National Park Service
U.S. Department of the Interior



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

October 2017



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Acknowledgments

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Tim Colyer, Acting Superintendent
Bruce Leutscher, Chief, Science and Resource Stewardship
Cindy Heyd, Wildlife Biologist
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National Park Service
U.S. Department of the Interior

PICTURED ROCKS NATIONAL LAKESHORE
MUNISING, MI

SAND POINT/MUNISING UNITED STATES COAST GUARD LIFE SAVING STATION CULTURAL LANDSCAPE REPORT AND ENVIRONMENTAL ASSESSMENT FINDING OF NO SIGNIFICANT IMPACT

INTRODUCTION

The National Park Service (NPS) is proposing to implement management actions at Pictured Rocks National Lakeshore (park). These selected alternatives focus on rehabilitating the cultural landscape and historic structures at the Sand Point/Munising United States Coast Guard (USCG) Life Saving Station (life saving station or station). The life saving station cultural landscape includes concrete walks and curb; former building foundations, historic vegetation, views, and three historically significant buildings — Munising Life Saving Station, Munising Life Saving Station Oil House (Oil House), and Munising Life Saving Station Boathouse and Launchway (Boathouse and Launchway). The Sand Point/Munising Life Saving Station was one of the last life saving stations to be built on the Great Lakes, with construction commencing in 1933. Selected alternatives include:

- rehabilitating historic structures to improve visitor access and use;
- repairing the network of pedestrian concrete paths;
- thinning encroaching trees and underbrush from historic grounds; and
- removing non-historic features from landscapes and structures.

The actions will expand opportunities for visitor contact and improve wayfinding. These actions will also rehabilitate the cultural landscape to the greatest extent possible. Historic spatial patterns and views will be restored, and greater visitor access throughout the site will be accommodated.

NPS has completed a combined Cultural Landscape Report and Environmental Assessment (CLR/EA) to document and evaluate the cultural landscape and historic structures of the Sand Point/Munising Life Saving Station. The documentation served as a framework upon which alternatives were developed for the treatment and use of the historic structures and landscape of the station. The CLR will provide park managers with a comprehensive understanding of the physical evolution of the historic structures and landscapes and guidance for management of the resources.

In compliance with the National Environmental Policy Act of 1969 (NEPA), the NPS prepared the EA to examine alternative treatments and their associated environmental impacts. The treatment alternatives included the selected rehabilitation alternative (Alternative B), an alternative focused on preservation (Alternative A), and a no action alternative. The statements and conclusions reached in this finding of no significant impact (FONSI) are based on documentation and analysis provided in the CLR/EA and associated decision file. To the extent necessary, relevant sections of the CLR/EA are incorporated by reference below.

SELECTED ALTERNATIVE

Based on the analysis presented in the EA, NPS selected the rehabilitation treatment (Alternative B) as the NPS selected alternative because it best meets the purpose and need for the project as well as the project objectives to:

- Focus maintenance efforts to maintain conditions of historic buildings and structures;
- More accurately represent cultural landscape features characteristic of between 1933 and 1958 when the historic structure was in use as a lifesaving station;
- More accurately represent historic clearings and associated viewsheds characteristic of between 1933 and 1958 when the historic structure was in use as a lifesaving station;
- Provide a high quality (authentic) visitor experience;
- Define visitor access and use of the buildings and structures;
- Minimize increases to operations and maintenance efforts.

The following highlights major elements of the selected alternative, while detailed description can be found in Chapter 4 of the EA.

The selected alternative takes a rehabilitation approach, which allows expanded uses and repairs to features and will enrich the cultural landscape from a visitor perspective. The setting of the Munising Life Saving Station will be restored to its formal USCG appearance as a prominent structure set within a well-maintained and neat landscape. The selected alternative will restore historic views and connections between historic spaces by thinning trees and shrubs, and the front lawn and concrete curb will be restored to their full historic extents. Visitors will be encouraged to explore the historic site and buildings to understand the USCG activities that took place at Sand Point. Under this action, the Guard Station will have expanded visitor uses and the NPS administrative offices will eventually be relocated. The visitors' experience will be accommodated in the interior of the Boathouse, which will be modified to house a new public restroom. The sand will be removed from the Launchway to reveal the historic structure and the rails will be restored.

ALTERNATIVES CONSIDERED

In addition to those for the selected alternative, the EA provides detailed descriptions and analyses of a no-action alternative and a preservation alternative (Alternative A) (see EA Chapter 4).

Under the no action alternative, contributing and non-contributing features would be preserved and maintained. The no action alternative includes current park projects, those planned for the foreseeable future, and recommendations included in the park's general management plan. The no action alternative would include actions that the park would undertake as part of regular operations. Under the no action alternative, the present level of use, management, interpretation, maintenance and operations would continue. The no action alternative includes actions identified in the park's general management plan and long range interpretive plan, and actions already identified and/or in-progress.

Action Alternative A would include repair and improvement projects under consideration as part of the no action alternative, and would add actions to preserve and repair key features of the cultural landscape. Action Alternative A would utilize a preservation approach and would maintain and repair features as

needed. This approach does not utilize extensive modifications, but focuses on repair of existing features and spaces. Views that are currently missing would be modestly reestablished through tree thinning and spatial connections between key spaces would be restored. Upgrades to accessibility and access are included in this alternative.

Mitigation Measures

The selected alternative will implement several mitigation measures and best management practices to minimize the degree and/or severity of adverse effects on historic structures; cultural landscapes; special status species; wildlife; and native vegetation and reduce the adverse effect non-native ornamentals and invasive, exotic plant species will have on native vegetation and other park resources. NPS can add additional mitigation measures and best management practices (BMPs) to this list in the future at its discretion, if the additional measures do not in and of themselves cause environmental impacts. The selected alternative incorporates the mitigation measures and best management practices listed in Appendix A of this document.

Significance Criteria Review

The intensity of severity of impacts resulting from implementing the selected alternative is evaluated using the ten criteria listed and defined in 40 CFR § 1508.27. Key areas in which impacts were evaluated in the CLR/EA include historic structures; cultural landscape; native vegetation; non-native ornamental and invasive, exotic species; and wildlife. As defined in 40 CFR § 1508.27, NPS determined the significance of effects by examining the effects of the selected alternative considering the following criteria.

(1) Impacts that may be both beneficial and adverse: a significant effect may exist even if the NPS believes that, on balance, the effect will be beneficial.

Implementing the selected alternative will result both beneficial and adverse impacts. In general, the alternative provides beneficial effects on historic structures and the cultural landscape and adverse effects on native vegetation, non-native ornamental and invasive exotic species, and wildlife.

Rehabilitation activities included in the selected alternative will result in modest beneficial effects on historic structures by repairing features, expanding building uses, and adding compatible features to meet building safety codes. Modest beneficial effects on the cultural landscape will result from repairing contributing features, removing noncontributing features, and managing vegetation to better represent cultural landscape features during the period of significance. Restoring 0.26 acre of native vegetation following parking space removal will have a small beneficial effect on native vegetation.

Vegetation and ground disturbance associated with thinning vegetation on 1.14 acres of native vegetation will result in local, long-lasting, modest adverse effects on native vegetation. Ground-disturbing activities associated with construction and vegetation management could result in the establishment or spread of invasive exotic species and nonnative vegetation, a local, somewhat noticeable, long-term, ad adverse effect. The noise, disturbance, and increased human presence during construction would result in local short-term, small adverse effects on wildlife species in the study area. The permanent modification of 1.14 acres of forest and shrub habitat would result in local long-term, small adverse impacts to wildlife.

With the mitigation measures listed in Appendix A, overall, the selected alternative will have no more than small to modest short-term and long-term adverse effects on native vegetation, invasive exotic species and nonnative vegetation, and wildlife and no more than modest beneficial effects on historic structures and the cultural landscape. Therefore, the level of adverse and beneficial effects will not be significant.

(2) The degree to which the proposed action affects public health or safety.

The selected alternative will have a long-term, moderate beneficial effect on public health and safety by segregating the long-eared bat roost from the remainder of the headquarters building.

Temporary facility, trail, and grounds closures will keep the public away from areas where potentially harmful construction and vegetation clearing activities are occurring. Because the public will not be exposed to construction activities, there will be no significant adverse effects on public health or safety.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic river, or ecologically critical areas.

The selected alternative will have no effect on wild and scenic rivers, prime farmlands, or ecologically critical areas because they are not present in or near the project area.

The selected alternative includes removing sediment from the Launchway into the lake and wetlands may be present. If unavoidable impacts to wetlands will occur because of the activity, NPS will comply with the provisions of Executive Order 11990 (Protection of Wetlands), NPS Director's Order #77-1 (Wetland Protection), the Clean Water Act, and state regulations and will minimize impacts as much as practicable. With minimization, unavoidable impacts will, at most, have a small adverse effect on wetlands.

The selected alternative will result in a short-term, adverse impacts on historic structures and the cultural landscape in the park lands. To resolve potential adverse impacts, all activities will comply with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716, revised), and, if present, archeological resources near the project area will be identified and delineated for avoidance prior to project work.

Additional mitigation measures and BMPs will be used to reduce the adverse impacts of the selected alternative on historic structures, the cultural landscape, and wetlands in the project area. Therefore, with the implementation of the mitigation measures and BMPs, the level of adverse effects will not be significant.

(4) The degree to which effects on the quality of the human environment are likely to be highly controversial.

Short-term adverse effects on the quality of the human environment will result during construction and vegetation removal but are not anticipated to affect the quality of the human environment over the long-term or at more than small levels. The selected alternative provides beneficial effects on visitor use and experience by more accurately representing conditions during the period of significance and improving visitor use of the historic structures. No highly controversial issue was uncovered during agency and public scoping or during the comment period.

For these reasons, beneficial and adverse effects on the human environment are not likely to be highly controversial or significant.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The activities under the selected alternative will not result in highly uncertain effects or involve unique or unknown risks. Temporary facility, trail, and ground closures will keep the public away from areas where potentially harmful construction activities are occurring. Therefore, effects or risks on the human environment will not be significant.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The selected alternative is not a unique, precedent-setting action, does not include new or untested construction methods or materials, and is in keeping with similar actions implemented in other NPS parks. The selected alternative also does not predicate any future actions, whether with significant effects or not. Therefore, the selected alternative will not result in significant effects from a future action or establish a decision principal about future considerations.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

Past, present, and reasonably foreseeable future actions will have long-term beneficial impacts and local short-term and long-term adverse cumulative effects on historic structures; cultural landscape; native vegetation; non-native ornamental and invasive, exotic species; and wildlife. As described under Criterion 3, with the implementation of mitigation measures and use of BMPs to reduce adverse impacts, the level of cumulative adverse effects will not be significant.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on the National Register of Historic Places; or may cause loss or destruction of significant scientific, cultural, or historical resources.

The selected alternative will have local short- and long-term adverse impacts on historic structures and the cultural landscape resulting from construction activities and vegetation management. Effects on the cultural landscape will be beneficial over the long term by repairing contributing features, removing noncontributing features, and better representing conditions during the period of significance. To mitigate potential adverse impacts on historic properties, treatment activities will be implemented in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716, revised). The NPS initiated consultation with the State Historic Preservation Office (SHPO) with a scoping letter sent on September 15, 2016. The SHPO also received a copy of the draft CLR/EA for review and comment in spring 2017. Although several attempts were made to gain a written response from the SHPO, no correspondence was received. As also determined under criterion 1, with mitigation measures and BMPs, adverse effects on historic structures and cultural landscapes will not be significant. The NPS will continue to consult with the SHPO for section 106 activities under the provisions of the Servicewide Programmatic Agreement.

(9) The degree to which the action may adversely affect an endangered or threatened species or its critical habitat.

In consultation with US Fish and Wildlife Service (USFWS), NPS determined the following species may be present on Sand Point for at least some part of the year: gray wolf (*Canis lupus*), Canada lynx (*Lynx canadensis*), northern long-eared bat (*Myotis septentrionalis*), Kirtland's warbler (*Setophaga kirtlandii*), piping plover *(Charadrius melodus*), rufa red knot (*Calidris canutus rufa*), and Pitcher's thistle (*Cirsium pitcheri*). Although critical habitat for piping plover is present in the northern part of the park, Sand Point is not designated critical habitat for the piping plover and is not designated critical habitat for the other listed species that may be present in the park.

Based on its evaluation of the likelihood of species being present and the seasonality, duration, and type of disturbance associated with the selected alternative, NPS determined that, with the mitigation measures described in the CLR/EA (attached as Appendix A), there will be no effect on Canada lynx, Kirtland's warbler, piping plover or its designated critical habitat, or Pitcher's thistle. NPS further determined that the selected alternative, with the described mitigation measures, may affect, but is not likely to adversely affect gray wolf and northern long-eared bat. An email was received by the NPS on September 29, 2017 that confirmed that extensive measures were in place to minimize impacts on the resident bat population.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The selected alternative will not violate any Federal, State, or local laws or requirements imposed for the protection of the environment.

Decision and Finding of No Significant Impact

Based on the review of the facts and analysis in the CLR/EA, the NPS has selected has selected Alternative B for implementing the CLR/EA at Pictured Rocks National Lakeshore MI. The selected alternative will not have a significant impact either by itself or in consideration of cumulative impacts. Accordingly, the requirements of NEPA, regulations promulgated by the CEQ, regulations promulgated by the Department of the Interior, and provisions of Director's Order 12 and the 2015 *National Park Service NEPA Handbook* have been fulfilled.

It is my determination that the selected alternative does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, in accordance with NEPA and CEQ regulations (40 CFR 1508 et. seq.), and environmental impact statement is not required and will not be prepared for implementation of the selected alternative.

Recommended: _____ 10-2-17

Nancy Finley, Acting Superintendent Date
Pictured Rocks National Lakeshore
Midwest Region

Approved: _____ 10/20/2017

Cameron H. Sholly, Regional Director
Midwest Region

Date

Appendix A Mitigation Measures

Appendix B Non-Impairment Determination

APPENDIX A- MITIGATION MEASURES

To minimize impacts related to the action alternatives, the NPS will implement Best Management Practices (BMPs) and resource protection measures.

General Measures

The work area limits will be clearly defined, fenced, flagged, and delineated to keep ground disturbance to a minimum. No disturbance will occur beyond these limits other than protection measures for erosion/sediment control.

All contractor employees ~~and~~ subcontractors and park seasonal, contract, and concession employees will attend an orientation session(s) regarding park regulations focused on minimizing impacts on resources, human health and safety, and appropriate housekeeping.

All tools, equipment, barricades, signs, surplus materials, and rubbish will be removed from the project area upon project completion. Construction debris will be hauled from the park to an appropriate disposal location.

Staging, materials, and equipment will be in developed areas such as existing parking lots to the extent possible.

Water Resources

If minor earthwork is necessary, standard erosion-control measures such as silt fencing will be used to minimize erosion and the introduction of sediments to aquatic habitat during and after construction.

All vehicle and equipment fueling will occur more than 100 feet from any surface water in a location where a fuel spill will not be able to enter the water.

A spill prevention and response plan that regulates the use of hazardous and toxic materials, such as fuels and lubricants for construction equipment, will be prepared.

Wildlife and Species of Concern

Construction personnel will be instructed on appropriate behavior in the presence of wildlife and on proper storage and handling of food, garbage, and other attractants.

Plans will identify areas of sensitive vegetation to avoid (if any) and will designate areas for stockpiling slash material.

To reduce noise disturbance and limit impacts on breeding avian and mammalian species, all tree and shrub thinning and removal will be conducted from October 1 to March 1, where feasible.

If tree and shrub thinning and removal must occur between March 1 and October 1, field surveys for migratory bird nests and cavities and bat roosts and nurseries will be conducted prior to vegetation-disturbing activities. Where active nests or nurseries are present, vegetation removal will not occur until after the young have fledged, and ground-disturbing activities will not occur within 100 feet until the young have fledged.

Tree and shrub thinning will comply with provisions of the final 4(d) Rule for the Northern Long-Eared Bat (81 FR 1900, January 14, 2016) pertaining to areas in which white-nose syndrome is known to occur, which includes Alger County.

Native Vegetation and Non-native Ornamental and Invasive, Exotic Species

Non-invasive ornamental tree and shrub species will be used in cultural landscape treatments.

Disturbance to vegetation will be avoided as much as possible and contained to as small a footprint as possible.

Temporary barriers may be provided to protect existing trees, plants, and root zones not proposed for removal or thinning. Trees or other plants will not be removed, injured, or destroyed without prior approval.

All equipment entering the park will be cleaned and pressure washed to remove foreign soil, vegetation, and other materials that may contain nonnative seeds or vegetation.

All disturbed areas will be revegetated with native species. Revegetation plantings, if necessary, will use native species from genetic stocks originating in the park, if possible. Revegetation efforts will focus on recreating the natural spacing, abundance, and diversity of native plant species. All disturbed areas will 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 will 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 will prepare and implement a site-specific non-native and invasive exotic plant management plan for disturbed and restored areas. The plan will include monitoring and adaptive management measures and will remain active until plan success criteria are met. The plan will 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 will be avoided during construction.

The park will 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 will also be instructed on procedures to follow in case previously unknown archeological resources are uncovered during construction. Equipment traffic will be minimized in the site. Equipment and materials staging areas will also avoid known archeological resources.

Public Health and Safety

Signs, press releases, or other communication methods will be used to inform visitors about construction and any building or area closures or detours during construction.

Appropriate barriers and barricades will be used to clearly delineate work areas and provide for safe visitor travel near construction areas.

Emergency response protocols will be developed for implementation during construction. Construction activities will be conducted in accordance with established safety protocols.

Appendix B – Non-Impairment Determination

Introduction

In addition to determining the environmental consequences of implementing the preferred and other alternatives, NPS *Management Policies 2006* (section 1.4) requires analysis of potential effects to determine whether or not selected alternatives would impair a park's resources and values.

The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the NPS the management discretion to allow impacts on park resources and values when necessary and appropriate to fulfill the purposes of the park. That discretion is limited by the statutory requirement that the NPS must leave resources and values unimpaired unless a law directly and specifically provides otherwise.

The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values (NPS *Management Policies 2006*). Whether an impact meets this definition depends on the particular resources that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.

An impact on any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated.

Impairment may result from visitor activities; NPS administrative activities; or activities undertaken by concessioners, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park.

An impairment determination is not made for visitor use and experience, public health and safety, recreation resources, and transportation because impairment findings relate back to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act and cannot be impaired in the same way that an action can impair park resources and values.

Impairment Determination

Based on the previously described guidelines and basis for determining impairment of park resources and values, a determination of impairment is made for each of the resource impact topics carried forward and

analyzed in the EA for the selected alternative. The EA contains detailed descriptions of the resources and environmental effects of the selected alternative, which are summarized below.

Historic Structures and Cultural Landscapes

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

Landscape features associated with the station include a system of concrete walks that have settled into the sand, former building foundations, historic vegetation and woodlands, lawn, and concrete lawn edging. The station landscape includes a sandy shoreline with a rock revetment. Since the period of significance, the station has revegetated and now has a character of turf and large trees with woody shrub and herbaceous understory. Currently, boardwalks provide access to the boathouse. Remnants of the life saving operation are still present in the wooded areas, including the foundations of keepers' quarters that lined the access road. The concrete footings for the lookout tower are visible just off the shoreline. Archeological remains associated with the station may be present as well. Fire prevention and lack of vegetation management to maintain views to and from the station have resulted in dense vegetation in areas that had little to no vegetation during the period of significance. The change in vegetation and resulting changes in views affect the integrity of the connections between the station and Lake Superior during the period of significance.

While conserving historic structures was not the purpose for which Pictured Rocks National Lakeshore was established, the enabling legislation required preparing and implementing a land and water use management plan that includes specific provision for protecting historic features, among other things. The park's general management plan mission statement includes historic features as an integral part of the national lakeshore and cultural resources are included in the general management plan's statement of significance. For these reasons, the park's historic structures and cultural landscapes are necessary to fulfill the purpose of the park, are key to the integrity of the park, and are considered significant park resources.

The emphasis of the selected alternative is rehabilitation, which includes expanded uses and repairs to structures and landscape features. Rehabilitation activities included in the selected alternative will result in long term, modest beneficial effects on historic structures and cultural landscapes, which will improve the integrity of the resources. For this reason, the resources will be conserved and no impairment of historic structures or cultural landscapes will occur.

Native Vegetation

The park is at the northwestern limits of the hemlock-white pine-northern hardwood forest and contains elements of boreal forest. Most of the uplands in the park are covered by a forest dominated by sugar maple (*Acer saccharum*) and yellow birch (*Betula alleghaniensis*), with American beech (*Fagus grandifolia*) present in various amounts. Eastern hemlock (*Tsuga Canadensis*) and white pine (*Pinus strobus*) are present in the hardwood forests, occasionally becoming dominant. Jack pine (*Pinus*

banksiana) and red pine (*Pinus resinosa*) are prevalent on well-drained sand flats, such as Sand Point. Beaches along Lake Superior include dunal vegetation such as American beachgrass (*Ammophila breviligulata*), sand cherry *(Prunus pumila*), and jack pine. Additional plant communities occur less frequently in the park, including wet mesic forests, wet forests, fens, and swamp shrublands. Vegetation communities present in the station include White Pine/Blueberry Dry-Mesic Forest, Great Lakes Beachgrass Dune, and White Pine/Red Maple Swamp. Areas of sand and cobble beach and developed area are also present.

The park's native vegetation is an integral part of the national shoreline established by the enabling legislation. As a biologic feature of the park's ecosystem and part of the lakeshore's scientifically recognized assemblage of flora and fauna, native vegetation is addressed by the park's mission and significance statements, is key to the natural integrity of the park, and is considered a significant park resource.

The selected alternative will include thinning trees and shrubs on about 1.14 acres of native vegetation that has encroached into historically cleared areas. This represents just less than 1% of the estimated 120 acres of native vegetation on Sand Point. In addition to areas in which native vegetation will be removed or managed, there will be small areas of disturbance associated with other treatment elements, including removing noncontributing features from the cultural landscape, and repairing or stabilizing buildings and other structures.

With the mitigation measures that will be included under the selected alternative, long term adverse effects on native vegetation will be modest and somewhat noticeable. Because adverse effects on native vegetation will be modest on a local level and the overall integrity of the park's native vegetation resource will not be affected, no impairment of native vegetation resources will occur.

Non-Native Ornamentals and Invasive, Exotic Plant Species

Although treated as an impact topic in the EA, non-native ornamentals and invasive, exotic plant species are not a park resource or value and so cannot be impaired by the selected alternative. Rather, they can impair other resources or values such as native vegetation and aesthetics. While not a park resource that can be impaired by the selected alternative, with measures in the selected alternative to control and minimize the establishment and spread of non-native ornamentals and invasive, their effects on other resources will at most be noticeable, long-term, and adverse. Therefore, non-native ornamentals and invasive, exotic plant species will not contribute to impairment of park resources and values.

Special Status Species

Special status species include species listed as threatened or endangered under the Endangered Species Act and other species considered sensitive by the park, including species listed by the State of Michigan that are either state threatened, endangered, or of special concern. The NPS is aware of federally endangered and threatened species in the park, including northern long-eared bat (*Myotis septentrionalis*), gray wolf (*Canis lupus*), and piping plover (*Charadrius melodus*) all of which have been documented on Sand Point. While it has not been verified in the park, rufus red knot (*Calidris canutus rufa*) may be a rare migrant. In addition to federally listed threatened and endangered species, the study area includes habitat suitable for several of the 46 state special status plant and animal species known to occur, or that are probably present, in the park. Several species, including trumpeter swan (*Cygnus buccinator*) and bald eagle (*Haliaeetus leucocephalus*) are known to occur on Sand Point.

The park's special status species are an integral part of the national shoreline. As a biologic feature of the park's ecosystem and part of the lakeshore's scientifically recognized assemblage of flora and fauna, special status species are addressed by the park's mission and significance statements, are necessary to fulfill the purpose of the park, are key to the natural integrity of the park, and are considered a significant park resource.

The NPS determined, and the US Fish and Wildlife Service concurred on September 29, 2017 that the selected alternative, including conservation measures, may adversely affect northern long-eared bat, but will not result in prohibited take, and may affect, but is not likely to adversely affect gray wolf, rufus red knot, and piping plover. There will be no effect on other federally listed species, nor will the selected alternative occur in critical habitat for any listed species. NPS also determined that adverse impacts to state special status species will be somewhat noticeable and long-term, but not substantial. Because the selected alternative will not have substantial short term or long effects, it will not result in an impairment to special status species resources or their associated values.

Wildlife

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. 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. The 7.11 acres is part of about 30 acres of similar forest/shrub habitat at the tip of Sand Point. Sand Point is a particularly important location for migratory birds, including shorebirds, because Grand Island protects Sand Point from weather on Lake Superior. During bad weather, wildlife take refuge in the Sand Point area, including the study area. This sheltered condition is rare for the park and uncommon for much of Lake Superior.

The park's native vegetation is an integral part of the national shoreline established by the legislation that established the park. As a biologic feature of the park's ecosystem and part of the lakeshore's scientifically recognized assemblage of flora and fauna, wildlife, is addressed by the park's mission and significance statements and so is necessary to fulfill the purpose of the park, is key to the natural integrity of the park, and is considered a significant park resource.

The selected alternative will disturb up to 1.14 acres of wildlife habitat consisting of mixed trees and shrubs within the study area. The 1.14 acres will receive at least some vegetation management treatment, with most tree and shrub thinning focused on creating view corridors in the approximately 3-acre woodland at the tip of Sand Point. With the thinned tree canopy and shrub understory, predator/prey interactions may be changed. In the short term, human presence and construction noise will temporarily disturb and displace wildlife. The adverse effects of the selected alternative will be small given the remainder of the 30 acres of available similar habitat in at the tip of Sand Point. Overall, the selected alternative will result in long-term, small adverse effects on wildlife species. Because the prosed action will not have substantial short term or long effects, the selected alternative will not result in an impairment to wildlife resources or their associated values.

Conclusion

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities, it is the Superintendent's professional judgment that there will be no impairment of park resources and values from implementation of the selected alternative.

Chapter 1. Introduction

Introduction

This document presents the Cultural Landscape Report and Environmental Assessment (CLR/EA) for the Sand Point/ Munising United States Coast Guard (USCG) Life Saving Station at Pictured Rocks National Lakeshore (PIRO). This document is complemented by a Historic Structures Report (HSR), under separate cover, that details the development, condition of and treatment for the significant buildings.

This CLR/EA presents detailed documentation of Sand Point's historical development, existing condition and contributing features, and provides treatment recommendations that guide the long-term care and stewardship of the cultural landscape.

This work builds upon the numerous studies, investigations and documents that already exist for Sand Point. These include the 2004 General Management Plan/EIS (GMP), 2003 Resource Management Plan (RMP), 2010 Long Range Interpretive Plan (LRIP), and 2005 Wildland Fire Management Plan (WFMP). The 2013 National Register of Historic Places (NRHP) Multiple Property Listing for U.S. Government Life Saving Stations provides a basis for the historical significance of the landscape and buildings.

The CLR/EA is the primary treatment document for the cultural landscape, and is used to guide implementation of the GMP preferred alternative for landscape resources. The Sand Point cultural landscape includes buildings, structures, walks, views, vegetation and spatial patterns established by and associated with the USCG. This document establishes a treatment philosophy and framework to provide cohesive recommendations for the cultural landscape. The CLR/EA establishes recommendations that support operational and visitor use, enhance resource condition, support interpretive programming, and streamline compliance for implementation.

Study Area

Pictured Rocks National Lakeshore is on the south shore of Lake Superior within Michigan's Upper Peninsula. It features backcountry and drive-in campgrounds and trails, miles of sand beaches, and several maritime navigational sites. Sand Point/ Munising USCG Life Saving Station is just north of Munising, Michigan (Figure 1-1). The study area encompasses the historic life saving station established during the 1930s by the USCG and covers the 7.11 acre (2.87 hectares) area included in the historic USCG boundary (Figure 1-2).

Sand Point/Munising USCG Life Saving Station was established as one of a series of life saving stations along the shore of Lake Superior. In the late 19th century the Great Lakes region was experiencing a period of economic growth and the lakes were intensively used for transporting goods. The Great Lakes, and Lake Superior in particular, were difficult to navigate due to sudden storms and ships were forced to hug the shorelines due to the limitations of early navigation systems and the frequent need to re-supply with fuel (generally, cordwood prior to the Civil War and coal after). The Sand Point/Munising USCG Life Saving Station was one of the last life saving stations to be built on the Great Lakes, with construction commencing in 1933. From 1933 to 1958 it was an active life saving station. Changes in technology beginning in the 1940s led to the obsolescence of life saving stations including the Sand Point/Munising USCG Life Saving Station. It was demobilized in 1946 and officially decommissioned in 1961.

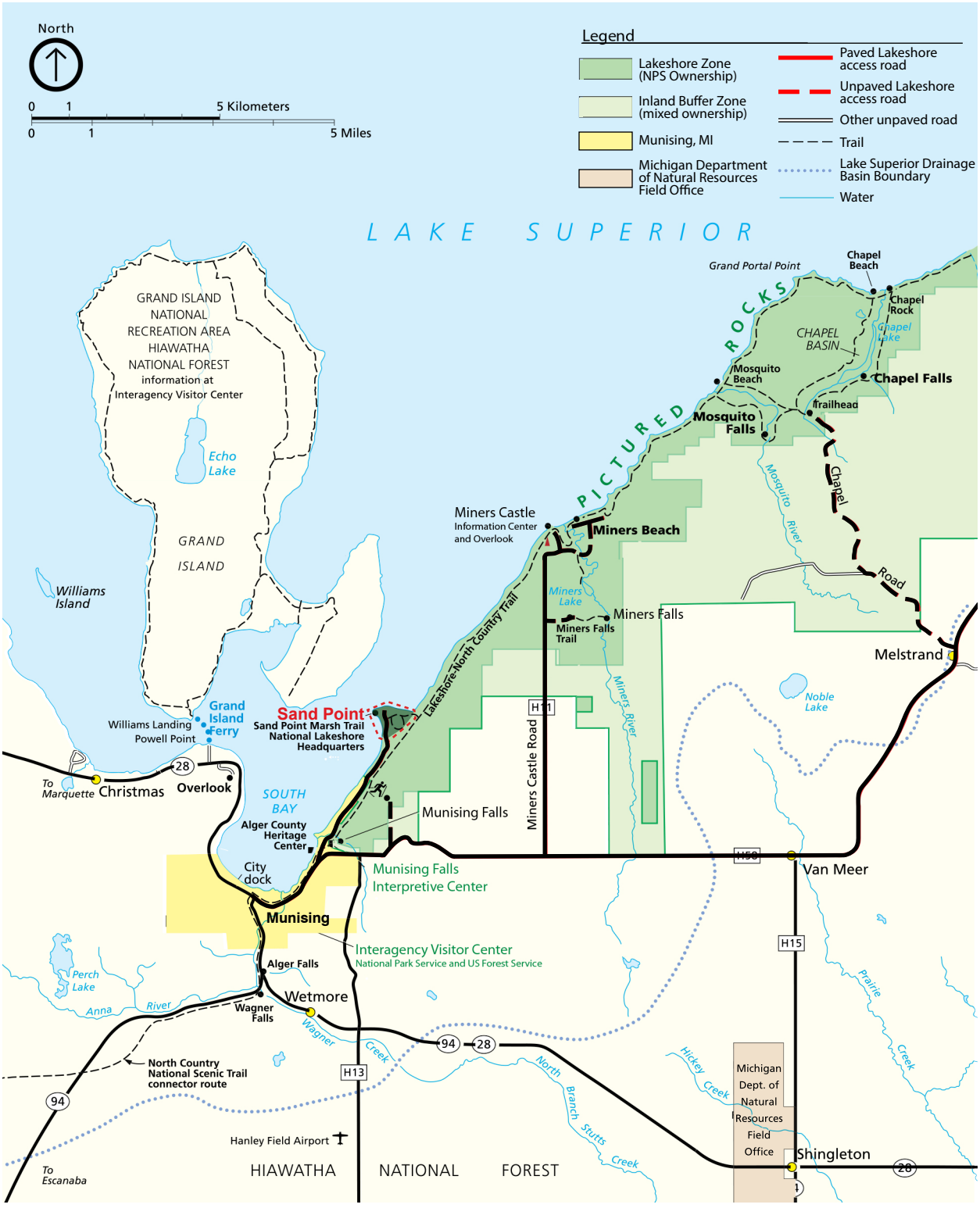


Figure 1-1. Context Map. Pictured Rocks National Lakeshore preserves 42 miles of the south shore of Lake Superior within Michigan Upper Peninsula between the communities of Munising and Grand Marais. It is significant for the spectacular multicolored sandstone cliffs (Pictured Rocks) that attain a height 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)

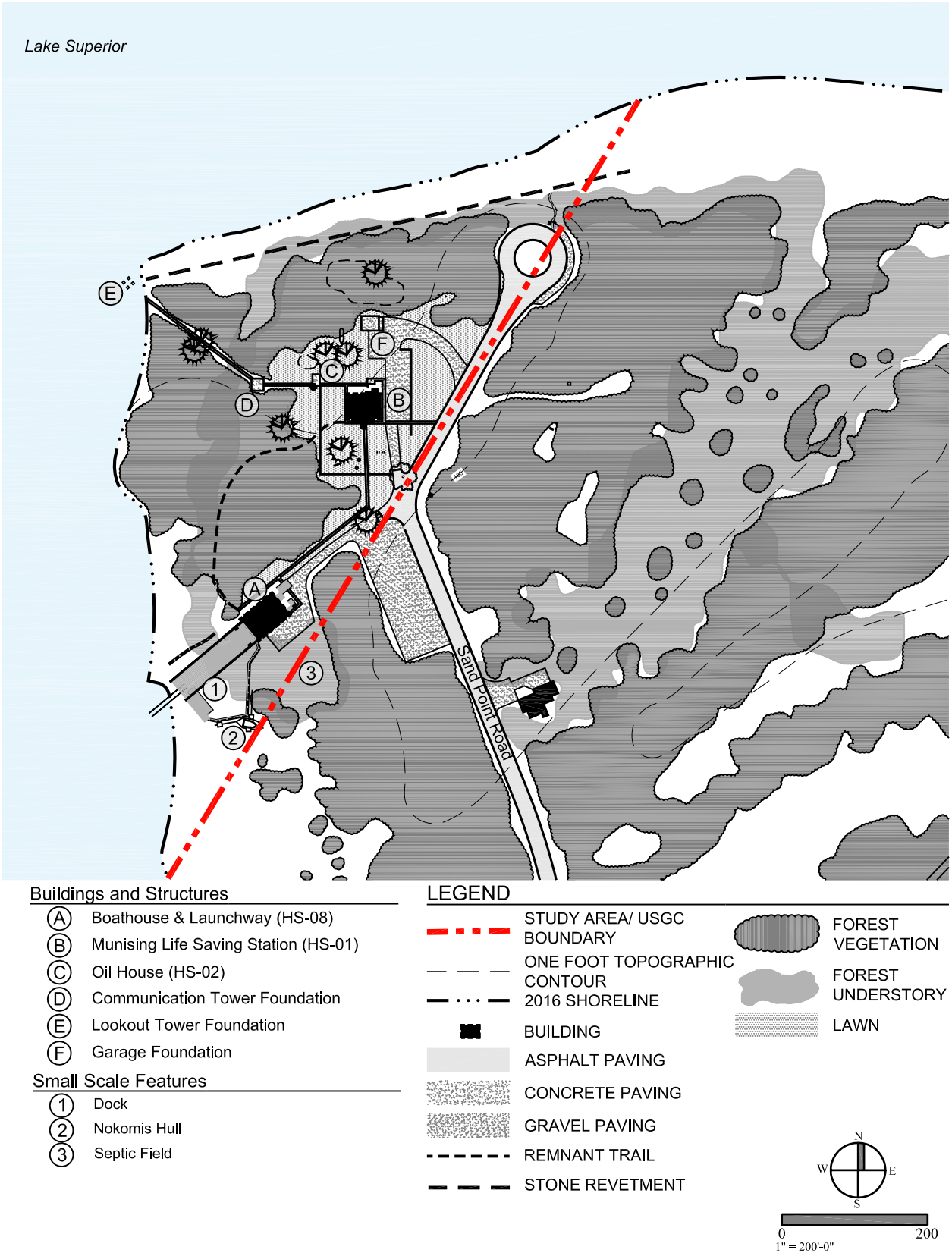


Figure 1-2. Study Area. The Sand Point/Munising USCG Life Saving Station cultural landscape includes buildings, structures, walks, views, vegetation and spatial patterns established by and associated with the USCG. (source: Mundus Bishop 2016)

Sand Point/Munising USCG Life Saving Station was developed on the geological formation of Sand Point, a prominent natural feature along the coast of Lake Superior that juts into Munising Bay. The location was ideal for a life saving station due to the 270 degree views of the water and the level, sandy topography. The lookout tower was placed at the end of Sand Point where crew monitored the water. The natural vegetation was maintained sparse and low to provide views to and from the lake.

The Michigan State Historic Preservation Office determined in 1999 that Sand Point / Munising Life Saving Station is eligible for the NRHP. It is significant under Criterion A due to its association with the maritime heritage of the Upper Great Lakes, and under Criterion C as it represents the final era of life saving station design. Its period of significance of 1933 to 1958 reflects its use as a life saving station.

Features of the cultural landscape include concrete walks and curb, former building foundations, historic vegetation, views, archeological and ethnographic resources, and three historically significant buildings — Munising Life Saving Station (HS-01), Munising Life Saving Station Oil House (Oil House) (HS-02), and Munising Life Saving Station Boathouse and Launchway (Boathouse and Launchway) (HS-08). The Sand Point/Munising USCG Life Saving Station cultural landscape consists of a combination of native woodlands, dune vegetation, lawn and ornamental plantings. A sandy shoreline with a failing revetment borders the study area on three sides. Former keepers' quarters lined Sand Point Road, where ornamental vegetation, remnant foundations and other archeological resources may be present.

Since the period of significance the cultural landscape has become revegetated, the shoreline has shifted submerging the lookout tower, and walkways have settled into the sand.

CLR/EA Purpose and Need

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

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

Implementing the preferred alternative will meet the following objectives.

- Focus maintenance efforts to maintain conditions of historic buildings and structures;
- More accurately represent cultural landscape features characteristic between 1933 and 1958, when the historic structure was in use as a life saving station;
- More accurately represent historic clearings and associated viewsheds characteristic between 1933 and 1958, when the historic structure was in use as a life saving station;

- Provide a high quality (authentic) visitor experience;
- Define visitor access and use of the buildings and structures;
- Minimize increases to operations and maintenance efforts.

CLR/EA Need

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

This document is needed to record the changes to the cultural landscape over time, transfer knowledge about the cultural landscape, and provide holistic and integrated guidance for the longterm stewardship of the cultural landscape. The document will also be used to connect cultural landscape maintenance to other resource management plans and projects.

CLR/EA Objectives

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

- Perform an accessibility assessment for the Sand Point/Munising USCG Life Saving Station to identify barriers to universal access.
- Develop treatment alternatives for altering/expanding staff and visitor parking, providing restrooms, and increasing accessible pathways at the site.
- Provide support for engaging affiliated tribes to increase knowledge and potential interpretation of the theme of aboriginal use of the area as well as contemporary cultural significance to the Ojibwe people. Very little is known about indigenous use of Sand Point.
- Evaluate the need for a kayak launch area.
- Provide recommendations on locating a barrier free vault toilet in a manner compatible with the overall treatment approach for the property.

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

Methodology

The CLR/EA was conducted at a thorough level of investigation and documentation for historical research, existing condition assessment, and landscape analysis. The thorough level research methodology, as defined by the NPS, focused on the use of select documentation of known and presumed relevance, including primary and secondary sources that are readily available.[1.1]

The existing condition investigation was conducted according to best practices. A review of readily available documentation was undertaken. It included information from PIRO, Alger County Historical Society, Northern Michigan University, National Park Service's Denver Service Center - Technical Information Center (NPS-TIC), National Park Service's Midwest Archeological Center (NPS-MWAC), and the Records of the 9th Coast Guard District, Cleveland.

This review included planning documents, administrative reports, technical reports, natural resource studies, and correspondence. Review of historical documentation included historic drawings and photographs, and correspondence from primary and secondary sources. Background data provided by the NPS was used to prepare drawings and illustrations. This included original construction drawings for the Sand Point/ Munising USCG Life Saving Station and recent LiDAR information, Great Lakes Network I&M imagery products, supplemented with field observations and measurements.

Site investigations in June 2016 documented existing conditions. Archeological research focused on review of previous archeological investigations. This CLR/EA did not include any additional archeological investigations.

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

PIRO 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." PIRO provides access to, and preserves the natural beauty and resources of this region, and provides recreation and enjoyment.

