for illegally collecting

artifacts or intentionally damaging archeological sites or historic properties. Personnel would also be instructed on procedures to follow in case previously unknown archeological resources are uncovered during construction. Equipment traffic would be minimized in the site. Equipment and materials staging areas would also avoid known archeological resources.

Public Health and Safety

- Signs, press releases, or other communication methods would be used to inform visitors about construction and any building or area closures or detours during construction.
- Appropriate barriers and barricades would be used to clearly delineate work areas and provide for safe visitor travel near construction areas.
- Emergency response protocols would be developed for implementation during construction. Construction activities would be conducted in accordance with established safety protocols.

Comparison of Action Treatment Alternatives

Matrix 4-2 summarizes and compares the elements of each action treatment alternative. As previously described, the no action alternative and action treatment alternatives would include actions identified in the GMP, LRIP, and actions already identified and/or in progress. Because the actions would be undertaken under each of the three alternatives, they are not summarized in Matrix 4-2. The no action alternative would include none of the listed elements and so is not included in the table.

Matrix 4-2. Comparison of Treatment Alternatives

Elements	Alternative A - Preservation	Alternative B - Rehabilitation
Spatial Organization / Views	<ul style="list-style-type: none"> • Retain contributing spatial organization, views, and formal arrangement of USCG spaces. • Repair historic views by repairing walks and vegetation patterns. • Thin vegetation in key locations. 	<ul style="list-style-type: none"> • Preserve contributing spatial organization, views, and formal arrangement of USCG spaces. • Restore full extent of historic views and spatial relationships by restoring walks and vegetation patterns. • Remove vegetation where it obscures historic views.
Archeological Sites	<ul style="list-style-type: none"> • Protect known archeological sites. 	<ul style="list-style-type: none"> • Protect known archeological sites. • In consultation with tribes and Michigan SHPO, consider identifying and interpreting the historic cemetery as part of the visitor experience and interpretation of Native people who utilized Sand Point.
Small Scale Features	<ul style="list-style-type: none"> • Repair the concrete curb around the Life Saving Station where it is extant above grade. • Replace non-contributing small scale features. 	<ul style="list-style-type: none"> • Repair the concrete curb around the Life Saving Station, revealing its full extent. • Replace non-contributing small scale features.
Circulation	<ul style="list-style-type: none"> • Retain Sand Point Road, access drives, and pedestrian routes. • Repair concrete paths. • Repair non-contributing boardwalk. • Repair the reconstructed dock. • Modify staff parking area. • Remove the non-contributing parking area to the south of the Boathouse. • Modify the visitor parking area. 	<ul style="list-style-type: none"> • Retain Sand Point Road, access drives, and pedestrian routes. • Repair and restore concrete paths to their full historic extent. • Remove non-contributing boardwalk. • Repair the reconstructed dock. • Remove the staff parking area. Allow an accessible parking space adjacent the building. • Remove the non-contributing parking area to the south of the Boathouse. • Expand the visitor parking area.

Elements	Alternative A - Preservation	Alternative B - Rehabilitation
Buildings and Structures	<ul style="list-style-type: none"> • Preserve the Life Saving Station and its formal setting with short mown lawn and orthogonal walks. • Provide universal access into the Life Saving Station with a ramp on the building's west edge that connects to the front porch. • Preserve the Oil House. • Preserve the Boathouse and provide an accessible ramp into the Boathouse. • Provide an accessible vault toilet at the visitor parking area. • Preserve the Launchway. Leave sand in Launchway. • Preserve the Communications Tower foundation and the Lookout Tower foundation. • Remove non-contributing garage foundation. 	<ul style="list-style-type: none"> • Restore the formal setting at the Life Saving Station, with short mown lawn, orthogonal walks, and raised plinth that frames the building. • Provide universal access into the Life Saving Station with a heated lift. • Preserve the Oil House. • Preserve the Boathouse and rehabilitate with an accessible ramp into the structure. • Provide a visitor restroom inside the Boathouse. • Preserve the Launchway. Remove an estimated 150 c.y. of sand and restore the rails where they are missing. • Preserve the Communications Tower foundation and the Lookout Tower foundation. • Consider adding a compatible, contemporary structure that would visually mark the height of these nonextant towers. • Remove non-contributing garage foundation.
Vegetation	<ul style="list-style-type: none"> • Thin woodland vegetation where it has encroached upon historic views to the water. • Maintain existing lawn surrounding the Life Saving Station. • Preserve extant trees that date from the period of significance. 	<ul style="list-style-type: none"> • Remove trees and vegetation where it has encroached upon historic views to the water and between structures. • Repair the lawn surrounding the Life Saving Station to within the concrete curb. • Preserve extant trees that date from the period of significance. • Add new trees and vegetation to blend the expanded parking area with the setting. • Protect native dune vegetation and encourage visitors to use established trails through sensitive ecological areas.

Summary of Environmental Consequences

A summary of potential environmental effects for the alternatives is presented in Matrix 4-3.

Matrix 4-3. Summary of Environmental Consequences

Impact Topic	No Action	Alternative A - Preservation	Alternative B - Rehabilitation
Historic Structures	Because current management practices and maintenance would continue under the no action alternative, the alternative would likely have no effect on historic structures. If slight adverse changes accumulate over time, there may be small adverse effects.	Existing contributing structures would be repaired and maintained and current uses continued. Where needed, compatible features would be added to meet building codes and maintain safety. Access ramps would be added to the Boat House and Life Saving Station. Effects would be small and beneficial.	Rehabilitation would allow expanded uses and repairs to features. Where needed, compatible features would be added to meet building codes and maintain safety. Interior toilets would be added to the Boat House. An accessible ramp would be added to the Boat House and an accessible elevator added to the Life Saving Station. Effects would be modest and beneficial.
Cultural Landscape	The deterioration of some cultural landscape features and views would continue. Current parking would remain. Bluegrass lawn would remain at 1.35 acres. The alternative would have modest adverse effects. The cumulative effects would be a combination of modest and adverse, along with small and beneficial.	Existing landscape features would be repaired and some noncompatible features would be removed. A vault toilet would be added at the visitor parking area. About 0.63 acre of vegetation would be thinned and bluegrass lawn would be expanded by 0.37 acre. Effects would be small and beneficial. Cumulative impacts would also be small and beneficial.	Existing contributing landscape features would be repaired and missing historic features would be restored. Some noncompatible features would be removed. About 1.14 acres of vegetation would be cleared and thinned. Bluegrass lawn would be reduced to 0.48 acre and 0.26 acre of native vegetation would be restored. 150 cubic yards of sediment would be removed from the Launchway. Effects would be modest and beneficial. Cumulative effects would also be modest and beneficial.

Impact Topic	No Action	Alternative A - Preservation	Alternative B - Rehabilitation
Native Vegetation	There would be no new project-related ground disturbance or restoration of native vegetation. Visitor use and management activities would continue. There would be no new adverse effects on native vegetation, and no incremental contribution to cumulative effects.	Alternative A would include managing about 0.63 acre of vegetation, expanding bluegrass lawn by 0.37 acre. Together, these areas represent less than 1% of the estimated 120 acres of vegetation on Sand Point. Effects would be long-lasting, small and adverse. Cumulative effects would be small and both beneficial and adverse.	Alternative B would include the same effects as under Alternative A, except that 1.14 acres of native vegetation would be cleared or thinned and 0.26 acre of native vegetation would be restored. Effects would be long-lasting, modest and adverse. Cumulative effects would be modest and adverse and small and beneficial.
Non-native Ornamentals and Invasive Exotic Plant Species	There would be no change in the rate of introduction or spread of non-native ornamentals and invasive, exotic plant species. The no action alternative would not contribute to cumulative effects.	Under Alternative A, the establishment and spread of invasive exotic plants, including non-native ornamentals in the cultural landscape, is possible in up to 0.63 acre of thinned native vegetation, particularly in the short-term. With mitigation, adverse effects would, at most, be noticeable, long-term, and adverse. Cumulative effects would also be, at most, noticeable, long-term, and adverse.	Alternative B would include the same effects as under Alternative A, except that 1.14 acres of native vegetation would be affected. With mitigation, Alternative B would, at most, be noticeable, long-term, and adverse. Cumulative effects would also be, at most, noticeable, long-term, and adverse.

1 **NPS Preferred Alternative**

2
3 Following an alternatives workshop, the park
4 selected Alternative B - Rehabilitation as
5 the preferred alternative after considering
6 how well each alternative met the project
7 objectives and consideration of the potential
8 environmental consequences. The preferred
9 alternative presents NPS's preferred
10 management action and defines the rationale
11 for the action in terms of natural and cultural
12 resource protection and management;
13 visitor use, operations, and cost; and other
14 applicable factors. While Alternative A would
15 meet the project goals to a certain degree,
16 the preferred alternative has the best overall
17 combination of features to meet the project
18 objectives.

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Chapter 5. Environmental Consequences

Assessment of Impacts

1 This section provides an analysis of potential
 2 impacts of the alternatives on resource
 3 topics that were carried forward for
 4 further evaluation, and considers how the
 5 condition of the resources would change,
 6 either negatively or positively, because
 7 of implementing each of the alternatives.
 8 The analysis determined if the proposed
 9 alternatives, including applied mitigation
 10 measures, have the potential for significant
 11 adverse impacts. Overall, NPS based these
 12 impact analyses and conclusions on the
 13 review of existing literature and park
 14 studies and on information provided by
 15 experts within the park, tribal partners,
 16 other agencies, and public input. Both
 17 direct impacts (occur at the same time and
 18 place as the action) and indirect impacts
 19 (potentially caused by the action and occur
 20 later or farther away) were considered in the
 21 analysis. The impact analysis also considers
 22 the context in which the impacts occur, in this
 23 case Sand Point on a small scale and the park
 24 on a large scale. The impacts were quantified
 25 wherever possible to convey the intensity
 26 of impacts, which is the degree to which a
 27 resource is affected. No significant impacts
 28 were identified in this assessment.

Cumulative Impacts

1 Cumulative impacts are defined as “the
 2 impact on the environment that results from
 3 the incremental impact of the action when
 4 added to other past, present, and reasonably
 5 foreseeable future actions, regardless of what
 6 agency (federal or nonfederal) or person
 7 undertakes such other actions” (40 CFR
 8 1508.7). Cumulative effects can result from
 9 individually small, but collectively significant,
 10 actions taking place over time.

11
 12 Cumulative impacts were determined by
 13 combining the impacts of each alternative
 14 with other past, present, and reasonably
 15 foreseeable future actions. The geographic
 16 scope for this analysis was limited to Sand
 17 Point. Past actions include activities that
 18 influenced and affected the current conditions
 19 of the environment of Sand Point and are
 20 reflected in Chapter 3. Ongoing or reasonably
 21 foreseeable future projects on Sand Point,
 22 where overlapping resource impacts are
 23 possible, were considered in the analysis.

24
 25 The following past, present, and reasonably
 26 foreseeable actions are relevant to the
 27 analysis of the effects on resources that would
 28 result from the alternatives.

29
 30 Invasive, exotic species, particularly plant
 31 species, have spread to various degrees
 32 throughout Sand Point due to past
 33 disturbance and visitor activities. NPS has
 34 managed, and continues to manage, invasive
 35 and exotic plant species on Sand Point and
 36 these management activities will continue in
 37 the future.

38
 39 The park is currently evaluating alternatives
 40 to address shoreline erosion at the rock
 41 revetment on Sand Point. The revetment,
 42 constructed in 1990 and 1991 to protect
 43 against severe shoreline erosion on Sand
 44 Point, is failing. The revetment Environmental
 45

Historic Structures

1 Assessment identifies the preferred
2 alternative as removing the rock revetment
3 and restoring the area with soft-engineering
4 methods to rehabilitate the shore and
5 appearance of Sand Point. If the preferred
6 alternative is selected, implemented,
7 and functions as intended, the shoreline
8 would naturalize, potentially resulting in
9 establishment of a wider beach between
10 the shoreline and historic structures and
11 an increase in native-vegetated areas. Some
12 small amount of sand nourishment may be
13 undertaken by the park following storm
14 events that cause erosion.

15 The park has no other current or planned
16 projects on Sand Point. The actions from the
17 GMP and LRIP described in the no action
18 alternative are not reasonably-foreseeable
19 because they do not have funding or an
20 established implementation schedule. For
21 this reason, they are not considered in the
22 cumulative effects analysis.

23
24 No actions by others outside of NPS with
25 potential environmental impacts on Sand
26 Point are currently known.

27
28 Management of invasive exotic plant species
29 and the revetment alternatives would not
30 incrementally contribute to the impacts to
31 historic structures described in this chapter,
32 so cumulative impacts to historic structures
33 are not considered further. Cumulative
34 impacts to cultural landscapes; native
35 vegetation; and non-native ornamentals and
36 invasive, exotic plant species are described
37 under each resource impact section.

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1 No Action Alternative

2
3 The no action alternative would result in the
4 continuation of existing park management
5 and maintenance approaches and uses of
6 the Boat House and Life Saving Station. In
7 most cases, existing conditions would be
8 maintained through stabilization, ongoing
9 maintenance, and repair of historic materials
10 and features. Second story floor defection
11 would continue under live loads. Without an
12 identified treatment approach, incompatible
13 features and inappropriate materials may
14 be unintentionally incorporated into the
15 buildings. Over time, these changes may
16 slightly diminish the overall integrity of the
17 resources; although under past and current
18 practices, the structures retain a high enough
19 degree of historic integrity to be listed on the
20 NRHP.

21
22 *Conclusion.* Because current management
23 practices and maintenance capabilities would
24 continue under the no action alternative, the
25 alternative would likely have no effect on
26 historic structures. If slight adverse changes
27 accumulate over time, there may be small,
28 adverse effects on historic structures.

30 Alternative A

31
32 Alternative A would focus on a preservation
33 approach that would not include extensive
34 modifications, but would maintain and
35 repair features as needed. Where needed,
36 compatible features would be added to meet
37 building codes and maintain safety. Upgrades
38 to accessibility and access are included in this
39 alternative. Current uses would continue.

40
41 *Conclusions.* Preservation activities proposed
42 under Alternative A would result in small
43 beneficial effects on historic structures.

44

Cultural Landscapes

1 Alternative B

2

3 The emphasis of Alternative B is
4 rehabilitation, which would allow expanded
5 uses and repairs to features. Where needed,
6 compatible features would be added to meet
7 building codes and maintain safety. Upgrades
8 to accessibility and access are included
9 in this alternative. Under this alternative,
10 administration functions in the Life Saving
11 Station would be relocated and visitor use
12 expanded. Visitor use of the Boat House
13 would also be expanded and toilets added to
14 its interior.

15

16 *Conclusions.* Rehabilitation activities proposed
17 under Alternative B would result in modest
18 beneficial effects on historic structures.
19 Because of its rehabilitation focus, and
20 removal of administrative functions, the
21 beneficial effects of Alternative B would
22 be somewhat greater than those under
23 Alternative A.

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1 No Action Alternative

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3 Under the no action alternative, the park
4 would continue current levels of cultural
5 landscape management. Parking would
6 remain in its current configuration and
7 bluegrass lawn would remain at 1.35 acres.
8 The historic and visual character of the
9 cultural landscape would continue to not
10 be fully conveyed. Native vegetation would
11 continue to encroach into cultural landscapes.
12 Vegetation encroachment and weathering
13 would continue to deteriorate some cultural
14 landscape features such sidewalks and lawn
15 edging. Thus, the no action alternative would
16 diminish the overall integrity of the cultural
17 landscape, resulting in modest adverse
18 effects.

19

20 *Cumulative Impacts.* Implementing the
21 revetment EA preferred alternative may
22 restore shoreline functions to conditions
23 similar to those during the period of
24 significance, which would have a small
25 beneficial effect on the cultural landscape.
26 When combined with the revetment work,
27 the adverse effects of the no action alternative
28 would have the potential for modest adverse
29 cumulative effects on the cultural landscape,
30 along with small beneficial effects.

31

32 *Conclusions.* The deterioration of the cultural
33 landscape under the no action alternative
34 would result in modest adverse effects on the
35 cultural landscape. The cumulative effects
36 would be a combination of modest and
37 adverse, along with small and beneficial.

38

39 Alternative A

40

41 The preservation approach focuses on
42 repairing existing cultural landscape features
43 and spaces. Some noncompatible features
44 would be removed. Some views that are

1 currently missing would be reestablished
2 by thinning trees and shrubs in about 0.63
3 acre of native White Pine/Blueberry Dry-
4 Mesic Forest. Staff parking would be slightly
5 reconfigured, which would result in an
6 increase of about 0.37 acre of bluegrass lawn.
7 Ten new trees would be added.

8
9 Preserving cultural landscape features under
10 Alternative A would result in small beneficial
11 effects on the cultural landscape that may not
12 be noticed by some visitors.

13
14 *Cumulative Impacts.* The beneficial effects of
15 Alternative A would contribute incrementally
16 to those of past, present, and reasonably
17 foreseeable actions, resulting in small
18 beneficial cumulative effects on cultural
19 landscapes.

20
21 *Conclusions.* Under Alternative A, small
22 beneficial effects would result from
23 rehabilitation measures. Cumulative impacts
24 would also be small and beneficial.

25 26 **Alternative B**

27
28 The rehabilitation approach would allow
29 expanded uses and repairs to landscape
30 features. The setting of the Life Saving Station
31 living quarters would be restored to its formal
32 USCG appearance as a prominent structure
33 set within a well-maintained and neat
34 landscape. Existing contributing landscape
35 features would be repaired or altered, and
36 missing historic features would be restored.
37 Some noncompatible features would be
38 removed. About 1.14 acres of native White
39 Pine/Blueberry Dry-Mesic Forest would
40 be managed to better represent the extent
41 of clearing and views during the period
42 of significance. Bluegrass lawn would be
43 reduced by 0.48 acre and the staff parking
44 area would be removed, resulting in the

1 restoration of 0.26 acre of native vegetation.
2 Sixteen new trees would be added. An
3 estimated 150 cubic yards of sand would be
4 removed from the Launchway. The alternative
5 may also include adding compatible,
6 contemporary structures that would
7 visually mark the height of the nonextant
8 communication and lookout towers.

