1. NAME OF PROPERTY

Historic Name: Split Rock Light Station

Other Name/Site Number: Split Rock Lighthouse; Split Rock Lighthouse State Park

2. LOCATION

Street & Number: 3713 Split Rock Lighthouse Road Not for publication:

City/Town: Two Harbors Vicinity: Beaver Bay

State: Minnesota County: Lake Code: 075 Zip Code: 55616

3. CLASSIFICATION

Ownership of Property		Category of Property	
Private:	___	Building(s):	___
Public-Local:	___	District:	X
Public-State:	X	Site:	___
Public-Federal:	___	Structure:	___
Object:	___		

Number of Resources within Property

Contributing	Noncontributing
10	___ buildings
1	___ sites
1	3 structures
___	___ objects
12	3 Total

Number of Contributing Resources Previously Listed in the National Register: 9

Name of Related Multiple Property Listing: N/A

Designated a
National Historic Landmark
JUN 23 2011
by the
Secretary of the Interior

4. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ___ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ____ meets ____ does not meet the National Register Criteria.

_____ _____
Signature of Certifying Official Date

_____
State or Federal Agency and Bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria.

_____ _____
Signature of Commenting or Other Official Date

_____
State or Federal Agency and Bureau

5. NATIONAL PARK SERVICE CERTIFICATION

I hereby certify that this property is:

___ Entered in the National Register
___ Determined eligible for the National Register
___ Determined not eligible for the National Register
___ Removed from the National Register
___ Other (explain): _____

_____ _____
Signature of Keeper Date of Action

6. FUNCTION OR USE

Historic:	TRANSPORTATION	Sub:	Water-Related
	DEFENSE		Coast Guard Facility
	DOMESTIC		Institutional Housing
Current:	LANDSCAPE	Sub:	Park
	DOMESTIC		Institutional Housing

7. DESCRIPTION

ARCHITECTURAL CLASSIFICATION: LATE 19TH & 20TH CENTURY REVIVALS: Neoclassical Revival
OTHER: Foursquare (Two-Story Cube)
OTHER: No style

MATERIALS:
Foundation: Brick, Concrete
Walls: Brick, Concrete, Wood
Roof: Metal
Other:

Describe Present and Historic Physical Appearance.

Summary

The Split Rock Light Station is nationally significant for its association with the development of American commerce and transportation on the Great Lakes. It served as a vital aid to navigation for commercial freighters traveling the busy shipping lanes that served the bustling ports of Two Harbors and Duluth-Superior, Minnesota. These harbors were located closest to the Minnesota Iron Range, which contained the nation's largest and richest iron ore deposits – the primary ingredient for making steel. Beginning in the 1890s, hundreds of ships carried millions of tons of iron ore from both of these harbors over the Great Lakes to eastern industrial states at a time when the United States emerged as the world's industrial giant. In addition, hundreds of grain freighters moved the vast agricultural harvests of the upper Great Plains to the rapidly growing populations of the entire Great Lakes region.[1]

All of these ships had to travel along a narrow shipping lane that ran parallel to the rocky, unforgiving Minnesota North Shore of Lake Superior. The largest of all of the Great Lakes, Lake Superior possesses rapidly changing and violent weather that oftentimes produces powerful winds capable of blowing a vessel towards the Minnesota shore. At other times, thick fog quickly forms over the lake, where compass navigation is difficult due to magnetic deviations created by the area's vast iron deposits. As a result, the powerful Great Lakes shipping industry lobbied to upgrade the entire lighthouse establishment on the Great Lakes with its immediate goal of placing a light station at Split Rock. The Split Rock Light Station, constructed between 1909 and 1910, was the primary project within a larger, federal effort to improve Great Lakes navigation during a period when the Great Lakes emerged as a vital component of the nation's industrial economy.

The light station is also significant for its architecture as a highly intact and stylistically cohesive early twentieth-century, Great Lakes light station designed by the U.S. Lighthouse Board as a single, cohesive, self-sufficient complex. In addition, all major elements were built during its initial period of construction, which is extremely rare among light stations on the Great Lakes. Its architectural significance is enhanced by the large number of extant buildings, and the fact that the station received very few changes to its setting and layout over its operational existence.

General Description

The Split Rock Light Station was completed in 1910 and is located on a high rocky cliff overlooking Lake Superior. The complex was constructed to aid shipping after a devastating storm in 1905 damaged nearly thirty ships on the lake, several of which sank in the vicinity of Split Rock Point. It was erected during a period when Lake Superior had emerged as one of the busiest shipping corridors in the world. Accessible only by boat at the time of its construction, the station remained isolated until the Lake Superior International Highway reached the station in 1924. The complex served as a navigational aid on Lake Superior until it was decommissioned in 1969. The light station is now owned by the State of Minnesota and administered by the Minnesota Historical Society (MHS). It currently serves as a state park and state historic site.

The light station is located in the picturesque "Arrowhead" region of northern Minnesota. Geographically, this rugged area is notable for its thick forests, rolling hills, and numerous lakes and streams. An imposing semi-mountainous ridge parallels the shoreline of Lake Superior, which is rock bound and possesses only a handful of natural harbors. The Arrowhead's significant natural resources resulted in an extractive economy dating to

[1] A. K. B. Lyman, comp., *Duluth-Superior Harbor: Statistical Report of Marine Commerce of Duluth, Minnesota, and Superior, Wisconsin* (Duluth, MN: U.S. Army Corps of Engineers, 1932-1958).

the earliest periods of French exploration. French Voyageurs searched the area, which was rich in wildlife, for beaver and other fur-bearing animals during the 1700s. Loggers arrived in the late 1800s to harvest the region's vast Norway pine stands. By the early 1900s, these trees were largely clear-cut. Exploration revealed unsurpassed deposits of iron ore, the primary element for making steel. The harsh terrain limited early settlement to temporary logging camps and small fishing villages such as Beaver Bay and Castle Danger. Beaver Bay is seven miles northeast of Split Rock, while Castle Danger is seven miles to the southwest. A few primitive roads existed, but supplies and long-distance travelers generally travelled by boat. Development of the Minnesota Iron Range brought railroads and a significant number of people to the general region, but both remained oriented on mining boomtowns like Hibbing and Virginia or the bustling lake ports of Two Harbors (eighteen miles southwest of Split Rock) and Duluth-Superior (forty-five miles southwest). Vast tracts of the Arrowhead remained unoccupied, while a handful of tiny villages that were largely inaccessible by land hugged the Lake Superior shoreline. At present, the general area around the light station is dominated by second-growth forest that is comprised generally of birch, spruce, and aspen. Minnesota State Trunk Highway 61 runs parallel to the lakeshore and provides access to the light station. North of Two Harbors, the two-lane facility is the area's only major highway.

The Split Rock Light Station was developed within this rugged and isolated setting. At the time of the station's construction in 1909, the immediate area was covered with brush, rocks, and the remains of clear-cut logging. Abandoned by the 1930s, the tiny fishing camp of Little Two Harbors existed in a small cove one-half mile west of a 130-foot corundum rock dome that defines Split Rock Point. This feature was the focal point of the original lighthouse reservation, which consisted of 7.63 acres. The State of Minnesota acquired the property in 1971 and has steadily purchased surrounding land. Today, the state park consists of 2,075 acres. This additional land protects a natural setting for the historic lighthouse and also provides for modern park features such as a visitors' center, parking lots, service facilities, and campgrounds. The park contains a number of internal recreation trails, as well as a stretch of the Gitchee-Gami State Trail, which is a paved multi-use trail that connects several state parks along the North Shore. Most of these modern features are scattered throughout the park and not near the original light station reservation. Several concrete survey markers, circa-1909, identify portions of the original reservation boundary; however, much of this boundary is not readily discernable. A modern visitors' center and two large parking lots are near the original site, but these modern amenities are carefully shielded from the historic-period light station complex by mature trees and shrubbery. No park-related service buildings exist within the confines of the historic-period (pre-1969) light station complex.

Largely intact today, the built complex of the Split Rock Light Station is centered on a Neoclassical Revival-style lighthouse and adjacent fog horn building. Both of these buildings are located on a corundum rock dome that rises 130 feet above Lake Superior. This dome rises approximately fifteen feet above a flat tract that contains the rest of the built complex. The dome is accessed via a set of concrete steps, while its lakeside edge is guarded by a short concrete wall topped with a chain-link fence with barbed wire strands. Below the dome, the light station grounds originally were rocky and uneven. Once the lighthouse was placed into operation, lighthouse staff over several decades filled and graded the area to bring the grounds to their current state, which consists of a typical manicured appearance of cut grass, shrubbery, concrete sidewalks and several trees.[2]

Three Craftsman-influenced, foursquare houses are situated on an east-west line west (left) of the lighthouse. Beginning with the one closest to the lighthouse and moving west, these buildings are referred to as House #1, #2, and #3, respectively. The south (main) façade of these houses faces Lake Superior and concrete sidewalks outline each domicile. This sidewalk also connects to the lighthouse. A frame storage barn/garage is positioned

[2] Split Rock Light Station Lightkeeper's Log, 1910-1939, Minnesota History Center Library (henceforth cited as MHC Library), St. Paul, MN.

to the north of houses #2 and #3, while concrete ruins of a similar building (destroyed by fire in 1969) are paired with House #1. A small frame pumphouse, circa 1940, is located to the immediate east (right) of the barn/garage that serves House #2. An asphalt vehicle path and concrete sidewalk pass between the two lines of buildings. This vehicle path continues westward and exits the light station complex into the park through a gate flanked by stone pillars that date to the 1920s or 1930s. These pillars highlight a circa 1960s chain-link fence that encircles the two storage barns/garages, the pumphouse, and houses #2 and #3. These buildings are not open to the public and provide for park support and living quarters for the historic site manager. House #1 is not surrounded by any fencing and is open for public tours.

A concrete oil storage building is located directly north of the fog horn building and directly east of House #1. A concrete sidewalk connects to the network that serves the rest of the complex. Immediately east (right) of the oil storage house and adjacent to the edge of the cliff are the concrete foundation remains of a derrick hoist that lifted supplies from boats during its construction, as well the station's first seven years of existence. The area around the derrick remains is not landscaped and is lightly forested.

A modern asphalt path begins at the base of the stairs that serve the rock dome and extends westward between the line of houses and the cliff's edge. As the trail starts to descend in grade, a modern, interlocking, concrete-block retaining wall (1995) rises to maintain a level yard for houses #2 and #3. The trail continues westward beyond the houses and into the woods where it reaches a small brick building that was part of the station's tramway system. The tramway was constructed in 1915-16 as a replacement to the aforementioned derrick hoist. The building housed an engine that pulled carts up a steep slope via a set of rails supported by concrete piers. Once at the engine building, the cart was pushed manually along rails that terminated at the oil storage building. These rails were removed in 1934.

Once at the tramway engine house, the trail turns to the southeast and joins a long, modern, wood staircase (1994) that descends to the lakeshore. The remains of twenty-four concrete tramway piers are parallel to the stairs. The area at the base of the stairs contains a concrete boathouse foundation partially occupied by a small, frame pumphouse built circa 1959. A dock once existed as a companion to the boathouse but was destroyed by a storm in 1940, and no remains are evident. A gravel roadway runs from the boathouse foundation into the interior of the park. The area surrounding the tramway house, piers, stairs, and boathouse remains is forested.

The complex, as constructed between 1909 and 1910, consisted of the lighthouse, fog horn building, oil house, three lightkeeper's houses, three storage sheds, a boathouse with dock, a cliff-side concrete railing, and derrick hoist. Buff-colored, vitreous brick is the primary construction material for the lighthouse, fog horn building, and the three lightkeeper's dwellings. In contrast, the oil storage house is built of poured concrete, and the two remaining storage barns are wood-frame examples. The non-extant barn and the boathouse were also wood frame. The derrick was dismantled in 1916, when it was replaced by a tramway system, which was partially removed in 1936 after the property received road access one year earlier. Ice storms destroyed the dock in 1940 and the boathouse in 1959, neither of which was replaced. In 1940, a well was dug and a wood-frame pumphouse was erected adjacent to the middle storage barn, while a second frame pumphouse was built on the site of the boathouse circa 1959. Storage Barn #1 burned to the ground in 1969.

Today, the Split Rock Light Station consists of ten contributing buildings: a lighthouse; fog horn building; three houses; two storage barns/garages; two frame pump houses; and the oil storage house. The tramway, which includes the engine house and thirty extant concrete piers, is classified as a contributing structure. The complex as a whole contains a number of small landscape elements as well as the remains of several buildings/structures. These elements are considered as a single contributing site, which features the following eight elements: concrete cliff wall located on the rock dome (1909-1910); safety fence (1956); circa 1920s and 1930s stone gate

pillars; concrete sidewalk network (1909-1910), concrete lighthouse reservation boundary markers (1909); as well as the remains of the derrick hoist, boathouse, and a storage barn. The station also has three noncontributing structures, which are modern and post-date the period of significance. These are the privacy fence (circa 1960s); an interlocking concrete-block retaining wall (1995); and the wood staircase (1994) that runs from the tramway engine house to the lake.

Contributing Resources

Lighthouse (1909-1910)

Perched atop Split Rock Point, and generally oriented on a north-south axis, this Neoclassical Revival-style lighthouse is built with a riveted steel skeleton that is faced with buff-colored, vitreous brick. The building consists of an octagonal lighthouse tower and a one-story, flat-roof cleaning room wing that projects to the north. The building rests on a poured-concrete foundation and features heavy concrete trim that is finished with a fine, stucco-like material that gives it the look of stone.[3] Windows are historically sympathetic, replacement, one-over-one, double-hung, wood sashes.

The lighthouse tower rises fifty-four feet and has a focal plane of 168 feet due to the 130-foot height of Split Rock Cliff. The tower is divided into four distinct sections. Section one is the base, which is comprised of several rows of coursed, heavy, concrete block. This section features a flared base course and a heavy, angular, tapered band, as well as a second, rounded band that is carved from the top row of concrete. The walls of the next section taper inward and are comprised of brick. Six of the eight sidewalls contain a small, wood, double-hung sash with a full wood surround. These windows alternate in position between the bottom and top portions of the wall. A heavy concrete band (that resembles a cornice) tops the tapered walls and provides a base for the strictly vertical third section. Faced with brick, all eight corners of this level are accented with a plain brick pilaster. The alternating panels feature double-hung wood sashes with finished concrete sills and lintels, beneath which rests a pair of small metal vents. The uppermost section of the tower is the lantern room, which is cylindrical and topped with a conical cap. Two-thirds of the lantern room that faces the lake is comprised of twenty-seven large pieces of curved glass, while the rear (northerly) section is constructed of steel (painted black). An octagonal catwalk with a short railing encircles the lantern room and numerous handholds are bolted to the heavy steel muntins that anchor the glass panels. Located on the north side of the lantern room, a steel ladder provides access to the conical roof that carries a globe cap and short lighting rod, as well as a short, railing-like foothold that encircles the base of the roof.

A single-bay hyphen connects the tower to the one-story, flat-roof, cleaning room block. This wing rests upon a massive poured-concrete foundation and features a heavy concrete base course, which has a stone finish. Both the decorative elements and fenestration are symmetrical. The east, north, and west facades are dominated by heavy, stone-finished concrete neoclassical elements. Specifically, smooth pilasters with modest capitals lead to a plain entablature and a raised cornice. A low brick parapet with a concrete cap sits atop the entablature. The east (main) façade is comprised of three bays with the central one occupied entirely by a doorway served by six concrete steps with metal handrails. The flanking bays, as well as the hyphen wall, are pierced by a single, small, rectangular, double-hung sash window defined by heavy concrete lintels and sills. The north façade exhibits two bays and the west facade consists of three bays. Each of these bays (including the western wall of the hyphen) carries the same window arrangement as the east façade. A small, rectangular, brick chimney with copper cap (added in 2005) rises from the roof near the north façade.

[3] Lee Radzak (Split Rock Lighthouse Historic Site Manager), in discussion with the author, January 11, 2008. The citation of this conversation includes subsequent e-mail and telephone discussions between both parties. Notes on file at Heritage Research, Ltd. (HRL), Menomonee Falls, WI.

On the interior, both blocks have bare concrete floors and white, enameled-brick walls. The cleaning room has a plaster ceiling. The windows are framed with heavy oak trim. The cleaning room contains a freestanding, white, enameled-brick chimney, a cast-iron heating stove, and circa 1910s-1920s period, wood furniture. Open doorways exist at each end of the hyphen, and both are defined by heavy, solid-oak paneling. The lighthouse tower wall is circular and features deep, recessed bays where windows pierce the wall. The tower's ground level at the center carries a large steel conduit that holds the rotation mechanism's clock weights. A circular, ironwork staircase hugs the wall and leads to the level that exists beneath the lantern room. This area retains a concrete floor and holds the original light rotation assembly gear mechanism. A short set of ironwork stairs previously led up to the lantern room, but have been removed by park staff in order to keep visitors from accessing the lantern room and the Fresnel lens. The stairs are stored on site.

The lantern room contains its original Third Order Fresnel lens manufactured by the firm of Barbier, Bénard et Turenne of Paris, France. The lens is a clamshell type that contains two central refracting panels made up of hundreds of individual glass prisms. The lens rests atop a complex rotating assembly that uses a clock-weight system to turn the lens assembly one rotation every twenty seconds. The lens assembly rotates on a bearing surface filled with 250 pounds of mercury. The entire lens and rotation assembly weighs six-and-one-half tons. The light had an official range of twenty-two miles, but on occasion was seen as far as sixty miles away. In 1923, its 220,000 candlepower rating ranked eighteenth in the entire U.S. Lighthouse Establishment and third on the Great Lakes.[4] Over the lighthouse's operational life, the kerosene incandescent oil vapor (IOV) lamps were replaced several times before the station was converted to electrical power and received an incandescent light system in 1940. The light remains operational, although its brightness is diminished and its focal plane altered in accordance with U.S. Coast Guard (USCG) regulations governing decommissioned lighthouses.[5]

Alterations to the building have been minimal and sympathetic. While the precise dates could not be determined, the building throughout its history has been tuck pointed and several expanses of brick may have been replaced with those of a slightly lighter shade.[6] Also, the USCG, in either the 1950s or 1960s, replaced the original wood, double-hung sash windows with aluminum frames. In 1991, the Minnesota Historical Society (MHS) replaced those windows with oak frames that matched the original design. It also restored the interior oak paneling during the same restoration effort. In the spring of 2008, the MHS completed a significant restoration project of the exterior of the lantern room. This and other MHS restoration activities for the lighthouse have been in keeping with the Secretary of Interior's Standards for Rehabilitation.[7]

At present, all parts of the lighthouse tower except the lantern room and outside catwalk, are open to the public.

Fog Horn Building (1909-1910)

Positioned immediately east of the lighthouse and on the same rock dome, the one-story, Neoclassical Revival-influenced fog horn building rests upon a poured-concrete foundation and is constructed with a hollow brick

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[4] John S. Conway, comp., *The United States Lighthouse Service* (Washington, DC: Government Printing Office, 1923), 39.

[5] Steve Hall, "Light," unpublished manuscript dated 15 May 1977, History files-Light, Split Rock Lighthouse Visitors' Center Library, Split Rock Lighthouse State Park, Two Harbors, MN (hereafter cited as SRL); Conway, *United States Lighthouse Service*, 39; J. S. Woodard, USCG, to Lee Radzak, "Information Concerning the Candlepower of the Lens at Split Rock LT," 2 July 1996, History files—Light, SRL. Steve Hall was a historian at Split Rock Lighthouse in the 1970s. He completed a number of topical manuscripts on various aspects of Split Rock and catalogued a number of notecards by subject detailing log entries, facts from correspondence, interview notes, as well as other primary source information.

[6] It is not known if the different shade of brick used on portions of the lighthouse, foghorn building, or dwellings dates to the period of construction or if it was part of a repair project sponsored by either the United States Lighthouse Service (USLHS) or the Coast Guard (USCG). Radzak, conversation with author.

[7] Radzak, conversation with author.

bearing wall of buff-colored, vitreous brick. The slightly overhanging hipped roof is clad with red metal shingles, encircled by a wood pole gutter and pierced by a tall brick chimney near its northeast corner. The roof ridge also carries a centered metal cupola vent, while the southern slope features a pair of large, copper fog horns braced with angle iron. Underscored with concrete sills, rectangular windows consist primarily of two-over-two, double-hung, metal sashes with vertical muntins and wire-mesh security glass. All doorways are metal, double-door, paneled examples topped with four-light transoms. Stylistic detail consists primarily of a three-course band of raised brick that encircles the building at the height of the doors, as well as raised brick trim and lintels.

The south (main) façade is comprised of a central doorway that is served by a wheelchair ramp and is flanked to either side by a window. The eastern endwall is pierced by a pair of symmetrically placed windows. The north side features the exposed, brick-clad sidewall of the cistern. Its fenestration mirrors the south facade with the addition of a small, two-pane casement window near the northwest corner. The north doorway is not serviced by stairs and it is guarded by a pair of horizontal, metal rails built into the door frame. Other elements include a pair of wood pipe boxes that rise from the ground and are positioned to the east (left) of the doorway, while a pair of metal vent pipes located near the small casement window protrude from the cistern wall and extend upward past the roof line. The west side is defined by a central entrance flanked by double-hung sashes. The doorway is served by a single concrete step.

The interior of the building consists of one room and is comprised of a concrete floor marked near its center by two steel cistern-access grates. The walls are white-enameled brick. A small beadboard closet is positioned in the southeast corner, while a small, former water closet built with white enameled brick occupies the northwest corner. The latrine is without fixtures and serves as a storage closet. The room is devoid of any fog horn apparatus (removed in 1961) and contains a variety of interpretive panels of the history of the light station. The building is open to the public.

In 1936, the Lighthouse Service replaced the original fog horn apparatus with a Type-F diaphone and, as a result, constructed a small wall dormer on the south roof slope to carry the new megaphones. In 1979, the Minnesota Historical Society removed the 1936 dormer and restored the façade to its original appearance and installed replica, circa-1910 copper megaphones on the roof. The building has been tuck pointed on occasion and the brick on the cistern level is of a lighter shade.[8]

Oil Storage House (1909)

Situated north of the foghorn building, the oil storage house is constructed of poured-in-place concrete walls and measures approximately 15' x 20'. The one-story building is topped with a red metal, shingle-clad, hipped roof that is encircled with a wood-pole gutter and underscored by a simple, concrete, stepped cornice. Ornamentation is limited to a narrow band of raised concrete that wraps around the structure. A metal cupola vent rises at the roof's peak.

The south (main) façade contains a heavy steel door. Small brass vents are positioned to either side of the door a short distance above the concrete entrance apron. A metal conduit and light fixture are positioned near the left corner. Small, metal, two-light casement windows centered near the roof line pierce both the east and west sidewalls. The north (rear) wall is devoid of windows.

[8] Hall, "Split Rock Fog-Signal Building," unpublished manuscript, 7 January 1977, History files—Fog Signal, SRL.

The interior consists of one room whose walls are faced with common brick. Wood shelving is affixed to the northern and eastern walls. The building currently serves as exhibit space for the various types of tools once used at the lighthouse.

Lightkeeper's House #1 (1909-1910)

Located a short distance northwest of the lighthouse, this two-story, Craftsman-influenced, foursquare house is built with hollow-core bearing walls of buff-colored, vitreous brick. The building is topped with a pyramidal roof sheathed with red metal shingles. The roof retains exposed eaves with rounded-end rafter tails. A wood pole gutter encircles the roof near its edge. Small, hipped-roof dormers protrude from both the eastern and western slopes and each features a fixed-wood window with diamond-pane glass. A rectangular, brick chimney is centered on the peak and it displays a limestone cap and a large copper hood (installed in 2005). The house rests upon a brick basement foundation that is separated from the upper two levels by a limestone water table. Windows are generally one-over-one, double-hung examples with heavy limestone sills and lintels. Two bands of raised brick connect the sills of the second-floor windows and three rows of brick form a simple, corbelled cornice.

The south (main) façade features an open, shed-roof entry porch offset to the east (right). The porch's steeply-pitched overhang is supported by heavy, carved, wood bracing, and the sides of the porch roof are enclosed with wood. The brick porch wall is capped with limestone. Wood stairs with metal tube railings provide access to the porch, which protects an original, four-panel, wood door with six lights, as well as a narrow, one-over-one, double-hung sash window. The space to the west (left) of the porch is filled with two double-hung sashes narrowly separated by brick. An identical arrangement is located on the second level while the space above the porch roof is pierced by a single-light, casement example, which serves the bathroom. The basement level carries two, three-light, awning windows.

The east (right) wall is defined primarily by its fenestration. A basement-level, three-light, awning window pierces the southeast corner while the first and second floors exhibit double-hung sashes near the northeast corner. A stairway landing-level, double-hung sash window is offset to the south (left). The upper sash of this window features diamond-paned lights. A metal gutter pipe that once emptied into a basement cistern is situated near the northeast corner.

The north (rear) face is defined by an entry porch at the northeast corner that is virtually identical to the south (main) facade. The double-hung window positioned to the immediate west (right) of the doorway is a standard-sized example. Moving from east to west, the remainder of the first floor carries a smaller double-hung sash (which serves the pantry), as well as a second, standard-sized, double-hung sash. The second floor features two, symmetrically-placed, double-hung sashes. The basement level is pierced by a three-light awning window. Also, a copper lightning arrestor strap runs from the chimney, down the center of the façade and into the ground.

The west (left) side is pierced by two, symmetrically-placed, double-hung sashes on both the first and second floors, while the basement features three-light, awning examples.

The interior has been restored to a circa 1920s appearance by the MHS using the Secretary of the Interior's Standards for the Treatment of Historic Properties.[9] It is comprised of hardwood floors, plaster walls, varnished wood trim, and metal radiators. The main entrance opens into an airlock entryway that leads to a small foyer. The foyer provides access to an open stairwell to the east (right), an entrance to the kitchen to the front (north),

[9] Radzak, conversation with author.

as well as a doorway to the living room to the left (west). The first floor also features a dining room and small pantry. The kitchen holds the entrance to the basement, which is largely open and utility oriented. It features painted brick walls, a concrete floor, exposed wood ceiling joists, as well as a cistern in the northeast corner. The upstairs is comprised of a bathroom and three bedrooms with closets. A built-in wood ladder in the central hallway provides access to the attic, which is unfinished. At present, the building is open to the public and illustrates how keepers and their families lived at Split Rock prior to 1930.

Lightkeeper's House #2 (1909-1910)

Lightkeeper's House #2 is located to the west of Lightkeeper's House #1, and is essentially the same design, although the front and rear porches have concrete steps and floors. The north (rear) porch is enclosed by an original beadboard insert that was utilized by all three dwellings during months of inclement weather. With regard to fenestration, the only difference is that the stairway landing window (eastern wall) features a single-light upper pane instead of a diamond-paned example.

This house currently is used as the residence of the Historic Site Manager, and its interior contains a mix of USCG (1939-1969) and more recent renovations. The floor plan remains unchanged. All exterior-facing walls have been covered with two inches of insulation and sheetrock; however, the original woodwork was reinstalled. All woodwork is painted white. A full examination of the interior was not possible since it functions as a private residence.[10]

Lightkeeper's House #3 (1909-1910)

This house is located to the west of Lightkeeper's House #2 and is identical to that dwelling. The interior reflects the original floor plan, as well as modifications made by the USCG between 1939 and 1969. The kitchen features metal cabinets, linoleum flooring (installed in 1944), and Formica laminate wall coverings. The foyer and floors in select rooms are covered with linoleum floor tile, while the bathroom contains circa 1950s cabinets, fixtures, and wall coverings. The remaining rooms retain their hardwood floors. All woodwork has been painted white.

Like the other two houses, this building was used as living quarters for lighthouse staff. After the station was acquired by the State of Minnesota, the structure served as an office and storage in support of park operations. It currently functions as storage and is not accessible to the public.[11]

Storage Barn #2 (1909)

Situated directly to the north of Lightkeeper's House #2, this one-and-one-half-story, side-gabled, frame building rests on concrete piers obscured by wood lattice. The first floor is sheathed with vertical board-and-batten siding, while the upper level and the roof are covered with red metal shingles. A square, metal-clad, frame cupola with a pyramidal cap is centered on the roof's ridge.

Located at the center of the south (primary) facade is a set of wood doors that slide into the inside of the building. Replacement wood steps serve the doorway, which is flanked by six-over-six, double-hung sashes. The façade's upper portion is without fenestration and a wood-pole gutter hangs from the edge of the roof.

[10] Ibid.
[11] Ibid.

The east wall is pierced by a centered, six-over-six, double-hung sash at each level, while the north (rear) wall carries a solitary, six-over-six, double-hung sash near the northwest (left) corner. The west wall includes a wood-panel, overhead garage door and, at the attic level, a six-over-six, double-hung sash window.

The interior of the barn features a heavy plank wood floor and shiplap covered walls. Open wood stairs are along the east endwall and provide access to the attic.

Each of the three storage barns (Barn #1 was destroyed by a fire in 1969) were converted into automobile garages in 1931 when each received an 8' x 9' opening on the west endwall. The improvement necessitated moving the interior stairwell from the west endwall to the eastern one. The original stairway opening was infilled with wood planks.[12]

The building continues to be used as a garage and for general storage. It is not accessible to visitors.

Storage Barn #3 (1909)

This barn is located immediately north of Lightkeeper's House #3 and is virtually identical to Storage Barn #2. It is also used as a garage and for general storage. It is not accessible to the public.

Pumphouse #1 (circa 1940)

Located immediately east of Storage Barn #2, this small, one-story, wood-frame building rests upon a poured-concrete foundation and is clad with drop siding. The square structure is capped with a pyramidal roof sheathed with asphalt shingles, and a pyramidal, metal vent cap sits at the peak. The west wall carries a five-panel wood door, while the north and south sides are pierced by a single, fixed, four-pane window.

The structure contains its original water pump, but is no longer in use. It is not accessible to the public and is used for general storage.

Pumphouse #2 (circa 1959)

Devoid of architectural detail, this small, frame building sits on the foundation of the station's boathouse, which existed on the shore of a small cove west of the main complex. The pumphouse features board-and-batten siding and is topped with a shed roof. It carries only a single door (west façade) and one four-light window (north side).

This building was constructed to protect a water pump after a storm destroyed the station's boathouse in 1959. The original water pump is still housed inside.

Tramway and Engine House (1915-1916)

This structural resource consists of the Tramway Engine House and thirty of the original forty-four concrete piers. It is several hundred feet west of Lightkeeper's House #3 and located in a forested area. The engine house rises from a tall, poured-concrete foundation, measures twelve-foot square, and is constructed with buff-colored vitreous brick. It is topped with a pyramidal roof clad with red metal shingles; the open eaves display exposed rafter tails. The southwest (primary) facade features a large, double doorway formed by a limestone

[12] "Historic Structures Report for the Dwellings and Storage Barns at Split Rock Lighthouse Historic Site," prepared by William E. Stark et al. for the Minnesota Historical Society (May 2001), Building Activity database.

lintel and fitted with a set of wood-and-glass, paneled doors. The doors open onto a raised, poured-concrete platform supported by concrete piers. The three sidewalls carry small, centered, wood casement windows which are defined by limestone lintels and sills.