The purpose of PIRO is to:

- Preserve a portion of the Great Lakes shoreline for its geographic, scientific, scenic, and historic features.
- Provide opportunities for public benefit in recreation, education, enjoyment, and inspiration.
- Protect the character and use of the shoreline zone while allowing economic utilization of the inland buffer zone renewable resources.

PIRO extends 42 miles along the south shore of Lake Superior between the communities of Munising and Grand Marais. It is significant for the spectacular multicolored sandstone cliffs (Pictured Rocks) that extend about 12 miles along Lake Superior in the western portion of PIRO and attain a height of almost 200 feet. The eastern portion of PIRO contains the perched Grand Sable Dunes, which rise more than 300 feet above the lake. The dunes, a major park attraction, are a rare occurrence in the Great Lakes region and contain uncommon plant species and communities.[1.2]

PIRO is within a day's drive of several major metropolitan areas and offers

1.2 PIRO GMP, 3.

many recreational attractions. Numerous picturesque waterfalls cascade over the Pictured Rocks and the inland escarpment. Lake Superior and the inland lakes accommodate boating, fishing, and swimming, and backcountry areas are ideal for camping and hiking. PIRO has a variety of cultural resources that depict the maritime, iron, logging, and histories of the area. Winter activities include ice fishing, snowshoeing, cross-country skiing, and snowmobiling.[1.3]

The Long-Range Interpretive Plan describes the significance of PIRO in the following statements.[1.4]

- PIRO affords public access to a spectacular and diverse segment of the Lake Superior shoreline.
- Unmatched in their scenic value, the 200-foot high Pictured Rocks cliffs rise perpendicular from Lake Superior creating a mosaic of rock form, color and texture, enhanced by cascading waterfalls.
- Five square miles of pristine sand dunes and their unique plant communities, perched atop 300- foot sand banks, rise abruptly at the shore of Lake Superior.
- Twelve miles of unspoiled and undeveloped Lake Superior beach contrast the Pictured Rocks cliffs and Grand Sable Dunes.
- Bedrock geology and glacial landforms create a tapestry of topography marked by streams, inland lakes and a diversity of associated vegetation.
- The shoreline offers extraordinary and inspirational scenic vistas of Lake Superior, the largest body of fresh water on earth.
- PIRO offers a variety of affordable year round recreational opportunities for appropriate public use.
- Within a distinct area, PIRO contains a spectrum of cultural resources focused on the human use of Lake Superior and the shoreline.
- Lying in a transition zone between boreal and eastern hardwood forest, PIRO's scientifically recognized collection of flora and fauna is found nowhere else within the Lake Superior Basin.
- Pictured Rocks is the only NPS area with a legislated buffer zone.

1.3 PIRO GMP, 3.
1.4 PIRO LRIP, 3-6.

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.

- 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

1.5 PIRO GMP, 3.

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.

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

1.10 PIRO LRIP, 59.
1.11 PIRO WFMP, i.

of re-establishing vegetation on sand and problems with invasive plant species.

Original or volunteers from original ornamental/planted vegetation remain in some areas, specifically at the row of former keepers' quarters. Plants include common garden species: honeysuckle (*Lonicera spp.*), lilac (*Syringa spp.*), and asparagus (*Asparagus officinalis*). These are non-native but have not been problematic. Several original pine trees remain from the earliest development of the site from the 1930s.

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

Wildlife Resource and Management
Wildlife includes merlins (*Falco columbarius*), peregrines (*Falco peregrinus*), bald eagles (*Haliaeetus leucocephalus*), golden eagles (*Aquila chrysaetos*), sandhill cranes (*Grus canadensis*), northern long-eared bats (*Myotis septentrionalis*), and little brown bats (*Myotis lucifugus*). Northern long-eared bats, a threatened/endangered species, may roost in the attic of the Munising Life Saving Station. Little brown bats, which are not currently listed as endangered, also roost in the building. White-Nose Syndrome, a disease caused by fungus and associated with severe bat mortality, has been found in multiple Michigan counties, including Alger County. The disease is a critical issue for all bats, and could lead to more bat species being federally listed as endangered.

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

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

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

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

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

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.

Environmental Assessment

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.

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

- Bad River Band of Lake Superior Tribe of Ojibwe Indians
- Bay Mills Indian Community of Michigan
- Fond du Lac Band of Lake Superior Ojibwe
- Grand Portage Band of Ojibwe Indians
- Keweenaw Bay Indian Community
- Lac Courte Oreilles Band of Lake Superior Ojibwe Indians
- Lac du Flambeau Band of Lake Superior Ojibwe Indians
- Lac Vieux Desert Band of Lake Superior Ojibwe Indians
- Red Cliff Band of Lake Superior Ojibwe Indians

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

In compliance with Section 7 of the Endangered Species Act, PIRO also sent a scoping letter on September 15, 2016 to the U.S. Fish and Wildlife Service (USFWS) to solicit input on issues of concern. As part of formal Section 7 consultation, the NPS will also forward this CLR/EA and NPS' effects determination to the USFWS to determine if they concur with the NPS' findings of effect, and whether additional conservation measures are needed to protect listed species.

Issues and Impact Topics

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

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

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

- the environmental impacts associated with the issue are central to the proposal or of critical importance;

- a detailed analysis of environmental impacts related to the issue is necessary to make a reasoned choice between 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, Lubinski, And Dieck, *Vegetation Inventory Program.*

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

Special Status Species

Special status species include species listed as threatened or endangered under the Endangered Species Act and other species considered sensitive by the park, including species listed by the State of Michigan that are either state threatened, endangered, or of special concern. The NPS is aware of federally endangered and threatened species in the park, including northern long-eared bat (*Myotis septentrionalis*) documented on Sand Point.[1.14] As part of informal consultation with the US Fish and Wildlife Service (see Chapter 7) on the presence of listed species in the study area and the potential project effects on the species, the NPS prepared a technical report that evaluated if suitable habitat for listed species is present in and around the study area and whether the proposed treatment alternatives would affect species known to be, or with potential to be, present (under NPS review). Based on the findings of the technical report, with mitigation measures included in the treatment alternatives, the NPS does not anticipate that any of the proposed alternatives would have more than insignificant or discountable adverse effects on federally listed species. NPS will continue to consult with US Fish and Wildlife Service on effects while finalizing the CLR/EA and selecting an alternative. NPS also determined that, with mitigation measures, adverse impacts to state listed species would be somewhat noticeable and long-term, but not substantial. Because effects on special status species would not be substantial, they are not further evaluated.

Water Resources

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

Floodplains/Coastal Processes

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

1.14 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. (National Park Service, Fort Collins, Colorado, 2008).

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

Indian Trust Resources

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

Ethnographic Resources

Ethnographic resources are defined by the NPS as any "site, subsistence, or other significance in the cultural system of a group traditionally associated with it." No specific issues related to ethnographic resources have been identified within the boundary of the study area.[1.15] Although a previously-disturbed, 19th century Ojibwe cemetery is located 200 meters south of the Munising Life Saving Station (HS-01), it is outside of the study area and none of the treatment alternatives include activities at or within 50 meters of this location.[1.16] Because ethnographic resources are not known to occur in the study area, and because appropriate steps would be taken to protect any ethnographic resources that are inadvertently discovered or disclosed during on-going tribal consultation, ethnographic resources were dismissed as an impact topic.

Environmental Justice

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

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

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

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Chapter 2. Site History

Introduction

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

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

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

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

Historical Context and Overview

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

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

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

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

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

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

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

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

Statement of Significance

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

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

Built in 1932 to 1933 on Sand Point, east of Munising, Michigan, Sand Point/Munising USCG Life Saving Station is an example of the station complex property type where the living quarters, boat storage and other functions were dispersed in multiple dwellings around the property. This property type replaced the earlier integrated station type (in which living quarters and boat

storage were in the same building) in the early 20th century when the Coast Guard began using larger and heavier boats and required more storage that could not be accommodated in a single building.

The station had four main types of boats: a motor lifeboat, motor surf boat, surf boat, and skiff. The primary rescue craft was the venerable thirty-six foot self-righting motor lifeboat. These boats were operated by a crew of four and had a two ton keel which would right them in heavy waves. Divided into three seal-able compartments, they could hold a total of 40 people including crew. The motor lifeboats were constructed in Curtis Bay, Maryland and were used for many years on both coasts and the Great Lakes.

Typical elements of the station complex type represented at Sand Point/Munising Life Saving Station were a boathouse with launchway, living quarters, lookout station, flagpole, and miscellaneous outbuildings such as a garage and oil house.

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

Coast Guard stations were organized by a naval structure with its personnel serving in various ranks. The military-style operation of a station (as opposed to the more family-oriented Lighthouse Service) resulted in specific elements such as barracks-style rooms in the living quarters, mess halls rather than dining rooms, and separate quarters including a bedroom and office for the officer in charge. In addition to their regular life-saving drills, crews were required to perform most of the maintenance and upkeep of the station. Station facilities were regularly inspected by the commanding officer and by district inspectors. This included maintenance of the station's landscape to present a "ship-shape" appearance. This meant the vegetation did not block sightlines and crew could easily access the boathouse and other storage facilities in an emergency (again, contrasted to the more domestic character of the landscape at civilian light stations during this same period).

From its establishment in the 1870s, the Life-Saving Service/Coast Guard utilized standard designs for its station buildings. This practice, implemented first in the Lighthouse Service in the 1850s, made it more efficient and less expensive to construct stations even in remote locations. The service utilized a



Figure 2-1. The thirty-six foot self-righting, motor lifeboat came into use in the 1930's. It was the boat of choice when emergencies occurred in any weather. (source: Susan Reece, Chief of Interpretation, Pictured Rocks National Lakeshore)

series of standard designs throughout the late 19th and early to mid 20th centuries. Sand Point/Munising USCG Life Saving Station is an excellent example of the Chatham design, created in 1914, just before the establishment of the Coast Guard, and popular into the mid to late 1940s. At least 30 stations around the country were built to this design, characterized by a symmetrical, two-story living quarters with minimal trim and typically painted standard Coast Guard colors of white with a red shingle roof and trim. This design exhibited some minor variations, typically at the roofline. Sand Point/Munising USCG Life Saving Station has a "kick" at the base of the first floor that was an interesting variation of the typical Chatham design.

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

Sand Point/Munising USCG Life Saving Station is significant under National Register Criterion C for embodying the distinctive characteristics of the station complex style of landscape design and the Chatham style of architecture, both standard designs of the Coast Guard during the early 20th century. The station retains integrity overall, with some minor impacts. It has integrity of location, design, setting, materials, workmanship, feeling, and association. The most significant impacts to integrity are the loss of the watch tower and some other minor associated features. The cultural landscape has also been impacted by beach fluctuations, previous attempts to stabilize the shoreline, and reduction of visibility due to the subsequent overgrowth of trees and vegetation. The cultural landscape around the living quarters has integrity and retains the crucial functional connection to the boathouse, a character-defining feature of life saving stations. The buildings in general retain most of their historic materials, and replacement materials have generally been in kind. A few minor alterations adapted the living quarters to office use and the installation of exhibits and storage in the boathouse, but these have generally been compatible and have minimally impacted integrity.

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



Figure 2-2. USCG crew poses in the boathouse in front of an assortment of lifesaving vessels.
(source: Susan Reece, Chief of Interpretation, Pictured Rocks National Lakeshore)

Periods of Landscape Development

Four periods of landscape development describe the physical evolution of the Sand Point cultural landscape from the earliest use of the area by American Indian groups through present-day.

The beginning and end of each period corresponds to and documents, points of major physical change in the cultural landscape of Sand Point.

- Indigenous occupation to ca.1850
- European American Settlement (ca.1850 to 1932)
- U.S. Coast Guard Development (1933 to 1958)
- NPS Development (1960 to present)

The following narrative text, photographs, drawings, and illustrations describe each period of landscape development. Introductory paragraphs provide an overview of how the cultural landscape appeared during that period of development.



Figure 2-3. Old Sand Point Cemetery. The cemetery was actively cared for by the Ojibwe ca. 1886. (source: Keweenaw NHP, Lake Superior Collection Management Center)

Indigenous Occupation to ca.1850

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

3,000 to 1,000 BP
During the Late Archaic period, the northern forests changed from a predominantly mesic ecosystem to boreal forest ecosystems and to northern hardwoods forest ecosystems. American Indians in the Great Lakes forest region were organized in small hunting and gathering bands but showed sedentism, agricultural specialization, and long distance trade in some regions, such as the lower peninsula of Michigan.[2.1]

1150 AD to 1450 AD
Research suggests that the geologic formation of Sand Point was formed between 500 to 800 years ago.[2.2]

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

In the 17th century French fur trappers arrived in the Great Lakes region. The first written reports appear at this time. Trade between the trappers and the Ojibwe became an important source of food for the French and goods such as guns, tobacco, and textiles for the Ojibwe.[2.5]

1600 to ca. 1850
Sandy beaches, coves and sheltered bays located intermittently along the southern shore of Lake Superior were choice camping places for Ojibwe parties traveling by canoe. These natural features offered dry ground and protection from the elements, as well as places to gather wild rice and hunt.[2.6]

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

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

Typically, beginning in the summer bands would unite at a large seasonal village along the coasts: they would fish for sturgeon, plant vegetable gardens, plant and harvest wild rice and gather seasonal berries and mushrooms.[2.8] At the end of the summer months, the tribe would begin drying and

2.1 Zedeno, et. al., *Traditional Ojibwe Resources,* 27.
2.2 Fisher, Timothy G. et al., Coastal geology and recent origins for Sand Point, Lake Superior , Papers in the Earth and Atmospheric Sciences. Paper 418. 2014, 24.
2.3 Zedeno, et. al., *Traditional Ojibwe Resources,* 26.
2.4 Zedeno, et. al., *Traditional Ojibwe Resources,* 27.
2.5 Levine, Michelle. The Ojibwe. Lerner Publications, 2007.
2.6 Zedeno, et. al., *Traditional Ojibwe Resources,* 72.
2.7 Levine, Michelle. The Ojibwe. Lerner Publications, 2007.
2.8 Levine, Michelle. The Ojibwe. Lerner Publications, 2007.



Figure 2-4. Sketch showing the three connected villages of the South Bay: Bay Furnace, Grand Island, and Sand Point. (source: Zedeno et al. *Traditional Ojibwe Resources, Le Veque Family Papers*)

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

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

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

While European Americans such as French fur traders had been present in the Upper Peninsula since the 17th century, the first permanent white settlement of the area began in the early to mid 1800s. During the latter decades of the 19th century, a number of industries in the Upper Peninsula drew more settlers to the area. These included logging, iron smelting, and commercial fishing; along with a small tourist industry. Ojibwe people continued to occupy this area through out that time, engaging in trade and negotiating for their rights to the land and their historic use of it through treaties.

ca. 1850

The Ojibwe established a cemetery at Sand Point, which was actively cared for by the Ojibwe in ca. 1886. It contained burials of non-Ojibwe fishermen from Powell Point as well as older Ojibwe burials.[2.10]

2.9 Levine, Michelle. The Ojibwe. Lerner Publications, 2007.

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

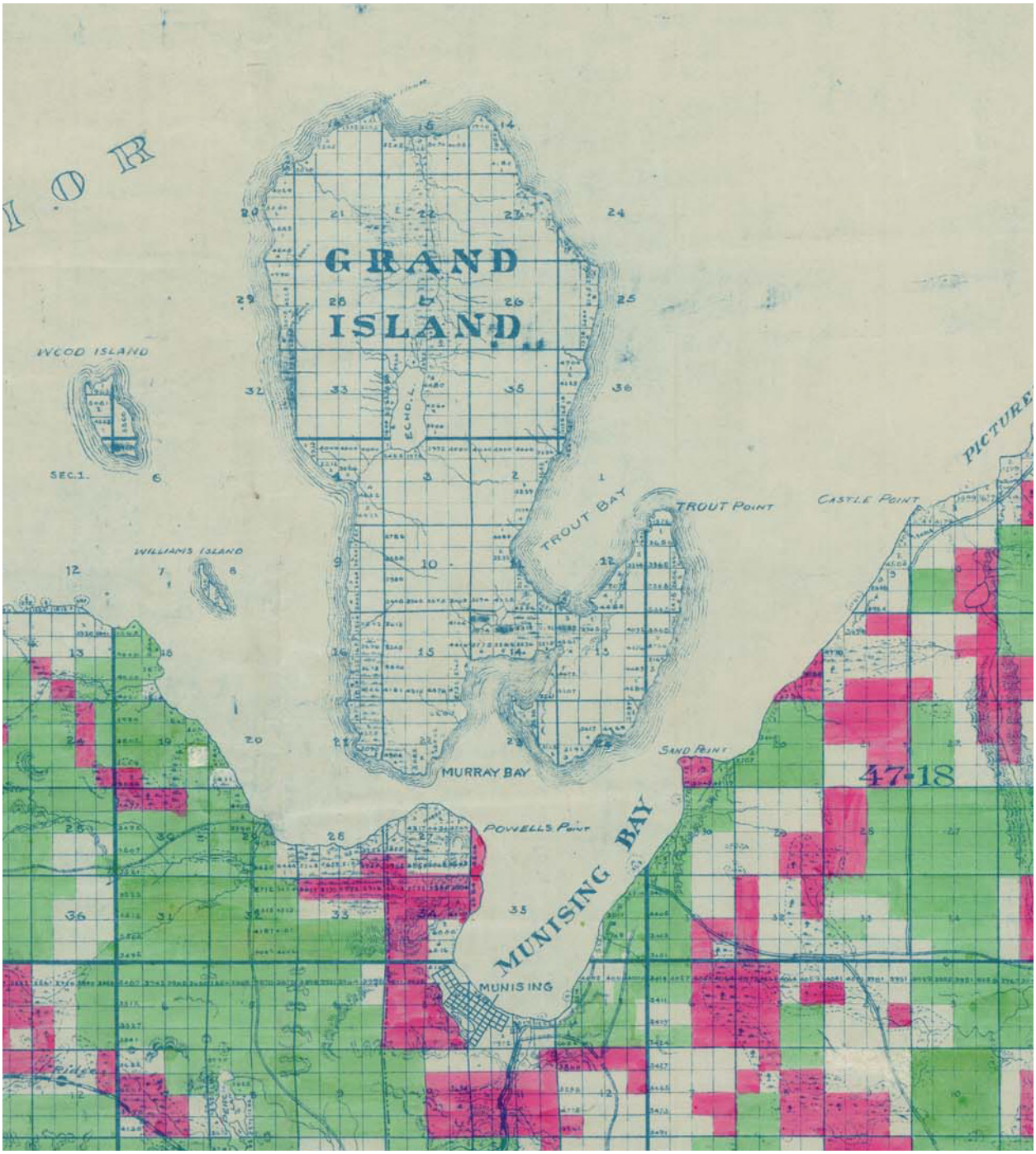


Figure 2-5. Land owned by mining companies in the mid-Upper Peninsula. The pink denotes land owned by the Cleveland Cliffs Iron Co, green for the Munising Company. (source: "Land Owned by Mining Companies in the mid-Upper Peninsula," 1913, Archives of Michigan.)

European American Settlement (ca.1850 to 1932)

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

1850
Munising town site was platted but never developed.[2.11]

1867
Munising Township organized.[2.12] Logging, iron smelting, agriculture, commercial fishing, and tourism were all important industries in the late 19th and early 20th centuries. No evidence was found to suggest there were logging or fishing camps on Sand Point.

1870s
United States Life Saving Service was established. The first life saving stations opened on Lake Superior.[2.13]

1880s, ca.
Sand Point used for Methodist camp meetings as well as seasonal Ojibwe camps.

1885
Alger County was formed from Schoolcraft County.[2.14]

1895/ 1896
Ground was cleared for a town site and Munising was founded. A large number of sawmills were part of the town in its early years.[2.15]

1900
Cleveland Cliffs Iron Company purchased 300,000 acres in Alger County. They planned to clear cut the land for timber and sell the cleared land for agriculture.[2.16]

Grand Marais Life Saving Station opened.

1905
An article in the Marquette Daily Mining Journal in September 1905 described active burials at the Sand Point cemetery by Ojibwe.[2.17]

1909
Munising Range Lights were put into regular service.[2.18] They replaced the ineffective Grand Island East Channel Light to guide vessels safely into the Munising harbor.

1915
The U.S. Life Saving Service merges with the Revenue Cutter Service to form the United States Coast Guard.

1929 to 1933
Economic decline connected to the stock market crash and Great Depression lead to reductions in federal expenditures and the reorganization of the Coast Guard for more efficiency. Funding for life saving operations was reduced and 15 lifeboat stations were

2.11 Charles A. Symon, Ed., *Alger County: A Centennial History, 1885-1985* (Munising, MI: Alger County Historical Society, 1986), 154.
2.12 Symon, *Alger County: A Centennial History*, 6.
2.13 Frederick Stonehouse, *Historic Resource Study, Pictured Rocks National Lakeshore, Michigan* (National Park Service 1981), 2.
2.14 Symon, *Alger County: A Centennial History*, 8.
2.15 Symon, *Alger County: A Centennial History*, 155.
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.
2.17 Cited in Stonehouse, *Historic Resource Study*, 1.
2.18 Stonehouse, *Historic Resource Study*, 99.

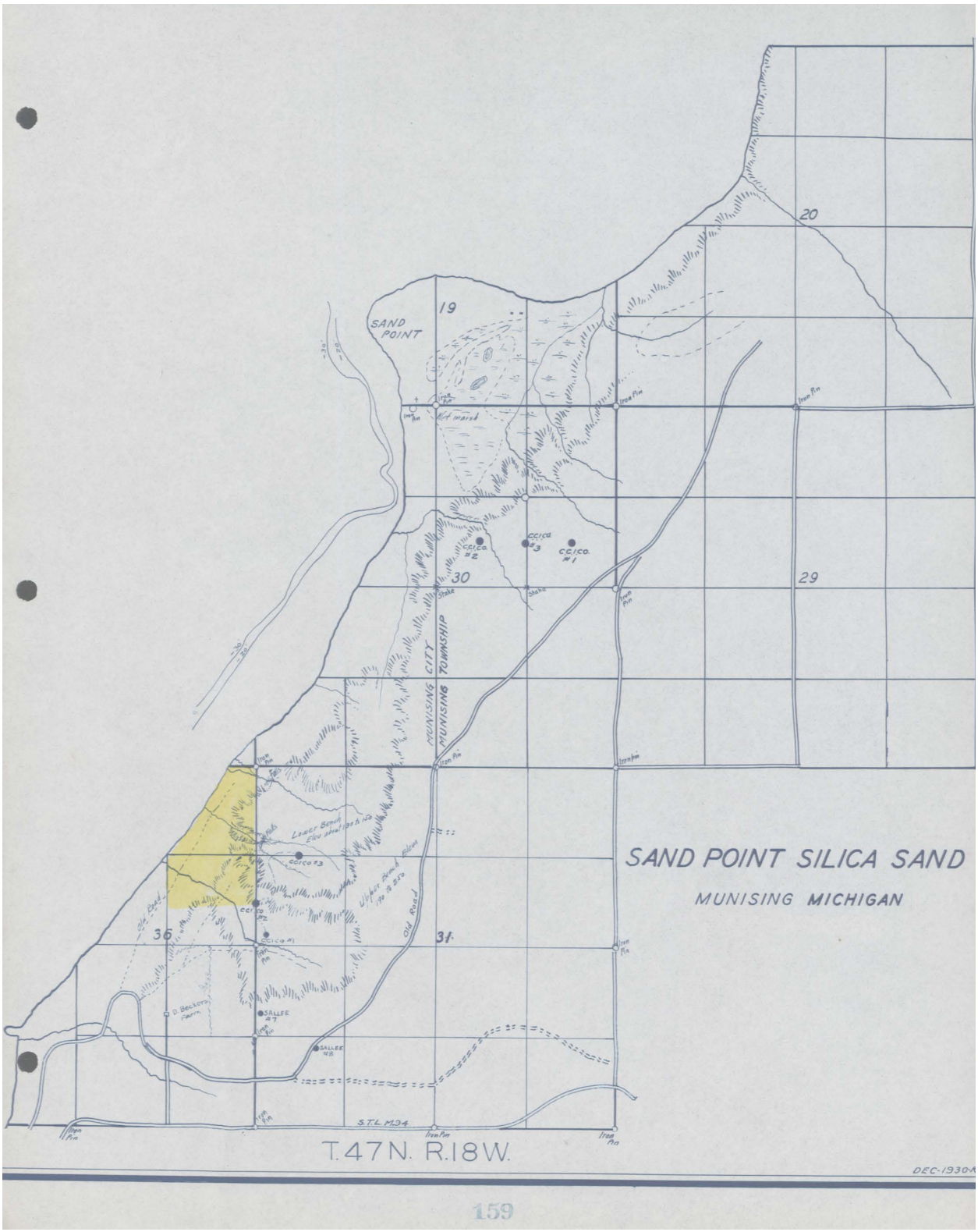


Figure 2-6. Plat map depicting proposed silica sand facility at Sand Point from the 1931 report. Prepared by R.A. Brotherton for the Cleveland Cliffs Company (source: PIRO Archives)

deactivated in 1933, mostly on the East Coast, with more closures into the late 1930s.[2.19]

1931

Cleveland Cliffs Company investigated opening a silica sand plant near Sand Point. In his report, R. A. Brotherton recommended subdividing the section and setting corners, as well as running contours on the land from which the sand would be mined (Figure 2-6).[2.20]

1932

May 2: Cleveland Cliffs Company annual report noted Conveyance number 5049, dated May 2, 1932, to the United States of America for $1 (Figure 2-7). The remarks column stated "Coast Guard Station site. Nominal charge. Expect this will be paid in 1933. Invoice rendered August 15, 1932." Payment not noted in subsequent annual reports.[2.21] The quit claim deed notes: "For Coast Guard Station, in case same is not used for such purpose for 2 yrs said lot to revert to first party with all buildings thereon."[2.22]

May 6: The Marquette Daily Mining Journal reported the federal government sent bids out for the construction of the new Coast Guard Station the previous day. Congressman [Frank P.] Bohn had secured an appropriation of $60,000 for the station, which was originally planned for Grand Island. Sand Point was instead selected as a better location. It noted that the station would be erected "at the base of the point near the old Ojibwe cemetery."[2.23] On the same day, the Munising News ran a similar story, noting that local contractors George Leiphart and William Muffett had received the invitation to bid. This article also notes that there were no definite plans for construction of a roadway to the station.[2.24]

May 25: Bids were submitted for the Live Saving Station. They called for a "two-story frame dwelling, 30 feet by 45 feet, with concrete foundations; a one-story frame boathouse, 37 feet by 55 feet, with creosoted pile foundation; a creosoted wood pile and timber marine launchway, 32 feet by 128 feet; two creosoted pile and timber bulkheads, each 129 feet long; and a creosoted timber and pile landing wharf, 10 feet by 40 feet; together with all necessary excavation, grading, dredging, etc." Forty bid invitations were sent out, with fifteen returned, ranging from $42,230 to $26,750.[2.25]

June 3: G. A. Gustafson of Iron Mountain was awarded the construction contract for the station. Gustafson was the low bid at $26,700. Fifteen other bidders from around the region (as far as Chicago) sent in bids up to $42,230. Gustafson had also recently been awarded a contract to construct a concrete highway bridge over the Au Train river.[2.26]

June 6: "Munising Coast Guard Station" officially designated by the Coast Guard.[2.27]

July 29: Construction began on the station with the landing of a scow and equipment by Anderson and Meade of Marquette, who were

2.19 Daniel Koski-Karell, Ph.D. et. al. *National Register of Historic Places Multiple Property Documentation Form for U.S. Government Life Saving Stations, Houses of Refuge and pre-1950 U.S. Coast Guard Lifeboat Stations* (National Park Service, 2013), E-14.

2.20 "Cleveland Cliffs Iron Company Land Records, Subseries 2: Agents Annual Reports of the Land Department 1904-1942, Land Department Report for the Year Ending December 31, 1931". Central Upper Peninsula and Northern Michigan University Archives. Accessed June 2016. http://archives.nmu.edu/cci/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.

2.23 "New Coast Guard Station Approved," *The Daily Mining Journal*, May 6, 1932, 4.

2.24 "Ask Bids on Coast Guard Station," *The Munising News*, May 6, 1932, 1.

2.25 *Munising U.S.C.G Station, Pictured Rocks National Lakeshore.* U.S. Department of the Interior, National Park Service.

2.26 "Gustafson Low on Station Job," *The Munising News*, June 3, 1932, 1.

2.27 *Munising USCG Station Pamphlet*.

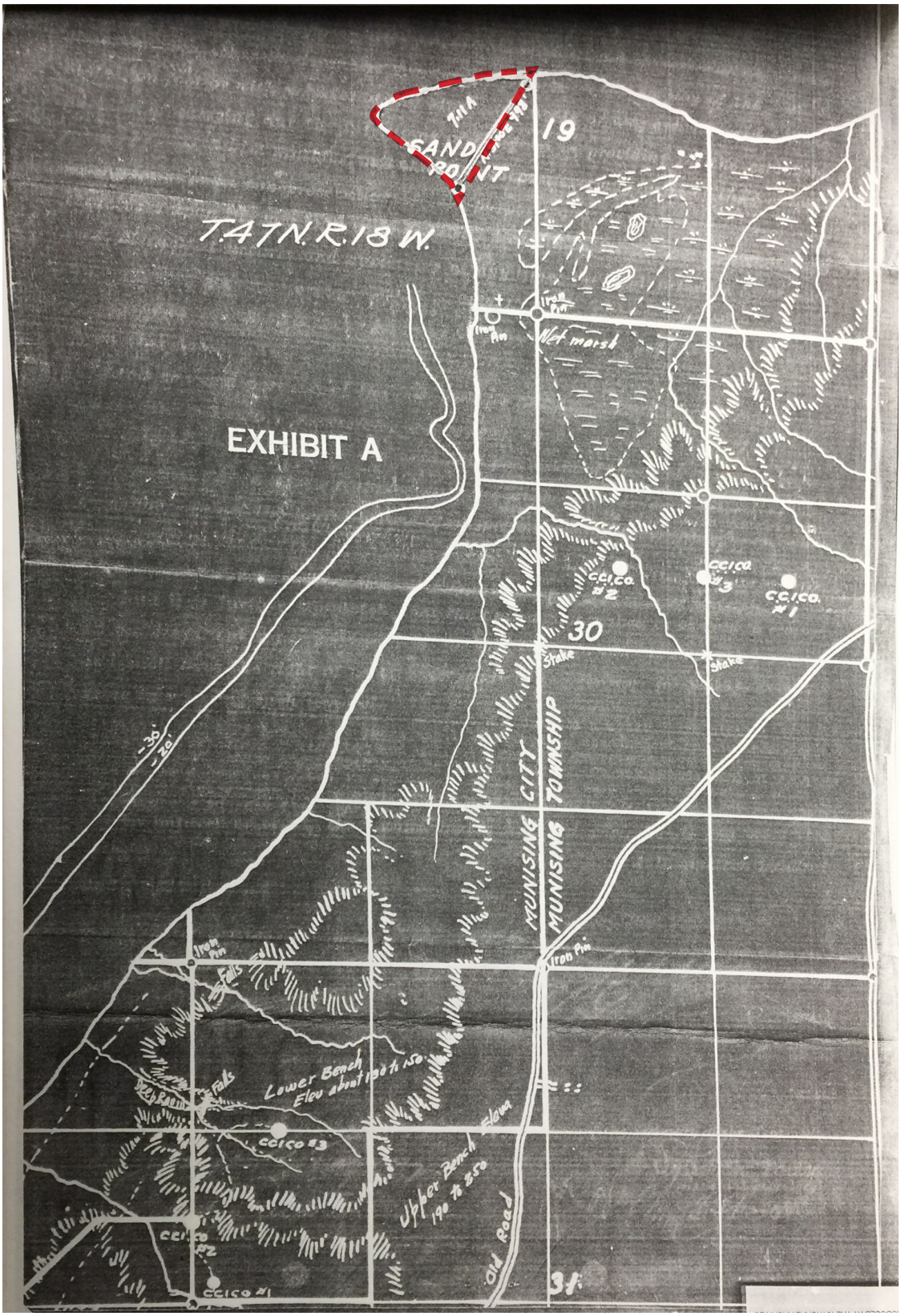


Figure 2-7. Map illustrating portion of land set aside for the U.S. Coast Guard Station, 1932. The 7.11 acre plot encompassed the tip of Sand Point. (source: PIRO Archives)

subcontracted for the pile driving and marine work. The crew began dredging out a spot near the shore for unloading materials.[2.28]

August 17: A 7.11 acre plot at Sand Point was acquired from the Cleveland Cliffs Iron Company for $1.00. This is the date of record.[2.29]

The Lookout Tower and watch house were manufactured by McClintic-Marshall Corporation of Bethlehem, PA. It was one of eight, total cost for all eight was $2,092. Contractor F. A. Hunnelwell erected it for $865.80.[2.30]

Fall: Survey for the Sand Point Road was undertaken by the Cleveland Cliffs Company. It passed over land being considered for the silica sand project.[2.31]

December: Work on the road to Sand Point was halted because there was a question as to whether the federal government or the city would pay for it. The right of way for the road had been cleared but none of the "grading, grubbing, and gravelling" had been done.[2.32]

Construction of the station was delayed due to a shortage of yellow pine lumber for the boathouse.[2.33]

2.28 "Scow Arrives at Sand Point to Make Ready," *The Munising News*, July 29, 1932, 1.
2.29 *Munising USCG Station Pamphlet*
2.30 *Munising USCG Station Pamphlet*
2.31 "Cleveland Cliffs Iron Company Land Records," 127.
2.32 "Halt Work on New Road to Station," *The Munising News*, December 2, 1932, 1.
2.33 "New Guard Station," *Ironwood Daily Globe*, December 7, 1932, 6.

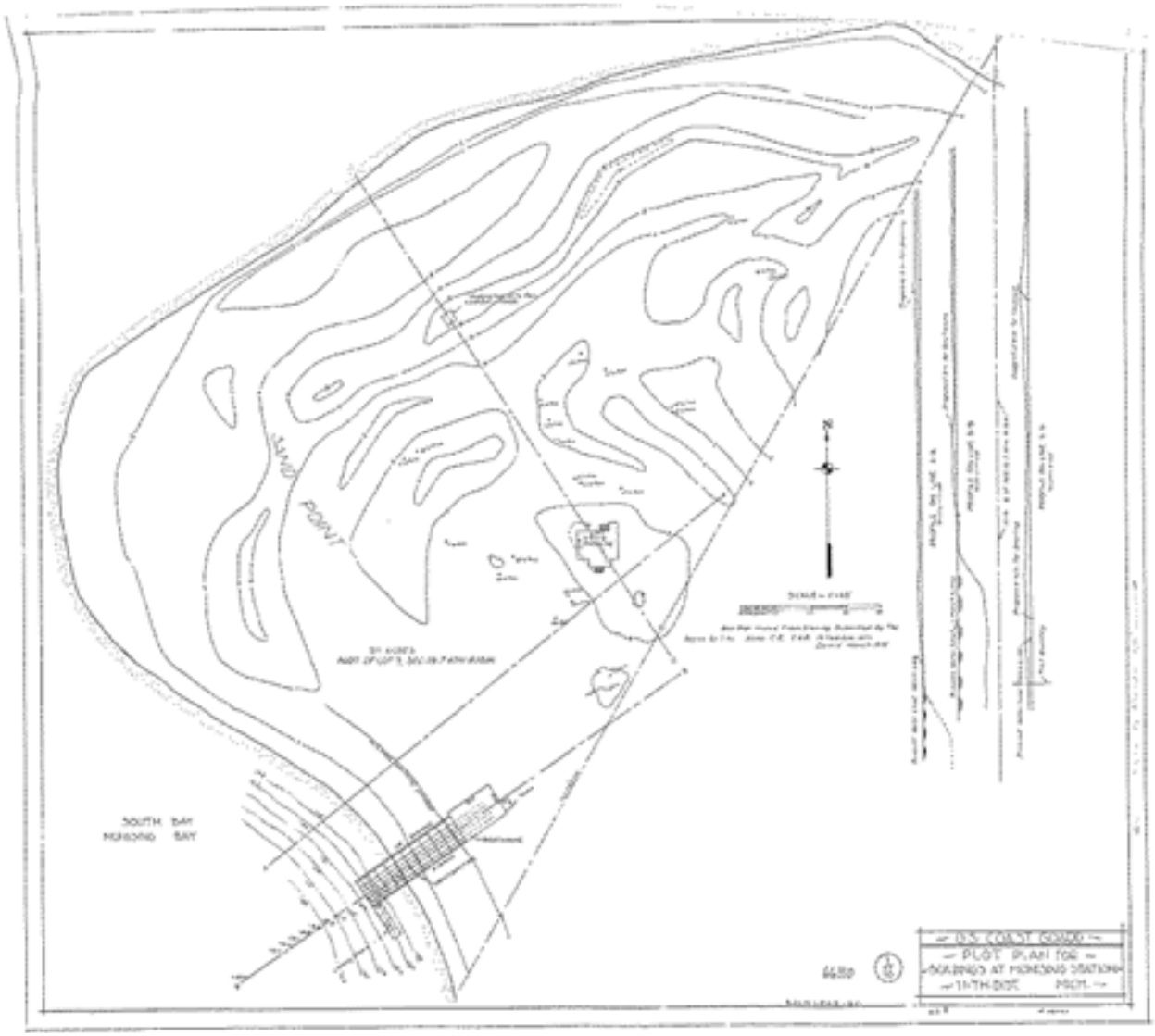


Figure 2-8. Plot plan of the new station, 1932. (source: PIRO Archives)

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

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

1933

April 1: The station was officially accepted by the supervising engineer and a caretaker assigned until the assigned crew could arrive.[2.34]

April 11: the Senior Civil Engineer for the USCG reported that the Sand Point/Munising USCG Life Saving Station buildings were ready for occupancy. He noted that the work "comprised a dwelling, for the personnel, with all modern conveniences including hot water heating system, toilet facilities and electric lights, a boathouse with two track launchway, a landing wharf, and the usual steel flag tower and drill pole." The memorandum referenced enclosed photographic views of the dwelling, boathouse, launchway and landing dock, dated March 3, when "there was considerable snow and ice remaining in the locality."[2.35]

2.34 *Munising USCG Station Pamphlet*

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

May 15: The Marquette Daily Mining Journal noted that while the Marquette Coast Guard Station had resumed its summer duties, the Munising Station was still waiting for their boats, which were trapped in Marquette by ice in Munising Bay.[2.36]

May 16: The station was officially commissioned; two weeks late due to delays in transferring boats and equipment from Marquette because of thick ice in Munising Bay. The crew totaled ten. The station had four boats, a motor lifeboat, motor surfboat, surfboat, and skiff. The station had a truck but it had to remain in storage as the road from Munising to Sand Point was not complete.[2.37]

The crew was mustered at 8:00 am in uniform; orders were read and the national ensign was hoisted. The Officer in Charge, J. F. Janssens, inspected the station buildings and apparatus and found all to be in excellent condition.[2.38]

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

2.36 "Coast Guards Doing Routine Summer Duty," *The Daily Mining Journal*, May 15, 1933, 3.