9
10 Rehabilitating cultural landscape features
11 under Alternative B would result in noticeably
12 beneficial effects on cultural landscapes.
13 Because of the rehabilitation focus, the
14 beneficial effects of Alternative B would be
15 greater than those for Alternative A.

16
17 *Cumulative Impacts.* The beneficial effects of
18 Alternative B would contribute incrementally
19 to those of past, present, and reasonably
20 foreseeable actions, resulting in modest
21 beneficial cumulative effects on cultural
22 landscapes.

23
24 *Conclusions.* Under Alternative B, modest
25 beneficial effects would result from
26 rehabilitation measures. Cumulative impacts
27 would also be modest and beneficial.

Native Vegetation

1 No Action Alternative

2
3 There would be no new project-related
4 ground disturbance or restoration of native
5 vegetation under the no action alternative.
6 Visitor use and management activities in the
7 study area would continue. The no action
8 alternative would have no new effect on
9 native vegetation.

10
11 *Cumulative Impacts.* Implementing the
12 preferred revetment EA alternative would
13 have a small beneficial effect if the extent of
14 native vegetation increased on stabilized sand
15 deposits. However, the no action alternative
16 would not have no additive effects, so the
17 no action alternative would not have a
18 cumulative effect.

19
20 *Conclusion.* The no action alternative would
21 have no new adverse effects on native
22 vegetation in the project area, and would not
23 contribute to cumulative effects.

25 Alternative A

26
27 Alternative A would include select vegetation
28 thinning of trees and shrubs on about
29 0.63 acres of native White Pine/Blueberry
30 Dry-Mesic Forest that has encroached into
31 historically cleared areas. Additionally, the
32 extent of bluegrass lawn would be increased
33 by 0.37 acre from its current 1.35 acres.
34 The estimated one acre of changes to native
35 vegetation in the study area would represent
36 less than 1% of the estimated 120 acres
37 of vegetation on Sand Point. In addition to
38 areas in which native vegetation would be
39 removed or managed, there would be small
40 areas of disturbance associated with other
41 treatment elements, including removing
42 noncontributing features from the cultural
43 landscape, and repairing or stabilizing
44 buildings and other structures. Temporarily

1 disturbed areas would be revegetated with
2 native species.

3
4 With mitigation measures, adverse effects on
5 native vegetation would be small.

6
7 As described in the no action alternative,
8 past, present, and reasonably foreseeable
9 future projects may have a small beneficial
10 effect on native vegetation. Those effects, in
11 combination with the small adverse effects of
12 Alternative A, would result in small beneficial
13 and small adverse cumulative impacts.

14
15 *Conclusion.* Because Alternative A would
16 include permanently modifying about 0.63
17 acres of native vegetation and increase
18 bluegrass lawn by 0.37 acre, its effects would
19 be small and adverse. Cumulative effects
20 would be small and both beneficial and
21 adverse.

23 Alternative B

24
25 Alternative B would include thinning
26 trees and shrubs on about 1.14 acres of
27 native vegetation that has encroached
28 into historically cleared areas. This would
29 represent just less than 1% of the estimated
30 120 acres of vegetation on Sand Point. In
31 addition to areas in which native vegetation
32 would be removed or managed, there would
33 be small areas of disturbance associated with
34 other treatment elements, including removing
35 noncontributing features from the cultural
36 landscape, and repairing or stabilizing
37 buildings and other structures. Temporarily
38 disturbed areas would be revegetated with
39 native species. The extent of bluegrass lawn
40 would be decreased by 1.24 acres from its
41 current 1.35 acres. Native vegetation would
42 be restored on 0.26 acre.

Non-Native Ornamentals and Invasive, Exotic Plant Species

1 With the mitigation measures that would be
2 included, adverse effects on native vegetation
3 would be modest and slightly more noticeable
4 than under Alternative A. The beneficial effect
5 of restoring 0.26 acre of native vegetation
6 would be barely noticeable.

7
8 As described in the no action alternative,
9 past, present, and reasonably foreseeable
10 future projects may have a small beneficial
11 effect on native vegetation. Those effects,
12 in combination with the modest adverse
13 effects of Alternative B, would result in small
14 beneficial and modest adverse cumulative
15 impacts.

16
17 *Conclusion.* Because Alternative B would
18 include permanently modifying about 1.14
19 acres of native vegetation, its effects would
20 be modest and adverse. Cumulative effects
21 would be modest and adverse and small and
22 beneficial.

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1 No Action Alternative

2
3 There would be no new project-related
4 ground disturbance or associated
5 introduction of non-native ornamentals
6 or invasive, exotic plant species with
7 the potential to adversely impact native
8 vegetation under the no action alternative.
9 Existing levels of invasive, exotic plant species
10 would persist. No new non-native ornamental
11 plant species would be added to the study
12 area. For these reasons, the no action
13 alternative would have no new effect on non-
14 native ornamentals and invasive, exotic plant
15 species.

16
17 *Cumulative Impacts.* Past disturbance has
18 introduced and spread invasive ornamental
19 and exotic plant species, as will current and
20 future disturbance. NPS efforts to control the
21 introduction and spread of these species will
22 reduce, but not eliminate them, resulting in
23 small adverse effects. Because the no action
24 alternative would not introduce or spread
25 non-native ornamentals or invasive, exotic
26 plant species, there would be no cumulative
27 effects.

28
29 *Conclusion.* No new adverse effects of non-
30 native ornamentals and invasive, exotic plant
31 species would result from the no action
32 alternative and there would be no cumulative
33 effects.

34

35 Alternative A

36

37 Ground-disturbing activities could result
38 in the establishment or spread of invasive
39 exotic species and nonnative vegetation
40 because many of these species outcompete
41 native vegetation on disturbed sites, reducing
42 resource values and uses. Invasive exotic
43 species have the highest potential to establish

1 in areas disturbed by thinning or clearing
 2 trees and shrubs and in areas where parking
 3 lots will be removed. Alternative A may
 4 disturb up to 0.63 acre of native vegetation.
 5 While the area would not be cleared of
 6 vegetation, foot traffic and slash removal may
 7 create areas of loosened or bare soil.

8
 9 Management of disturbed areas to minimize
 10 invasive non-native and exotic species is
 11 difficult in any situation and is made more
 12 difficult in the study area because of loose
 13 sandy soils in vegetated areas and compacted
 14 soils in parking areas that would be converted
 15 to maintained lawn or native vegetation. The
 16 project plans for the treatment alternative
 17 would include measures to minimize the
 18 establishment and spread of invasive non-
 19 native and exotic species and a site-specific
 20 management plan would be developed and
 21 implemented. Depending on the effectiveness
 22 of the mitigation measures, the effects of non-
 23 native ornamentals and invasive, exotic plant
 24 species resulting from Alternative A would at
 25 most be noticeable, long-term, and adverse.

26
 27 *Cumulative Impacts.* As described in the
 28 no action alternative, past, present, and
 29 reasonably foreseeable future projects would
 30 result in invasive exotic species having a small
 31 adverse effect. Those impacts, in combination
 32 with Alternative A impacts would, at most,
 33 result in noticeable, long-term, adverse
 34 effects.

35
 36 *Conclusion.* The effects of non-native
 37 ornamentals and invasive, exotic plant
 38 species under Alternative A would at most
 39 be noticeable, long-term, and adverse.
 40 Cumulative effects would also, at most, be
 41 noticeable, long-term, and adverse.

42
 43

1 **Alternative B**

2
 3 The potential for the establishment and
 4 spread of invasive, exotic plant species is
 5 similar to that under Alternative A, although
 6 Alternative B may disturb up to 1.14 acre
 7 of native vegetation. Depending on the
 8 effectiveness of the mitigation measures,
 9 the effects of non-native ornamentals and
 10 invasive, exotic plant species resulting from
 11 Alternative B would at most be noticeable,
 12 long-term, and adverse.

13
 14 *Cumulative Impacts.* As described in the
 15 no action alternative, past, present, and
 16 reasonably foreseeable future projects would
 17 result in invasive exotic species having a small
 18 adverse effect. Those impacts, in combination
 19 with Alternative B impacts would, at most,
 20 result in noticeable, long-term, adverse
 21 effects.

22
 23 *Conclusion.* The effects of non-native
 24 ornamentals and invasive, exotic plant
 25 species under Alternative B would at most
 26 be noticeable, long-term, and adverse.
 27 Cumulative effects would also, at most, be
 28 noticeable, long-term, and adverse.

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Wildlife

Affected Environment

The park is at the northwestern limits of the hemlock-white pine-northern hardwood forest and contains elements of boreal forest. The park provides a wide range of habitats for wildlife, including scrub-shrub and herbaceous wetlands, hardwood and pine forests, lake and riverine open water, cliffs and valleys, and rocky shores and dune beaches. Not surprisingly, the number of animal species in the park reflects the range of habitats. Fifty-two mammal, 217 bird, 9 reptile, and 13 amphibian species are known or likely to be present in the park.^{5.1} The 7.11 acres of habitat in the study area is dominated by white pine-hardwood forest with sparse to dense shrub understory and sandy beach (see the Native Vegetation section for descriptions of plant communities present). The 7.11 acres is part of about 30 acres of similar forest/shrub habitat at the tip of Sand Point.

Mammals listed by NPS as occurring in habitats like those on Sand Point include black bear (*Ursus americanus*), gray wolf (*Canis lupus*), white-tailed deer (*Odocoileus virginianus*), red fox (*Vulpes vulpes*), fisher (*Martes pennanti*), marten (*M. americana*), short-tailed weasel or ermine (*M. erminea*), snowshoe hare (*Lepus americanus*), raccoon (*Procyon lotor*), porcupine (*Erethizon dorsatum*), striped skunk (*Mephitis mephitis*), and red squirrel (*Tamiasciurus hudsonicus*). Small mammals common to Sand Point habitats include the meadow vole (*Microtus pennsylvanicus*), woodland deer mouse (*Peromyscus maniculatus gracilis*), chipmunk species (*Tamias spp.*), and shrew species (*Sorex spp.*).^{5.2}

5.1 National Park Service biodiversity database. IRMA Portal version. Accessed Jan 18, 2017. <https://irma.nps.gov/npspecies>.

5.2 National Park Service biodiversity database.

Of interest is the use of Sand Point habitat by bats. Biologists identified six bat species at six sites in the park, including Sand Point.^{5.3} Species identified at Sand Point were little brown bat (*Myotis lucifugus*), northern long-eared bat (*M. septentrionalis*), eastern red bat (*Lasiurus borealis*), hoary bat (*L. cinereus*), silver-haired bat (*Lasionycteris noctivagans*), and big brown bat (*Eptesicus fuscus*).^{5.4} Little brown bat and northern long-eared bat have a maternity roost in the headquarters building attic.^{5.5} Northern long-eared bat is listed as threatened under the Endangered Species Act.

About 171 species of birds have been observed in the park and an additional 46 species are likely present. Common species include ruffed grouse (*Bonasa umbellus*), wading birds and waterfowl such as great blue heron (*Ardea herodias*), and several species of geese, ducks, mergansers, grebes, gulls and shorebirds. Trumpeter swans (*Cygnus buccinator*), a State of Michigan threatened species, have been seen in the water near the shore adjacent to the study area, including near the Launchway. Other common avian species include turkey vulture (*Cathartes aura*), several species of woodpeckers and sapsuckers, and a large variety of songbirds. Several species of raptors are found within the park. These species include bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), merlin (*Falco columbarius*),

5.3 Kruger, Laura, and Rolf Peterson. *Occurrence of Temperate Bat Species at Three National Parks in the Great Lakes Region*. Natural Resource Technical Report NPS/GLKN/NRTR-2008/128. Fort Collins, Colorado: U.S. Department of the Interior, National Park Service, 2008.

5.4 National Park Service biodiversity database.

5.5 CLR/EA Workshop for the Cultural Landscape Report and Environmental Assessment for Sand Point/Munising United States Coast Guard Life Saving Station at Pictured Rocks National Lakeshore. Pictured Rocks National Lakeshore. Munising, Michigan, 2016.

1 osprey (*Pandion haliaetus*) northern goshawk
 2 (*Accipiter gentilis*), northern harrier (*Circus*
 3 *cyaneus*), sharp-shinned hawk (*Accipiter*
 4 *striatus*), red-tailed hawk (*Buteo jamaicensis*),
 5 barred owl (*Strix varia*), and other hawk and
 6 owl species. While not in the study area, a
 7 merlin nest is within 0.25 mile of the study
 8 area boundary and bald eagle are regularly
 9 seen perching in the study area.

10

11 Sand Point is a particularly important location
 12 for migratory birds, including shorebirds,
 13 because Grand Island protects Sand Point
 14 from weather on Lake Superior. During bad
 15 weather, wildlife take refuge in the Sand Point
 16 area, including the study area. This sheltered
 17 condition is rare for the park and uncommon
 18 for much of Lake Superior.

19

20 Reptile and amphibian species present
 21 include wood turtle (*Clemmys insculpta*),
 22 American toad (*Bufo americanus*), spotted
 23 salamander (*Ambystoma maculatum*), spring
 24 peeper (*Hyla crucifer*), leopard frog (*Rana*
 25 *pipiens*), painted turtle (*Chrysemys picta*),
 26 snapping turtle (*Chelydra serpentina*), eastern
 27 garter snake (*Thamnophis sirtalis*), and
 28 northern water snake (*Nerodia sipedon*).^{5.6}

29

30 Information on the presence and effects of
 31 the proposed alternatives on federal and state
 32 special status wildlife species such as gray
 33 wolf, Canada lynx (*Lynx canadensis*), northern
 34 long-eared bat, piping plover, and merlin
 35 will be presented in a Special Status Species
 36 Technical Report (under NPS review).

37

38 Environmental Consequences

39

40 The alternative with the largest footprint
 41 (Alternative B) would disturb up to 1.14
 42 acres of wildlife habitat consisting of mixed

43

44 ^{5.6} National Park Service biodiversity database.

1 trees and shrubs within the study area.

2 The 1.14 acres would receive at least some
 3 vegetation management treatment, with most
 4 tree and shrub thinning focused on creating
 5 view corridors in the approximately 3-acre
 6 woodland at the tip of Sand Point between
 7 Lake Superior, Boathouse, Life Saving Station,
 8 and the end of Sand Point Road. Treatment
 9 Alternative A would have similar effects on
 10 0.63 acre and the No Action Alternative would
 11 have no new disturbance on vegetation.

12

13 No Action Alternative

14

15 There would be no new impacts to wildlife or
 16 wildlife habitat from the no action alternative.
 17 Current vegetation management practices
 18 and facility maintenance would continue, so
 19 there would be no changes in habitat types or
 20 wildlife use of existing habitat.

21

22 Cumulative Impacts. Invasive plant species
 23 brought to the study area during construction
 24 or by visitors can have an adverse effect
 25 on native wildlife by creating unsuitable
 26 habitat, but some of this effect is offset by
 27 NPS efforts to manage invasive species.
 28 Wildlife has also been affected and will
 29 continue to be affected during routine repair
 30 and maintenance activities. Past, present,
 31 and reasonably foreseeable future actions
 32 have effects on wildlife, although, while the
 33 study area experiences disturbances from
 34 park maintenance and visitors, the extent of
 35 the activities in the 7.11-acre study area, in
 36 the context of the 30 acres of similar forest-
 37 shrub habitat on Sand Point, is small and the
 38 related effects on wildlife are also small. For
 39 these reasons, past, present, and reasonably
 40 foreseeable future actions would have a
 41 small adverse effect on wildlife resources.
 42 Because the no action alternative would not
 43 add any effects to the effects of past, present,
 44 or reasonably foreseeable projects, the

1 alternative would not have a cumulative effect
2 on wildlife.

3

4 Conclusion. The no action alternative would
5 have no new effects on wildlife or wildlife
6 habitat, and would have no cumulative effects.

7

8 **Alternative A**

9

10 Short-term and long-term impacts to wildlife
11 and habitat would result from vegetation
12 removal and management on about 0.63
13 acre associated with treatment Alternative
14 A. In the short term, human presence and
15 construction noise would temporarily disturb
16 and displace resident wildlife, although if
17 the work were conducted during fall, winter,
18 and early spring months as proposed, many
19 wildlife species, including migratory birds
20 and bats, would be absent. The impacts would
21 be further limited by restricting work to
22 daylight hours. The construction contractor
23 would be required to keep all garbage
24 and food waste contained and removed
25 periodically from the work site to avoid
26 attracting wildlife into the construction zone.
27 Construction workers would be instructed to
28 remove food scraps and not feed or approach
29 wildlife. Following construction, wildlife use
30 of undisturbed habitat would resume. There
31 would be additional short-term effects when
32 cleared areas are periodically maintained by
33 mowing or brush removal.

34

35 In the long term, about 0.63 acre of habitat
36 would be permanently modified under
37 Alternative A, which would result in a long-
38 term, small loss of habitat for some wildlife
39 species, including species that prefer forest
40 habitat, such as red squirrel and nuthatch.
41 Additionally, areas of thinned vegetation
42 may allow predators to hunt more effectively
43 and capture more prey, including migratory
44 shorebirds. Conversely, the thinned vegetation
45 may make predators more visible to prey
46 as there would be less foliage obscuring

1 predators. The adverse effect of changes in
2 predator/prey interactions would be limited
3 to the 0.63 acre and would be small, given the
4 remainder of 30 acres of similar habitat that
5 will not be disturbed.