The Engine House was connected with, and served as the key to, a tramway system that was installed between 1915 and 1916. The structure contained a gasoline engine and winch that pulled carts from the boathouse up a steep slope. The carts ran on rails that were anchored to a series of concrete piers. Use of the tram was discontinued by 1935, and the structure was used for storage. It was restored to its original appearance in 1995.[13]

Based on historic photographs, the tramway once extended from the boathouse to near the oil storage house via the tramway engine house (see Appendix—Historic Images). The section between the boathouse and the tramway engine house traveled up a significant slope. This portion consisted of a series of concrete piers that supported a pair of steel rails; the space between the rails was filled with heavy timber planks. A wire cable pulled a cart up the tracks to a turntable platform adjacent to the engine house. It was then rotated and pushed manually over track supported by several more piers before reaching a ground-level section of track near the built-up portion of the light station. The tracks terminated at the oil storage house. The completion of the Civilian Conservation Corps road (not located within the NHL boundary) in 1935 discontinued the need for the tramway, and the rails and wood planks were removed the following year. At present, remnants of twenty-four concrete piers remain on the slope while six additional ones exist between the tramway engine house and the main complex.[14]

Light Station Site (1909-1969)

The Split Rock Light Station contains a number of small landscape features that are part of the historical evolution of the Split Rock Light Station or are the remains of buildings/structures that are no longer extant. The area immediately surrounding the built complex is forested and consists of mature trees. Within the complex, it has evolved over time due to the efforts of lighthouse staff over the course of several decades. The site originally was uneven, rock strewn, and full of brush. Research revealed no information regarding a master landscape plan, but lighthouse staff gradually developed the grounds into their current appearance. An examination of historic photographs indicates that the grounds are not significantly different today than they were during most of the station's operational existence. At present, the grounds around the built complex consist of mown lawn extending from the lighthouse stairs and surrounding dwellings and storage barns. Restrained shrubbery and a small number of flower beds are also evident. A garden exists to the north within a private area behind barns #2 and #3. In addition to the general layout and appearance, the site consists of the following eight contributing elements:

Concrete Wall (1909-1910, 1936)

Located on the lakeside edge of the corundum rock dome, this short concrete wall extends from the west side of the lighthouse to the southeast corner of the fog horn building. It was built as part of the original plan for the light station. In 1936, a short chain-link fence with barbed wire extensions was placed on top of the wall for added protection.[15]

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[13] "Split Rock Lighthouse Historic Site – Major Restoration/Stabilization/Construction Projects," Factsheet, History files—Construction, SRL.

[14] "Dock and Unfinished Tramway, 1916" and uncaptioned photo of the tramway system from the lighthouse, ca. 1916, Split Rock Lighthouse Historic Photograph Collection, SRL.

[15] Dillon to Keeper, Correspondence (Re: Cliff Fence), 15 June 1936, History files—Visitors/Tourism, SRL.

Storage Barn #1 Remains (1909)

A concrete entrance apron marks the location of Storage Barn #1, which was identical to Storage Barns #2 and #3. It is located directly north of Lightkeeper's Dwelling #1. In 1969, it was completely destroyed by a fire caused by a malfunctioning fuel oil heater. The loft of the barn served as the quarters and office for station designer and on-site construction engineer Ralph Russell Tinkham during the 1909 construction season. Like the other two barns, this building was remodeled into a garage in 1931 by cutting a garage door into the eastern endwall. During the Coast Guard era, the loft was utilized as quarters for temporary summer personnel. The MHS master historic preservation plan for the light station calls for a complete and authentic reconstruction of this building at some future date.[16]

Boathouse Remains (1909-1910)

This element was situated in the small cove that exists several hundred feet west of the main light station complex. Today, only the boathouse's concrete foundation remains. Historically, the boathouse was a frame structure sheathed with board-and-batten siding and topped with a hipped-roof clad with metal shingles. A utilitarian building, it carried little fenestration and was devoid of architectural detail. A dock constructed of log cribbing and heavy planks jutted into Lake Superior. The end of the dock was angled to the southwest in order to protect boats tied to the main portion of the pier. The structure protected a wellhead that drew water from the lake. This was the light station's primary source of water for many years.[17]

The boathouse provided storage for the several rowboats and a motorboat used by light station staff to travel to neighboring communities prior to the use of automobiles. Once the station no longer utilized boats, it was relegated to storage and housing the engine that pumped water from the wellhead to the main complex. After a well was dug within the main complex, the USCG ceased maintenance of the boathouse. It was completely destroyed by a storm in 1959.

The dock required frequent repairs due to the violent and destructive nature of Lake Superior storms. For example, in 1916, the dock lost its 16-foot angled section. Ice had overturned the log cribbing that supported this section of the structure. As part of the tramway construction project, this section was replaced with a 32-foot extension (since the dock was expected to receive more use once the tram was in operation). Despite this larger end section, the lake continued to wreak havoc with the platform and significant portions of it would have to be replaced approximately every other year. Because of the wellhead, the dock was maintained after the station no longer received supplies from tenders. In May 1940, a violent storm completely washed away the structure and it was not replaced. No remnants of the dock are visible.[18]

Derrick Hoist Remains (1909)

The first structure built at Split Rock, this apparatus was situated along the cliff, northeast of the fog horn building. Concrete foundation elements mark the site of the derrick, which was a simple steel-and-timber structure capable of lifting materials from barges floating immediately below the cliff. Once on top of the cliff, these materials were moved on a temporary rail tramway that led to the work site. The United States

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[16] Mike Roberts, interview by Lee Radzak, 15 August 1999, History files – Interviews, SRL. Mr. Roberts served in the Coast Guard and was stationed at Split Rock from 1966-1969; Radzak, conversation with author.

[17] "Dock and Unfinished Tramway at Split Rock, 1916," Split Rock Lighthouse Historic Photograph Collection, SRL.

[18] "Recommendations for Repairing Aids to Navigation—Split Rock", 20 July 1916, History files—Docks & Boats, SRL; Hall, History Notecards—Boathouse/Dock; "Keeper to Commander, Cleveland District (RE: Dock destroyed), 1 May 1940, History files—Docks & Boats, SRL.

Lighthouse Service purchased the derrick and engine from the construction contractor and had the hoist engine enclosed within a small, buff-colored, vitreous brick building. This building featured a hipped roof and several small windows. The hoist continued to be the station's primary method to unload supplies until the tramway system was completed in 1916. The derrick and its engine building were removed shortly thereafter.[19]

Stone Gate Pillars (circa 1920s-circa 1930s)

Two sets of fieldstone gate pillars exist at two vehicle entrances northwest of Lightkeeper's House #3. These pillars were built by lighthouse staff to mark vehicle entrances serving the light station. The first set of pillars was built in the late 1920s or early 1930s and marked a crude road that led toward the boathouse, which is now a foot trail. Constructed with baseball-sized beach cobbles, these posts are crumbling and only about one foot remains above ground. Located a short distance to the north, the second set of pillars flank an asphalt-paved road constructed in 1935 by the Civilian Conservation Corps. These pillars are fabricated with larger beach cobbles and topped with concrete caps. They are in very good condition and measure approximately four feet tall.

Safety Fence (1956)

Constructed in 1956 by the USCG to protect tourists from falling off the edge of Split Rock Cliff, this chain-link fence exists as two distinct sections. The first section measures eighty-feet long. It begins at the southeast corner of the fog horn building and runs to the northeast along the cliff to the vicinity of the derrick hoist remains. Section two begins at the west end of the rock dome's concrete wall near the lighthouse and extends northward for fifty feet. It then turns east and proceeds an additional 290 feet along the edge of the cliff.[20]

Sidewalk Network (1909-1910)

This narrow sidewalk network outlines all three lightkeeper's houses in a grid pattern. It also has wings that extend both to the lighthouse and the oil storage building. It was built during the initial period of construction over the site's uneven, rocky terrain. This network remains in place and has been enhanced by a wide sidewalk that connects the lighthouse to the modern visitors' center, which is not located within the historic boundary.

Survey Markers (1909)

The remnants of several small concrete survey markers are evident along the western and northern boundaries of the original Split Rock Light Station Reservation. They are located in wooded areas and are not maintained.

Noncontributing Resources:

Privacy Fence (Circa 1960s)

A waist-high, chain-link fence surrounds lightkeeper's houses #2 and #3, storage sheds #2 and #3 and Pumphouse #1. Two sets of swinging gates exist at the light station's historic-period vehicle entrances, each of which is flanked by stone pillars (see separate discussion). A third gate crosses an asphalt vehicle path near

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[19] "Hoisting Engine & Derick, Split Rock Minnesota," Split Rock Lighthouse Historic Photograph Collection, SRL; Hall, History Notecards—Hoist Derrick, SRL.

[20] "Split Rock Lt. Station, Lake Superior, Minn., New Fence Installation," Project Plans, 7 June 1956, Board of Survey – Real Property, 1946-1974, entry 99 (A-1), box 1, Records of the United States Coast Guard, Record Group (RG) 26, National Archives, Washington, DC (NARAS-DC).

House #2. Pedestrian gates exist where the fence crosses the original sidewalk network. The fence originally surrounded all three staff dwellings and associated garages, but the fence's eastern section was moved to its present location by the MHS when House #1 was opened for public tours. Today, the fence serves to prohibit public access to the Historic Site Manager's quarters, as well as park administrative and storage areas.[21]

Retaining Wall (1995)

Located south of the lightkeeper's houses and parallel to the cliff face, this retaining wall is constructed of rough-faced, interlocking concrete block. It measures 120 feet long and fourteen feet high and forms a level yard for the lightkeeper's houses. In 1995, it replaced a stacked-stone retaining wall. Due to its recent date of construction, it is classified as a noncontributing structure.[22]

Stairs (1994)

Constructed in 1994, a long set of wood stairs with several landings descends from the Tramway Engine House to the foundation of the former boathouse. It is parallel to the line of concrete tramway piers. While a wood staircase existed in this general location from the earliest days of the light station, this recent incarnation reflects modern design standards and is not built as a replica. It is considered to be a noncontributing structure.[23]

Integrity

The Split Rock Light Station retains exceptional integrity. Its location on a high cliff overlooking Lake Superior denotes careful consideration for its placement by the U.S. government along a vital Great Lakes shipping corridor that carried most of the nation's iron ore to eastern steel mills. The station was built in a remote, isolated, place that was accessible only by boat until 1924. The general surrounding area remains natural and unmarred by significant modern development thus its setting is unchanged. The station was built as a complete complex during its initial period of construction, and all major components date to 1909-1910. Eight of the station's ten original buildings remain; the two that are no longer extant (boathouse and barn #1) are considered to be ancillary structures. The site was designed to exist in isolation and with a corresponding degree of self-sufficiency. This resulted in a well-planned complex that required few significant evolutionary additions and improvements over the course of its fifty-nine year operational history. The site's most vital components such as the lighthouse tower, fog horn building, dwellings, and oil storage house illustrated exceptional design during the station's operational existence. While new technology such as electricity did bring some changes in machinery and apparatus, the station's buildings were sufficient for their tasks, and no building additions or new structures were needed to facilitate the light station's vital activities. The lighthouse apparatus retains its original Third Order Fresnel lens and rotation mechanism. Changes in how the light station received supplies were the cause of the most significant alterations to the complex's layout. First supplied by a cliffside derrick, the station received a tramway system in 1916, which was rendered obsolete when a modern road reached the lighthouse in 1935. Most of these facilities were located away from the main complex of houses, storage barns, lighthouse, and fog horn building. Elements of all three systems remain. As a result, the feeling and association continue to portray a strong sense of the initial isolation of the site, carrying a general backdrop that very much resembles that of its operational period. This is enhanced by the fact that no modern elements, such as the nearby visitors' center and parking lots, are located within the historic complex. Those elements which do exist are all shielded from it by mature trees and other vegetation.

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[21] Radzak, conversation with author.
[22] "Split Rock Lighthouse Historic Site Major Restoration/Stabilization/Construction Projects," SRL.
[23] Ibid.

While not high-style architecture, the buildings of Split Rock display a level of stylistic appearance, workmanship, and use of materials commensurate with the importance of the station. The harsh conditions of Lake Superior and requirements of the United States Lighthouse Service demanded use of long-lasting, weather-resistant materials such as brick, steel, and concrete. The conditions of the site also demanded use of such strength-oriented construction techniques as steel skeleton framing with brick veneer and brick hollow-wall construction. These materials and techniques allowed lighthouse architect Ralph Russell Tinkham to design long-lasting structures that reflected popular, contemporary architectural styles (Neoclassical Revival and Craftsman) and also required a minimal degree of annual maintenance.

Since 1971, the State of Minnesota and the MHS have undertaken a number of complex restoration projects for all of the light station's buildings. These projects have been executed under a master historic preservation plan and with respect to the Secretary of the Interior's Standards for Rehabilitation. As a result, the exteriors of all buildings have been maintained with respect to their original appearance, while the interiors of many structures that are open to public viewing have been carefully restored to a pre-1930s appearance.[24]

[24] Radzak, conversation with author.

8. STATEMENT OF SIGNIFICANCE

Certifying official has considered the significance of this property in relation to other properties:
Nationally: X Statewide: _ Locally:

Applicable National Register Criteria:	A X B _ C X D
Criteria Considerations (Exceptions):	A _ B _ C _ D _ E _ F X G
NHL Criteria:	1 and 4
NHL Exceptions:	8
NHL Theme(s):	V. Developing the American Economy 3. Transportation and Communication
Areas of Significance:	Architecture, Maritime History
Period(s) of Significance:	1909-1961
Significant Dates:	1909-1910, 1939, 1961
Significant Person(s):	N/A
Cultural Affiliation:	N/A
Architect/Builder:	Tinkham, Ralph Russell (Architect and On-Site Engineer) L. D. Campbell & Son, Duluth, MN (Builder)
Historic Contexts:	XIV. Transportation B. Ships, Boats, Lighthouses, and Other Structures

State Significance of Property, and Justify Criteria, Criteria Considerations, and Areas and Periods of Significance Noted Above.

Summary Statement of Significance

The Split Rock Light Station is nationally significant under National Historic Landmark Criterion 1 in the area of Development of the American Economy and the historic context of Transportation. Split Rock is nationally significant for its association with the development of American commerce and transportation on the Great Lakes. It served as a vital aid to navigation for commercial freighters traveling the busy shipping lanes that served the bustling ports of Two Harbors and Duluth-Superior. These harbors were located closest to the Minnesota Iron Range, which contained the nation's largest and richest iron ore deposits – the primary ingredient for making steel. Beginning in the 1890s, hundreds of ships carried millions of tons of the iron ore from both of these harbors over the Great Lakes to eastern industrial states at a time when the United States emerged as the world's industrial giant. In addition to the armada of ore boats traveling to and from Duluth-Superior, which routinely ranked among the top five in the nation with regard to shipping tonnage, hundreds of grain freighters moved the vast agricultural harvests of the upper Great Plains to the rapidly growing populations of the entire Great Lakes region.[25]

All of these ships had to travel along a narrow shipping lane that ran parallel to the rocky, unforgiving Minnesota North Shore of Lake Superior. The largest of all of the Great Lakes, Lake Superior possesses rapidly changing and violent weather that oftentimes produces powerful winds capable of blowing a vessel towards the Minnesota shore. At other times, thick fog quickly forms over the lake, where compass navigation is difficult due to magnetic deviations created by the area's vast iron deposits. A violent storm in 1905 damaged or sank nearly thirty ships on the lake, including several near Split Rock Point. As a result, the powerful Great Lakes shipping industry lobbied to upgrade the entire lighthouse establishment on the Great Lakes with its immediate goal of placing a light station at Split Rock. Congress was persuaded by the positive impact of such navigational improvements upon the national industrial economy. As a result, it passed a large appropriation to upgrade the entire Great Lakes navigational system. The Split Rock Light Station was constructed between 1909 and 1910. It was the primary project within a larger, federal effort to improve Great Lakes navigation during a period when the Great Lakes emerged as a vital component of the nation's industrial economy and when the United States became the world's leading industrial nation. While it has been replaced by modern technology such as GPS and radar, the Split Rock Light Station served as a vital part of this Great Lakes navigation system for nearly sixty years.

The light station is also significant under National Historic Landmark Criterion 4 in the area of Architecture as a highly intact and stylistically cohesive twentieth-century, Great Lakes light station designed by the U.S. Lighthouse Board in circa 1907 and constructed between 1909 and 1910. It was designed as a single, cohesive complex. All major elements were built during its initial period of construction, which is extremely rare among light stations on the Great Lakes. Initially located within an isolated setting only reachable by boat, Split Rock Light Station was designed and constructed to be a self-sufficient complex. The thoroughness and adaptability of its design differed from most other Great Lakes light stations. During its operation as an aid to navigation from 1909-1969, Split Rock's physical make up evolved very little in response to new demands regarding use or technological improvements. The station strongly exhibits a sense of workmanship, use of materials, and stylistic appearance commensurate with its significant role to Great Lakes commercial navigation. The integrity of Split Rock is exceptional with regard to its original design, appearance, and setting. Its architectural

[25] A. K. B. Lyman, comp. *Duluth-Superior Harbor: Statistical Report of Marine Commerce of Duluth, Minnesota, and Superior, Wisconsin* (Duluth, MN: U.S. Army Corps of Engineers, 1932-1958).

significance is enhanced by its large number of buildings and the fact that the station received very few changes to its setting and layout over its operational existence.

The period of significance is 1909 to 1961, reflecting the period when Split Rock served as an integral aid to navigation on the Great Lakes. While the station operated essentially unchanged as a light station by the USLHS and the USCG until it was decommissioned in 1969, by 1960, radar and other modern navigation technology rendered most coastal lighthouses obsolete. In 1961, the fog signal was discontinued, ending the full capacity of Split Rock to function as an aid to navigation. The light continued to operate, but by the mid-1960s served more as a tourist attraction.

Development of Great Lakes and Lake Superior Shipping

The largest mass of fresh water in the world, the Great Lakes extend over one thousand miles into the interior of the northern United States. The lakes provided for the most efficient method of travel to vast tracts of undeveloped land. During the early seventeenth century, French bateaux (large canoes for hauling furs) were the first commercial boats on the waters. Soon thereafter, French ships of a larger scale sailed the St. Lawrence River and the lower Great Lakes until the mid-eighteenth century. The French even managed to circumvent some of the Lakes' natural barriers. In 1679, LaSalle's *Griffin* was portaged around Niagara Falls, which separated Lake Erie from Lake Ontario. The *Griffin* was also the first wood ship to sail on Lakes Ontario, Huron, and Michigan. Fifty years later, the French bypassed the rapids of the St. Mary's River, which connects Lake Superior to Lake Huron by constructing a forty-ton sailing vessel above the rapids. This feat allowed the French to monopolize the fur trade in the Lake Superior region for the next three decades. Following their victory in the French and Indian War in 1763, the British followed the lead set by the French and constructed vessels above Niagara Falls; soon, the British had ships throughout the Great Lakes, where they maintained military posts on American soil even after the American Revolution. Until the turn of the nineteenth century, British merchants dominated Great Lakes commerce through the fur trade, supplying British military posts, and carrying household goods over the lakes. Important British outposts on the Great Lakes that would become part of the United States included Oswego (NY), Niagara (NY), Presque Isle (MI), Detroit (MI) and Mackinac (MI).[26]

American activity on the Great Lakes lagged behind its European counterparts. In 1789, the first American trading vessel set sail on Lake Ontario. Settlement was sparse and only 50,000 people lived in the Old Northwest, which would later become the states of Ohio, Michigan, Indiana, Illinois, and Wisconsin. This small presence would increase as travel on the lakes became easier. It took a few decades for steam-powered vessels to appear on the Great Lakes, especially Lake Superior, as natural obstacles stood as barriers to lake-wide travel. A year prior to the completion of the Erie Canal (1825), Canadian engineers and American contractors started to bypass the numerous obstacles between Lake Erie and Lake Ontario in attempts to gain access to the upper lakes. The 326-foot barrier created by Niagara Falls specifically stopped all continuous water navigation between the lakes. In 1829, the Canadians completed the 28-mile-long Welland Canal around the Falls. By 1834, the Welland Canal and other waterway improvements had reduced steam travel between Buffalo and Detroit from five days to forty hours.[27]

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[26] Alfred Noble, "The Development of the Commerce of the Great Lakes," *Engineering News* 44, no. 24 (June 11, 1903): 532-34; American Public Works Association, *History of Public Works in the United States* (Chicago: American Public Works Association, 1976), 26-7; James Cooke Mills, *Our Inland Seas: Their Shipping and Commerce for Three Centuries* (Cleveland, OH: Freshwater Press, 1976), 63; John N. Jackson, *The Welland Canals and Their Communities: Engineering, Industrial, and Urban Transformation* (Toronto: University of Toronto Press, 1997), 52, 280.

[27] American Public Works Association, *History of Public Works*, 39; Jackson, *Welland Canals*, 3, 134, 135; Ronald E. Shaw, *Erie Water West: A History of the Erie Canal* (Lexington, KY: University of Kentucky Press, 1990), 413; Charles Hadfield, *The Canal Age* (New York: Frederick A. Praeger, 1969), 168, 193; Lew Allen Chase, "Michigan's Share in the Establishment of Improved

These developments created the fastest and cheapest way to access the upper Midwest of the United States and set the stage for a wave of settlement and development of the region. Western migration in the early days of the United States was difficult and heavily tied to the ability to travel via water. As land in the Ohio River Valley filled with more and more people, others looked northward to the land surrounding the Great Lakes. An emerging shipping industry facilitated this migration and helped create new harbor towns or transform existing settlements into important port cities. By the 1830s, Buffalo, Cleveland, Detroit, and Chicago had either emerged as significant cities or were well on their way. Prior to the Civil War, tens of thousands of pioneers, many of whom were immigrants, traveled via the Great Lakes to settle the fertile farmlands of the Old Northwest. Between 1820 and 1860, the population of this region rose from 800,000 to nine million. These settlers utilized port cities like Chicago and Milwaukee to ship their produce to markets in eastern states which, in turn, sent their manufactured goods to this rapidly growing region. Such shipments totaled $600 million in 1855. This staggering figure exceeded the total for all U.S. foreign trade.[28]

The Great Lakes region was surrounded by land with a fantastic array of natural wealth, and it was the lakes that made that wealth accessible. As mentioned previously, the fur trade brought the first Europeans to the region. The next natural resource exploited in abundance was timber. Many of the states that hug the Great Lakes were covered with tens of thousands of square miles of forests, and logging began as soon as settlers arrived in the region. Huge lumber rafts were towed by tugs from lumber mills in Michigan and Wisconsin and, later, Minnesota via the Great Lakes to burgeoning port cities like Chicago, Detroit, and Milwaukee. These and other Great Lakes cities required this lumber for housing as they were expanding exponentially with the thousands of immigrants and other settlers flocking to the region. The lumber industry moved from state to state and reached Minnesota by the 1870s. Thousands of board-feet were harvested and transported eastward via Lake Superior. The industry peaked in the 1890s, and Minnesota's old-growth forests were largely exhausted by the 1920s.[29]

The Great Lakes continued to dominate commerce in the Midwest. Thousands of new settlers headed west via the lakes and then pushed into the interior of the upper Midwest and Great Plains where rich prairie soil grew abundant harvests of wheat, corn, and oats. Even with the introduction of railroads to the area in the 1850s, transportation on the Great Lakes grew at an astonishing rate. Water transportation remained significantly cheaper than railroads, and the Great Lakes moved much of the harvest from the nation's breadbasket to market. In the mid-1800s, some of the world's largest grain elevators were built in the Great Lakes port cities of Buffalo, Toronto, Milwaukee, and Chicago to facilitate the grain trade. After the northern Great Plains became settled near the turn of the twentieth century, Duluth-Superior (MN) joined the ranks of these important port cities.[30]

After the Civil War, the Great Lakes area matured from its pioneer origins into a significant part of the national agricultural and industrial economy. By the 1880s, the arrival and departure statistics for port cities like Chicago rivaled those of New York, even though winter closed the Chicago port for four months of the year. Most of this traffic moved between the various lakes. In 1888, 140 vessels per day sailed along the Detroit

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Transportation between East and the West," *Michigan Pioneer and Historical Collections* 38 (Lansing: Wynkoop Hallenbeck Crawford, 1912), 593; Noble, "Commerce of the Great Lakes," 533.

[28] Harlan Hatcher, *The Great Lakes* (New York: Oxford University Press, 1944), 174, 182, 207-09; Charles K. Hyde, *The Northern Lights: Lighthouses of the Upper Great Lakes* (Lansing, MI: Two Peninsula, 1986), 14-15.

[29] Hatcher, *Great Lakes*, 256-59; *History of Upper Peninsula of Michigan*, 162, 183; Frederick Clever Bald, *The Sault Canal Through 100 Years, Sault Ste. Marie, Michigan* (Detroit: University of Michigan Press, 1954), 24-26; William Gerald Rector, *Log Transportation in the Lake States Lumber Industry, 1840-1918* (Glendale, CA: Arthur H. Clarke, 1953), 41, 45; Joseph E. and Estelle L. Bayliss, *River of Destiny: The Saint Marys* (Detroit: Wayne University Press, 1955), 141, 173.

[30] Hatcher, *Great Lakes*, 257, 276-77.

River, which connected Lakes Huron, Michigan, and Superior with Lakes Erie and Ontario. In 1890, the U.S. Army Corps of Engineers stated that 21.7 million tons of freight passed through this corridor, with that amount rising to 75 million tons by 1907. To handle this vast traffic, shipping companies built hundreds of freighters and other ships. By 1910, one-third of the entire American merchant fleet's tonnage capacity sailed the Great Lakes.[31]

Shipping on the Great Lakes continued to grow. Nearly 80 million tons moved along the five lakes in 1910, and the number grew to 169 million in 1941. By the 1960s, freight traffic on all the lakes consistently exceeded 200 million tons during the eight- or nine-month shipping season. To put this in perspective, the Soo Locks, which connect Lake Superior to the other four lakes, had more freight pass through it between 1915 and 1986 than the Panama and Suez canals combined.[32]

Lake Superior was the last of the Great Lakes to be opened to shipping. The rapids of the St. Marys River – also known as the Sault Ste. Marie or the Soo – drop twenty-two feet within one-half mile. The barrier made passage between lakes Superior and Huron impossible for large vessels; as a result, settlement in this area lagged behind those around the other Great Lakes despite the fact that it held vast stands of timber and significant mineral deposits.[33] The Lake Superior region remained largely uninhabited except for fur traders and prospectors. Eventually, these resources sparked interest in the isolated Lake Superior region. In the early 1840s, massive veins of copper and iron ore were discovered in Michigan's Upper Peninsula. In 1845, the steam-powered *Independence* was portaged around the Sault to Lake Superior in order to ship copper. Other ships soon followed to facilitate the growing trade. A passable water route around the Soo was needed, and the State of Michigan completed a canal around the obstacle in 1855. This crude canal was soon taken over by the U.S. Army Corps of Engineers and expanded several times as shipping increased.[34]

The Soo Canal not only facilitated settlement of the Lake Superior region, but also provided an opportunity to tap the following resources:

Copper

Its bountiful mineral resources were, for the most part, unknown as late as 1836 when the Upper Peninsula was added to the Territory of Michigan. Throughout the previous centuries, early travelers and surveyors had been aware that copper deposits existed in the region in small quantities. However, it was not until circa 1843 that rich deposits of virgin, almost chemically pure copper were discovered near Lake Superior's southern shores. By 1855, 3,196 tons of copper were shipped from area mines. From the opening of the first mine in the early 1840s to 1881, Lake Superior copper mines produced a total of 330,000 tons of refined copper at a total market value of $150,000,000.[35]

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[31] Hyde, *Northern Lights*, 20; *Annual Report of the Lake Carriers' Association—1908* (Detroit: Winn & Hammond, 1908), 90.

[32] Hyde, *Northern Lights*, 36.

[33] Bald, *Sault Canal Through 100 Years*, 3; American Public Works Association, *History of Public Works*, 39; John N. Dickinson, *To Build a Canal: Sault Ste. Marie, 1853-1854, and After* (Miami, OH: Miami University, 1981), 3; Charles Moore, ed., *The Saint Marys Falls Canal Semicentennial, 1905* (Detroit: Semi-Centennial Commission, 1907), 92; *History of the Great Lakes with Illustrations* (Chicago: J. H. Beers, 1899), 196, 198.

[34] John W. Larson, *Essayons: A History of the Detroit District U.S. Army Corps of Engineers* (Detroit: U.S. Army Corps of Engineers, Detroit District, 1981), 43.

[35] *History of the Upper Peninsula of Michigan Containing a Full Account of Its Early Settlement; Its Growth, Development, and Resources; an Extended Description of Its Iron and Copper Mines* (Chicago: Western Historical, 1883): 158-59.

Iron Ore

On September 19, 1844, iron ore was discovered near Marquette, Michigan. In 1845, the Jackson Mine was established as the area's first iron ore mine, when 300 pounds of the mineral were produced by a small mining party. A small on-site forge converted the iron ore to wrought iron for shipment. However, the cost of processing the ore along Lake Superior's shores proved unprofitable; thus, ore shipping became the region's focus. In 1853, the Cleveland Iron Mining Company sent the first notable shipment of iron ore – 152 tons – to the Sharon Iron Company in Sharon, Pennsylvania. Four ships carried the freight to Sault Ste. Marie, where it was portaged around the rapids and loaded onto another ship. Yet iron ore was not among the primary products of the Lake Superior region until 1888, when five million tons of ore were transported. A series of developments facilitated this dramatic rise in iron ore shipment: the discovery during the late nineteenth century of the massive Gogebic, Mesabi, and Vermillion iron ranges in the Upper Peninsula and in Minnesota; the continued development and enlargement of the Soo Canal; the deepening of channels throughout the Great Lakes; and the expanding size of ships, enabling greater load capacity. In addition, technological advances in steel production after the mid-nineteenth century, coupled with continued industrial growth into the twentieth century, created a high demand for the Lake Superior region's iron ore. For example, Minnesota's Mesabi Iron Range by 1905 alone provided twenty million of a total of thirty-five million tons of iron ore shipped via the lake. In Pennsylvania, the Pittsburgh, Bessemer & Lake Erie Railroad carried this iron ore from the shipping terminus at Lake Erie to Pittsburgh, where advanced industrial methods such as the Kelly-Bessemer process were used to make steel in larger quantities by the turn of the twentieth century.[36]

Grain, Timber, and Coal

Wheat and various other grains from Minnesota and the Dakotas found their way via railroad to Lake Superior for shipment to eastern markets. Grain freight constituted an increasingly large portion of Lake Superior shipping from 1870, when 49,000 bushels were carried across the lake to the 29 million bushels transported in 1925. Grain shipments served as the premier trade of the area for numerous years. In addition, the land surrounding Lake Superior was heavily wooded; this led to a prosperous lumber industry that peaked between 1885 and 1895. Expansive forests of white pine, cedar, spruce, and poplar were lumbered and shipped all over the Great Lakes aboard giant rafts towed by tugs. Finally, Michigan's Lower Peninsula was underlaid with over 8,000 square miles of coal, creating a significant industry whereby coal was shipped to the East to heat homes and fuel industrial furnaces. This coal generally was not transported along shipping lanes served by Split Rock. Also, coal from eastern states was transported throughout the lakes. By 1910, coal accounted for one-quarter of all cargo moved on the Great Lakes.[37]

While all of these commodities were important to the overall development of the United States, it was iron ore that helped transform the United States from an agricultural economy to an industrial one. Three-quarters of the nation's iron ore was located around Lake Superior, and it accounted for fifty percent of all freight shipped on the Great Lakes in 1910, when the Split Rock Light Station was completed. This ore was shipped almost entirely by freighter to steel mills in Indiana, Michigan, Ohio, Pennsylvania, and New York. The majority of this ore was shipped along a sea lane that originated from the Lake Superior ports of Two Harbors and Duluth-Superior and traveled along the Minnesota North Shore towards the Soo Locks.[38]

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[36] John W. Oliver, *History of American Technology* (New York: The Ronald Press, 1975), 316-17, 321; Moore, *Saint Marys Falls Canal*, 194; John O. Greenwood, *The Fleet Histories* (Cleveland: Freshwater Press, 1990), introduction.

[37] *History of Upper Peninsula of Michigan*, 162, 183; Bald, *Sault Canal Through 100 Years*, 24-26; Rector, *Log Transportation in Lake States*, 41, 45; Bayliss, *River of Destiny*, 141, 173; Hyde, *Northern Lights*, 20.

[38] Hyde, *Northern Lights*, 20.

Development of the Ports of Two Harbors and Duluth-Superior

The emergence of a number of important harbors along the shores of Lake Superior was in conjunction with the discovery and development of natural resources, evolution in shipping technology, and improvements to waterways. While the earliest harbors, such as Marquette, Ontonagon, and Ashland, sprouted along the lake's southern shore in Michigan and Wisconsin, the discovery of the massive Vermillion, Mesabi, and Cuyuna iron ranges in Minnesota sparked the development of two major harbors along Lake Superior's northwestern shore – Two Harbors and Duluth-Superior.