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

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



Figure 2-9. Munising Life Saving Station (HS-01) and Communication Tower, 1933. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-10. Munising Life Saving Station (HS-01) and Boathouse and Launchway (HS-08), 1933. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-11. Boathouse and Launchway (HS-08), 1933. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-12. Station beach and lookout tower, undated but probably circa 1930s. (source: Alger County Historical Society)

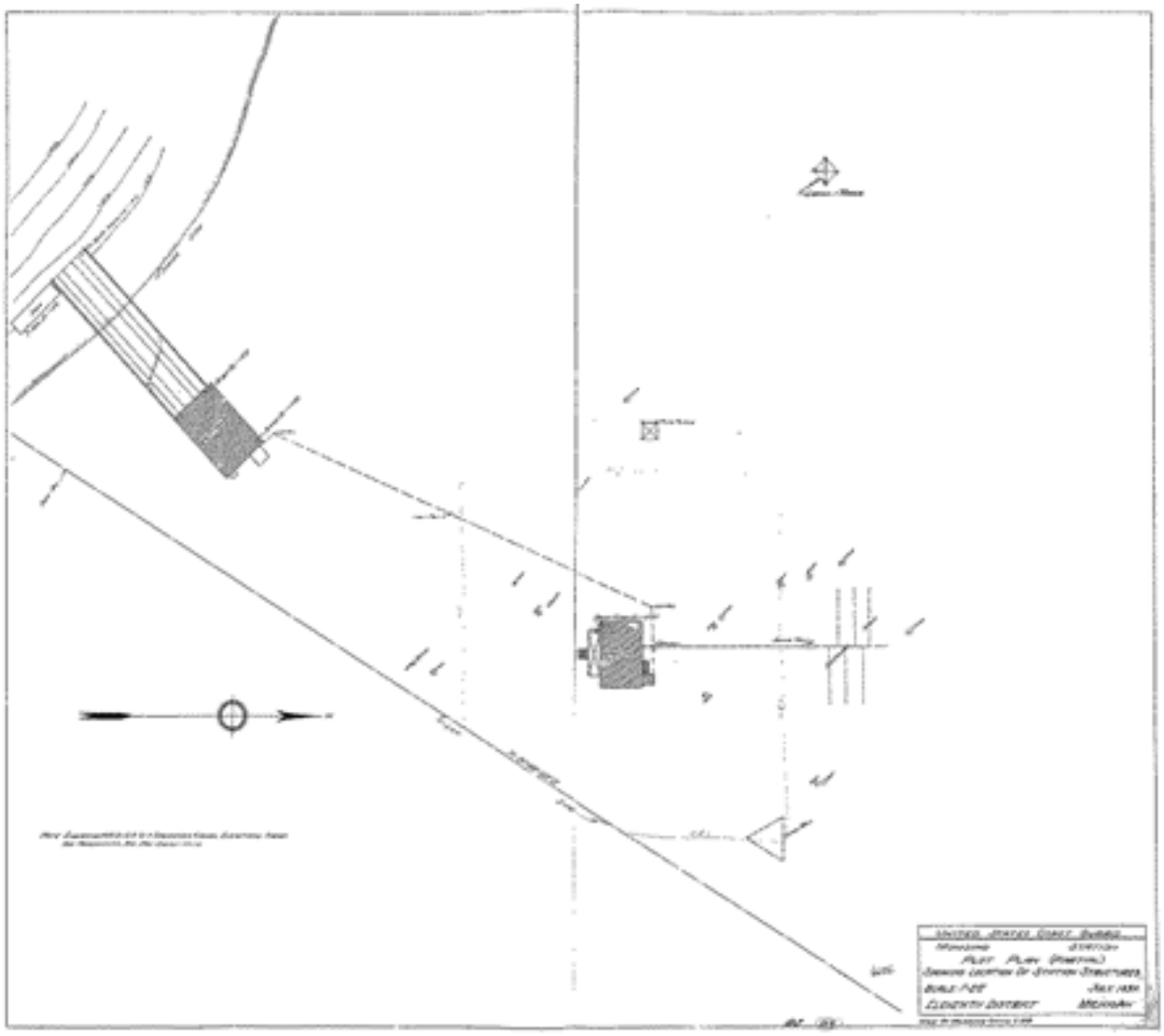


Figure 2-13. Sand Point/Munising USCG Life Saving Station, plot plan showing location of structures, 1933. (source: PIRO Archives)

the placement of telephone and power lines. In addition to the buildings, there was a 55 foot steel flag tower. There was no wireless station; distress calls were instead telephoned from Sault Ste. Marie, Grand Marais, or Marquette.[2.39]

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

December: The Civil Works Administration (CWA) took over the project. By the end of December, the right-of-way had been cut out and three-quarters of a mile of grading and 1 ½ miles of grubbing completed.[2.40]

1934

April: The CWA was a short-lived program in the hard winter of 1933-34, and work on the Sand Point Road by the CWA had been abandoned several months prior. New bids were to be submitted to continue the work under the Federal Emergency Relief Administration (FERA). "Numerous" graves were uncovered along the road during the previous fall and winter and reinterred nearby.[2.41]

June: The crew had increased to ten, consisting of the Officer in Charge, boatswains mate, motor machinist, and seven surfmen. No improvements had been made to the grounds, with the reason cited as the delay in finishing the road to the station, which was "now under construction." It was expected that a lawn would be built around the station when the road was completed and a truck assigned to the station. The crew experienced difficulty with the water supply, which was yellow in color and contaminated with fine sediment. A new spring had been found near the station and the crew planned to pipe water from this spring to eliminate the sediment.[2.42]

November: The crew was now eleven in number. They were still awaiting the completion of the road so they could haul black dirt and clay to fill in around the station. The District commander noted that a new sidewalk was needed around the station and from the station to the signal tower and recommended this be done under contract rather than by the crew. He noted that the road was nearly complete, with expenditure estimated at nearly $80,000. Road construction was hampered by springs which kept washing out the road.[2.43] The road was eventually completed later that year.

The construction of Sand Point Road was substantially completed in the fall of 1934. Cleveland Cliffs Company Annual Report for 1934 stated, "This road was practically completed during the year but there still remains considerable work to be done to put the road in good shape. FERA labor does not accomplish much, due to lack of proper supervision and the small amount of work done by the men during the hours worked. Work done on these Government projects costs four to five times more than it should."[2.44] No mention of this road was found in the 1935 report.

2.39 "Coast Guards Get Most of Equipment," *The Daily Mining Journal*, May 20, 1933, 5.; "New Guard Station," *Ironwood Daily Globe*, December 7, 1932, 6.
2.40 "Cleveland Cliffs Iron Company Land Records," 127.
2.41 "Sand Point Project," *The Escanaba Daily Press*, April 15, 1934, 5. Zedeno, et. al., *Traditional Ojibwe Resources,* 156-7. Zedeno et al dates the road construction to 1936.
2.42 T.S. Klinger to Commandant, Green Bay, WI, June 29, 1934.
2.43 S.F. Gray to Commandant, Green Bay, WI, November 2, 1934.
2.44 "Cleveland Cliffs Iron Company Land Records," 134.

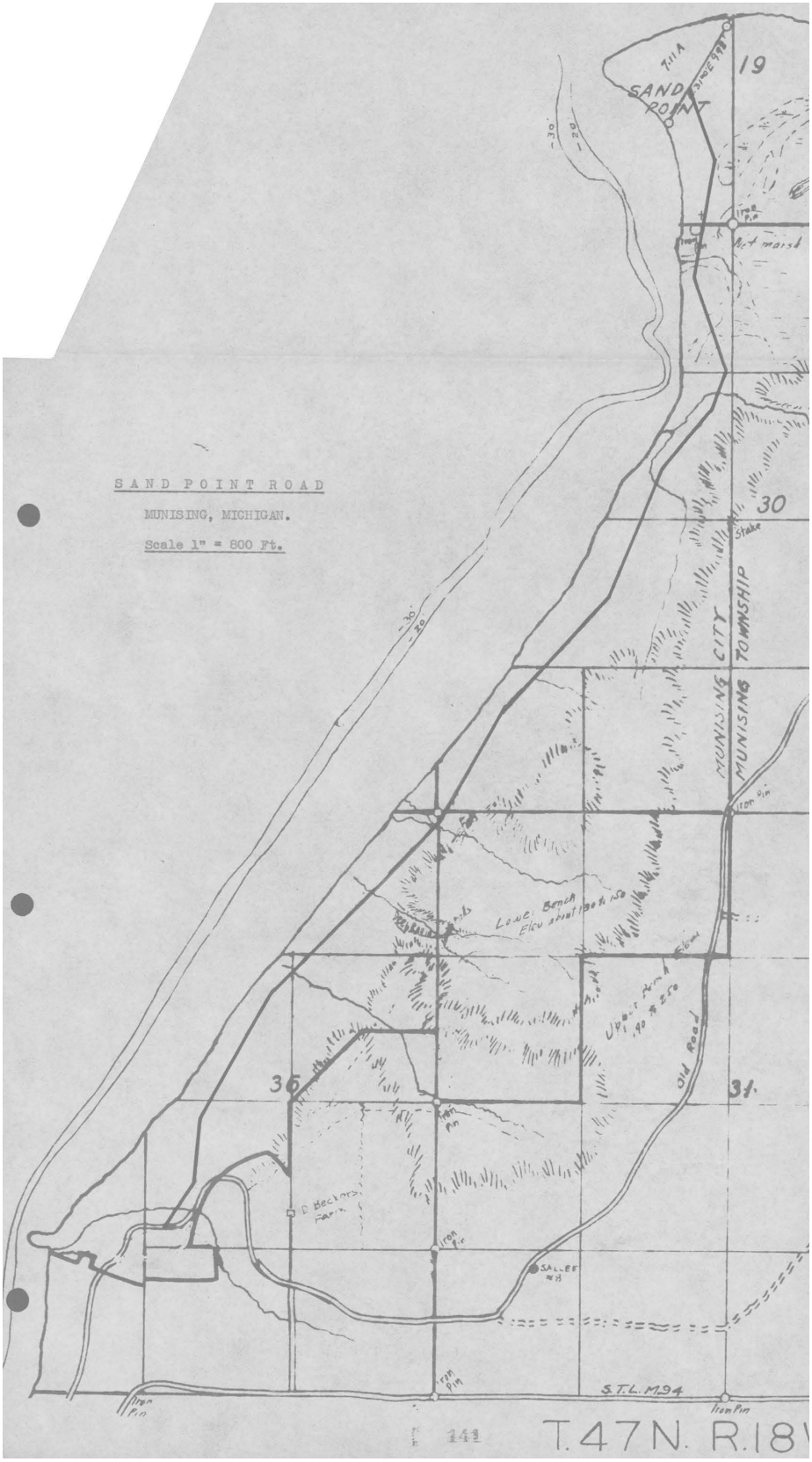


Figure 2-14. Sand Point Road from Annual Report, 1933. (source: PIRO Archives)

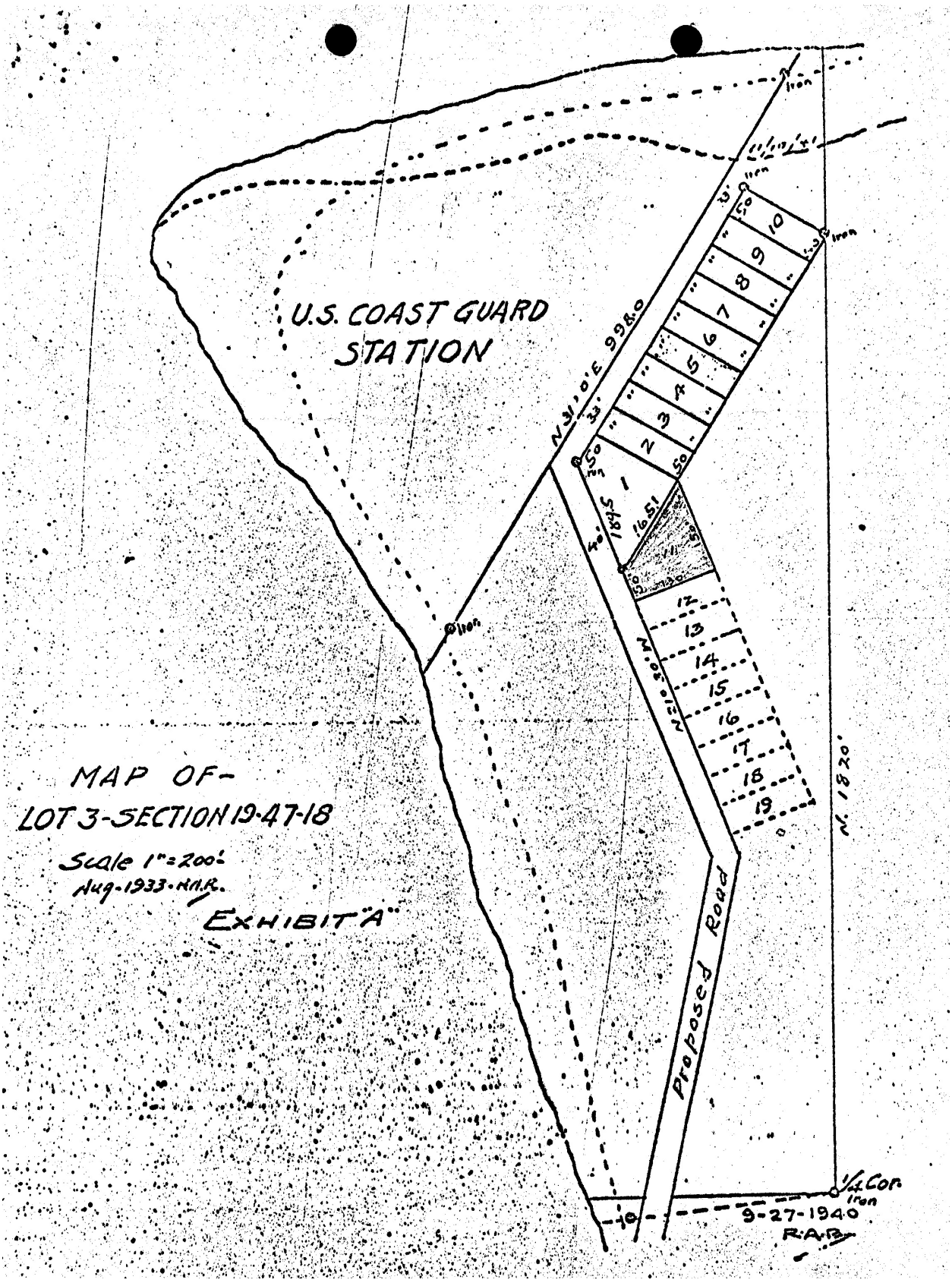


Figure 2-15. Many of the crew were married, and plans were developed to build homes across Sand Point Road. (source: PIRO Archives; Map of Lot 3 - Section 19-47-18, 1933.)

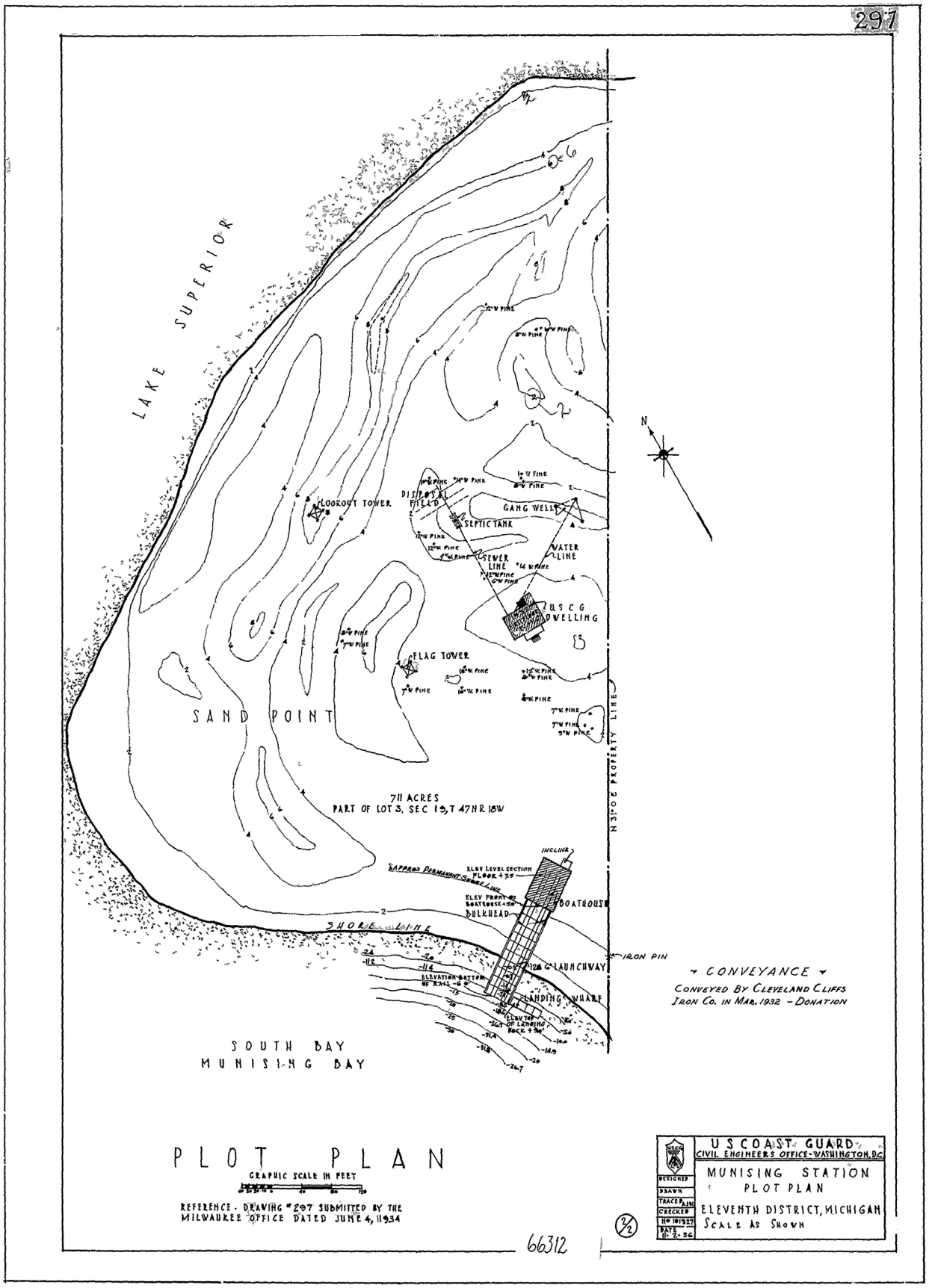


Figure 2-16. Munising Station Plot Plan, 1934. (source: PIRO Archives)



Figure 2-17. 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 2-18. In 1934 the grounds of the Life Saving Station were complete, with a perimeter walk and lawn surrounding the building. (source: PIRO Archives)

1936
August/September: Three crew members from Munising assisted in fighting a forest fire on Isle Royale.[2.45]

In general, the crew responded to emergencies about two times a month, typically for small fishing or pleasure craft that were overdue or disabled. They occasionally had to search for missing ice fishermen.[2.46]

1937
May: Work begins on a Works Progress Administration (WPA) project to improve the Coast Guard grounds. The project included construction of 490 feet of curbing, grubbing, clearing and filling grounds, and other incidental work. It was noted the grounds were practically impossible to travel.[2.47]

1940
The 1940 census listed 14 men at the Life Saving Station, ranging in age from 19 to 58. Eight of them had been at the station since at least 1935, while the remainder were newer to the station. Of the men, eleven were listed as married, but apparently their families were not counted in the census as none of their spouses or families were listed as living in the same county. The names were not divided by household, so it is not possible to tell who was living in the station and who in married quarters.[2.48]

January 1: The Munising crew took over responsibility for the Munising Range Light.[2.49] [The Coast Guard and Lighthouse Service had merged in 1939]

November 7: Wreck of the Sparta. First of two large vessel rescues that the station participated in.[2.50]

November 12: Munising Crew participated in second major rescue, of the steamer Sinola on Northern Lake Michigan near Fayette.[2.51]

1936 to1941
Crew fluctuated between ten and thirteen men.[2.52]

1940s
Ca.: Smuck House and other residences were built as Coast Guard personnel residences, east of Sand Point Road.

1941
October: Crew members attempted to rescue a bull moose from a rock ledge along the bluff at Miner's Castle. They are unable to reach the ledge due to rough seas, and the moose found his own way off the ledge.[2.53]

Following Pearl Harbor (entry of U.S. into World War II), the station personnel initially decreased due to transfers, but numbers afterward increased to a high of 28 men during World War II.[2.54]

The Munising Station was used as a training facility during WWII. Recruits arrived from the Detroit recruiting station.[2.55]

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

2.45 Stonehouse, *Historic Resource Study*, 99.
2.46 Stonehouse, *Historic Resource Study*, 99.
2.47 "WPA Coast Guard Project Launched," *The Escanaba Daily Press*, May 8, 1937, 12.
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.
2.49 Stonehouse, *Historic Resource Study*, 99.
2.50 Stonehouse, *Historic Resource Study*, 99.
2.51 Stonehouse, *Historic Resource Study*, 99.
2.52 *Munising USCG Station Pamphlet*.
2.53 Stonehouse, *Historic Resource Study*, 99.
2.54 *Munising USCG Station Pamphlet*.
2.55 Stonehouse, *Historic Resource Study*, 99.



Figure 2-19. Munising Life Saving Station (HS-01) and Communication Tower, ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-20. Three women and a girl with the Boathouse [at Munising Station], ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-21. 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 2-22. The House near the Life Saving Station, ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)

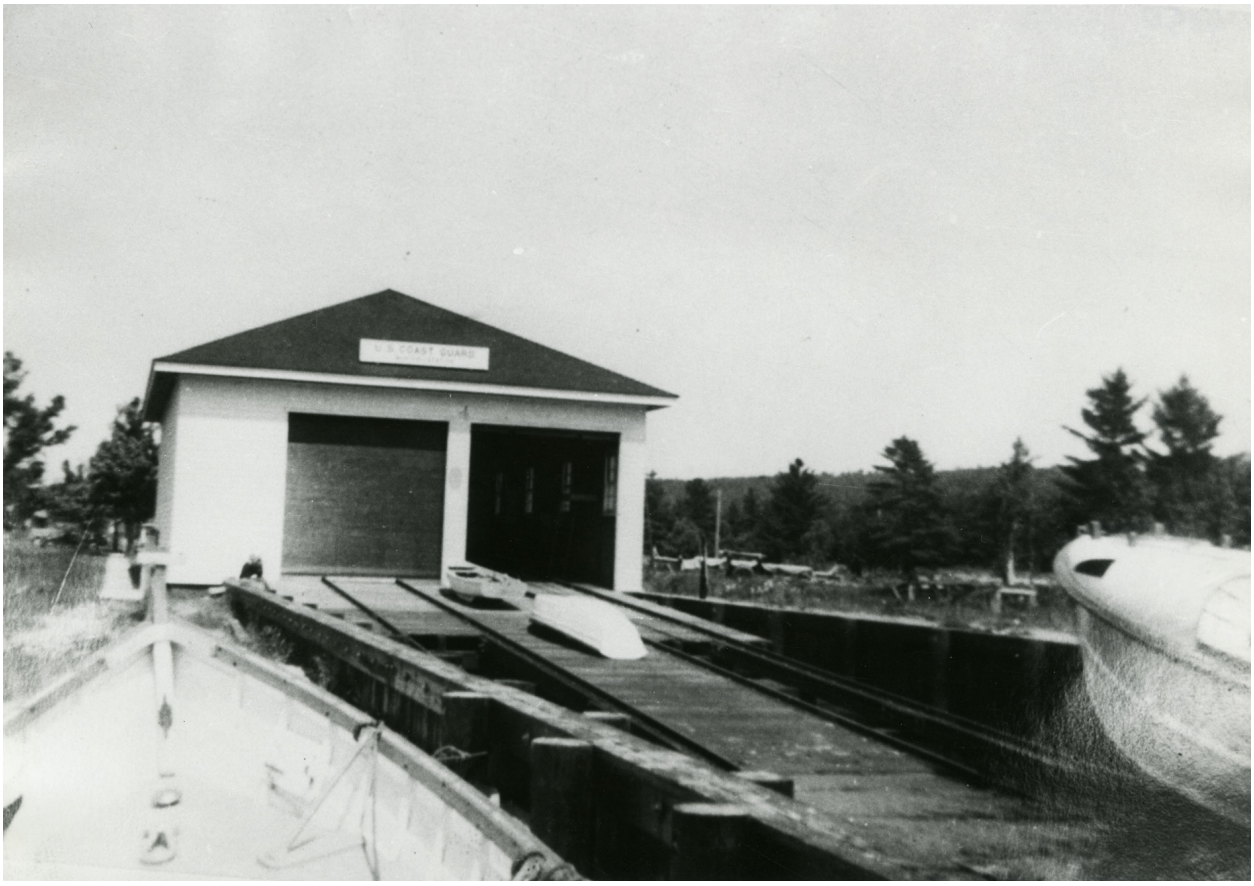


Figure 2-23. Boathouse and Launchway (HS-08), ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-24. 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 2-25. Munising Life Saving Station (HS-01) and Communication Tower, ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-26. Munising Life Saving Station (HS-01), ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-27. Cutting grass at Munising Life Saving Station (HS-01), ca. 1940. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-28. Houses at Munising Life Saving Station, January 1943. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-29. Houses at Munising Life Saving Station, January 1943. (source: Keweenaw NHP, Lake Superior Collection Management Center)

of a drainage sewer with a dead-end was planned to help combat water damage.[2.56]

1945
The Launchway was dredged and extended, likely due to low water levels.[2.57]

1946
December: The six-room home of Martin Hendrickson at the Life Saving Station was destroyed by fire. Another home had been destroyed the previous May. The local newspaper report noted that firefighters were delayed in getting water onto the fire because their truck could not get close enough to the water to run the hose, due to the soft sand beach. The only firefighting equipment at the station was a pump which also failed due to low water. There was no hydrant system at Sand Point.[2.58]

1949
August: The Coast Guard proposes decommissioning the Sand Point station. Representatives of the city of Munising and Alger County as well as many local organizations testified at a U.S. Maritime Service board meeting objecting to the closure. The local community cited the station's protection of the S.S. South American, the Grand Island ferry, Pictured Rocks Boat Service, coal boats, local pleasure craft, commercial fisheries, and sport trollers as among those who benefited from the station. The decision was to be made later, but the station was not actually decommissioned for another nine years.[2.59]

1957 to 1958
The National Park Service conducted a survey to determine the suitability of the Pictured Rocks area for inclusion in the National Park system.

1958
September 10: The Coast Guard "ceased all operations upon the premises."[2.60] The responsibilities of the Coast Guard were transferred to the Coast Guard Auxiliary which was headquartered in the Range Light Building on West Munising Avenue.[2.61] Changes in technology, including the use of helicopters and large offshore cutters, and improvements in vessel safety, had made the lifeboats and station crews obsolete. The Munising station operated with a skeleton crew for some time before it was decommissioned.[2.62]

2.56 "Storms Wash Out Shoreline," *The Escanaba Daily Press*, December 5, 1941.
2.57 USCG drawings.
2.58 "Hendrickson Home Destroyed in a Fire Wednesday at Noon," *The Escanaba Daily Press*, December 12, 1946, 13.
2.59 "Munising Opposes Plan to Abandon Coast Guard Unit," *The Escanaba Daily Press*, August 19, 1949, 2.
2.60 L. J. Hoch, *Attorney's Report of Title, Munising Lifeboat Station, Alger County, Michigan.*
2.61 Symon, *Alger County: A Centennial History*, 174.
2.62 Stonehouse, *Historic Resource Study*, 100.





Figure 2-30. Munising Station from the Ice, 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



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



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



Figure 2-33. Training at Munising Life Saving Station, ca. 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



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



Figure 2-35. The Lookout Tower in winter, ca. 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)

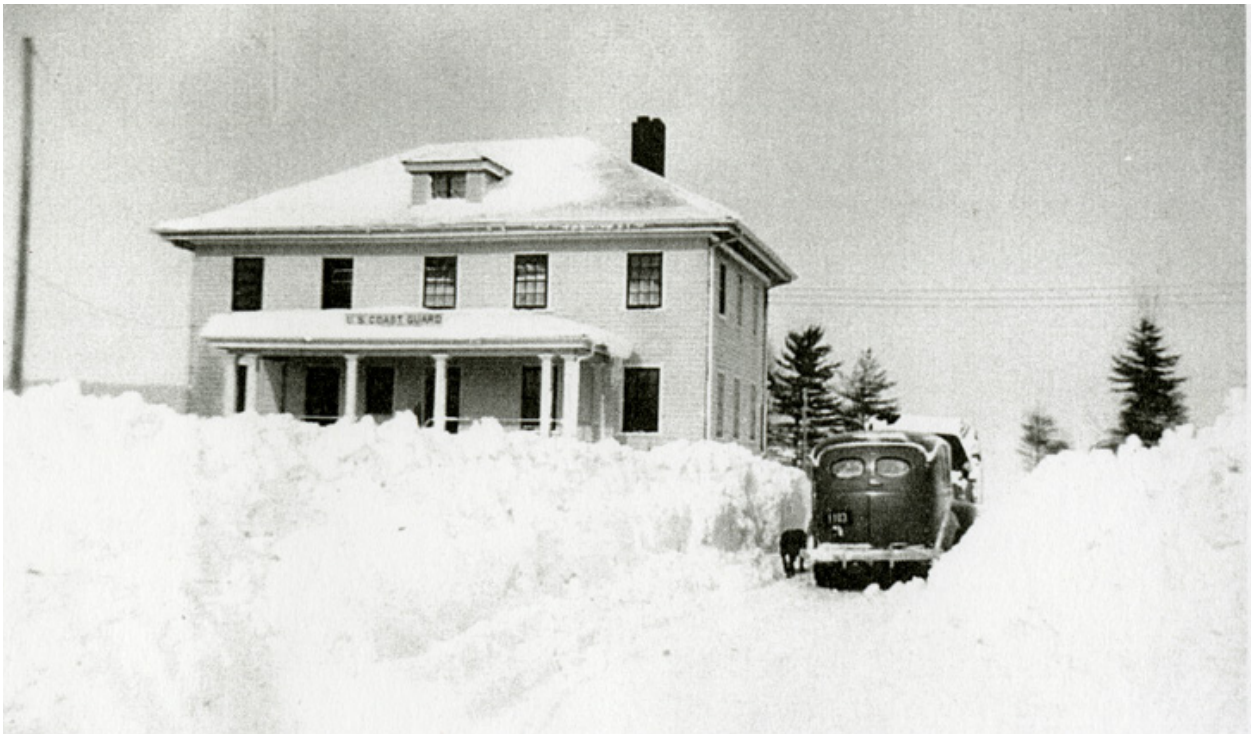


Figure 2-36. Munising Life Saving Station in winter, ca. 1945. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-37. 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)

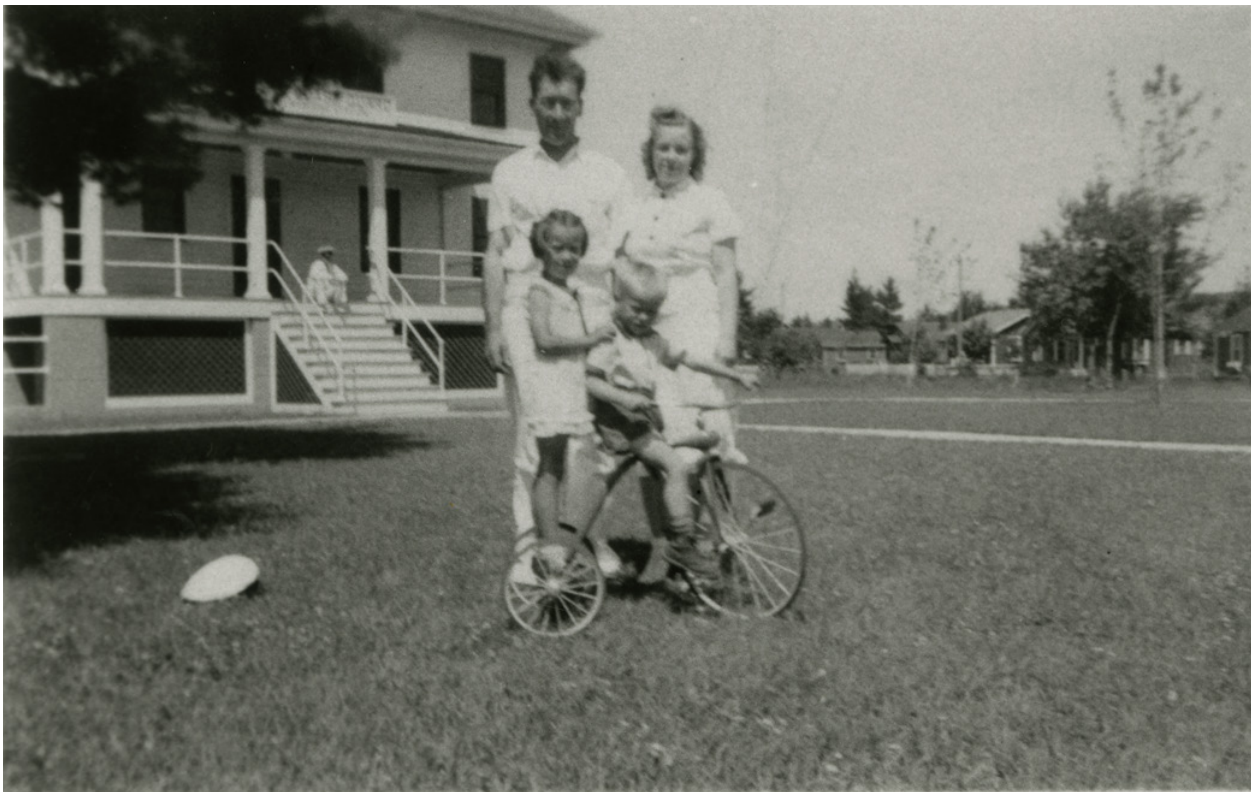


Figure 2-38. Family at Munising Life Saving Station, ca. 1950. (source: Bud Campbell Photographs, Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-39. Sand Point, 1960s. (source: PIRO Archives)

Lake Superior

Sand Point Road

182 184 186 188

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 S N E

0 100
1" = 100'-0"

OCTOBER 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 2-1 1934 HISTORIC PERIOD PLAN

NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION

REGION MIDWEST | COUNTY ALGER | STATE MICHIGAN

NPS and Later Development (1960 to present)

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

1960
An inventory of the Munising Station by the Coast Guard Board of Survey notes that the station had not been used "for about three years," and that the buildings are in poor condition and present "an unsightly appearance." This document also noted a clause requiring the property to be returned to Cleveland Cliffs Company if the USCG decommissioned it. The report concluded that the Munising Lifeboat station was surplus to the needs of the Coast Guard and should be deeded back to the Cleveland Cliffs Company.[2.63]

1961
The United States deeded the Sand Point/ Munising USCG Life Saving Station property back to the Cleveland Cliffs Company for $1. Instrument dated May 10, 1961, recorded September 5, 1961.[2.64]

1962
The Cleveland Cliffs Company deeds the Sand Point property to the City of Munising for $1. Instrument dated December 12, 1962, recorded January 23, 1963.[2.65]

1963
A few private cabins were located on Sand Point on land leased from the Cleveland Cliffs Company. A developing residential area was also present on Sand Point, unrelated to the life saving station complex.[2.66]

1966
Pictured Rocks National Lakeshore was established by the United States Congress.

1968
April: The Munising City Commission and the NPS were in talks over the donation of the Sand Point property. The city planned to retain the Boathouse and move it "back" to Munising over the ice. The city was also concerned about maintenance of Sand Point Road given the foreseen increase in park traffic.[2.67]

May 31: The City of Munising executed a quit claim deed (as a donation) to the United States for the property at Sand Point. It had previously been used as a public park and picnic area.[2.68] The City of Munising retained the right to use and/or move the Boathouse for two years, after which it would become NPS property. The city was to remove the paint locker, and under a "gentlemen's agreement" the NPS would defer fee

2.63 Proceedings of a Board of Survey, Supply Section, 9th Coast Guard District, June 14, 1960.
2.64 Transcription of Quit Claim Deed in PIRO Lands Files, Box 13, Folder 144.
2.65 Warranty Deed, Cleveland Cliffs to City of Munising. December 12, 1962.
2.66 Institute for Community Development, Continuing Education Service, Michigan State University. *The Proposed Pictured Rocks National Lakeshore, An Economic Study (*U.S. Department of the Interior, National Park Service, 1963), 16-17.
2.67 Hugh P. Beattie to For the File. April 5, 1968.
2.68 "Court Action Approved by Munising to Regain Sand Point Property," *The Mining Journal*, September 2, 1971, 2



Figure 2-40. Sand Point, 1974. (source: PIRO Archives)

collection for the beach and picnic ground as long as possible.[2.69]

June: PIRO issued purchase orders in the amount of $7,999.89 for initial deferred maintenance work prior to moving into the Life Saving Station. They expected to occupy the building in early August.[2.70] The NPS requested that the city immediately remove the paint locker as it interfered with the development of the lawn.[2.71]

1971

May 3: The U.S. Government purchased mineral interests on the Sand Point property from the Cleveland Cliffs Iron Company.[2.72]

August: The United States Attorney General sent a memorandum to the Secretary of the Interior confirming the United States Government held valid title to the Sand Point property. The City of Munising, State of Michigan, and the public retained public easements and riparian rights.[2.73]

September: The City of Munising authorizes civil action against the United States to return the 12 acres at Sand Point it donated in 1968, citing lack of funding appropriations to develop Pictured Rocks National Lakeshore, and the failure of expected tourism revenue to offset the loss of tax revenue from NPS land.[2.74]

November: Norman Davidson, Park Manager, prepared a rebuttal which was never published. He noted that the city had not filed the suit and the threatened suit was “nothing more than a publicity gag.”[2.75]

1972

November: Perhaps in response to the city of Munising's threatened civil action the prior year, the National Park Service allocated over $200,000 for the construction of roads and trails and work to buildings and utilities at Pictured Rocks National Lakeshore in 1973. Proposed work cited included the construction of trails, overlooks, campgrounds, picnic grounds, and parking areas.[2.76] A 1975 article suggested this work was delayed due to spending restrictions (see below).

1974

June 12: The City of Munising's salvage rights to the Boathouse expired.[2.77]

ca. 1975

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

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

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

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

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

2.72 Robert J. Panton to Assistant Attorney General, July 13, 1971.

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

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

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

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

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

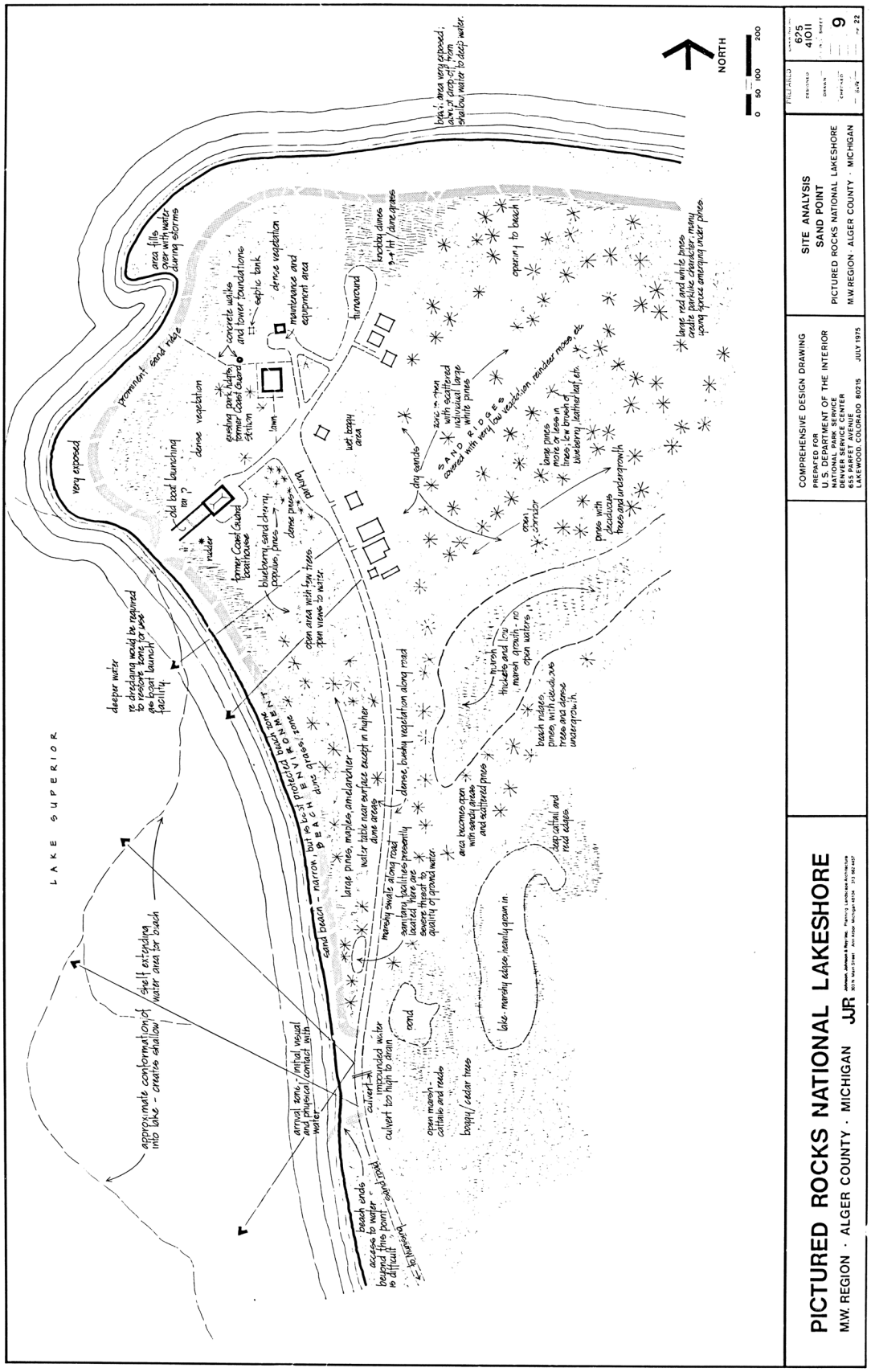


Figure 2-41. Site Analysis as part of the GMP, Sand Point, 1975. (source: PIRO Archives)

been spent. It was targeted for planning and construction of roads, trails, parking, picnic and sanitation facilities at Miner's Basin, Miner's Castle Overlook, Munising Falls, and Sand Point. Stabilization and improvement work was already underway at Sand Point. An additional appropriation of $191,000 was in planning for fiscal year 1976.[2.78]

1976
The NPS removed five residences and associated outbuildings east of Sand Point Road.[2.79]

June-August: Youth Conservation Corps workers restore a docking and shore facility at Sand Point near Pictured Rocks National Lakeshore headquarters. They also were noted as having dismantled old buildings, so it may have been this group that removed the residences and outbuildings east of Sand Point Road.[2.80]

1984
A fuel station was built by the NPS at Sand Point, north of the Life Saving Station.

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

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

1986
The National Park Service allocated $510,000 to pave Sand Point Road; the City of Munising would pave 0.67 miles while the NPS would pave the other 1.13 miles.[2.81]

1989 to 1990
Sand Point Road was modified with a circular turnaround at its northern terminus.
A 615-foot rock revetment was installed to halt erosion of the beach at Sand Point. The revetment was installed in two phases. It spanned the terminus of Sand Point Road and the tip of the point.