6

7 Potential adverse effects would be minimized
8 by implementing previously-described
9 measures such as performing vegetation
10 removal outside of bird and bat breeding
11 season. Additional measures would be taken
12 to minimize the chance little brown and
13 northern long-eared bats would abandon the
14 attic maternity roost.

15

16 With the mitigation measures included as
17 part of Alternative A, adverse effects on
18 wildlife, including migratory shorebirds and
19 bats, would be small in the short-term and
20 long-term.

21

22 Cumulative Impacts. As described under
23 the no action alternative, past, present, and
24 reasonably foreseeable future actions would
25 have a local and small adverse effect on
26 wildlife species and habitat. Those impacts,
27 in combination with the local short-term and
28 long-term small adverse effects of Alternative
29 A, would result in local and small adverse
30 cumulative impacts.

31

32 Conclusion. The noise and disturbance during
33 construction would result in local short-term,
34 small adverse effects on wildlife species in
35 the study area. The permanent modification
36 of 0.63 acre of forest and shrub habitat
37 would result in local long-term, small adverse
38 impacts to wildlife. Overall, cumulative effects
39 would be local, small, and adverse.

40

41 **Alternative B**

42

43 The short-term and long-term adverse effects
44 on wildlife and habitat that would result
45 from vegetation removal and management
46 associated with treatment Alternative B are

1 the same as those under Alternative A, except
2 that up to 1.14 acres of habitat would be
3 modified by removing trees and trimming
4 shrubs. Additionally, the Lookout Tower
5 may be reconstructed under this alternative.
6 Raptors may perch on the tower, and, as
7 with the thinned vegetation, predator/prey
8 interactions may be changed. Like Alternative
9 A, adverse effects would be small given
10 remainder of the 30 acres of available similar
11 habitat in at the tip of Sand Point. Overall,
12 Alternative B would result in long-term, small
13 adverse effects on wildlife species.

14
15 Cumulative Impacts. As described under
16 the no action alternative, past, present, and
17 reasonably foreseeable future actions would
18 have a local, small adverse effect on wildlife.
19 Those impacts, in combination with the
20 local long-term and small adverse effects of
21 Alternative B, would result in local, long-term
22 and small adverse cumulative effects.

23
24 Conclusion. The additional noise and
25 disturbance during construction would result
26 in local short-term and small adverse effects
27 on wildlife species that prefer forest habitat.
28 The permanent modification of about 1.14
29 acres of forest and shrub habitat would result
30 in local long-term and small adverse effects
31 on wildlife species. Overall, cumulative effects
32 would be local, small, and adverse.

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Chapter 6. Treatment Recommendations and Implementation

Introduction

1 The CLR / EA is the principal treatment
 2 document for the cultural landscape of Sand
 3 Point/ Munising USCG Life Saving Station.
 4
 5 Treatment recommendations guide the
 6 overall aesthetic, desired future condition
 7 and appearance of the cultural landscape.
 8 Recommendations are based upon review
 9 of historical documentation, assessment of
 10 existing condition, analysis of integrity, and
 11 application of the Secretary of Interior's
 12 standards and guidelines as they apply to
 13 the treatment of historic landscapes.^{6.1} The
 14 recommendations are in accordance with the
 15 GMP, RMP, and LRIP.
 16
 17 Treatment recommendations address
 18 management goals presented in Chapter
 19 1, which include protection of natural
 20 and cultural resources, and additions for
 21 contemporary use. The recommendations
 22 provide guidance on meeting accessibility
 23 requirements, expanding visitor parking and
 24 providing restrooms. A new kayak launch for
 25 recreational was eliminated as part of the
 26 planning process, but informal access will
 27 continue.
 28
 29 The recommendations for the cultural
 30 landscape are holistic and provide a
 31 vision for the landscape overall. These
 32 recommendations are complemented by
 33 specific recommendations for the historically
 34 significant buildings, presented in detail in
 35 the Historic Structures Report (HSR) that
 36 accompanies this CLR/EA.
 37
 38 Recommendations for treatment of the
 39 cultural landscape are presented in narrative,
 40
 41 6.1 Birnbaum, Charles A. and Christine Capella Peters. The
 42 Secretary of the Interior's Standards for the Treatment of
 43 Historic Properties with Guidelines for the Treatment of
 44 Cultural Landscapes. Washington, DC: U.S. Department of
 the Interior, National Park Service, 1996.

1 a graphic plan and sketches that illustrate
 2 the desired future condition. A detailed
 3 plan is provided in Appendix C, Schematic
 4 Design Drawing; that provides detailed
 5 information for implementing these specific
 6 recommendations. These include siting of
 7 additional elements, accessibility upgrades to
 8 walks, and vehicular circulation and parking
 9 improvements.
 10
 11 Treatment recommendations are compatible
 12 with the period of significance as they
 13 reveal the physical qualities of the cultural
 14 landscape that convey the story its evolution.
 15 The recommendations provide direction on
 16 rehabilitation of the design and use of the
 17 USCG station from 1932 to 1958.
 18
 19 The preferred treatment for the Sand Point/
 20 Munising USCG Life Saving Station is based
 21 upon action alternative B, presented in
 22 Chapter 4, and expanded upon in this chapter.
 23

Treatment Approach

24
 25
 26 Rehabilitation is the selected treatment
 27 approach for Sand Point/ Munising USCG
 28 Life Saving Station. Rehabilitation provides
 29 measures to preserve contributing features,
 30 repair damaged features, and restore
 31 missing features. Rehabilitation allows for
 32 additions and adaptive reuse, needed to meet
 33 contemporary needs.
 34

Treatment Terminology

35
 36
 37 In recognition of the significance of Sand
 38 Point/ Munising USCG Life Saving Station,
 39 all future work planned for the cultural
 40 landscape will be guided by *The Secretary of*
 41 *the Interior's Standards for the Treatment of*
 42 *Historic Properties – Historic Landscapes*. The
 43
 44

1 following terminology is used in this CLR / EA
2 to describe recommended actions.^{6.2}

3
4 *Consider* is to routinely evaluate if a treatment
5 action can be undertaken. Budget constraints
6 and long-term maintenance may result in
7 delayed treatment action. As circumstances
8 change, the treatment action should be re-
9 evaluated and eventually completed.

10
11 *Design intent* refers to the creative objectives
12 that were applied to the development of a
13 historic property.

14
15 *Introduce* is the addition of a new, non-
16 historic feature compatible with the cultural
17 landscape. This may also include the
18 replacement of a missing historic feature.

19
20 *In-kind* refers to the replacement of features
21 extensively deteriorated or missing parts
22 of features using materials that match the
23 historic detail, configuration, and appearance
24 as closely as possible.

25
26 *Maintain* refers to measures that sustain the
27 form, integrity and materials of contributing
28 features, either on a regular basis or as a non-
29 recurring event.

30
31 *Preserve* refers to those measures necessary
32 to sustain the existing form, integrity, and
33 materials of contributing features. It includes
34 initial stabilization work, where necessary,
35 as well as ongoing preservation maintenance
36 and repair of historic materials and features.

37
38 *Protect* refers to actions to safeguard a
39 historic feature by defending or guarding it

40
41 6.2 Adapted from The Secretary of the Interior's Standards
42 for the Treatment of Historic Properties as amended
43 and annotated, 1995 and [http://www.nps.gov/dscw/](http://www.nps.gov/dscw/definitions.htm)
definitions.htm.

1 against further deterioration or loss. Such
2 action is generally of temporary nature and
3 anticipates future preservation treatment.

4
5 *Reconstruct* refers to the act or process of
6 depicting, by means of new work, the form,
7 features, and detailing of a non-surviving
8 historic structure or any part thereof, for the
9 purpose of replicating its appearance at a
10 specific time in its original location.

11
12 *Rehabilitate* refers to the act or process of
13 allowing a compatible use through repair,
14 alteration, or additions as long as those
15 features that convey the historical, cultural, or
16 architectural values are preserved.

17
18 *Repair* refers to those measures that are
19 necessary to correct deteriorated, damaged,
20 or faulty materials of features. These
21 measures are more extensive than regular
22 maintenance and undertake work necessary
23 to bring a contributing feature or area to good
24 condition.

25
26 *Restore* refers to those measures necessary
27 to accurately depict the form, features, and
28 character of a property as it appeared during
29 a particular period of time by means of the
30 removal of features from other periods in
31 history and reconstruction of missing features
32 from the restoration period.

33
34 *Retain* are those actions that are necessary
35 to allow a feature (contributing or non-
36 contributing) to remain in place in its current
37 configuration and condition.

38
39 *Stabilize* refers to those measures that require
40 more work than standard maintenance
41 practices, and that are necessary to prevent
42 the further deterioration, failure, or loss of
43 contributing features.

Desired Future Condition and Treatment Recommendations

1 The treatment recommendations protect
2 significant cultural resources, repair
3 contributing features, reestablish diminished
4 spatial connections and views, and allow
5 contemporary additions to provide a rich and
6 improved visitor experience. Expanded visitor
7 facilities and access routes are identified, as
8 are recommendations for the preservation
9 of those features that convey the historic
10 character. A holistic visitor experience will be
11 created that preserves and protects cultural
12 resources and allows natural vegetative and
13 hydrological processes to occur.

14
15 Treatment recommendations emphasize
16 the historic design of the USCG station as a
17 working landscape. Rehabilitation efforts will
18 reveal the full extent of the original designed
19 USCG landscape (Illustration 6-1), and visitors
20 will gain a better understanding of the daily
21 workings of the USCG. Visitors will arrive
22 into an expanded parking area, with views
23 to the Munising Life Saving Station (HS-01),
24 Boathouse (HS-08) and Lake Superior. Access
25 to the buildings and site will be along existing
26 historic paths, updated to meet accessibility
27 requirements, and to connect to the shoreline
28 and reconstructed Lookout Tower. The formal
29 setting of the Munising Life Saving Station
30 will be reestablished by repairing the full
31 extent of the concrete curb that encloses the
32 raised plinth and lawn. The Launchway will
33 be repaired by removing sand and vegetation
34 from within the bulkhead. New boardwalks
35 will be added adjacent to the Launchway to
36 connect to the shore and dock.

37
38 The historic relationship between the
39 Munising Life Saving Station to Lake Superior
40 will be repaired by thinning vegetation to
41 reestablish select views to and from the
42 water. Treatment of the shoreline will follow
43 guidance from the Sand Point Rock Revetment
44 Modification EA, and will be managed as a
45 dynamic natural landscape.

1 Natural Systems and Features

2
3 The greater geologic formation of Sand Point
4 marks the basis for the original establishment
5 of the Sand Point/Munising USCG Life Saving
6 Station at this location. The natural formation
7 provided a wide view to Lake Superior.
8 Natural processes that formed the point will
9 be allowed to continue and natural systems
10 will be protected and retained. The shoreline
11 will be dynamic and permitted to adjust,
12 ebb and flow as natural processes take their
13 course.

- 14
15 1. Preserve and protect the natural
16 geology and shoreline of Sand Point as
17 a natural feature of Lake Superior. This
18 natural setting was the basis for the
19 establishment of the USCG station in this
20 location.
21
22 2. Preserve and protect natural vegetation
23 at the shoreline, forest vegetation, and
24 wetland areas. Allow removal of forest
25 vegetation where it threatens the integrity
26 of cultural resources such the views
27 between the Munising Life Saving Station
28 and the water.
29
30 a. The Revetment Modification EA
31 recommends a soft-engineering
32 approach to stabilize the shoreline.
33 This will naturalize the shoreline
34 by removing the existing revetment
35 and performing sand nourishment
36 (e.g. beach/sandspit restoration).
37 The goal is to increase the distance
38 between the shoreline and the historic
39 buildings to protect them from larger
40 storms.
41
42
43
44
45

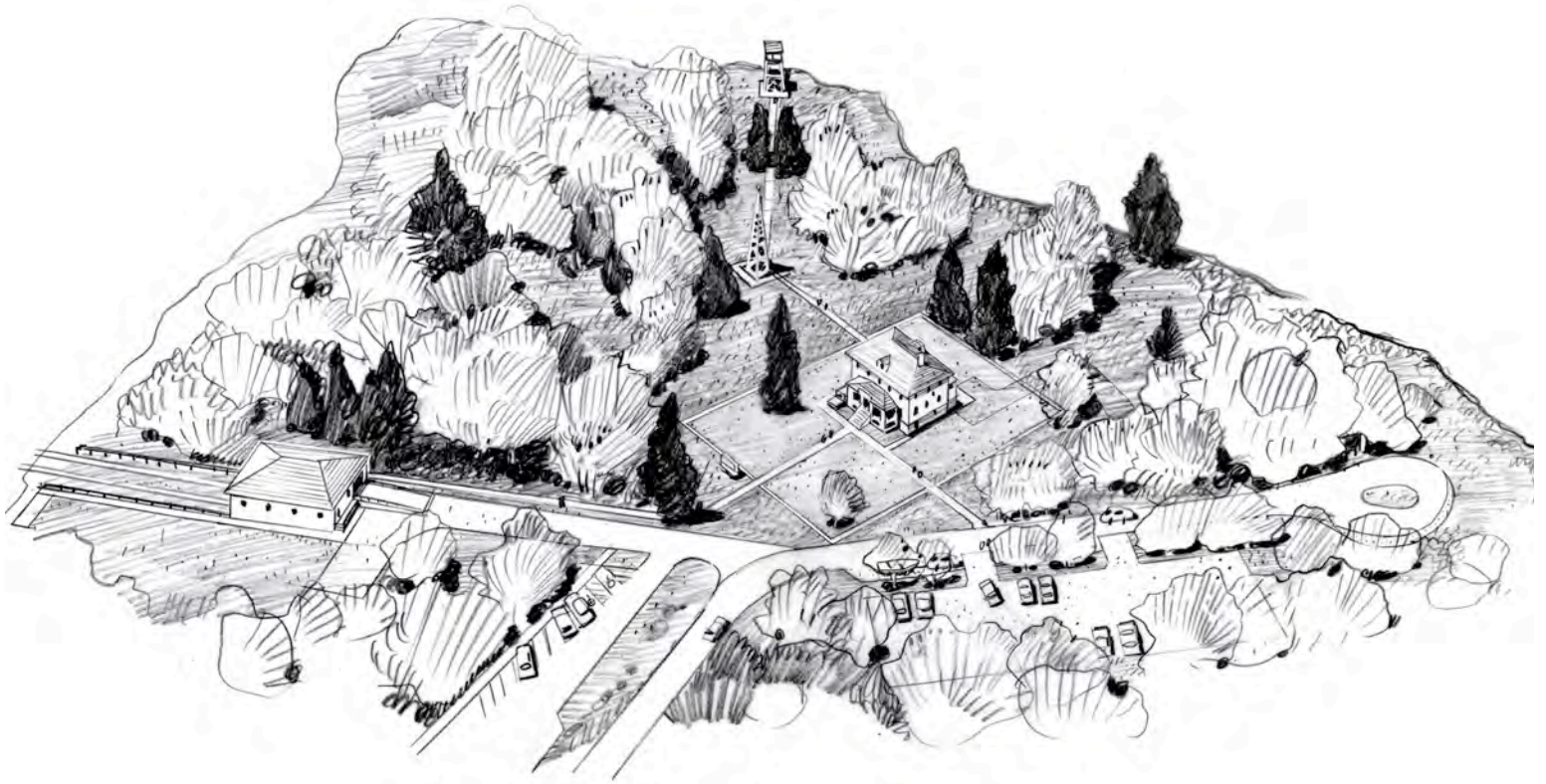


Figure 6-1. The historic character and patterns originally designed by the USCG will be rehabilitated by repairing historic walks, restoring views to the water, and repairing vegetation. The formal military setting and use of the area will be made apparent by repairing spatial patterns and improving access to historic buildings and shoreline. (source: Mundus Bishop 2016)

3. Protect native dune vegetation. Protect threatened and endangered species habitat along the shoreline.

a. Encourage visitors to utilize established trails through sensitive ecological areas.

4. Follow recommendations in the Sand Point Rock Revetment Modification EA for removal of the stone revetment at the north of the point to allow for natural processes to be re-established.^{6.3}

a. The existing non-local stone revetment will be removed. Additional sand may be added to build up certain areas.

b. Soft/bio-shoreline stabilization will create a stable zone at the existing shoreline. This stabilization may include coir logs or mats, hay bales, vegetation, geo-fibers) to stabilize the restored area.

c. Plugs of native beach grasses would be established. A dynamic zone would occur at the water's edge and would be expected to erode and accrete based on natural processes.

Land Use

Sand Point includes NPS administrative offices, interpretation areas, and public access to the beach and historic buildings and structures. As this area is heavily visited, treatment recommendations provide measures to accommodate, and improve, access to the cultural landscape, buildings, and shoreline.

^{6.3} National Park Service, Sand Point Rock Revetment Modification Environmental Assessment. U.S. Department of the Interior, National Park Service, Pictured Rocks National Lakeshore, Draft 2015, 16 - 18.

1. The existing well be replaced or the site converted to City water , requiring an extension of the city main to Sand Point. The existing septic is adequate but additional pressure is required to provide fire protection for the buildings.

Archeological Sites

Archeological sites, including historic sites from the USCG, are within the study area. Known and potential archeological sites will be preserved and protected.

1. Preserve and protect known and potential pre-historic and historic archeological sites to the greatest extent possible.

° Conduct further investigations to understand the archeological resources and to expand knowledge of American Indian use of Sand Point.

2. Consult with affiliated tribes to identify themes and approaches to marking and/or interpreting their history at Sand Point.

Spatial Organization

The characteristic spatial qualities that contribute to the historic setting will be preserved and repaired. These include a complex of separate buildings that provided key functions within the working landscape, connected visually by clearings in the vegetation, and physically by walkways. The physical setting, with features arranged in response to the natural geography of the point will be preserved.