Originally known as Agate Bay, Two Harbors emerged as a settlement in the 1880s due to its large natural harbor along the rocky northern shore of Lake Superior. Given its proximity to the newly-discovered iron ore deposits, Two Harbors was a natural choice for an iron ore port, and the first shipment of the material occurred in 1884. Ore docks were constructed, and the Duluth & Iron Range Railroad hauled carloads of ore from the mines. The very next year, Two Harbors recorded 174 arrivals and clearances of ships carrying 263,473 tons of freight, most of which was iron ore. Annual freight total topped one million tons in 1892, which was also the same year the harbor received a lighthouse. During the 1907 shipping season, the port received nearly two-thousand vessels which carried nine-and-one-half million tons of freight. Iron ore totals topped ten million tons in 1913 and twenty-one million tons in 1953.[39]

Much larger than Two Harbors, the port at Duluth-Superior emerged as among the finest in all of the Great Lakes. One of the largest inland ports in the world, Duluth-Superior is formed by a large sandbar that shelters the mouth of the St. Louis River from Lake Superior. The river's natural channel is on the Superior, Wisconsin, side of the harbor while a second, artificial channel was dug in 1871 through the sandbar on the Duluth, Minnesota, side. Initial port development was tied to the transport of grain and lumber. Iron ore was not shipped in significant quantities until the 1890s. By 1895, 42 percent of all Lake Superior freight tonnage passed through the port. That number rose above 50 percent in 1903 and surpassed 60 percent only four years later. In 1929, the harbor handled sixty million tons of freight for the first time; this represented 65 percent of what passed through the Soo Canal.[40]

The port at Duluth-Superior during the nine-month shipping season was one of the busiest in the world. In 1906, the harbor handled over 37 million tons of freight, while the international ports of New York and London during that entire year handled only 31.5 million and 33.5 million tons, respectively. The port of Duluth-Superior would remain in the same class as New York and London for several following decades.[41]

Like all harbors on the Great Lakes, both the ports of Two Harbors and Duluth-Superior soon received navigational aids that guided ships safely into port, warned mariners of dangerous waters, and improved general navigation. The most important and notable of these navigational aids were lighthouses, which were constructed and maintained by the Lighthouse Establishment of the United States.

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[39] "Report of Major Graham D. Fitch," *Marine Review*, July 2, 1907; Hugh E. Bishop, *By Water and Rail: A History of Lake County, Minnesota* (Duluth, MN: Lake Superior Port Cities, 2000), 6, 44-48.

[40] Bill Beck and C. Patrick Labadie, *Pride of the Inland Seas: The Illustrated History of the Port of Duluth-Superior* (Afton, MN: Afton Historical Society Press, 2004), 40-42, 48, 67-68.

[41] Ibid.; Hall, History Notes–Commerce, Citing Marine Review (18 February 1909); Statistical Report of Marine Commerce of Duluth, Minn., and Superior, Wis. (Washington, DC: Government Printing Office, 1931), 6.

Evolution of the Lighthouse Establishment in the United States[42]

In 1716, Massachusetts constructed the first lighthouse in the American colonies. Lighthouses remained either a colonial or individual state effort until August 7, 1789, when Congress authorized the federal government to pay all costs associated with aids to navigation. It was the first bill passed by Congress that dealt specifically with any public works.[43]

The 1789 legislation organized the Lighthouse Establishment within the Department of the Treasury. The Establishment was authorized for the "rebuilding when necessary, and keeping in good repair, the lighthouses, beacons, buoys, and public piers in the several states, and for furnishing the same with all necessary supplies."[44] In 1820, supervision of the Establishment was placed under the control of the Fifth Auditor of the Treasury, who assumed the title of General Superintendent of Lights. Prior to 1820, the number of lighthouses under federal control had grown to fifty-five. The Fifth Auditor arrangement remained in place until 1852 with Stephen Pleasanton serving in that position for the entire period.[45]

Prior to 1852, most supply, construction, maintenance, and inspection activities of lighthouses were conducted on a contract basis. Customs collectors informally performed superintendent duties over lighthouses and their keepers within their area of responsibility. The position of lightkeeper was an appointed position. Over time, the decentralized nature of these procedures resulted in a wide variety of operational standards and complaints of the overall efficiency of the American lighthouses. This changed when, in 1838, Congress created eight lighthouse districts – six for the eastern seaboard and two for the Great Lakes. A naval officer assumed responsibility for each district.[46]

In 1851, Congress authorized the adoption of the Fresnel lens, which dramatically improved the effectiveness and efficiency of the entire system. Then, in 1852, Congress created the Lighthouse Board to manage the nation's navigational aids. This replaced the formal Lighthouse Establishment; however, the term remained as a general description of the entire lighthouse system. Remaining within the Department of the Treasury, the Board was appointed by the President and consisted of two Navy officers, two Army officers, and two civilians of "high scientific achievement." The legislation divided the national coastline and replaced the eight lighthouse districts with twelve management districts, two of which comprised the Great Lakes. In 1903, the Lighthouse Board was transferred to the newly created Department of Commerce and Labor.[47]

Between 1850 and 1910, the number of lighthouses in the United States grew to 1,397, and the total number of navigation aids increased to 11,661 over the same period. As a result, it had become increasingly difficult for the Lighthouse Board to manage the system. In 1910, Congress replaced the board with the Bureau of Lighthouses – located in the Department of Commerce. While the activities of the service remained the same,

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[42] The historical context for the development of the Lighthouse Establishment in the United States as well as the evolution of lighthouse technology is chronicled in "Summary Context Statement for NHL Lighthouse Nominations" and "Light Stations of the United States," both of which were written for the National Park Service as historical contexts for National Register and National Historic Landmark nominations. An excellent history of the early United States Lighthouse Establishment is also found in George Weiss' *The Lighthouse Service: Its History, Activities and Organization* (1926). The following section gives a brief summary of the history of lighthouses and light stations in the United States.

[43] J. Candace Clifford, ed., "Summary Context Statement for NHL Lighthouse Nominations" and "Light Stations of the United States," National Register of Historic Places Multiple Property Documentation Form (Washington, DC: U.S. Department of the Interior, National Park Service), July 2002. George Weiss, *The Lighthouse Service: Its History, Activities and Organization* (Baltimore: The Johns Hopkins Press, 1926), 1-3.

[44] Weiss, *Lighthouse Service*, 3.

[45] Ibid., 3-5.

[46] Ibid., 4-9.

[47] Ibid., 11-15.

leadership of each of the nineteen districts (expanded from the previous twelve with the Great Lakes having three districts) was tasked to a Superintendent of Lighthouses, rather than the old system of each district having both an inspector and engineer dividing up the duties. Another notable aspect of the new United States Lighthouse Service (USLHS) was the establishment of a uniform inspection system.[48]

By 1922, the Lighthouse Service operated 5,799 lighted aids to navigation, of which 1,879 were lighthouses. The Service employed 5,985 personnel, of which 1,445 were classified as lightkeepers or assistant lightkeepers. District Eleven, which encompassed Lakes Superior and Huron, had 151 lightkeeping personnel, which ranked it fourth among the USLHS's nineteen districts. Meanwhile, District Twelve (fifth in personnel — 147) was comprised of Lake Michigan, while lakes Erie and Ontario were in District Ten (tenth — 69). The total lighthouse personnel serving on the Great Lakes was 367, while 802 served on the East/Gulf coast and 184 served on the West coast.[49]

The next change to the U.S. Lighthouse Establishment occurred in 1939 when the USLHS merged with the United States Coast Guard (USCG). All USLHS employees had the choice of retaining civilian status or receiving a commensurate Coast Guard rank. The districts of both the Coast Guard and Lighthouse Service were consolidated into thirteen districts, with the Ninth District, located in Cleveland, Ohio, responsible for the Great Lakes. Following World War II, the USCG continued to reorganize and integrate the lighthouse establishment. Modern navigation technology was implemented both by the Coast Guard and mariners. As a result, many lighthouses were either automated or decommissioned when they became obsolete. Today, the USCG maintains oversight of water navigation aids including active lighthouses.[50]

Evolution of Lighthouse Technology

Guiding navigation through a lighthouse dates to ancient times, with Egypt's Great Lighthouse of Alexandria emerging as the most prominent example of these. This wonder of the ancient world guided mariners by a large open flame. Lighthouse technology changed little until the 1690s when the glass lantern room was implemented at the Eddystone Lighthouse in England. During the eighteenth century, simple mirrors were placed behind the candles to focus and amplify the light.[51]

Swiss scientist Aimé Argand is credited by some historians with introducing parabolic mirrors to a lighthouse in 1783. These mirrors focused the light outward in a more powerful beam than a simple mirror. Argand also developed a smokeless oil lamp for lighthouse use. While these were important developments, the most lasting and important change to lighthouse technology traces its origins to Augustin Fresnel in 1819. Fresnel studied the characteristics of light and how it refracts when passing through lenses and glass prisms. His goal was to gather the light that was projected in all directions and capture it so that it could be combined, focused, and redirected. In 1821, Fresnel created a lens that gathered and magnified light before directing it in a brilliant

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[48] Ibid., 19-22, 17-20.

[49] *Annual Report of the Commissioner of Lighthouses to the Secretary of Commerce* (Washington, DC: Government Printing Office, 1922), 10, 16-17; Weiss, *Lighthouse Service*, 21-25, 55-57. Districts 1 through 8 encompassed the Eastern Seaboard and the Gulf of Mexico (802 lighthouse personnel); the 9th District--Caribbean Islands (38); Districts 13 through 15--Mississippi, Missouri, and Ohio River Systems (0); District 16--Alaska (35); Districts 17 and 18--Pacific Coast (184) and District 19--Hawaii and the Pacific Islands (19).

[50] T. Michael O'Brien, *Guardians of the Eighth Sea: A History of the U.S. Coast Guard on the Great Lakes* (Honolulu: University Press of the Pacific, 2001), 71; "Light Stations in the United States," 13.

[51] Bruce Watson, "Science Makes a Better Lighthouse Lens," *Smithsonian* 5 (August 1999): 30-32; Thomas Tag, "The Early Development of the Fresnel Lens—Part I," *Clockworks* (Spring 2005): 20-22.

beam. The first Fresnel lens was installed in 1822 in France's Cardovan Tower on the Gironde River. It had an unprecedented range of twenty miles.[52]

A number of French and English firms began to manufacture Fresnel lens systems, and they soon occupied virtually every lighthouse in Europe. Other scientists improved the lens; it eventually resembled a glass beehive consisting of numerous, finely crafted glass prisms. While four-sided Fresnel lenses were common, the two-panel clamshell type (such as the one at Split Rock) proved to be popular because it could be placed on a rotation mechanism and the twin beams could be seen in all directions.[53]

With each lighthouse having its own unique role in navigation, Fresnel lenses were made in a variety of sizes, which were classified into orders. The largest is the First Order, which measured nearly 102 inches in height and weighed in at a massive 12,800 pounds. This lens was reserved for the largest seacoast lights. Meanwhile, the smallest lens is the Sixth Order, which measures only seventeen inches in height and weighs only 220 pounds. This light was ideal for use on breakwaters and piers where distance was not a factor. On the Great Lakes some Second Order lenses did appear, but the vast majority of lighthouses were fitted with Third Order (including Split Rock) and lower. Generally, the Second and Third orders were used in a coastal role on the Great Lakes, while the smaller orders identified harbors and piers or places where close navigation was necessary. The United States adopted the Fresnel lens system in 1852.[54]

By 1812, the Lighthouse Establishment primarily used whale oil in Argand-style lamps for its illumination systems. Kerosene was adopted by 1885, which could be used in an incandescent oil vapor (IOV) lamp. An IOV lamp pressurized fuel before burning it as vapor within a mantle. By the 1920s, a reliable current and the need for consistent flashing led to the use of electric lights for smaller pierhead beacons. Remote light stations rarely possessed reliable electricity, and kerosene lamps remained in widespread use through the 1940s.[55]

In conjunction with the improvements in lighthouse technology was the emergence of a systematic plan for implementing and operating lighthouses. As the nation built more lighthouses and other navigational aids, it became important to establish each one with their own unique characteristics. This was done through combinations of lights, flashing, rotation, and color characteristics. Fog signals also were tuned to unique frequency and duration of signals. All of this information was regularized, published, and made available to mariners.[56]

Fog signals were a very important part of the lighthouse system. While not all lighthouses had fog signals, and some existed separately from lighthouses, this device assisted mariners during foggy conditions regardless of light conditions. In the United States, the first fog signal made its appearance in Boston in 1719. It consisted simply of a cannon firing in response to a ship's signal. Eventually, cannons were replaced by bells. Trumpet signals, which blew compressed air over reeds, were installed on an experimental basis in 1851. This type of horn only produced a moderate signal not useful for coastal lighthouses. Making their appearance in the mid-1850s, steam whistles or steam-powered trumpets produced a more powerful signal; however, steam required a long start-up time and consistent supplies of fresh water. Also, ships sometimes mistook coastal steam whistles for another vessel. By the time the Split Rock Light Station was built, numerous experiments had led to the development of the diaphone. This instrument used an internal combustion engine to drive a piston-type air compressor that created a deep, unique signal that was capable of traveling a great distance. This type of

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[52] Ibid.
[53] Tag, "The Early Development of the Fresnel Lens," 22-26.
[54] "Fresnel Orders and Comparative Table of Lens Orders," History files, SRL.
[55] Conway, comp., *United States Lighthouse Service*, 29-33.
[56] Ibid., 36-38, 42.

system could be put in operation within ten minutes. In 1922, the United States Lighthouse Service operated 597 fog signals.[57]

While important, fog signals were not a complete solution for mariners experiencing foggy conditions. The vagaries of sound traveling through moist air and over water sometimes made them difficult to hear close to the station, while sailors on more distant ships sometimes would think they were closer to the station than they actually were. With that said, fog signals remained important to navigation, and the USLHS installed them in tandem as a guard against untimely mechanical breakdown. By the 1960s, advances in navigation technology limited the need for open-air fog signals, and most were removed.[58]

Great Lakes Lighthouses

The Great Lakes encompass 95,000 square miles with over 11,000 miles of coastline; nearly half of that is located on the United States side. A ship traveling from Duluth, Minnesota, to the easternmost point of Lake Ontario would travel 1,160 miles. This massive body of water provided for many navigational challenges on a par with those of ocean travel and, as a result, lighthouses were a large part of the solution for assisting with Great Lakes navigation. Debate continues as to the location of the first light on the Great Lakes. Many historians believe a cupola on top of a barracks at British-built Fort Niagara served to guide mariners on Lake Ontario as early as 1782. It was not until 1804 that the first freestanding lighthouse was built on the Canadian side of Lake Ontario at Mississauga Point. This structure was destroyed during the War of 1812. The first American-built lighthouses on the Great Lakes were located on Lake Erie at Buffalo, New York (1826), and Erie, Pennsylvania (1828).[59]

The number of lighthouses on both the Canadian and American sides of the Great Lakes increased along with the rate of shipping. The late 1820s and the 1830s witnessed a significant number of lighthouses built on the lakes. Lake Huron received its first lighthouse in the 1820s, and Lake Michigan followed in the early 1830s. By 1840, there were forty-three lighthouses on lakes Erie, Michigan, Ontario, and Huron. The U.S. Lighthouse Establishment would add thirty-three more by 1852 to bring its lighthouse count on the Great Lakes to seventy-six (out of 331 nationally). Two of these lights – Whitefish Point and Copper Harbor – were completed in 1849 and were the first located on the Michigan shore of Lake Superior. Two-thirds of these lake lighthouses identified river or harbor entrances with the remainder identifying hazards like shoals, islands, points, and reefs.[60]

The Great Lakes lighthouse system underwent substantial improvement after the establishment of the U.S. Lighthouse Board in 1852. The board replaced a number of older lighthouses, discontinued others, and established twenty-six new facilities. In 1860, the number of Great Lakes lighthouses totaled 102. The Civil War slowed construction, but the pace escalated significantly between the 1870s and the 1890s as the number of vessels on the lakes increased and as areas along the lakes developed further. At the turn of the twentieth century, the Lighthouse Board operated 334 lighted aids to navigation (which included pierheads and lightships) and sixty-seven fog signals on the Great Lakes.[61]

This rising number of lights illustrated an expanding role and growing complexity of the Great Lakes lighthouse system. Most early stations marked immediate navigational concerns like harbor entrances and reefs. These

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[57] Ibid., 39-44.
[58] Ibid., 43-45.
[59] Larry and Patricia Wright, *Great Lakes Lighthouse Encyclopedia* (Erin, ON: Boston Mills, 2006), 13-14, 25, 58, 85, 90.
[60] Hyde, *Northern Lights*, 15-16.
[61] Ibid., 20-23.

lights required a short focal plane of between thirty and fifty feet, as well as a lower-order Fresnel lens. Many of these early lights were later replaced as the government constructed piers, breakwaters, and other infrastructure at harbors and along tight channels. After the Civil War, coastal lighthouses with a taller focal plane and higher-order lenses were installed along established shipping corridors to assist in general navigation.[62]

Despite these improvements, the number of ships and lives lost on the lakes continued to climb as more and more ships sailed the Great Lakes. On Lake Superior, the period between 1900 and 1910 was the worst in its history with 338 incidents to ships (accidents, collisions, sinkings, etc.) and 251 lives lost. Eight of these ships went down with their entire crew. The deadliest year of the deadliest decade was 1905 with twenty-one sinkings and seventy-eight lives lost. Damage to ships and lost freight exceeded two million dollars. The climax of this disastrous season occurred on November 27-28 when a powerful storm damaged or sank thirty ships on the lake, including several in the vicinity of Split Rock Point.[63]

This storm, as well as losses suffered during the entire 1905 shipping season, convinced the Lake Carriers' Association that additional lighthouses were needed. It lobbied Congress heavily for new and additional lights throughout the Great Lakes. The lakes' rapidly growing fleet of ships and the insatiable demand for products moved along the Great Lakes worked to increase both the speed and amount of traffic along congested shipping corridors. In addition, the harsh northern climate and a number of geographic and weather anomalies combined to make the lakes prone to rapid changes in weather with the region experiencing high winds, bitter cold, and thick fog. Congress was convinced and passed a $500,000 appropriation for constructing Great Lakes lighthouses on March 4, 1907.

As a result, the Great Lakes received thirteen of the thirty-eight new light stations constructed by the USLHS between 1910 and 1925. By 1925, the American side of the Great Lakes possessed 433 major lights and 129 fog signals. Only 160 of these lights were manned stations. These lights represented the highpoint of lighthouse development on the lakes with future endeavors concentrated on improving existing sites and streamlining operations. After World War II, the USCG and mariners began to implement improved navigational technology such as radar, which made a number of lighthouses obsolete. Those light stations closed, while those still in operation were automated. All lighthouses on the Great Lakes were automated by 1986.[64]

History of the Split Rock Light Station

The devastating storm on November 27-28, 1905, served as a catalyst for action for the Lake Carriers' Association to lobby Congress for a Lake Superior lighthouse between Two Harbors and Grand Marais, Minnesota. While the storm damaged ships all over Lake Superior, the well-publicized story of the *Madeira* captured public imagination. The *Madeira* was a steel-hulled iron ore barge pulled by the *William Edenborn*. The tow line between the vessels snapped during the storm, and the *Madeira* with its crew floundered helplessly until thrown against Golden Rock Cliff, which is a short distance north of Split Rock Point. Newspapers ran stories of how all but one of the crew was able to narrowly escape death by climbing up the ice-covered cliff as the vessel broke apart on the rocks. Meanwhile, the *William Edenborn* ran aground at the mouth of the nearby Split Rock River.[65]

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[62] Ibid., 23.
[63] Julius F. Wolff, Jr., *Lake Superior Shipwrecks* (Duluth, MN: Lake Superior Port Cities, 1990), 89-91, 118-19.
[64] Hyde, *Northern Lights*, 38-39, 46.
[65] James Keller, "The Madeira," *Inland Seas* 39, no. 2 (Summer 1983): 84-90.

The storm was a significant event in a Lake Superior shipping season that had not only set new records for cargo tonnage, but also for the number of vessels damaged or sunk, as well as number of lives lost. Rather than upgrade its fleet or revise its shipping methods, the association proposed a lighthouse at Split Rock to assist with navigation. First, the association cited how nearby iron deposits altered ship compasses when navigating through the area. It then mentioned that a ship could not take accurate soundings until it could see the shore, which by then was too late to react. Finally, the association cited "the dangerous character of the coast all along the north shore."[66] The group emphasized that the combined loss of ships and cargo in the vicinity totaled several million dollars in the last three years.[67]

The Eleventh Lighthouse District, as part of its responsibility whenever a lighthouse was proposed, prepared a report regarding a planned lighthouse at Split Rock. While the report agreed that a lighthouse would be useful, it was skeptical in several areas. For example, the report criticized the risky practices of running overloaded and underpowered ships at full speed through fog. It also questioned the need for a lighthouse which was not needed in clear weather and could not be seen during foggy conditions. The report did explain that given the tendency of inaccurate compass readings to deviate a ship into the rocky shoreline, a lighthouse with fog signal would be useful in preventing shipwrecks in the vicinity. However, even this recommendation was tempered by the charge that the lighthouse and fog signal's chief use would be to shorten the time of a trip to the vital iron ore port of Two Harbors (which meant more profit for ship owners) rather than reduce the number of wrecks.[68]

In 1907, the Lake Carriers' Association drew on this report when approaching Congress with a list of desired Great Lakes navigational aids. The Split Rock Lighthouse was first on their list. The association emphasized that the incredible increase in both the number and size of ships on Lake Superior, as well as the importance of such shipping to the national economy, required that additional navigational aids be constructed on Lake Superior and the other Great Lakes. One ship owner likened this need to "a boy growing out of his clothes."[69] This testimony did sway Congress and, on March 4, 1907, it easily passed a large appropriations bill that included $500,000 for constructing new Great Lakes lighthouses, of which $75,000 was slated for the establishment of the Split Rock Light Station.[70]

With the appropriation in hand, the Eleventh Lighthouse District began preliminary work on the project. Surveys were made, and Ralph Russell Tinkham developed plans for the lighthouse. Tinkham completed his initial design plans for Split Rock between 1907 and 1908 when he was working at the construction site for the Rock of Ages Lighthouse at Isle Royale, Michigan. In early 1909, L. D. Campbell & Son of Duluth, Minnesota, received the construction contract and Tinkham was assigned as the on-site engineer. Work began shortly thereafter. The first task was to place a derrick and hoist at the top of Split Rock Cliff so supplies and building material could be lifted from barges to the work area. After this was complete, work began on clearing the site and setting up a contractor's camp, which consisted of a temporary, frame warehouse and a number of tents.[71]

Carpenters next constructed the three frame storage buildings that would later pair with each of the dwellings. Once completed, these structures were used by Tinkham and the contractor for living quarters, office space, and tool storage, as well as a canteen. Tinkham occupied the attic of Storage Barn #1 (no longer extant), which was closest to the lighthouse. At the same time, work proceeded on preparing the hard corundum rock dome to

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[66] *Split Rock Lighthouse* (St. Paul: Minnesota Historical Society Press, 1993), 4.
[67] Hall, "The Campaign for Split Rock," unpublished manuscript, 28 April 1977, History files, SRL; *Split Rock Lighthouse*, 2-5.
[68] Ibid.
[69] *Split Rock Lighthouse*, 5.
[70] Ibid; *Annual Report of the Light-House Board to the Secretary of Commerce and Labor* (1908), 21.
[71] Ralph Russell Tinkham, "The Building of Split Rock Light Station, Minnesota," unpublished manuscript, Ralph Russell Tinkham Papers, SRL.

receive the foundation for both the lighthouse and fog signal building. This work required drilling and blasting. Workers then poured reinforced-concrete foundations for the lighthouse, fog horn building, and dwellings, as well as the entire oil house structure. The next stage brought ironworkers to the site, and the lighthouse's structural steel frame was built. Meanwhile, masons arrived to build the houses and fog signal building. By October 1909, the exterior of the houses, storage barns, and fog horn building were largely complete, while the lighthouse consisted only of its structural steel framework. Work was halted in November for the winter season.[72]

Construction resumed in the spring of 1910. Masons completed the brickwork for the lighthouse tower, and work progressed on the interior of the other buildings. Meanwhile, the lighthouse apparatus and fog signal were installed by United States Lighthouse Service personnel. While workmen remained on site until September, the lighthouse was considered ready for operation in July. Principle Keeper Orren "Pete" Young arrived on July 20, 1910, to familiarize himself with the station and to prepare it for operations. The light was lit for the first time on July 31, 1910. The following day, two assistant keepers arrived to begin their training and assist Young with his duties. On the morning of August 16, 1910, the fog horn operated for the first time.[73]

Once complete, the station consisted of the lighthouse, fog horn building, three keeper's dwellings, three storage barns, and an oil storage house. The clifftop derrick (no longer extant), used to haul construction materials to the top of the cliff, remained as the primary method to unload supplies. A boathouse with pier (no longer extant) existed to the west of the complex and provided for the station's several boats, which staff used to travel to the lake's coastal settlements for mail and supplies. The only two deaths associated with the lighthouse occurred on a mail run. On October 2, 1910, Young's two assistant keepers departed in a rowboat for the Split Rock River Logging Camp and did not return. The overturned rowboat was found the next day a few miles from the station. Young received new assistants and continued to operate the station until December 8, 1910, which marked the end of that year's shipping season.[74]

Young and his staff returned on April 15, 1911, to begin the next shipping season. Typically, the three keepers pulled four-hour shifts during the evening to ensure that the light remained on and rotated at the correct rate of one flash every ten seconds. If a problem occurred, the staff either had to fix the problem or maintain proper service until the situation could be resolved. For example, in April 1929, it was discovered that the light no longer rotated in correct time, and the staff manually rotated the lens for two nights. The problem was resolved when additional mercury was added to the bearing surface of the rotation mechanism. During the day, the keepers monitored the weather and fired up the fog horn if necessary. If the fog signal was in operation, a watch was maintained in the fog horn building to monitor the notoriously finicky machinery, as well as listen for the fog signals of passing ships. On July 26, 1930, Keeper Franklin J. Covell (who began at Split Rock in 1913 as First Assistant Keeper and replaced Young as Principle Keeper in 1928) heard a ship's horn coming closer to shore despite the fact that the station's fog signal was in operation. Due to the vagaries of sound traveling in fog, the ship could not hear the signal. Covell raced down the hill with a tin whistle and signaled the ship. The ship responded to the new warning and changed course away from the rocky shore.[75]

Most days at Split Rock lacked such excitement and were filled, instead, with the tedium of required maintenance of the light and general maintenance of the entire complex. While construction crews had completed all the buildings, as well as the sidewalks, much of the general grading and landscaping were done by the keepers over the course of several years. Routine repairs to various structures, including painting and

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[72] Ibid; *Split Rock Lighthouse* (1993), 7-9.
[73] *Split Rock Lighthouse* (1993), 6-9; Lightkeeper's Log, July 20, 1910, to September 3, 1910, MHC Library.
[74] Lightkeeper's Log, October 2, 1910, to December 14, 1910, MHC Library.
[75] *Split Rock Lighthouse* (1983), 10-17, 25; Lightkeeper's Log, April 15, 1911, July 26, 1930, MHC Library.

varnishing, occupied much of the duty day. Also, due to their isolated location, keepers were expected to have good mechanical skills and the ability to make most repairs to the various mechanical systems of the entire lighthouse complex. Breaks to this monotonous routine were rare and generally revolved around the arrival of supplies from a lighthouse tender or an inspection by the District Superintendent. Given the isolation and the harsh weather conditions near the end of the shipping season, most family members departed from the station in September, leaving only the staff until the light closed for the year, usually in late November or early December.[76]

For the first five years of Split Rock's existence, the station received all of its supplies via the original derrick hoist used during the construction of the facility. This system was fraught with danger since supply boats had to navigate right up to Split Rock Cliff to be within range of the hoist. This could not be done in harsh weather and conditions on the lake were wildly unpredictable. In 1914, the Eleventh Lighthouse District recommended that the hoist system be replaced with a tramway that extended from the existing dock and boathouse at Split Rock Cove to the facility at the top of the cliff. The district inspector laid out these facts in a report, pointing out as well, that it could be paid for with the $2,600 that remained from the original lighthouse appropriation.[77]

The Lighthouse Service hired local workers from the nearby Little Two Harbors fishing camp, and construction on the tram commenced in the fall of 1915. Initial work consisted of unloading supplies and clearing a path on the slope where the tramway engine was to be placed. Next, the workmen hand-mixed concrete to pour the foundation for the tram hoist house, as well as some of the rail abutments and the portion of the track that ran along the dwellings to the oil house. By mid-November, the tram hoist house was largely complete and the ten-horsepower gasoline hoisting engine had been installed. Work ceased for the season and resumed in June 1916 once local labor could be procured. During this time, the rail piers on the slope of the hill were completed and track installed. The facility was finished on August 1, 1916, and it soon was used to haul firewood, coal, and other supplies from the dock to the top of Split Rock Point. The hoist would pull a tramcar to a turntable by the tram hoist house. It would then be disconnected and pushed by hand to the dwellings, storage barns, or oil storage house.[78]

The amount of supplies sent to the station and hoisted by the tramway was not insignificant. Lightkeeper's logs cite receipts of eighteen tons of coal and twenty barrels of gasoline at points during the season. It would often take several days for the staff of three to move this large amount of material. By 1932, the tramway required significant repairs to its rails and piers.[79]

As an isolated outpost, the Split Rock Light Station received the very occasional adventurous tourist. The development of the Lake Superior International Highway opened the complex to tourism. Originally known as Trunk Highway No. 1, the road began in Duluth, ran parallel to the shore of Lake Superior, and extended well into Canada. Construction began in 1921, the route reached the station in 1924, and officially opened in 1925.[80]

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[76] *Split Rock Lighthouse* (1983), 10-13, 17, 21-22; Lightkeeper Logs, 1910-1939, MHC Library. A general review of lightkeeper logs provided explanations of the duty day in varying degrees of detail. Many entries simply listed such routine events as "painted dwelling roof" or "scrapped paint on barn".

[77] Hall, "Split Rock Tramway, 1915-1934," unpublished manuscript, 12 April 1977, History files, SRL.

[78] Ibid.

[79] Ibid.

[80] Designed to maximize scenic views of Lake Superior, it was a significant engineering feat that required the construction of twenty-three bridges, as well as carving a roadway from several imposing cliffs. During the 1920s, it was popular to provide formal names to significant roadways. As a result, the roadway officially received the Lake Superior International Highway moniker in 1926, while its numerical name was changed to Minnesota Trunk Highway 61 in 1934. Over the next fourteen years, the roadway had portions of its alignment altered and was paved from Duluth to a point near the Canadian border. "Phase III Historic Mitigation; T. H. 61 in Gooseberry Falls State Park and Bridge No. 3585," prepared by the Minnesota Department of Transportation (1996), 6-12. Copy available at SRL.

The Town of Beaver Bay soon built a crude road from the highway to the Split Rock boathouse; however, a road to the actual clifftop light station complex was not completed until 1930. This primitive trail was not particularly useful, and the Lighthouse Service would not provide a work truck to the station until 1934. In the meantime, Split Rock remained reliant on supply tenders and its tramway until the Civilian Conservation Corps (CCC) constructed a better road to the complex in 1935. With this road in place, all supplies were now shipped via truck, and the tramway hoist engine and tracks were removed and taken to the Duluth Lighthouse Depot for use at other light stations. Plans also called for the demolition of the forty-four tramway piers by dynamite, but it was deemed costly and unnecessary. Today, thirty remain.

The opening of the roadway to Split Rock not only ended the station's reliance on boats and lighthouse tenders, but also turned the formerly isolated outpost into a highly popular tourist attraction. A small stream of visitors started to arrive after the boathouse road was completed in May 1925. A few dozen would travel to the lighthouse each weekend or holiday during that first year, but the *Duluth Herald* predicted that in 1926 many more would find the lighthouse: "Tourists by the thousands will visit the great Split Rock light and its environment this year. They will be amazed to find this great ocean beacon in the center of North America. They will note with pleasure how carefully the American government safeguards its coasts for its mariners."[81]

The United States Lighthouse Service understood the importance of visitors to any lighthouse with regard to its public image. A 1927 regulation contained a section on lighthouse visitors and stated that "visitors must be received with courtesy and may be admitted in limited numbers to lighthouse reservations and lighthouses at prescribed hours."[82] The regulation further directed that lighthouse staff could not accept gratuities or start any machinery for demonstration purposes. As more tourists ventured to the Minnesota North Shore, the number of visitors to Split Rock naturally increased, reaching at least five thousand annually by the early 1930s.[83]

As a result of the highway, life changed dramatically for the residents of Split Rock. Keepers and their families now lived on site year round. Also, the influx of visitors brought a great loss of privacy to the staff and their families. At least one staff member had to escort all visitors, leaving only the other two to perform regular duties. The Lighthouse Service recognized early that the complex was "one of the showplaces of the district"[84] and provided additional fencing along the cliff to assist with safety. By the late 1930s, tourism had increased over five-fold. By 1935, the Lighthouse Service recognized the significance of tourism at the station and directed Keeper Covell accordingly:

This is a show station in the Lighthouse Service and visitors should be encouraged to visit the Lighthouse and see the lens and other mechanism at stated periods which are indicated on the sign placed at the entrance of the station. The office recognizes that the public is not always considerate but many of the visiting public are thoughtful of the rights of the keepers and these should not be penalized in their earnest efforts to see the light stations when on tourist trips or otherwise.[85]

In 1938, the visitors' log noted 27,591 signatures. When queried by the Lighthouse Service about the accuracy of these numbers, Keeper Covell replied that he counted actual visitors several times that year and always found that only a third or less registered. He carefully estimated that 100,000 people visited the lighthouse in 1938. A

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[81] "Tourists Love the Place," *Duluth* (MN) *Herald*, June 10, 1926.