1991
Three underground storage tanks were removed from Sand Point. Subsequent soil testing showed no further remediation was necessary.[2.82]

NPS spreads rocks along the north shore of Sand Point to curb erosion and protect the station building.[2.83]

1998
Site Development and Landscape Rehabilitation Plan prepared (draft). It recommended rehabilitation of the landscape and buildings with interpretation to the 1940s. It noted that "only the grounds inside the perimeter concrete 'wall' were maintained in a manicured fashion by the 'coasties.'"[2.84]

2003
The Munising City Commission approved two resolutions requesting that the NPS return more than 700 acres of land, including the 12 acres at Sand Point, to the city. The city cited as reasons the early closure of a landfill that

2.78 Tom Ochiltree, "Prodding Finally Works," *The Escanaba Daily Press*, September 29, 1975, 2.
2.79 Based on historic photographs, PIRO Archives.
2.80 "Wilderness is Home," *The Escanaba Daily Press*, August 20, 1976.
2.81 "Park Road to be Paved," *Detroit Free Press*, February 23, 1986, 10.
2.82 Clifton Clark to Grant Petersen, October 2, 1992.
2.83 "Protests Rock Park," *Detroit Free Press*, November 17, 1991, 26.
2.84 Munising Station - U.S. Coast Guard (Ret), Site Development and Landscape Rehabilitation Plan. 1998.

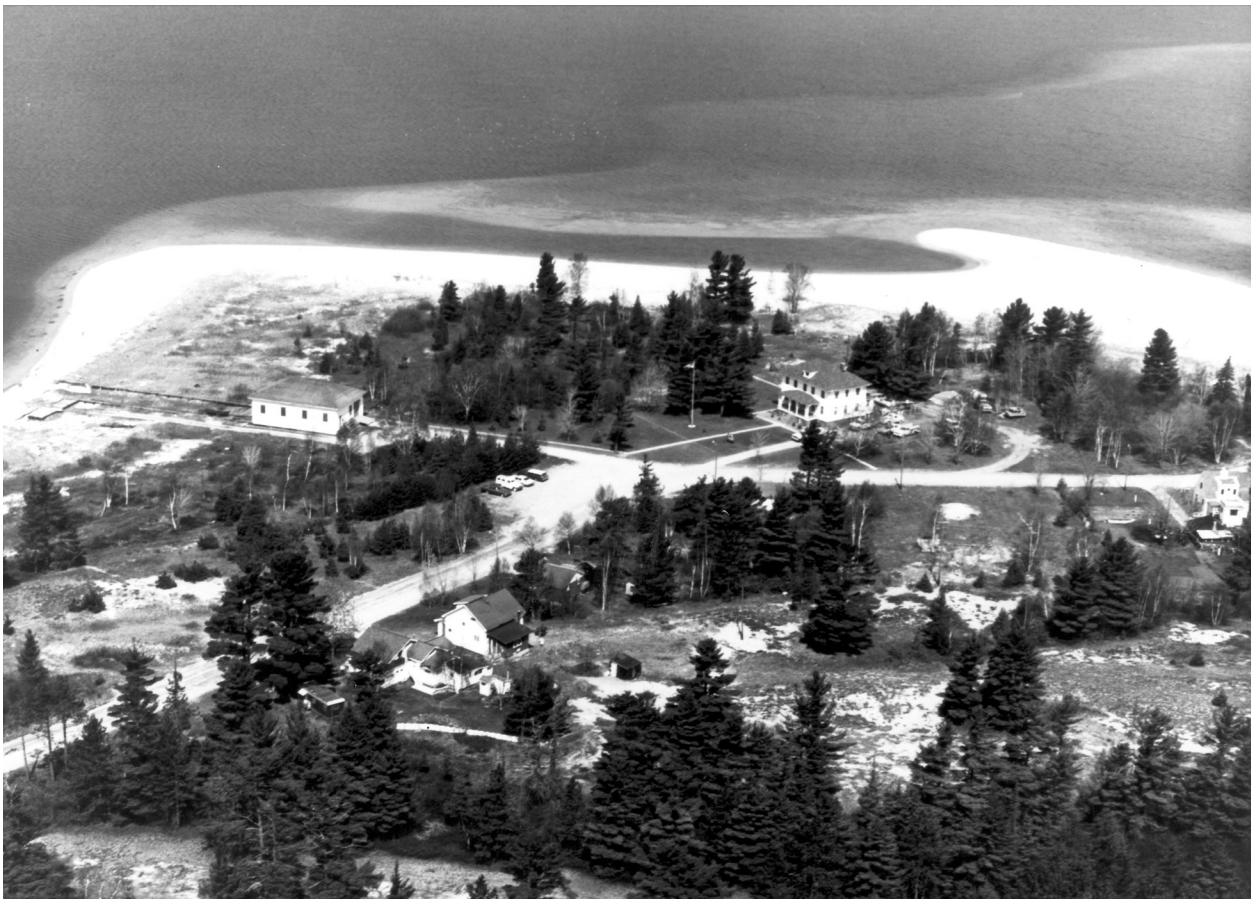


Figure 2-42. Munising Station, undated but estimated as 1980s. (source: PIRO Archives)

was originally provided in exchange for the Sand Point property, the original donation of the site specifically for the park headquarters (the NPS was exploring plans to relocate the headquarters elsewhere), concerns over stewardship of cultural resources by the NPS, and concerns that the NPS, as a majority landowner in the city did not pay taxes or make any payments in lieu of taxes as reasons.[2.85]

2006
The Smuck Garage was demolished.[2.86]

2008
The septic mound at Sand Point was relocated to provide a more appropriate setback from the shoreline.[2.87]

2.85 "City Wants Park Property," *The Munising News,* December 10, 2003, 1; John Pepin, "Munising Wants Park Land Returned," *The Mining Journal*, December 14, 2003, 1A.
2.86 Section 106 for Removal of Smuck Garage in Maintenance files, PIRO.
2.87 Plan and correspondence in Maintenance Files, PIRO.



Figure 2-43. 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 2-44. Munising Life Saving Station, 1982. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-45. Munising Life Saving Station, 1982. (source: Keweenaw NHP, Lake Superior Collection Management Center)



Figure 2-46. The Boathouse with a boat on the Launchway, the wood fence was built by the NPS, 1985. (source: PIRO Archives)



Figure 2-47. The Life Saving Station soon after the NPS took ownership, 1969. (source: PIRO Archives)



Figure 2-48. The NPS widened the service drive, expanded staff parking and added a garage behind the Life Saving Station, 1977. (source: PIRO Archives)

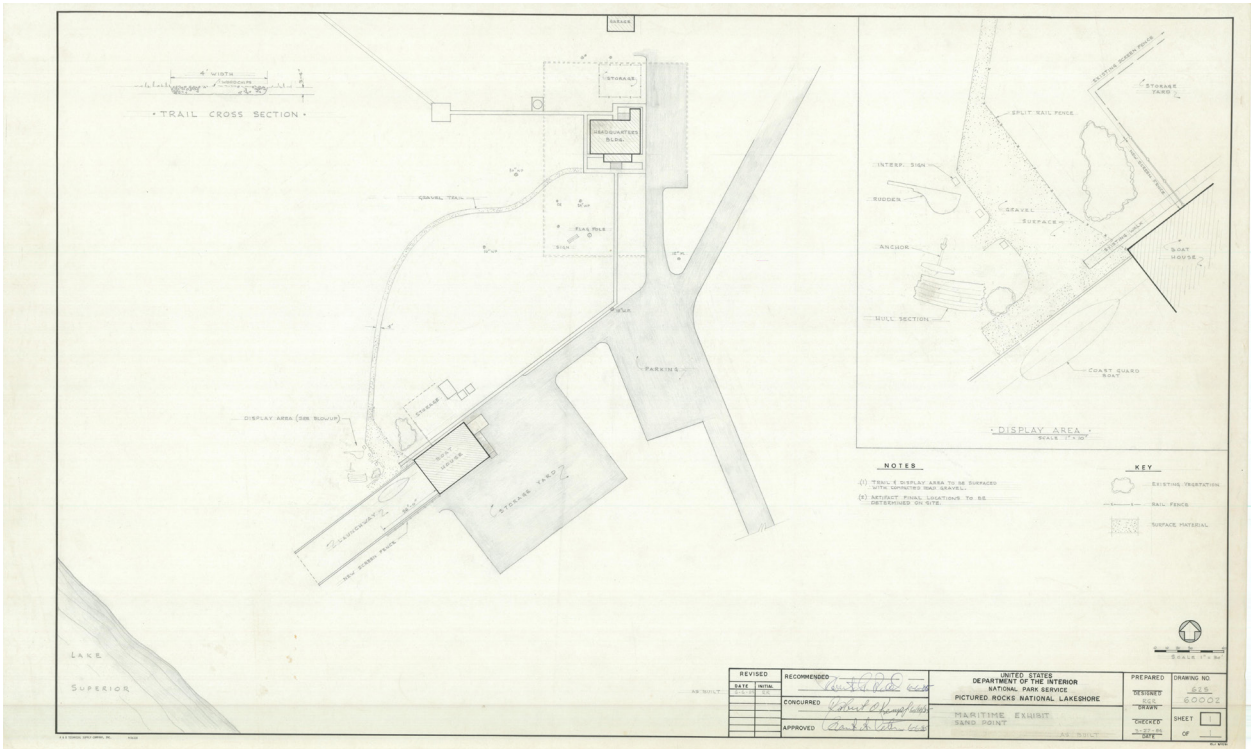


Figure 2-49. Maritime Exhibit, Sand Point, 1984. The trail and exhibit are non-extant. (source: PIRO Archives)

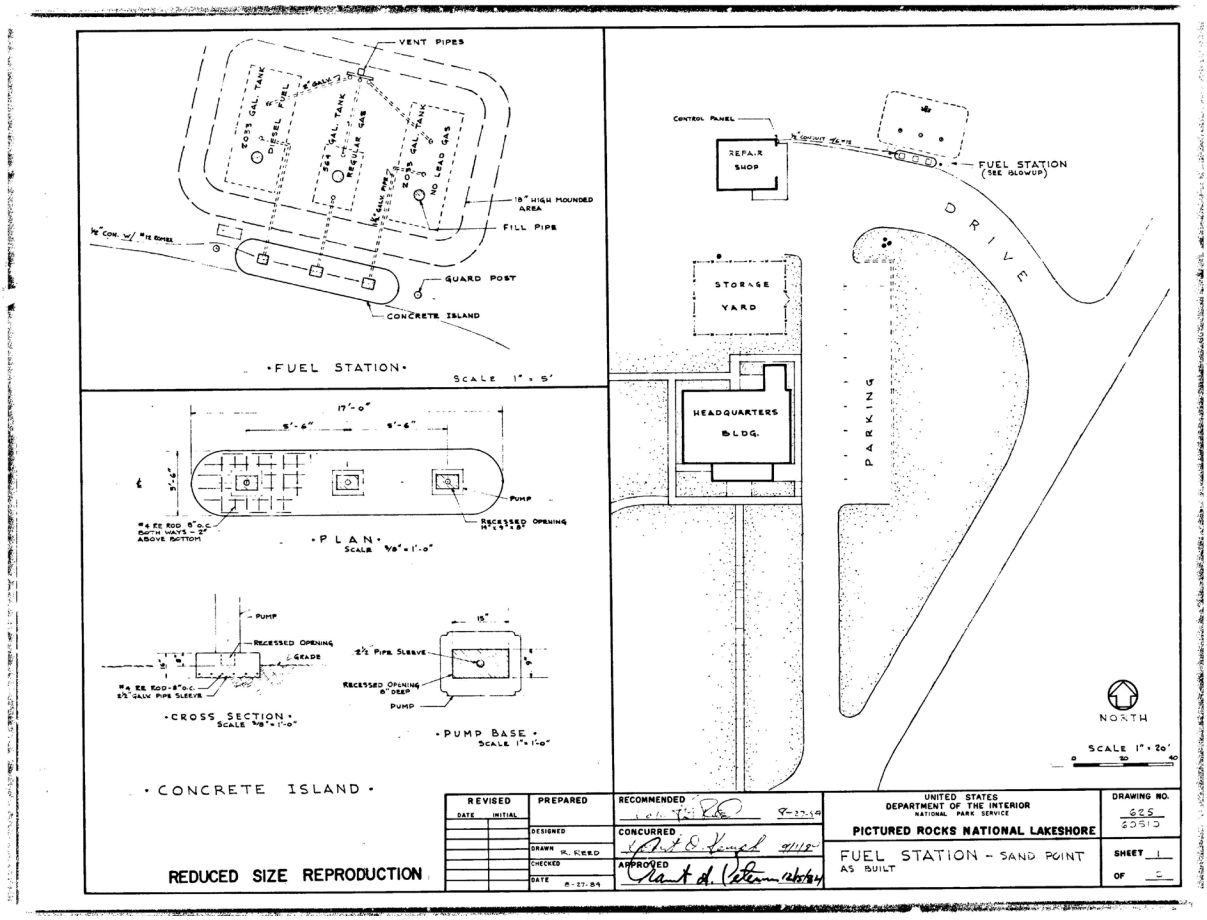


Figure 2-50. Fuel Station at Sand Point, 1984. (source: PIRO Archives)



Figure 2-51. The revetment was built in two stages, from the terminus of Sand Point Road to the tip of Sand Point, 1991. (source: PIRO Archives)

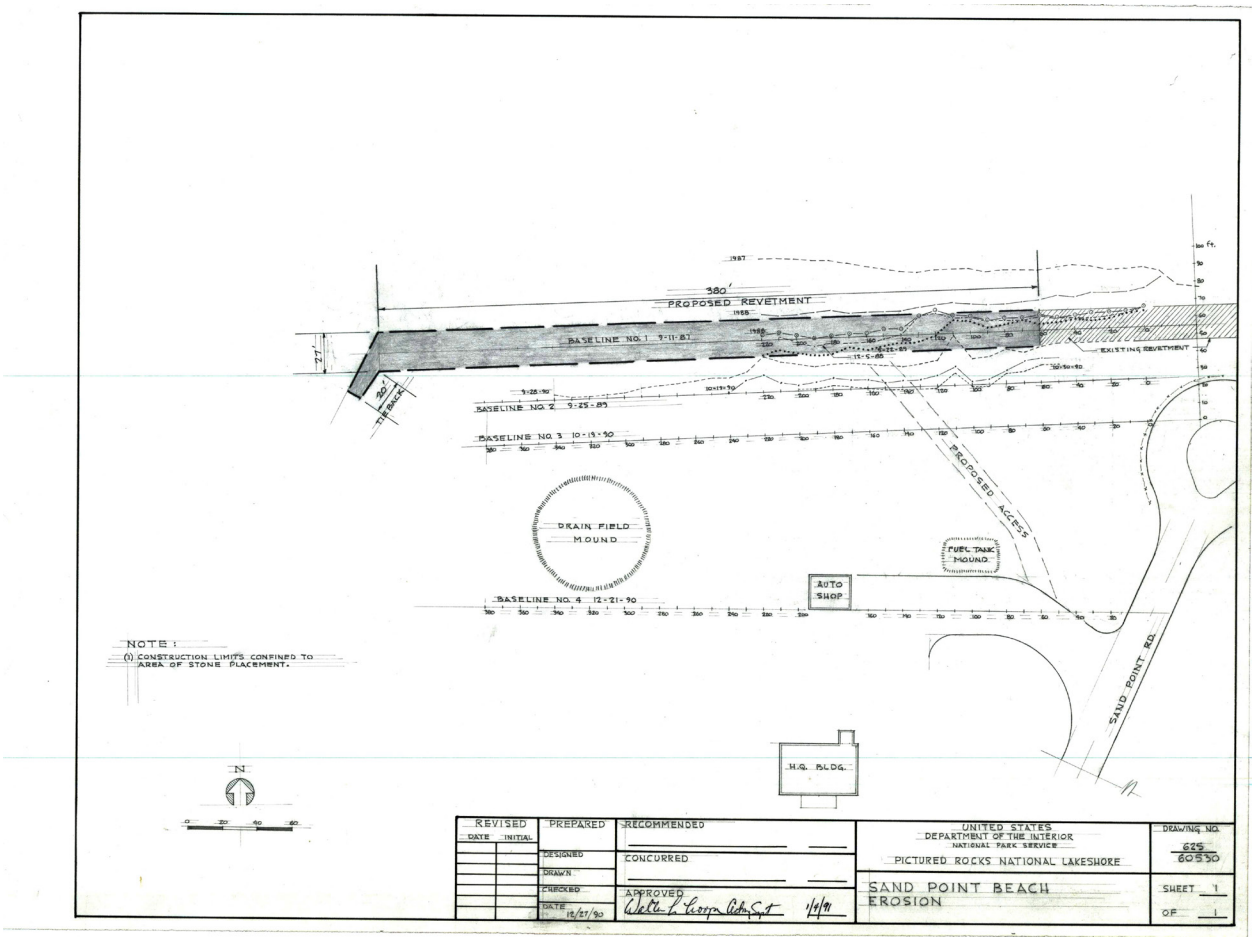
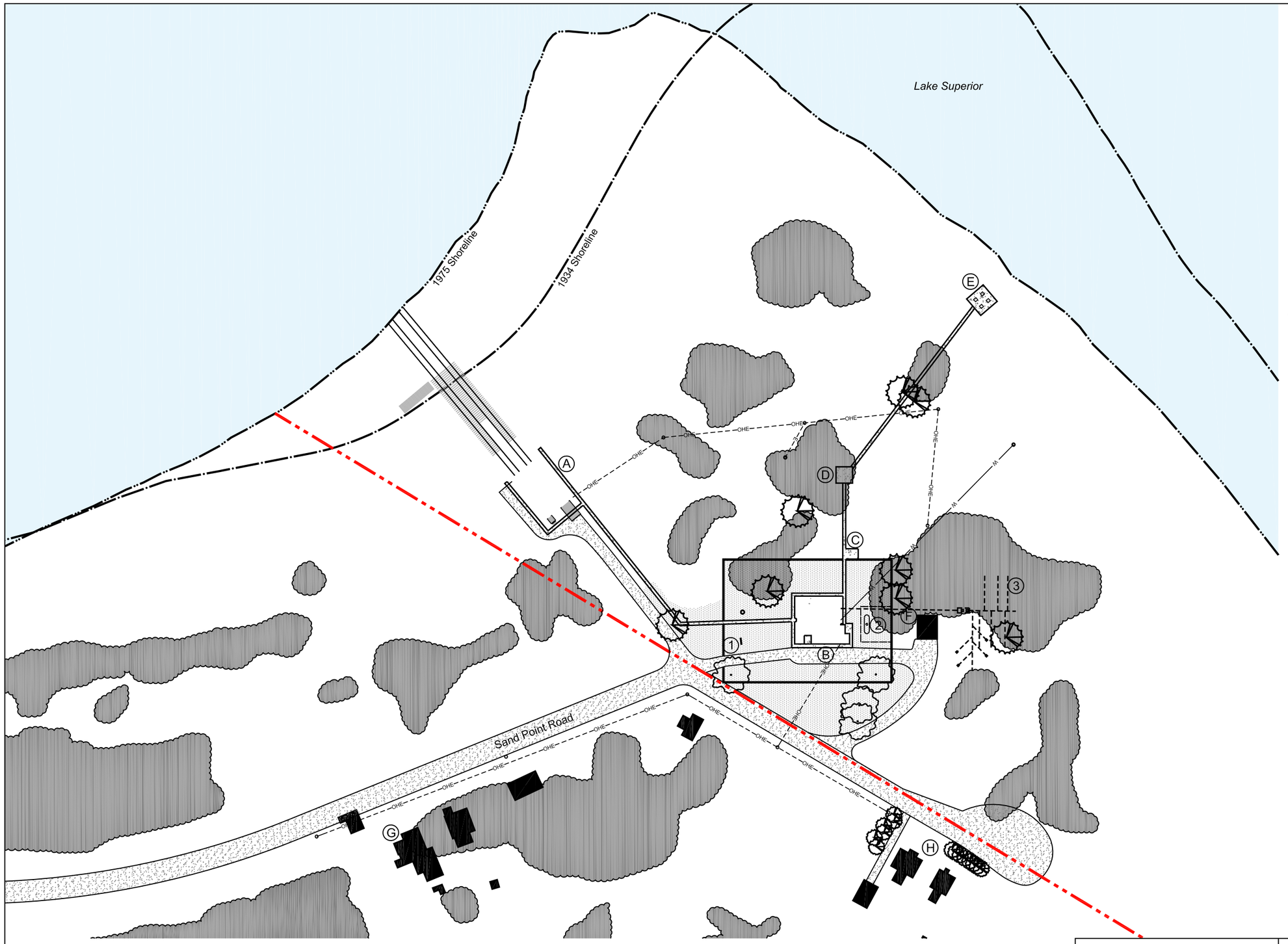


Figure 2-52. The second phase of the beach revetment work, 1991. (source: PIRO Archives)



LEGEND

- STUDY AREA/ USGC BOUNDARY
- BUILDING
- CONCRETE PAVING
- CONCRETE CURB
- GRAVEL PAVING
- 1934 SHORELINE
- 1975 SHORELINE
- LAWN
- RAILS
- WOOD DECK
- FLAGPOLE
- CONIFER TREES EXTENT FROM PERIOD OF SIGNIFICANCE
- DECIDUOUS TREE
- FOREST VEGETATION
- ELECTRIC
- WATER
- OVERHEAD ELECTRIC
- DRAIN FIELD

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
- (G) Smuck Residence (HS-64)
- (H) USCG Housing

Small Scale Features

- (1) Park Sign
- (2) Propane Tank
- (3) Septic Tank and Field

Sources:
1975 Sand Point Utilities As Maintained, 1975 Aerial

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1" = 100'-0"

OCTOBER 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 2-2 1975 HISTORIC PERIOD PLAN

NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION

REGION MIDWEST | COUNTY ALGER | STATE MICHIGAN

Chapter 3. Existing Condition Assessment and Landscape Analysis

Introduction

This chapter provides a current condition and integrity analysis of Sand Point's cultural landscape using a series of ten landscape characteristics. Individual current conditions and integrity analyses are assessed for each landscape characteristic through narratives, photographs, illustrations, and/or matrices.

This assessment was undertaken to understand the cultural landscape as a whole, to document those qualities that contribute to its historic character and to identify individual features that contribute to its significance. Site investigations recorded the existing condition of the cultural landscape in June 2016.

The existing condition is evaluated using the following criteria:

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

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

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

Landscape characteristics include tangible and intangible aspects of a landscape. These characteristics collectively provide the historic character and aid in understanding cultural importance. The characteristics serve as categories under which individual features are listed. Features were documented and evaluated according to ten landscape characteristics:

Natural Systems and Processes are those naturally occurring geologic, hydrologic, and climatic aspects that influence the development of physical features.

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

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

Spatial Organization is the arrangement of elements creating the ground, vertical and overhead planes that define and create space, including the arrangement of topography, buildings, and vegetation.

Topography is the three-dimensional configuration of the landscape surface characterized by features and orientation.

Viewshed and Vistas contain natural or man-made features that create or allow varying range of vision on a landscape.

Circulation are features and materials that constitute systems of movement including vehicular and pedestrian routes.

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

Small Scale Features are elements that provide detail and diversity combined with function and aesthetics.

Vegetation includes indigenous or introduced trees, shrubs, vines, ground covers, herbaceous and graminoid plant species.

Assessment of Integrity

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

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

Setting is the physical environment of the cultural landscape.

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

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

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

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

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

The Sand Point/Munising USCG Life Saving Station cultural landscape retains integrity in six aspects: location, setting, materials, workmanship, design, and association. The landscape has diminished integrity in feeling.

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

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

Materials and Workmanship
Contributing features associated with the cultural landscape retain original workmanship and materials. The buildings, structures, and walks retain materials from the original 1930s construction. Original materials include wood and concrete, used in both buildings and circulation routes. Contemporary additions have continued to use this simple material palette and workmanship aesthetic.

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

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

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

Contributing and Non-Contributing Features

Natural Systems and Features

Contributing Features
- Sand Point (coastal geology)
- Lake Superior
- Native Vegetation

Spatial Organization

Contributing Features
- Formal arrangement and use areas of USCG Station
- Relationship between USCG Station and Lake
- Open space around Munising Life Saving Station (HS-01)

Viewshed and Vistas

Contributing Features
- Views to / from Lake Superior
- Views between buildings and structures
- View to Munising Life Saving Station (HS-01) from Sand Point Road

Topography

Contributing Features
- Level topography
- Constructed plinth at Munising Life Saving Station (HS-01)

Circulation

Contributing Features
- Sand Point Road
- Boathouse Drive
- North South Main Walk
- Walk to Boathouse
- Station Walks
- Walk to Towers
- Boathouse Walk

Non-Contributing Features
- Visitor Parking
- Service Road / Staff Parking
- Dock
- Boardwalk
- Abandoned Trail - Boathouse to Munising Life Saving Station (HS-01)
- Informal trails to beach

Buildings and Structures

Contributing Features
- Munising Life Saving Station (HS-01)
- Oil House (HS-02)
- Boathouse
- Launchway
- Lookout Tower Foundation
- Communications Tower Foundation

Non-Contributing Features
- Garage Foundation
- Rock Revetment

Small Scale Features

Munising Life Saving Station
Contributing Features
- Concrete curb
- Flagpole

Non-Contributing Features
- Headquarters Sign
- Interpretive Sign
- Picnic Tables
- Propane Tank
- Sign Footings
- Septic
- Septic Mound
- Concrete Pad / Garage Foundation

Boathouse
Contributing Features
- Boat Trolley (ND)

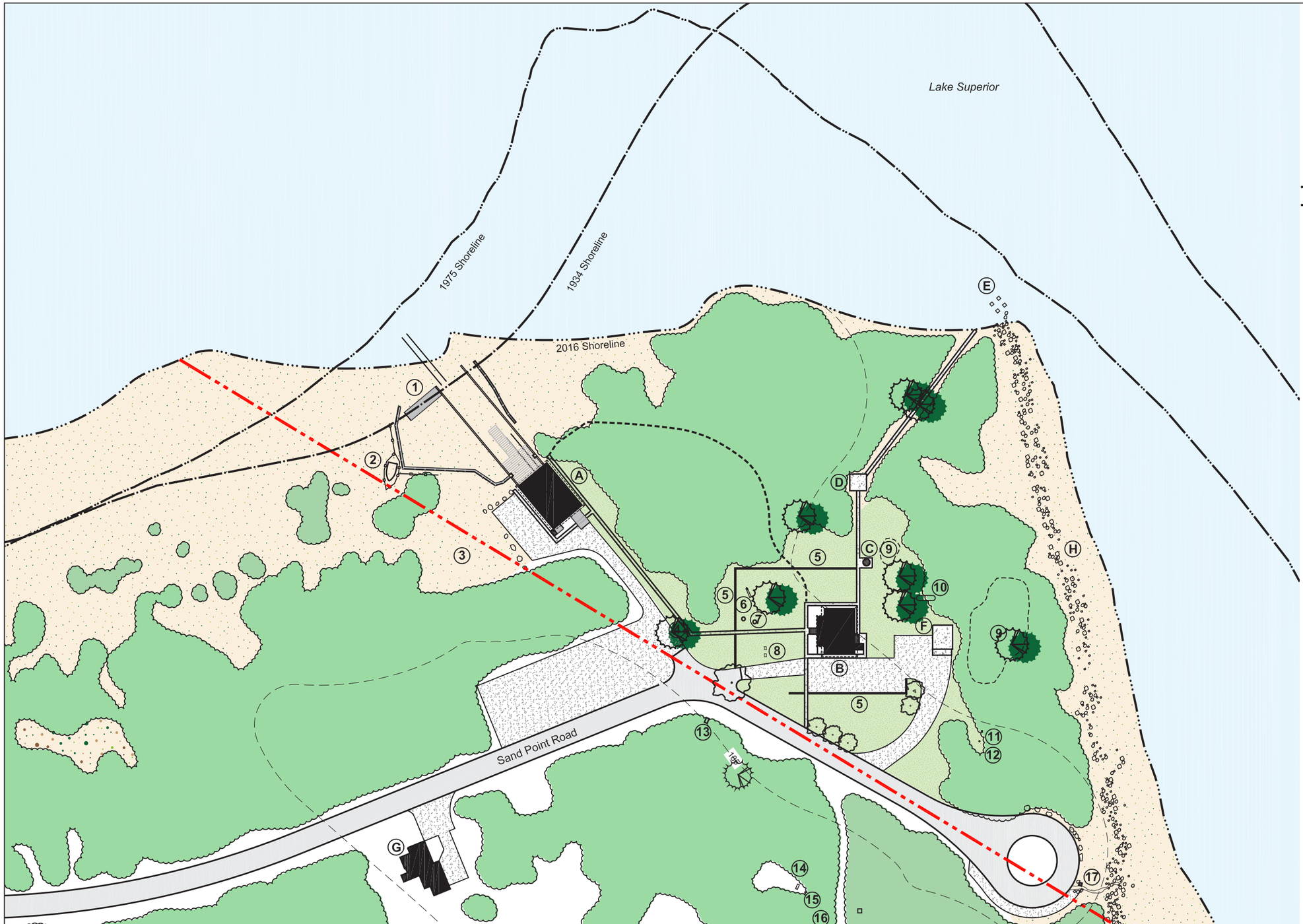
Non-Contributing Features
- Boat Hull
- Split Rail Fence
- Septic Mound
- Boulder Edge

Vegetation

General
Contributing Features
- Forest Vegetation
- Ornamental Vegetation

Munising Life Saving Station
Contributing Features
- White Pines
- Lawn

Non-Contributing Features
- Maple Tree Row



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

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1" = 100'-0"

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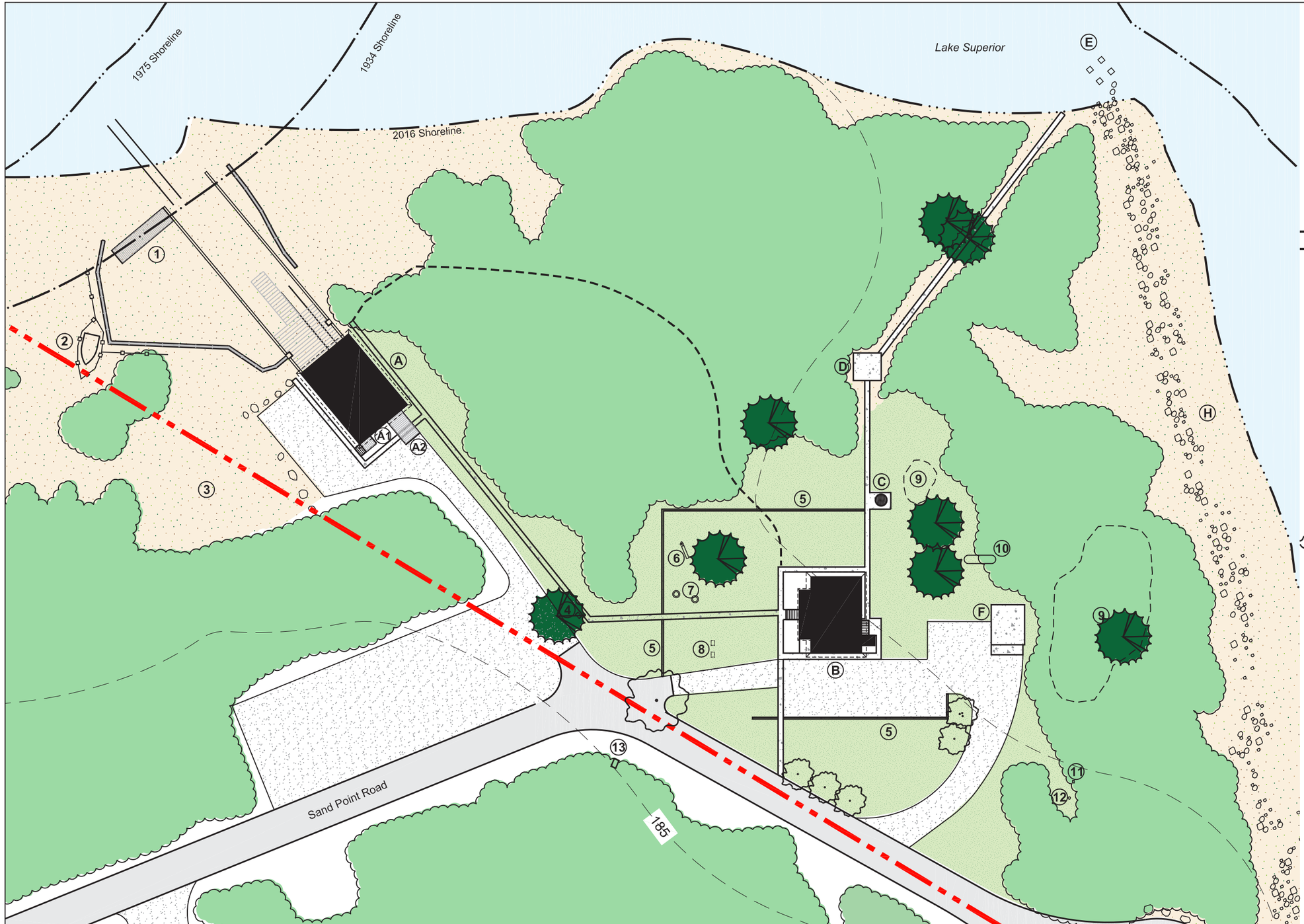
625-135194

TITLE OF PROJECT
CULTURAL LANDSCAPE REPORT
AND ENVIRONMENTAL ASSESSMENT

TITLE OF DRAWING
ILLUSTRATION 3-1 STUDY AREA EXISTING CONDITION PLAN

NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION

REGION MIDWEST | COUNTY ALGER | STATE MICHIGAN



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)
  - (A1) Boathouse Stairs
  - (A2) Boathouse Ramp
- (B) Munising Life Saving Station (HS-01)
- (C) Oil House (HS-02)
- (D) Communication Tower Foundation
- (E) Lookout Tower Foundation
- (F) Garage Foundation
- (H) Stone Revetment

Small Scale Features

- (1) Dock
- (2) Boat Hull
- (3) 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

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1" = 60'-0"

OCTOBER 2017

UNITED STATES
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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

Existing Condition and Analysis by Landscape Characteristic

Natural Systems and Features

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

The shoreline exposes visible bedrock that dates to the Paleozoic Era (about 600-270 million years). The exposed formations are composed of sandstones originally deposited by relatively shallow continental seas. Remnants of these sandstones, which are rich in plant and animal fossils, form the Pictured Rocks escarpment and its colorful cliffs.[3.1]

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

Glacial and post-glacial history contributed to the development of varied soils, and are a factor in weathering of Sand Point. Two soil types have been identified for the study area.[3.2]

Wurtsmith-Deford Complex
This soil is found on outwash plains and beach ridges, on level to 6 percent slopes. This soil formed in sandy beach deposits, and is typically composed of 1 to 4" of decomposed plant material with a base of sand. The soil is moderately well drained, has rapid permeability, and is typically not flooded or ponded. Due to the beach sand as parent material, this soil has a severe soil blowing hazard.[3.3]

Deford Muck
This soil is found on slopes of zero to 2 percent, in depressions, drainageways, and flats. This soil is poorly drained, with frequent ponding. Typically this soil has between 1 to 4" of muck and sandy muck, on a base of fine sand. There is a moderate hazard of soil blowing.[3.4]

A wider variety of soil types occur within PIRO, which support a diversity of flora and floral and faunal habitats, including forests, swamps, lakes, dunes, beaches, and cliffs.[3.5] Within the study area, forest dominates the landscape with deciduous trees and conifers growing on the inland portions of the study area and dune grasses at the shoreline.

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

3.1 Anderson, Olive M. Pictured Rocks National Lakeshore. Munising, MI: Bayshore Press, 1988, 9.
3.2 National Resources Conservation Service. *Soil Survey of Alger County Michigan.* USDA, 2013.
3.3 NRCS. *Soil Survey of Alger County Michigan.* USDA, 2013, 219; 351.
3.4 NRCS. *Soil Survey of Alger County Michigan.* USDA, 2013, 220, 303.
3.5 Chadde, Steve W. *Plants of Pictured Rocks National Lakeshore: A Complete, Illustrated Guide to the Plants 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)

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

The diverse forest and wetland communities of the study area are home to more than 40 mammal species. To date, more than 180 bird species have been documented in the area. Some reside in PIRO all year, some are present only seasonally, and others are only observed during migration. Six species of bats have been recorded within PIRO.[3.6] They are little brown bat (*Myotis lucifugus*), federally listed 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*). White-Nose Syndrome, a disease caused by fungus and associated with severe bat mortality, has been found in multiple Michigan counties, including Alger County where Sand Point/Munising USCG Life Saving Station is located. The disease was first found in Michigan in late winter 2014 and confirmed in Alger County on March 4, 2015.[3.7] This disease may lead to bat species being listed as threatened or endangered in the future.

The natural systems and features of Sand Point influenced its physical development. Sand Point is a cuspate foreland composed of beach ridges and swales. The point was formed and migrated southwest by longshore drift, a process of sediment transport. During longshore drift waves created by wind and storms meet the existing shoreline at an angle and deposit sediment eroded from the nearby geologic features.[3.8] Winds blowing from the northwest across Lake Superior have a fetch near 300 kilometers.[3.9] These constant directional winds affect the direction of erosion and accretion across Sand Point. Optically stimulated luminescence (OSL) dating techniques support this theory showing a relative and absolute trend of younger beach ridges from southeast to northwest along Sand Point.[3.10]

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

3.6 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. National Park Service, Fort Collins, Colorado. 2008.

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

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

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

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 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]

3.11 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.
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.