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

1 ° Preserve the spatial relationship of a
2 formal arrangement of buildings and
3 structures sited in relationship to the
4 natural geologic point of Sand Point
5 and connected by narrow walks.

6
7 ° Preserve the scale and form of the
8 cultural landscape as a contributing
9 feature, USCG design and layout.

10
11 2. Rehabilitate the formal setting of the
12 Life Saving Station, with short mown
13 lawn, orthogonal walks, and a raised
14 topographic plinth edged by a concrete
15 curb, and framed by tall trees that frame
16 the building.

17
18 3. Repair contributing views and spatial
19 relationships by repairing walks and
20 vegetation patterns.

21
22 4. Locate new propane and electric utilities
23 out of primary viewsheds to preserve the
24 historic setting.

25 26 **Topography**

27
28 The topography is primarily level with subtle
29 variations. As part of the site design, the USCG
30 modified the topography at the Life Saving
31 Station, adding fill and leveling the space into
32 a plinth. Portions of this design remain today,
33 but will be repaired to the full extent.

34
35 1. Preserve natural topography
36 characterized by the shifting sand that
37 creates dunes and subtle variations in
38 grade. Allow for natural processes to
39 modify the topography so long as cultural
40 resources are not damaged.

41
42 2. Restore the raised level plinth
43 surrounding the Life Saving Station,
44 by removing soil where it obscures the
45 concrete curb and regrading to remove
46 low areas.

1 3. Ensure positive drainage away from
2 building foundations, regrading the
3 topography as needed.

4 5 **Views and Vistas**

6
7 During use of the Life Saving Station, views
8 to the water were essential to the successful
9 life saving operations undertaken by the
10 USCG. Over time vegetation has grown into
11 the once open spaces, obscuring views
12 to the water and the internal views and
13 sight-lines between structures. Treatment
14 recommendations aim to reestablish the
15 visual connection to and from Lake Superior.

16
17 1. Preserve the visual entry experience from
18 the south at Sand Point Road towards
19 the Life Saving Station and Lake Superior
20 beyond.

21
22 2. Rehabilitate views by reestablishing a
23 visual connection from the Life Saving
24 Station to Lake Superior. Include thinning
25 of some trees and tree removal in select
26 areas to provide a view both to and from
27 the lake.

28
29 a. Thin/remove vegetation along
30 historic walks and corridors to repair
31 spatial relationships.

32
33 3. Repair contributing views by removing
34 vegetation where it obscures historic
35 views.

36 37 **Circulation**

38
39 The overall historic circulation pattern
40 remains, with Sand Point Road as the only
41 vehicular route to the point, and extant
42 network of pedestrian walks. The expanded
43 parking areas adjacent the Life Saving
44 Station and Boathouse threaten the historic
45 setting, and several historic walks are in
46 poor condition. The circulation system

1	will be repaired to follow historic patterns,	1	and compliance to ensure sensitive
2	sensitively accommodate vehicular parking	2	resources are not damaged during
3	into the historic setting, and upgrade to meet	3	removal.
4	current standards providing universal access.	4	
5		5	3. Provide additional parking, which is
6	<u>Circulation – Vehicular</u>	6	needed on busy days.
7		7	
8	1. Preserve Sand Point Road and Boathouse	8	a. Expand the non-contributing visitor
9	Drive as contributing features of the	9	parking and formalize the layout.
10	circulation system.	10	
11		11	–Extend the existing visitor parking
12	a. Preserve the gravel surfacing of	12	to the south to provide additional
13	Boathouse Drive.	13	spaces and room for snow storage.
14		14	
15	2. Realign vehicular routes that are	15	–Approximately 18 spaces are needed
16	non-contributing features to cultural	16	for park staff in summer including
17	landscape and diminish the historic	17	personal vehicles and park vehicles.
18	setting.	18	
19		19	–Further study is needed to determine
20	a. Remove the staff parking and drive	20	the appropriate amount needed for
21	east of the Life Saving Station to	21	visitor parking.
22	repair the historic setting. Consider	22	
23	a phased approach for removing the	23	–Provide two accessible parking
24	parking. Resurface the drive and	24	spaces.
25	parking with grass pavers to lessen	25	
26	its appearance and to blend with	26	–Provide a soft surface such as gravel
27	the lawn. Once parking has been	27	or stabilized soil.
28	established elsewhere, remove the	28	
29	grass pavers and repair the setting of	29	–Improve ingress and egress by
30	the Life Saving Station by regrading	30	creating a one-way loop with angled
31	the raised topographic plinth and	31	parking, separated from Sand Point
32	establishing lawn grasses.	32	Road by a vegetated island.
33		33	
34	b. Remove the gravel area south of the	34	–Provide a continuous sidewalk
35	Boathouse, and revegetate the space	35	at the visitor parking that meets
36	as a natural area.	36	accessibility requirements and
37		37	connects to the contributing concrete
38	–Preserve the drive to the Boathouse.	38	walks.
39	Modify the gravel area to provide	39	
40	vehicular access, turnaround, and	40	b. Provide parallel parking at the east
41	parking for two vehicles immediately	41	edge of Sand Point Road as an interim
42	adjacent to and east of the	42	parking solution.
43	Boathouse.	43	
44		44	–Widen the east edge of Sand Point
45	–Removal of the gravel area may	45	Road by 10-feet to accommodate
46	require additional investigation	46	parallel parking.



Figure 6-2. Existing Life Saving Station setting. (source: Mundus Bishop 2016)



Figure 6-3. The formal military setting of the Life Saving Station will be rehabilitated, with short mown lawn, orthogonal walks, and raised plinth surrounded by a concrete curb that frames the building. Walks will be added or modified to meet access needs to the building and will connect to an expanded visitor parking area. (source: Mundus Bishop 2016)

- c. Add new parking and operations area east of Sand Point Road as a long-term solution.

– This is the location of the of the former USCG residences. As this area has been previously disturbed, it could be utilized for parking, staff housing or for other NPS operational needs.

– Align the entrance and exit to the new parking area with the remnant residential driveways.

– Minimize the footprint of the new parking/ operations area as much as possible. Maintain the new area with a soft-surface paving.

4. Expand the turnaround at end of Sand Point Road. Adequate turning radii is needed for trailers, RVs and buses to turn around that the end of the road.

a. Expand the turning radii at the end of the road to accommodate larger vehicles and trailers.

b. Discourage parking at the end of the road.

Circulation – Pedestrian

1. Preserve contributing concrete walks with characteristic width, material, and alignment.

2. Realign pedestrian routes that are non-contributing features and diminish the historic setting.

a. Remove the non-contributing boardwalk west of the Boathouse as this route does not match the historic routes.

b. Provide new pedestrian boardwalk to the non-contributing dock and the shore. The boardwalks should connect to the historic concrete walks and parallel the Launchway, reinforcing the linear form.

c. Maintain the non-contributing dock, which is a reconstruction in a historic location. Remove sand from its base, replace materials as needed, and provide access to the dock from the new boardwalk.

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

a. Repair walks by replacing ‘stones’ using matching local materials, including aggregate, and / or by mud-jacking or other means to level areas.

b. Restore the east - west section of the concrete walk between the Life Saving Station and Sand Point Road.

– Raise and reset useable material, and add material as needed to restore the walk to its full historic extent.

c. Restore the missing section of the concrete walk between the Communication Tower Foundation and Lookout Tower Foundation if the geologic formation of Sand Point reforms.

– Restore the missing concrete walk (non-extant due to erosion). Match the width and alignment of the original path; but utilize a slightly different material finish to distinguish the new walk from the historic.



Figure 6-4. The Existing Boathouse setting. (source: Mundus Bishop 2016)



Figure 6-5. The Boathouse will be rehabilitated to provide universal access and interior restrooms. The adjacent setting will be repaired by thinning trees and establishing low growing native shrubs to maintain the visual connection to Lake Superior. (source: Mundus Bishop 2016)

-
- | | |
|--|---|
| <p>1 4. Provide universal accessibility to the front</p> <p>2 entrances of the Life Saving Station and</p> <p>3 Boathouse.</p> <p>4</p> <p>5 a. Contributing concrete walks are</p> <p>6 wide enough for universal accessible</p> <p>7 compliance in one direction. Landing/</p> <p>8 resting areas will be added for passing</p> <p>9 zones to meet current requirements.</p> <p>10</p> <p>11 –Modify concrete walks where</p> <p>12 needed, providing new landing areas</p> <p>13 in key locations.</p> <p>14</p> <p>15 5. Remove and discourage informal trails to</p> <p>16 the beach. Allow trails from the terminus</p> <p>17 of Sand Point Road, but direct pedestrians</p> <p>18 onto an established route(s) to protect</p> <p>19 dune vegetation and wildlife habitat.</p> <p>20</p> <p>21 a. Allow the remnant trail between the</p> <p>22 Life Saving Station and the Boathouse</p> <p>23 to revegetate.</p> <p>24</p> <p>25 Buildings and Structures</p> <p>26</p> <p>27 The Sand Point cultural landscape includes</p> <p>28 the Munising Life Saving Station (HS-01), Oil</p> <p>29 House (HS-02), Boathouse and Launchway</p> <p>30 (HS-08), all built in the 1930s. Two non-</p> <p>31 extant structures were key components of the</p> <p>32 operating station and are marked by remnant</p> <p>33 foundations. These are the Communications</p> <p>34 Tower and Lookout Tower, the latter located</p> <p>35 at the tip of Sand Point. Contributing</p> <p>36 buildings will be preserved, and the non-</p> <p>37 extant towers restored to repair the building</p> <p>38 pattern established by the USCG.</p> <p>39</p> <p>40 1. Preserve contributing buildings and</p> <p>41 structures.</p> <p>42</p> <p>43 a. Preserve the Munising Life Saving</p> <p>44 Station (HS-01), Oil House (HS-02),</p> <p>45 Boathouse and Launchway (HS-08),</p> <p>46</p> | <p>1 b. Preserve the foundation of the</p> <p>2 Communications Tower and Lookout</p> <p>3 Tower.</p> <p>4</p> <p>5 c. Reconstruct the missing</p> <p>6 Communications Tower if adequate</p> <p>7 documentation exists.</p> <p>8</p> <p>9 –Conduct further research to ensure</p> <p>10 adequate documentation is available</p> <p>11 for reconstruction.</p> <p>12</p> <p>13 –Alternatively, add a new</p> <p>14 contemporary feature of same mass,</p> <p>15 scale and character to interpret the</p> <p>16 original structure.</p> <p>17</p> <p>18 d. Reconstruct the missing Lookout</p> <p>19 Tower if the geologic formation</p> <p>20 of Sand Point returns, making a</p> <p>21 reconstruction possible.</p> <p>22</p> <p>23 –Conduct further research to ensure</p> <p>24 adequate documentation is available</p> <p>25 for reconstruction.</p> <p>26</p> <p>27 –Alternatively, allow a new</p> <p>28 contemporary interpretive feature</p> <p>29 of same mass, scale and character to</p> <p>30 interpret the original structure.</p> <p>31</p> <p>32 2. Remove non-contributing structures.</p> <p>33</p> <p>34 a. Remove non-contributing garage</p> <p>35 foundation.</p> <p>36</p> <p>37 b. Remove underground fuel storage</p> <p>38 tanks.</p> <p>39</p> <p>40 3. Preserve the Munising Life Saving Station</p> <p>41 and its contributing features. Expand</p> <p>42 visitor access, interpretation and use of</p> <p>43 the building. Meet ABA requirements to</p> <p>44 provide access into the building with an</p> <p>45 exterior lift on the south facade (Refer to</p> <p>46 HSR recommendations).</p> |
|--|---|

4. Rehabilitate the Boathouse to provide ABA compliant and interior restrooms (Refer to HSR recommendations).
 - a. Provide a new ramp on the east side of the Boathouse for universal access.
 - b. Add a landing and exterior connection to the man door to the south. This will also provide accessible access when the overhead door is closed by
5. Provide universal access to visitor restrooms.
- a. As an interim solution, provide a new, prefabricated temporary vault toilet at the west edge of the visitor parking.
 - Install a single, accessible structure that has minimal impact on the landscape, set away from key viewsheds and low wet areas with easy access to the parking.
 - Site the vault toilet away from the swale/low area that is west of the parking area.
 - b. As resources become available, provide restrooms within the Boathouse.
 - This would require modifications to the building interior (Refer to HSR recommendations).
6. Preserve the Launchway and rehabilitate the setting by removing sand and excess vegetation.
- a. Utilize a phased approach to rehabilitate the setting, removing vegetation from the interior of the Launchway as a first priority.

- b. Remove sand that obscures the form of the launchway and to reveal the edges of the bulkhead. Allow sand to fill back in over time, acknowledging the natural movement of the shoreline.
- c. Maintain the sand free of vegetation.
- d. Restore rails and wood decking where missing or damaged.

Small Scale Features

- Contributing small scale features consist of a concrete edge and flagpole that date from the period of significance. The continuous curb that originally framed the rectangular space around the building may still be intact below grade. The restoration of this feature will reestablish the formal space around the building.
1. Preserve the contributing small scale features including the flagpole and concrete curb.
 2. Maintain the non-contributing headquarters sign at the entrance to the Life Saving Station, and other small scale features that are non-contributing but provide a needed function (e.g. propane tank, utility boxes, etc).
 3. Repair the concrete curb around the Life Saving Station. Reveal the full extent and form of the curb to create the defined formal setting around the building.
 - a. Repair the concrete curb by removing vegetation where it obscures the curb. Regrade and remove soil where it covers the curb.

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

c. Regrade the lawn as needed to restore the curb.

4. Allow new signs and site furnishings as long as the number is minimized and design and placement does not detract from the historic setting. Minimize new waysides within the cultural landscape.

5. Provide a new wayside adjacent to the expanded visitor parking, to provide orientation to the cultural landscape and Sand Point.

6. Remove the split-rail fence south of the Boathouse once the boardwalk is rerouted. Remove the non-contributing boat hull.

7. Remove the non-contributing boulder edge from Boathouse Drive.

8. Maintain the boulder edge at the terminus of Sand Point Road to discourage parking and off road vehicles. Realign to allow for the improved turn-around.

Vegetation

During the period of significance, the USCG retained pine trees, but kept the rest of the vegetation low to provide views to the water. A level, even lawn surrounded the Life Saving Station, which exists today. The vegetation will be rehabilitated to more closely reflect the design and use of the active USCG station during the period of significance. This will include thinning trees and vegetation for views, and retaining low native shrubs and groundcovers to maintain the visual connection to the lake.

1. Preserve established native vegetation where it does not damage the integrity of historic views or the spatial organization of the cultural landscape.

2. Protect native dune vegetation and encourage visitors to utilize established trails through sensitive ecological areas.

3. Preserve extant trees that date from the period of significance. These include several mature pine trees present at the time the USCG developed the station.

4. Prepare a vegetation management plan to direct the proper methods of clearing and thinning, provide best management practices, control exotic species, and manage plants for ecological health.

5. Thin non-contributing forest vegetation to reestablish views to and from Lake Superior.

a. Thin tree branches and selectively remove smaller trees and tall shrubs to reestablish key views.

b. Establish low growing, native shrubs and groundcovers to maintain the views.

6. Remove vegetation where it obscures contributing walks and small scale features.

7. Repair the lawn surrounding the Life Saving Station within the concrete curb as was the historic design.

a. Repair the lawn to have a smooth even grade with an even grass cover. Replant the lawn within the concrete curb.

1 – Maintain the lawn with a low (3-
2 inch) cut. Trim lawn away from edges
3 of concrete walks and concrete curb
4 to maintain a neat appearance.
5

6 b. Monitor for weeds, bare patches
7 and evidence of burrowing animals.
8 Repair damaged areas and maintain
9 the lawn with an even cover of grass,
10 with a minimum 90% grass cover.
11 Remove invasive and volunteer
12 plants from the lawn. Weeds and bare
13 patches should not exceed 15%.
14

15 c. Maintain the area outside the concrete
16 curb with native low-growing shrubs
17 and/or unmown grasses.
18

19 8. Add new trees and vegetation as needed
20 around the temporary vault toilet, to
21 blend the parking area with the setting.
22

23 9. New plantings should utilize native plant
24 material, arranged in naturalistic patterns
25 to blend with the natural setting.
26

27 10. Preserve the contributing ornamental
28 vegetation associated with the former
29 USCG residences east of Sand Point Road.
30

31 a. Remove ornamental vegetation if
32 it becomes a nuisance and remove
33 exotic invasive species.
34
35
36
37
38
39
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44

Implementation Guidance

- 1 This section provides guidance for implementing the treatment recommendations. The
 2 recommendations are grouped into distinct tasks with subtasks identified. These tasks will guide
 3 preparation of Project Management Information System (PMIS) project statements (Refer to
 4 Appendix D for FMSS crosswalk and treatment tables).
 5
 6 Each treatment task has been assigned a priority which indicates when the treatment actions
 7 should be undertaken. Phase 1 (1 to 2 years) includes tasks that are critical repairs or safety-
 8 related changes; Phase 2 (2 to 5 years) includes serious repairs and rehabilitation needed to
 9 preserve integrity; and Phase 3 (5 years or greater) which includes long term, routine maintenance,
 10 restoration, or rehabilitation.

