

LEGEND

STUDY AREA/  
USGC BOUNDARY

185

ONE FOOT TOPOGRAPHIC  
CONTOUR

BUILDING

ASPHALT PAVING

CONCRETE PAVING

CONCRETE CURB

GRAVEL PAVING

1934 SHORELINE

1975 SHORELINE

2016 SHORELINE

STONE REVETMENT

REMNANT TRAIL

BOARDWALK

RAILS

WOOD DECK

SPLIT RAIL FENCE

FLAGPOLE

BOULDER EDGE

CONIFER EXTANT FROM  
PERIOD OF SIGNIFICANCE

DECIDUOUS TREE

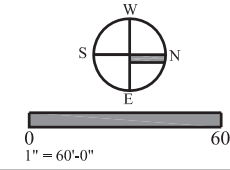
FOREST VEGETATION

LAWN

BEACH GRASS / DUNE  
VEGETATION

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

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



FEBRUARY 2017		TITLE OF PROJECT CULTURAL LANDSCAPE REPORT AND ENVIRONMENTAL ASSESSMENT	
UNITED STATES DEPARTMENT OF THE INTERIOR		TITLE OF DRAWING ILLUSTRATION 3-2 USCG STATION EXISTING CONDITION PLAN	
PICTURED ROCKS NATIONAL LAKESHORE MUNISING, MICHIGAN		NAME OF PARK SAND POINT/MUNISING USCG LIFE SAVING STATION	
625-135194		REGION MIDWEST	STATE MICHIGAN
		COUNTY ALGER	3-7





## Existing Condition and Analysis by Landscape Characteristic

### 1 Natural Systems and Features

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

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

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

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

### 34 Wurtsmith-Deford Complex

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

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

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

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

### 7 Deford Muck

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

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

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

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

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

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



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



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



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

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

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

43 3.7 O'Brian, Dan. First bats to die from white-nose syndrome  
44 this winter reported in Keweenaw County, Michigan.  
45 Michigan DNR sick or dead bird mammal observation  
46 report, Michigan Department of Natural Resources. [www.whitenosesyndrome.org](http://www.whitenosesyndrome.org) 2015.

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

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

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

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

44 3.10 Fisher, Timothy G. Determining the Origin and Dynamics  
45 of Coastal Processes of Sand Point at Pictured Rocks  
46 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.<sup>3.11</sup> 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.<sup>3.12</sup> The revetment is deteriorating. It is expected to fully fail, leading to erosion behind the revetment that would threaten the Life Saving Station.<sup>3.13</sup> 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.<sup>3.14</sup>

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

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

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

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

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

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

### Archeological Sites

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

Archeological site 20AR265 is a 19th century Ojibwe cemetery on Sand Point Road.<sup>3.15</sup> 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.<sup>3.16</sup>

A photograph dated to 1886 indicates the cemetery's use in the late 19th century, although the cemetery may date to an earlier time.<sup>3.17</sup> 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.<sup>3.18</sup>