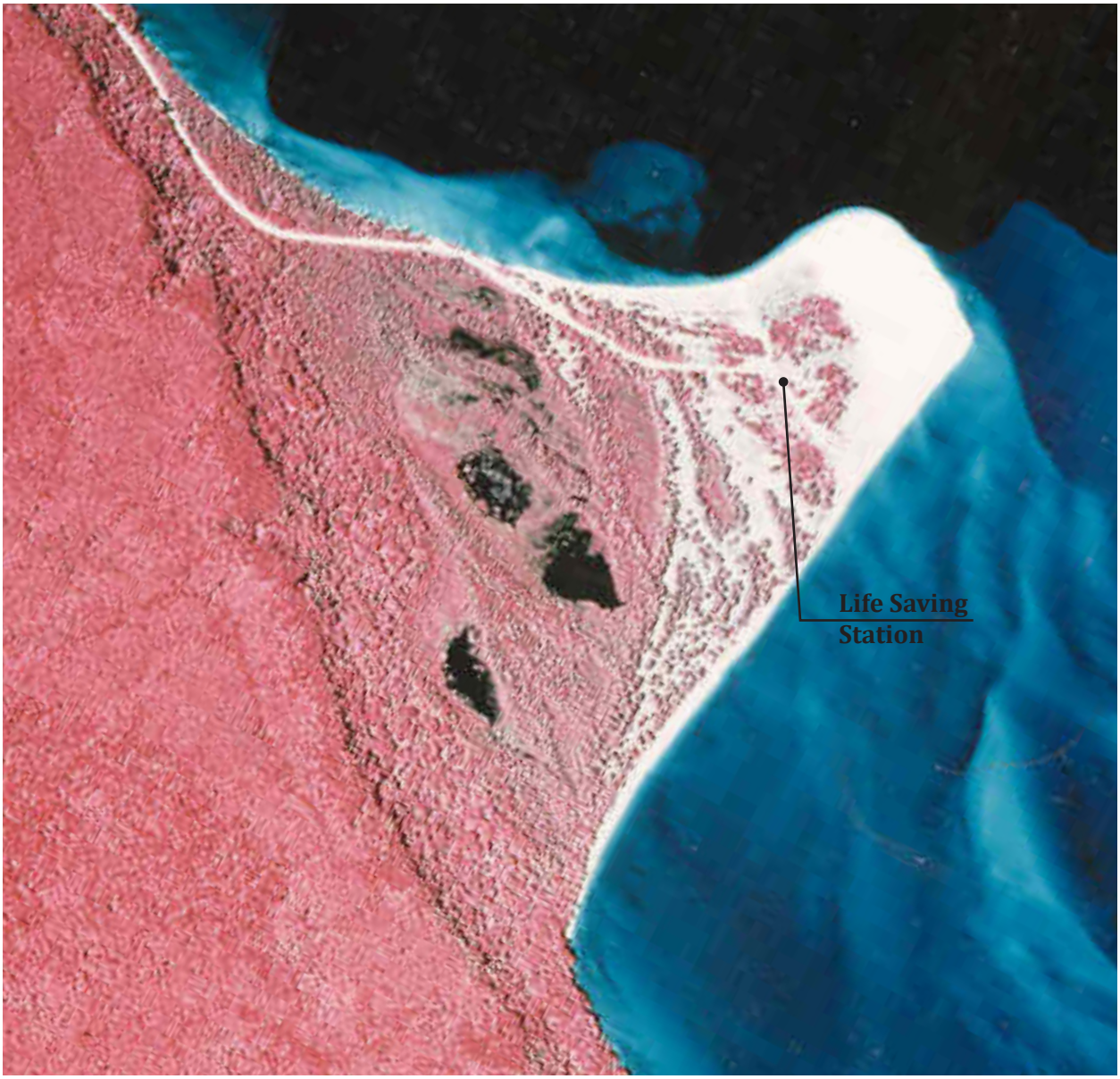


Figure 3-5. The geological formation of Sand Point extends from the shoreline to the base of the elevated plateau to the east (left in photograph). The sand at Sand Point was a dominant feature of the landscape during the period of significance. Aerial of Sand Point, 1978. (source: PIRO Archives)



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)

The study area included the Ojibwe settlement of South Bay. This area was inhabited by members of the Grand Island band of Ojibwe until the late 1800s.[3.19] South Bay included three connected villages at Bay Furnace, Sand Point, and Grand Island. Oral history accounts describe the marshland at Sand Point as a location for gathering and cultivating wild rice, a staple of the Ojibwe diet.[3.20]

Archeological resources also include those from the historic period. Archeological site 20AR422 is the remnants of a boat that may have been an early Coast Guard launch. The boat was left abandoned on the beach. In 1986, an informal investigation was undertaken on the boat. Even though a state site number was assigned to the remains, there were doubts on the site's significance and integrity. It is not known how the boat arrived the site but recent winter storms have further deteriorated the remnants.[3.21]

Land Use

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

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

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

3.19 Zedeno, et. al., *Traditional Ojibway Resources,* 154.
3.20 Zedeno, et. al., *Traditional Ojibway Resources,* 157.
3.21 Schilling, Timothy. Sand Point Archeological Investigation, Trip Report. Unpublished document, MWAC, 2016.

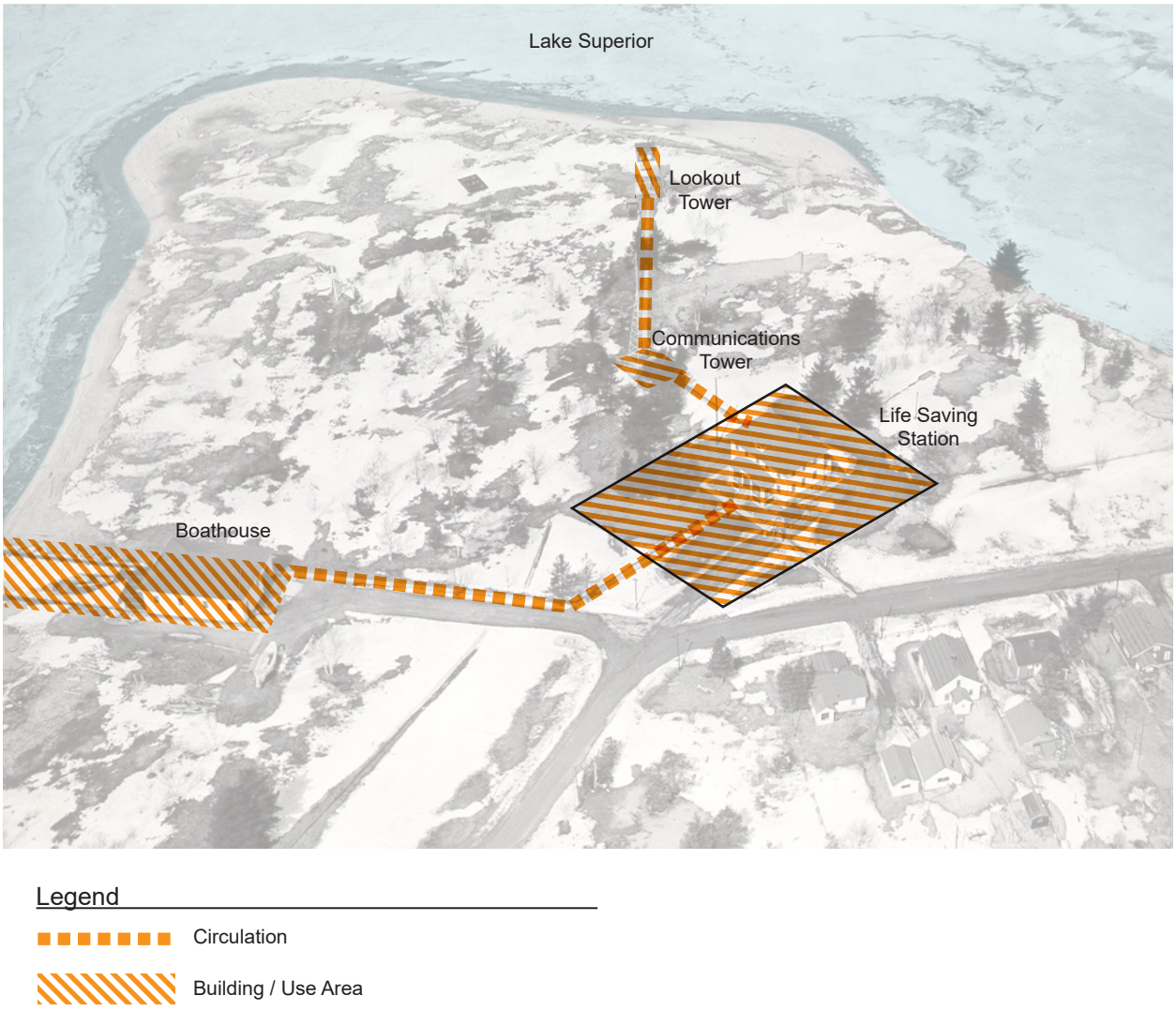


Figure 3-8. The four components of the Sand Point/Munising USCG Life Saving Station were integrated for successful operation – Lookout Tower, Communications Tower, Boathouse and Life Saving Station. These four spaces were connected visually by clearings in the vegetation and physically by walkways. The 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)

Spatial Organization

The spatial organization of the cultural landscape is arranged about the natural geography of the point. The Munising Life Saving Station (HS-01) is the most prominent feature, set in a formally arranged space with perimeter walks and lawn enclosed by a concrete curb. The Boathouse (HS-08) is aligned perpendicular to the lakeshore, with clear lines of sight to the water.

The USCG designed and organized the station into separate uses and activities, divided into four main components – Lookout Tower, Communications Tower, Boathouse (HS-08) and Munising Life Saving Station (HS-01). The station was designed as a complex of separate buildings that provided specific functions (housing, boathouse, storage, etc.). These spaces were essential for the efficient workings of the station and were connected visually by clearings in the vegetation, and physically by walkways. The Munising Life Saving Station (HS-01) was designed and sited as the most prominent feature, set at the end of Sand Point Road and raised slightly above the adjacent terrain, located south of the point, it offered ease of access to the water. The Lookout Tower was at the tip of the point, positioned to provide the best view of passing ships. The overall appearance of the cultural landscape took on a formal military-esque aesthetic of trimmed lawn and orthogonal paths with clear lines of sight.

The spatial organization has changed since the period of significance. The arrangement of buildings and structures, oriented to the water, and response to the natural terrain remains. But the visual relationships between use areas and to the water has diminished over time. The loss of the Lookout and Communications Towers disrupts the spatial pattern that existed historically as these prominent towers no longer mark the tip of Sand Point. The understanding of the study area as a working station is more difficult without the Lookout Tower. The spatial organization has been further diminished due to vegetation that obscures the visual relationship between spaces, and the poor condition of the walks that limits the connectivity that once occurred between use areas.

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. Th 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)

Topography

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

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

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

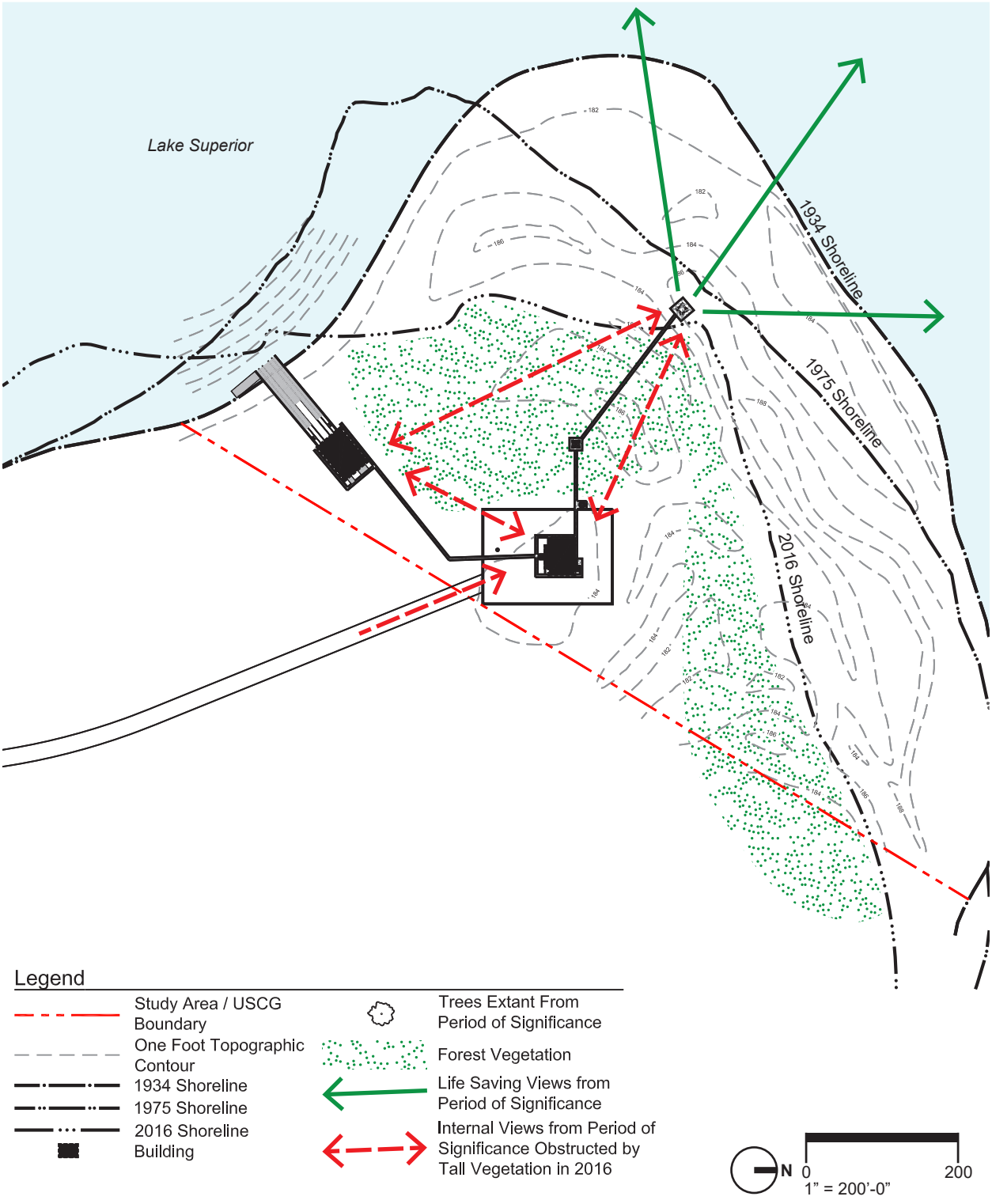


Figure 3-14. The views associated with the USCG development have changed since the period of significance. Historically the vegetation was less dense, allowing for open views across the study area. These views were essential to the successful life saving operations undertaken by the USCG. Over time vegetation 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)

Viewshed and Vistas

The primary viewshed from Sand Point is across Lake Superior to Grand Island, Miners Castle, and Munising Bay. From the tip of the point, close to the former Lookout Tower, the viewshed is towards the bay to the south and to the lake to the north and northeast. Further inland, a view of the water is from Sand Point Road towards the road terminus, and from Sand Point Road towards the Boathouse. Views between buildings and former structures, and to the water are obscured by vegetation and are in poor condition.

Historically, the viewshed was more open between the station and the water than it is at present. A view to the water was of paramount importance to the mission of monitoring and helping boats and crewmen in danger. At an elevated position the Lookout Tower filled a crucial role in keeping watch but the entire complex relied upon open views to the water, including those from the Munising Life Saving Station (HS-01) and the Boathouse (HS-08). Today these views are non-extant due to vegetation that has grown in locations where, during the period of significance, the height of the vegetation was shorter and was primarily low shrubs and grasses (Figure 3-15).

The views at Sand Point have changed from the period of significance. After the station closed, vegetation was no longer managed resulting in growth that obscures views that were once necessary for USCG operations. Views that existed between the Munising Life Saving Station (HS-01) and the lake are non-extant. Views between the Boathouse and Launchway (HS-08) and lake are in good condition. Along the walkway to the Communications Tower and Lookout Tower, the vegetation has become so dense that the visual connection between these historic features is diminished.

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)

Circulation

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

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

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

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

The staff parking near the Munising Life Saving Station (HS-01) was originally a narrow drive that provided vehicular access to the building for the USCG's single truck. The staff parking expanded the narrow drive, created a drive, and provided parking at the east edge. A garage and fuel station were added to the rear of the building at the same time both are non-extant. The addition of the staff parking and drive has disrupted the historic arrangement of the circulation routes. These modifications dispersed vehicular traffic into areas that were previously lawn spaces or were undeveloped.

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

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

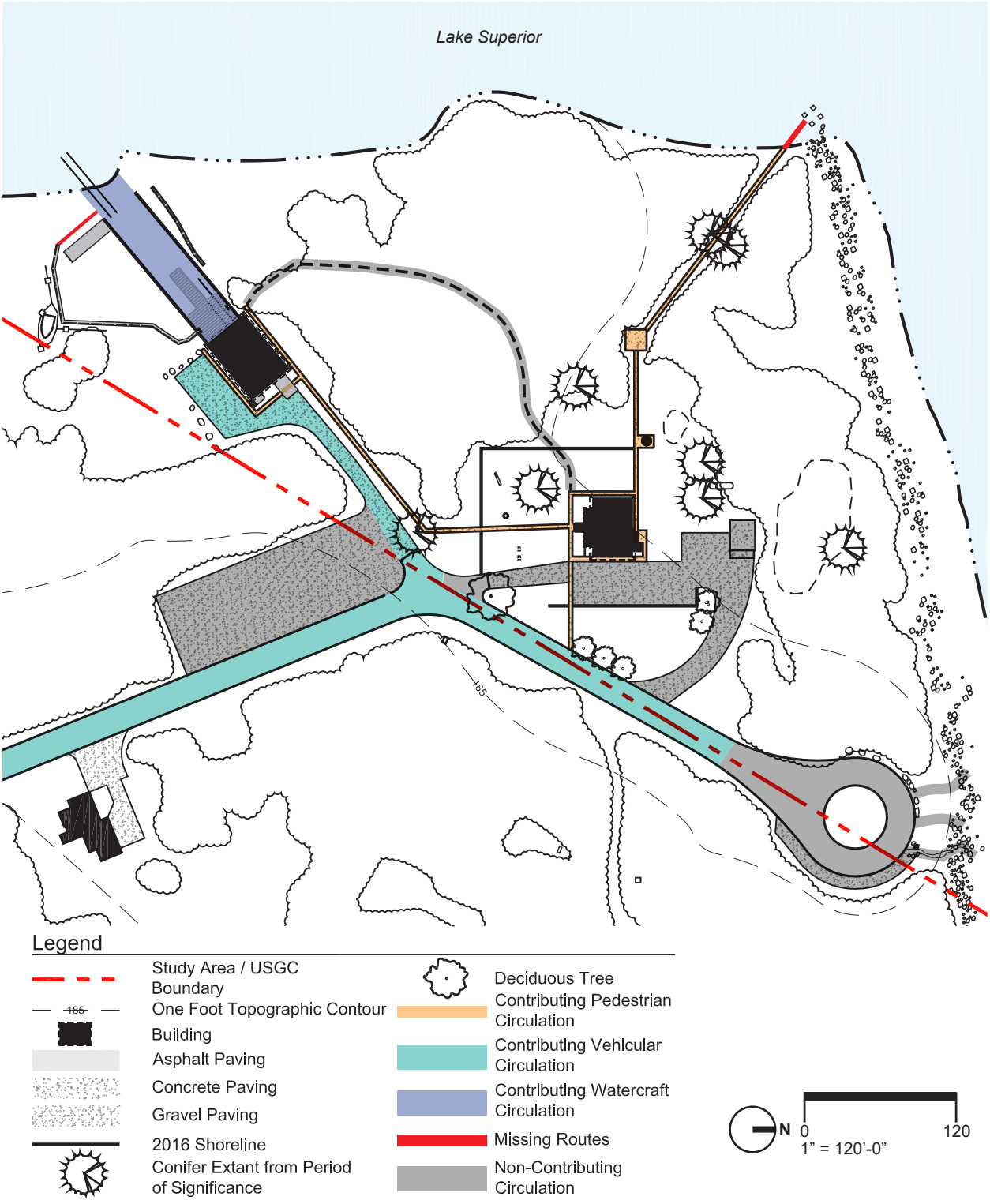


Figure 3-23. Circulation routes have remained in-tact from the period of significance. The overall circulation pattern remains, but the expanded vehicular circulation routes and poor condition of many walks threatens the integrity of the original design. (source: Mundus Bishop 2016)

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)

Buildings and Structures

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

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

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

The Munising Life Saving Station (HS-01), Oil House (HS-02), Boathouse and Launchway (HS-08) were built in the 1930s, and have had few alterations since that time. As designed and built, the buildings and structures were arranged in a V-shape, in response to the natural geography of Sand Point. The Munising Life Saving Station (HS-01) was placed the furthest inland and the other structures placed at the edge of the lake. The removal of the Communications Tower and Lookout Tower diminished the historic arrangement because these two structures were key components of the working station. Recent additions to the buildings and structures have been minimal and include replacement of the east ramp at the Boathouse, and slight reconfiguration of interior spaces inside the Life Saving Station. Overall, the historic building arrangement 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)

Small Scale Features

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

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

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



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)

Vegetation

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

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

The planting design for Sand Point/Munising USCG Life Saving Station established during the 1930s was minimal, but is evident in today's landscape. The USCG did not extensively plant vegetation and focused efforts on establishing a formal lawn around the Munising Life Saving Station (HS-01). Recommendations for the design of the grounds were not extensive, but came with standard USCG recommendations that "the grounds shall present a neat appearance, rough places shall be leveled, lawns and shrubbery, if any, shall be trimmed."[3.22] White pine trees that were already standing were allowed to remain, while other trees were removed, in order to establish clear lines of sight to the water. Some of the white pine trees are extant from this time. By the 1960s the native forest had begun to reestablish in the former clearings.

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

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

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

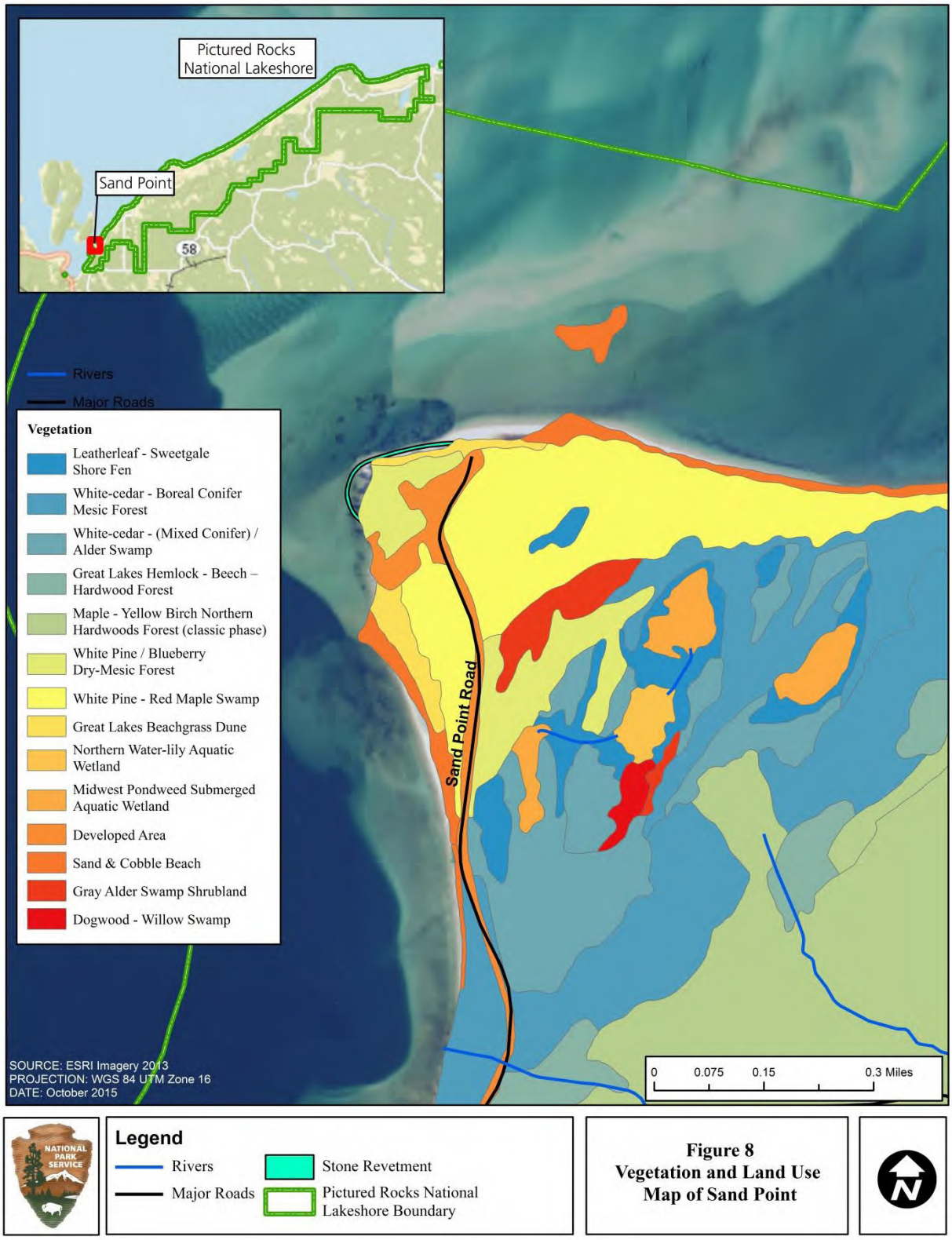


Figure 3-58. Vegetation and Land Use Map of Sand Point. (source: Environmental Assessment for Sand Point Revetment, November 2015)

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 (*Asparagus officianalis*) Honeysuckle (*Lonicera spp*) Common Lilac (*Syringa vulgaris*) Rose (*Rosa spp*) Lily-of-the-Valley (*Convallaria majalis*) Sedum (*Sedum spp*) *Forget-me-not (*Myosotis sylvatica*) *Bishops Goat Weed (*Aegopodium podagraria*) Apple (*Malus spp*) Locust (*Robinia pseudoacacia)* Narcissus (*Narcissus spp*) Bearded Iris (*Iris spp*) * invasive, exotic species	Fair	Contributing

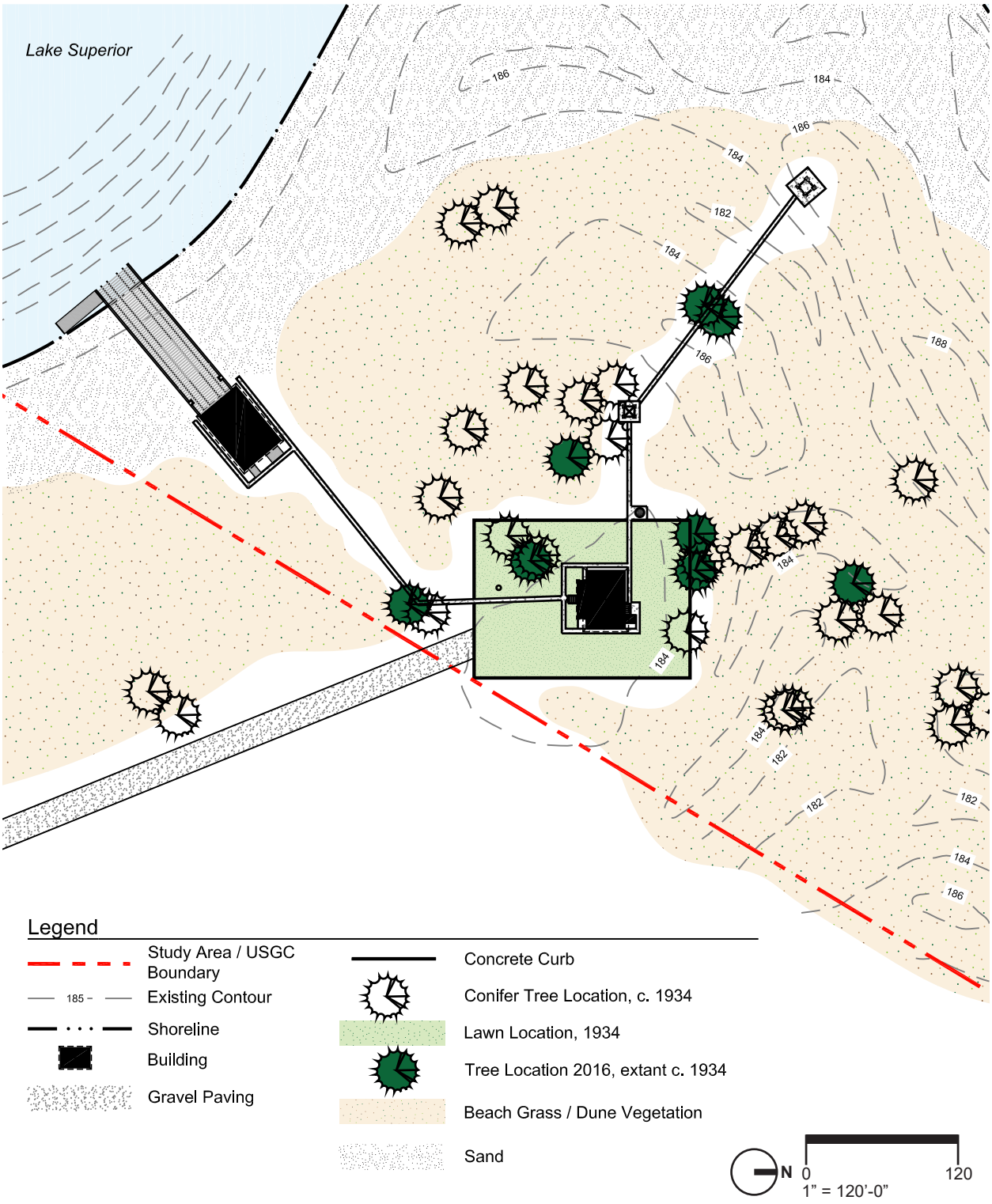


Figure 3-59. Several trees remain from the period of significance, identified on a plan from 1934. It appears that these trees were not deliberately planted, but were allowed to remain, while many of the other trees and tall shrubs were removed to provide necessary views to the water. A formal lawn was 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)

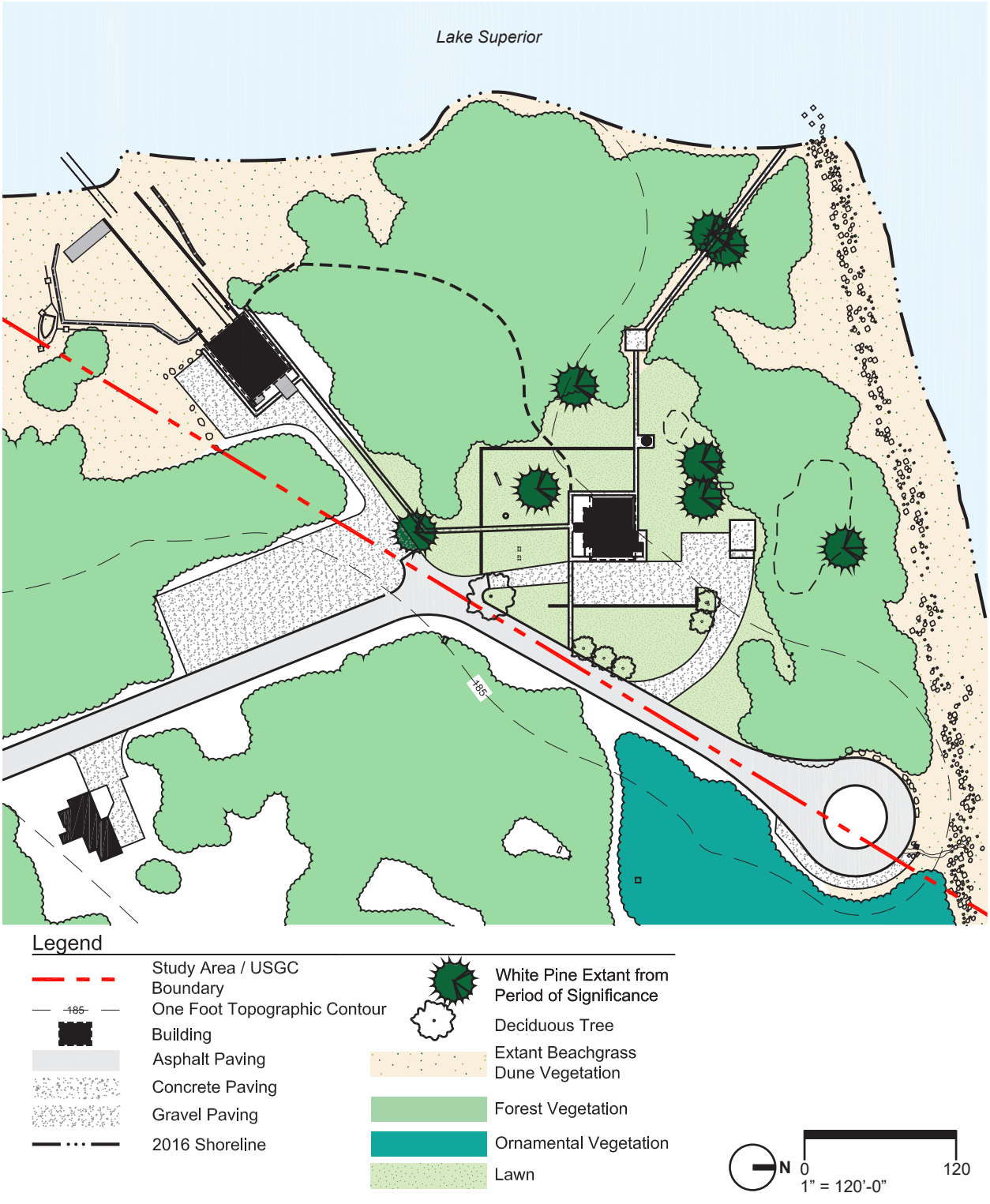


Figure 3-60. Existing vegetation includes native trees and shrubs, dune vegetation, and ornamental vegetation. Several white pine trees and a formal lawn are extant from the period of significance. (source: Mundus Bishop 2016)



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

This section describes the resources potentially impacted by the treatment alternatives. It is organized by impact topics that were derived from scoping sessions - historic structures; cultural landscapes; native vegetation; and non-native ornamental and invasive, exotic plant species. More detailed information on biological resources in PIRO may be found in the GMP and in documents referred to in the text and cited in the bibliography.[3.23] Where applicable, links to documents available on the Internet are provided in the bibliography.

Historic Structures and Cultural Landscapes

The following is a summary of the historic structures and cultural landscape features associated with the station. The structures and landscape features are fully described in chapter 2.

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

The station represents the evolution from utilitarian structures to cohesive complexes designed by professional architects. The station also represents the development of standardized facilities created in response to the need for an organized federal service to provide maritime aid. It retains nearly all the primary and contributing structures and landscape features needed for a self-sufficient life saving station.

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

Historic Structures

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

Cultural Landscape

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

3.23 PIRO GMP.

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

Fire prevention and lack of vegetation management to maintain views to and from the station have resulted in dense vegetation in areas that had little to no vegetation during the period of significance. The change in vegetation and resulting changes in views affect the integrity of the connections between the station and Lake Superior during the period of significance.

Native Vegetation

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

An in-depth inventory and mapping of vegetation communities present in the park was reported upon in May 2010.[3.24] Vegetation communities present in the station include White Pine/Blueberry Dry-Mesic Forest, Great Lakes Beachgrass Dune, and White Pine/Red Maple Swamp (Figure 3-58). Areas of sand and cobble beach and developed area are also present.

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

Great Lakes Beachgrass Dune
This community is present on .53 acres (7 percent) of the station along the shoreline on stabilized foredunes subject to wave

3.24 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).

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

White Pine/Red Maple Swamp

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

Non-native Ornamental and Invasive, Exotic Plant Species

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

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

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Chapter 4. Treatment Alternatives

Introduction

This chapter presents treatment alternatives for the repair, protection and stewardship of the cultural landscape. These treatment alternatives were initially developed during the work session in June 2016 and refined in a work session October 2016. This chapter describes the no action and two action alternatives. The description of the no action alternative is presented first, followed by a description of each action alternative. A summary of the alternatives, organized by area, is presented as a matrix (Matrix 4-1). Cost estimates are provided for each alternative, as an appendix.

The *No Action Alternative* provides a basis for comparison with the action alternatives. Under the no action alternative, contributing and non-contributing features would be preserved and maintained. The no action alternative includes current park projects, those planned for the foreseeable future, and recommendations included in the GMP.

The two *Action Alternatives* would focus on preserving contributing features, repairing the historic setting, and providing accessibility upgrades.

Action Alternative A would follow a preservation approach. It would repair contributing features, remove select non-contributing features that distract from the historic setting, and would provide accessibility upgrades. Alternative A explores the minimum actions recommended in order to maintain the cultural landscape and to ensure its continued integrity. The vision for Alternative A is to preserve the site and its features as they are currently, without introducing extensive new features. Actions would repair spatial connections between key areas, and vegetation would be thinned to reveal historic views. This alternative would repair historic walks and small scale features so the landscape reads as a cohesive experience. In this alternative, the Munising Life Saving Station (HS-01) would be preserved with NPS administrative offices and limited visitor use. The visitor parking area would be supplemented with a vault toilet and additional parking. Non-contributing boardwalks would be repaired to provide access to the shoreline.

Action Alternative B would take a rehabilitation approach, which would allow expanded uses and repairs to features. Alternative B explores actions that enrich the cultural landscape from a visitor perspective. The setting of the Munising Life Saving Station (HS-01) would be restored to its formal USCG appearance as a prominent structure set within a well-maintained and neat landscape. This alternative restores historic views and connections between historic spaces. Visitors would be encouraged to explore the historic site and buildings to understand the USCG activities that took place at Sand Point. In this alternative, the Munising Life Saving Station (HS-01) would have expanded visitor uses and the NPS administrative offices would be relocated. Visitor experience would be accommodated in the interior of the Boathouse, which would be modified to house a new public restroom. The sand would be removed from the Launchway to reveal the historic structure and the rails would be restored. Vegetation would be removed to repair historic spatial patterns and views, and the front lawn and concrete curb would be restored to their full historic extents.

Treatment Approaches

Four distinct approaches to the treatment of the cultural landscape were considered.[3.1] Brief descriptions of each treatment approach follows.

Preservation is an appropriate treatment approach for a cultural landscape with a continuity of use and few modifications. This approach is suited for a property where its distinctive materials, features, and spaces are intact, and for which extensive modifications or additions are not required. The preservation treatment approach allows contributing features to be preserved, restored, or repaired.

Rehabilitation is an appropriate treatment approach for a cultural landscape with a long period of significance, has undergone few modifications, and has integrity in one or more characteristics: location, setting, materials, workmanship, feeling, and association. Rehabilitation is appropriate for a property where new additions are contemplated. The rehabilitation treatment approach allows features to be preserved, rehabilitated, reconstructed, or restored.

Reconstruction is an appropriate treatment approach for a cultural landscape with a vast amount of documentation that would allow, by means of new construction, the form, features, and detailing of a non-surviving features to be replicated to its appearance at a specific period of time and in its historic location.

Restoration is an appropriate treatment for a cultural landscape with documentation to accurately depict the form, features, and character of earthwork complexes as it appeared during a particular period of time by removing features from other periods in history and reconstructing missing features from the restoration period.

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

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

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

1. Preservation and rehabilitation actions will protect the cultural landscape, including its historic character and individual features as these contribute to its significance.

2. Cultural resources will be protected through accepted practices including preservation, stabilization, rehabilitation, restoration and repair. The cultural landscape will be protected by repairing features and patterns, restoring missing historic features, and by allowing removal of noncontributing features.

3. Universal access will be improved to the Boathouse, Life Saving Station and site. Appropriate locations for new visitor facilities including new restrooms, parking and wayfinding will be addressed.

4. A strategy for maintenance and repair of features will be identified, including level of vegetation clearing to restore views, repairs needed for walks, concrete curbs, and other landscape features.

5. Opportunities for further research and investigation, including archeological investigations and other documentation needs, will be identified.

6. Strategies for protection of threatened and endangered species in coordination with cultural resources will be identified.

7. The natural shoreline and vegetation that contribute to the cultural landscape will be retained and enhanced.

No Action Alternative

The no action alternative would include actions undertaken as part of regular operations. This provides a basis for comparison with the action alternatives. Under the no action alternative, the present level of use, management, interpretation, maintenance and operations would continue. The no action alternative includes actions identified in the GMP, LRIP, and actions already identified and/or in-progress. As identified in the GMP, LRIP, and Revetment EA, the no action alternative would include the following actions.

- The Munising Life Saving Station (HS-01), Boathouse and Launchway (HS-08) would be preserved to protect the architectural values associated with their period of significance (1933 to 1946, with an emphasis on the 1940s).

- NPS operations would be removed from Sand Point and relocated adjacent to the Munising maintenance facility. When this occurs, the LRIP recommends the former Munising Life Saving Station be refurnished to its 1940s appearance on the first floor, with the second floor as seasonal staff housing. The grounds would be restored to the 1940s appearance.[3.2]

- Sand Point would be managed to provide visitors with opportunities to learn about Coast Guard history. The improved visitor experience would expand the museum exhibits in the Boathouse, and new waysides would tell the stories of the U.S. Life Saving Service and U.S. Coast Guard.

- The rock revetment along the shoreline would be removed, and the area restored with soft-engineering methods to rehabilitate the shore and appearance of Sand Point.

3.2 PIRO GMP, 61.

Action Alternative A

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

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

Spatial Organization / Views

- Preserve contributing spatial organization, views and formal arrangement of USCG spaces.
- Repair historic views and spatial relationships by repairing walks and partially reestablishing vegetation patterns.
- Repair contributing views by thinning vegetation in key locations.

Archeological Sites

- Protect known archeological sites.

Circulation

- Retain Sand Point Road, access drives, and pedestrian routes.
- Repair network of pedestrian concrete paths through cyclic maintenance.
- Repair non-contributing boardwalk. Repair the reconstructed dock as needed to match the historic USCG dock.
- Lessen the impact of the staff parking area on by modifying the size and reducing the number of spaces.
- Remove the non-contributing gravel area to the south of the Boathouse.
- Modify the visitor parking area to formalize the layout and improve ingress and egress.

Buildings and Structures

- Preserve the Munising Life Saving Station (HS-01) and its formal setting with short mown lawn and orthogonal walks. Provide universal access into the structure with a ramp on the building's west edge that connects to the front porch.
- Preserve the Oil House through routine and cyclic maintenance.
- Preserve the Boathouse and Launchway. Allow sand to remain in Launchway, in order to protect the structure. Provide an accessible ramp into the Boathouse.
- Preserve the Communications Tower foundation and the Lookout Tower foundation.
- Remove non-contributing garage foundation.
- Provide an accessible vault toilet at the visitor parking area, sited out of the viewshed of the historic structures.