[82] United States Department of Commerce, Lighthouse Service (USDC.LS), *Instructions to Employees of the United States Lighthouse Service, 1927* (Washington, DC: Government Printing Office, 1927), 58.

[83] USDC.LS, *Instructions to Employees of Lighthouse Service*, 58; *Split Rock Lighthouse* (1993), 26-27.

[84] Superintendent of Lighthouses to Officer-in-Charge, Duluth LH Depot (Re: Directions to Split Rock Lightkeeper), 8 August 1935, History files—Tourism, SRL.

[85] Ibid.

1939 issue of the *Coast Guard Bulletin* stated that the facility was "probably the most visited lighthouse in the United States."[86] While it is difficult to validate this statement, the site was clearly very popular as a tourist attraction. Due to the high number of tourists, the Lighthouse Service assigned a fourth staff member during the summer months to assist with visitors. Also, private enterprise capitalized on the growing stream of visitors. In 1941, local resident Clyde Adams built a gift shop along the CCC road on a private parcel adjacent to the entrance to the lighthouse reservation. This gift shop is no longer extant and is now a parking lot.[87]

There were a number of reasons for the lighthouse's growing popularity. Its cliff top location, which provided an unparalleled view of Lake Superior, was a primary factor. While a number of lighthouses commanded spectacular locations equal to Split Rock, the Lake Superior International Highway made it one of the most accessible. Furthermore, as a Duluth newspaper had noted earlier, this newly accessible lighthouse was unique in that it was in Midwestern Minnesota and hundreds of miles from the ocean. Naturally, a number of civic and tourism-oriented organizations capitalized on these factors and touted the lighthouse as one of the signature attractions along the Lake Superior International Highway. One of the lead organizations that promoted that highway and its attractions was the Minnesota Arrowhead Association (MAA), which had as its goal "to advertise over the United States the lakes, mountains and beauty spots of [the Arrowhead Region] so that the area would take on a national aspect as a recreational center."[88] The lighthouse was featured prominently in MAA and other promotional literature targeting the automotive tourist, which was a rapidly growing phenomenon in northern Minnesota.[89]

Visitors were not allowed at the lighthouse during World War II, but tourism resumed its high levels once the war was over. Beginning in 1946, the grounds were open daily from 8:00 a.m. to 7:00 p.m., while the tower was only open in the summer on weekends and holidays from 8:00 a.m. to 4:00 p.m. In order to provide access to the tower, the Coast Guard augmented the three-man staff in the summer with temporary personnel. To quarter these men, in 1949, the Coast Guard remodeled the loft of Storage Barn #1 into living quarters. Various civic organizations and tourist associations lobbied the Coast Guard through Congressman John A. Blatnik for additional access, and in July 1948, the Coast Guard opened the tower to visitors from 8:00 a.m. to 7:00 p.m. daily, except for periods when the fog signal was in operation. However, this arrangement only lasted a few years because the Coast Guard passed more stringent security regulations in 1951, and once again disallowed visitors from the tower, although access to the general grounds continued. Keeper Robert E. Bennetts agreed with the changes and said at times the number of visitors was overwhelming and limited the ability of the staff to perform other duties.[90]

As mentioned earlier, the United States Lighthouse Service was absorbed into the Coast Guard in 1939, however, Keeper Franklin Covell chose to remain a civilian employee within the Coast Guard. While some bureaucratic procedures changed as a result of the reorganization, life at Split Rock generally remained the same as it had when it was run by the United States Lighthouse Service. Covell retired in 1944. Subsequent keepers came from the Coast Guard ranks and transferred in and out on a regular basis. Lighthouse duty was

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[86] "The Most Visited Lighthouse," *Coast Guard Bulletin* 5, no. 1 (November 1939): 34, copy located in Tourism Files-7372, SRL.

[87] Correspondence between Keeper Franklin Covell and Eleventh Lighthouse District, 1936-1939, Tourism Files-7372, SRL; *Split Rock Lighthouse* (1993), 27-29; Clyde Adams, Interview by Glen Sandvik, 7 September 1971, Tourism Files, SRL.

[88] "Minnesota Arrowhead Association, 1924-1974: 50 Years of Service to the Vacation Travel Industry," pamphlet located in the MHC Library.

[89] *Split Rock Lighthouse* (1993); "Minnesota Arrowhead Association, 1924-1974."

[90] Lightkeeper's Log, 1-3 January 1942; J. A. Hirshfield, Commander, Ninth CG District to Commander (OAN), "Split Rock Light Station; visitors at, schedule for," January 1950, Correspondence with attachments located in Office of Operations: Aids to Navigation Division—Station Files, 1941-1977 (Entry 381, A-1), box 21, RG 26, NARAS-DC; "Split Rock Shift Asked," *Duluth* (MN) *News Tribune*, July 4, 1947; "Split Rock Tower Opened to Public," *Duluth News Tribune*, July 18, 1948; "Split Rock Tower Barred to Public," *Duluth Herald*, July 9, 1951; Quarterly Report—Split Rock Light Station, January 1950, Located in Board of Survey—Real Property, 1946-1974 (Entry 99, A-1), box 1, RG 26, NARAS-DC.

not held in high regard within the service and did not receive the attention that was given to traditional Coast Guard missions.

The Coast Guard initiated several improvements to the light station during its tenure. In 1940, it replaced the kerosene IOV light with a 1000-watt electric light. Meanwhile, the other buildings at the complex were wired for electricity. It also replaced the lighthouse's original oak windows with aluminum ones in the 1950s or 1960s. The three houses were updated with circa 1950s-1960s linoleum, kitchen cabinets, kitchen and bath fixtures, as well as paint schemes, which often reflected what was available through government surplus.[91]

The station continued to be inspected annually, with the only notable item of concern showing up in September 1956, when it was discovered that the light rotated one second fast. A solution was ordered by the USCG Commandant for navigational aids, and the problem was fixed by October. On December 28, 1959, a storm destroyed the remnants of the boathouse, which had been abandoned and in dilapidated condition for years.[92]

By 1960, radar and other modern navigation technology rendered most coastal lighthouses obsolete. As a result, the Coast Guard began to assess the usefulness of a fully-manned lighthouse and fog signal at Split Rock. While a proposed conversion to an unmanned automatic light was rejected, the discontinuance of the fog signal received a public hearing in Duluth in July 1960, and service was ended the next year. In 1963, the Coast Guard considered reducing the staff from three to two personnel and selling off the fog signal building and a dwelling with garage. However, it was determined that such a piecemeal disposition was impractical due to the facility's combined water and sewer system, as well as the existence of only one road to the complex. The light continued to operate, but now more for the goodwill it generated for the Coast Guard by being a tourist attraction than for its assistance to navigation. Finally, with newly installed lights and radio beacons at the recently built ports of Silver Bay and Taconite (northeast of Beaver Bay), the Lake Carriers' Association agreed with the Coast Guard that a light at Split Rock was no longer needed. By January 1, 1969, the station had been discontinued and readied to be handed over to the General Services Administration (GSA) for disposal.[93]

The light station sat vacant for nearly two years. During this time, the GSA made several surveys of the property and affixed its acquisition value at $50,150. It also found that Split Rock had no further use in any capacity to the federal government and recommended its disposal. In November 1969, Minnesota Governor Harold LeVander expressed the state's desire to obtain the lighthouse and maintain it as an historic site. This was a natural fit since the lighthouse was included in a 1958-1962 state survey of historic sites, and Minnesota Historical Society (MHS) staff wrote the National Register of Historic Places nomination form for the facility in April 1969. On March 1, 1971, the U.S. Government transferred the Split Rock property to the Minnesota

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[91] Radzak, Conversation with author.

[92] Henry U. Scholl, Commandant (OAN) to Commander, Ninth Coast Guard District, "Light Station, Split Rock, Minn. (09-300981), lighting equipment characteristics," 10 December 1956; W. N. Derby, Jr., Commander, Ninth Coast Guard District to Commandant (OAN), "Split Rock Light (LL-1381); characteristics of," 18 December 1956, Office of Operations: Aids to Navigation Division—Station files, 1941-1977 (Entry 381, A-1), box 21, RG 26, NARAS-DC; "Proceedings of a Board of Survey—Split Rock Lightstation," 14 March 1960, Board of Survey—Real Property, 1946-1974 (Entry 99, A-1), box 1, RG 26, NARAS-DC.

[93] J. A. Kebring, Commandant to Commander, Ninth Coast Guard District, "Split Rock Light Station Minnesota; Public Hearing Regarding Conversion to Unmanned Status," 7 July 1960; R. L. Mellen, Commander, Ninth Coast Guard District to Commandant (OAN), "Split Rock, Minnesota LTSTA," 4 January 1963; Chief, Aids to Navigation Division to Chief, Shore Unit Division, "Split Rock Light Station, Minnesota; recommendation by CGD9 for reduced personnel allowance and other changes," 10 January 1963, Office of Operations: Aids to Navigation Division—Station files, 1941-1977 (Entry 381, A-1), box 21, RG 26, NARAS-DC; William Kesler, Jr. to John A. Blatnik, U.S. House of Representatives (Re: Split Rock Lighthouse Discontinued), 23 December 1968, Board of Survey-Real Property, 1946-1974 (Entry 99, A-1), box 1, RG 26, NARAS-DC; "Split Rock Lighthouse: End of an Era," *Minneapolis Tribune*, February 16, 1969.

Department of Conservation via the historic monument program. In 1976, the Minnesota Historical Society assumed administration of the original grounds of the light station reservation.[94]
Since acquiring the property, the MHS has made a consistent effort to maintain the property in a historically sympathetic manner, as well as provide for its many visitors. It has also made an effort to restore much of the property to a circa-1920s appearance. All restoration has been completed with respect to the Secretary of the Interior's Standards for Restoration. In 1979, the fog station building was restored to its original appearance by removing the wall dormer installed in 1936 for a new fog horn apparatus, as well as installing replicas of the two rooftop megaphones that once adorned the building. In 1980, Lightkeeper's House #1 was restored to its 1920s appearance and opened for tours. In 1984 and 1985, exterior restoration including new metal shingles was done on houses #2 and #3 as well as the two storage barns. A visitors' center was constructed in 1986 (to the northeast of the original light station grounds), and between 1990 and 1991, the lighthouse was stabilized and restored. It replaced the USGS-installed aluminum windows with oak double-hung sashes that resembled the original fenestration. The workroom roof was repaired with new copper, while interior plaster ceilings were replaced. The tramway engine house was restored in 1995, and a large addition to the aforementioned visitors' center was completed in 2003. The light station is the most popular historic site in the state and hosts approximately 116,000 admission-paying visitors a year.[95]

Architecture

The Split Rock Light Station is nationally significant as a highly intact light station which embodies a single, cohesive design and a single period of construction for all major elements, which is rare for Great Lakes light stations. During its operation as an aid to navigation at a strategic location on the Great Lakes, from its construction in 1909 to its decommissioning in 1969, Split Rock's physical make-up evolved very little in response to new uses or technologies. It was already functioning as a complete light station throughout its history.

A full discussion of lighthouse and light station architecture is found in the National Park Service's (NPS) "Summary Context Statement for NHL Lighthouse Nominations" and in J. Candace Clifford's "Light Stations of the United States" (2002) Multiple Property National Register nomination form. Consisting of a steel skeleton veneered with brick and concrete, the exterior of the lighthouse at Split Rock is constructed to resemble a land-based, masonry tower; one of the eleven types of lighthouses discussed in the NPS context. A true masonry tower is constructed entirely of stone, concrete, or brick and features a heavy, flared base that has the ability to carry the tower's great weight. This is the oldest type of tower in the United States, as well as the most prolific. It is estimated that 52 percent of all extant lighthouses are this type. Although not a true masonry tower, Split Rock best resembles this type by displaying a heavy, flared, stone-finished concrete base and tapered brick walls.[96]

The Split Rock Light Station was designed by Ralph Russell Tinkham, who was born on November 23, 1883. After earning an engineering degree in 1905 from the University of Michigan, Tinkham worked as an engineer

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[94] Determination of Surplus—Coast Guard Light Station, Split Rock, Minnesota, 12 January 1970; [Illegible name], USCG to Harold LeVander, Governor (RE: Split Rock Lighthouse), 1 December 1969, Board of Survey-Real Property, 1946-1974 (Entry 99, A-1), box 1, RG 26, NARAS-DC; John R. Ferguson, "Split Rock Lighthouse," National Register of Historic Places Nomination Form (Washington, DC: U.S. Department of the Interior, National Park Service, 1969), 1 and 4; "State, C of C Push to Get Lighthouse," *Duluth (MN) Herald*, January 8, 1969.

[95] "Split Rock Lighthouse Historic Site Major Restoration/Stabilization/ Construction Projects, SRL;" "Pre-1920s Split Rock Plan Drawn," *Duluth (MN) News*, January 10, 1977; Radzak, conversation with author.

[96] National Park Service, "Summary Context Statement for NHL Lighthouse Nominations" 15; Candace Clifford, ed., "Light Stations of the United States," NRHP Multiple Property Documentation Form (Washington, DC: U.S. Department of the Interior, National Park Service, 2002).

for a structural steel engineering firm in Detroit before joining the Eleventh Lighthouse District (Lakes Superior and Huron) in 1908. One of his early endeavors with the district was to serve as a site engineer for the construction of the Rock of Ages Lighthouse. Tinkham completed the initial design for the Split Rock Light Station in late 1907 or early 1908. Split Rock was Tinkham's first lighthouse design, and he also served as the on-site engineer for the project. In 1911, Tinkham became the assistant superintendent of the Eleventh District where he was in charge of lighthouse engineering and construction. He served in this position until 1915, when he became the superintendent of the Sixteenth District in Alaska, where he also was in charge of all lighthouse engineering and construction operations. After service in the Army Corps of Engineers during World War I, Tinkham returned to the Lighthouse Service and accepted a scientific investigative position in the Third District in New York where he conducted photometric and acoustical studies. Between 1921 and 1935, Tinkham would hold either assistant or superintendent positions in New Orleans, Louisiana; Honolulu, Hawaii; or Portland, Oregon. Again, he was responsible for engineering and construction operations at those locations, which, at the time, were a focus of the Service's lighthouse construction efforts. In 1935, he became the Chief Engineer of the USLHS and was commissioned as a captain in the USCG when the Lighthouse Service was absorbed by the Coast Guard in 1939. Upon his retirement from the Coast Guard, Tinkham became the building department chief for the city of Santa Rosa, California. He died in 1967 and is buried in Arlington National Cemetery.[97]

The lighthouse at Split Rock exhibits elements of the Neoclassical Revival style. The style provided a sense of stability and order. It was a popular choice for government buildings, institutional structures, banks, and office buildings between the 1890s and the 1930s. The Split Rock Lighthouse displays many typical Neoclassical Revival elements that do stand out despite its initial isolated location. These elements include stone-finished, concrete pilasters topped with a heavy entablature; a sizable concrete cornice; and symmetrically-arranged fenestration. No evidence was found to substantiate why Tinkham chose this style other than its contemporary popularity for important government structures.[98]

With regard to the three lighthouse dwellings, they are large, Craftsman-influenced, foursquare buildings that, while substantial, essentially are vernacular. The Lighthouse Service did not have a standard design for its keeper's houses. This was due to the varied climate conditions and the unique situation for many lighthouses. At many places, regular housing was available in the local community. When the Service did build houses, they reflected local styles, as well as complemented the architecture of the lighthouse. Other factors impacted home design, such as availability of building materials and a law that limited the Service from spending more than $6,500 on any dwelling. Generally, the USLHS sought to construct substantial structures using fireproof materials and restrained ornamentation. While some lights possessed multi-family homes, the Service attempted, as a nod to privacy, to build several single-family homes at stations with multiple keepers.[99]

With regard to lighthouses as a building type, they are unique structures whose architectural appearance and structural engineering are based upon a number of important and, sometimes, competing factors. The driving force behind any lighthouse design was the erection of a platform that placed the lens system at its most effective height and most useful geographic location. This overriding criterion called for a variety of materials, foundation types, structural systems, and building layouts to best meet the specific conditions of each lighthouse. For example, a lighthouse built on a rocky shoal off an ocean coast required an entirely different design approach than did a light within a town that marked the entrance of a harbor. This example also illustrates another critical factor in lighthouse design, namely, the ability to successfully undertake and complete

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[97] "Capt. Ralph Tinkham, Lighthouse Expert, Dies," *Palo Alto (CA) Times*, January 14, 1967; "Lighthouse Chief To Leave Service," unattributed newspaper article dated 1930, History files—Ralph Russell Tinkham, SRL; Tinkham, "The Building of the Split Rock Lightstation, Minnesota;" Biographical Record of Ralph Russell Tinkham, Ralph Russell Tinkham Papers, SRL.

[98] Barbara Wyatt, ed., *Cultural Resource Management in Wisconsin*, 3 vols. (Madison, WI: State Historical Society of Wisconsin, Division of Historic Preservation, 1986) 2: 2/18.

[99] Conway, comp., *United States Lighthouse Service*, 95-96.

construction. Lighthouses often are situated within inhospitable and almost inaccessible locations. Therefore, the design had to reflect contemporary technological and material limitations with regard to site access. This factor also limited what construction techniques could be employed. Such lights also had to be constructed to withstand powerful natural forces, such as waves and high wind, not encountered by other types of buildings. Lighthouse engineer Ralph Russell Tinkham wrote a number of articles on the unique nature of lighthouse design and the sophisticated challenges the process presented to engineers. The subjects explored in his articles ranged from the use of submerged interlocking granite blocks situated on bedrock to steel screw pilings driven into a sandy ocean bottom.[100]

The most important consideration for the construction of Split Rock involved placing it on top of a sheer cliff overlooking Lake Superior. The site was inaccessible by land, and all materials had to be hoisted from a barge. The top of the cliff was open and subjected to harsh winds, driving rain, freezing temperatures, and heavy ice. Structural steel was easily hoisted to the top of the cliff and provided a very strong skeleton for the lighthouse, and, when enclosed by brick, it has withstood the elements extremely well.

While the lighthouse tower naturally is the focus of Split Rock, the entire complex is classified as a light station, which was loosely defined by the USLHS in 1915 as lighthouses "where resident keepers were employed."[101] The concept of a light station emerged between 1852 and 1910 when the Lighthouse Board managed aids to navigation. A station provided structures beyond a lighted aid to navigation. These other buildings facilitated lighthouse operations and provided a degree of self-sufficiency for its resident keeper(s) by providing housing, oil storage, gardens, and, perhaps, a small barn for livestock. Stations evolved to meet the needs of the growing complexity of lighthouse operations brought by the introduction of the Fresnel lens, fog horns, and other technology. These changes resulted in many existing stations receiving additional buildings and structures. Some of these included additional staff housing, fog signal buildings, storage structures, cisterns, tramways, and workshops. Furthermore, as shipping expanded into remote areas, such as Lake Superior, stations were placed in isolated locations that had limited communication with an established settlement. As a result, stations required additional staff as well as other facilities to make them more self-sufficient than stations near developed areas. Such elements included tramways, derricks, boathouses, and piers, which provided for the receipt of supplies. Powerhouses and radio buildings were also located at certain locations once the technology made it feasible. As more stations were electrified and/or automated, the need for auxiliary structures for the lighthouse decreased, which resulted in many of them being removed or allowed to deteriorate.[102]

The 2002 National Register Multiple Property Documentation Form "Light Stations of the United States" (2002) cites a hierarchy of character-defining features for a light station that is useful for interpreting the cohesiveness and completeness of the Split Rock Light Station. The first, and most important feature, is the light tower. Important integrity attributes for this structure include the integrity of the lantern room, existence of its original Fresnel lens and associated mechanisms, as well as an intact exterior and interior. Few lighthouses contain their original oil lights due to electrification. Keeper's dwellings are ranked second in the hierarchy. As mentioned earlier, the Lighthouse Board and USLHS had specific policies regarding the construction of dwellings. Many stations received new dwellings as they received additional staff. These new houses usually differed from the station's earlier examples. Next, a functional station required an oil house. Early stations often stored oil within the dwelling or the tower, but the adoption of kerosene for lights required the construction of a separate fireproof building. Congress appropriated money for all stations to eventually

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[100] Wright, *Great Lakes Lighthouses Encyclopedia*, 15-16; Ralph Russell Tinkham, "Lighthouse Construction," *Engineering and Contracting* 64, no. 198 (July 22, 1925): 198.

[101] "Light Stations of the United States," 30.

[102] Ibid., 30-31. Radio beacons sometimes were part of light stations, but many also existed as an independent facility. Unlike the signals from lighthouses and fog signals, radio beacons were only useful to ships that had a radio receiver.

have a separate oil house. Fog signals were their own type of navigational aid, and not all light stations possessed one. When located with a lighthouse, they typically were housed in their own building. Fog signals eventually became obsolete, and most were removed by the USCG. Very few stations currently possess original fog signal apparatus. A well-rounded station also possessed a number of ancillary buildings and structures that supported station operations. Such elements included boathouses, barns, garages, privies, water collection systems, and tramways. The existence and appearance of these structures, along with their integrity, stylistic appearance, and overall cohesion are important aspects when evaluating the architectural significance of a light station.[103]

The Split Rock Light Station carries almost all of the facilities described in the light station hierarchy. The isolated location of Split Rock demanded that it be built as a cohesive complex capable of self-sufficiency. This cohesion, created by the fact that all major elements were designed and built at one time, makes Split Rock unique among other light stations on the Great Lakes. The lighthouse tower retains its original Fresnel lens and rotating apparatus. It also contains an electric light installed during its USCG tenure. Interior and exterior integrity are impeccable. The station was designed to operate with three personnel, and each had an attractive, modern home complete with cistern, indoor plumbing, and central heating system. The station was constructed with a significant oil storage house that was also used as a workroom. Split Rock's fog horn building is substantial and could house tandem signal systems. Like virtually all light stations, Split Rock no longer possesses its fog horn apparatus, but its water and coal cisterns remain. The station received bulk supplies via boat, and facilities to receive as well as store the supplies were necessary because provisioning was infrequent. Split Rock maintains two out of three storage barns/garages and elements of a derrick hoist and tramway used to offload these supplies. The station once had a boathouse and pier, but violent Lake Superior storms destroyed these elements.

Light Station Complex Comparative Analysis

As of 2009, ten light stations have been designated as National Historic Landmarks. Of these, all but the Grosse Point Light Station (designated 1999) in Evanston, Illinois, are located on the Eastern Seaboard, reflective of the importance of Atlantic Ocean maritime commerce to the development of the American economy. Yet, the opening of the Great Lakes waterways allowed an explosion of commercial growth that rivaled eastern predecessors. Therefore this comparative analysis is limited to stations associated with the Great Lakes. Over three hundred lighthouses once operated on the American side of the Great Lakes.[104] A number of these lighthouses, such as those by established harbors, were not constructed with regard to independent operations and do not possess the variety of secondary structures found at Split Rock. Meanwhile, a number of Great Lakes lighthouses only operated for a short period of time and are now abandoned and in varying states of deterioration. Still others were minor lights that marked a specific navigational hazard and were not pivotal to general navigation. Also, the definition of what constitutes a lighthouse or a light station has varied over the years. Generally, a light station maintained resident keepers and provided facilities necessary to support lighthouse and other related operations.

No light station or lighthouse exists completely unaltered; however some have a significantly higher degree of integrity than others. The following lights possess most, if not all, of the major elements of a light station as defined by the 2002 NRHP document. Eight light stations merit a specific comparison to Split Rock with regard to their overall makeup, layout, and degree of integrity. Approximately twenty others only require a summary discussion. In general, none of these stations are as intact as the Split Rock complex with regard to

[103] Ibid., 30-38.

[104] General information on most Great Lakes lighthouses can be found at www.lighthousefriends.com or in Larry and Patricia Wright's *Great Lakes Lighthouses Encyclopedia* (2006).

integrity of original appearance, design, and layout. Split Rock retains an exceptional cohesive and stylistic appearance when compared to the following stations.[105]

Grosse Point Light Station (1873) -- Evanston, Illinois

Located thirteen miles north of Chicago in Evanston, Illinois, this light station opened in 1873 and evolved over several decades. Like Split Rock, it was built along a vital shipping lane that served one of the Great Lakes' most prominent ports. It, too, was erected in response to an outcry created by a well-publicized and horrifying incident which, in this case, was the sinking of the *Lady Elgin*, where three hundred lives were lost. The original station used an above-ground passageway to connect the lighthouse to a fuel storage room and keepers' quarters. Two fog signal buildings were added in 1880, and a second fuel storage building followed in 1900. The 113-foot, Italianate-style light tower demonstrates remarkable integrity. It retains its original Second Order Fresnel lens, which was the first on the Great Lakes. The 1900 fuel storage building was removed prior to the decommissioning of the property in 1935. The keepers' quarters building, which is also Italianate in style, is a large, ornate, two-and-one-half-story, side-by-side duplex. The existing layout of the station closely resembles its 1880 appearance, and building interiors have been renovated to a circa 1900 appearance. Like Split Rock, the buildings are substantial and reflect a high degree of workmanship, use of materials, and sense of style that is reflective of the station's importance. The site also contains all of the structures vital to the operation of a complete light station—lighthouse, oil storage room, keepers' quarters, and fog signal buildings. However, unlike Split Rock, two of the station's pivotal buildings (fog signal buildings) were built in response to the changing needs of local navigation seven years after the initial period of construction.[106] Designated a National Historic Landmark in 1999, Grosse Point Light Station also represents an almost intact and complete light station from the late nineteenth century.

Devils Island Light (1891) – Apostle Islands, Wisconsin

This elaborate light station complex exists on Devils Island, which is the northernmost and most inaccessible of Lake Superior's Apostle Islands. The island is mostly surrounded by cliffs and had to be resupplied via a lighthouse tender. A seventy-one foot, steel tower with its 1901 Third Order Fresnel lens is the primary focus of the complex. This tower was built in 1893 and replaced a temporary, wooden tower built in 1891. The tower was reinforced with exterior steel struts in 1917. The complex possesses two Queen Anne houses (built 1891 and 1896), two oil houses, fog signal building (1891), boathouse, and a one-mile long tramway system. The buildings display good integrity. While the complex contains the same individual resources as the Split Rock complex, these elements are scattered along the length of a one-mile long parcel with the lighthouse located several hundred feet away from the two houses. It is not a tight, cohesive unit. The complex was built over a number of years, and it appears that only the fog signal building and one house date to the station's original 1891 period of construction. The existing tower dates to 1896, and it was modified to its current appearance in 1917. The light is now automated and powered by solar panels attached to the tower.[107]

Raspberry Island Light (1863) – Apostle Islands, Wisconsin

Located on a forty-foot high, clay cliff on Raspberry Island, this light station opened in 1863 and was an important light in guiding mariners towards the port of Bayfield, Wisconsin. A Fifth Order Fresnel lens

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[105] "Maritime Landmarks—Light Stations," accessed June 13, 2007, http://www.cr.nps.gov; "Light Stations of the United States," 64-65. The cover of *Great Lakes Lighthouses Encyclopedia* features the Split Rock Light Station.

[106] Donald J. Terras, "Grosse Point Light Station National Historic Landmark" (Washington, DC: U.S. Department of the Interior, National Park Service, 2001), accessed February 1, 2007, http://www.cr.nps.gov.

[107] "Devils Island Light," Inventory of Historic Light Stations—Wisconsin Lighthouses, accessed January 31, 2007, http://www.cr.nps.gov; Wright, *Great Lakes Lighthouse Encyclopedia*, 358-59.

(removed) was housed in a 27-foot, square, wood tower that was attached to a large, vernacular keepers' house that provided accommodations for two families. In 1902, the station received a brick fog signal building, oil storage house, and tramway. In 1907, a third keeper was added, and the house was remodeled accordingly. In comparison to Split Rock, this light station, too, is a tight, cohesive complex capable of self-sufficient operations. However, it was constructed during two distinct periods; the site did not receive a fog signal building and oil house until nearly forty years after it commenced operations. The combination lighthouse-residence differs from the separated lighthouse and keeper's quarters at Split Rock, lacks distinctive styling, and is missing its Fresnel lens.[108]

Outer Island Light (1874) – Apostle Islands, Wisconsin

This important Lake Superior lighthouse had several missions, including guiding mariners to the Wisconsin port of Ashland, marking a dangerous shoal, as well as steering mariners around the Apostle Islands' northeastern tip. The seventy-eight-foot tall, whitewashed brick tower once held a Third Order Fresnel lens (removed 1961). When built, the complex also included a large, brick, keeper's house, boathouse, and a fog signal building. The fog signal building was originally located on the beach but was moved to higher ground in 1875. A second fog signal building was added three years later, and a tramway was built in 1884. Initially, oil was stored in the keeper's house but, in 1895, a separate oil house was built. Both fog signal buildings were combined into one structure in 1900. This complex contains all the major components of a fully-functional light station; however, they were built over a period of years, and the fog signal buildings have received several significant alterations. The light remains operational with a solar-powered lens (a replacement of the original Fresnel example) that was installed in 1991. The complex is in an area of Outer Island that suffers from heavy shore erosion and the lighthouse stands only fifty feet from the shore.[109]

Au Sable Light (1874) – Grand Marais, Michigan

This light station complex was built to warn mariners of shallow waters and sandy shoals off the Lake Superior shore between Whitefish Point and Munising, Michigan. The eighty-six-foot tall tower utilized the same plan as the Outer Island Light and possesses a Third Order Fresnel lens. A passageway connected the light to a large, brick house that was converted into a duplex in 1875. An oil storage house was constructed in 1895, and a fog signal building followed two years later. In 1909, a second keeper's house – identical to the three Split Rock examples except for it being executed in red brick – was built. The station also possessed a log-crib pier and a short tramway. This large, elaborate station does contain all of the major elements seen at Split Rock; however, it emerged over a thirty-year period, and the individual structures do not exhibit a continuity of design and style that is displayed by the Split Rock Light Station.[110]

Michigan Island Lights (1857, 1928) – Apostle Islands, Wisconsin

Two lights mark this complex, whose origins date to 1856 when Congress authorized a light to guide mariners and fur traders to Lake Superior's Madeline Island. The first light consists of a forty-four-foot, stone tower with an attached, one-and-one-half-story keeper's residence. The light only operated for a brief period, and it was abandoned until 1869 when it was refurbished with a 3½ Order Fresnel lens. Eventually, shipping in the area increased to the point that the USLHS in 1928 upgraded the complex by constructing a 112-foot, steel skeleton tower with a 3½ Order Fresnel lens. The USLHS also built a second keeper's dwelling and a brick powerhouse

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[108] "Raspberry Island Light," Inventory of Historic Light Stations-Wisconsin; Wright, *Great Lakes Lighthouse Encyclopedia*, 391-92.

[109] "Outer Island Light" Inventory of Historic Light Stations-Wisconsin; Wright, *Great Lakes Encyclopedia*, 387-88.