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

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

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

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

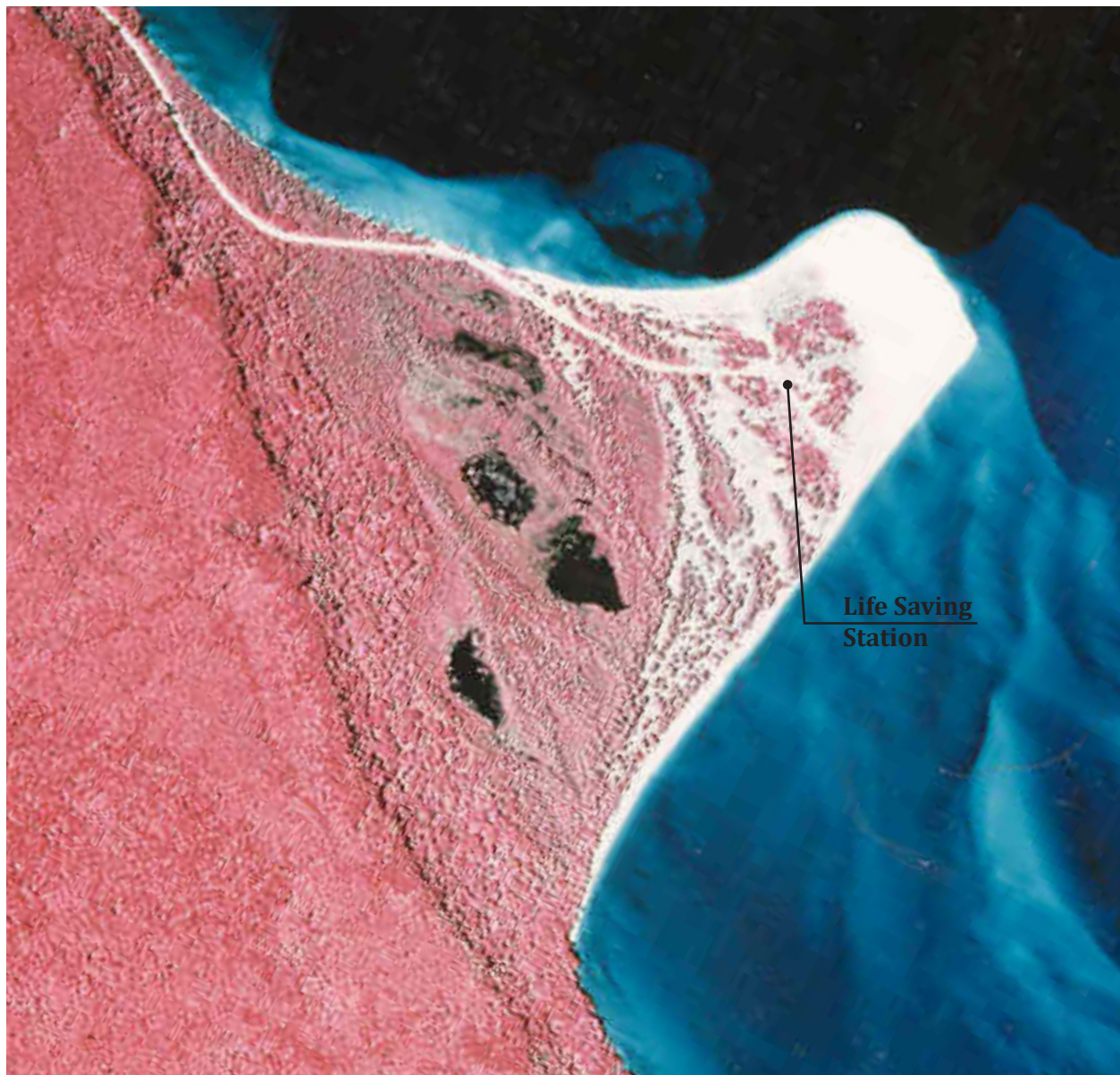


Figure 3-5. The geological formation of Sand Point extends from the shoreline to the base of the elevated plateau to the east (left in photograph). The sand at Sand Point was a dominant feature of the landscape during the period of significance. Aerial of Sand Point, 1978. (source: PIRO Archives)