Small Scale Features

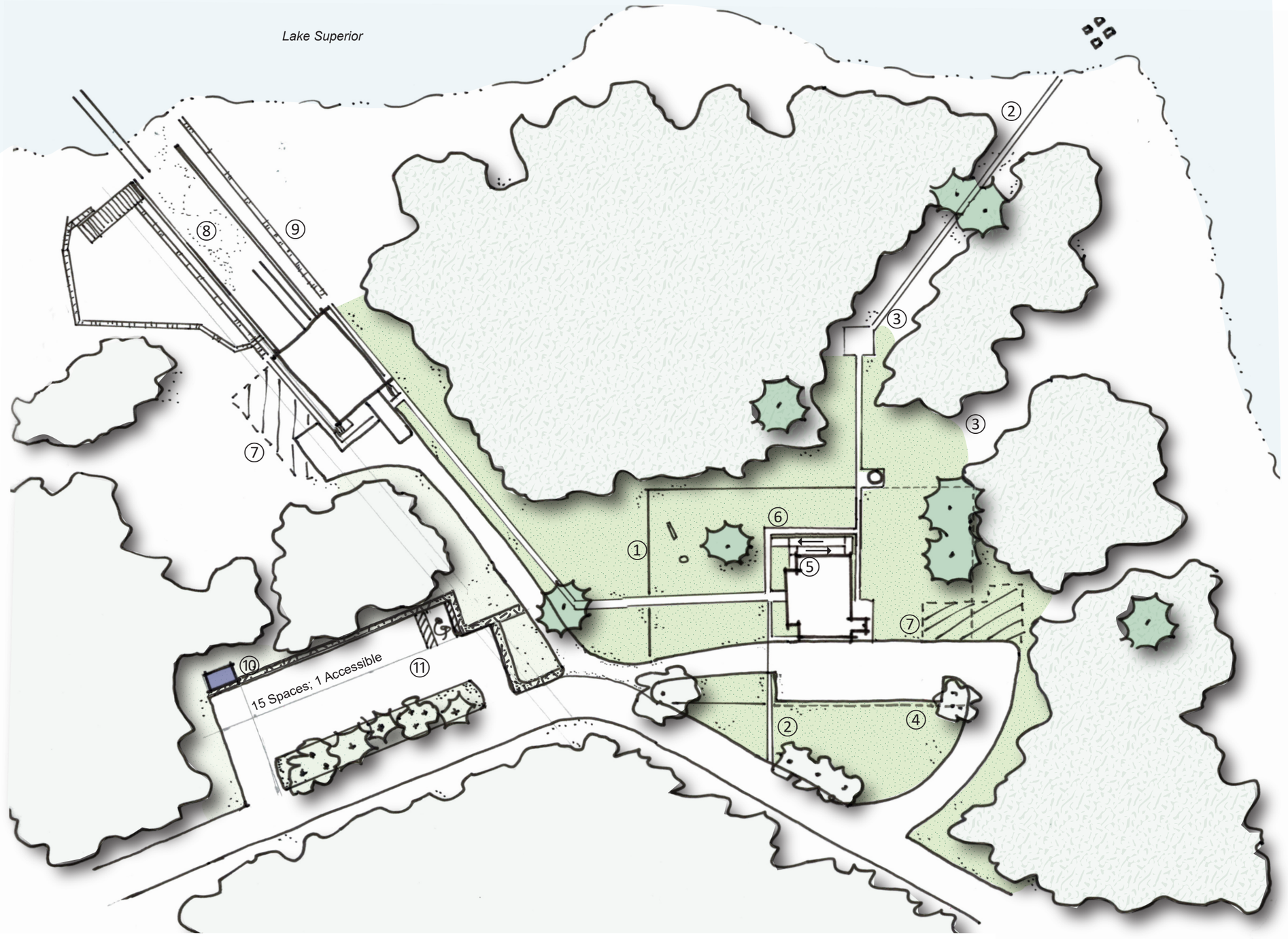
- Repair the concrete curb around the Munising Life Saving Station (HS-01) where it is extant above grade.
- Remove fence and boat hull.

Vegetation

- Thin woodland vegetation where it has encroached upon historic views to the water.

- Maintain existing lawn surrounding the Munising Life Saving Station (HS-01) .

- Preserve extant trees that date from the period of significance.



Legend

- Preserve Tree Extant from Period of Significance
- Thin Forest Vegetation
- Preserve Existing Trees
- Preserve Existing Lawn
- New Vegetation
- New Restroom Structure

Notes

1. Repair Concrete Curb, Preserve Portion Below Grade
2. Repair Walk
3. Thin Vegetation for Views
4. Preserve Existing Lawn and Tree
5. Accessible Ramp at 1:12
6. Re-route Path at Ramp
7. Remove N/C parking
8. Retain Sand in Launchway
9. Repair Boardwalk
10. Vault Toilet
11. Formalize Parking Area

W S N E

0 60

1" = 60'-0"

OCTOBER 2017

UNITED STATES
DEPARTMENT OF THE INTERIOR

PICTURED ROCKS NATIONAL LAKESHORE
MUNISING, MICHIGAN

625-135195

TITLE OF PROJECT
CULTURAL LANDSCAPE REPORT
AND ENVIRONMENTAL ASSESSMENT

TITLE OF DRAWING
ILLUSTRATION 4-1 TREATMENT ALTERNATIVE A

NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION

REGION MIDWEST | COUNTY ALGER | STATE MICHIGAN

Action Alternative B

Action Alternative B would add actions to fully repair the historic setting. This alternative would utilize a rehabilitation approach in order to maintain the historic integrity of the cultural landscape. Rehabilitation is well-suited for the cultural landscape as it requires repair of features and adaptive reuse for contemporary and compatible uses.

This alternative would allow the most extensive change to existing conditions in order to rehabilitate the cultural landscape to the greatest extent possible. Historic spatial patterns and views would be restored, and greater visitor access throughout the site would be accommodated. This alternative identifies expanded opportunities for visitor contact, improved wayfinding, and greater legibility of the cultural landscape (Illustration 4-2). Rehabilitation projects include the following actions.

Spatial Organization / Views

- Preserve contributing spatial organization, views and formal arrangement of USCG spaces.
- Repair to the full extent historic views and spatial relationships by restoring walks and vegetation patterns.
- Repair contributing views by removing vegetation where it obscures historic views.

Archeological Sites

- Protect known archeological sites.
- Consult with affiliated tribes to identify themes and approaches to marking and/or interpreting their history at Sand Point.

Circulation

- Retain Sand Point Road, access drives, and pedestrian routes.
- Repair network of pedestrian concrete paths, resetting and adding material as needed to restore the full extent of the path.
- Remove non-contributing boardwalk, as this route does not match the historic routes.
- Repair the reconstructed dock as needed and to match the historic USCG dock. Provide additional boardwalks on either side of the Launchway, to connect with the dock and shoreline.
- Remove staff parking area to restore the setting of the Munising Life Saving Station (HS-01).
- Remove the non-contributing gravel area south of the Boathouse.
- Expand the visitor parking and formalize the layout. Improve ingress and egress.
- Allow parallel parking at the east edge of Sand Point Road as an interim parking solution. Long-term, expand parking and operations area in the formerly disturbed area east of Sand Point Road.
- Maintain existing loop drive at the end of Sand Point Road. Expand the radius of the road terminus in order to accommodate larger vehicles.

Buildings and Structures

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

plinth that frames the building. Provide universal access into the structure with an exterior lift at the main entrance.

- Preserve the Oil House through routine and cyclic maintenance.

- Preserve the Boathouse and rehabilitate with an accessible ramp into the structure.

- Provide an interim vault toilet adjacent the visitor parking area. Long-term, locate a visitor restroom inside the Boathouse.

- Preserve the Launchway. Remove sand that obscures the form and function of the structure and reveal the edges of the bulkhead. 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 non-extant towers.

- Remove non-contributing garage foundation.

<u>Small Scale Features</u>

- Repair the concrete curb around the Munising Life Saving Station (HS-01), revealing the full form of the curb.

<u>Vegetation</u>

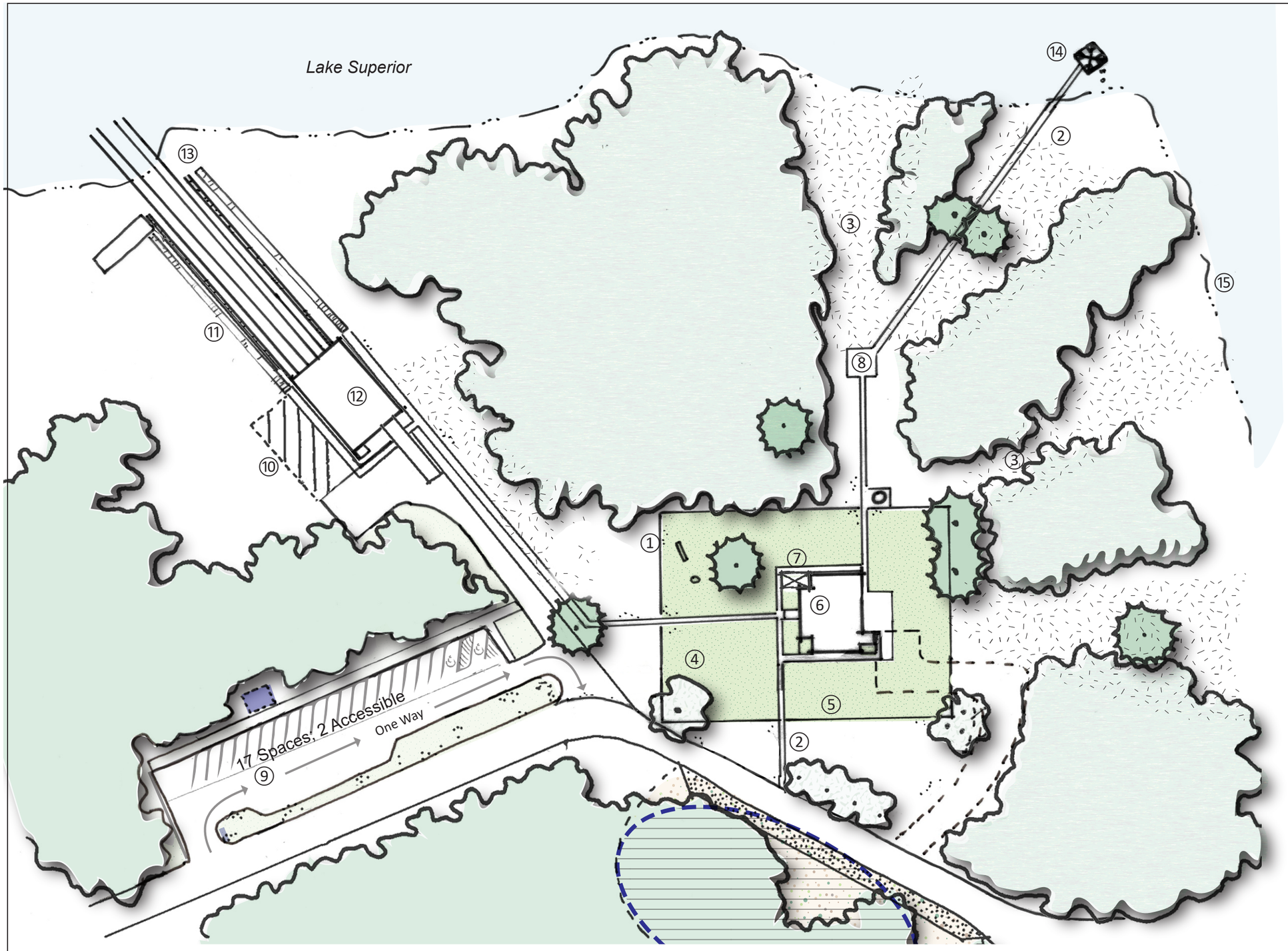
- Thin trees and vegetation where it encroaches on historic views to the water.

- Repair the lawn surrounding the Munising Life Saving Station (HS-01) to within the concrete curb as was the historic design intent.

- 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 utilize established trails through sensitive ecological areas.



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

W S N E

0 60

1" = 60'-0"

OCTOBER 2017

UNITED STATES
DEPARTMENT OF THE INTERIOR

PICTURED ROCKS NATIONAL LAKESHORE
MUNISING, MICHIGAN

625-135195

TITLE OF PROJECT
CULTURAL LANDSCAPE REPORT
AND ENVIRONMENTAL ASSESSMENT

TITLE OF DRAWING
ILLUSTRATION 4-2 TREATMENT ALTERNATIVE B

NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION

REGION: MIDWEST | COUNTY: ALGER | STATE: MICHIGAN

Mitigation Measures

The NPS places strong emphasis on protecting resources against potentially adverse impacts. Mitigation is used to avoid, prevent, or minimize adverse impacts during implementation of projects. Mitigation is also considered when treatment alternatives are developed. An alternative's potential impacts to resources are minimized whenever possible, while still meeting project objectives. For example, the extent of proposed vegetation management under each treatment alternative is the minimum necessary to meet the alternative's objectives. To further minimize impacts, general measures are implemented during and after construction. The following mitigation measures would be implemented as part of whichever treatment alternative is selected. The NPS may need to obtain federal and state environmental permits and, as part of that process, additional mitigation measures could be required by other agencies. The NPS would implement an appropriate level of monitoring throughout project activities to ensure that protective measures are being properly implemented and are achieving their intended results.

General Measures

The following general measures would be implemented during construction of any selected treatment alternative.

- The work area limits would be clearly defined, fenced, flagged, and delineated to keep ground disturbance to a minimum. No disturbance would occur beyond these limits other than protection measures for erosion/sediment control.

- All contractor employees and subcontractors and park seasonal, contract, and concession employees would attend an orientation session(s) regarding park regulations focused on minimizing impacts on resources, human health and safety, and appropriate housekeeping.

- All tools, equipment, barricades, signs, surplus materials, and rubbish would be removed from the project area upon project completion. Construction debris would be hauled from the park to an appropriate disposal location.

- Staging, materials, and equipment would be in developed areas such as existing parking lots to the extent possible.

Water Resources

- If minor earthwork is necessary, standard erosion-control measures such as silt fencing would be used to minimize erosion and the introduction of sediments to aquatic habitat during and after construction.

- All vehicle and equipment fueling would occur more than 100 feet from any surface water in a location where a fuel spill would not be able to enter the water.

- A spill prevention and response plan that regulates the use of hazardous and toxic materials, such as fuels and lubricants for construction equipment, would be prepared.

Wildlife and Species of Concern

- Construction personnel would be instructed on appropriate behavior in the presence of wildlife and on proper storage and handling of food, garbage, and other attractants.

- Plans would identify areas of sensitive vegetation to avoid (if any) and would designate areas for stockpiling slash material.

- To reduce noise disturbance and limit impacts on breeding avian and mammalian species, all tree and shrub thinning and removal would be conducted from October 1 to March 1, where feasible.

- If tree and shrub thinning and removal must occur between March 1 and October 1, field surveys for migratory bird nests and cavities and bat roosts and nurseries would be conducted prior to vegetation-disturbing activities. Where active nests or nurseries are present, vegetation removal would not occur until after the young have fledged, and ground-disturbing activities would not occur within 100 feet until the young have fledged.

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

Native Vegetation and Non-native Ornamental and Invasive, Exotic Species

- Non-invasive ornamental tree and shrub species would be used in cultural landscape treatments.

- Disturbance to vegetation would be avoided as much as possible and contained to as small a footprint as possible.

- Temporary barriers may be provided to protect existing trees, plants, and root zones not proposed for removal or thinning. Trees or other plants would not be removed, injured, or destroyed without prior approval.

- All equipment entering the park would be cleaned and pressure washed to remove foreign soil, vegetation, and other materials that may contain nonnative seeds or vegetation.

- All disturbed areas would be revegetated with native species. Revegetation plantings, if necessary, would use native species from genetic stocks originating in the park, if possible. Revegetation efforts 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	• 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.	• 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	• Protect known archeological sites.	• 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	• Repair the concrete curb around the Life Saving Station where it is extant above grade. • Replace non-contributing small scale features.	• Repair the concrete curb around the Life Saving Station, revealing its full extent. • Replace non-contributing small scale features.
Circulation	• 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.	• 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	• 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.	• 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	• 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.	• 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 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.

NPS Preferred Alternative

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

Chapter 5. Environmental Consequences

Assessment of Impacts

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

Cumulative Impacts

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

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

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

Invasive, exotic species, particularly plant species, have spread to various degrees throughout Sand Point due to past disturbance and visitor activities. NPS has managed, and continues to manage, invasive and exotic plant species on Sand Point and these management activities will continue in the future.

The park is currently evaluating alternatives to address shoreline erosion at the rock revetment on Sand Point. The revetment, constructed in 1990 and 1991 to protect against severe shoreline erosion on Sand Point, is failing. The revetment Environmental

Assessment identifies the preferred alternative as removing the rock revetment and restoring the area with soft-engineering methods to rehabilitate the shore and appearance of Sand Point. If the preferred alternative is selected, implemented, and functions as intended, the shoreline would naturalize, potentially resulting in establishment of a wider beach between the shoreline and historic structures and an increase in native-vegetated areas. Some small amount of sand nourishment may be undertaken by the park following storm events that cause erosion.
The park has no other current or planned projects on Sand Point. The actions from the GMP and LRIP described in the no action alternative are not reasonably-foreseeable because they do not have funding or an established implementation schedule. For this reason, they are not considered in the cumulative effects analysis.

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

Management of invasive exotic plant species and the revetment alternatives would not incrementally contribute to the impacts to historic structures described in this chapter, so cumulative impacts to historic structures are not considered further. Cumulative impacts to cultural landscapes; native vegetation; and non-native ornamentals and invasive, exotic plant species are described under each resource impact section.

Historic Structures

No Action Alternative

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

Conclusion. Because current management practices and maintenance capabilities 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 on historic structures.

Alternative A

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

Conclusions. Preservation activities proposed under Alternative A would result in small beneficial effects on historic structures.

Alternative B

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

Conclusions. Rehabilitation activities proposed under Alternative B would result in modest beneficial effects on historic structures. Because of its rehabilitation focus, and removal of administrative functions, the beneficial effects of Alternative B would be somewhat greater than those under Alternative A.

Cultural Landscapes

No Action Alternative

Under the no action alternative, the park would continue current levels of cultural landscape management. Parking would remain in its current configuration and bluegrass lawn would remain at 1.35 acres. The historic and visual character of the cultural landscape would continue to not be fully conveyed. Native vegetation would continue to encroach into cultural landscapes. Vegetation encroachment and weathering would continue to deteriorate some cultural landscape features such sidewalks and lawn edging. Thus, the no action alternative would diminish the overall integrity of the cultural landscape, resulting in modest adverse effects.

Cumulative Impacts. Implementing the revetment EA preferred alternative may restore shoreline functions to conditions similar to those during the period of significance, which would have a small beneficial effect on the cultural landscape. When combined with the revetment work, the adverse effects of the no action alternative would have the potential for modest adverse cumulative effects on the cultural landscape, along with small beneficial effects.

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

Alternative A

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

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

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

Cumulative Impacts. The beneficial effects of Alternative A would contribute incrementally to those of past, present, and reasonably foreseeable actions, resulting in small beneficial cumulative effects on cultural landscapes.

Conclusions. Under Alternative A, small beneficial effects would result from rehabilitation measures. Cumulative impacts would also be small and beneficial.

Alternative B

The rehabilitation approach would allow expanded uses and repairs to landscape features. The setting of the Life Saving Station living quarters would be restored to its formal USCG appearance as a prominent structure set within a well-maintained and neat landscape. Existing contributing landscape features would be repaired or altered, and missing historic features would be restored. Some noncompatible features would be removed. About 1.14 acres of native White Pine/Blueberry Dry-Mesic Forest would be managed to better represent the extent of clearing and views during the period of significance. Bluegrass lawn would be reduced by 0.48 acre and the staff parking area would be removed, resulting in the restoration of 0.26 acre of native vegetation. Sixteen new trees would be added. An estimated 150 cubic yards of sand would be removed from the Launchway. The alternative may also include adding compatible, contemporary structures that would visually mark the height of the nonextant communication and lookout towers.

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

Cumulative Impacts. The beneficial effects of Alternative B would contribute incrementally to those of past, present, and reasonably foreseeable actions, resulting in modest beneficial cumulative effects on cultural landscapes.

Conclusions. Under Alternative B, modest beneficial effects would result from rehabilitation measures. Cumulative impacts would also be modest and beneficial.

Native Vegetation

No Action Alternative

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

Cumulative Impacts. Implementing the preferred revetment EA alternative would have a small beneficial effect if the extent of native vegetation increased on stabilized sand deposits. However, the no action alternative would not have no additive effects, so the no action alternative would not have a cumulative effect.

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

Alternative A

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

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

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

Conclusion. Because Alternative A would include permanently modifying about 0.63 acres of native vegetation and increase bluegrass lawn by 0.37 acre, its effects would be small and adverse. Cumulative effects would be small and both beneficial and adverse.

Alternative B

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

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

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

Conclusion. Because Alternative B would include permanently modifying about 1.14 acres of native vegetation, its effects would be modest and adverse. Cumulative effects would be modest and adverse and small and beneficial.

Non-Native Ornamentals and Invasive, Exotic Plant Species

No Action Alternative

There would be no new project-related ground disturbance or associated introduction of non-native ornamentals or invasive, exotic plant species with the potential to adversely impact native vegetation under the no action alternative. Existing levels of invasive, exotic plant species would persist. No new non-native ornamental plant species would be added to the study area. For these reasons, the no action alternative would have no new effect on non-native ornamentals and invasive, exotic plant species.

Cumulative Impacts. Past disturbance has introduced and spread invasive ornamental and exotic plant species, as will current and future disturbance. NPS efforts to control the introduction and spread of these species will reduce, but not eliminate them, resulting in small adverse effects. Because the no action alternative would not introduce or spread non-native ornamentals or invasive, exotic plant species, there would be no cumulative effects.

Conclusion. No new adverse effects of non-native ornamentals and invasive, exotic plant species would result from the no action alternative and there would be no cumulative effects.

Alternative A

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

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

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

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

Conclusion. The effects of non-native ornamentals and invasive, exotic plant species under Alternative A would at most be noticeable, long-term, and adverse. Cumulative effects would also, at most, be noticeable, long-term, and adverse.

Alternative B

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

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

Conclusion. The effects of non-native ornamentals and invasive, exotic plant species under Alternative B would at most be noticeable, long-term, and adverse. Cumulative effects would also, at most, be noticeable, long-term, and adverse.

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]

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*),

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

5.2 National Park Service biodiversity database.

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.

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

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

Reptile and amphibian species present include wood turtle (*Clemmys insculpta*), American toad (*Bufo americanus*), spotted salamander (*Ambystoma maculatum*), spring peeper (*Hyla crucifer*), leopard frog (*Rana pipiens*), painted turtle (*Chrysemys picta*), snapping turtle (*Chelydra serpentina*), eastern garter snake (*Thamnophis sirtalis*), and northern water snake (*Nerodia sipedon*).[5.6]

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

Environmental Consequences

The alternative with the largest footprint (Alternative B) would disturb up to 1.14 acres of wildlife habitat consisting of mixed trees and shrubs within the study area. The 1.14 acres would receive at least some vegetation management treatment, with most tree and shrub thinning focused on creating view corridors in the approximately 3-acre woodland at the tip of Sand Point between Lake Superior, Boathouse, Life Saving Station, and the end of Sand Point Road. Treatment Alternative A would have similar effects on 0.63 acre and the No Action Alternative would have no new disturbance on vegetation.

No Action Alternative

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

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

5.6 National Park Service biodiversity database.

alternative would not have a cumulative effect on wildlife.

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

Alternative A

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

In the long term, about 0.63 acre of habitat would be permanently modified under Alternative A, which would result in a long-term, small loss of habitat for some wildlife species, including species that prefer forest habitat, such as red squirrel and nuthatch. Additionally, areas of thinned vegetation may allow predators to hunt more effectively and capture more prey, including migratory shorebirds. Conversely, the thinned vegetation may make predators more visible to prey as there would be less foliage obscuring predators. The adverse effect of changes in predator/prey interactions would be limited to the 0.63 acre and would be small, given the remainder of 30 acres of similar habitat that will not be disturbed.

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

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

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

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

Alternative B

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

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

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

Conclusion. The additional noise and disturbance during construction would result in local short-term and small adverse effects on wildlife species that prefer forest habitat. The permanent modification of about 1.14 acres of forest and shrub habitat would result in local long-term and small adverse effects on wildlife species. Overall, cumulative effects would be local, small, and adverse.

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Chapter 6. Treatment Recommendations and Implementation

Introduction

The CLR / EA is the principal treatment document for the cultural landscape of Sand Point/ Munising USCG Life Saving Station.

Treatment recommendations guide the overall aesthetic, desired future condition and appearance of the cultural landscape. Recommendations are based upon review of historical documentation, assessment of existing condition, analysis of integrity, and application of the Secretary of Interior's standards and guidelines as they apply to the treatment of historic landscapes.[6.1] The recommendations are in accordance with the GMP, RMP, and LRIP.

Treatment recommendations address management goals presented in Chapter 1, which include protection of natural and cultural resources, and additions for contemporary use. The recommendations provide guidance on meeting accessibility requirements, expanding visitor parking and providing restrooms. A new kayak launch for recreational was eliminated as part of the planning process, but informal access will continue.

The recommendations for the cultural landscape are holistic and provide a vision for the landscape overall. These recommendations are complemented by specific recommendations for the historically significant buildings, presented in detail in the Historic Structures Report (HSR) that accompanies this CLR/EA.

Recommendations for treatment of the cultural landscape are presented in narrative, graphics and sketches that illustrate the desired future condition. A detailed plan is provided in Appendix C, Schematic Design Drawing, that provides detailed information for implementing specific recommendations. These include siting of additional elements, accessibility upgrades to walks, and vehicular circulation and parking improvements.

Treatment recommendations are compatible with the period of significance as they reveal the physical qualities of the cultural landscape that convey the story of its evolution. The recommendations provide direction on rehabilitation of the design and use of the USCG station from 1932 to 1958.

The preferred treatment for the Sand Point/ Munising USCG Life Saving Station is based upon action alternative B, presented in Chapter 4, and expanded upon in this chapter.

Treatment Approach

Rehabilitation is the selected treatment approach for Sand Point/ Munising USCG Life Saving Station. Rehabilitation provides measures to preserve contributing features, repair damaged features, and restore missing features. Rehabilitation allows for additions and adaptive reuse which is needed to meet contemporary needs.

Treatment Terminology

In recognition of the significance of Sand Point/ Munising USCG Life Saving Station, all future work planned for the cultural landscape will be guided by *The Secretary of the Interior's Standards for the Treatment of Historic Properties – Historic Landscapes.* The

6.1 Birnbaum, Charles A. and Christine Capella Peters. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes. Washington, DC: U.S. Department of the Interior, National Park Service, 1996.

following terminology is used in this CLR / EA to describe recommended actions.[6.2]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Desired Future Condition and Treatment Recommendations

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

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

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

Natural Systems and Features

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

1. Preserve and protect the natural geology and shoreline of Sand Point as a natural feature of Lake Superior. This natural setting was the basis for the establishment of the USCG station in this location.

2. Preserve and protect natural vegetation at the shoreline, forest vegetation, and wetland areas. Allow removal of forest vegetation where it threatens the integrity of cultural resources such the views between the Munising Life Saving Station and the water.

    a. The Revetment Modification EA recommends a soft-engineering approach to stabilize the shoreline. This will naturalize the shoreline by removing the existing revetment and performing sand nourishment (e.g. beach/sandspit restoration). The goal is to increase the distance between the shoreline and the historic buildings to protect them from larger storms.[6.3]

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.

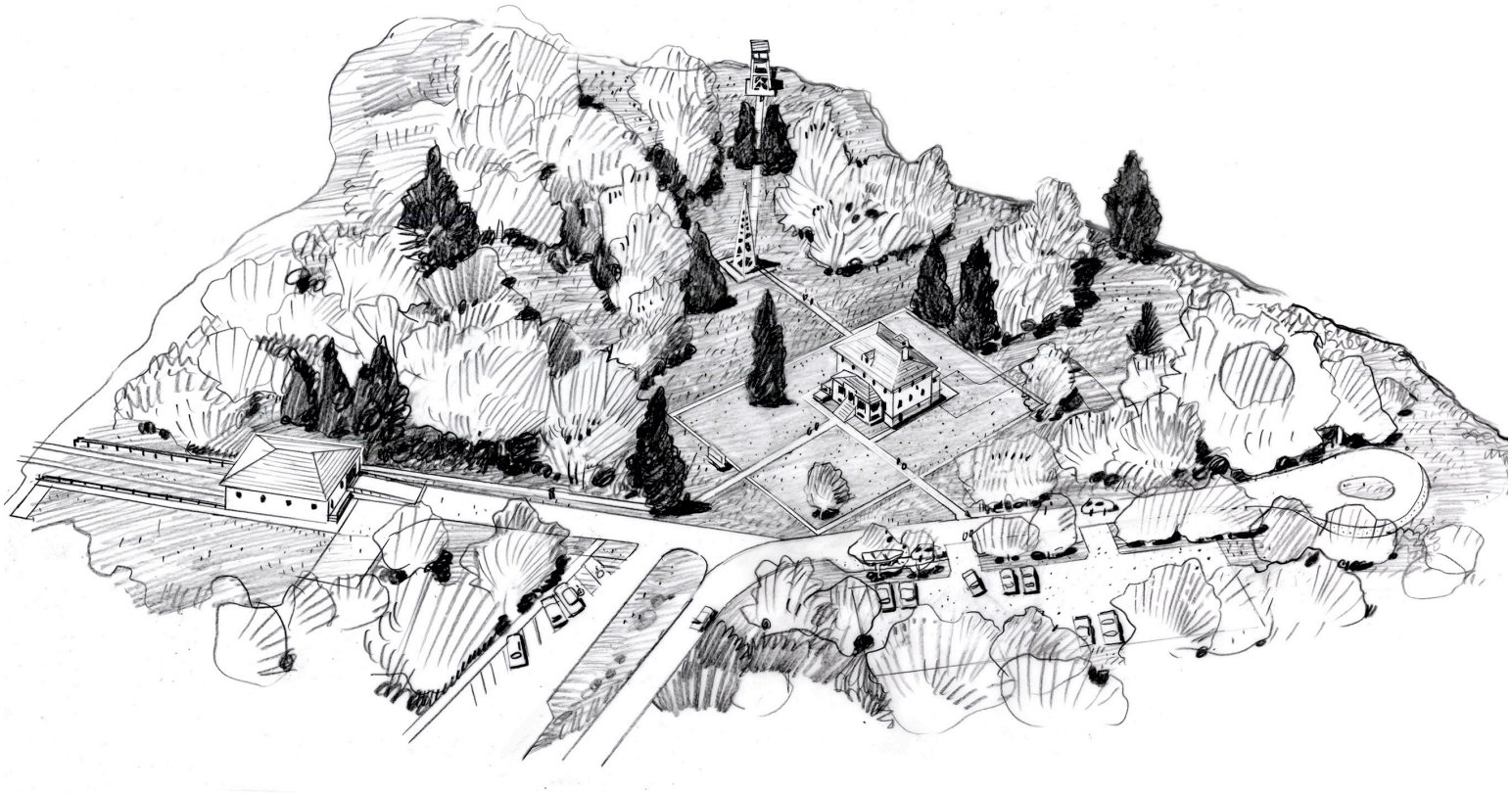


Figure 6-1. The historic character and patterns originally designed by the USCG will be rehabilitated by repairing historic walks, restoring views to the water, and repairing vegetation patterns. The formal military setting and use of the area will be made apparent by repairing spatial patterns and improving 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.[6.4]

    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

The Sand Point/ Munising USCG Life Saving Station 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.

1. The existing well will be replaced and City water will be extended to Sand Point, requiring an extension of the city main. 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.

6.4 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.

- Preserve the spatial relationship of a formal arrangement of buildings and structures sited in relationship to the natural geologic point of Sand Point and connected by narrow walks.

- Preserve the scale and form of the USCG design and layout as a contributing feature.

2. Rehabilitate the formal setting of the Life Saving Station, with short mown lawn, orthogonal walks, and a raised topographic plinth edged by a concrete curb, surrounded by tall trees that frame the building.

3. Repair contributing views and spatial relationships by repairing walks and vegetation patterns.

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

Topography

The topography is primarily level with subtle variations. 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. Portions of this design remain today but will be repaired to the full extent.

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

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

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

Views and Vistas

During use of the Life Saving Station, views to the water 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. Treatment recommendations aim to reestablish the visual connection to and from Lake Superior.

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

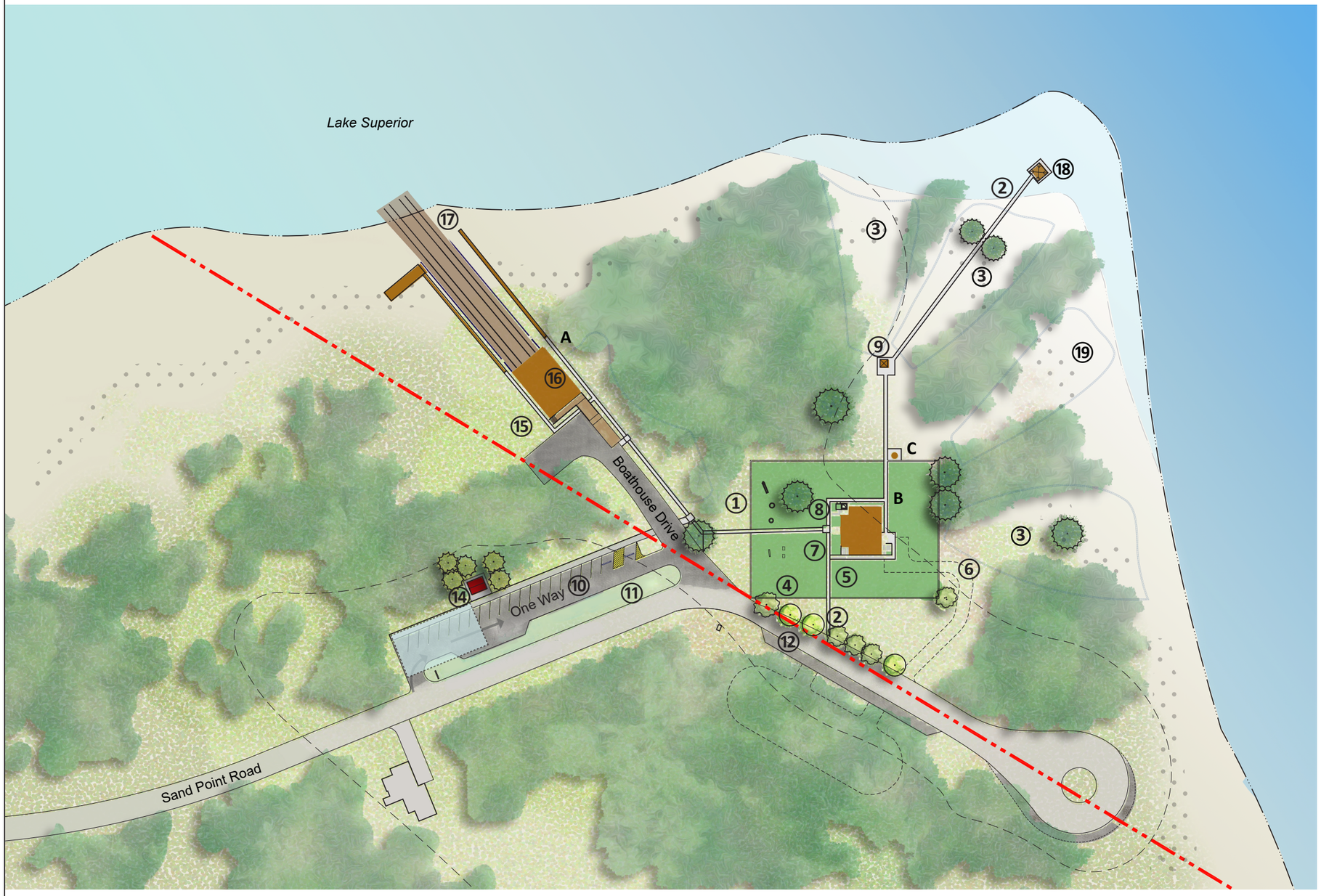
2. Rehabilitate views by reestablishing a visual connection from the Life Saving Station to Lake Superior. Include thinning of some trees and tree removal in select areas to provide a view both to and from the lake.

    a. Thin/remove vegetation along historic walks and corridors to repair spatial relationships.

3. Repair contributing views by removing vegetation where it obscures historic views.

Circulation

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



Legend

- Study Area / USCG Boundary
- Existing Contour
- Building / Structure
- Existing Shoreline
- Historic Shoreline
- Future NPS Parking
- Repair Boardwalk and Dock
- Preserve Conifer Tree Extant from Period of Significance
- Preserve Existing Deciduous Tree
- New Trees
- Ashpalt Paving
- Gravel Paving
- Concrete Walk
- Thin Forest Vegetation, establish native low shrubs and groundcovers
- Preserve Forest Vegetation
- Repair Lawn
- Low Grasses / Native Shrubs
- Preserve Shoreline Vegetation
- Snow Storage Area , varies

Buildings and Structures

- **A** Boathouse and Launchway (HS-08)
- **B** Munsing Life Saving Station (HS-01)
- **C** Oil House (HS-02)

Notes

① Repair Concrete Curb, Full Extent
② Repair / Reconstruct Walk
③ Remove Trees for Views
④ Repair Lawn to Historic Extent
⑤ Remove Parking Area and Driveway
⑥ Service Access at Rear Grass Paver Drive
⑦ Expand Visitor Use in Life Saving Station
⑧ Accessible Lift at Front Entrance to Life Saving Station
⑨ Repair Communications Tower
⑩ Expand Visitor Parking
⑪ At-Grade Island with Hardy, Low-growing Grasses
⑫ Interim Parallel Parking
⑬ Expand Turning Radius, No Parking
⑭ Interim Vault Toilet
⑮ Remove Gravel Area
⑯ Rehabilitate Boathouse for Visitor Access and Restroom
⑰ Remove Sand from Launchway and Repair Rails
⑱ Repair Lookout Tower if Beach Rebuilds
⑲ Shoreline Treatment to Follow Sand Point Rock Revetment Modification EA

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OCTOBER 2017

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

625-135195

TITLE OF PROJECT
CULTURAL LANDSCAPE REPORT
AND ENVIRONMENTAL ASSESSMENT
TITLE OF DRAWING
ILLUSTRATION 6-1 TREATMENT PLAN
NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION
REGION MIDWEST | COUNTY ALGER | STATE MICHIGAN

will be repaired to follow historic patterns, sensitively accommodate vehicular parking into the historic setting, and upgraded to meet current standards providing universal access.

Circulation – Vehicular

1. Preserve Sand Point Road and Boathouse Drive as contributing features of the circulation system.

    a. Preserve the gravel surfacing of Boathouse Drive.

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

    a. Remove the staff parking and drive east of the Life Saving Station to repair the historic setting.

        – Consider a phased approach for removing the parking. Resurface the drive and parking with grass pavers to lessen its appearance and to blend with the lawn. Once parking has been established elsewhere, remove the grass pavers and repair the setting of the Life Saving Station by regrading the raised topographic plinth and establishing lawn grasses.

        – Maintain a rear access drive for service vehicles, surfaced with grass pavers to minimize the appearance of the drive.

    b. Remove the gravel area south of the Boathouse and revegetate the space as a natural area.

        – Preserve Boathouse Drive. Modify the gravel area to provide vehicular access, turnaround, and parking for two vehicles immediately adjacent to and east of the Boathouse.

        – Removal of the gravel area may require additional investigation and compliance to ensure sensitive resources are not damaged during removal.

3. Provide additional parking, which is needed on busy days.

    a. Expand the non-contributing visitor parking and formalize the layout.

        – Extend the existing visitor parking to the south to provide additional spaces and room for snow storage.

        – Approximately 18 spaces are needed for park staff in summer including personal vehicles and park vehicles.

        – Provide pull-through spaces for vehicles pulling trailers.

        – Further study is needed to determine the appropriate amount needed for visitor parking.

        – Provide two accessible parking spaces.

        – Provide a soft surface such as gravel or stabilized soil.

        – Improve ingress and egress by creating a one-way loop with angled parking, separated from Sand Point Road by a vegetated, at-grade island.

        – Provide a continuous sidewalk at the visitor parking that meets accessibility requirements and connects to the contributing concrete walks.



Figure 6-2. Existing Life Saving Station, with staff parking and drive to be removed. (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. The existing NPS parking area and loop drive will be removed to repair the setting. (source: Mundus Bishop 2016)

b. Provide parallel parking at the east edge of Sand Point Road as an interim parking solution.