[110] "Au Sable Light," Inventory of Historic Light Stations-Michigan; Wright, *Great Lakes Lighthouse Encyclopedia*, 350-52.

that provided power to the light, a tramway winch, and a radio beacon, which replaced an earlier fog signal. The light was automated in 1943 and had its Fresnel lens replaced in 1975. The unique aspect about this light station is that an entire replacement complex with a new tower, second dwelling, and powerhouse was built in 1928 within the grounds of the still extant 1857 lighthouse. The new complex operated for less than fifteen years as a manned station. This station differs from Split Rock in that it represents two distinct periods of construction. While the 1928 period compares favorably to Split Rock with regard to the number and type of buildings, the fact that the station was automated only fifteen years later markedly reduces its significance as a planned complex.[111]

Rock Island Light (1882) – Clayton, New York

Considered to be the most intact former light station on the St. Lawrence River, the Rock Island Light was established in 1847 and had its current tower constructed in 1882. A keeper's house, oil storage building, and carpenter's house also were built in 1882. The steel lighthouse tower was attached to the house, but it was deemed to be too low and was moved to its present location on a pier in 1903. As a result of its move, the steel tower was placed on top of a brick base which raised its height to fifty feet. Other notable buildings include a generator house (1900) and a boathouse (1920). A smokehouse from the original 1847 facility is also found on the island. The light was deactivated in 1958, and it no longer contains its Sixth Order Fresnel lens. While a very well-preserved and intact station, Rock Island differs from Split Rock in that its tower was originally attached to its keeper's house, and was later both moved and raised in height. Also, the generator house and boathouse were added well after the construction of the 1882 facility.[112]

Tibbets Point Light (1854) – Cape Vincent, New York

This light is located where the St. Lawrence River joins Lake Ontario, and its first tower was constructed in 1827. The present tower with its Fourth Order Fresnel lens was built in 1854. The original keeper's quarters were replaced in 1880, and a fog station building was completed in 1897. A second keeper's quarters was built in 1907. Both houses are wood-frame, but are of different sizes and possess different architectural detailing. The light was automated in 1981 and houses the last operating Fresnel lens on Lake Ontario. While a vital part of Lake Ontario navigation for over 150 years, this complex, as it currently exists, evolved over a fifty-year period. The current light also operated for over forty years without a fog signal building. In contrast, all of Split Rock's major operational components were designed and constructed during the same time.[113]

Partial Stations

Many of these light station complexes are listed in the National Register of Historic Places and hold a reasonable degree of integrity, but are not comparable to Split Rock for a variety of reasons. Many light stations like Whitefish Point, Beaver Head (which is encroached upon by modern construction), Fort Gratiot, and Pointe Betsie – all in Michigan – and South Bass Island (OH) contain many, but not all of the notable building types included at Split Rock such as a fog signal building, multiple dwellings, oil houses, and other ancillary buildings. In addition, most of the buildings at these stations were built over a long period of time, and the sites do not carry the same cohesive stylistic appearance and organized layout as does Split Rock. Close proximity to developed areas also limited the number of structures built at some stations. Other light stations have received replacement light towers over the course of their history as their original lights were deemed inadequate to the task. Michigan's Manitou Island, South Manitou Island, as well as the Bete Grise (Mendota)

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[111] "Michigan Island Lights," Inventory of Historic Light Stations; Wright, *Great Lakes Lighthouse Encyclopedia*, 382-83.
[112] "Rock Island Lighthouse," http://www.lighthousefriends.com; Wright, *Great Lakes Lighthouse Encyclopedia,* 31-32.
[113] "Tibbetts Point Lighthouse," http://www.lighthousefriends.com; Wright, *Great Lakes Lighthouse Encyclopedia*, 38.

lights fall into this category. Other notable light station complexes suffer from integrity issues related to the loss of original building function or loss of its Fresnel lens. Big Bay Point (MI) once had a duplex keeper's quarters, but this was later converted to a single-family home and later to a bed and breakfast establishment. Meanwhile, Forty Mile Point (MI), Crossover Island (NY), and Wind Point (WI) no longer possess their original Fresnel lens. St. Helena Island (MI) and St. Martin Island (MI) retain a number of buildings constructed during a single period of construction, but both are abandoned and suffer from deterioration and vandalism. While it has been partially restored, the Middle Island Light Station (MI) suffered significant damage due to abandonment and vandalism. The brick tower was also painted white and red when it received a daymark in 1939.[114]

Other Evolutionary and Smaller Stations

Although many in this group are listed in the National Register of Historic Places, the following lighthouses compare less favorably to Split Rock for a number of reasons. Most of the ones listed do not carry the complete range of buildings possessed by Split Rock such as a fog signal building and three separate keeper's dwellings. Some lighthouses like Munising Range (MI) and Port Sanilac (MI) were built near established settlements and did not require support structures for independent operations. The elements of many of the complexes evolved over a period of time with later additions drastically altering the original setting and function of the original components. For example, some of these stations include replacement lighthouse towers built long after the construction of the original light. Such lights include South Fox Island (MI), Plum Island Rear Range (WI), Rawley Point (WI), and Little Traverse (MI). Other lights, such as Ohio's Marblehead Lighthouse, carry long and storied histories, but have been altered over the years by additions to the lighthouse tower, replacement and/or addition of buildings, or the loss of its Fresnel lens, which is an important integrity aspect when evaluating a lighthouse. Many lighthouses received additions and alterations during their operational history. When compared to the exceptional integrity and cohesiveness of Split Rock, these stations have a lesser ability to convey a sense of their original time and place. Great Lakes lighthouses that lack such a high degree of integrity include Dunkirk (NY), Pottawatomie (WI), Cana Island (WI), Presque Isle (PA), Fairport Harbor (OH), Eagle Bluff (WI), Sherwood Point (WI), Pilot Island (WI), Presque Isle (MI), Point Iroquois (MI), Pipe Island (MI), Tawas Point (MI), and LaPointe (WI). Meanwhile, some light station complexes suffer from a loss of integrity due to abandonment or repurposing, which limits its ability to convey a full sense of historic feeling and setting. Others, while demonstrating good integrity, had relatively short tours as active lighthouses when compared to Split Rock. Examples include Squaw Island (MI), Braddock Point (NY), Baileys Harbor (WI), and Jacobsville (MI).[115]

Ponce de Leon Inlet Light Station (1885)– Ponce Inlet, Florida

While the focus of this comparative analysis is on Great Lakes lighthouses, mention should be made here of the most intact light station on the Eastern Seaboard. The Ponce de Leon Light Station was designated an NHL in 1998, and consists of a 176-foot-tall brick light tower, a principal and two assistant keepers' dwellings, oil house, pump house, and three woodshed/privy structures. The principal buildings are arranged forming a courtyard effect, connected by brick pathways and surrounded by a white wood picket fence. The station is located on the north side of the Ponce de Leon Inlet, bounded by the Atlantic to the east, and the Halifax River to the west. The property is operated by the Ponce de Leon Inlet Lighthouse Preservation Association, and is open to the public as a museum while continuing its role as an aid to navigation.

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[114] Information used for this analysis was gleaned from http://www.lighthousefriends.com and Wright, *Great Lakes Lighthouse Encyclopedia.*

[115] Ibid.

Like the Split Rock Station, interpretive and administrative buildings have been constructed at the site, but unlike the Minnesota property, the Florida development could not been screened by distance or vegetation. The Ponce de Leon Inlet Light Station is situated in an urban location, so mitigating the impact of new construction within the historic site was undertaken by creating designs that referenced the property's historic appearance. This included attention to massing, materials, fenestration, and overall roof height. One building was based on the design of a light keeper's dwelling. Three modern buildings are on the site: a lens exhibition building, an entrance/offices/gift shop building, and a refreshment building. Other resources associated with the light's operation, but since demolished, included the first keeper's dwelling, boat houses, a buoy house, a wharf, a garage, a water mill and tank, and several temporary structures associated with the construction of the permanent buildings. The original first-order Fresnel lens was removed by the United States Lighthouse Service, but was returned in 1997 and is on display in the lens exhibition building.

Summary

The Split Rock Light Station was the primary project within a larger, federal effort to improve Great Lakes navigation during a period when the Great Lakes emerged as a vital component of the nation's industrial economy and when the United States became the world's leading industrial nation. While it has been replaced by modern technology, such as GPS and radar, the Split Rock Light Station served as a vital part of this Great Lakes navigation system for nearly sixty years.

With the exception of the tramway elements and the pump houses, all eight major buildings at Split Rock were built between 1909 and 1910. While constructing an entire multi-building complex was not uncommon, light stations generally were built over the course of time for a variety of reasons, including the replacement of outdated buildings, the later need for additional structures, or the lighthouse's close proximity to populated areas. Split Rock is a very large, well-designed light station that required few significant changes during its nearly sixty years of operation. It presents a remarkable degree of integrity and essentially appears today as it did in 1910.

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Primary and Unpublished Sources
(*denotes sources consulted but not cited)

Annual Report of the Commissioner of Lighthouses to the Secretary of Commerce. Washington, DC: Government Printing Office, 1922.

Annual Report of the Lake Carriers' Association—1908. Detroit: Winn & Hammond, 1908.

**Annual Report of the Light-House Board to the Secretary of Commerce and Labor*. Washington, DC: Government Printing Office, 1908 and 1909.

*Barton, James L. *Commerce of the Lakes. A Brief Sketch of the Commerce of the Great Northern and Western Lakes for a Series of Years; To Which is Added, an Account of the Business Done Through Buffalo on the Erie Canal, for the Years 1845 and 1846. Also, Remarks as to the True Canal Policy of the State of New York.* Buffalo: Press of Jewett, Thomas, 1847.

Chase, Lew Allen. "Michigan's Share in the Establishment of Improved Transportation between East and the West." *Michigan Pioneer and Historical Collections* 38. Lansing: Wynkoop Hallenbeck Crawford, 1912.

Clifford, J. Candace, ed. "Light Stations of the United States." National Register of Historic Places Multiple Property Documentation Form. Washington, DC: US Department of the Interior, National Park Service, 2002.

Conway, John S., comp. *The United States Lighthouse Service.* Washington, DC: Government Printing Office, 1923.

Ferguson, John R. "Split Rock Lighthouse," National Register of Historic Places Nomination Form. Washington, DC: US Department of the Interior, National Park Service, 1969.

"Historic Structures Report for the Dwellings and Storage Barns at Split Rock Lighthouse Historic Site." Prepared by William E. Stark et al. for the Minnesota Historical Society (May 2001).

Lyman, A. K. B., comp. *Duluth-Superior Harbor: Statistical Report of Marine Commerce of Duluth, Minnesota, and Superior, Wisconsin.* Duluth, MN: US Army Corps of Engineers, 1932-1958.

Moore, Charles, ed. *The Saint Marys Falls Canal Semicentennial, 1905*. Detroit: Semi-Centennial Commission, 1907.

National Park Service. "Summary Context Statement for NHL Lighthouse Nominations." Washington, DC: US Department of the Interior, National Park Service.

*Laverty, Thomas, and J. Candace Clifford. "Navesink Light Station," National Historic Landmark Nomination Form. Washington, DC: US Department of the Interior, National Park Service, 2006.

"New Welland Canal." *Engineering News* 70, No. 13 (September 25, 1913).

Records of the United States Coast Guard. Record Group 26. National Archives, Washington, DC.

"Report of Major Graham D. Fitch." *Marine Review* (July 2, 1907).

Split Rock Lighthouse Visitors' Center Library, Lake County, MN.

Split Rock Light Station Lightkeepers Log, 1910-1939. Minnesota History Center Library, St. Paul, MN.

Statistical Report of Marine Commerce of Duluth, Minn., and Superior, Wis. Washington, DC: Government Printing Office, 1931.

Tinkham, Ralph Russell. "The Building of Split Rock Light Station, Minnesota." Unpublished manuscript located in Ralph Russell Tinkham Papers, Split Rock Lighthouse Visitors' Center Library, Lake County, MN.

———————. "Lighthouse Construction." *Engineering and Contracting* 64, no. 198 (July 22, 1925): 198.

United States Department of Commerce, Lighthouse Service. *Instructions to Employees of the United States Lighthouse Service, 1927.* Washington, DC: Government Printing Office, 1927.

Weiss, George. *The Lighthouse Service: Its History, Activities, and Organization.* Baltimore: Johns Hopkins Press, 1926.

Williams, Mentor L., ed. *Schoolcraft's Narrative Journal of Travels: Through the Northwestern Regions of the United States Extending From Detroit Through the Great Chain of American Lakes to the Sources of the Mississippi River in the Year 1820.* East Lansing, MI: Michigan State University Press, 1992.

Secondary Sources

American Public Works Association. *History of Public Works in the United States*. Chicago: American Public Works Association, 1976.

Bald, Frederick Clever. *The Sault Canal through 100 Years, Sault Ste. Marie, Michigan.* Detroit: University of Michigan Press, 1954.

Bayliss, Joseph E. and Estelle L. *River of Destiny: The Saint Marys.* Detroit: Wayne University Press, 1955.

Beck, Bill, and C. Patrick Labadie. *Pride of the Inland Seas: The Illustrated History of the Port of Duluth-Superior*. Afton, MN: Afton Historical Society Press, 2004.

Bishop, Hugh E. *By Water and Rail: A History of Lake County, Minnesota.* Duluth, MN: Lake Superior Port Cities, 2000.

Dickinson, John N. *To Build a Canal: Sault Ste. Marie, 1853-1854, and After.* Miami, OH: Miami University, 1981.

Greenwood, John O. *The Fleet Histories: A Historical Narrative and Photographical Depiction of Former and Present Great Lakes Fleets.* Cleveland: Freshwater, 1990.

Hadfield, Charles. *The Canal Age.* New York: Frederick A. Praeger, 1969.

Hatcher, Harlan. *The Great Lakes.* New York: Oxford University Press, 1944.

History of the Great Lakes with Illustrations. Chicago: J. H. Beers, 1899.

History of the Upper Peninsula of Michigan Containing a Full Account of Its Early Settlement; Its Growth, Development and Resources; an Extended Description of Its Iron and Copper Mines. Chicago: Western Historical Company, 1883.

Hyde, Charles K. *The Northern Lights: Lighthouses of the Upper Great Lakes.* Lansing, MI: Two Peninsula, 1986.

Jackson, John N. *The Welland Canals and Their Communities: Engineering, Industrial, and Urban Transformation.* Toronto: University of Toronto Press, 1997.

Keller, James. "The Madeira." *Inland Seas* 39, no. 2 (Summer 1983): 84-90.

Larson, John W. *Essayons: A History of the Detroit District U.S. Army Corps of Engineers.* Detroit: U.S. Army Corps of Engineers, Detroit District, 1981.

Mills, James Cooke. *Our Inland Seas: Their Shipping and Commerce for Three Centuries.* Cleveland: Freshwater, 1976.

Noble, Alfred. "The Development of the Commerce of the Great Lakes." *Engineering News* 44, no. 24 (June 11, 1903): 532-34.

O'Brien, T. Michael. *Guardians of the Eighth Sea: A History of the U.S. Coast Guard on the Great Lakes.* Honolulu: University Press of the Pacific, 2001.

Oliver, John W. *History of American Technology.* New York: Ronald Press, 1975.

Rector, William Gerald. *Log Transportation in the Lake States Lumber Industry, 1840-1918.* Glendale, CA: Arthur H. Clarke, 1953.

Shaw, Ronald E. *Erie Water West: A History of the Erie Canal.* Lexington, KY: University of Kentucky Press, 1990.

Split Rock Lighthouse. St. Paul: Minnesota Historical Society Press, 1993.

Tag, Thomas. "The Early Development of the Fresnel Lens—Part I." *Clockworks* (Spring 2005): 20-22.

Watson, Bruce. "Science Makes a Better Lighthouse Lens." *Smithsonian* 5 (August 1999): 30-32.

Wolff, Julius F., Jr. *Lake Superior Shipwrecks.* Duluth, MN: Lake Superior Port Cities, 1990.

Wright, Larry and Patricia. *Great Lakes Lighthouse Encyclopedia.* Erin, ON: Boston Mills Press, 2006.

Wyatt, Barbara, ed. *Cultural Resource Management in Wisconsin.* 3 vols. Madison, WI: State Historical Society of Wisconsin, Division of Historic Preservation, 1986.

Previous documentation on file (NPS):

__ Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
_X_ Previously Listed in the National Register. NR # 69000073; Listed 06/23/1969
__ Previously Determined Eligible by the National Register.
__ Designated a National Historic Landmark.
__ Recorded by Historic American Buildings Survey: #
__ Recorded by Historic American Engineering Record: #

Primary Location of Additional Data:

_X_ State Historic Preservation Office
_X_ Other State Agency: Minnesota History Center Library & Archives, St. Paul, MN
_X_ Federal Agency: National Archives and Records Administration, Washington, DC & College Park, MD
_X_ Local Government: Duluth Public Library—Central Branch, Duluth, MN
__ University
_X_ Other (Specify Repository): Split Rock Lighthouse State Park Visitors Center, Lake County, MN

10. GEOGRAPHICAL DATA

Acreage of Property: Approximately 4.5 acres

UTM References:	**Zone**	**Easting**	**Northing**
A	15	623789	5228556
B	15	623790	5228420
C	15	623550	5228464
D	15	623550	5228562

Verbal Boundary Description: The original legal boundary of the 7.63-acre U.S. Lighthouse Reservation for the Split Rock Light Station is partially identified by the remnants of several concrete survey markers. This boundary was not used for the National Historic Landmark (NHL) boundary because a portion of Storage Barn #3 exists outside of the original lighthouse reservation and the modern visitors' center encroaches upon the original reservation. As a result, the NHL boundary has an east-west orientation and is generally a right triangle with the hypotenuse comprised of the irregular shoreline of Lake Superior. The north NHL boundary is an east-west line that begins at the cliff face approximately 240' northeast of the Fog Signal Building's northeast corner (Point A). It proceeds straight west approximately 800' where it turns ninety degrees (Point B) and becomes the western terminus of the boundary. This line extends straight south for approximately 300' where it meets the shoreline (Point C). At this point, the boundary follows the shoreline/cliff in an irregular easterly and northerly direction (approximately 900' straight-line distance) until it reaches the point of beginning.

Boundary Justification: The north and west NHL boundaries were artificially drawn in the vicinity of the original legal boundary in order to capture all contributing historic elements, eliminate significant post-1969 noncontributing elements (such as the visitors' center), as well as provide a proper historic setting. The southerly NHL boundary coincides with the shoreline of Lake Superior.

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DESIGNATED A NATIONAL HISTORIC LANDMARK
June 23, 2011

PHOTOGRAPH LOG

All photographs taken by John N. Vogel in October 2007

SPLIT ROCK LIGHT STATION (Perspective: Distant)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to East
Photo #1 of 21

SPLIT ROCK LIGHT STATION (Perspective: Close)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to West
Photo #2 of 21

SPLIT ROCK LIGHT STATION (Perspective: Lighthouse and Fog Horn Building)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to South
Photo #3 of 21

SPLIT ROCK LIGHT STATION (Perspective: Lightkeeper's Quarters and Storage Barn)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Southeast
Photo #4 of 21

SPLIT ROCK LIGHT STATION (Perspective: Lightkeeper's Quarters)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Northeast
Photo #5 of 21

SPLIT ROCK LIGHT STATION (Lighthouse: Tower)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to West
Photo #6 of 21

SPLIT ROCK LIGHT STATION (Lighthouse: Cleaning Room Block)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to West Northwest
Photo #7 of 21

SPLIT ROCK LIGHT STATION (Lighthouse: Cleaning Room Block)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Southeast
Photo #8 of 21

SPLIT ROCK LIGHT STATION (Lighthouse: Lantern Room)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to West
Photo #9 of 21

SPLIT ROCK LIGHT STATION (Fog Horn Building)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Northeast
Photo #10 of 21

SPLIT ROCK LIGHT STATION (Oil Storage House)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to North Northwest
Photo #11 of 21

SPLIT ROCK LIGHT STATION (Lightkeepers's Quarters #1, #2 and#3: South and East Facades)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Northwest
Photo #12 of 21

SPLIT ROCK LIGHT STATION (Lightkeeper's Quarters #1: South Facade)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to North
Photo #13 of 21

SPLIT ROCK LIGHT STATION (Lightkeeper's Quarters #2: North Facade)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to South
Photo #14 of 21

SPLIT ROCK LIGHT STATION (Storage Barn #2: South and East Facades)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Northwest
Photo #15 of 21

SPLIT ROCK LIGHT STATION (Storage Barn #3: South and West Facades)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Northeast
Photo #16 of 21

SPLIT ROCK LIGHT STATION (Pumphouse #1)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Northeast
Photo #17 of 21

SPLIT ROCK LIGHT STATION (Pumphouse #2 and Boathouse Foundation Remains)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Southeast
Photo #18 of 21

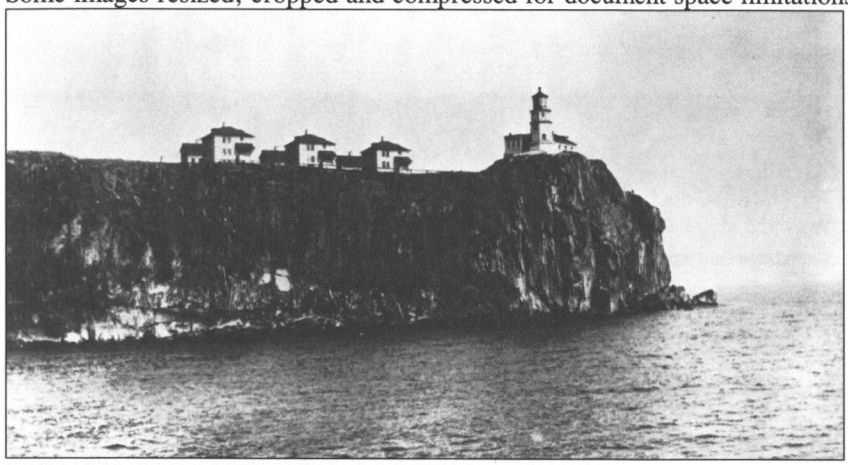
SPLIT ROCK LIGHT STATION (Tramway Engine House)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to North
Photo #19 of 21

SPLIT ROCK LIGHT STATION (Tramway Piers and Stairs)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Northeast
Photo #20 of 21

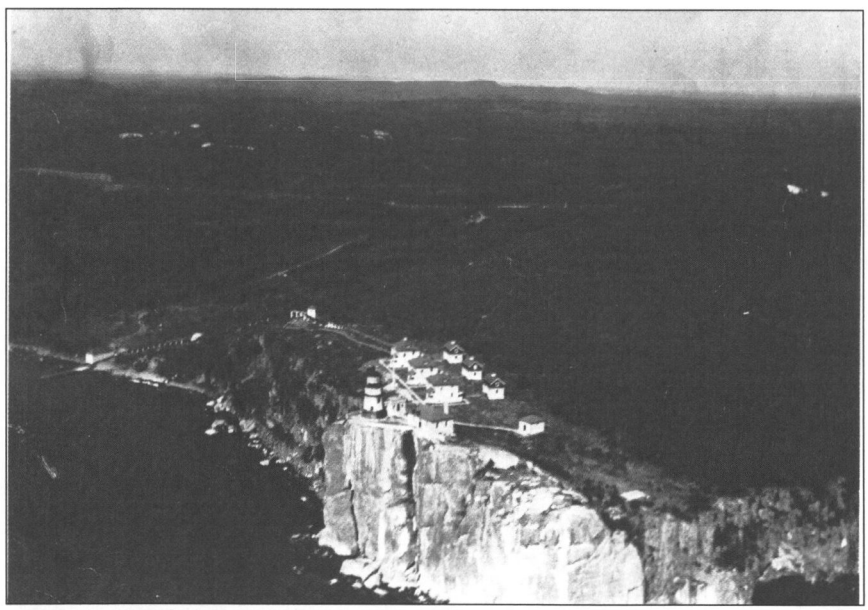
SPLIT ROCK LIGHT STATION (Derrick Hoist Foundation Remains)
3713 Split Rock Lighthouse Road
Town of Beaver Bay, Lake County, MN
View to Southeast
Photo #21 of 21

HISTORIC IMAGES

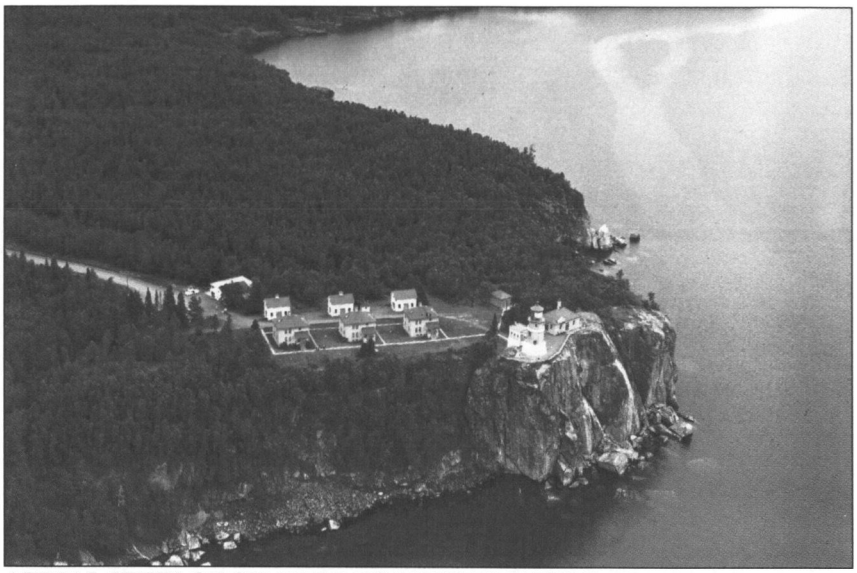
All historic photographs and plans courtesy of the Minnesota Historical Society, Split Rock Lighthouse Historic Site
Some images resized, cropped and compressed for document space limitations. All historic images on GOLD CD-R are unaltered.



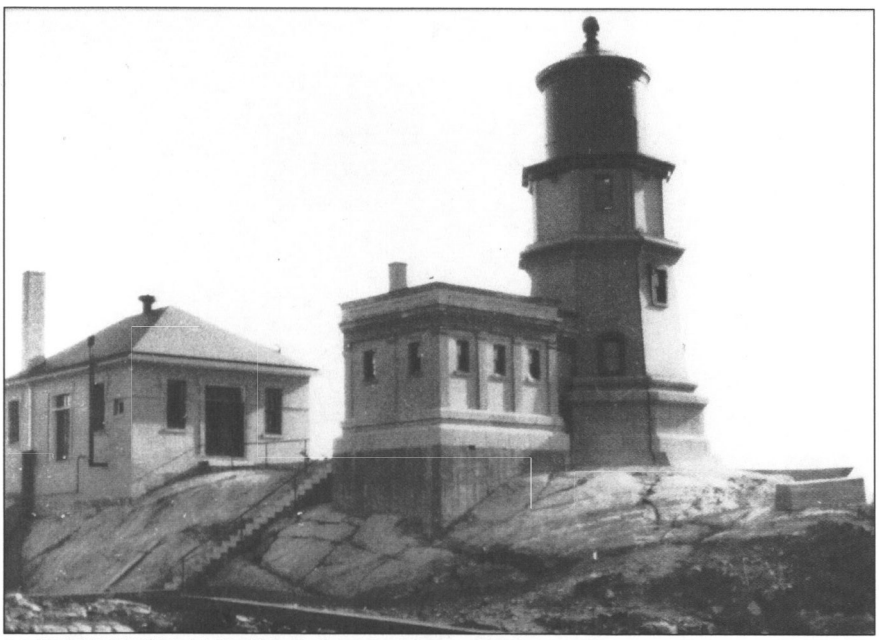
DISTANT VIEW OF SPLIT ROCK LIGHT STATION
Photo by: Unknown
Circa 1918
View to East
Image #1 of 35



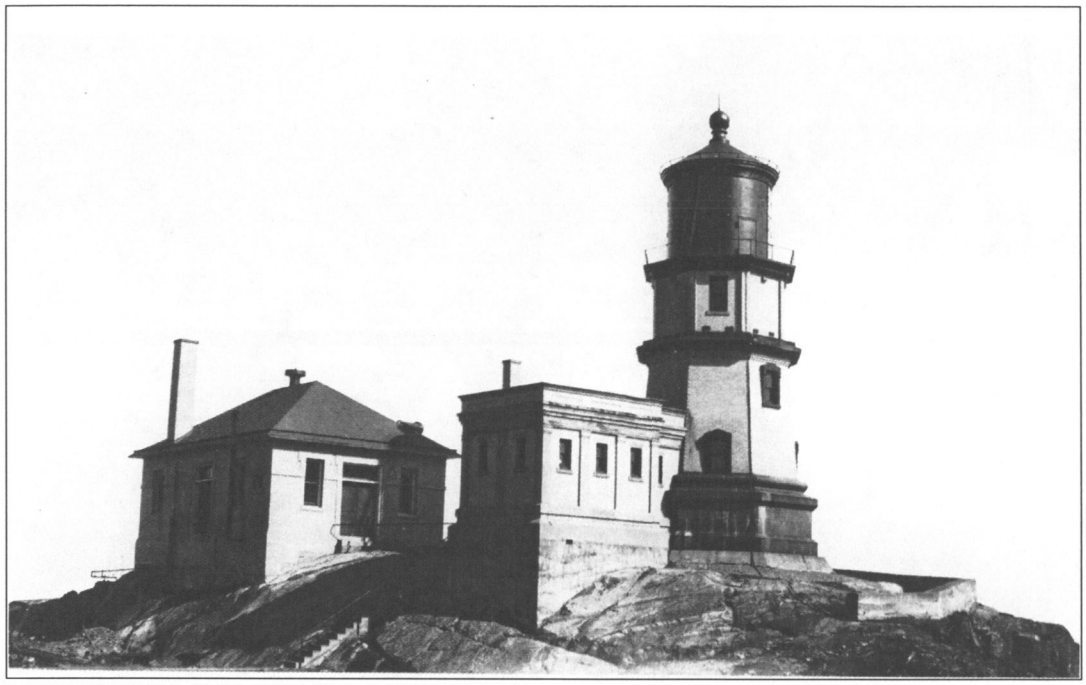
AERIAL VIEW OF SPLIT ROCK LIGHT STATION
Photo by: Unknown
Circa 1930
View to Northwest
Image #2 of 35



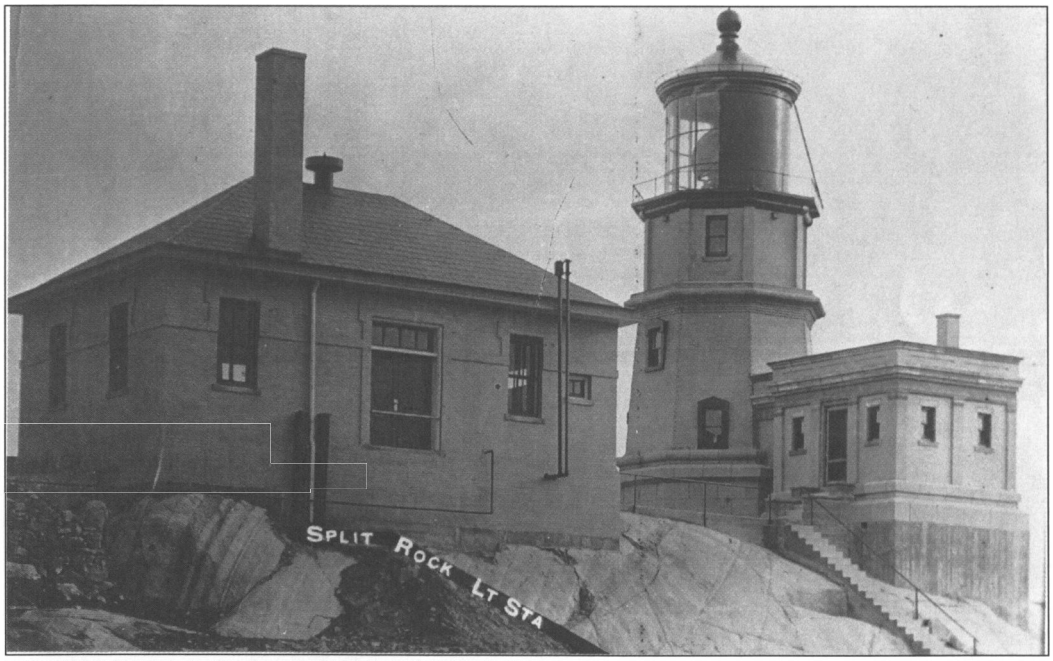
AERIAL VIEW OF SPLIT ROCK LIGHT STATION
Photo by: Don Spavin
July 1959
View to Northeast
Image #3 of 35