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





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

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

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

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

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

## 1 Land Use

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

13

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

23

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

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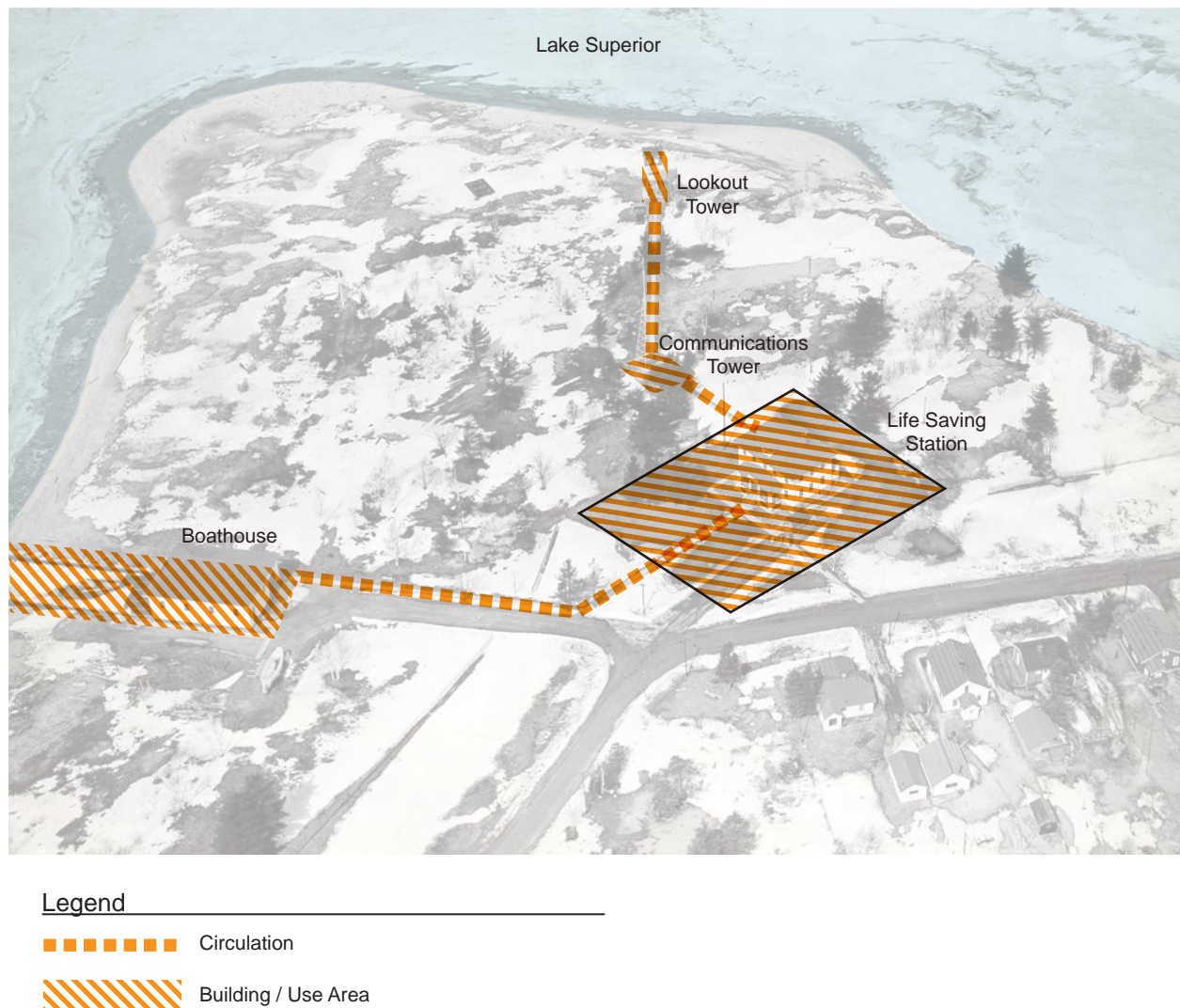


Figure 3-8. The four components of the Sand Point/Munising USCG Life Saving Station were integrated for successful operation – Lookout Tower, Communications Tower, Boathouse and Life Saving Station. These four spaces were connected visually by clearings in the vegetation and physically by walkways. The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