— Widen the east edge of Sand Point Road by 10-feet to accommodate parallel parking.

c. Add a new NPS 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 NPS 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 historic routes.

b. Provide a new pedestrian boardwalk to connect to the dock and shore. The boardwalks should connect to the historic concrete walks and be 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.



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)

— 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.

4. Provide universal access to the front entrances of the Life Saving Station and Boathouse.

    a. Contributing concrete walks are currently wide enough for universal accessible compliance in one direction. Landing/resting areas will be added for passing zones to meet current requirements.

    — Modify concrete walks where needed, providing new landing areas in key locations.

5. Remove and discourage informal trails to the shore. Allow trails from the terminus of Sand Point Road but direct pedestrians onto an established route(s) to protect dune vegetation and wildlife habitat.

    a. Allow the remnant trail between the Life Saving Station and the Boathouse to revegetate.

Buildings and Structures

The Sand Point cultural landscape includes the Munising Life Saving Station (HS-01), Oil House (HS-02), Boathouse and Launchway (HS-08), all built in the 1930s. Two non-extant structures were key components of the operating station and are marked by remnant foundations. These are the Communications Tower and Lookout Tower, the latter located at the tip of Sand Point. Contributing buildings will be preserved, and the non-extant towers restored to repair the building pattern established by the USCG.

1. Preserve contributing buildings and structures.

    a. Preserve the Munising Life Saving Station (HS-01), Oil House (HS-02), and Boathouse and Launchway (HS-08).

    b. Preserve the foundation of the Communications Tower and Lookout Tower.

    c. Reconstruct the missing Communications Tower if adequate documentation exists.

    — Conduct further research to ensure adequate documentation is available for reconstruction.

    — Alternatively, add a new contemporary feature of same mass, scale and character to interpret the original structure.

    d. Reconstruct the missing Lookout Tower if the geologic formation of Sand Point returns, making a reconstruction possible.

    — Conduct further research to ensure adequate documentation is available for reconstruction.

    — Alternatively, add a new contemporary interpretive feature of same mass, scale and character to interpret the original structure.

2. Remove non-contributing structures.

    a. Remove non-contributing garage foundation.

b. Remove underground fuel storage tanks.

3. Preserve the Munising Life Saving Station and its contributing features. Expand visitor access, interpretation, and use of the building. Meet ABA requirements to provide access into the building with an exterior lift on the south facade (Refer to HSR recommendations).

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.

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 and remove vegetation from within the Launchway.

   d. Restore rails and wood decking where missing or damaged.

Small Scale Features

Contributing small scale features consist of a concrete curb and flagpole that date from the period of significance. The continuous concrete curb that originally framed the rectangular space around the Life Saving Station may still be intact below grade on the north side. 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.

   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 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 expanded turn-around.

Vegetation

During the period of significance, the USCG retained a few trees at Sand Point, but maintained 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.

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

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

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

8. Add new trees and vegetation as needed around the temporary vault toilet, to blend the structure with the setting.

9. Establish hardy, low-growing grasses within a new vegetated, at-grade parking island at the visitor parking area.

10. New plantings should utilize native plant material, arranged in naturalistic patterns to blend with the natural setting.

11. Preserve the contributing ornamental vegetation associated with the former USCG residences east of Sand Point Road.

    a. Remove ornamental vegetation if it becomes a nuisance and remove exotic invasive species.

Implementation Guidance

This section provides guidance for implementing the treatment recommendations. The recommendations are grouped into distinct tasks with subtasks identified. These tasks will guide preparation of Project Management Information System (PMIS) project statements (Refer to Appendix D for FMSS crosswalk and treatment tables).

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

	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

	Task ID	CLR / EA Treatment Recommendation	CLR / EA Task Component
Priority 2 (3 to 5years)	**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 drive 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 NPS 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

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

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

Agency Consultation

Section 106 of the National Historic Preservation Act

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

To meet the requirements of section 106, on September 15, 2016, NPS sent the Michigan SHPO a letter describing the proposed project and soliciting comment on the alternatives. PIRO will continue to consult with the SHPO to determine the effects of the action alternatives on historic resources and to develop mitigation for impacts on historical features, if any, from the preferred alternative.

Consultation with American Indians

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

- Bad River Band of Lake Superior Tribe of Chippewa Indians
- Bay Mills Indian Community of Michigan
- Fond du Lac Band of Lake Superior Chippewa
- Grand Portage Band of Chippewa Indians
- Keweenaw Bay Indian Community
- Lac Courte Oreilles Band of Lake Superior Chippewa Indians
- Lac du Flambeau Band of Lake Superior Chippewa Indians
- Lac Vieux Desert Band of Lake Superior Chippewa Indians
- Red Cliff Band of Lake Superior Chippewa Indians

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

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

U.S. Fish and Wildlife Service, Section 7 Consultation

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

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

Coastal Zone Consistency Determination

Federal agency activities in or affecting Michigan's coastal zone must comply with §307 of the Coastal Zone Management Act and implementing regulations, which require that such federal activities be conducted in a manner consistent to the maximum extent practicable with Michigan's Coastal Management Program. NPS has determined that the preferred alternative described in this document is consistent with Michigan's Coastal Management Program, including the state's goals and policies for this area. This EA provides the substantive basis for NPS's consistency determination and will be submitted to the Michigan Coastal Management Council for its concurrence. This consistency determination and the council's concurrence comply with the requirements of the Coastal Zone Management Act. If the State of Michigan concurs with NPS's consistency determination, it will transmit its formal concurrence to NPS.

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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:	-9.00%	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:	11.40%	Site is 114 miles from published commercial center. Allow 1% per 10 miles - 114 / 10 = 11.4%
Wage Rate Factor:	0.00%	Not Required
State & Local Taxes:	6.00%	State (6.0%) Local (0%) Total 6.0%
Design Contingency:	30.00%	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:	15.00%	Typical range 10% to 20%
Government General Conditions:	5.00%	Typical range 5% to 10%
Historic Preservation Factor:	5.00%	Building has tested for hazardous material in and around building
Contractor Overhead:	8.00%	Typical range 10% to 25%
Contractor Profit:	10.00%	Typical range 10% to 25%
Bonds and Permits:	3.176%	Bonds 1.105%, Insurance 1.039% & Permits 1.032%
Contracting Method Adjustment:	10.00%	Typical range 10% to 25%
Annual Inflation Escalation Factor:	4.00%	Projected annual inflation rate.
Time Until Project Midpoint (Months)	24	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%			-$24,585.21	-$23,841.85	-$106,191.52
	Remoteness Factor	11.40%			$31,141.27	$30,199.67	$134,509.26
	Federal Wage Rate Factor	0.00%			$0	$0	$0
	State & Local Taxes	6.00%			$16,390.14	$15,894.56	$70,794.35
	Design Contingency	30.00%			$81,950.70	$79,472.82	$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**	**Estimate By:**	Jim Flemming
Park:	**Pictured Rocks National Lakeshore**	**Date:**	11/28/2016 - V 1.0
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**152048**	**Date:**	11/28/16

Summary Item 1 **Visitor Parking, Vault Toilet, Walkways** **Total Cost:** $273,169

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	$ -	$0	
	SUBTOTAL	**1**	**VALUE**	**$ 106,253.00**	**$106,253**	

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	$ -	$0	
	SUBTOTAL	**1**	**VALUE**	**$ 42,020.00**	**$42,020**	

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

LINE ITEM COST SUMMARY

Project:	**PIRO CLR Renovations**	**Estimate By:**	Jim Flemming
Park:	**Pictured Rocks National Lakeshore**	**Date:**	11/28/2016 - V 1.0
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**152048**	**Date:**	11/28/16

Summary Item 1 **Visitor Parking, Vault Toilet, Walkways** **Total Cost:** $273,169

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**	

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	Decidious 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	$ -	$0	
	SUBTOTAL	**1**	**VALUE**	**$ 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**	**Estimate By:**	Jim Flemming
Park:	**Pictured Rocks National Lakeshore**	**Date:**	11/28/2016 - V 1.0
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**152048**	**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**	**Estimate By:**	Jim Flemming
Park:	**Pictured Rocks National Lakeshore**	**Date:**	11/28/2016 - V 1.0
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**152048**	**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	lf	$ 40.00	$14,000	wood
Level 3 Code	Ramp To Guard Station	72	lf	$ 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	Decidious 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**	**Estimate By:**	Jim Flemming
Park:	**Pictured Rocks National Lakeshore**	**Date:**	11/28/2016 - V 1.0
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**152048**	**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

Project:	**PIRO CLR Renovations**	**Estimate By:**	Jim Flemming
Park:	**Pictured Rocks National Lakeshore**	**Date:**	11/28/2016 - V 1.0
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**152048**	**Date:**	11/28/16

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 dbl vault
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	allowance
Level 3 Code	Lift At Guard Station	1	Sum	$ -	$0	covered in HSR estimate
Level 3 Code	Restroom Added At Boathouse	1	Sum	$ -	$0	covered in HSR estimate
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**	**Estimate By:**	Jim Flemming
Park:	**Pictured Rocks National Lakeshore**	**Date:**	11/28/2016 - V 1.0
Park Alpha:	**PIRO**	**Reviewed By:**	SJP
PMIS Number:	**152048**	**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	Decidious 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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Lake Superior

New Walk and Landing at Accessible Lift

5'x5' Landing, Typ.

Realign Boardwalk

Remove Gravel Area and Boulder Edge

37'

30'

Accessible Parking (2)

Vault Toilet on Concrete Pad

Concrete Sidewalk

260'

65°

45°

30'

9'

12'

10'

12'

20'

6'-0"

10'-0"

One way

60'-0"

Boathouse Drive

3'-0" Typ.

Gravel Parking Area

At-grade grass island

Native/hardy low-growing grasses

Pull-through Trailer Parking

Entrance Sign

Sand Point Road

Future NPS Parking/ Operations Area

10'

Grass paver service drive

Remove Ex Parking Area and Drive

Parallel Parking

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

W S N E

0 60

1" = 60'-0"

OCTOBER 2017

UNITED STATES
DEPARTMENT OF THE INTERIOR

PICTURED ROCKS NATIONAL LAKESHORE
MUNISING, MICHIGAN

TITLE OF PROJECT
CULTURAL LANDSCAPE REPORT
AND ENVIRONMENTAL ASSESSMENT

TITLE OF DRAWING
SCHEMATIC DESIGN PLAN

NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION

REGION MIDWEST | COUNTY ALGER | STATE MICHIGAN

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	Contributing		Y	6300-Marina / Waterfront System	1180288	Traffic Surface, Surface, 28 FT, 40 FT, Boat Ramp	29625	SP Sand Pt. Beach Waterway Launch Area	
	Lookout Tower Foundation	Contributing		N						
	Communications Tower Foundation	Contributing		N						
Small Scale Features										
	Split Rail Fence	Non-Contributing		Y	3100 - Maintained Landscapes	1293810	Fence/Gate, Fence, Wood	29625	SP Sand Pt. Beach Waterway Launch 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	29622	SP Sand Pt Headquarters LP Gas Fuel 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
Task 1. Rehabilitate historic views and spatial relationships							
	3.1 Clear non-contributing forest vegetation to reestablish a view to and from Lake Superior	3100 - Maintained Landscapes	Land Surface, Recreational (1345752)	SP Sand Point Area Grounds (29612)	FM/DM		AC
	3.2 Clear vegetation from historic paths	3100 - Maintained Landscapes	Land Surface, Recreational (1345752)	SP Sand Point Area Grounds (29612)	FM/DM		SF
	3.3 Establish low-growing native vegetation to maintain clear views	3100 - Maintained Landscapes	Land Surface, Recreational (1345752)	SP Sand Point Area Grounds (29612)	FM/DM		AC
Task 2. Provide universally accessible routes							
	1.1 Repair surface, existing concrete walks						SF
	1.2 Modify existing walks with new 5'x5' landing areas						SF
	1.3 Provide access to Life Saving Station (lift)	4100 - Building		SP Sand Pt. Park Headquarters HS-01 (29613)			
	1.4 Provide access to Boathouse (ramp)	4100 - Building		SP Sand Pt. Boat House HS-08 (29614)			
	1.5 Create accessible route at visitor parking area. Connect to ex walks	1300 - Parking Area	Traffic Surface (395583)	SP Sand Pt. Headquarters Parking (unpaved), Rt 909 (29609)			
Task 3. Rehabilitate Visitor Parking							
	4.1 Expand and formalize existing visitor parking	1300 - Parking Area	Traffic Surface (395583)	SP Sand Pt. Headquarters Parking (unpaved), Rt 909 (29609)			
	4.2 Provide accessible vault toilet						
	4.3 Provide accessible sidewalk						LF
	4.4 Widen Sand Point Road to provide parallel parking	1100 - Road	Traffic Surface (1424075)	SP Sand Point Road Rt. 0010 (29607)			SF
	4.5 Expand turning radii at end of road	1100 - Road	Traffic Surface (1424075)	SP Sand Point Road Rt. 0010 (29607)			

Task 4. Repair setting of Life Saving Station					
			Traffic Surface (395583)	SP Sand Pt. Headquarters Parking (unpaved), Rt 909 (29609)	
2.1 Remove staff parking and driveway		1300 - Parking Area			SF
2.2 Reveal concrete curb					LF
2.3 Repair topsoil					SF
		3100 - Maintained Landscapes	Land Surface, Recreational (1345752)	SP Sand Point Area Grounds (29612)	
2.4 Repair lawn					SF
2.5 Restore/repoint 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
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
6.3 Remove ex boardwalk, gravel area and boulder edge					CY
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

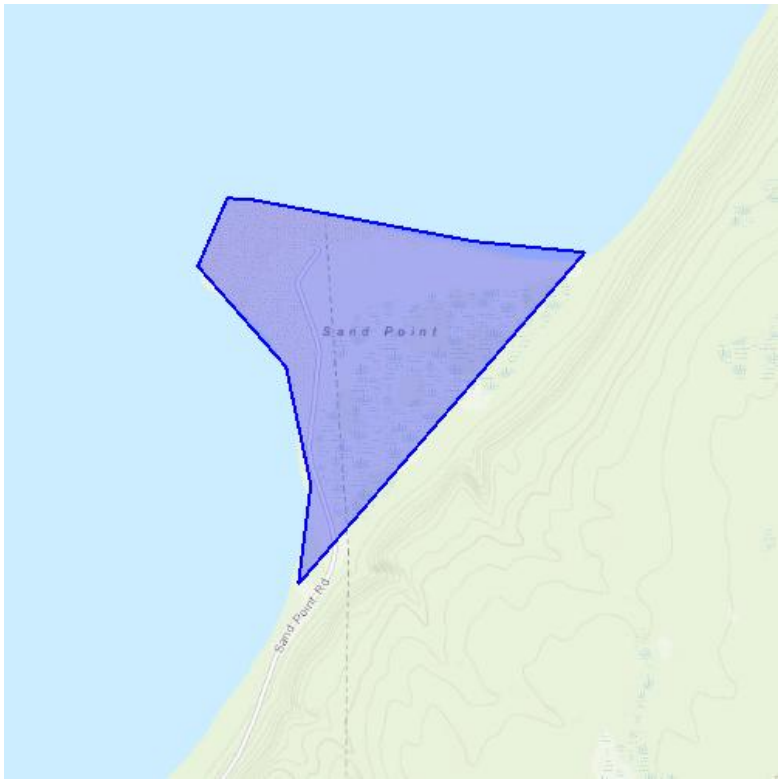
Consultation Code: 03E16000-2016-SLI-0402
Event Code: 03E16000-2016-E-00589

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.

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

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 *(Setophaga kirtlandii)* Population: Entire	Endangered		
Piping Plover *(Charadrius melodus)* Population: Great Lakes watershed	Endangered		
Red Knot *(Calidris canutus rufa)*	Threatened		Only actions that occur along coastal areas during the Red Knot migratory window of MAY 1 - SEPTEMBER 30.
Flowering Plants			
Pitcher's thistle *(Cirsium pitcheri)*	Threatened		
Mammals			
Canada Lynx *(Lynx canadensis)* Population: Contiguous U.S. DPS	Threatened	Final designated	
Gray wolf *(Canis lupus)* Population: U.S.A.: All of AL, AR, CA, CO,	Endangered		

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 *(Myotis septentrionalis)*	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

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

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 *(Haliaeetus leucocephalus)*	Yes	Year-round
Canada Warbler *(Wilsonia canadensis)*	Yes	Breeding
Common tern *(Sterna hirundo)*	Yes	Breeding
Golden-Winged Warbler *(Vermivora chrysoptera)*	Yes	Breeding
Olive-Sided flycatcher *(Contopus cooperi)*	Yes	Breeding
Short-eared Owl *(Asio flammeus)*	Yes	Breeding

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 tuberficid 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

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 spathulatum	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

Luzula parviflora	Small-flowered wood rush	Flowering Plants
Lycaeides idas nabokovi	Northern blue	Insects
Myotis septentrionalis	Northern long-eared bat	Mammals
Myriophyllum alterniflorum	Alternate-leaved water-milfoil	Flowering Plants
Myriophyllum farwellii	Farwell's water milfoil	Flowering Plants
Nicrophorus americanus	American burying beetle	Insects
Oryzopsis canadensis	Canada rice grass	Flowering Plants
Pandion haliaetus	Osprey	Birds
Phyciodes batesii	Tawny crescent	Insects
Picoides arcticus	Black-backed woodpecker	Birds
Pinguicula vulgaris	Butterwort	Flowering Plants
Potamogeton confervoides	Alga pondweed	Flowering Plants
Senecio indecorus	Northern ragwort	Flowering Plants
Spiza americana	Dickcissel	Birds
Stellaria longipes	Stitchwort	Flowering Plants
Tanacetum huronense	Lake Huron tansy	Flowering Plants
Trimerotropis huroniana	Lake Huron locust	Insects
Trisetum spicatum	Downy oat-grass	Flowering Plants
Tympanuchus phasianellus	Sharp-tailed grouse	Birds
Vaccinium cespitosum	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.

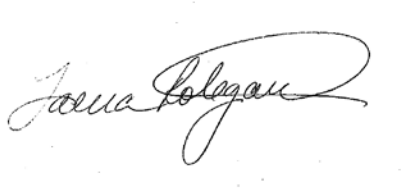
As part of the EA analysis, NPS obtained a list of state threatened and endangered species and species of concern from the Michigan Natural Features Inventory that may occur in Alger County, Michigan, the county in which the study area is located (enclosed). Once treatment alternatives have been developed, 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,



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).

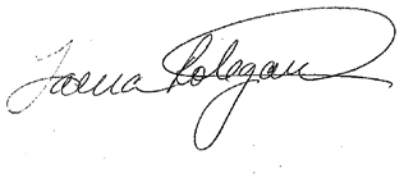
Although treatment alternatives have not yet been developed, projects with similar objectives in other NPS parks have typically included action alternatives with a mix of rehabilitating and restoring existing buildings and the cultural landscape. The alternatives often include activities that would disturb 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,



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).

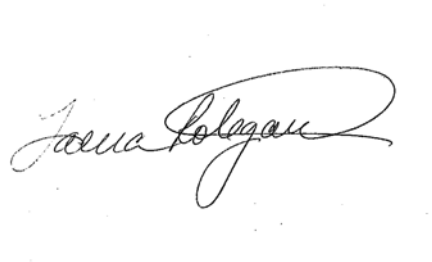
Although treatment alternatives have not yet been developed, projects with similar objectives in other NPS parks have typically included action alternatives with a mix of rehabilitating and restoring existing buildings and the cultural landscape. The alternatives often include activities that would disturb 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,



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).

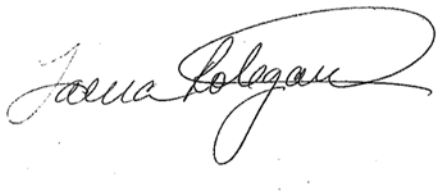
In accordance with the Advisory Council on Historic Preservation regulations, 36 CFR Part 800: Protection of Historic Properties, the NPS is required to comply with Section 106 of the National Historic Preservation Act of 1966, as amended. This scoping notice informs you of the HSR/CLR/EA Section 106 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,



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.

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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

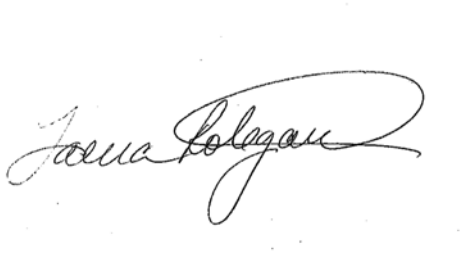
vegetation, including trimming and removing trees and shrubs to reestablish views. Once treatment alternatives have been developed, their effects on the environment will be fully evaluated.

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 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,



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).

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.

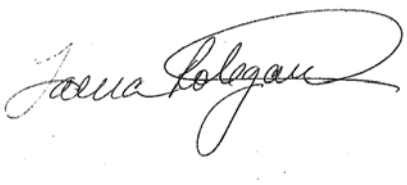
Section 7 of the Endangered Species Act of 1973 requires that a federal agency consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service on any action that may affect endangered or threatened species or candidate species or that may result in adverse modification of critical 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,



Laura Rotegard
Superintendent

Enclosures (3)

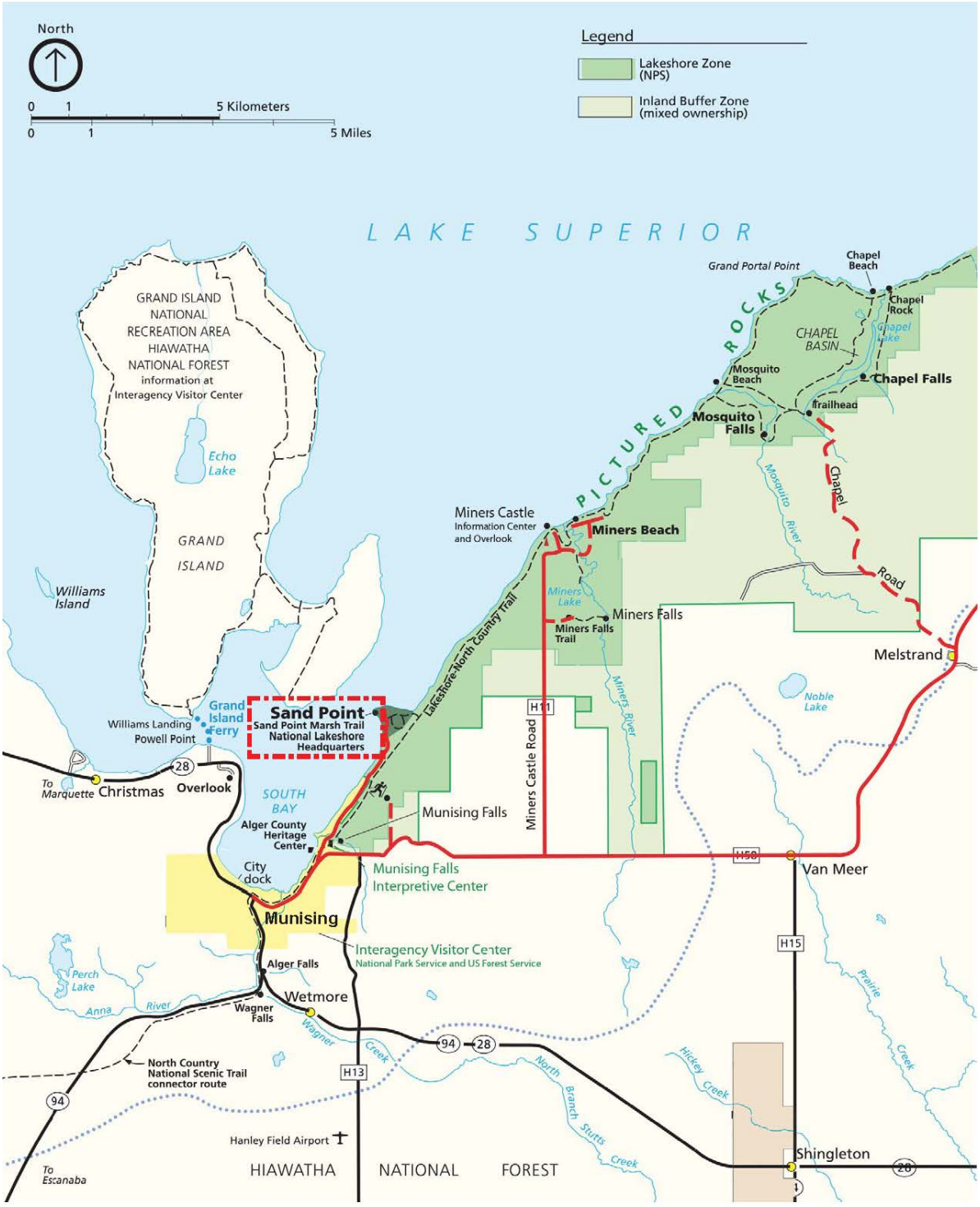


Figure 1. Munising (Sand Point) USCG Life Saving Station Location.

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Appendix F: SSS Technical Report

National Park Service
U.S. Department of the Interior



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

Technical Report – Special Status Species

April 12, 2017

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Photo Log

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Appendix A. Munising Life Saving Station CLR/EA List of Federally Listed Threatened and Endangered Species

Appendix B. State of Michigan Special Status Species Present and Potentially Present in the Study Area

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Introduction

The National Park Service (NPS) is preparing a Cultural Landscape Report and Environmental Assessment (CLR/EA) for Sand Point/Munising United States Coast Guard (USCG) Life Saving Station at Pictured Rocks National Lakeshore (PIRO), just outside of Munising, Michigan (Figure 1). The CLR/EA guides the long-term care, stewardship, and treatment of the cultural landscape and establishes treatment recommendations that support operational and visitor use, enhance resource condition, support interpretive programming, and streamline compliance for implementation. In compliance with the National Environmental Policy Act, the CLR/EA also evaluates potential effects on resources from the two proposed treatment alternatives and a no action alternative.

One of the resources evaluated in the CLR/EA consists of special status species. Special status species include species listed as threatened or endangered under the Endangered Species Act (ESA) and other species considered sensitive by the park, including State of Michigan-listed threatened, endangered, and special concern species. In keeping with NPS guidance on preparing focused and concise environmental assessments, rather than including detailed information on special status species in the environmental assessment, this technical report provides the background on which NPS will make its determination of effects on species listed as threatened and endangered under the ESA. The NPS will provide the environmental assessment, with its effects determinations, and this supporting technical report to the U.S. Fish and Wildlife Service (USFWS) as part of ESA Section 7 consultation. For reasons described later in this report, NPS does not anticipate the need to prepare a biological assessment as part of the consultation process.

Study Area

PIRO is on the south shore of Lake Superior, within Michigan's Upper Peninsula, and features backcountry and drive-in campgrounds and trails, miles of sand beaches, and several maritime navigational sites. The study area encompasses the 7.11-acre area of the historic lifesaving station established on Sand Point (Figure 2). Sand Point is a prominent natural feature along the coast of Lake Superior that juts into Munising Bay.

Features of the cultural landscape associated with the study area include concrete walks and curb; former building foundations, historic vegetation, views, archeological and ethnographic resources, and three historically significant buildings. The Sand Point/Munising USCG Life Saving Station landscape consists of a combination of native woodlands, dune vegetation, lawn, and ornamental plantings. A sandy shoreline with a failing revetment borders the study area on three sides. Former keepers quarters lined Sand Point Road, where ornamental vegetation and remnant foundations and other archeological resources may be present. Since the period of significance, the previously maintained cultural landscape has become naturalized with trees, shrubs, and herbaceous vegetation.

Affected Environment

The park is at the northwestern limits of the hemlock-white pine-northern hardwood forest and contains elements of boreal forest. Most of the uplands in the park are covered by a forest dominated by sugar maple (*Acer saccharum*) and yellow birch (*Betula alleghaniensis*), with American beech (*Fagus grandifolia*) present in various amounts (Hop et al. 2010). Eastern hemlock (*Tsuga canadensis*) and white pine (*Pinus strobus*) are present in the hardwood forests, occasionally becoming dominant. Jack pine (*Pinus banksiana*) and red pine (*Pinus resinosa*) are prevalent on well-drained sand flats, such as Sand Point. Beaches along Lake Superior include dune vegetation such as American beachgrass

(*Ammophila breviligulata*), sand cherry (*Prunus pumila*), and jack pine. Additional plant communities occur less frequently in the park, including mesic forests, wet forests, fens, and swamp shrublands.

An in-depth inventory and mapping of vegetation communities present in the park was reported upon in May 2010 (NPS 2010). Vegetation communities present in the study area include Great Lakes Beachgrass Dune (Photo 1), White Pine/Blueberry Dry-Mesic Forest (Photo 2), and White Pine/Red Maple Swamp (Figure 3). Areas of sand and cobble beach (Photo 3) and developed area (Photos 4 and 5) are also present (Figure 3).

Threatened, Endangered, and Sensitive Species

The Michigan Natural Features Inventory lists 61 species as occurring in Alger County or elsewhere that are either state endangered, threatened, or of special concern (MSU 2016). The list includes six species federally-listed under the ESA as threatened or endangered.

Federal Species

NPS requested and received from USFWS a list of threatened and endangered species potentially present on Sand Point, including the study area (USFWS 2016) (Appendix A). The list indicated that the following species may be present on Sand Point for at least some part of the year: gray wolf (*Canis lupus*), Canada lynx (*Lynx canadensis*), northern long-eared bat (*Myotis septentrionalis*), Kirtland's warbler (*Setophaga kirtlandii*), Piping plover (*Charadrius melodus*), rufa red knot (*Calidris canutus rufa*), and Pitcher's thistle (*Cirsium pitcheri*).

Below are brief descriptions of the species, their habitats, and the likelihood of their presence in the study area.

Gray Wolf

Gray wolf, a federally endangered and Michigan special concern species, has been verified as occurring within the national lakeshore (NPS 2017a), including around Sand Point. NPS staff have observed gray wolf on or near Sand Point Road and scat and tracks are sometimes observed in the area (NPS 2017b). Although observed at Sand Point, gray wolf territories are large enough (20 to 120 square miles) that Sand Point's small size, low deer densities, and human activity throughout the year mean gray wolf use the area less frequently than other parts of their territory with more suitable habitat.

Canada Lynx

Canada lynx, is a federally threatened and Michigan endangered species. Canada lynx den sites are most commonly found in mature mixed conifer/hardwood forest with a sustained population of snowshoe hare (*Lepus americanus*). Although listed in the NPS biodiversity data base as probably occurring within the national lakeshore (NPS 2017a), Canada lynx has not been documented in the national lakeshore since its establishment in 1966 and may not have been present since about 1940 (NPS 2003). Canada lynx is unlikely to be present in the park, including on Sand Point, due to the lack of observations over 50 years and lack of suitable habitat and low densities of snowshoe hare in the park (NPS 2003).

Northern Long-eared Bat

The northern long-eared bat is a federally threatened species (USFWS 2013) and Michigan species of concern. This species occurs in forested habitat across much of the eastern and north-central United States; occupying habitat in 37 states and all Canadian provinces (USFWS 2016b). Recently, white-nose syndrome (WNS), a fungus that is decimating bat populations in the United States, has reduced the

number of northern long-eared bat significantly enough that the species was listed as threatened under the ESA in 2015 (USFWS 2016b). The effects of WNS may lead to the extirpation of PIRO bat species most affected by the fungus, including northern long-eared bat.

During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees (USFWS 2013). They only occasionally roost in human structures (USFWS 2016b). Males and nonreproductive females may also roost in cooler places like caves and mines. They appear to be opportunistic in selecting roosts, using tree species based on suitability to retain bark or provide cavities or crevices; rarely, they roost in structures (e.g., barns and sheds) (USFWS 2013). In winter, they hibernate in small crevices or cracks within caves and mines (USFWS 2013).

Biologists captured the northern long-eared bat and/or five other bat species at six sites in PIRO, including Sand Point (Kruger and Peterson 2008). The capture of reproductively active females and juveniles confirmed the presence of a reproductive population of northern long-eared bats in PIRO at that time (Kruger and Peterson 2008).

Bats show strong roost site fidelity, returning year after year to the same roosting locations and, although the species has not been identified, bats have roosted in the attic of the Sand Point USCG headquarters building, since at least the 1980s (NPS 2016). The structure is likely attractive to bats because there are limited roost options in the area and because the structure is in full sun nearly all day, is heated during cold spring months, and provides protection from predators. Bats exit the building at dusk, typical for Myotis species (NPS 2016). The attic colony is present in the summer breeding season, and NPS believes it to be a maternity colony (2016). Emergence counts have been conducted by NPS staff, and the 2015 estimate was 30-70 bats in the building (NPS 2016). Although NPS hoped that a bat netting survey would assist with species identification, federal permits prohibit net surveys at a known roost. Because acoustic monitoring on Sand point recorded both northern long-eared bat and little brown bat in 2015 (NPS 2016) and behavior of bats roosting in the attic is consistent with Myotis species, for the purposes of this report, NPS assumes northern long-eared bat is a species roosting in the headquarters attic.

Rufa Red Knot

The "rufa" subspecies of red knot is a rare migrant through the Lake Superior region of Michigan listed as threatened under the ESA. Although the species is listed by USFWS as potentially occurring in Alger County, including Sand Point, (USFWS 2016a), it has not been verified in Alger County or the park to date (MSU 2017; NPS 2017a). Red knots nest in the Canadian Arctic north of the Arctic Circle and winter in southern South America (NatureServe 2017). The species migrates north from March through early June and south during July and August (NatureServe 2017). Red knot has been documented at Whitefish Point and Marquette and, while it would be a rare occurrence, it would be found on the lakeshore of Sand Point between May 1 and September 30 (USFWS 2016a).

Piping Plover

Piping plover is a federally endangered and Michigan threatened shorebird that has been verified within PIRO on sand and gravel beaches and open dune habitats (NPS 2017). Marginal habitat for piping plover occurs on Sand Point and they have been observed there along the shoreline from late April to late August in some years. Piping plover critical habitat includes 3,937 feet of beach near Grand Marais, Michigan that abuts the eastern boundary of PIRO (USFWS 2001). Piping plovers currently nest on the Grand Marais beach area, but have not nested within the PIRO boundary in recent years (NPS 2016).

Kirtland's Warbler

Kirtland's warbler is a federally and Michigan endangered passerine species of songbird that nests in young jack pine forest stands that have become established on sandy soil (USFWS 2017). Until 1995, they had only been known to nest in the northern part of Michigan's Lower Peninsula; they now also known to nest in the Upper Peninsula and in Wisconsin and Canada (MSU 2017). The species is not known to occur in PIRO (MSU 2017, NPS 2016). They prefer to nest in groups within jack pine forest stands that are about 80 acres or larger with numerous small, grassy openings. Kirtland's warbler breeding habitat is short-lived and, without active management, progresses rapidly to an unsuitable condition as the trees age (USFWS 2017). Due to the lack of suitable habitat for the species at Sand Point and that it is not known to occur in PIRO, it is unlikely Kirtland's warbler is present in the study area at any time of the year.

Pitcher's Thistle

Pitcher's thistle is a federally and Michigan threatened species that is verified and documented in PIRO on sand and gravel beach, open dunes, Great Lakes barrens, and wooded dune and swale complex habitats (MSU 2017; NPS 2017). Pitcher's thistle is endemic to the unforested dune systems of the western Great Lakes (on large, intact, active dunes) and requires active sand dune processes to maintain its early successional habitat (MSU 2017). Pitcher's thistle is present in Grand Sable Dunes Research Natural Area and other active dune habitats on the Lake Superior shoreline (MSU 2017); however, it is not known from Sand Point (NPS 2016).

State Species

Of 46 state listed sensitive species known to occur or probably present in the park (see Appendix B), some are unlikely to be present in the study because they are typically associated with the vegetation communities not present in the study area, including bogs, marshes, and rocky outcrops (Appendix B). Species associated seasonally or year-round with shallow water, shoreline dunes and sand, and shoreline woodlands and shrublands may be present on Sand Point. State listed sensitive species using these habitats include common loon (*Gavia immer*), merlin (*Falco columbarius*), osprey (*Pandion haliaetus*), cisco/lake herring (*Coregonus artedi*), moonwort (*Botrychium acuminatum*), prairie moonwort (*B. campestre*), spatulate moonwort (*B. spathulatum*), autumnal water-starwort (*Callitriche hermaphroditica*), blue wild-rye (*Elymus glaucus*), American dune wild-rye (*Leymus mollis*), and stitchwort (*Stellaria longipes*). Trumpeter swan (*Cygnus buccinator*) has been seen in the water near the shore, including near the Launchway. Shoreline woodland and shrubland communities established on Sand Point could support state listed sensitive species including northern goshawk (*Accipiter gentilis*), red-shouldered hawk (*Buteo lineatus*), cerulean warbler (*Dendroica cerulea*), goblin moonwort (*Botrychium mormo*), calypso orchid (*Calypso bulbosa*), ram's head lady's-slipper (*Cypripedium arietinum*), auricled twayblade (*Listera auriculata*), northern ragwort (*Senecio indecorus*), and dwarf bilberry (*Vaccinium cespitosum*). Bald eagle (*Haliaeetus leucocephalus*) have been observed in wooded areas of Sand Point.

Alternatives

The following summarizes the proposed alternatives, which are fully described in the CLR/EA. Regardless of which alternative is selected, implementing recommended treatments would occur over time as funding is available or as opportunities arise. Some actions, such as modifying the attic dormer, would occur in the near term and other activities such as relocating park headquarters would only occur when a satisfactory new location was found or built.

No Action

The No Action Alternative provides a basis for comparison with the action alternatives. Under the no action alternative, contributing and non-contributing features would be preserved and maintained. The no action alternative includes current park projects, those planned for the foreseeable future, and recommendations included in the PIRO General Management Plan. There would be no new project-related ground disturbance or restoration of native vegetation under the no action alternative. Visitor use and management activities in the study area would continue. The no action alternative would have no new effect on native vegetation.

Action Alternative A

Action Alternative A would follow a preservation approach (Figure 4). It would repair contributing features, remove select noncontributing features that distract from the historic setting, and would provide accessibility upgrades. Alternative A includes the minimum actions recommended to maintain the cultural landscape and to ensure its continued integrity. Alternative A preserves the site and its features as they are currently, without introducing extensive new features. Actions would repair spatial connections between key areas, and some vegetation would be thinned to reveal historic views. This alternative would repair historic walks and small scale features so the landscape is more cohesive. In this alternative, the Guard Station would be preserved with NPS administrative offices and limited visitor use. The visitor parking area would be supplemented with a vault toilet and additional parking. Non-contributing boardwalks would be repaired to provide access to the shoreline.

Alternative A would include select vegetation thinning of trees and shrubs on about 0.63 acre of native White Pine/Blueberry Dry-Mesic Forest that has encroached into historically cleared areas. Additionally, the extent of bluegrass lawn would be increased by 0.37 acre from its current 1.35 acres. The estimated 1.0 acre of changes to native vegetation in the study area would represent less than 1% of the estimated 120 acres of vegetation on Sand Point. In addition to areas in which native vegetation would be removed or managed, there would be small areas of disturbance associated with other treatment elements, including removing noncontributing features from the cultural landscape, and repairing or stabilizing buildings and other structures. Temporarily disturbed areas would be revegetated with native species.

Action Alternative B

Action Alternative B would take a rehabilitation approach, which would allow expanded uses and repairs to features (Figure 5). The setting of the Guard Station would be restored to its formal USCG appearance as a prominent structure set within a well-maintained and neat landscape. This alternative restores historic views and connections between historic spaces. In this alternative, the Guard Station would have expanded visitor uses and the NPS administrative offices would be relocated. Visitor experience would be accommodated in the interior of the Boathouse, which would be modified to house a new public restroom. The sand would be removed from the Launchway to reveal the historic structure and the rails would be restored (Photo 6). Vegetation would be removed to repair historic spatial patterns and views, and the front lawn and concrete curb would be restored to their full historic extents.

Alternative B would include thinning trees and shrubs on about 1.14 acres of native vegetation that has encroached into historically cleared areas. This would represent just less than 1% of the estimated 120 acres of vegetation on Sand Point. In addition to areas in which native vegetation would be removed or managed, there would be small areas of disturbance associated with other treatment elements, including removing noncontributing features from the cultural landscape, and repairing or stabilizing

buildings and other structures. Temporarily disturbed areas would be revegetated with native species. The extent of bluegrass lawn would be decreased by 1.24 acres from its current 1.35 acres. Native vegetation would be restored on 0.26 acre. Approximately 0.01 acre of sand and shallow lake bed would be disturbed by dredging and reconstructing the Launchway.