LIGHTHOUSE AND FOG HORN BUILDING
Photo by: Unknown
1909-1910
View to Southeast
Image #4 of 35



LIGHTHOUSE AND FOG HORN BUILDING
Photo by: Unknown
Circa 1930
View to Southeast
Image #5 of 35



LIGHTHOUSE AND FOG HORN BUILDING
Photo by: Unknown
Circa 1930
View to Southwest
Image #6 of 35



LIGHTKEEPER DWELLINGS
Photo by: Minneapolis Star Journal Tribune
1946
View to Northwest
Image #7 of 35



LIGHTKEEPER DWELLINGS
Photo by: Unknown
Circa 1940
View to Southwest
Image #8 of 35



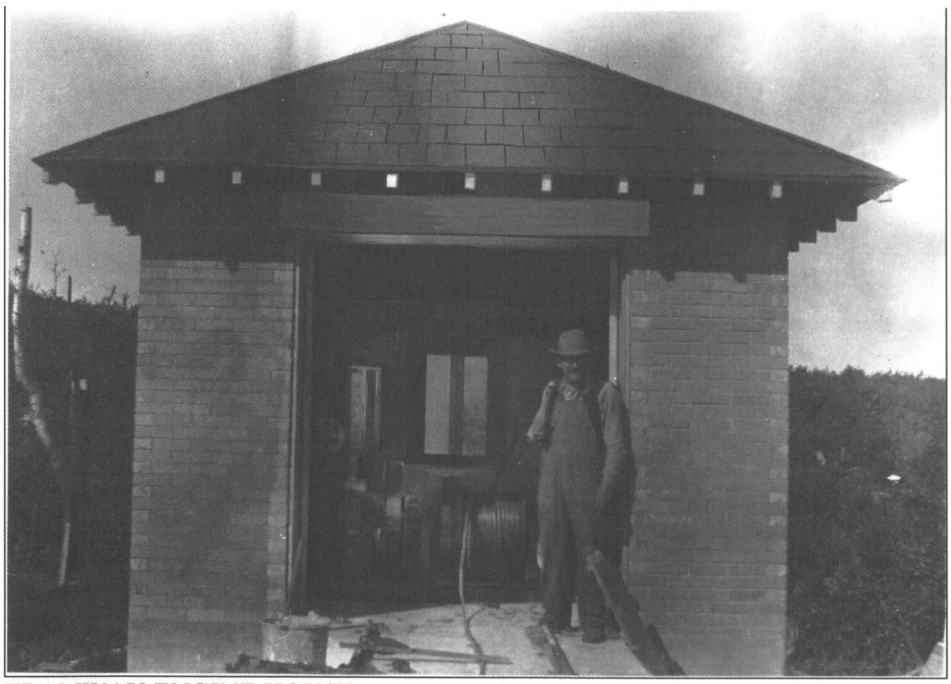
LIGHTKEEPER DWELLINGS AND STORAGE BARNS
Photo by: Eugene D. Becker
August 1959
View to Southeast
Image #9 of 35



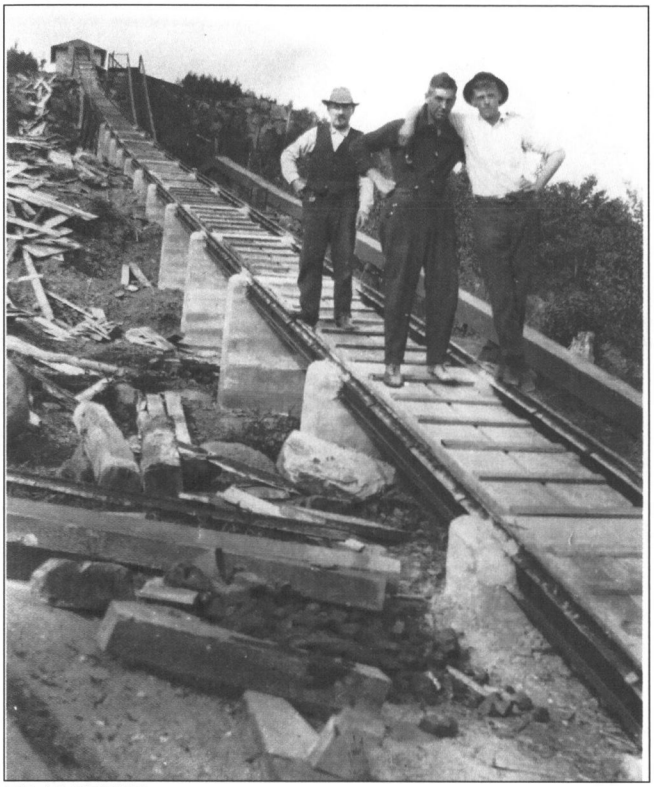
OIL STORAGE HOUSE
Photo by: Unknown
Circa 1945
View to Northeast
Image #10 of 35



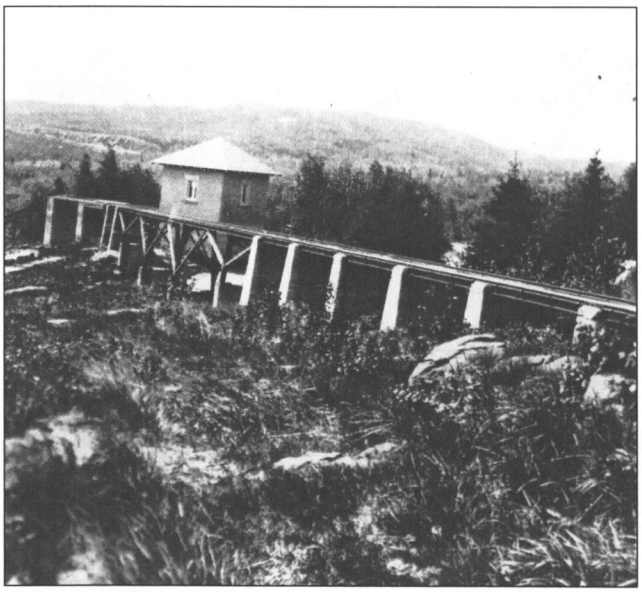
TRAMWAY
Photo by: Unknown
Circa 1916
View to East
Image #11 of 35



TRAMWAY ENGINE HOUSE
Photo by: Unknown
Circa 1916
View Northeast
Image #12 of 35



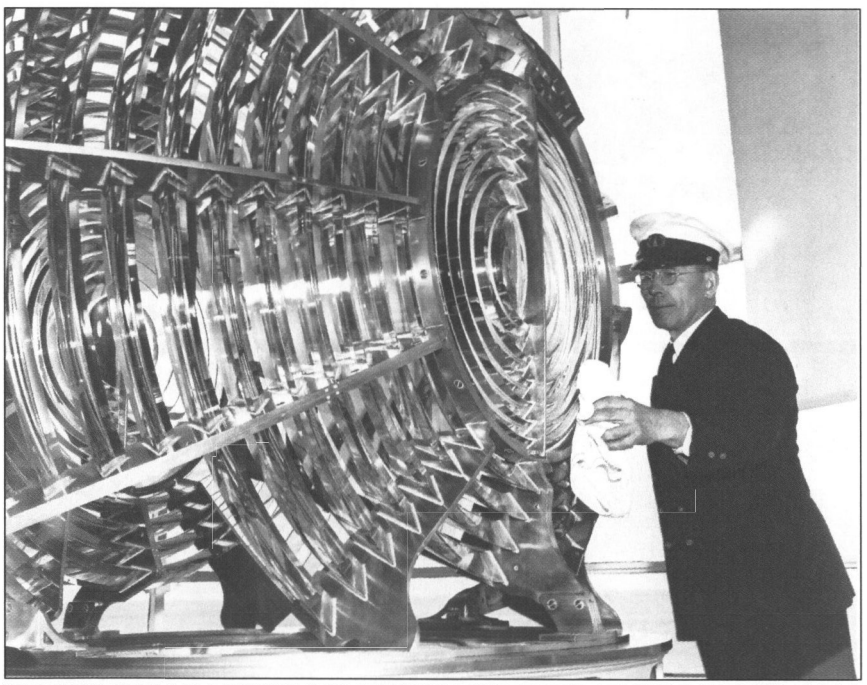
TRAMWAY
Photo by: Unknown
Circa 1916
View Northeast
Image #13 of 35



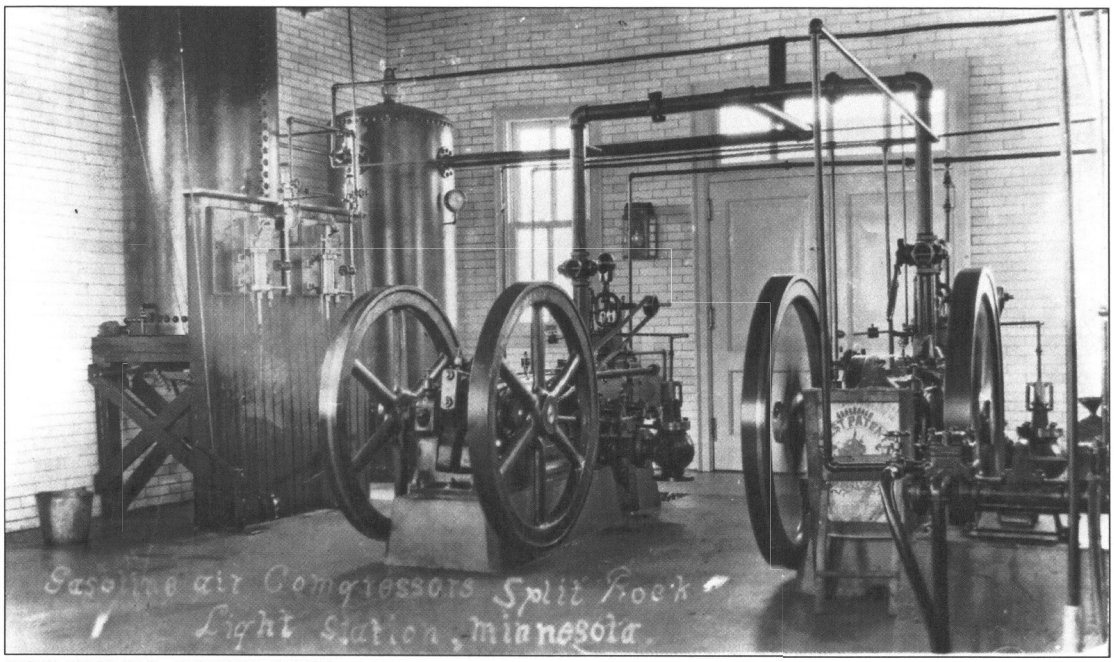
TRAMWAY
Photo by: Unknown
Circa 1930
View to Northwest
Image #14 of 35



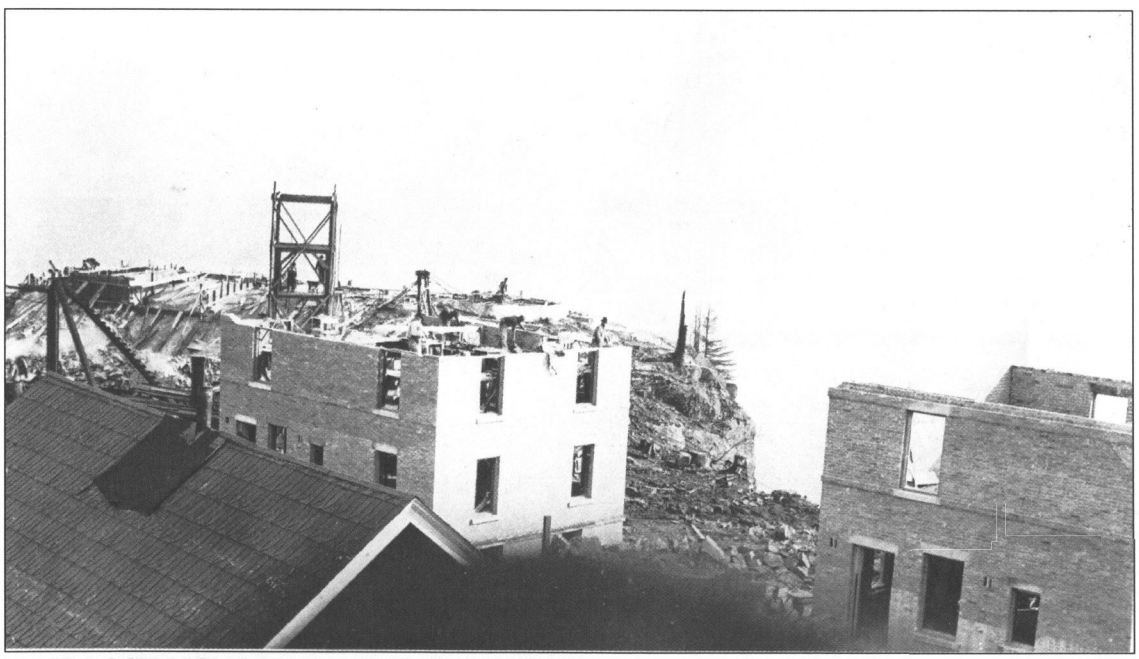
TRAMWAY AND LIGHTKEEPER DWELLINGS
Photo by: Unknown
Circa 1916
View to Northwest
Image #15 of 35



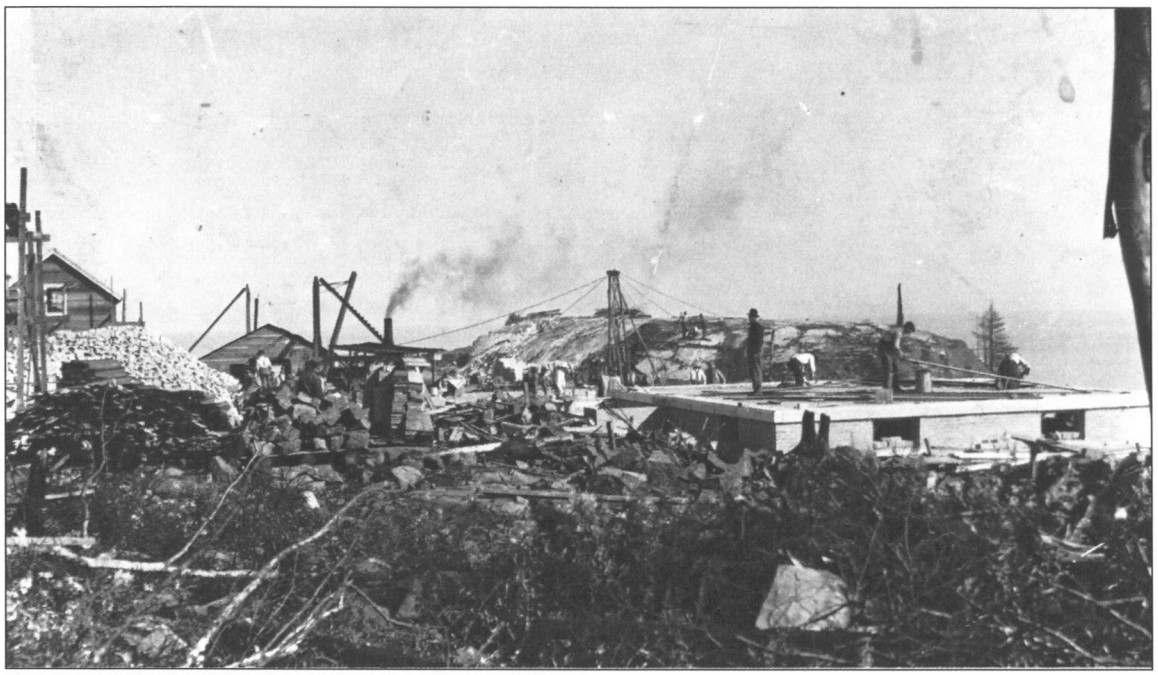
KEEPER TOM HASSING POLISHING THE LENS AT SPLIT ROCK, 1946
Photo by: Unknown
1946
View to Interior
Image #16 of 35



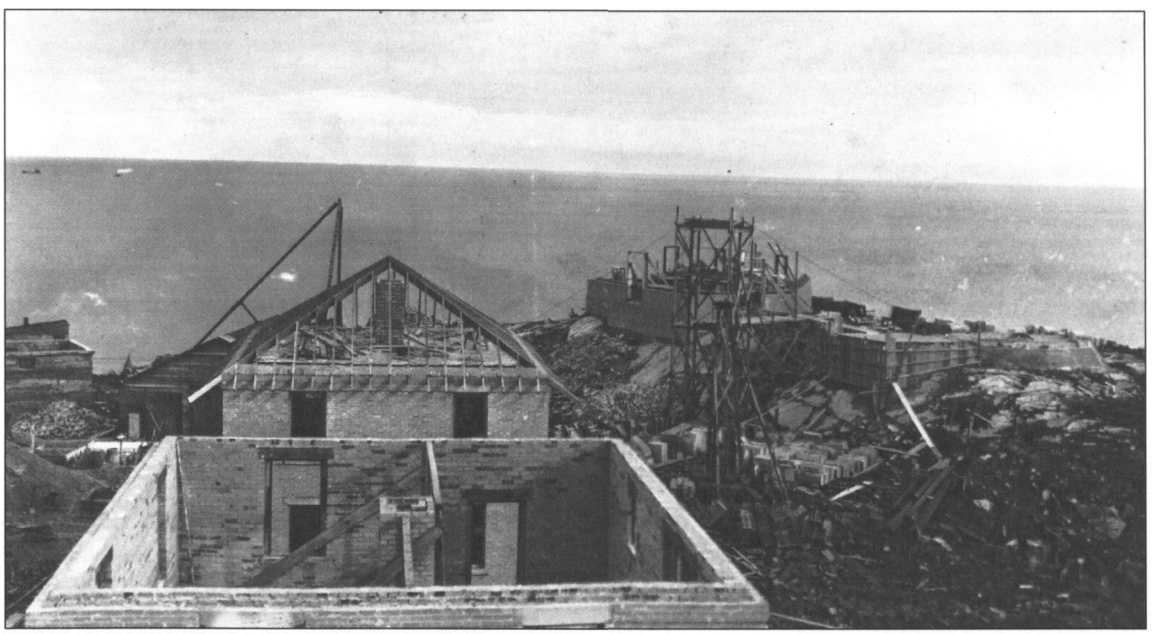
FOG SIGNAL EQUIPMENT
Photo by: Unknown
Circa 1910-1915
View to Interior
Image #17 of 35



SPLIT ROCK LIGHT STATION CONSTRUCTION
Photo by: L.D. Campbell
1909
View to Southeast
Image #18 of 35



SPLIT ROCK LIGHT STATION CONSTRUCTION
Photo by: L.D. Campbell
1909
View to Southeast
Image #19 of 35



SPLIT ROCK LIGHT STATION CONSTRUCTION
Photo by: L.D. Campbell
1909
View to East
Image #20 of 35



SPLIT ROCK LIGHT STATION CONSTRUCTION
Photo by: L.D. Campbell
1909
View to East
Image #21 of 35



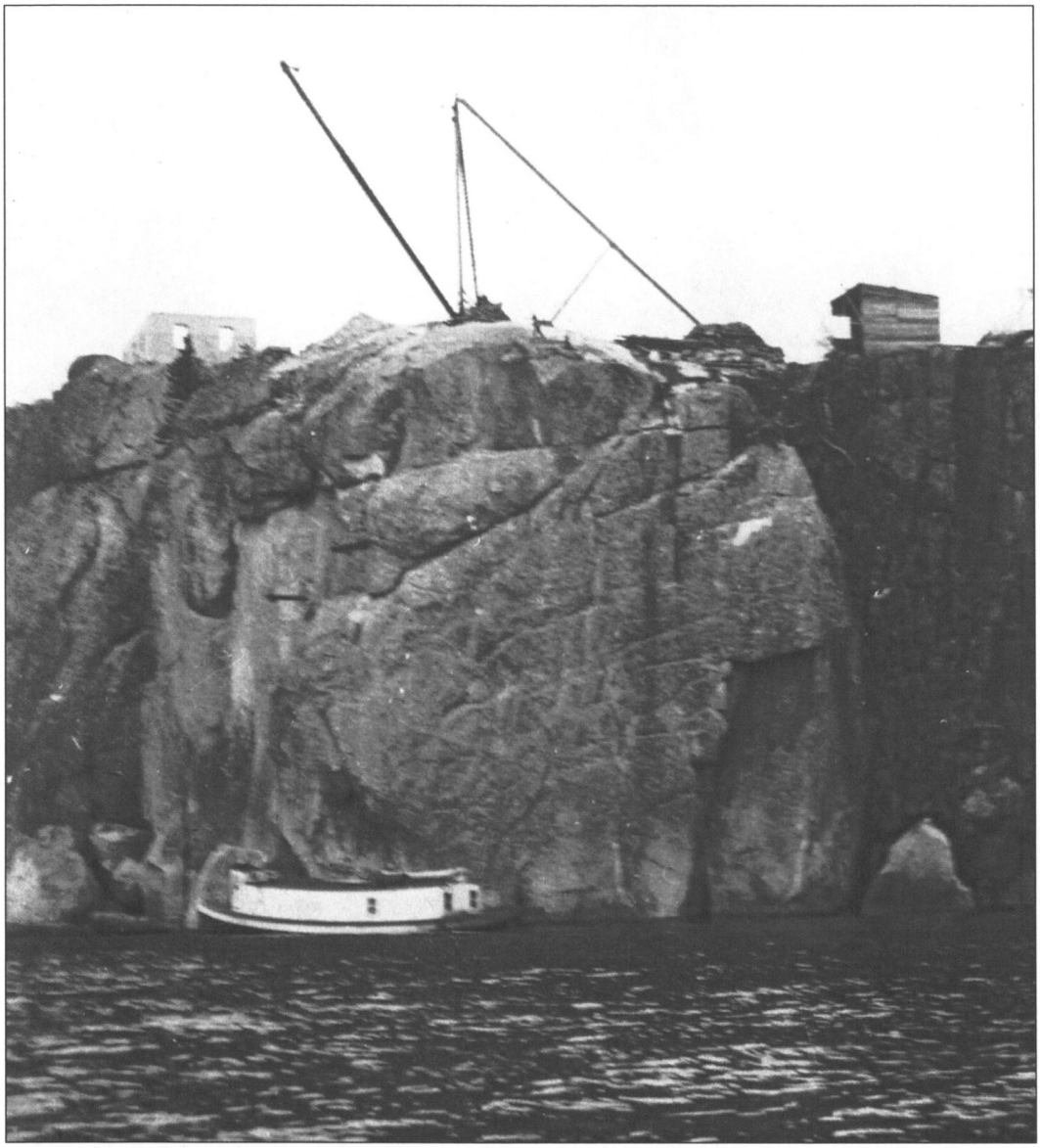
SPLIT ROCK LIGHT STATION CONSTRUCTION
Photo by: L.D. Campbell
1909
View to West
Image #22 of 35



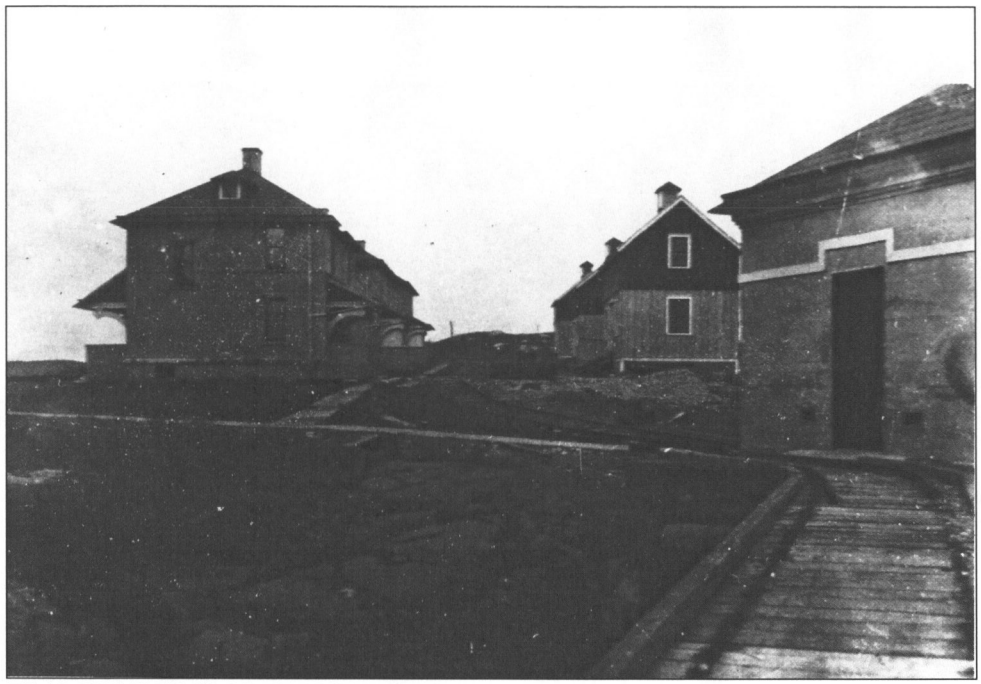
SPLIT ROCK LIGHT STATION CONSTRUCTION
Photo by: L.D. Campbell
1909
View to Northwest
Image #23 of 35



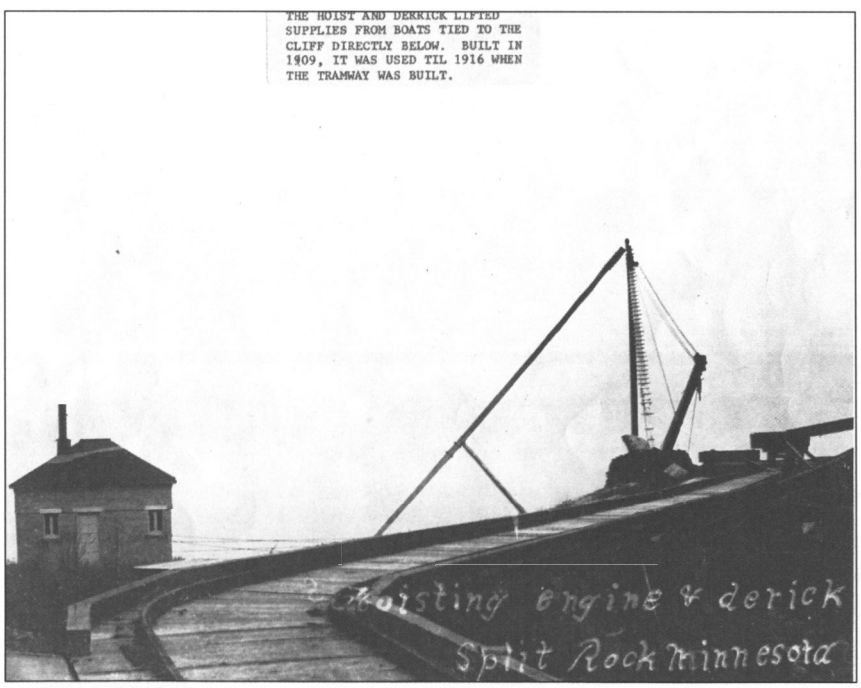
DOCK AND UNFINISHED TRAMWAY AT SPLIT ROCK, 1916
Photo by: Unknown
1916
View to North
Image #24 of 35



DERRICK HOIST (View from water)
Photo by: L.D. Campbell
1909
View to Northwest
Image #25 of 35



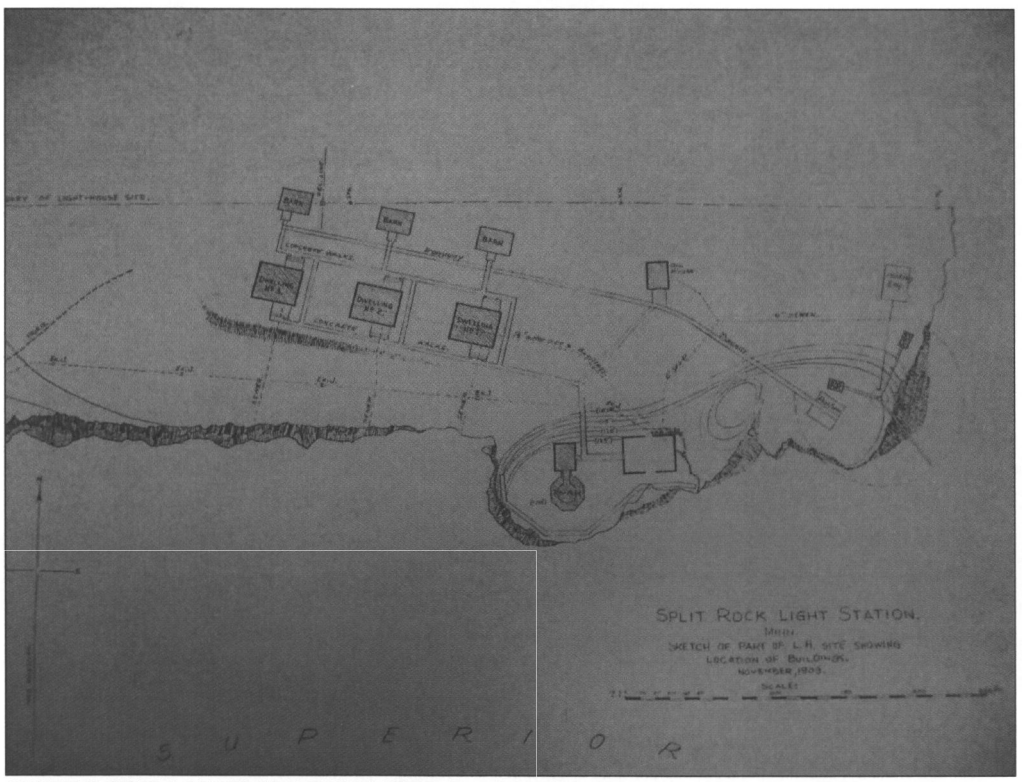
TRAMWAY FROM DERRICK HOIST
Photo by: Unknown
Circa 1910-1915
View to West
Image #26 of 35



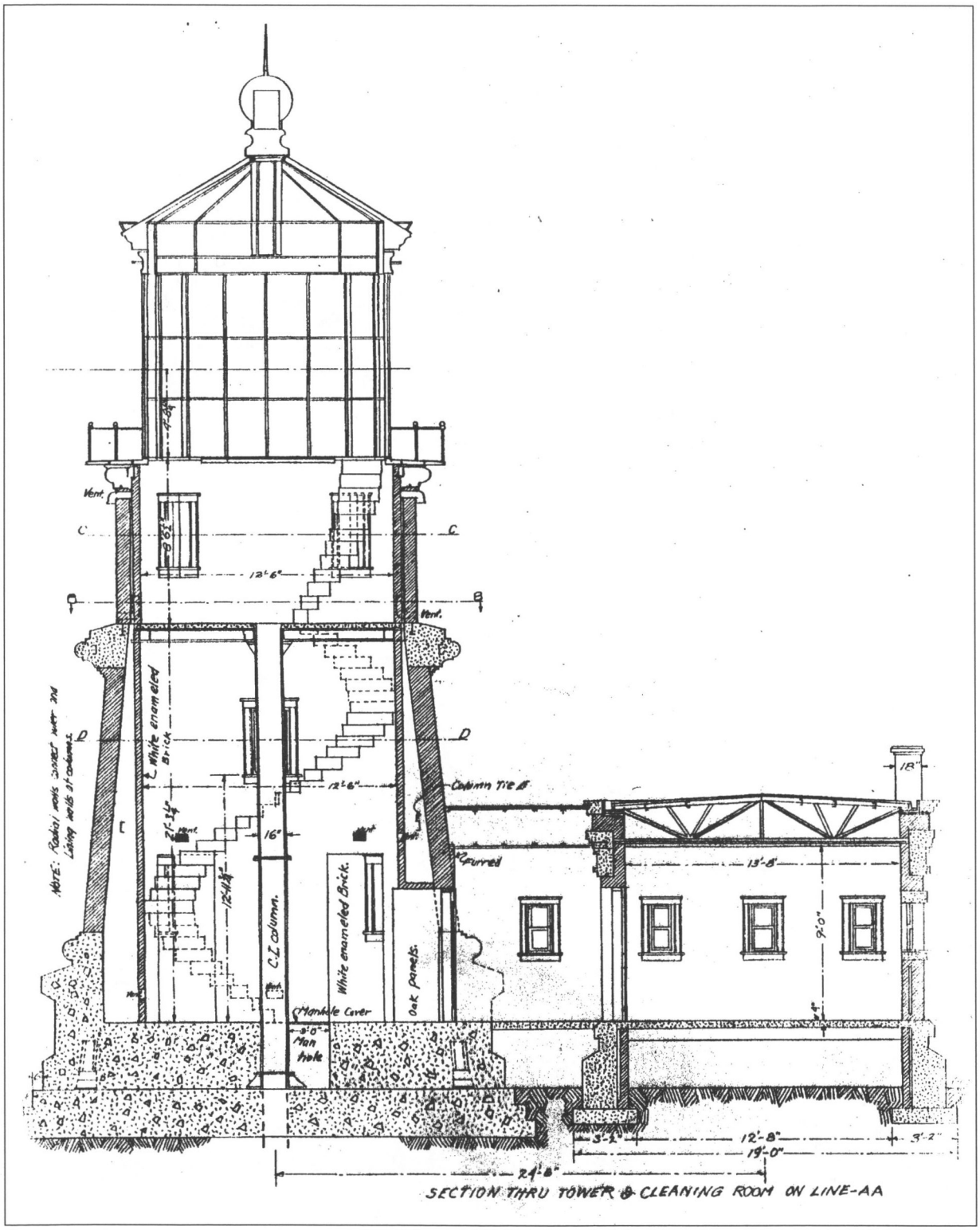
DERRICK HOIST (Hoist and Engine House)
Photo by: Unknown
1909
View to Southeast
Image #27 of 35