## 1 Spatial Organization

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

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

28

**Matrix 3-1. Spatial Organization Matrix**

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



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



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





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



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





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

1 **Topography**

2

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

13

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

26

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

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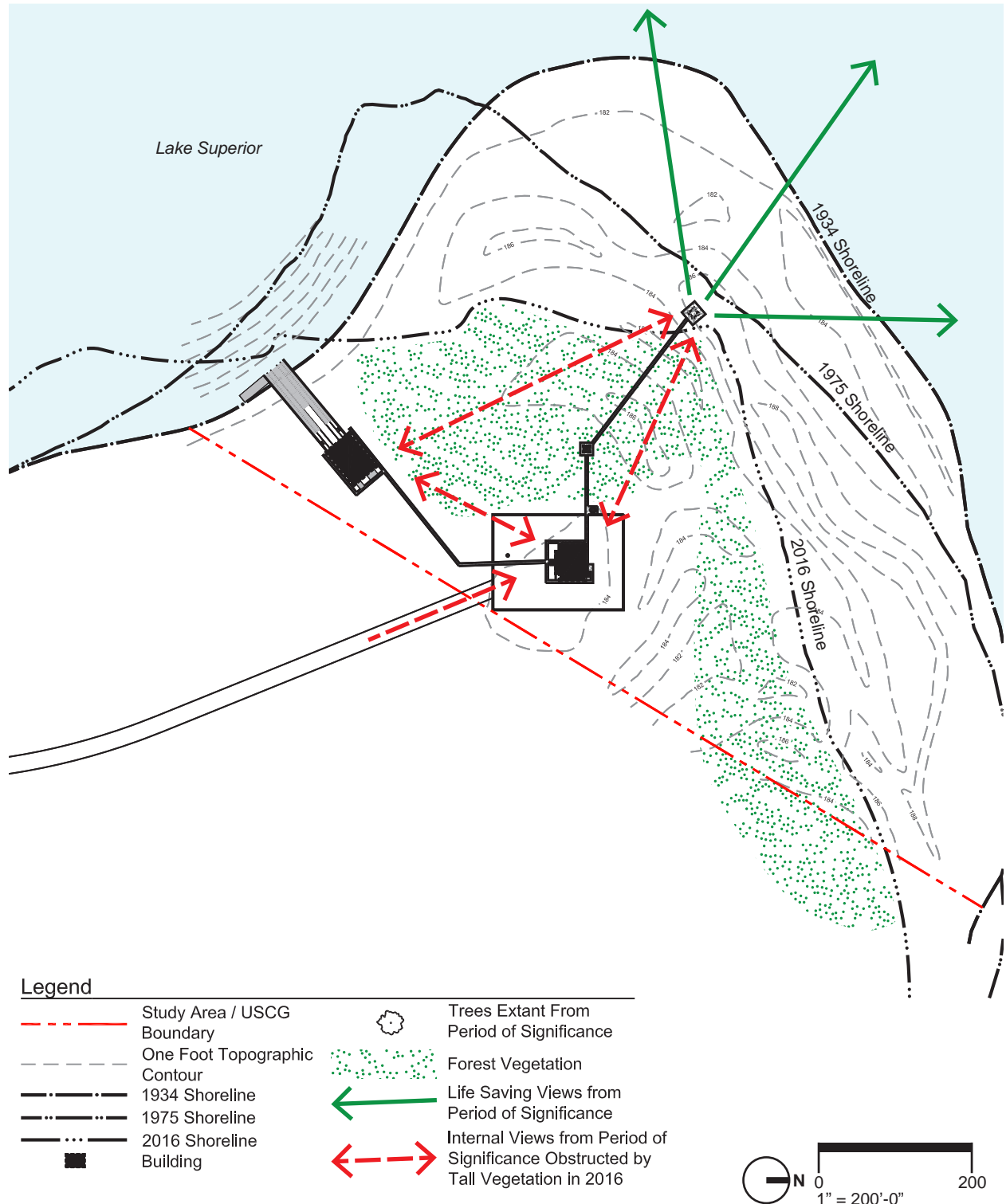