	Task ID	CLR / EA Treatment Recommendation	CLR / EA Task Component
Priority 1 (1 to 2 years)	1	Rehabilitate historic views and spatial relationships	1 Clear non-contributing forest vegetation to reestablish a view to and from Lake Superior 2 Clear vegetation that encroaches on historic paths 3 Establish low-growing native vegetation to maintain clear views 4 Reseed lawn at Life Saving Station within concrete curb
Priority 2 (3 to 5 years)	2	Provide universally accessible routes	1 Repair surface ex concrete walks 2 Modify ex walks with new 5'x5' landing areas 3 Provide access to Life Saving Station (lift) and Boathouse (new ramp) 4 Create accessible route at visitor parking area. Connect to ex walks
	3	Rehabilitate Visitor Parking	1 Expand and formalize ex visitor parking 2 Provide accessible vault toilet 3 Provide accessible sidewalk 4 Widen Sand Point Road to provide parallel parking 5 Expand turning radii at end of road
	4	Repair setting of Life Saving Station	1 Remove staff parking and driveway 2 Reveal concrete curb 3 Repair topsoil 4 Repair lawn 5 Restore/repoint concrete walks

	Task ID	CLR / EA Treatment Recommendation	CLR / EA Task Component
Priority 3 (5 years +)	5	Repair Launchway and Setting	1 Remove vegetation from interior of Launchway 2 Remove sand from interior of Launchway and restore rails 3 Remove ex boardwalk, gravel area and boulder edge 4 Provide new boardwalk
	6	Provide visitor restrooms within Boathouse	1 Provide accessible route into side door of Boathouse with exterior deck 2 Modify Boathouse interior to provide restrooms
	7	New parking/operations area	1 Remove parallel parking from edge of Sand Point Road 2 Provide new parking/operations area east of Sand Point Road
	8	Reconstruct Lookout and Communications Towers	1 Conduct additional research to verify design of towers 2 Reconstruct towers in original locations 3 Restore walk to Lookout Tower

Chapter 7. Consultation and Coordination

Scoping

1 An interdisciplinary team of professionals
2 from the park and the NPS Midwest Regional
3 Office met to conduct internal scoping
4 from June 6 to June 9, 2016 and discuss the
5 purpose and need for the project, various
6 alternatives, potential environmental impacts,
7 impact topics to retain and dismiss, and
8 reasonably foreseeable actions that may
9 have cumulative effects. The team met again
10 on October 19, 2016 to more fully develop
11 treatment alternatives and to identify a
12 preferred alternative.

13
14 The park sent letters describing the proposed
15 action and asking for comments to interested
16 individuals; organizations; state, county, and
17 local governments; and federal agencies.
18 American Indian tribes also were sent an
19 informational letter describing the project
20 and asking for comments.

21 Agency Consultation

22 Section 106 of the National Historic 23 Preservation Act

24 Agencies that have direct or indirect
25 jurisdiction over historic properties are
26 required by section 106 of the National
27 Historic Preservation Act of 1966, as
28 amended (16 USC 470, et seq.), to take into
29 account the effect of any undertaking on
30 properties listed in or eligible for listing in
31 the national register. Compliance with section
32 106 of the NHPA is being conducted through
33 ongoing consultation with the Michigan
34 SHPO and park-affiliated American Indian
35 tribes. (See the “Consultation with American
36 Indians” section below.)

37
38 To meet the requirements of section 106, on
39 September 15, 2016, NPS sent the Michigan
40 SHPO a letter describing the proposed project
41 and soliciting comment on the alternatives.
42 PIRO will continue to consult with the

1 SHPO to determine the effects of the action
2 alternatives on historic resources and to
3 develop mitigation for impacts on historical
4 features, if any, from the preferred alternative.

5 Consultation with American Indians

6
7 The Ojibwe Indian people traditionally
8 occupied vast lands that ranged from both
9 shores of Lakes Superior and Huron in the
10 east to the North Dakota area in the west.
11 The Ojibwe hunted, fished, gathered wild
12 rice and various fruits, and engaged in some
13 horticulture. The descendant entity today is
14 the Lake Superior Tribe of Chippewa Indians
15 with different Ojibwe bands as independent
16 tribal governments in what are now
17 Wisconsin, Michigan, and Minnesota. NPS
18 forwarded this EA to the following federally
19 recognized American Indian tribes and tribal
20 governments that are traditionally associated
21 with the area now containing the park:

- 22 • Bad River Band of Lake Superior Tribe of
- 23 Chippewa Indians
- 24 • Bay Mills Indian Community of Michigan
- 25 • Fond du Lac Band of Lake Superior
- 26 Chippewa
- 27 • Grand Portage Band of Chippewa Indians
- 28 • Keweenaw Bay Indian Community
- 29 • Lac Courte Oreilles Band of Lake Superior
- 30 Chippewa Indians
- 31 • Lac du Flambeau Band of Lake Superior
- 32 Chippewa Indians
- 33 • Lac Vieux Desert Band of Lake Superior
- 34 Chippewa Indians
- 35 • Red Cliff Band of Lake Superior Chippewa
- 36 Indians

1 None of the proposed actions being
2 considered in this EA would impede, prevent,
3 or in any way negate treaty rights. The
4 options being proposed here would not affect
5 the harvesting of plants or plant materials,
6 hunting, fishing (including commercial fishing
7 in Lake Superior), or trapping rights.

8
9 To date, the American Indian tribes have
10 expressed no additional concerns or
11 provided additional information regarding
12 ethnographic resources or traditional
13 uses. American Indian tribes traditionally
14 associated with the lands of the park will have
15 an opportunity to review and comment on
16 this EA.

17 18 **U.S. Fish and Wildlife Service, Section** 19 **7 Consultation**

20
21 In accordance with section 7 of the
22 Endangered Species Act, the park contacted
23 USFWS in a letter dated September 15, 2016
24 to make them aware of the project and to
25 solicit input on federally listed species or
26 concern that may be affected by the proposed
27 action.

28
29 The park sent a letter seeking concurrence
30 from the USFWS on the park's determination
31 of effects for several threatened and
32 endangered species that could be affected by
33 the proposed alternatives. PIRO will continue
34 to consult with the USFWS to determine the
35 effects of the action alternatives on wildlife.

36 37 **Coastal Zone Consistency** 38 **Determination**

39
40 Federal agency activities in or affecting
41 Michigan's coastal zone must comply with
42 §307 of the Coastal Zone Management Act
43 and implementing regulations, which require
44 that such federal activities be conducted
45 in a manner consistent to the maximum

1 extent practicable with Michigan's Coastal
2 Management Program. NPS has determined
3 that the preferred alternative described in
4 this document is consistent with Michigan's
5 Coastal Management Program, including
6 the state's goals and policies for this area.
7 This EA provides the substantive basis
8 for NPS's consistency determination and
9 will be submitted to the Michigan Coastal
10 Management Council for its concurrence. This
11 consistency determination and the council's
12 concurrence comply with the requirements of
13 the Coastal Zone Management Act. If the State
14 of Michigan concurs with NPS's consistency
15 determination, it will transmit its formal
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Appendix B: Cost Estimates

**United States Department of the Interior
National Park Service
Class C Construction Cost Estimate
BASIS OF ESTIMATE**

PROJECT INFORMATION

Project: PIRO CLR Renovations
Park: Pictured Rocks National Lakeshore
Park Alpha: PIRO
PMIS Number: 152048
Estimate Date: 11/28/2016 - V 1.0
Prepared By: Jim Flemming
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) identifies characteristics and features that convey the historic significance and character of The Pictured Rocks National Lakeshore Historic District and provides a plan for the long-term preservation and stewardship of the landscape. The report provides park management with a comprehensive understanding of the physical evolution of the park's buildings, structures, roads, trails, and vegetation, and provides managers with guidance for care of these features. Treatment recommendations include repair of vegetation and views, improvements to trails and trailheads, provision of accessibility to key buildings and structures, and repair of small scale landscape features.

SOURCE OF COST DATA:

Cost Data is based on ACC's work history along with ACC's database of past and current projects. For this pricing, cost data defaults to our Portland, Oregon data base and or RS Means. (The Means City Cost Index and other factor percentages adjusts for location factor and pricing (Means = 100.0, Portland, Or = 99.5, for purposes of this Class C pricing the variance is minimal)). Whenever possible, pricing includes contacting local suppliers and vendors for price checks. This estimate is formulated on the estimator's professional judgment and experience. This estimates 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 CLR drawings and estimated quantities dated October, 2016. Estimate assumes the mid point of construction as 24 months from the date of this report. Escalation assumed to be 4% per year.

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: PIRO CLR Renovations
Park: Pictured Rocks National Lakeshore
Park Alpha: PIRO
PMIS Number: 152048
Estimate Date: 11/28/2016 - V 1.0

DESCRIPTION OF MARK-UP & ADD-ONS:

Location Factor:	<u>-9.00%</u>	Basis of 2017 RS means = 100.0. Published Index Location, assume Iron Mountain, MI 91.0. Factor = 100.0/91.0= -9.0%
Remoteness Factor:	<u>11.40%</u>	Site is 114 miles from published commercial center. Allow 1% per 10 miles - 114 / 10 = 11.4%
Wage Rate Factor:	<u>0.00%</u>	Not Required
State & Local Taxes:	<u>6.00%</u>	State (6.0%) Local (0%) Total 6.0%
Design Contingency:	<u>30.00%</u>	Preliminary Design (PD) documents consist of a Historic Structures Report and Treatment Report . Relatively simple scope but not completely defined, warrants a 30% contingency.
Standard. General Conditions:	<u>15.00%</u>	Typical range 10% to 20%
Government General Conditions:	<u>5.00%</u>	Typical range 5% to 10%
Historic Preservation Factor:	<u>5.00%</u>	Building has tested for hazardous material in and around building
Contractor Overhead:	<u>8.00%</u>	Typical range 10% to 25%
Contractor Profit:	<u>10.00%</u>	Typical range 10% to 25%
Bonds and Permits:	<u>3.176%</u>	Bonds 1.105%, Insurance 1.039% & Permits 1.032%
Contracting Method Adjustment:	<u>10.00%</u>	Typical range 10% to 25%
Annual Inflation Escalation Factor:	<u>4.00%</u>	Projected annual inflation rate.
Time Until Project Midpoint (Months)	<u>24</u>	Allowance. TBD

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: PIRO CLR Renovations
Park: Pictured Rocks National Lakeshore
Alpha: PIRO
PMIS: 152048

Estimate By: Jim Flemming
Date: 11/28/2016 - V 1.0

Reviewed By: SJP
Date: 11/28/16

Item No.	Description	Quantity	Unit	Cost/Unit	Total	Total	Total
1	Visitor Parking, Vault Toilet, Walkways	1	Unit	\$273,169	\$273,169		
2	Alternate A	1	Unit	\$264,909		\$264,909	
3	Alternate B	1	Unit	\$1,179,906			\$1,179,906
5	Asset / Project Element 5	-	Unit	#DIV/0!	\$0	\$0	\$0
6	Asset / Project Element 6	-	Unit	#DIV/0!	\$0	\$0	\$0
7	Asset / Project Element 7	-	Unit	#DIV/0!	\$0	\$0	\$0
8	Asset / Project Element 8	-	Unit	#DIV/0!	\$0	\$0	\$0
9	Asset / Project Element 9	-	Unit	#DIV/0!	\$0	\$0	\$0
10	Asset / Project Element 10	-	Unit	#DIV/0!	\$0	\$0	\$0
11	Asset / Project Element 11	-	Unit	#DIV/0!	\$0	\$0	\$0
12	Asset / Project Element 12	-	Unit	#DIV/0!	\$0	\$0	\$0
	Subtotal Direct Construction Costs				\$273,169	\$264,909	\$1,179,906
	Value of Government Furnished Property (GFP) Included in Direct Cost (see footnote)*				\$0	\$0	\$0
	Direct Cost Subtotal without GFP				\$273,169	\$264,909	\$1,179,906
	Published Location Factor	-9.00%			-\$23,841.85		-\$106,191.52
	Remoteness Factor	11.40%			\$31,141.27		\$134,509.26
	Federal Wage Rate Factor	0.00%			\$0		\$0
	State & Local Taxes	6.00%			\$16,390.14		\$70,794.35
	Design Contingency	30.00%			\$81,950.70		\$353,971.74
	Total Direct Construction Costs				\$378,066	\$366,635	\$1,632,990
	Standard General Conditions	15.00%			\$56,710	\$54,995	\$244,948
	Government General Conditions	5.00%			\$18,903.29	\$18,331.73	\$81,649.48
	Historic Preservation Factor	5.00%			\$18,903.29	\$18,331.73	\$81,649.48
	Subtotal NET Construction Cost				\$472,582	\$458,293	\$2,041,237
	Overhead	8.00%			\$37,806.59	\$36,663.46	\$163,298.96
	Profit	10.00%			\$47,258.24	\$45,829.33	\$204,123.70
	Estimated NET Construction Cost				\$557,647	\$540,786	\$2,408,660
	Bonds & Permits	3.18%			\$17,710.87	\$17,175.36	\$76,499.03
	Contracting Method Adjustment	10.00%			\$55,764.72	\$54,078.60	\$240,865.97
	Inflation Escalation	24	Months	4.00%	\$51,500	\$49,942	\$222,444
	Total Estimated NET Cost of Construction				\$682,622	\$661,982	\$2,948,468

* 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: PIRO CLR Renovations
Park: Pictured Rocks National Lakeshore
Park Alpha: PIRO
PMIS Number: 152048

Estimate By: Jim Flemming
Date: 11/28/2016 - V 1.0
Reviewed By: SJP
Date: 11/28/16

Total Cost: \$273,169

Summary Item 1 Visitor Parking, Vault Toilet, Walkways

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-D	Road & Walk Improvements					
Level 3 Code	Description	0	Unit	\$ -	\$0	
Level 3 Code	Clear & Grubbing	3000	Sf	\$ 0.50	\$1,500	
Level 3 Code	Remove Staff Parking Area	8993	Sf	\$ 1.00	\$8,993	
Level 3 Code	Remove Concrete Pad At Staff Parking Area	479	Sf	\$ 3.00	\$1,437	
Level 3 Code	Remove Parking At Boathouse	1000	Sf	\$ 1.00	\$1,000	
Level 3 Code	Remove Boulder Edge At Boathouse	9	Ea	\$ 75.00	\$675	
Level 3 Code	Haul & Disposal	1	Sum	\$ 1,361.00	\$1,361	
Level 3 Code	Visitor Parking Area - Gravel	10000	Sf	\$ 4.50	\$45,000	
Level 3 Code	Concrete Curb	1015	Lf	\$ 20.00	\$20,300	
Level 3 Code	Visitor Parking Area Sidewalk	240	Lf	\$ 22.00	\$5,280	crusher fines, 5' wide
Level 3 Code	Visitor Gathering Area, Paving	450	Sf	\$ 4.40	\$1,980	crusher fines
Level 3 Code	Pad/landing For Vault Toilet	200	Sf	\$ 7.50	\$1,500	concrete
Level 3 Code	Repair Walks	678	Lf	\$ 9.00	\$6,102	36" wide, repoint exist
Level 3 Code	Provide Accessible Landing At Walks	150	Sf	\$ 7.50	\$1,125	concrete
Level 3 Code	New Walk To Accessible Lift	40	Sf	\$ 7.50	\$300	concrete
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$ 9,700.00	\$9,700	
Level 3 Code	Description	0	Unit	\$ -	\$0	
SUBTOTAL					\$ 106,253.00	
					VALUE	
					\$ 106,253.00	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-E	Structures					
Level 3 Code	Kiosk	1	Sum	\$ 7,500.00	\$7,500	8'x5' wd trailhead kiosk
Level 3 Code	Temporary Vault Toilet	1	Sum	\$ 30,700.00	\$30,700	clovermist dbl vault
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$ 3,820.00	\$3,820	
Level 3 Code	Description	0	Unit	\$ -	\$0	
SUBTOTAL					\$ 42,020.00	
					VALUE	
					\$ 42,020.00	

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate
LINE ITEM COST SUMMARY

Project: PIRO CLR Renovations
Park: Pictured Rocks National Lakeshore
Park Alpha: PIRO
PMIS Number: 152048

Estimate By: Jim Flemming
Date: 11/28/2016 - V 1.0
Reviewed By: SJP
Date: 11/28/16

Summary Item 1 Visitor Parking, Vault Toilet, Walkways						Total Cost:
Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-F	Small Scale Features					
Level 3 Code	Install New Entrance Sign	1	Sum	\$ 5,000.00	\$5,000	small way finding sign
Level 3 Code	Benches	2	Ea	\$ 1,800.00	\$3,600	
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$ 860.00	\$860	
Level 3 Code	Description	0	Unit	\$ -	\$0	
SUBTOTAL				VALUE \$ 9,460.00	\$9,460	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-G	New Vegetation					
Level 3 Code	Native Shrubs, Grasses, Forbs	10000	Sf	\$ 8.00	\$80,000	
Level 3 Code	Lawn Grasses	8893	Sf	\$ 2.00	\$17,786	
Level 3 Code	Deciduous Trees (2-.5" Cal.)	12	Ea	\$ 325.00	\$3,900	
Level 3 Code	Evergreen Trees (6' Height)	10	Ea	\$ 325.00	\$3,250	
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	sum	\$ 10,500.00	\$10,500	
Level 3 Code	Description	0	Unit	\$ -	\$0	
SUBTOTAL				VALUE \$ 115,436.00	\$115,436	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
TOTAL COST - Visitor Parking, Vault Toilet, Walkways						
		1	VALUE	\$ 273,169.00	\$273,169	

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate
LINE ITEM COST SUMMARY

Project: PIRO CLR Renovations
Park: Pictured Rocks National Lakeshore
Park Alpha: PIRO
PMIS Number: 152048

Estimate By: Jim Flemming
Date: 11/28/2016 - V 1.0
Reviewed By: SJP
Date: 11/28/16