Activity Common to Alternatives A and B – Northern Long-Eared Bat Roost Improvements

In recognition of the potential risk to human health and safety and possible damage to the structure from accumulated bat guano, over the years there have been multiple, unsuccessful attempts to exclude bats from the headquarters attic. Potential downsides to excluding bats from the building include the possibility the excluded bats would relocate to nearby seasonal housing, which would be an increased safety issue; the disturbance to nearby forested areas that would need to be cleared to establish a functional bat house as an alternative roost site; and the potential abandonment of the area as a roost site.

To minimize undesirable consequences, rather than undertaking additional efforts to exclude the bats, NPS is proposing to modify the headquarters attic under both Alternatives A and B to maintain a suitable roost for the colony and to minimize damage to the structure from the roost. This approach is consistent with NPS policies directing parks to maintain all native species and work to maintain and restore threatened and endangered species. It is also consistent with portions of the Endangered Species Act that require federal agencies to maintain and restore threatened and endangered species.

If either Alternative A or B are selected as the preferred alternative, the attic would be modified to segregate the bats from the remainder of the building and to allow periodic removal of bat guano. Concepts include sealing off the attic dormer in which the roost is located and constructing an access point from the remaining attic area. NPS believes this concept would best protect human health and safety and provide a sustainable roost for the bats. The concept will be formalized once the preferred alternative is selected and treatment designs are prepared.

Conservation Measures under All Alternatives

In addition to the mitigation measures described in the EA, the following measures to avoid and minimize adverse effects on plants and animals, including special status species, would be implemented prior to any vegetation or ground-disturbing activities, construction projects, or other types of disturbance under any selected alternative.

- Construction personnel would be instructed on appropriate behavior in the presence of wildlife and on proper storage and handling of food, garbage, and other attractants.
- Following surveys for sensitive plant and animal species by NPS, treatment plans would identify areas of sensitive vegetation to avoid (if any) and would designate areas for stockpiling slash material.
- To reduce noise disturbance and limit impacts on breeding avian and mammalian species, all tree and shrub thinning and removal would be conducted from October 1 to March 1, where feasible.
- If tree and shrub thinning and removal must occur between March 1 and October 1, field surveys for migratory bird nests and cavities and bat roosts and nurseries would be conducted prior to vegetation disturbing activities. Where active nests or nurseries are present, vegetation removal would not occur until after the young have fledged, and ground-disturbing activities would not occur within 100 feet until the young have fledged.

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

Effects on Special Status Species

The alternative with the largest footprint (Alternative B) would disturb up to 1.17 acres of mixed trees and shrubs within the study area. The 1.17 acres would receive at least some vegetation management treatment, with most tree and shrub thinning focused in the approximately 3-acre woodland at the tip of Sand Point between the lake, boathouse, headquarters building, and cul-de-sac road. Treatment Alternative A would have similar effects on 1.0 acre and the No Action Alternative would have no new disturbance on vegetation. Past, present, and reasonably foreseeable future actions identified in the EA are invasive and exotic plant species management and implementing the selected alternative of the on-going revetment environmental assessment. No other park projects or projects of other entities were identified. The approach to cumulative effects is fully described in the EA (see Chapter 5).

The effects on federal and state sensitive species described below are for Alternatives A and B, which include the previously described conservation measures and the EA mitigation measures. The No Action alternative would have no new effect on federal and state sensitive species.

Federal Species

Based on its evaluation of the likelihood of species being present and the type of disturbance associated with the proposed treatment alternatives, NPS determined that the proposed treatment alternatives, with the described conservation measures, would have no effect on Canada lynx, Kirtland's warbler, piping plover or its designated critical habitat, or Pitcher's thistle. NPS has determined that the proposed treatment alternative, with the described conservation measures, would not be likely to adversely affect gray wolf and northern long-eared bat. Effects determinations for each federally listed species are provided below.

Gray Wolf

Gray wolf is occasionally present in and near the study area and wolf activity may temporarily be affected when noise and human presence increases when treatment activities are undertaken. Wolf activity may temporarily be affected when noise and human presence increases when treatment activities are undertaken. Given the temporary nature of the effects and the small area affected in relation to other available habitat, the effect on gray wolf is expected to be insignificant. Therefore, the proposed alternatives may affect, but are not likely to adversely affect gray wolf.

Canada Lynx

Habitat for Canada lynx is absent in the study area and found only in scattered patches in PIRO and the species is not known to be present. Therefore, the treatment alternatives would have no effect on Canada lynx.

Northern Long-Eared Bat

Although removing northern long-eared bat from human structures is not prohibited under the 4(d) rule, NPS desires to allow the species to continue its use of the headquarters attic roost and is committed to avoiding adverse effects, such as roost abandonment. This approach is consistent with NPS responsibilities under the ESA to conserve listed species and with NPS management policies to maintain and conserve park resources. To minimize adverse effects, the attic modifications would be done when a new roof is put on. For constructability reasons, the work would occur after August 1,

done when a new roof is put on. For constructability reasons, the work would occur after August 1, which would protect nonvolant pups, but is still during breeding season when bats are present. A temporary bat house would be erected, in the hopes of giving bats displaced by construction somewhere to go during the warmer temperatures of August and to reduce human-bat contact. Although there is a risk bats would abandon the maternity roost, several studies suggest that if the bats are not excluded from the roost they will continue to use the site (Silvis et al. 2015; Neilson et al. 1994). Additionally, tree and shrub thinning at the life saving station would comply with provisions of the final 4(d) Rule for the Northern Long-Eared Bat (81 FR 1900, January 14, 2016) pertaining to areas in which white-nose syndrome is known to occur. The 4(d) rule, and its associated non-jeopardy biological opinion, established a streamlined consultation process for certain activities, including tree removal (there is no prohibition to removing bats from human-occupied structures), that would not cause prohibited incidental take. The NPS would rely on the streamlined process to fulfill its project-specific section 7 consultation regarding northern long-eared bat. NPS has determined that, with seasonal restrictions on vegetation management and attic modification and with implementation of conservation measures described in the EA and 4(d) rule, the proposed alternatives may adversely affect northern long-eared bat, but would not result in incidental take prohibited under the 4(d) rule.

Rufus Red Knot

With conservation measures, implementing the proposed activities would have no direct effect on rufus red knot because the activities would not affect red knot habitat and would occur when the species is absent. Over the long term, habitat modifications would create a more open forest canopy and understory, which may expose rufus red knot to higher rates of predation. Changes in predation are somewhat speculative, and, if they occurred, would be on such a small scale as to be insignificant. Therefore, the proposed alternatives may affect, but would not adversely affect rufus red knot.

Piping Plover

With conservation measures, implementing the treatment alternatives would occur when the species is absent and impacts to the shoreline to rebuild the Launchway would be temporary. For this reason, the proposed alternatives would have no direct effect on piping plover. The alternatives would also have no effect on piping plover designated critical habitat because none is present in the study area. As with rufus red knot, habitat modifications may expose piping plover to higher rates of predation. Changes in predation are somewhat speculative, and, if they occurred, would be on such a small scale as to be insignificant. Therefore, the proposed alternatives may affect, but would not adversely affect piping plover.

Kirtland's Warbler

Habitat for Kirtland's warbler is not present in the study area and the species is not known to occur in PIRO. For these reasons, along with implementation of conservation measures, the proposed treatment alternatives would have no effect on Kirtland's warbler.

Pitcher's Thistle

Pitcher's thistle is not known to occur in the study area and shoreline dune habitat preferred by the species is not present. In the unlikely event the species is present, preconstruction surveys by NPS biologists would identify individuals or populations and the activities would be modified to avoid Pitcher's thistle. With conservation measures, the proposed treatment alternatives would have no effect on Pitcher's thistle.

State Listed Species

The study area includes at habitat suitable for several state special status plant and animal species (Appendix B) and several species are known to occur on Sand Point. If present, the activity of mobile species may be temporarily disturbed by work in the study area and small areas of habitat would be modified by vegetation thinning. Modification of mobile species' habitat would be small in comparison with similar habitat available elsewhere. While preconstruction surveys would minimize mortality, it is possible individuals may be harmed during the work. NPS would also perform preconstruction surveys for plant species, although it is possible overlooked individuals may be destroyed by work activities. There will be additional short-term effects when cleared areas are periodically maintained by mowing or brush removal. The habitat modifications will also create a more open forest canopy and understory, which may expose some species to higher rates of predation. Given the size of the area that would be modified, and with implementation of mitigation measures, the effects of the treatment alternatives on the long-term viability of affected species would be small.

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Figures

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Figure 1. Context Map. (Mundus Bishop 2016, Adapted from NPS Map)

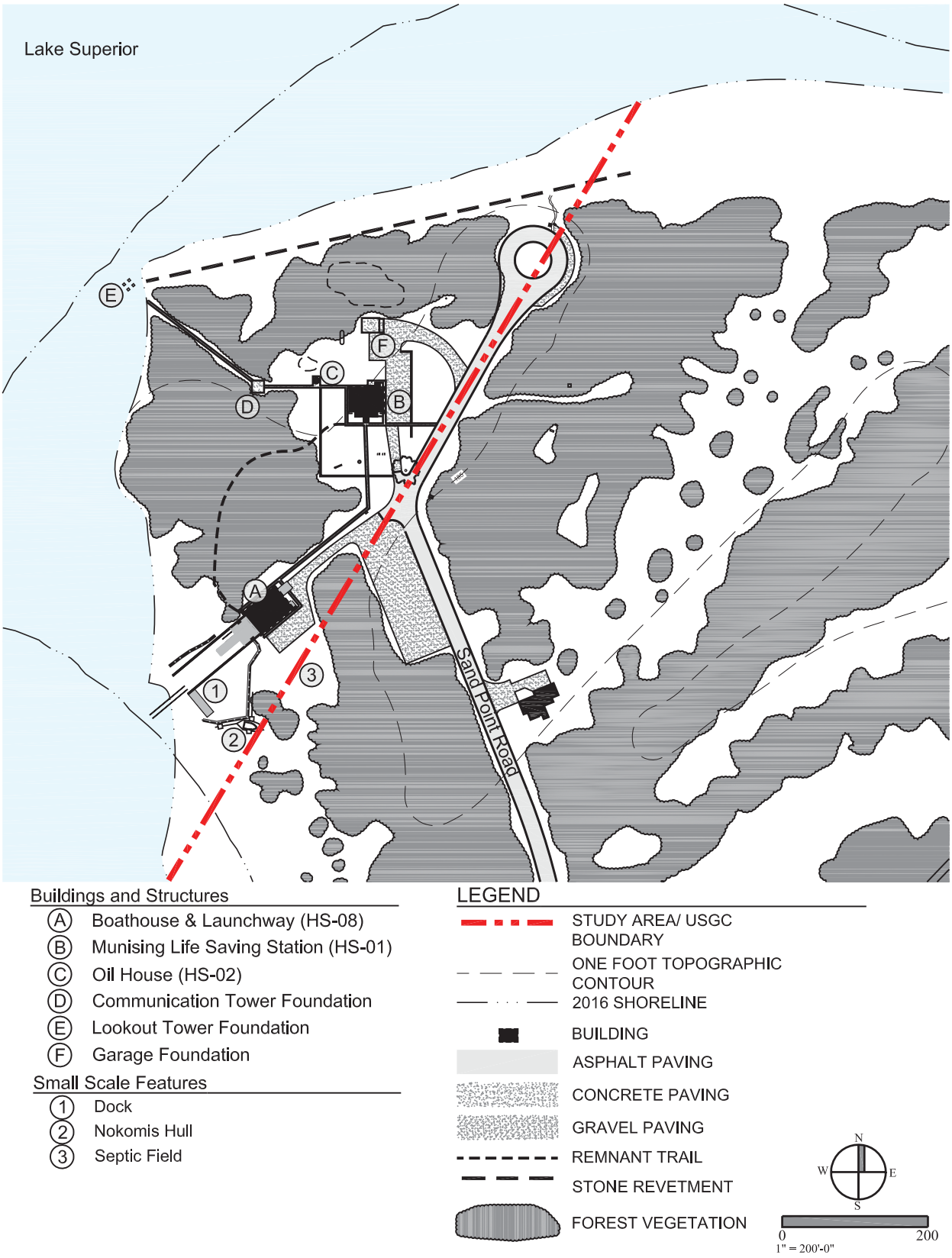


Figure 2. Study Area. (Mundus Bishop 2016)

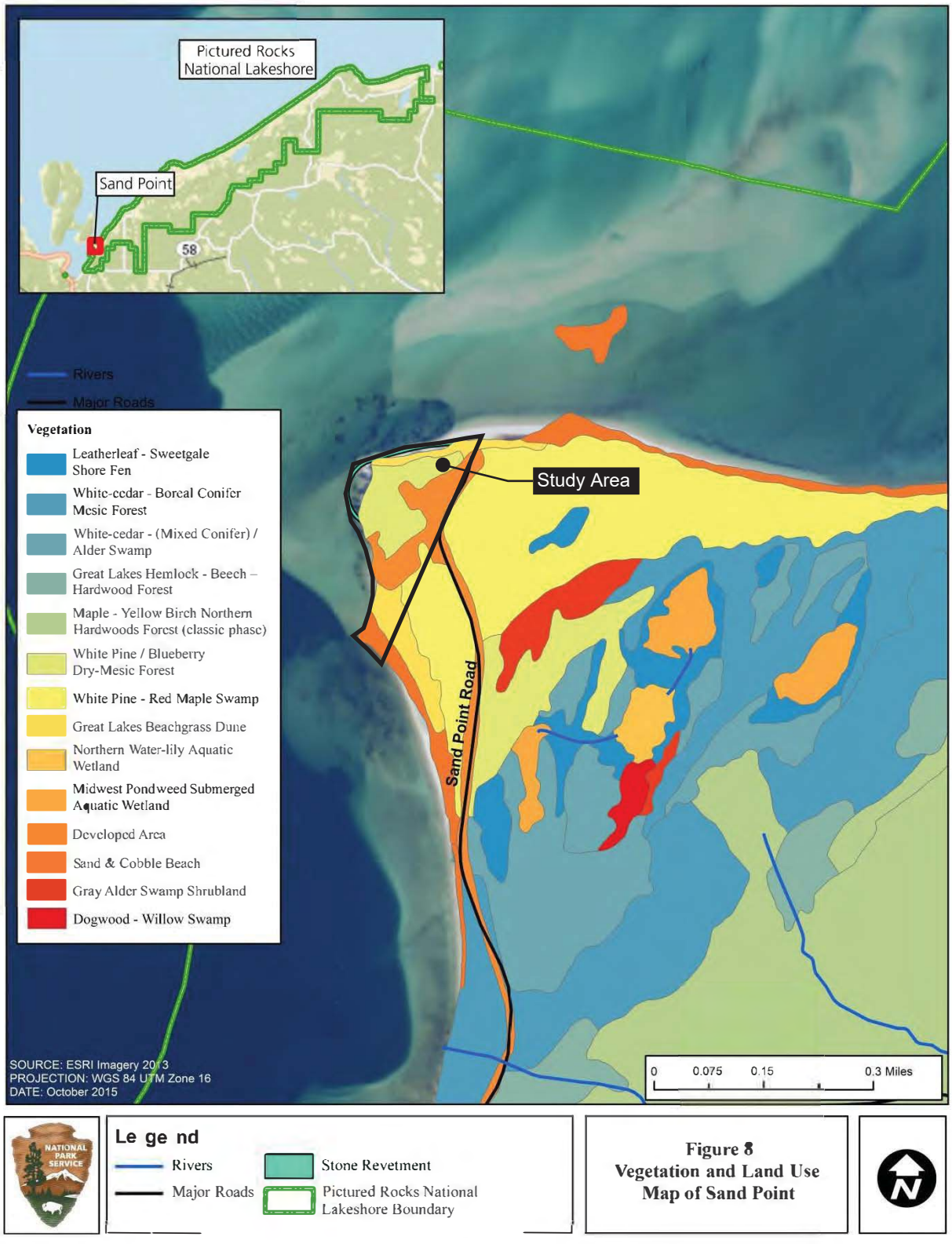


FIGURE 3. VEGETATION AND LAND USE MAP OF SAND POINT
Source: Environmental Assessment for Sand Point Revetment (Nov 2015)

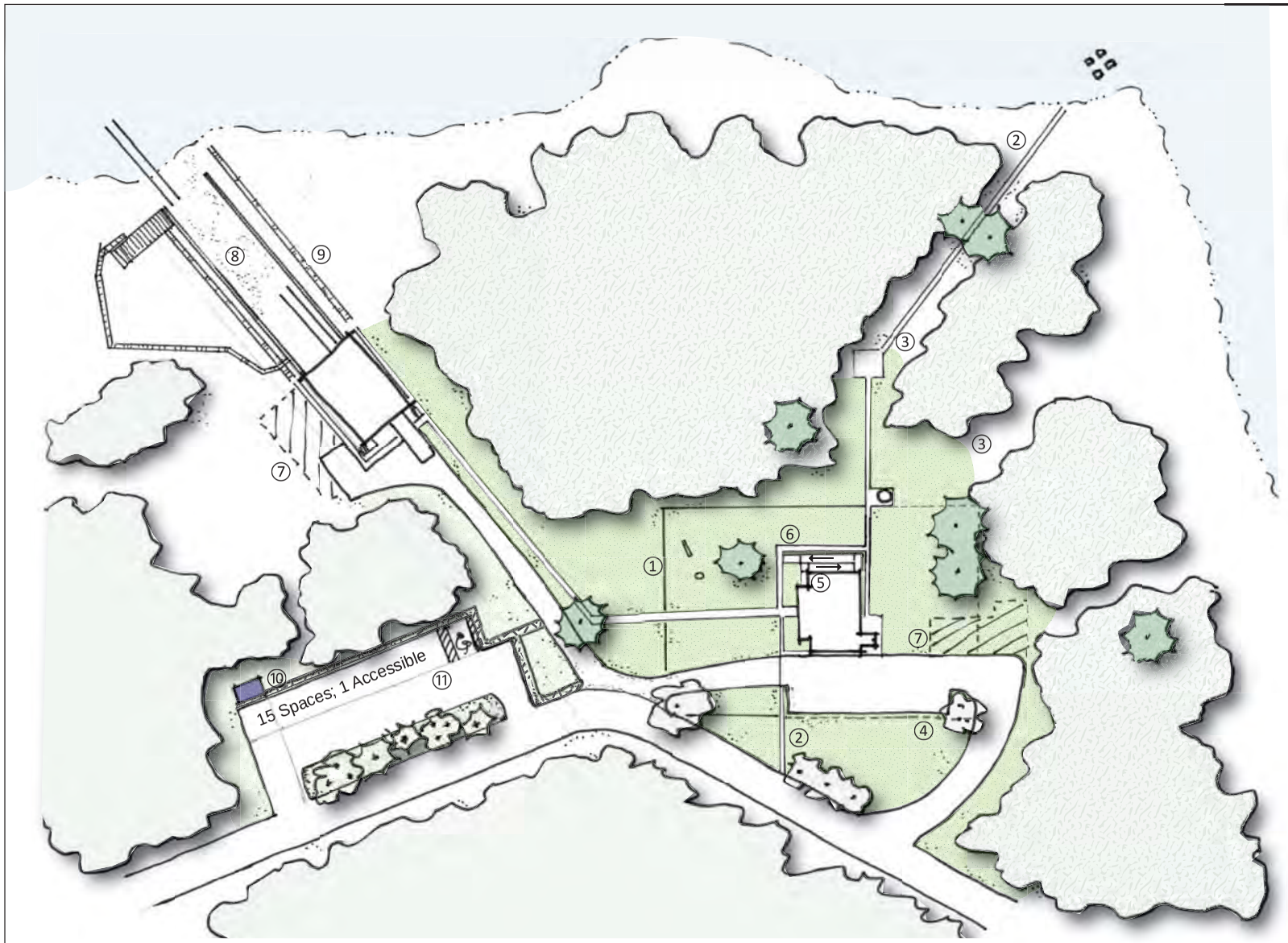


Figure 4.

W S N E

0 60

1" = 60'-0"

DECEMBER 2016

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

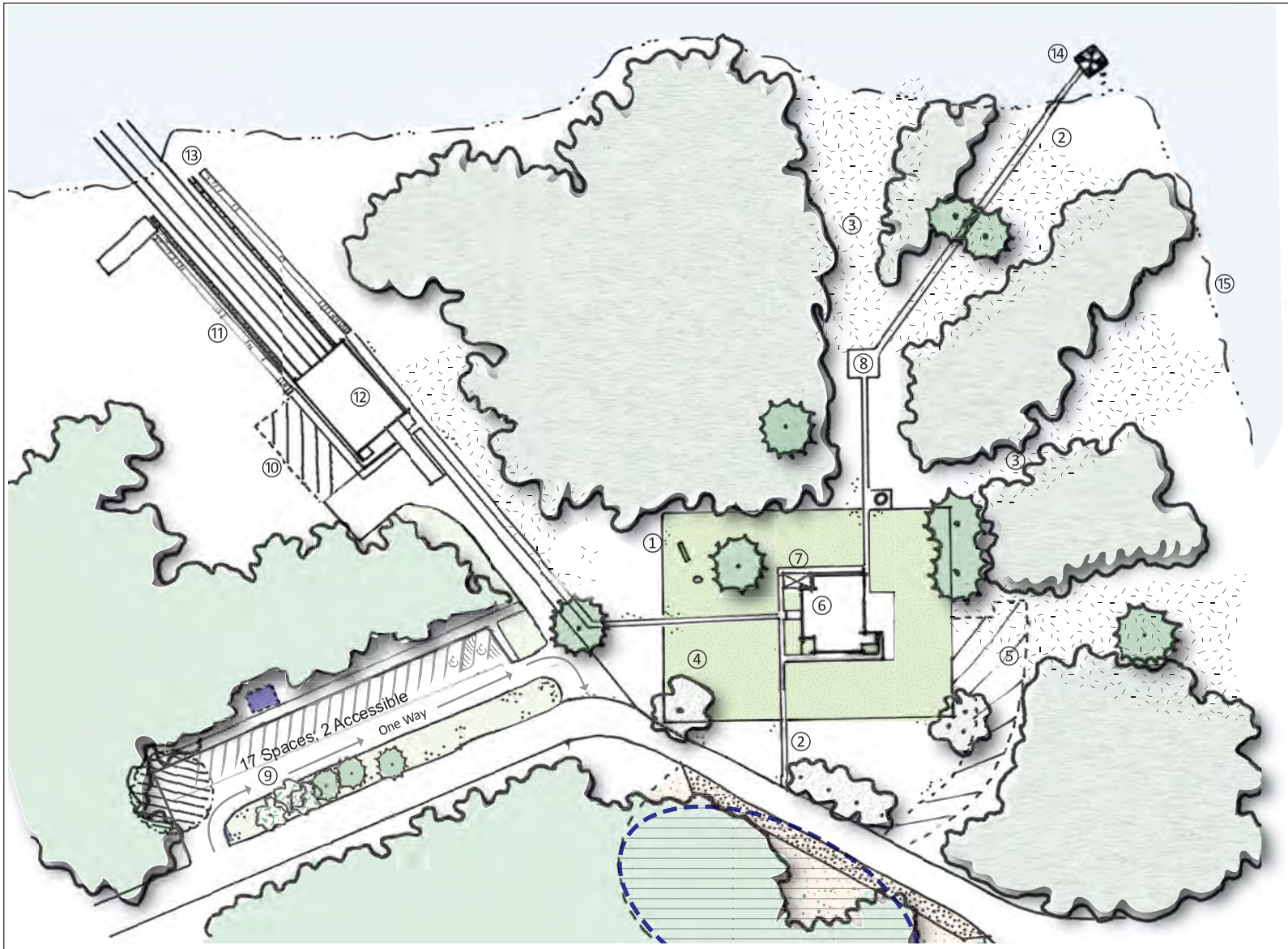
625-135195

TITLE OF PROJECT
CULTURAL LANDSCAPE REPORT
AND ENVIRONMENTAL ASSESSMENT

TITLE OF DRAWING
TREATMENT ALTERNATIVE A

NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION

REGION MIDWEST | COUNTY ALGER | STATE MICHIGAN



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 and Driveway
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

Figure 5.

W S N E

0 60

1" = 60'-0"

DECEMBER 2016

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

625-135195

TITLE OF PROJECT
CULTURAL LANDSCAPE REPORT
AND ENVIRONMENTAL ASSESSMENT

TITLE OF DRAWING
TREATMENT ALTERNATIVE B

NAME OF PARK
SAND POINT/MUNISING USCG LIFE SAVING STATION

REGION MIDWEST | COUNTY ALGER | STATE MICHIGAN

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Photo Log

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Photo 1. Shoreline and beach at Sand Point. The Boathouse and Launchway are in the background.



Photo 2. Transition area from shoreline shrubs to pine forest.



Photo 3. Sandy beach at Sand Point.



Photo 4. Maintained lawn at the headquarters.



Photo 5. Typical vegetation targeted for thinning to open the view to the lake, which is barely visible beyond the end of the walkway.



Photo 6. Typical vegetation targeted for thinning to open views to the headquarters building.

Photo Log for Sand Point CLR/EA



Appendix A

Munising Life Saving Station CLR/EA List of Federally Listed Threatened and Endangered Species

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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

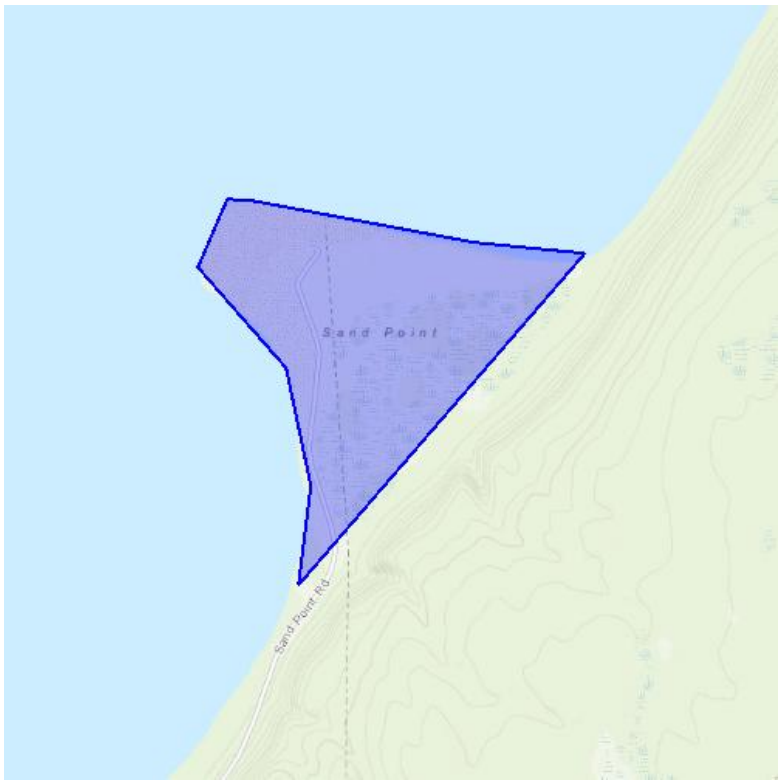
Consultation Code: 03E16000-2016-SLI-0402
Event Code: 03E16000-2016-E-00589

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.

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

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 *(Setophaga kirtlandii)* Population: Entire	Endangered		
Piping Plover *(Charadrius melodus)* Population: Great Lakes watershed	Endangered		
Red Knot *(Calidris canutus rufa)*	Threatened		Only actions that occur along coastal areas during the Red Knot migratory window of MAY 1 - SEPTEMBER 30.
Flowering Plants			
Pitcher's thistle *(Cirsium pitcheri)*	Threatened		
Mammals			
Canada Lynx *(Lynx canadensis)* Population: Contiguous U.S. DPS	Threatened	Final designated	
Gray wolf *(Canis lupus)* Population: U.S.A.: All of AL, AR, CA, CO,	Endangered		

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 *(Myotis septentrionalis)*	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.

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

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 *(Haliaeetus leucocephalus)*	Yes	Year-round
Canada Warbler *(Wilsonia canadensis)*	Yes	Breeding
Common tern *(Sterna hirundo)*	Yes	Breeding
Golden-Winged Warbler *(Vermivora chrysoptera)*	Yes	Breeding
Olive-Sided flycatcher *(Contopus cooperi)*	Yes	Breeding
Short-eared Owl *(Asio flammeus)*	Yes	Breeding

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 tuberficid 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

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

Appendix B

State of Michigan Special Status Species Present and Potentially Present in the Study Area

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THREATENED, ENDANGERED, AND SPECIAL STATUS SPECIES IN ALGER COUNTY, MICHIGAN

Scientific Name	Common Name	Status	Known to be or Probably Present in PIRO*	Suitable Habitat in Study Area for Known or Probable Species?	Habitat for PIRO Species**
Mussels					
Ligumia nasuta	Eastern pondmussel	E	**No**	**No**	
Fish					
Acipenser fulvescens	Lake sturgeon	T	K	Yes	In lakes, habitat use varies and depends on availability. Spawning often occurs in gravel bottom streams, but rocky, wave-swept lake shore and islands areas are also used when riverine habitats are unavailable.
Coregonus artedi	Lake herring or Cisco	T	P	Yes	Midwater regions of the Great Lakes and high quality inland lakes. Spawning may occur at a variety of depths-from shallow water three to 10 feet deep, to much greater depths.
Coregonus kiyi	Kiyi	SC	P	No	Deep, clear, cold, open waters of large lakes. In Lake Superior, they have been found to be absent at depths of less than 121 ft.
Coregonus zenithicus	Shortjaw cisco	T	P	No	A deep, cold water species that spawns at depths of 118 to 239 ft. over clay substrates.
Cottus ricei	Spoonhead sculpin	SC	P	No	A deep water Great Lakes species. Little is know about this species, especially its spawning habitats.
Insects					
Erora laeta	Early hairstreak	SC	No	No	
Nicrophorus americanus	American burying beetle	X	No	No	
Phyciodes batesii	Tawny crescent	SC	No	No	
Plebejus idas nabokovi	Northern blue	T	No	No	
Trimerotropis huroniana	Lake Huron locust	T	K	No	Occurs only in sparsely vegetated, high-quality Great Lakes sand dunes. Ideal habitat includes at least a mile of shoreline with two or more sets of dunes with blowouts.
Mammals					
Canis lupus	Gray wolf	SC, LE	K	Yes	Areas of 100 square miles with road densities less than 1 mile of linear road per square mile are suitable wolf habitat, although areas such as trails, roads, and ice-covered bodies of water are often utilized. Dens are typically situated in underground burrows.
Lynx canadensis	Canada lynx	E, LT	P	No	Dense, mature stands of boreal forest and other conifer or mixed-conifer stands. They will inhabit second growth forests, and even will tolerate small clear-cuts as long as adjacent blocks of mature conifer stands are left.

Scientific Name	Common Name	Status	Known to be or Probably Present in PIRO*	Suitable Habitat in Study Area for Known or Probable Species?	Habitat for PIRO Species**
Myotis septentrionalis	Northern long-eared bat	SC, T	K	Yes	During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. It has also been found, rarely, roosting in structures like barns and sheds. Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula.
Birds					
Accipiter gentilis	Northern goshawk	SC	K	Yes	Wide range of forested habitats ranging from boreal forests to northern hardwoods and occasionally pine plantations. In Michigan, goshawk nests occur most often in deciduous trees and less frequently in conifers.
Ammodramus savannarum	Grasshopper sparrow	SC	No	No	
Botaurus lentiginosus	American bittern	SC	K	No	Nest and forage in a wide variety of wet to wet-mesic habitats with herbaceous or herbaceous-shrub cover. They are area-dependent and are typically found only in the larger wetlands.
Buteo lineatus	Red-shouldered hawk	T	K	Yes	Nest in a variety of habitats but seem to be closely associated with mature forests in or adjacent to wet meadows and swamps.
Calidris canutus rufa	Red knot	LT	No	Yes	Breeds in drier tundra areas, such as sparsely vegetated hillsides. Outside of breeding season, it is found primarily in intertidal, marine habitats, especially near coastal inlets, estuaries, and bays.
Charadrius melodus	Piping plover	E, LE	K	Yes	Wide, flat, open, sandy beach with sparse vegetation and scattered cobble. Nesting territories often include a variety of micro-habitats such as seeps, interdunal wetlands, and small creeks.
Coturnicops noveboracensis	Yellow rail	T	P	No	Closely associated with *Carex lasiocarpa* , a type of sedge found in northern wet meadows.
Falco columbarius	Merlin	T	P	Yes	Nests are frequently near lakeshores or other semi-open areas where prey (small to medium birds) may be captured. Merlins will rarely nest in cavities or on cliffs.
Dendroica cerulea	Cerulean warbler	T	K***	No	Prefer mesic sites over more xeric sites and they are most commonly found in the canopy of large tracts of mature deciduous forest.
Falco peregrinus	Peregrine falcon	E	P	No	Nest sites usually found on cliffs overlooking expansive openings, such as large bodies of water; historic nesting areas in Michigan occurred on sandstone or granite cliffs located above the Great Lakes shoreline.

Scientific Name	Common Name	Status	Known to be or Probably Present in PIRO*	Suitable Habitat in Study Area for Known or Probable Species?	Habitat for PIRO Species**
Gavia immer	Common loon	T	P	Yes	Nest in sheltered islands on large, undeveloped inland lakes, although they may nest in lakes as small as 11 acres. Preferred nest sites are on small islands or bog mats, at the water's edge. Nursery areas - quiet, shallow, sheltered coves - are important for rearing chicks.
Haliaeetus leucocephalus	Bald eagle	SC	P	Yes	Nest in a wide variety of habitats that provide suitable nest sites close to open water. Nests may be placed in snags or large live trees as well as on constructed platforms or utility poles. They are resident as long as there is open water where they can forage.
Pandion haliaetus	Osprey	SC	P	Yes	Nest in trees or snags or on cliffs and some man-made structures. Preferred nest sites are above or near water.
Picoides arcticus	Black-backed woodpecker	SC	No	No	
Setophaga kirtlandii	Kirtland's warbler	E, LE	No	No	Requires at least eight acres of dense young jack pine forest to nest, but often 30 to 40 acres is needed to raise their young.
Spiza americana	Dickcissel	SC	P	No	May use a wide variety of natural grassland communities. They may also be found in agricultural settings with similar vegetation structure like pastures, hayfields, and old fields with occasional shrubs.
Tympanuchus phasianellus	Sharp-tailed grouse	SC	P	No	Year round residents using a wide variety of early successional habitats from grasslands, prairies, savannas, and barrens. In Michigan these habitats are frequently in isolated pockets within forested landscapes. Shrub thickets may be important for providing winter cover and food.
Ferns and Fern Allies					
Botrychium acuminatum	Moonwort	E	K	No	Known only from the large perched dunes at Grand Sable within PIRO, where it occurs primarily across the open dune fields.
Botrychium campestre	Prairie Moonwort	T	K	Yes	Freshwater dune systems, especially perched dunes along northern Lake Michigan. It also occurs in roadside habitats, abandoned orchards, and other disturbed grassy sites.
Botrychium hesperium	Western moonwort	T	No	No	
Botrychium mormo	Goblin moonwort	T	K	No	Mature, as well as second growth, mesic northern hardwood forests and, much less commonly, in coniferous forests in soil with a rich humus layer.

Scientific Name	Common Name	Status	Known to be or Probably Present in PIRO*	Suitable Habitat in Study Area for Known or Probable Species?	Habitat for PIRO Species**
Botrychium spathulatum	Spatulate moonwort	T	K	Yes	Occassionally found in open sand dunes, but usually located in low grassy swales beneath low shrubs or northern white-cedar. It is also occasionally found inland along sandy roadsides and trails.
Huperzia selago	Fir clubmoss	SC	P	Yes	Often a plant of edges, occurring along the sandy margins of seasonally inundated wetlands and especially in disturbed soil along roadsides, excavations, and borrow pits. It is also occasionally found in low shoreline dunes.
Flowering Plants					
Astragalus canadensis	Canadian milk vetch	T	No	No	
Callitriche hermaphroditica	Autumnal water-starwort	SC	K	No	Shallow water, up to 3-4 feet deep, often found stranded on sand flats or muddy stream edges, or in shallow portions of marshes.
Calypso bulbosa	Calypso or fairy-slipper	T	K	No	Spruce-balsam-cedar swamps, moist coniferous forests with cool soils, and Great Lakes shoreline forests dominated by spruce, cedar, fir, and paper birch.
Cirsium pitcheri	Pitcher's thistle	T, LT	K	Yes	Endemic to Great Lakes shorelines, where it is found on open sand dunes with sparse vegetation.
Crataegus douglasii	Douglas's hawthorn	SC	P	No	Rocky and bedrock outcrop shorelines in northern Michigan (conglomerate or basalt substrates). Also known from thin-soiled bedrock glades and balds in near-shore areas and hilltops, often in shrubby thickets.
Cypripedium arietinum	Ram's head lady's-slipper	SC	K	Yes	On cedar-fir-spruce beach ridges and in forests along the Great Lakes shoreline in northern Michigan. Also occurs in upland jack, red, and white pine forests, in conifer-dominated swamps, and at the margins of bedrock glades.
Elymus glaucus	Blue wild-rye	SC	K	No	Rocky shores, sandy thickets, wooded dunes, and deciduous woods. It often occurs in rocky crevices.
Empetrum nigrum	Black crowberry	T	K	No	Sandstone rock outcrops, in open, marly cedar or black spruce fens, and on exposed sandy bluffs and pine-dominated dune ridges.
Leymus mollis	American dune wild-rye	SC	K	Yes	At or above the storm line along sandy beaches and dunes of Lake Superior.
Listera auriculata	Auricled twayblade	SC	K	No	High flood line in moist alluvial sand under alders, along small stream drainages near the bare sand and on rocky ledges of the shoreline.
Littorella uniflora	American shore-grass	SC	P	No	Sandy-mucky shores of soft water lakes and submerged in depths of water up to 3 feet or more.
Luzula parviflora	Small-flowered wood rush	T	No		

Scientific Name	Common Name	Status	Known to be or Probably Present in PIRO*	Suitable Habitat in Study Area for Known or Probable Species?	Habitat for PIRO Species**
Myriophyllum alterniflorum	Alternate-leaved water-milfoil	SC	K	No	Soft water lakes in Upper Michigan, in particular in the St. Mary's River channel and bays of Isle Royale.
Myriophyllum farvvellii	Farwell's water milfoil	T	No	No	
Omalotheca sylvatica	Woodland everlasting	T	P	Yes	Openings in hardwoods and mixed woods, and also occurring along old trails and shady, little used roads.
Packera indecora	Northern ragwort	T	P	No	Found in a variety of habitats including moist woods of conifers, cedar swamps, rocky lake shores, and cliffs. It grows in sun to partial shade.
Pinguicula vulgaris	Butterwort	SC	K	No	Wet depressions within dunes along Great Lakes shorelines, along cobbly-marly shores and marly fens (especially in eastern Upper Peninsula), as well as on alkaline bedrock (conglomerate and basalt) shores of western Upper Peninsula.
Piptatherum canadense	Canada rice grass	T	No	No	
Potamogeton confervoides	Alga (Tuckeman's) pondweed	SC	K	No	Usually occurs in somewhat acidic (soft water) lakes, where it may be found in both shallow and deep water.
Pyrola minor	Lesser pyrola	SC	K	No	Found in acidic, conifer swamps dominated by black spruce, tag alder, tamarack, and balsam fir, often in areas with heavy Sphagnum moss cover.
Stellaria longipes	Stitchwort	SC	K	No	Sand dunes along Great Lakes shores.
Tanacetum huronense	Lake Huron tansy	T	K	Yes	Occur along the Great Lakes shorelines in open dunes and along shores and beaches in sandy to rocky areas.
Trisetum spicatum	Downy oat-grass	SC	K	No	Rock crevices and on shores where it is found along the immediate shore, where it establishes in crevices, often well within the wave-splash zone.
Vaccinium cespitosum	Dwarf bilberry	T	K	Yes	Open or semi-open habitats in the Upper Peninsula on dry, sandy soil. It is also found in seasonally wet, meadow-like areas intermixed with dry northern forest and dry sand prairie.

State Status: E = endangered; T= threatened; SC = special concern; X = presumed extirpated.

Federal Status: LE = listed endangered LT= listed threatened

K = Known to be present; P = Probably Present

Source: Species List for Alger County: Michigan Natural Features Inventory. Rare Species Explorer (Web Application). Available online at http://mnfi.anr.msu.edu/explorer [Accessed Jan 18, 2017]

*Source for Occurrence in PIRO: NPSpecies - The National Park Service biodiversity database. IRMA Portal version.https://irma.nps.gov/npspecies. [Accessed Jan 18, 2017]

**Source for Habitat Descriptions: Michigan Natural Features Inventory. 2007. Rare Species Explorer (Web Application). Available online at http://mnfi.anr.msu.edu/explorer [Accessed Jan 18, 2017]

***Cerulean warbler is unlikely to be present in the park or Sand Point and park staff believe the species was misidentified.

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

2017