Figure 3-14. The views associated with the USCG development have changed since the period of significance. Historically the vegetation was less dense, allowing for open views across the study area. These views were essential to the successful life saving operations undertaken by the USCG. Over time vegetation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



### 1 Viewshed and Vistas

2  
3 The primary viewshed from Sand Point is  
4 across Lake Superior to Grand Island, Miners  
5 Castle, and Munising Bay. From the tip of the  
6 point, close to the former Lookout Tower, the  
7 viewshed is towards the bay to the south and  
8 to the lake to the north and northeast. Further  
9 inland, a view of the water is from Sand Point  
10 Road towards the road terminus, and from  
11 Sand Point Road towards the Boathouse.  
12 Views between buildings and former  
13 structures, and to the water are obscured by  
14 vegetation and are in poor condition.  
15  
16 Historically, the viewshed was more open  
17 between the station and the water than it  
18 is at present. A view to the water was of  
19 paramount importance to the mission of  
20 monitoring and helping boats and crewmen  
21 in danger. At an elevated position the Lookout  
22 Tower filled a crucial role in keeping watch  
23 but the entire complex relied upon open  
24 views to the water, including those from the  
25 Munising Life Saving Station (HS-01) and the  
26 Boathouse (HS-08). Today these views are  
27 non-extant due to vegetation that has grown

1 in locations where, during the period of  
2 significance, the height of the vegetation was  
3 shorter and was primarily low shrubs and  
4 grasses (Figure 3-15).  
5  
6 The views at Sand Point have changed from  
7 the period of significance. After the station  
8 closed, vegetation was no longer managed  
9 resulting in growth that obscures views that  
10 were once necessary for USCG operations.  
11 Views that existed between the Munising  
12 Life Saving Station (HS-01) and the lake are  
13 non-extant. Views between the Boathouse  
14 and Launchway (HS-08) and lake are in  
15 good condition. Along the walkway to the  
16 Communications Tower and Lookout Tower,  
17 the vegetation has become so dense that the  
18 visual connection between these historic  
19 features is diminished.  
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**Matrix 3-2. Viewshed and Vistas Matrix**