Summary Item 1 Alternate A

Total Cost: \$264,909

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-A	Vegetation Thinning and Removal					
Level 3 Code	Description	0	Unit	\$ -	\$0	
Level 3 Code	Thin Trees And Vegetation For Virews	27308	Sf	\$ 0.55	\$15,019	limb up/prune trees
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	sum	\$ 1,500.00	\$1,500	
	SUBTOTAL	1	VALUE	\$ 16,519.40	\$16,519	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-D	Road & Walk Improvements					
Level 3 Code	Description	0	Unit	\$ -	\$0	
Level 3 Code	Clear & Grubbing	5000	Sf	\$ 0.50	\$2,500	
Level 3 Code	Remove Staff Parking Area	1191	Sf	\$ 1.00	\$1,191	
Level 3 Code	Remove Concrete Pad At Staff Parking Area	479	Sf	\$ 3.00	\$1,437	
Level 3 Code	Remove Parking At Boathouse	1769	Sf	\$ 1.00	\$1,769	
Level 3 Code	Remove Boulder Edge At Boathouse	9	Ea	\$ 75.00	\$675	
Level 3 Code	Haul & Disposal	1	Sum	\$ 757.00	\$757	
Level 3 Code	Visitor Parking Area - Gravel	8543	Sf	\$ 4.50	\$38,444	two-way, acc, no curb
Level 3 Code	Repair Concrete Curb	277	Lf	\$ 20.00	\$5,540	6" curb
Level 3 Code	Repair Boardwalk	272	Lf	\$ 40.00	\$10,880	wood
Level 3 Code	Pad/landing For Vault Toilet	200	Sf	\$ 7.50	\$1,500	concrete
Level 3 Code	Repair Walks	993	Lf	\$ 9.00	\$8,937	36" wide, repoint exist
Level 3 Code	Re Route Walk At New Ramp To Guard Sta	95	Lf	\$ 22.50	\$2,138	36" wide, new concrete
Level 3 Code	Repair Dock	107	Sf	\$ 8.00	\$856	wood
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$ 7,700.00	\$7,700	
Level 3 Code	Description	0	Unit	\$ -	\$0	
	SUBTOTAL	1	VALUE	\$ 84,323.00	\$84,323	

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate
LINE ITEM COST SUMMARY

Project: PIRO CLR Renovations
Park: Pictured Rocks National Lakeshore
Park Alpha: PIRO
PMIS Number: 152048

Estimate By: Jim Flemming
Date: 11/28/2016 - V 1.0
Reviewed By: SJP
Date: 11/28/16

Summary Item 1 Alternate A

Total Cost: \$264,909

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-E	Structures					
Level 3 Code	Ramp To Boathouse	350	If	\$ 40.00	\$14,000	wood
Level 3 Code	Ramp To Guard Station	72	If	\$ 40.00	\$2,880	wood
Level 3 Code	Permanent Vault Toilet	1	sum	\$ 30,700.00	\$30,700	clovermist dbl vault
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	sum	\$ 7,137.00	\$7,137	
Level 3 Code	Description	0	Unit	-	\$0	
	SUBTOTAL	1	VALUE	\$ 54,717.00	\$54,717	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-G	New Vegetation					
Level 3 Code	Native Shrubs, Grasses, Forbs	12025	Sf	\$ 8.00	\$96,200	
Level 3 Code	Deciduous Trees (2..5" Cal.)	5	Ea	\$ 325.00	\$1,625	
Level 3 Code	Evergreen Trees (6' Height)	5	Ea	\$ 325.00	\$1,625	
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$ 9,900.00	\$9,900	
Level 3 Code	Description	0	Unit	-	\$0	
	SUBTOTAL	1	VALUE	\$ 109,350.00	\$109,350	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
TOTAL COST - Alternate A						
		1	VALUE	\$ 264,909.40	\$264,909	

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate
LINE ITEM COST SUMMARY

Project: PIRO CLR Renovations
Park: Pictured Rocks National Lakeshore
Park Alpha: PIRO
PMIS Number: 152048

Estimate By: Jim Flemming
Date: 11/28/2016 - V 1.0
Reviewed By: SJP
Date: 11/28/16

Summary Item 1 Alternate B

Total Cost: \$1,179,906

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-A	Vegetation Thinning and Removal					
Level 3 Code	Description	0	Unit	\$ -	\$0	
Level 3 Code	Thin Trees And Vegetation For Virews	49798	Sf	\$ 0.55	\$27,389	rem understory, prune
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$ 2,700.00	\$2,700	
	SUBTOTAL	1	VALUE	\$ 30,088.90	\$30,089	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-D	Road & Walk Improvements					
Level 3 Code	Description	0	Unit	\$ -	\$0	
Level 3 Code	Clear & Grubbing	22000	Sf	\$ 0.50	\$11,000	
Level 3 Code	Remove Staff Parking Area	8993	Sf	\$ 1.00	\$8,993	
Level 3 Code	Remove Concrete Pad At Staff Parking Area	479	Sf	\$ 3.00	\$1,437	
Level 3 Code	Remove Parking At Boathouse	2057	Sf	\$ 1.00	\$2,057	
Level 3 Code	Remove Boulder Edge At Boathouse	9	Ea	\$ 75.00	\$675	
Level 3 Code	Remove Boardwalk	236	Lf	\$ 5.00	\$1,180	
Level 3 Code	Remove Sand From Launchway	150	Cy	\$ 15.00	\$2,250	relocate to beach
Level 3 Code	Haul & Disposal	1	Sum	\$ 2,759.00	\$2,759	
Level 3 Code	Visitor Parking Area - Gravel	9856	Sf	\$ 4.50	\$44,352	two-way, acc, no curb
Level 3 Code	Visitor Gathering Area, Paving	450	Sf	\$ 4.40	\$1,980	
Level 3 Code	Repair Concrete Curb	584	Lf	\$ 20.00	\$11,680	6" curb
Level 3 Code	New Boardwalk	167	Lf	\$ 40.00	\$6,680	wood
Level 3 Code	Pad/landing For Vault Toilet	200	Sf	\$ 7.50	\$1,500	concrete
Level 3 Code	Repair Walks	678	Lf	\$ 9.00	\$6,102	36" wide, repoint exist
Level 3 Code	Restore Walks	315	Lf	\$ 15.00	\$4,725	reset, repoint, replace
Level 3 Code	Repair Dock	609	Sf	\$ 8.00	\$4,872	wood
Level 3 Code	Restore Rails At Launchway	410	Lf	\$ 20.00	\$8,200	
Level 3 Code	New Parking Area	9686	Sf	\$ 4.50	\$43,587	gravel paving, no curb

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate
LINE ITEM COST SUMMARY

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Estimate By: Jim Flemming
Date: 11/28/2016 - V 1.0
Reviewed By: SJP
Date: 11/28/16

Summary Item 1 Alternate B

Summary Item 1		Alternate B		Total Cost:			\$1,179,906
Level 3 Code	Parallel Parking At Sand Point Rd	2000	Sf	\$	7.50	\$15,000	asphalt paved
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$	17,902.90	\$17,903	
Level 3 Code	Description	0	Unit	\$	-	\$0	
SUBTOTAL		1	VALUE	\$	196,931.90	\$196,932	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-E Structures						
Level 3 Code	Kiosk	1	Sum	\$ 7,500.00	\$7,500	8'x5' wd trailhead kiosk
Level 3 Code	Ramp To Boathouse	40	Lf	\$ 80.00	\$3,200	wood, 8' wide
Level 3 Code	Temporary Vault Toilet	1	Sum	\$ 30,700.00	\$30,700	clovermist dbi vault allowance
Level 3 Code	Restore Observation Tower	1	Sum	\$ 15,000.00	\$15,000	allowance
Level 3 Code	Restore Lookout Tower	1	Sum	\$ 15,000.00	\$15,000	covered in HSR estimate
Level 3 Code	Lift At Guard Station	1	Sum	\$ -	\$0	covered in HSR estimate
Level 3 Code	Restroom Added At Boathouse	1	Sum	\$ -	\$0	
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$ 4,140.00	\$4,140	
Level 3 Code	Description	0	Unit	\$ -	\$0	
SUBTOTAL		1	VALUE	\$ 75,540.00	\$75,540	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-F Small Scale Features						
Level 3 Code	Install new entrance sign	1	Sum	\$ 5,000.00	\$5,000	small way finding sign
Level 3 Code	Benches	2	Ea	\$ 1,800.00	\$3,600	
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$ 860.00	\$860	
Level 3 Code	Description	0	Unit	\$ -	\$0	
SUBTOTAL		1	VALUE	\$ 9,460.00	\$9,460	

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate
LINE ITEM COST SUMMARY

Project: PIRO CLR Renovations
Park: Pictured Rocks National Lakeshore
Park Alpha: PIRO
PMIS Number: 152048

Estimate By: Jim Flemming
Date: 11/28/2016 - V 1.0
Reviewed By: SJP
Date: 11/28/16

Summary Item 1 Alternate B

Total Cost: \$1,179,906

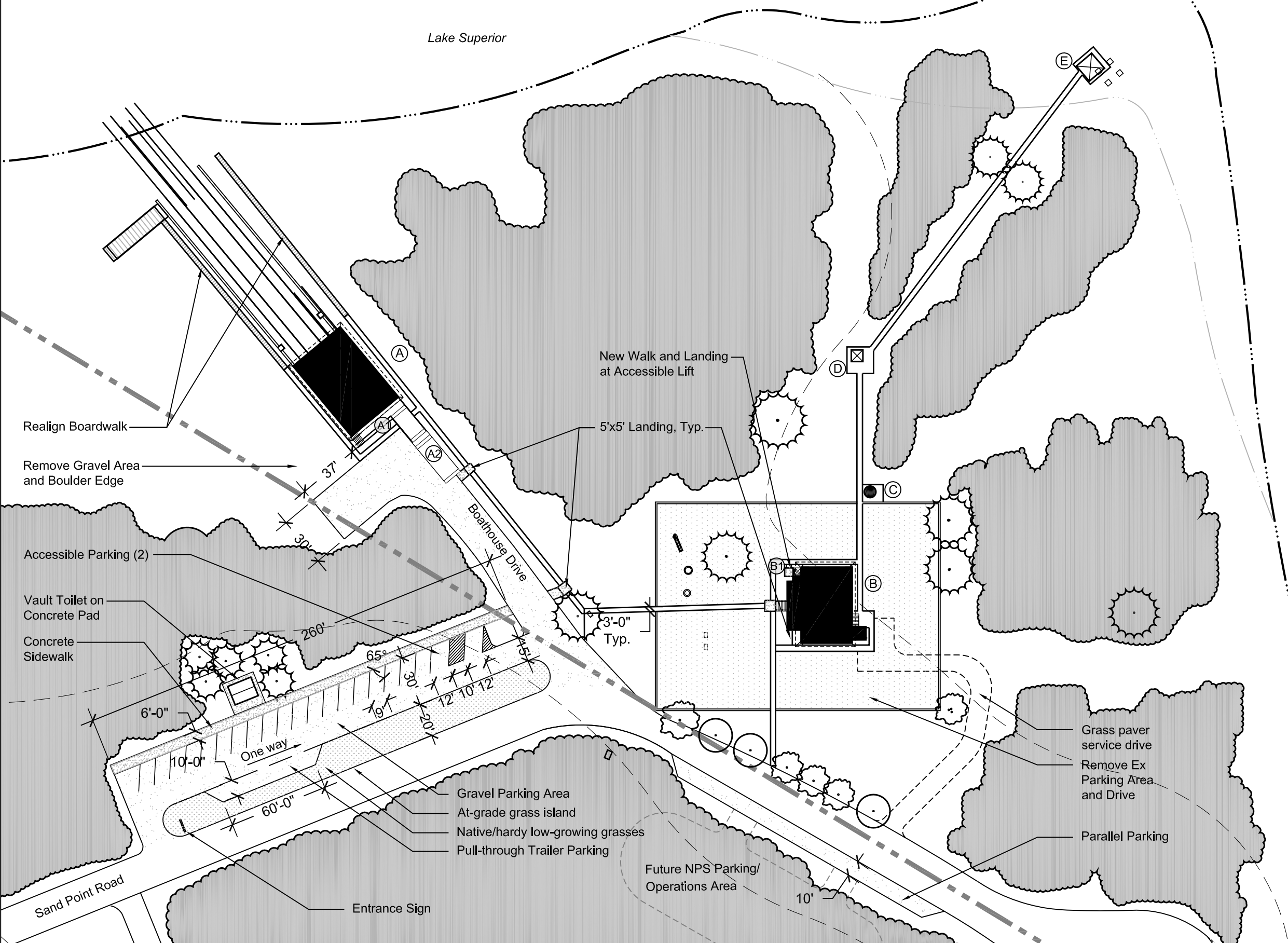
Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
G50-G	New Vegetation					
Level 3 Code	Native Shrubs, Grasses, Forbs	49313	Sf	\$ 8.00	\$394,504	
Level 3 Code	Lawn Grass	16278	Sf	\$ 2.00	\$32,556	
Level 3 Code	Deciduous Trees (2..5" Cal.)	12	Ea	\$ 325.00	\$3,900	
Level 3 Code	Evergreen Trees (6' Height)	5	Ea	\$ 325.00	\$1,625	
Level 3 Code	Shoreline Revegetation	2	Ac	\$ 196,000.00	\$392,000	
Level 3 Code	Mobilization / Erosion Control / Layout / Misc.	1	Sum	\$ 43,300.00	\$43,300	
Level 3 Code	Description	0	Unit	\$ -	\$0	
SUBTOTAL		1	VALUE	\$ 867,885.00	\$867,885	

Uniformat II WBS Code	Description	Quantity	Unit	Cost/Unit	Total Cost	Remarks
TOTAL COST - Alternate B						
		1	VALUE	\$ 1,179,905.80	\$1,179,906	

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Appendix C: Schematic Design Drawing

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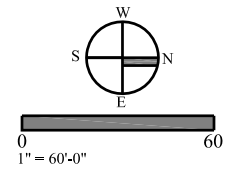


Legend

- Study Area / USCG Boundary
- Existing Contour
- Building / Structure
- Existing Shoreline
- Historic Shoreline
- Grass Paver Drive
- Concrete
- Gravel
- Native Grasses and Forbs
- Lawn Grasses
- Ex Conifer Tree to Remain
- Ex Deciduous Tree to Remain
- New Trees
- Forest Vegetation

- Building / Structure Notes**
- (A) Boathouse & Launchway (HS-08)
 - (A1) ABA Landing, Re: Arch
 - (A2) ABA Ramp, Re: Arch
 - (B) Munising Life Saving Station (HS-01)
 - (B1) Exterior Lift, Re: Arch
 - (C) Oil House (HS-02) to Remain
 - (D) Reconstruct Communication Tower
 - (E) Reconstruct Lookout Tower

Sources:
Google Maps 2016, 1975 Sand Point Utilities as Maintained, 1984 Maritime Exhibit Sand Point, 1975 Site Analysis, USGS Maps



FEBRUARY 2017		TITLE OF PROJECT CULTURAL LANDSCAPE REPORT AND ENVIRONMENTAL ASSESSMENT	
UNITED STATES DEPARTMENT OF THE INTERIOR		TITLE OF DRAWING SCHEMATIC DESIGN PLAN	
PICTURED ROCKS NATIONAL LAKESHORE MUNISING, MICHIGAN		NAME OF PARK SAND POINT/MUNISING USCG LIFE SAVING STATION	
REGION MIDWEST	COUNTY ALGER	STATE MICHIGAN	C - 3

Appendix D: FMSS

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FMSS Crosswalk Table Pictured Rocks National Lakeshore Sand Point/Munising USCG Life Saving Station												
Cultural Landscape Report						FMSS						
Landscape Characteristic	Feature Name	Feature Contribution	HS Number	IDLCS Number	LCS Name	IN FMSS?	Asset Code	Asset Number	Asset Name	Location Number	Location Name	Comments/Notes
Natural Systems												
	Lake Superior	Contributing				N						
	Sand Point (geologic formation)	Contributing				N						
Spatial Organization												
	Formal arrangement of USCG Station	Contributing				N						
	Relationship to Lake Superior	Contributing				N						
	Open space around Station	Contributing				N						
Views												
	Views to/from Lake Superior	Contributing				N						
	View to Station from Sand Pt Road	Contributing				N						
Topography												
	Raised topography /plinth at Station	Contributing				N						
Circulation												
	Sand Point Road	Contributing				Y	1100 - Road	1424075	Traffic Surface	29607	SP Sand Point Road Rt. 0010	
	Staff Parking / Service Road	Non-Contributing				Y	1300 - Parking Area	395583	Traffic Surface	29609	SP Sand Pt. Headquarters Parking (unpaved), Rt 909	
	Visitor Parking	Non-Contributing					1300 - Parking Area	395583	Traffic Surface	29609	SP Sand Pt. Headquarters Parking (unpaved), Rt 909	
	Boathouse Drive	Contributing				N						
	North South Main Walk	Contributing				N						
	Station Walks	Contributing				N						
	Walk to Towers	Contributing				N						
	Walk to Boathouse	Contributing										
	Boathouse Walk	Contributing				N						
	Dock	Non-Contributing				N						