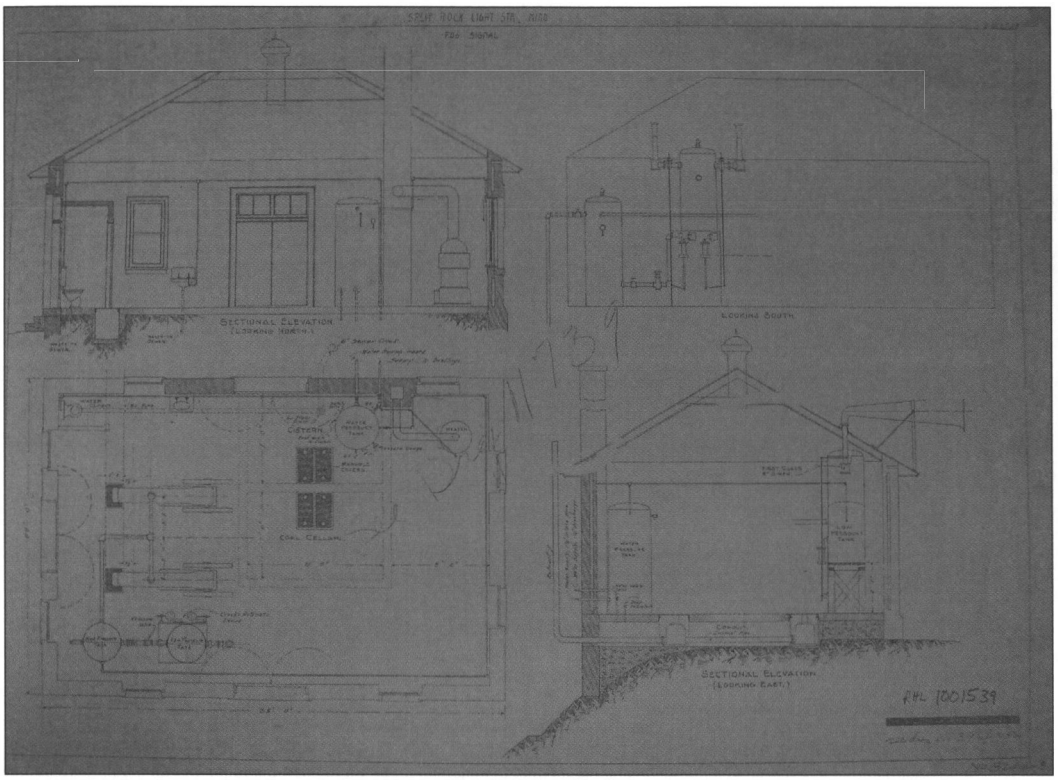
CIVILIAN CONSERVATION CORPS ROAD TO SPLIT ROCK
Photo by: Unknown
Circa 1935
View to Southeast
Image #28 of 35



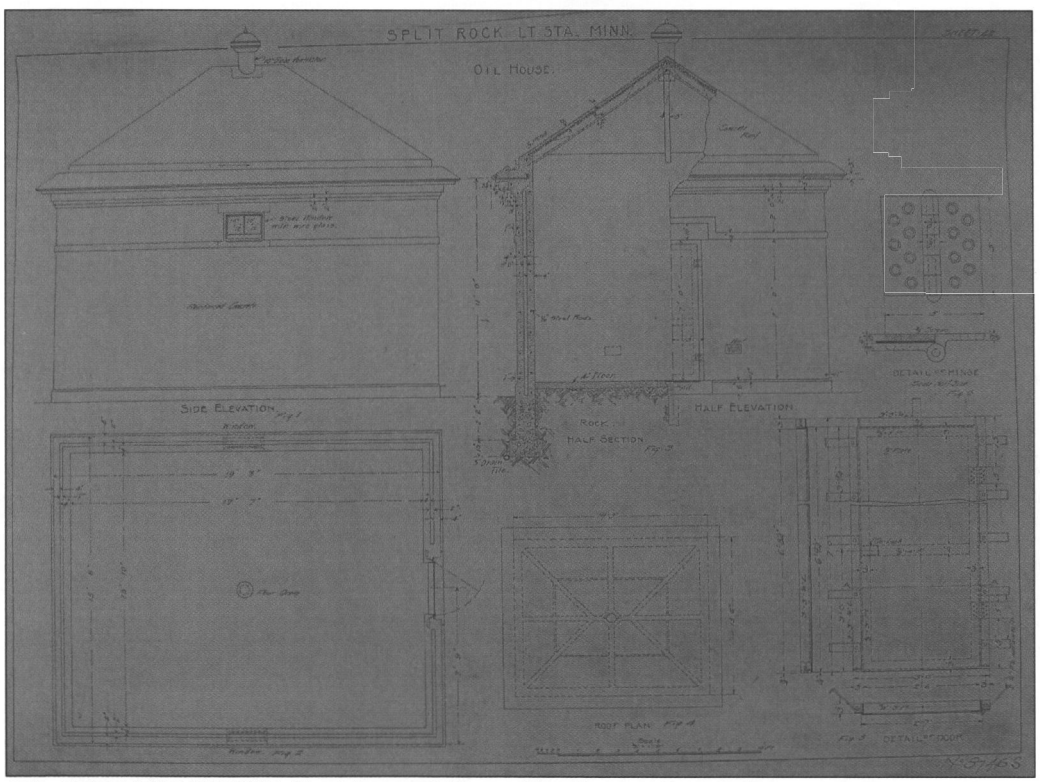
SPLIT ROCK LIGHT STATION SITE (Engineering Plans: General Layout)
1909
Image #29 of 35



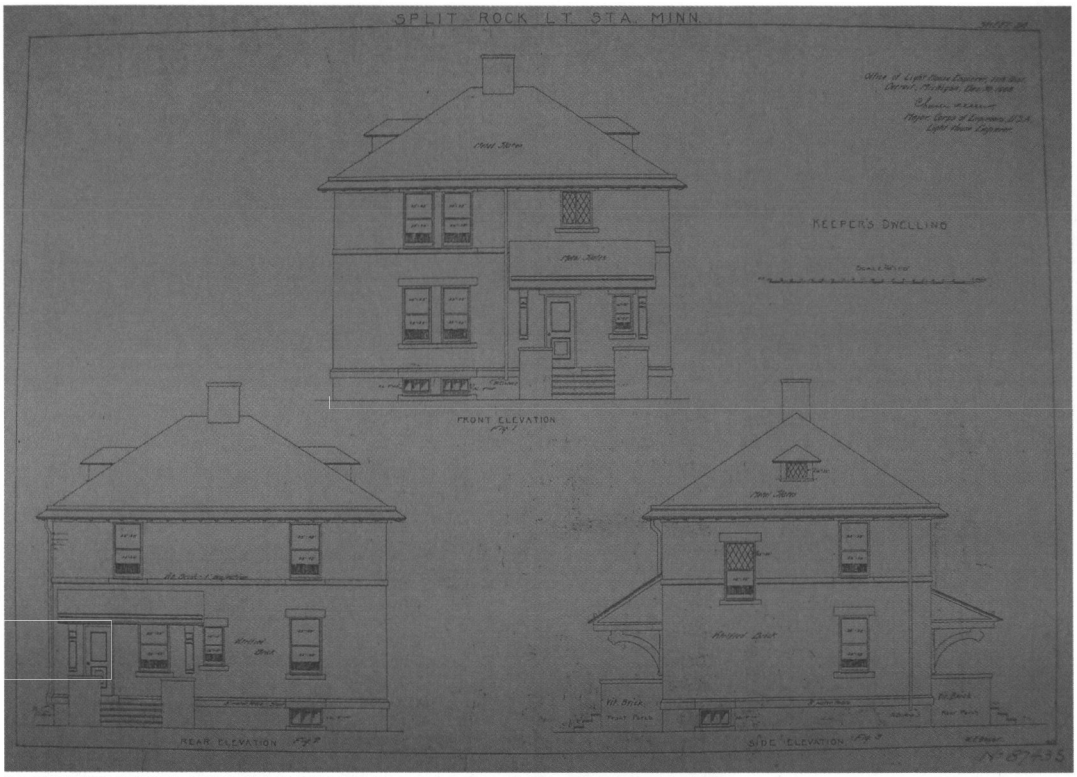
SPLIT ROCK LIGHTHOUSE (Architectural Plans: Exterior and Structural)
1909
Image #30 of 35



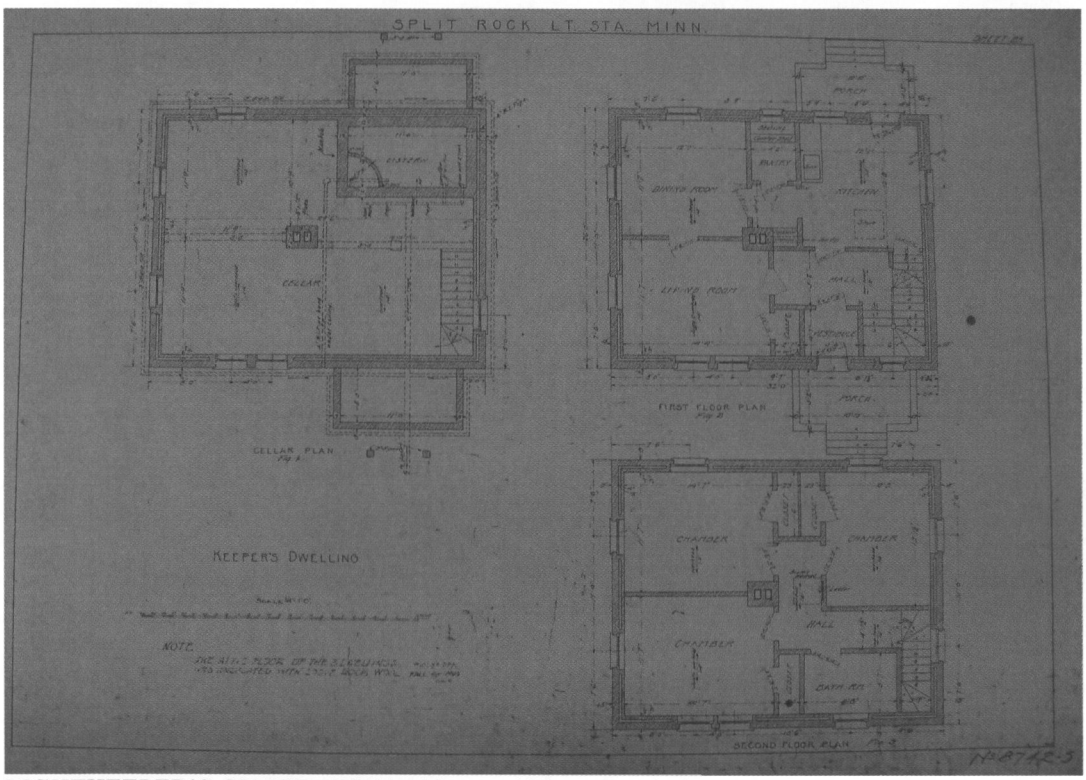
FOG HORN BUILDING (Architectural Plans: Exterior and Interior)
1909
Image #31 of 35



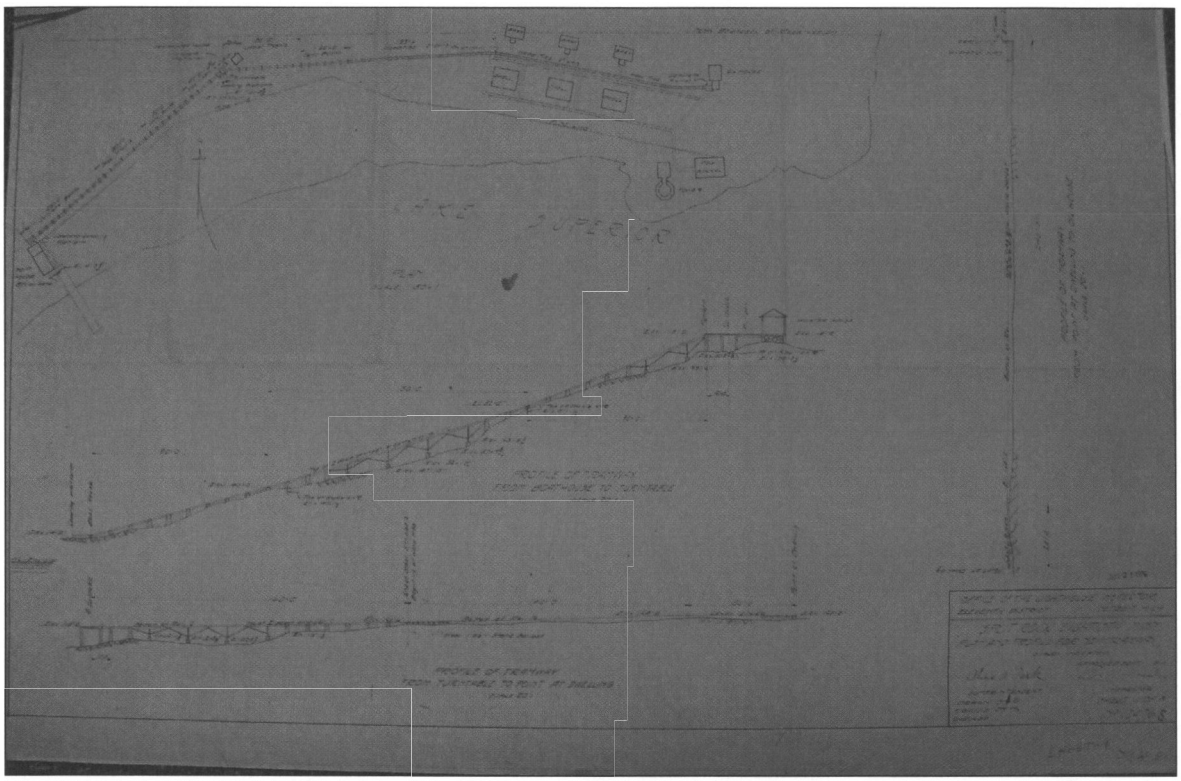
OIL STORAGE HOUSE (Architectural Plans: Exterior and Interior)
1909
Image #32 of 35



LIGHTKEEPER'S QUARTERS (Architectural Plans: Exterior)
1909
Image #33 of 35



LIGHTKEEPER'S QUARTERS (Architectural Plans: Interior)
1909
Image #34 of 35



TRAMWAY SYSTEM (Engineering Plans: General Layout)
1915
Image #35 of 35

1) Lighthouse
2) Fog Horn Bldg
3) Oil Storage House
4) Lightkeeper's Dwelling #1
5) Lightkeeper's Dwelling #2
6) Lightkeeper's Dwelling #3
7) Storage Barn #1 Remains
8) Storage Barn #2
9) Storage Barn #3
10) Derrick Hoist Remains
11) Tramway Engine House
12) Tramway Pier Remains
13) Boathouse Remains
14) Pumphouse #1
15) Pumphouse #2
16) Stairs (Non-Contributing)
17) Pier Location
18) Security Fence
19) Safety Fence
20) Concrete Wall
21) Retaining Wall (Non-Contributing)
22) Stone Pillars

SPLIT ROCK LIGHT STATION
Lake County, MN



Split Rock Light Station. View to the east. Photograph by John N. Vogel, October 2007.



Lighthouse and fog horn building. View to the south. Photograph by John N. Vogel, October 2007.



Lightkeeper's quarters and storage barn. View to the southeast. Photograph by John N. Vogel, October 2007.



View of lighthouse tower. View to the west. Photograph by John N. Vogel, October 2007.



Lighthouse cleaning room block. View to the west-northwest. Photograph by John N. Vogel, October 2007.



Fog horn building. View to northeast. Photograph by John N. Vogel, October 2007.



Oil storage house. View to the north-northwest. Photograph by John N. Vogel, October 2007.



Lightkeeper's Quarters # 1, # 2, # 3, south and east facades. Photograph by John N. Vogel, October 2007.



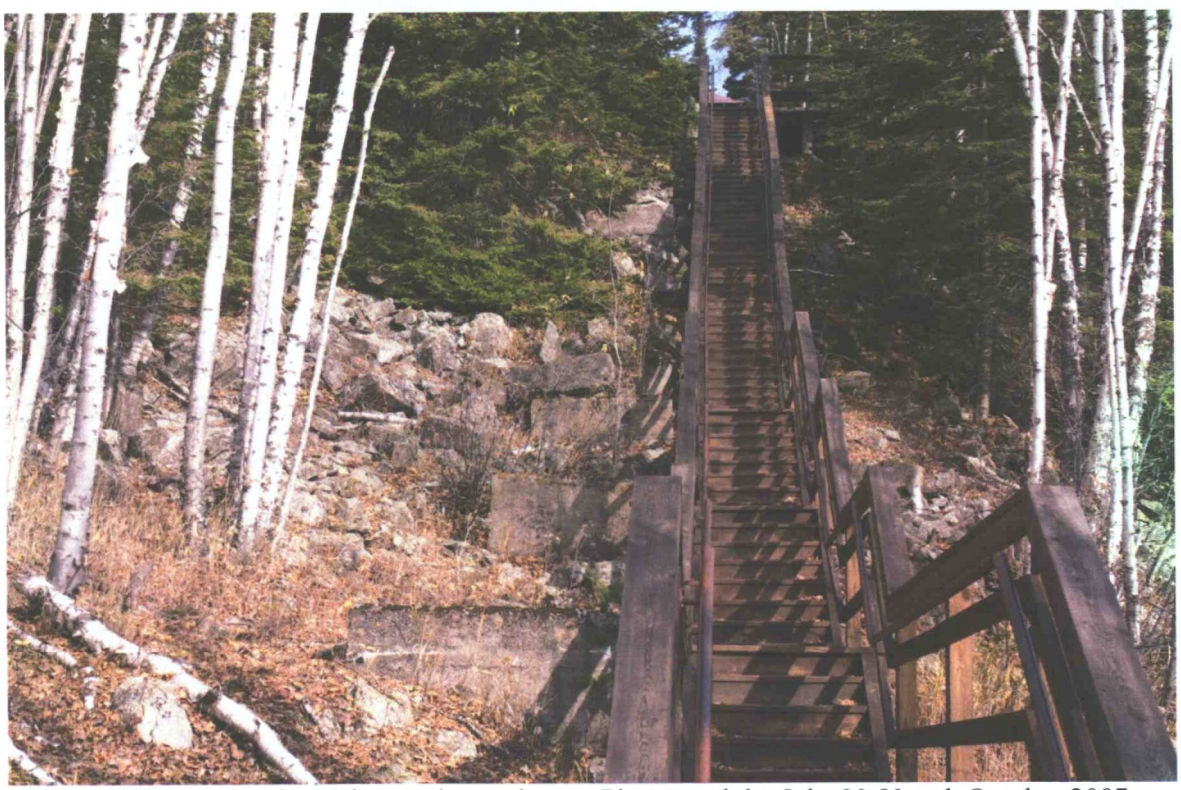
Storage barn # 3, south and west facades. View to northeast. Photograph by John N. Vogel, October 2007.



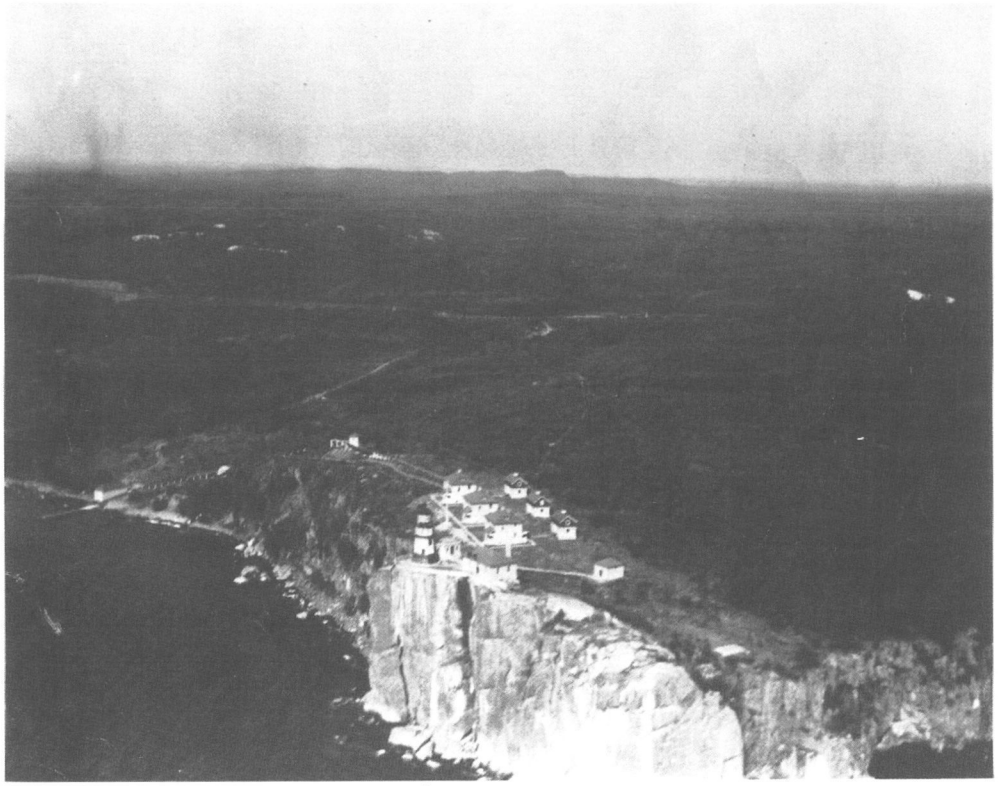
Pump house # 2 and boathouse foundation remains. View to the southeast. Photograph by John N. Vogel, October 2007.



Tramway engine house. View to the north. Photograph by John N. Vogel, October 2007.



Tramway piers and stairs. View to the northeast. Photograph by John N. Vogel, October 2007.



Aerial view of Split Rock Light Station, ca. 1930. View to the northwest. Photographer unknown. Courtesy of the Minnesota Historical Society, Split Rock Lighthouse Historic Site, Lake County, MN.



Aerial view of Split Rock Light Station, July 1959. View to the northeast. Photograph by Don Spavin. Courtesy of the Minnesota Historical Society, Split Rock Lighthouse Historic Site, Lake County,



Distant view of Split Rock Light Station, ca. 1918. View to the east. Photographer unknown.
Courtesy of the Minnesota Historical Society, Split Rock Lighthouse Historic Site, Lake County, MN.

MN.



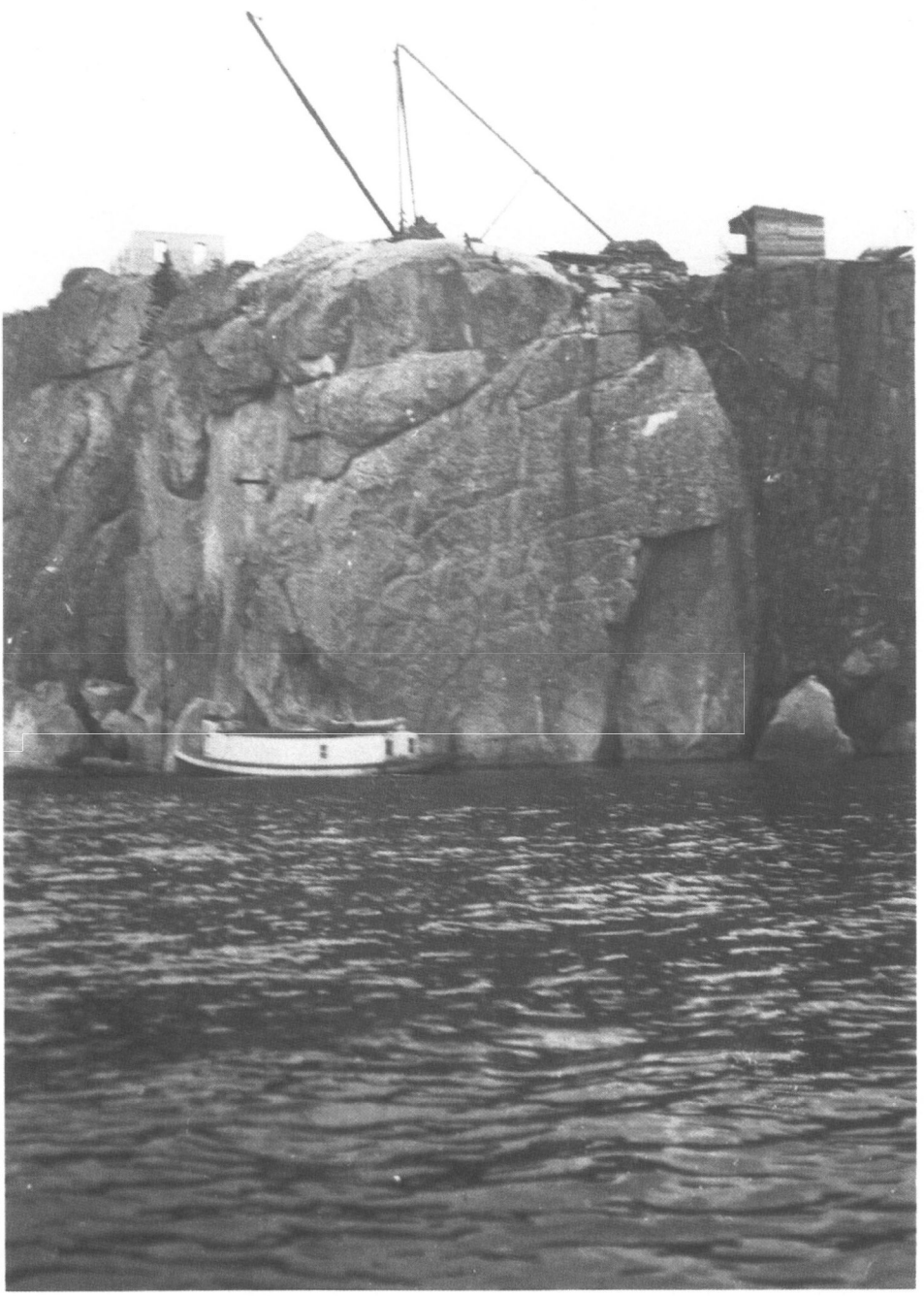
Tramway, ca. 1916. View to the east. Photographer unknown. Courtesy of the Minnesota Historical Society, Split Rock Lighthouse Historic Site, Lake County, MN.



Dock and unfinished tramway at Split Rock, 1916. View to the north. Photographer unknown. Courtesy of the Minnesota Historical Society, Split Rock Lighthouse Historic Site, Lake County, MN.



Civilian Conservation Corps road to Split Rock, ca. 1935. Photographer unknown.
Courtesy of the Minnesota Historical Society, Split Rock Lighthouse Historic Site, Lake County, MN.

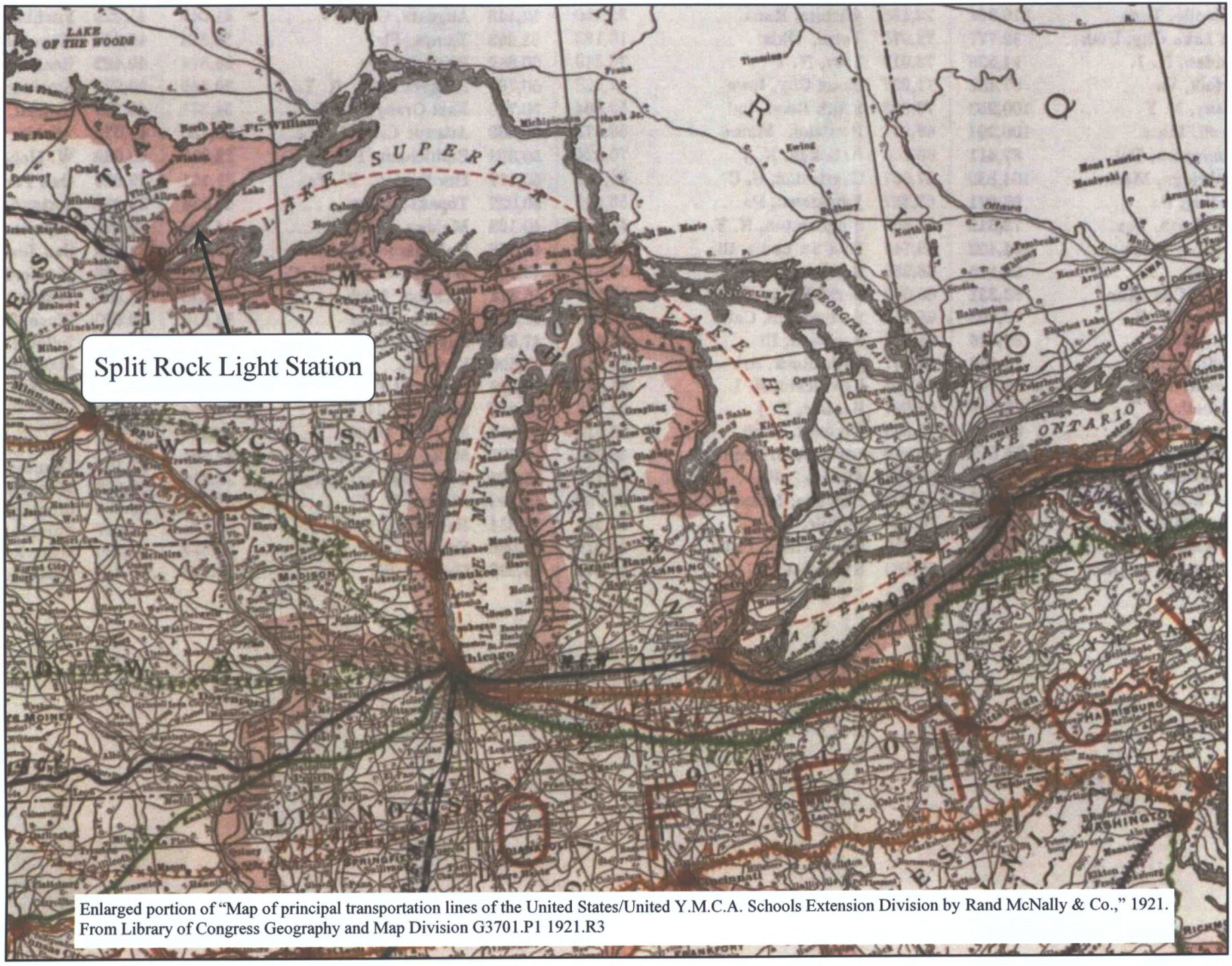


Derrick Hoist, ca. 1909. View from the water. Photograph by L. D. Campbell. Courtesy of the Minnesota Historical Society, Split Rock Lighthouse Historic Site, Lake County, MN.