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



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



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





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



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





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





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



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





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

## 1 Circulation

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

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

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

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

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

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

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

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

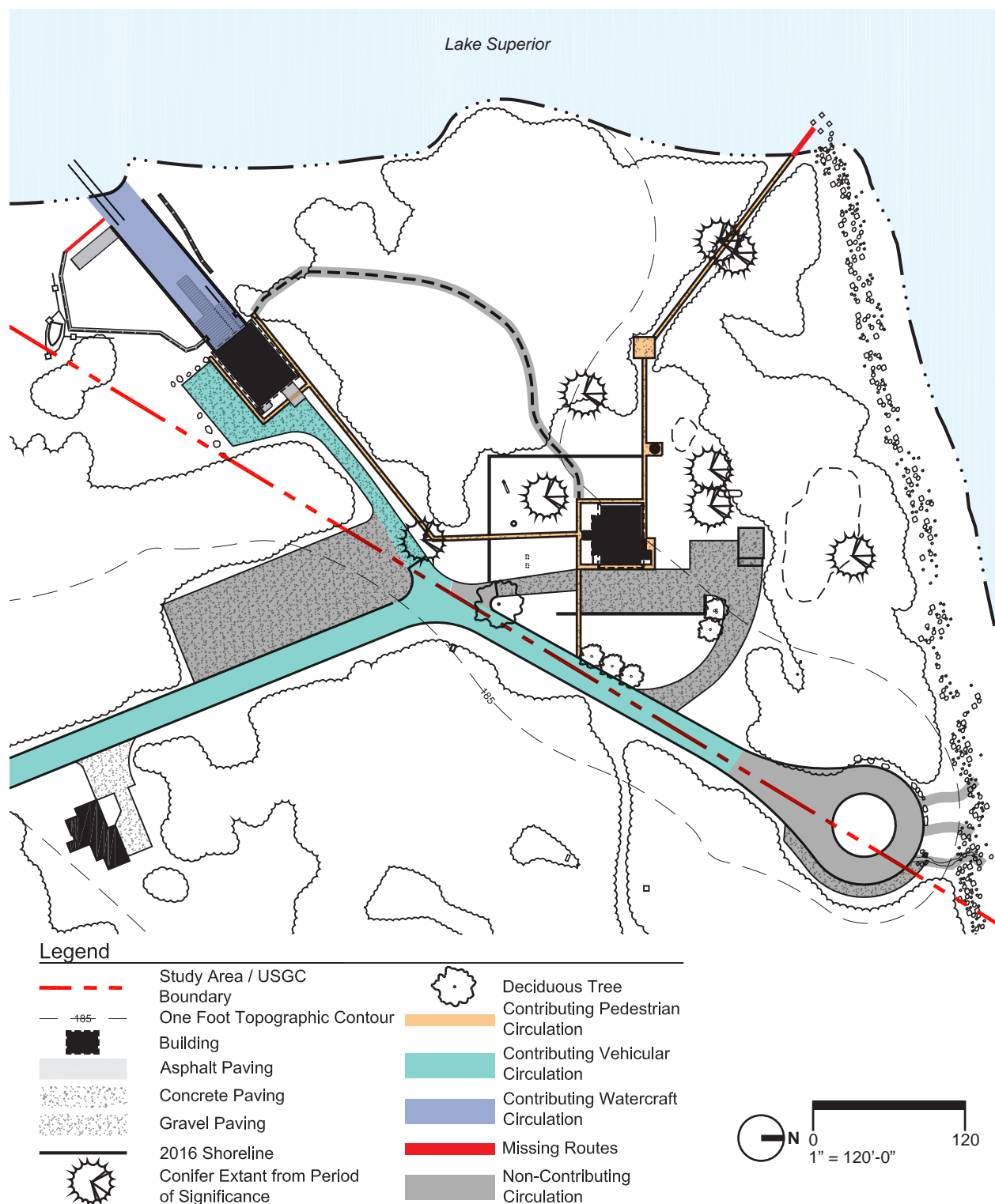


Figure 3-23. Circulation routes have remained in-tact from the period of significance. The overall circulation pattern remains, but the expanded vehicular circulation routes and poor condition of many walks threatens the integrity of the original design. (source: Mundus Bishop 2016)



Matrix 3-3. Circulation Matrix

CIRCULATION			
Feature	Description	Condition	"Contributing / Non-Contributing"
<b>Vehicular Circulation</b>			
<b>Sand Point Road</b>	2-lane asphalt paved road 22' wide +/- . Road ends at beach, one-way circular loop. Gravel pull-out, 10' wide	Good	Contributing
<b>Visitor Parking Area</b>	60' wide +/- gravel surfaced. 1 HC reserved space	Fair	Non-Contributing
<b>Boathouse Drive</b>	12' wide gravel surfaced. Authorized vehicles only. Extends to south of Boathouse, edged with boulders	Fair	Contributing
<b>Service Road / Staff Parking</b>	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
<b>Pedestrian Circulation - General</b>			
<b>Informal Trails</b>	From road terminus to beach	Good	Non-Contributing
<b>Pedestrian Circulation - Station</b>			
<b>North South Main Walk</b>	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
<b>Walk to Boathouse</b>	3' wide concrete paving; scored at 6' intervals. Spalling in sections, especially close to Boathouse	Fair	Contributing
<b>Station Walks</b>	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
<b>Concrete Pads</b>	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
<b>Walk to Towers</b>	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"
<b>Pedestrian Circulation - Boathouse</b>			
<b>Boathouse Walk</b>	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
<b>Dock</b>	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
<b>Boardwalk</b>	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
<b>Abandoned Trail - Boathouse to Station</b>	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)