Boardwalk	Non-Contributing		N				
Buildings and Structures							
Life Saving Station	Contributing	HS-01	Y	4100 - Building		29613 SP Sand Pt. Park Headquarters HS-01	
Boathouse	Contributing	HS-08	Y	4100 - Building		29614 SP Sand Pt. Boat House HS-08	
Oil House	Contributing	HS-02	Y	4100 - Building		29615 SP Sand Pt. Oil House HS-02	
Launchway Lookout Tower Foundation Communications Tower Foundation	Contributing		Y	6300-Marina / Waterfront System	1180288 Traffic Surface, Surface, 28 FT, 40 FT, Boat Ramp	SP Sand Pt. Beach Waterway Launch 29625 Area	
	Contributing		N				
	Contributing		N				
Small Scale Features							
Split Rail Fence	Non-Contributing		Y	3100 - Maintained Landscapes	1293810 Fence/Gate, Fence, Wood	SP Sand Pt. Beach Waterway Launch 29625 Area	Fence at Launchway
Interpretive Signs	Non-Contributing		N				
Headquarters Sign	Non-Contributing		Y	3100 - Maintained Landscapes	133032 Sign, Entrance Sign, Stone Base	29612 SP Sand Point Area Grounds	
Flagpole	Contributing		Y	3100 - Maintained Landscapes	1440663 Exterior Furnishing, Flag Pole, Steel	29612 SP Sand Point Area Grounds	
Propane Tank	Non-Contributing		Y	5700 - Fuel System	117567 Tank, Gaseous Fuel, 1,000 GAL Steel	SP Sand Pt Headquarters LP Gas Fuel 29622 Storage Tank	
Concrete Curb	Contributing		N				
Vegetation							
Woodland Vegetation	Contributing		Y	3100 - Maintained Landscapes	1345752 Land Surface, Recreational	29612 SP Sand Point Area Grounds	
Ornamental Vegetation	Contributing		Y	3100 - Maintained Landscapes	1345752 Land Surface, Recreational	29612 SP Sand Point Area Grounds	
White Pines	Contributing		Y	3100 - Maintained Landscapes	1345752 Land Surface, Recreational	29612 SP Sand Point Area Grounds	
Lawn	Contributing		Y	3100 - Maintained Landscapes	1345752 Land Surface, Recreational	29612 SP Sand Point Area Grounds	

CLR Treatment Recommendations to FMSS
Pictured Rocks National Lakeshore
Sand Point/Munising USCG Life Saving Station

CLR Treatment Task / FMSS Work Order	CLR Treatment Task Component/ FMSS Task	FMSS Asset Type	FMSS Asset Name (Number)	FMSS Location Name (Number)	FMSS Work Type / Sub Type	Units	Unit of Measure
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Task 1. Rehabilitate historic views and spatial relationships

- 3.1 Clear non-contributing forest vegetation to reestablish a view to and from Lake Superior
- 3.2 Clear vegetation from historic paths
- 3.3 Establish low-growing native vegetation to maintain clear views

Task 2. Provide universally accessible routes

- 1.1 Repair surface, existing concrete walks
- 1.2 Modify existing walks with new 5'x5' landing areas
- 1.3 Provide access to Life Saving Station (lift)
- 1.4 Provide access to Boathouse (ramp)
- 1.5 Create accessible route at visitor parking area. Connect to ex walks

Task 3. Rehabilitate Visitor Parking

- 4.1 Expand and formalize existing visitor parking
- 4.2 Provide accessible vault toilet
- 4.3 Provide accessible sidewalk
- 4.4 Widen Sand Point Road to provide parallel parking
- 4.5 Expand turning radii at end of road

Task 4. Repair setting of Life Saving Station

			SP Sand Pt. Headquarters Parking (unpaved), Rt 909	
2.1 Remove staff parking and driveway	1300 - Parking Area	Traffic Surface (395583)	(29609)	SF
2.2 Reveal concrete curb				LF
2.3 Repair topsoil				SF
2.4 Repair lawn	3100 - Maintained Landscapes	Land Surface, Recreational (1345752)	SP Sand Point Area Grounds (29612)	SF
2.5 Restore/repair concrete walks				SF

Task 5. Repair Launchway and Setting

6.1 Remove vegetation from interior of Launchway	6300-Marina / Waterfront System	Boat Ramp (1180288)	SP Sand Pt. Beach Waterway Launch Area (29625)	FM / DM SF
6.2 Remove sand from interior of Launchway and restore rails	6300-Marina / Waterfront System	Boat Ramp (1180288)	SP Sand Pt. Beach Waterway Launch Area (29625)	FM / DM CY
6.3 Remove ex boardwalk, gravel area and boulder edge				
6.4 Provide new boardwalk				LF

Task 6. Provide visitor restrooms within Boathouse

5.1 Provide accessible route into side door of Boathouse with exterior deck	4100 - Building	SP Sand Pt. Boat House HS-08 (29614)		
5.2 Modify Boathouse interior to provide restrooms	4100 - Building	SP Sand Pt. Boat House HS-08 (29614)		

Task 7. New Parking / Operations Area

7.1 Remove parallel parking from edge of Sandpoint Road	1100 - Road	Traffic Surface (1424075)	SP Sand Point Road Rt. 0010 (29607)	SF
7.2 Provide new parking/operations area east of Sand Point Road				SF

Task 8. Reconstruct Lookout and Communications Towers

8.1 Conduct additional research to verify design of towers				
8.2 Reconstruct towers in original locations				
8.3 Restore walk to Lookout Tower				

Appendix E: Consultation/Coordination Documents

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United States Department of the Interior



FISH AND WILDLIFE SERVICE

East Lansing Ecological Services Field Office

2651 COOLIDGE ROAD SUITE 101

EAST LANSING, MI 48823

PHONE: (517)351-2555 FAX: (517)351-1443

URL: www.fws.gov/midwest/endangered/section7/s7process/step1.html

Consultation Code: 03E16000-2016-SLI-0402

July 24, 2016

Event Code: 03E16000-2016-E-00589

Project Name: Munising Life Saving Station HSR/CLR/EA

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Fish and Wildlife Service if they determine their project may affect listed species or critical habitat.

There are several important steps in evaluating the effects of a project on listed species. Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions to help you determine if your project may affect listed species and lead you through the section 7 consultation process.

Under 50 CFR 402.12(e) (the regulations that implement section 7 of the Endangered Species Act), the accuracy of this species list should be verified after 90 days. You may verify the list by visiting the ECOS-IPaC website (<http://ecos.fws.gov/ipac/>) at regular intervals during project planning and implementation and completing the same process you used to receive the attached list.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project area or may be affected by your proposed project.

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>.

Although no longer listed under the Endangered Species Act, bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html> to help you avoid impacting eagles or determine if a permit may be necessary.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <http://www.fws.gov/migratorybirds/AboutUS.html>.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

Official Species List

Provided by:

East Lansing Ecological Services Field Office

2651 COOLIDGE ROAD SUITE 101

EAST LANSING, MI 48823

(517) 351-2555

<http://www.fws.gov/midwest/endangered/section7/s7process/step1.html>

Consultation Code: 03E16000-2016-SLI-0402

Event Code: 03E16000-2016-E-00589

Project Type: VEGETATION MANAGEMENT

Project Name: Munising Life Saving Station HSR/CLR/EA

Project Description: Evaluation of historic structures and the cultural landscape of the Munising Life Saving Station at Pictured Rocks National Lakeshore. Treatment alternatives will be developed to guide maintenance and management of the structures and cultural landscape. Some vegetation disturbance may be associated with one or more proposed treatment alternatives.

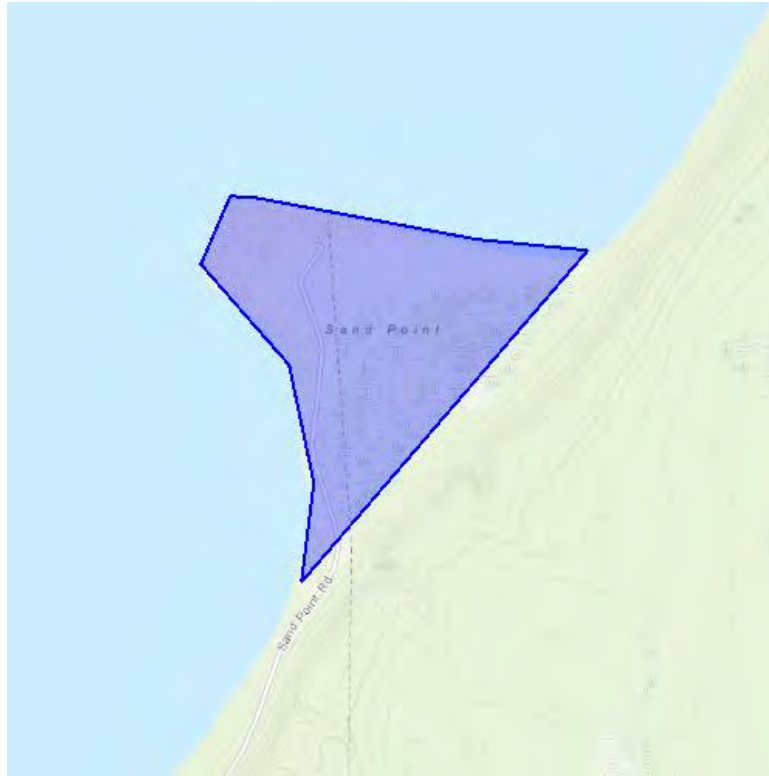
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-86.596040725708 46.4529674809738, -86.60689830780028 46.444274231226366, -86.60646915435791 46.44690600768241, -86.60737037658691 46.44998118087427, -86.61076068878174 46.45261268161267, -86.6096019744873 46.45438665530431, -86.6087007522583 46.454357089549625, -86.60020351409912 46.45326314534243, -86.596040725708 46.4529674809738)))

Project Counties: Alger, MI



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

Endangered Species Act Species List

There are a total of 7 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Kirtland's Warbler (<i>Setophaga kirtlandii</i>) Population: Entire	Endangered		
Piping Plover (<i>Charadrius melodus</i>) Population: Great Lakes watershed	Endangered		
Red Knot (<i>Calidris canutus rufa</i>)	Threatened		Only actions that occur along coastal areas during the Red Knot migratory window of MAY 1 - SEPTEMBER 30.
Flowering Plants			
Pitcher's thistle (<i>Cirsium pitcheri</i>)	Threatened		
Mammals			
Canada Lynx (<i>Lynx canadensis</i>) Population: Contiguous U.S. DPS	Threatened	Final designated	
Gray wolf (<i>Canis lupus</i>) Population: U.S.A.: All of AL, AR, CA, CO,	Endangered		



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico.			
Northern long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

Critical habitats that lie within your project area

There are no critical habitats within your project area.



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

Appendix B: FWS Migratory Birds

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>
<http://www.fws.gov/birds/policies-and-regulations/laws-legislations/bald-and-golden-eagle-protection-act.php>

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tools at:

<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php>



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

Migratory birds that may be affected by your project:

There are 6 birds on your migratory bird list. The list may include birds occurring outside this FWS office jurisdiction.

Species Name	Bird of Conservation Concern (BCC)	Seasonal Occurrence in Project Area
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Yes	Year-round
Canada Warbler (<i>Wilsonia canadensis</i>)	Yes	Breeding
Common tern (<i>Sterna hirundo</i>)	Yes	Breeding
Golden-Winged Warbler (<i>Vermivora chrysoptera</i>)	Yes	Breeding
Olive-Sided flycatcher (<i>Contopus cooperi</i>)	Yes	Breeding
Short-eared Owl (<i>Asio flammeus</i>)	Yes	Breeding



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

Appendix C: NWI Wetlands

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Exclusions - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Precautions - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of



United States Department of Interior
Fish and Wildlife Service

Project name: Munising Life Saving Station HSR/CLR/EA

this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

The following NWI Wetland types intersect your project area in one or more locations. To understand the NWI Classification Code, see <https://ecos.fws.gov/ipac/wetlands/decoder>. To view the National Wetlands Inventory on a map go to <http://www.fws.gov/wetlands/Data/Mapper.html>.

Wetland Types	NWI Classification Code
Freshwater Emergent Wetland	PEM1F
Freshwater Forested/Shrub Wetland	PFO4/SS1C
Freshwater Forested/Shrub Wetland	PSS1C
Freshwater Pond	PUBG
Lake	L2UBH
Lake	L2USJ
Lake	L1UBH
Riverine	R5UBH

Rare Species Explorer

56 species

Scientific Name	Common Name	Taxonomic Group
Accipiter gentilis	Northern goshawk	Birds
Acipenser fulvescens	Lake sturgeon	Fish
Ammodramus savannarum	Grasshopper sparrow	Birds
Astragalus canadensis	Canadian milk vetch	Flowering Plants
Botaurus lentiginosus	American bittern	Birds
Botrychium acuminatum	Moonwort	Ferns and Fern Allies
Botrychium campestre	Prairie Moonwort or Dunewort	Ferns and Fern Allies
Botrychium hesperium	Western moonwort	Ferns and Fern Allies
Botrychium mormo	Goblin moonwort	Ferns and Fern Allies
Botrychium spatulatum	Spatulate moonwort	Ferns and Fern Allies
Buteo lineatus	Red-shouldered hawk	Birds
Callitriche hermaphroditica	Autumnal water-starwort	Flowering Plants
Calypso bulbosa	Calypso or fairy-slipper	Flowering Plants
Charadrius melodus	Piping plover	Birds
Cirsium pitcheri	Pitcher's thistle	Flowering Plants
Coregonus artedi	Lake herring or Cisco	Fish
Coregonus kiyi	Kiyi	Fish
Coregonus zenithicus	Shortjaw cisco	Fish
Cottus ricei	Spoonhead sculpin	Fish
Coturnicops noveboracensis	Yellow rail	Birds
Crataegus douglasii	Douglas's hawthorn	Flowering Plants
Cypripedium arietinum	Ram's head lady's-slipper	Flowering Plants
Dendroica cerulea	Cerulean warbler	Birds
Elymus glaucus	Blue wild-rye	Flowering Plants
Empetrum nigrum	Black crowberry	Flowering Plants
Erora laeta	Early hairstreak	Insects
Falco columbarius	Merlin	Birds
Falco peregrinus	Peregrine falcon	Birds
Gavia immer	Common loon	Birds
Gnaphalium sylvaticum	Woodland everlasting	Flowering Plants
Haliaeetus leucocephalus	Bald eagle	Birds
Huperzia selago	Fir clubmoss	Ferns and Fern Allies
Leymus mollis	American dune wild-rye	Flowering Plants
Ligumia nasuta	Eastern pondmussel	Mussels
Listera auriculata	Auricled twayblade	Flowering Plants
Littorella uniflora	American shore-grass	Flowering Plants

<i>Luzula parviflora</i>	Small-flowered wood rush	Flowering Plants
<i>Lycaeides idas nabokovi</i>	Northern blue	Insects
<i>Myotis septentrionalis</i>	Northern long-eared bat	Mammals
<i>Myriophyllum alterniflorum</i>	Alternate-leaved water-milfoil	Flowering Plants
<i>Myriophyllum farwellii</i>	Farwell's water milfoil	Flowering Plants
<i>Nicrophorus americanus</i>	American burying beetle	Insects
<i>Oryzopsis canadensis</i>	Canada rice grass	Flowering Plants
<i>Pandion haliaetus</i>	Osprey	Birds
<i>Phyciodes batesii</i>	Tawny crescent	Insects
<i>Picoides arcticus</i>	Black-backed woodpecker	Birds
<i>Pinguicula vulgaris</i>	Butterwort	Flowering Plants
<i>Potamogeton confervoides</i>	Alga pondweed	Flowering Plants
<i>Senecio indecorus</i>	Northern ragwort	Flowering Plants
<i>Spiza americana</i>	Dickeissel	Birds
<i>Stellaria longipes</i>	Stitchwort	Flowering Plants
<i>Tanacetum huronense</i>	Lake Huron tansy	Flowering Plants
<i>Trimerotropis huroniana</i>	Lake Huron locust	Insects
<i>Trisetum spicatum</i>	Downy oat-grass	Flowering Plants
<i>Tympanuchus phasianellus</i>	Sharp-tailed grouse	Birds
<i>Vaccinium cespitosum</i>	Dwarf bilberry	Flowering Plants

For assistance with this site, email mnfi@msu.edu

MSU Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status or family status..



United States Department of the Interior

NATIONAL PARK SERVICE

Pictured Rocks National Lakeshore

P.O. Box 40

N8391 Sand Point Road

Munising, MI 49862-0040

IN REPLY REFER TO:

September 15, 2016

(906) 387-2607

1.A.2.(PIRO)

Ms. Lori Sargent
Wildlife Biologist
Michigan Department of Natural Resources
Wildlife Division
P. O. Box 30444
Lansing, MI 48909-7944

Dear Ms. Sargent:

A National Park Service (NPS) contractor is preparing a Historic Structures Report and Cultural Landscape Report and associated Environmental Assessment (HSR/CLR/EA) to support management decisions on treatment and use of aboveground cultural resources for the Munising (Sand Point) U.S. Coast Guard Life Saving Station (station) at Pictured Rocks National Lakeshore. Pictured Rocks National Lakeshore is in the north-central section of the Upper Peninsula of Michigan along the south shore of Lake Superior. The Michigan State Historic Preservation Office determined in 1999 that the station is eligible for the National Register of Historic Places. The study area consists of the estimated 10 to 15 acres included in the historic U.S. Coast Guard station boundary.

The station retains nearly all of the primary and contributing structures needed for a self-sufficient lifesaving station, including main station building, oil house, boathouse, and boat launch. In addition, original elements like the sidewalk system, perimeter wall, lawn, and flagpole remain and contribute to its integrity. Although vegetation now screens many of the structures from the lakeshore, the complex retains a high degree of integrity in terms of location, design, setting, feeling, association, workmanship, and materials.

The goal of this project is to prepare critical planning and design documents to guide the ultimate treatment for the structures and cultural landscape. The HSR and CLR will serve as records of the history of the property – including pre-USCG, USCG, and NPS occupation – and provide documentation and analysis to guide the long-term care of the site. The end result will be cohesive treatment of the buildings and landscape that supports the operational and visitor use(s).

Although treatment alternatives have not yet been developed, projects with similar objectives in other NPS parks have typically included action alternatives with a mix of rehabilitating and restoring existing buildings and the cultural landscape. The alternatives often include activities that would disturb existing vegetation, including trimming and removing trees and shrubs to reestablish views.

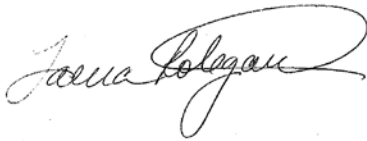
As part of the EA analysis, NPS obtained a list of state threatened and endangered species and species of concern from the Michigan Natural Features Inventory that may occur in Alger County, Michigan, the county in which the study area is located (enclosed). Once treatment alternatives have been developed, their effects on sensitive species will be fully evaluated and described in the HSR/CLR/EA.

This scoping notice informs you of the HSR/CLR/EA process and invites your participation in identifying issues and in analysis of potential environmental impacts from a variety of treatment alternatives. We look forward to your participation in this process and believe that it will help ensure that biological resources are adequately considered and evaluated in the HSR/CLR/EA.

As soon as the CLR/HSR/EA is complete, we will notify you of its availability for review and comment. I have designated Bruce Leutscher, Chief of Natural and Cultural Resources, to be the park's lead for this project. He can be reached at (906) 387-2680, or email at bruce_leutscher@nps.gov. In the meantime, if you have any questions or concerns about this notice or if you require additional information, please contact Bruce or me. I look forward to hearing from you.

We appreciate your continuing assistance with National Park Service projects.

Sincerely,

A handwritten signature in cursive script, reading "Laura Rotegard". The signature is written in dark ink and is positioned above the typed name and title.

Laura Rotegard
Superintendent

Enclosures (3)



United States Department of the Interior

NATIONAL PARK SERVICE

Pictured Rocks National Lakeshore

P.O. Box 40

N8391 Sand Point Road

Munising, MI 49862-0040

IN REPLY REFER TO:

September 15, 2016

(906) 387-2607

1.A.2.(PIRO)

Ms. Lauren Wenzel
Acting Director
National Marine Protected Areas Center
National Oceanic and Atmospheric Administration
1305 East West Highway
Silver Spring, MD 20910-3281

cc: Valerie J. Grussing
Cultural Resources Coordinator

Dear Ms. Wenzel:

A National Park Service (NPS) contractor is preparing a Historic Structures Report and Cultural Landscape Report and associated Environmental Assessment (HSR/CLR/EA) to support management decisions on treatment and use of aboveground cultural resources for the Munising (Sand Point) U.S. Coast Guard Life Saving Station (station) at Pictured Rocks National Lakeshore. Pictured Rocks National Lakeshore is in the north-central section of the Upper Peninsula of Michigan along the south shore of Lake Superior. The Michigan State Historic Preservation Office determined in 1999 that the station is eligible for the National Register of Historic Places. The study area consists of the estimated 10 to 15 acres included in the historic U.S. Coast Guard station boundary.

The station retains nearly all of the primary and contributing structures needed for a self-sufficient lifesaving station, including main station building, oil house, boathouse, and boat launch. In addition, original elements like the sidewalk system, perimeter wall, lawn, and flagpole remain and contribute to its integrity. Although vegetation now screens many of the structures from the lakeshore, the complex retains a high degree of integrity in terms of location, design, setting, feeling, association, workmanship, and materials.

The goal of this project is to prepare critical planning and design documents to guide the ultimate treatment for the structures and cultural landscape. The HSR and CLR will serve as records of the history of the property – including pre-USCG, USCG, and NPS occupation – and provide documentation and analysis to guide the long-term care of the site. The end result will be cohesive treatment of the buildings and landscape that supports the operational and visitor use(s).

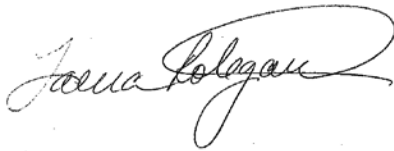
Although treatment alternatives have not yet been developed, projects with similar objectives in other NPS parks have typically included action alternatives with a mix of rehabilitating and restoring existing buildings and the cultural landscape. The alternatives often include activities that would disturb existing vegetation, including trimming and removing trees and shrubs to reestablish views. At this time, NPS does not anticipate any effects on protected marine areas. Once treatment alternatives have been developed, their effects on the environment will be fully evaluated.

As a courtesy, I am informing you of the HSR/CLR/EA process and I invite your participation in identifying issues and in analysis of potential environmental impacts from a variety of treatment alternatives. We look forward to your participation in this process and believe that it will help ensure that protected marine areas are adequately considered and evaluated, as applicable, in the HSR/CLR/EA.

As soon as the CLR/HSR/EA is complete, we will notify you of its availability for review and comment. I have designated Bruce Leutscher, Chief of Natural and Cultural Resources, to be the park's lead for this project. He can be reached at (906) 387-2680, or email at bruce_leutscher@nps.gov. In the meantime, if you have any questions or concerns about this notice or if you require additional information, please contact Bruce or me. I look forward to hearing from you.

We appreciate your continuing assistance with National Park Service projects.

Sincerely,

A handwritten signature in cursive script, appearing to read "Laura Rotegard". The signature is fluid and elegant, with a large loop at the end.

Laura Rotegard
Superintendent

Enclosure



United States Department of the Interior

NATIONAL PARK SERVICE

Pictured Rocks National Lakeshore

P.O. Box 40

N8391 Sand Point Road

Munising, MI 49862-0040

IN REPLY REFER TO:

September 15, 2016

(906) 387-2607

1.A.2.(PIRO)

Ms. Sara Siekeirski
Refuge Manager
Seney National Wildlife Refuge
1674 Refuge Entrance Rd.
Seney, MI 49883

Dear Ms. Siekeirski:

A National Park Service (NPS) contractor is preparing a Historic Structures Report and Cultural Landscape Report and associated Environmental Assessment (HSR/CLR/EA) to support management decisions on treatment and use of aboveground cultural resources for the Munising (Sand Point) U.S. Coast Guard Life Saving Station (station) at Pictured Rocks National Lakeshore. Pictured Rocks National Lakeshore is in the north-central section of the Upper Peninsula of Michigan along the south shore of Lake Superior. The Michigan State Historic Preservation Office determined in 1999 that the station is eligible for the National Register of Historic Places. The study area consists of the estimated 10 to 15 acres included in the historic U.S. Coast Guard station boundary.

The station retains nearly all of the primary and contributing structures needed for a self-sufficient lifesaving station, including main station building, oil house, boathouse, and boat launch. In addition, original elements like the sidewalk system, perimeter wall, lawn, and flagpole remain and contribute to its integrity. Although vegetation now screens many of the structures from the lakeshore, the complex retains a high degree of integrity in terms of location, design, setting, feeling, association, workmanship, and materials.

The goal of this project is to prepare critical planning and design documents to guide the ultimate treatment for the structures and cultural landscape. The HSR and CLR will serve as records of the history of the property – including pre-USCG, USCG, and NPS occupation – and provide documentation and analysis to guide the long-term care of the site. The end result will be cohesive treatment of the buildings and landscape that supports the operational and visitor use(s).

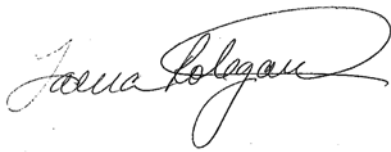
Although treatment alternatives have not yet been developed, projects with similar objectives in other NPS parks have typically included action alternatives with a mix of rehabilitating and restoring existing buildings and the cultural landscape. The alternatives often include activities that would disturb existing vegetation, including trimming and removing trees and shrubs to reestablish views. Once treatment alternatives have been developed, their effects on the environment will be fully evaluated.

As a courtesy, I am informing you of the HSR/CLR/EA process and I invite your participation in identifying issues and in analysis of potential environmental impacts from a variety of treatment alternatives. We look forward to your participation in this process and believe that it will help ensure that National Wildlife Refuge resources are adequately considered and evaluated, as applicable, in the HSR/CLR/EA.

As soon as the CLR/HSR/EA is complete, we will notify you of its availability for review and comment. I have designated Bruce Leutscher, Chief of Natural and Cultural Resources, to be the park's lead for this project. He can be reached at (906) 387-2680, or email at bruce_leutscher@nps.gov. In the meantime, if you have any questions or concerns about this notice or if you require additional information, please contact Bruce or me. I look forward to hearing from you.

We appreciate your continuing assistance with National Park Service projects.

Sincerely,

A handwritten signature in cursive script, reading "Laura Rotegard". The signature is fluid and elegant, with a large, sweeping loop at the end.

Laura Rotegard
Superintendent

Enclosure



United States Department of the Interior

NATIONAL PARK SERVICE

Pictured Rocks National Lakeshore

P.O. Box 40

N8391 Sand Point Road

Munising, MI 49862-0040

IN REPLY REFER TO:

September 15, 2016

(906) 387-2607

1.A.2.(PIRO)

Brian D. Conway
Director
State Historic Preservation Office
P.O. Box 30044
Lansing, MI 48909

Dear Mr. Conway:

A National Park Service (NPS) contractor is preparing a Historic Structures Report and Cultural Landscape Report and associated Environmental Assessment (HSR/CLR/EA) to support management decisions on treatment and use of aboveground cultural resources for the Munising (Sand Point) U.S. Coast Guard Life Saving Station (station) at Pictured Rocks National Lakeshore. Pictured Rocks National Lakeshore is in the north-central section of the Upper Peninsula of Michigan along the south shore of Lake Superior. It was established in October 1966 by Public Law 89-668 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." The Michigan State Historic Preservation Office determined in 1999 that the station is eligible for the National Register of Historic Places. The station contains both primary and contributing buildings that were constructed in 1933 according to standardized plans drawn by United States Life Saving Service architects. Its period of significance, 1933-1946, reflects its active use as a fully staffed lifesaving station. The study area consists of the estimated 10 to 15 acres included in the historic U.S. Coast Guard station boundary.

The station retains nearly all of the primary and contributing structures needed for a self-sufficient lifesaving station, including main station building, oil house, boathouse, and boat launch. In addition, original elements like the sidewalk system, perimeter wall, lawn, and flagpole remain and contribute to its integrity. Although vegetation now screens many of the structures from the lakeshore, the complex retains a high degree of integrity in terms of location, design, setting, feeling, association, workmanship, and materials.

The goal of this project is to prepare critical planning and design documents to guide the ultimate treatment for the structures and cultural landscape. The HSR and CLR will serve as records of the history of the property – including pre-USCG, USCG, and NPS occupation – and provide documentation and analysis to guide the long-term care of the site. The end result will be cohesive treatment of the buildings and landscape that supports the operational and visitor use(s).

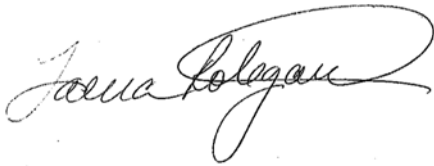
In accordance with the Advisory Council on Historic Preservation regulations, 36 CFR Part 800: Protection of Historic Properties, the NPS is required to comply with Section 106 of the National Historic Preservation Act of 1966, as amended. This scoping notice informs you of the HSR/CLR/EA Section 106 process and invites your participation in identifying issues and in analysis of potential environmental impacts from a variety of treatment alternatives.

In addition to informing you of the project and Section 106 process, I would also like to invite you to a contractor-facilitated design alternatives workshop at Pictured Rocks National Lakeshore on October 19, 2016. Your participation in the workshop would be extremely valuable as a way to gain from your knowledge of the resources and your ideas for treatment approaches. I will provide you with details on the workshop location and agenda once they are set and hope you or a representative are able to attend.

We look forward to your participation in this process and believe that it will help ensure that cultural resources are adequately considered and evaluated in the HSR/CLR/EA. As soon as the CLR/HSR/EA is complete, we will send it to you for review and comment. I have designated Bruce Leutscher, Chief of Natural and Cultural Resources, to be the park's lead for this project. He can be reached at (906) 387-2680, or email at bruce_leutscher@nps.gov. If you have any questions or concerns about this notice or if you require additional information, please contact Bruce or me. I look forward to hearing from you.

We appreciate your continuing assistance with National Park Service projects.

Sincerely,

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Laura Rotegard
Superintendent

Enclosure



United States Department of the Interior

NATIONAL PARK SERVICE

Pictured Rocks National Lakeshore

P.O. Box 40

N8391 Sand Point Road,

Munising, MI 49862-0040

IN REPLY REFER TO

September 15, 2016

(906) 387-2607

1.A.2.(PIRO)

Mr. Charles Marsh
District Ranger
Munising Ranger District Office
Hiawatha National Forest
400 E. Munising Ave.
Munising, MI 49862

Dear Mr. Marsh:

A National Park Service (NPS) contractor is preparing an Historic Structures Report and Cultural Landscape Report and associated Environmental Assessment (HSR/CLR/EA) to support management decisions on treatment and use of aboveground cultural resources for the Munising (Sand Point) U.S. Coast Guard Life Saving Station (station) at Pictured Rocks National Lakeshore. Pictured Rocks National Lakeshore is in the north-central section of the Upper Peninsula of Michigan along the south shore of Lake Superior. The Michigan State Historic Preservation Office determined in 1999 that the station is eligible for the National Register of Historic Places. The study area consists of the estimated 10 to 15 acres included in the historic U.S. Coast Guard station boundary.

The station retains nearly all of the primary and contributing structures needed for a self-sufficient lifesaving station, including main station building, oil house, boathouse, and boat launch. In addition, original elements like the sidewalk system, perimeter wall, lawn, and flagpole remain and contribute to its integrity. Although vegetation now screens many of the structures from the lakeshore, the complex retains a high degree of integrity in terms of location, design, setting, feeling, association, workmanship, and materials.

The goal of this project is to prepare critical planning and design documents to guide the ultimate treatment for the structures and cultural landscape. The HSR and CLR will serve as records of the history of the property – including pre-USCG, USCG, and NPS occupation – and provide documentation and analysis to guide the long-term care of the site. The end result will be cohesive treatment of the buildings and landscape that supports the operational and visitor use(s).

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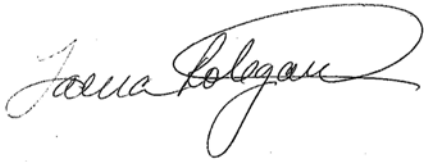
vegetation, including trimming and removing trees and shrubs to reestablish views. Once treatment alternatives have been developed, their effects on the environment will be fully evaluated.

As a courtesy, I am informing you of the HSR/CLR/EA process and I invite your participation in identifying issues and in analysis of potential environmental impacts from a variety of treatment alternatives. We look forward to your participation in this process and believe that it will help ensure that National Forest resources are adequately considered and evaluated, as applicable, in the HSR/CLR/EA.

As soon as the CLR/HSR/EA is complete, we will notify you of its availability for review and comment. I have designated Bruce Leutscher, Chief of Natural and Cultural Resources, to be the park's lead for this project. He can be reached at (906) 387-2680, or email at bruce_leutscher@nps.gov. In the meantime, if you have any questions or concerns about this notice or if you require additional information, please contact Bruce or me. I look forward to hearing from you.

We appreciate your continuing assistance with National Park Service projects.

Sincerely,

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Laura Rotegard
Superintendent

Enclosure



United States Department of the Interior

NATIONAL PARK SERVICE

Pictured Rocks National Lakeshore

P.O. Box 40

N8391 Sand Point Road

Munising, MI 49862-0040

IN REPLY REFER TO:

September 15, 2016

(906) 387-2607

1.A.2.(PIRO)

Mr. Scott Hicks
Field Supervisor
U.S Fish and Wildlife Service
2651 Coolidge Road
East Lansing, MI 48823

Dear Mr. Hicks:

A National Park Service (NPS) contractor is preparing a Historic Structures Report and Cultural Landscape Report and associated Environmental Assessment (HSR/CLR/EA) to support management decisions on treatment and use of aboveground cultural resources for the Munising (Sand Point) U.S. Coast Guard Life Saving Station (station) at Pictured Rocks National Lakeshore. Pictured Rocks National Lakeshore is in the north-central section of the Upper Peninsula of Michigan along the south shore of Lake Superior. It was established in October 1966 by Public Law 89-668 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.” The Michigan State Historic Preservation Office determined in 1999 that the station is eligible for the National Register of Historic Places. The station contains both primary and contributing buildings that were constructed in 1933 according to standardized plans drawn by United States Life Saving Service architects. Its period of significance, 1933-1946, reflects its active use as a fully staffed lifesaving station. The study area consists of the estimated 10 to 15 acres included in the historic U.S. Coast Guard station boundary.

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buildings and landscape that supports the operational and visitor use(s).

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Section 7 of the Endangered Species Act of 1973 requires that a federal agency consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service on any action that may affect endangered or threatened species or candidate species or that may result in adverse modification of critical habitat. This letter serves to initiate informal consultation with your office under section 7(c) of the Endangered Species Act for the referenced project.

As part of the EA analysis, NPS requested and received a list of threatened and endangered species that may occur in the study area through the U.S. Fish and Wildlife Service Information for Planning and Conservation Environmental Conservation Online System (enclosed). Please confirm that the enclosed list is complete and that we do not need to add other species to our effects analysis.

We look forward to your participation in this process and believe that it will help ensure that threatened and endangered species and other biological resources are adequately considered and evaluated in the HSR/CLR/EA. As soon as the CLR/HSR/EA and our associated effects determination is complete, we will send it to you for review and comment. I have designated Bruce Leutscher, Chief of Natural and Cultural Resources, to be the park's lead for this project. He can be reached at (906) 387-2680, or email at bruce_leutscher@nps.gov. If you have any questions or concerns about this notice or if you require additional information, please contact Bruce or me. I look forward to hearing from you.

We appreciate your continuing assistance with National Park Service projects.

Sincerely,

A handwritten signature in dark ink, appearing to read "Laura Rotegard", with a stylized, flowing script.

Laura Rotegard
Superintendent

Enclosures (3)



Figure 1. Munising (Sand Point) USCG Life Saving Station Location.

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SAND POINT/MUNISING USCG LIFE SAVING STATION,
PICTURED ROCKS NATIONAL LAKESHORE
Cultural Landscape Report and Environmental Assessment

2017