Lighthouse
Fog Horn Bldg
Oil Storage House
Lightkeeper's Dwelling #1
Lightkeeper's Dwelling #2
Lightkeeper's Dwelling #3
Storage Barn #1 Remains
Storage Barn #2
Storage Barn #3
) Derrick Hoist Remains
) Tramway Engine House
) Tramway Pier Remains

13) Boathouse Remains
14) Pumphouse #1
15) Pumphouse #2
16) Stairs (Non-Contributing)
17) Pier Location
18) Security Fence
19) Safety Fence
20) Concrete Wall
21) Retaining Wall (Non-Contributing)
22) Stone Pillars

SPLIT ROCK LIGHT STATION
Lake County, MN



Enlarged portion of "Map of principal transportation lines of the United States/United Y.M.C.A. Schools Extension Division by Rand McNally & Co.," 1921. From Library of Congress Geography and Map Division G3701.P1 1921.R3

CONSOLIDATED COMMENTS:
Draft, Split Rock Light Station National Historic Landmark (NHL) Nomination
Contract # R6068070016
July 1, 2008

Reviewers: Dena Sanford, Steve Rodgers, Geoff Burt, Rebecca Kumar, Michele Curran, MWRO; Lee Radzak, Split Rock Light Station

GENERAL COMMENTS:

The reviewers were quite impressed by the quality of the second draft nomination, and commend your work on this revision. The nomination shows careful consideration of the comments provided on draft 1, particularly Section 8. The descriptions in Section 7 have included additional landscape information, and Section 8 has clearly placed Split Rock Light Station within the national context of the development of Great Lakes aids to navigation.

An editorial comment on Section 7: please ensure consistency when using a parenthetical reference with the location reference for the physical descriptions. For example, on page 5, 2nd full paragraph, first line, the cardinal direction is given with the word "left" in parenthesis. Further in the text, there is a reference to a location to the "right" with the word "east" in parenthesis.

A general comment on use of numbers: please ensure consistency in the reference of numbers, particularly those under 100. Sometimes they are written out, in other instances numeral are used.

Please note that due to heavy workloads with the National Register program staff in Washington, D.C., comments from that office will be delayed until July 18. Preliminary indications are that comments will be addressing editorial items, rather than major content issues.

SPECIFIC COMMENTS:

ITEM	SECT./ PAGE	COMMENT
1	1-1	In Section 1, please enter the following for Other Name/Site Number: "Split Rock Lighthouse State Park".
2	7-4	The additional descriptive information on the location of Split Rock Light Station is very good. A small item in paragraph 2: please note the general location/distance of Beaver Bay, Castle Danger, Two Harbors and Duluth-Superior from Split Rock.
3	7-6	In the 3rd full paragraph, line 5, please replace "Meanwhile" with "In contrast." In the 4th full paragraph, line 1, please replace "In summary" with "Today". In the same paragraph, line 4, please replace "non-descript" with "landscape" to avoid a potentially pejorative association. In the same paragraph, line 9, please replace the second "as well as" with "and".
4	7-6	While not noted on the previous review, please change the subheading of "**Contributing Elements**" to "**Contributing Resources**" to avoid confusion with terms usually associated with landscape descriptions.
5	7-7	In the 1st partial paragraph, line 2, the word "window" should be used in place of "fenestration."
6	7-8	In the 3rd paragraph, line 6, please replace "fenestration" with "design". Fenestration refers to the arrangement and pattern of windows in a building.
7	7-9	In the 2nd paragraph, line 3 describing the Fog Horn Building, please change "north

		façade" to "north side". In line 4, please delete "arrangement", and on line 10, please change "western façade" to "west side". In the last full paragraph on this page, line 4, please replace "as well as" with "and".
8	7-10	In the 1st full paragraph, line 4 describing the Oil Storage House, please change "north (rear) façade" to "north (rear) wall", and replace "fenestration" with "windows".
9	7-10	In the 3rd paragraph describing House #1, line 1, please change "east (right) façade" to "east (right) wall". In the subsequent paragraph, line 1, please change "rear (north) façade" to "rear (north) face".
10	7-11	In the 1st full paragraph, line 1 describing House #1, please change "west (left) façade" to "west (left) side".
11	7-11	In the 1st paragraph, line 5 describing House #2, please change "(eastern façade)" with "(eastern wall)". In the following paragraph, please replace the comma before "however" with a semicolon.
12	7-12	In the 3rd paragraph, line 1 describing Storage Barn #2, please replace "east façade" with "east wall"; in line 2 of the same paragraph, please replace "rear (north) façade" with "rear (north) wall." In the 4th paragraph, line 2, please replace "exist" with "located".
13	7-13	In the 1st paragraph, line 4 describing the Pumphouse #1, please confirm whether the door is on the east façade or the west façade. In line 5 of the same paragraph, please change "facades" to "sides".
14	7-13	In the 1st paragraph, line 4 describing Pumphouse #2, please change "(north façade)" to "(north side)".
15	7-13	Please change the name of the "Tramway (1915-1916)" to "Tramway and Engine House (1915-1916)", and modify the beginning of the first descriptive sentence to "This resource consists" instead of "The tramway consists". In the next paragraph, to reinforce that the engine house and tramway are being described as one contributing resource, please change the first sentence from "This building was the key" to "The Engine House was connected with, and served as the key".
16	7-14	In the first partial paragraph, please note in parenthesis that the CCC road is outside of the NHL boundary.
17	7-14	In the summary paragraph for the site, line 1 (and in conjunction with comment #3), please change "non-descript items" to "landscape features" to avoid a pejorative connotation. Also, in the general discussion, include vegetation. Beyond the mature vegetation that encircles the complex, there is little ornamental vegetation. There is mown lawn extending from the lighthouse stairs and surrounding the dwellings and storage barns. Are there other ornamental plantings by the dwellings? Had Tinkham called for any plantings or landscaping?
18	7-16	Please confirm the construction date for the Safety Fence. It is listed as 1956 in parenthesis, but is subsequently listed as 1955. Lee Radzak had noted in his previous review that it dates to ca. 1940s-1950s.

19	7-16	Please change "**Non-Contributing Elements**" to "**Non-Contributing Resources**".
20	7-17	The integrity summary statement is very well written. To ensure that two criterion are mentioned by name, please make the following change to sentences 4 and 5: Please change sentence 4 to read, "As a result, the feeling and association continue to portray the strong sense of the initial isolation of the site, carrying a general backdrop that very much resembles that of its operational period." Please move this sentence and the following sentence to the end of this paragraph.
21	7-18	In the last paragraph of Section 7, line 5, please insert "many" between "..the interiors of" and "structures that are open."
22	8-19	Please confirm: Is the period of significance 1909-1959, or 1909-1969? The light was discontinued in 1969.
23	8-20	In order to restate the period of significance in the summary paragraph, please modify the 3rd and 4th sentences in the 1st paragraph to the following: "The thoroughness and adaptability of its design differed from other Great Lakes light stations. During its operation as an aid to navigation from 1909-1969 [*please confirm the ending p.o.s.*], Split Rock's physical make up evolved very little in response to new demands regarding use or technological improvements." Please delete the last sentence in this paragraph, comparing Split Rock to Grosse Point. The reasons for Grosse Point's NHL significance are different from the justification for Split Rock in that the complex was nominated as a light station of the 1870s period, and the commercial development of the Chicago harbor; Grosse Point evolved as demands changed, unlike Split Rock.
24	8-20	In the 2nd paragraph, line 11, the statement that Duluth-Superior is one of the world's largest inland ports should be supported by specific citations. How big is it? The first? Second? Third biggest?
25	8-20	In the 3rd paragraph, sentence 6 is awkward; please rewrite it.
	8-21	In the 1st full paragraph, line 10, please change "Lake Ontario" to "Lake Huron." At the end of this same paragraph, please note the important commercial harbors on lakes Ontario and Huron during the 18th century. One important harbor at the time would have been the mouth of the Niagara River. Unless it is customary to refer to Niagara Falls with a definite article, in the first two paragraphs and elsewhere as appropriate, please remove the word "The".
26	8-21	In the 2nd full paragraph, line 7, please note the date of the completion of the Erie Canal.
27	8-22 to 8-23	The last two paragraphs on page 22-23 jump around from a chronological perspective. Please revise these, possibly to read as follows: "The Great Lakes continued to dominate commerce in the Midwest, even when thousands of new settlers who had headed west via the lakes pushed into the interior of the upper Midwest and Great Plains where rich prairie soil grew abundant harvests of wheat, oats and corn. Even with the advent of railroads to the area in the 1850s, transportation on the Great Lakes grew at an astonishing rate. Water transportation remained significantly cheaper than railroads, and the Great Lakes moved much of the harvest from the nation's breadbasket to market. In the mid 1800s, some of the world's largest grain elevators were built in the Great Lakes port cities of Buffalo, Toronto, Milwaukee and Chicago in order to facilitate the grain trade. After the

		northern Great Plains became settled in near the turn of the twentieth century, Duluth-Superior would join these ranks as an important port city. After the Civil War, the Great Lakes area matured from its pioneer origins into a significant part of the national agricultural and industrial economy. By the 1880s, the arrival and departure statistics for port cities like Chicago rivaled those of New York, even though winter closed the Chicago ort for four months of the year … [continue with text as written]".
28	8-23	In the 3rd paragraph, line 3, please replace "the lakes" with "Lakes Superior and Michigan," and in the following line, please insert "Lake Superior" between "… for large vessels and the" and "area remained largely uninhabited…" Finally in line 5 of the same paragraph, please replace "that" with "those" in the words "… lagged behind that around the other Great Lakes, despite…"
29	8-24	In the last paragraph, 2nd line, please replace "a" with "an increasingly" between "… Grain freight constituted …" and "large portion of …"
30	8-25	The information on the importance of the Great Lakes to US commerce is great. We particularly appreciated the segue at the top of page 25 to Minnesota resources and Two Harbors/Duluth-Superior.
31	8-26	Please provide a citation for the information on Duluth-Superior freight, for the paragraph that begins on page 25 and ends on page 26. In the 1st partial paragraph on page 26, line 2, please replace "which represented" with "freight that represented" or "representing."
32	8-26	Please consider inserting a segue between the paragraph regarding the Duluth-Superior port and the discussion of the Lighthouse establishment, noting how aids to navigation were developed as a means of protecting valuable cargo, ships, and the crews that operated them. In the words of the multiple property nomination for Light Stations in the U.S., lights were a "pre-requisite" for commercial growth on the Great Lakes (Section 8 page 50). These aids guided traffic to safe harbors, and warned travelers of dangerous subsurface obstacles. The organization that oversaw their creation: the Lighthouse Establishment.
33	8-26	Please provide a separate footnote for the quotation in the 2nd paragraph under the "**Evolution of the Lighthouse Establishment in the United States**".
34	8-27	In the 1st paragraph, please note what happened to the Lighthouse Establishment following the creation of the Lighthouse Board in 1852. Was it dismantled, or did it continue as a separate entity? Also, did the 12 management districts replace the 8 districts created in 1838? In the 2nd paragraph (related issue), did the Bureau of Lighthouses replace the Lighthouse Board, and did the new 19 districts replace the former 12 districts? In the 3rd paragraph, to which district were Lakes Michigan, Erie and Ontario assigned, and what was their ranking by number of lightkeeping personnel? (I.E., for all the Great Lakes, was the number of personnel higher than on either coast?) Also in this paragraph, line 6, replace "American" with "U.S."
35	8-27	Regarding the sentence associated with footnote 45, this is not quite accurate. Consider deleting the sentence. The USCG is in the process of surplussing its lighthouses/light stations (the structures), although in many instances, they will continue to operate a light as an active aid to navigation. It is the goal of the USGC to make 300 light stations available to other government agencies and eligible entities.

36	8-29	The first paragraph under the subheading "**Great Lakes Lighthouses**" would benefit from an introductory sentence that ties the size of the Great Lakes with information on the creation of the first aids to navigation on those lakes.
37	8-30	In the 1st paragraph, the number of lights on the Great Lakes in 1852 is listed at 76. This isn't the same number as given on page 27, paragraph 2 (59).
38	8-31	In the 1st paragraph under the subheading "**History of the Split Rock Light Station**," the 1905 November storm has already been mentioned on the previous page. Therefore, change "A" to "The" at the beginning of the 1st sentence. In the 2nd paragraph under this subheading, please provide a separate footnote for the text in quotation marks.
39	8-32	In the 1st paragraph, line 2, please delete "that" from the line "… shoreline, that a lighthouse with fog signal…" In the following paragraph, some of the information is redundant with that provided on the previous page. Please also provide a separate footnote for the text in quotation marks.
40	8-35	In the 2nd full paragraph, the statement "… turned the formerly isolated outpost into one of the most visited lighthouses in the United States" should only be provided as fact if statistics (research into the numbers of visitors at other lights in the nation) support it. The same statement is qualified on page 36, 2nd paragraph ("arguably one of the most visited"). Unless this can be absolutely confirmed by additional research, the statement should be modified to something like "… turned the formerly isolated outpost into a highly popular tourist destination."
41	8-35	In the paragraph that begins "The U.S. Lighthouse Service understood…" please provide a separate footnote for the text in quotation marks.
42	8-36	In the 2nd full paragraph, please provide a separate footnote for the text in quotation marks.
43	8-37	In the 4th paragraph, please provide a separate footnote for the text in quotation marks.
44	8-38	In the last paragraph, last line, the 2003 addition to the visitor center is mentioned, but the paragraph doesn't mention when the visitor center was originally constructed.
45	8-39	In the 1st paragraph discussing architecture, please also note the "Light Stations of the United States" 2002 Multiple Property nomination, edited by Candace Clifford. This document provides greater detail of the information summarized in the NHL summary context statement for lighthouses.
46	8-39	In the paragraph discussing Tinkham, the statement is made that Split Rock was Tinkham's first lighthouse design. To avoid any confusion, it might be useful to note what Tinkham's role was related to Rock of Ages, as page 32 notes that Tinkham was working at Rock of Ages at the time he designed Split Rock.
47	8-40	In paragraph 3, line 14, please delete "(waves, high winds)" and replace it with " , such as waves and high winds,".
	8-41	The discussion of architecture and design as it relates to Split Rock is good, and helps set the stage for the comparative analysis. To build on this, and to reiterate that Split Rock is being nominated for both its architectural design and importance in historic events, please begin a new paragraph with the 5th sentence, which begins "The isolated location of Split Rock…" After this first sentence, please add another sentence that reiterate that it is this cohesion, that all the resources were designed and built at one time, that makes it stand out from any other examples on the Great Lakes.
48	8-41	In the 1st paragraph, line 11, please delete "and they had to".
	8-41	The explanatory text under the subheading "**Light Station Complex Comparative**

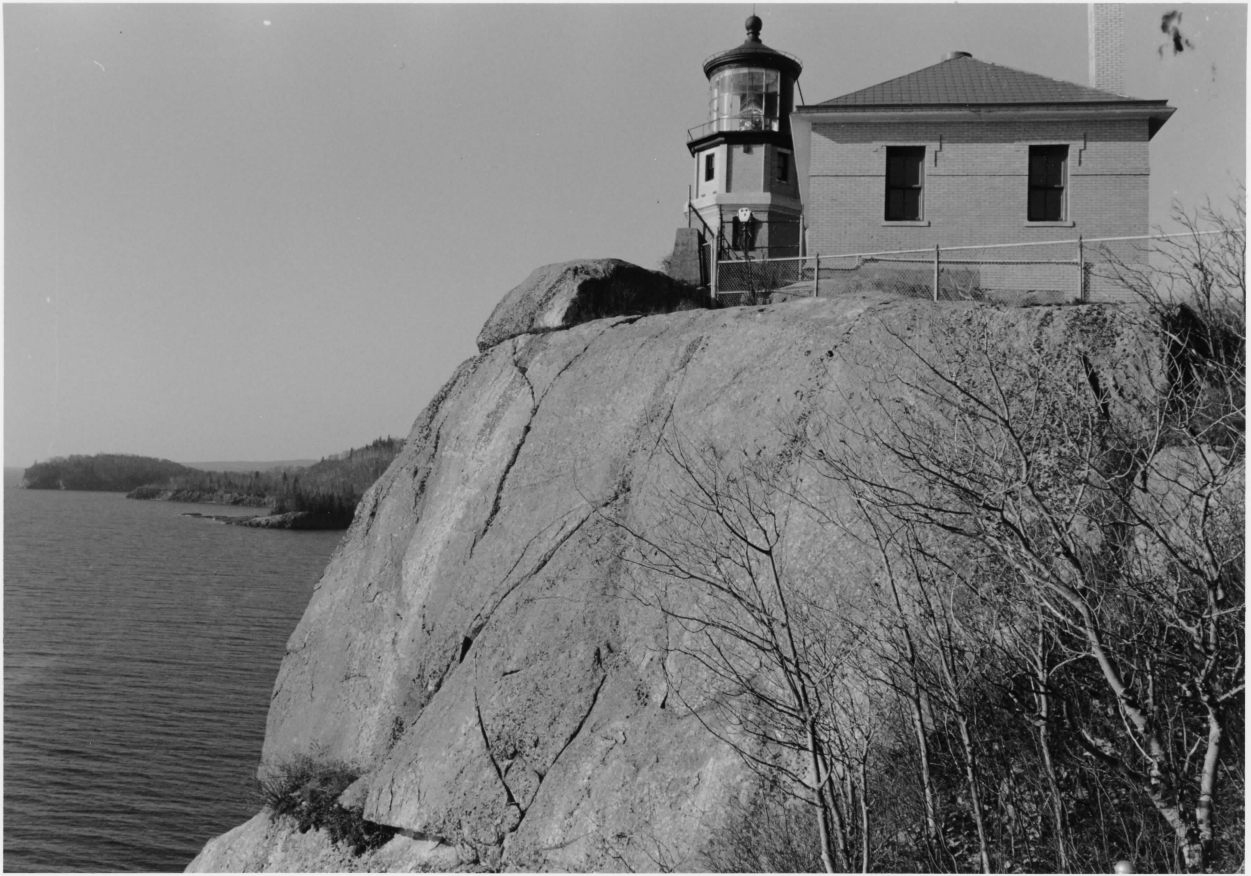
		Analysis" is well written. However, additional information from the 2002 Multiple Property nomination, pages 30-31, 64-65, and page 63, should be included to provide more detail on what constitutes a light station (versus merely a lighthouse), and how designs changed with the complexity of operations. While this is summarized briefly already, please provide additional detail. It is important to recognize that no light station exists completely unaltered, but there is a hierarchy of important resources that were necessary to operate a light station (versus other types of aids to navigation), and in order to be considered of high integrity (exterior and interior), these resources should be present to a great degree. The resources are listed on pages 64-65 on the multiple property nomination: presence of a tower, lantern, Fresnel lens, equipment and attached structures; keepers quarters; sound signal and sound signal building; oil house; generator house; fuel tanks; workshop; boathouse; garage/barns; pier; tramway; elevated walkways (transportation related); cistern/well; storage buildings; privies; gardens; sidewalks; fencing; etc.
	8-41	Additional information has been provided on the www.lighthousefriends.com website, which had suggested that some of the light stations included in the comparative analysis section be re-considered regarding their status as "Somewhat Intact" and "Less Intact" [NOTE: On pages 44-45 please also change the titles of these two categories to less pejorative terms, so as not to insult the owners and stewards of these properties, most of which have worked quite hard to preserve what resources they have. Possible titles might be "Partial Stations" and "Smaller Properties", or …? Therefore the list of light stations meriting specific comparison to Split Rock is nine (rather than six). Please refer to the lighthouse friends website for additional information on the following light stations: • Rock Island, NY –This station has evolved over time since its establishment in 1847 to mark the Thousand Islands area of the St. Lawrence River. It includes a light tower built in 1882 and moved in 1903, the old tower site, a keepers quarters (1882), an oil house (1900), carpenters shop (1882), boathouse (1920) and smokehouse (1847). It is described as the most intact former light station on the St. Lawrence River; • Tibbets Point, NY – Also on the St. Lawrence River, this station was established in 1827 with a dwelling, lighthouse and outhouse. A new lighthouse was built in 1852-54, and the Fresnel is still in the lantern. A new frame dwelling was built in 1880, replaced by a new dwelling in 1906. A second dwelling dates to 1907. There is also an oil house, outhouse, fog signal building, seawall and sidewalks. A visitor center added to the grounds is partially screened by mature trees, but is close to the complex, intruding upon the scene/viewshed/setting.
	8-43	Regarding the comparison with the Outer Island Light, in the second-to-last sentence, please re-note that the Fresnel lens is missing.
	8-43	Regarding the comparison with the Au Sable Light, in the 3rd line please change "possessed" to "possesses" as the light is still in the tower. Also, note that the second dwelling is built with red brick, rather than the buff colored brick of Split Rock.
	8-44	Regarding the Michigan Island station, please provide a summary statement regarding the integrity or status of this property relative to Split Rock.
		Additional information has been provided on the www.lighthousefriends.com website, which had suggested that some of the light stations included in the comparative analysis section be re-considered regarding their status for the "Partial Stations" resources. In this section also note that some light stations, due to being less remote

		than island stations, might not have needed the number of building types for operations. Please change the 2nd sentence as well—none of the stations in this grouping would have all of the notable building types (see comment #43) possible, or the same number as at Split Rock; otherwise, they would be in the more descriptive comparative analysis section on pages 41-44. In some instances, new construction has occurred in or near the complex, such as at Beaver Head. Please refer to the lighthouse friends website for additional information on the following light stations to add to list or to move their status to "Partial Stations" from "Smaller Properties": • Crossover Island, NY—This station, on a very small island, has evolved over time, with a new tower replacing an earlier light in 1882. It retains the tower, keepers quarters, cistern (in the quarters) a boat house and seawall. Soil was brought in to create a lawn. There is no lens. • Fort Gratiot, MI – This station claims to be the oldest in Michigan, and includes the tower and attached service building (1829, extended 1860s) dwelling (1874) and signal building; • South Bass Island, OH – This station did not include a fog signal building, but it still retains its 1896 light/dwelling; an 1896 barn and an 1897 oil house. The following station you may wish to consider this station as an example of "Partial Stations": • Middle Island, MI –This complex includes a light and attached storage building, a dwelling, an oil house and a remodeled signal building.



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location:
National Park Service
National Historical Landmarks Survey
1201 Eye St NW
Room 2780
Washington, DC 20005

View to East
Photo # 1 of 21



SPLIT Rock LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to West
Photo #2 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005
View to South
Photo #3 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2780
Washington, DC 20005

View to Southeast
Photo #4 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007

Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Northeast
Photo #5 of 21



SPLIT ROCK LIGHT STATION
Lake County MN
John N. Vogel
October 2007
Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to West
Photo #6 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Northwest
Photo # 7 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007

Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Southeast
Photo #8 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005
View to West
Photo #9 of 21



SPLIT ROCK LIGHT STATION
Lake County MN
John N. Vogel
October 2007
Negative Location: National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Northeast
Photo #10 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location: National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to North Northwest
Photo #11 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007

Negative Location:

National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Northwest
Photo #12 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to North
Photo # 13 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007

Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to South
Photo #14 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007

Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Northwest
Photo # 15 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John M. Vogel
October 2007

Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Northeast
Photo #16 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location:
National Park Service
National Historic Landmarks Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

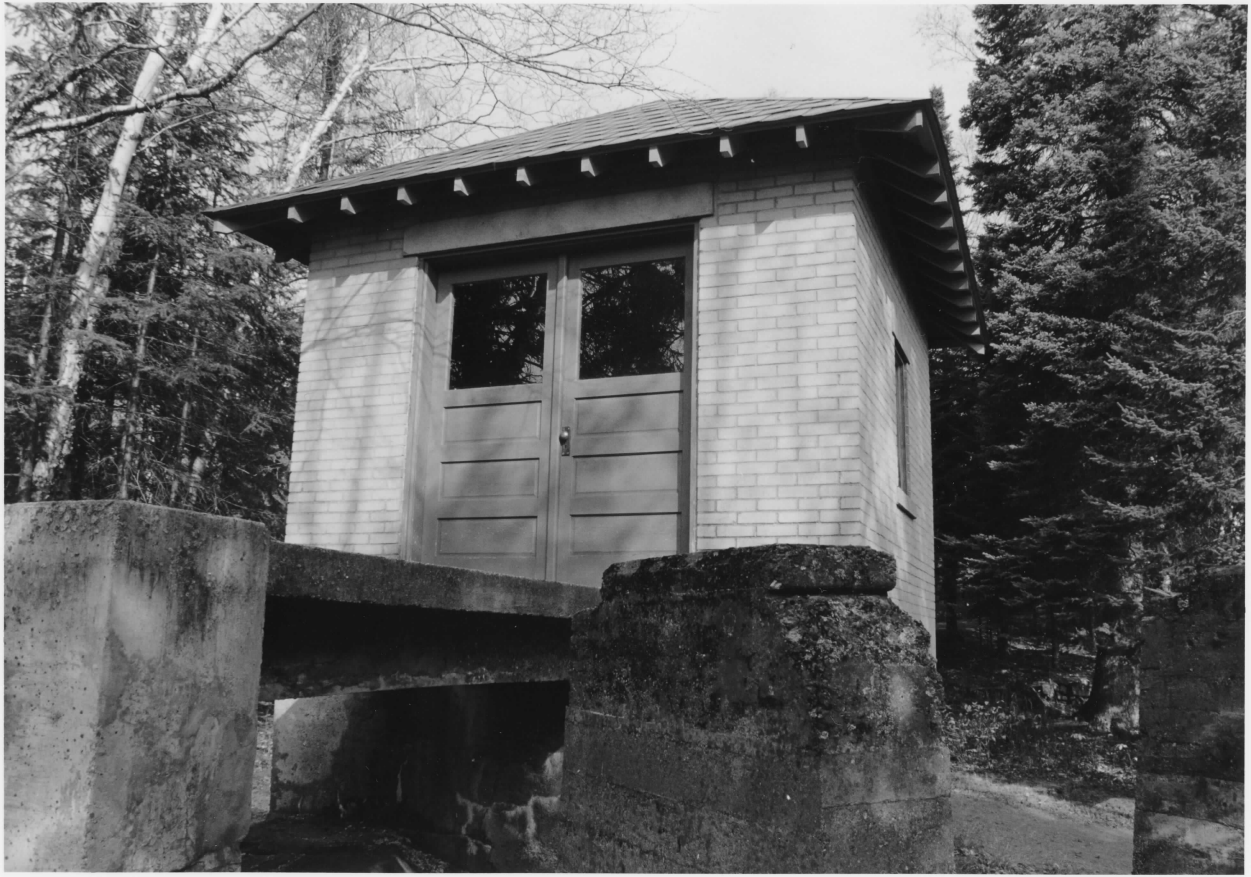
View to Northeast
Photo # 17 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John A. Vogel
October 2007

Negative Location:
National Park Service
National Historic Landmark Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Southeast
Photo # 18 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007
Negative Location:
National Park Service
National Historic Landmark Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to North
Photo # 19 of 21



SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007

Negative Location:
National Park Service
National Historic Landmark Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Northeast
Photo # 20 of 21


HORSE
STATION

SPLIT ROCK LIGHT STATION
Lake County, MN
John N. Vogel
October 2007

Negative Location:
National Park Service
National Historic Landmark Survey
1201 Eye St NW
Room 2280
Washington, DC 20005

View to Southeast
Photo # 21 of 21

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF MINNESOTA
IRON RANGE RESOURCES AND REHABILITATION COMMISSION
KAARLO J. OTAVA COMMISSIONER

SPLIT ROCK POINT NE QUADRANGLE
MINNESOTA—LAKE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
NE/4 SPLIT ROCK POINT 15′ QUADRANGLE

7778 IV (SILVER BAY) 1:62 500

7778 I SW (ILLGEN CITY)

BEAVER BAY 0.9 MI. ↗ SILVER BAY 4.1 MI. (SILVER BAY 1:62 500) 7778 IV

Split Rock Light Station
Town of Beaver Bay
Lake County, MN
UTM Coordinates

Pt	Zone	Easting	Northing
A.	15	623789	5228556
B.	15	623790	5228420
C.	15	623550	5228464
D.	15	623 550	5228562

Islet Bay
Pine Bay
BEAVER BAY
Gull Rock
Split Rock Lighthouse
Little Two Harbors
LAKE SUPERIOR
APPROXIMATE MEAN LAKE ELEVATION 602

T. 55 N.
T. 54 N.
R. 8 W.

TWO HARBORS 19 MI.
CASTLE DANGER 16 MI.

7778 III NW (SPLIT ROCK POINT)

91°22′30″ 47°15′ 624 000m.E. 20′ 2 450 000 FEET 91°15′ 5334 5233 5232 270 000 FEET 5231 5230 12′30″ 5229 5228 5227 5226 5225 10′ 5224 5223 240 000 FEET 5222 5221 5221 000m.N. 47°07′30″

(SPLIT ROCK POINT 1:62 500) 7778 III

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1974

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography from aerial photographs by Kelsh plotter
Aerial photographs taken 1953. Field check 1956

Hydrography compiled from U. S. Lake Survey chart 96 (1955)

Polyconic projection. 1927 North American datum
10,000-foot grid based on Minnesota coordinate system, north zone
1000-meter Universal Transverse Mercator grid ticks,
zone 15, shown in blue

Dashed land lines indicate approximate locations

Map photoinspected 1970
No major culture or drainage changes observed

MN GN 1°15′ 22 MILS 3° 53 MILS
UTM GRID AND 1956 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS 601 FEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

MINN.
QUADRANGLE LOCATION

ROAD CLASSIFICATION
Heavy-duty
Light-duty
Unimproved dirt
U. S. Route

SPLIT ROCK POINT NE, MINN.
NE/4 SPLIT ROCK POINT 15′ QUADRANGLE
N4707.5—W9115/7.5

1956
PHOTOINSPECTED 1970
AMS 7778 III NE—SERIES V872

ISBN 0-607-00467-3

8TH DISTRICT, MINNESOTA

ROOM 2449
RAYBURN HOUSE OFFICE BLDG.

COMMITTEES:
PUBLIC WORKS
GOVERNMENT OPERATIONS

Congress of the United States
House of Representatives
Washington, D.C.

January 7, 1969

Mr. George B. Hartzog, Jr.
Director
National Park Service
Interior Building
Washington, D. C.

Dear George:

This is with further reference to our pre-Christmas conversation concerning the Split Rock Lighthouse in Lake County, Minnesota.

The United States Coast Guard has announced plans to terminate its operation of this famous and much loved lighthouse which has been a familiar landmark to thousands of mariners and tourists for over half a century. As I mentioned to you earlier, it was my hope that the National Park Service could initiate the proper review procedures to designate Split Rock as a national historic monument.

The lighthouse was built in 1910 and though it is only 54 feet high, the tower itself is actually 168 feet above lake level because of the unusual rock promontory on which it is located. The oil lamp, which was used since the lighthouse began operating, produces 450,000 candlepower and can be seen for 22 miles.

The Coast Guard officials count Split Rock as one of the most frequently visited lighthouses in the entire United States and list it as certainly the most famous on the Great Lakes. I have additional information from the Coast Guard on Split Rock which is enclosed with this letter.

The facility is located on 7.5 acres of land; includes a fog signal building, three living quarters for Coast Guard personnel, three garages and several small structures. The Coast Guard Board of Survey is now being requested to inventory the property and to make

recommendations to the Cleveland Headquarters of the Coast Guard and ultimately to the Department of Transportation for final disposition of the property.

I would appreciate your reaction to this proposal, George, and hope that a survey can be initiated as soon as possible.

With warmest regards, I am,

Sincerely yours,

John A. Blatnik, M. C.

JAB/jam



Spectacle Reef was moved to the depot at Huron Bay where necessary quarters, docks, shops, etc., were erected. The tower was to be similar to that of Spectacle Reef, with the addition of a permanent protective crib. This crib was begun at Huron Bay in July 1877 and taken out to the rock in August, where soundings were made to fit it to the bottom. It was then returned to Huron Bay and built up to 14 courses and in August 1878 was taken out and placed in position at Stannard Rock. By October it had been filled with concrete and stone mined from a quarry opened on Huron Island. Congress had meanwhile appropriated another $100,000 for this work.

By June 1879 the iron casting for the concrete pier was in place and the pier had been built up to the surface of the water with another $50,000 appropriation. By midyear 1880 the work was 14 feet above lake level. The tower was completed and the light first exhibited July 4, 1882, with another $123,000 made available.

Work on the tower and its various appliances continued in 1883. The light is exhibited 102 feet above water and shows a 140,000-candlepower flashing white light of the second order, visible about 18 miles. A 110-candlepower winter white light flashes every 15 seconds for 2½ seconds as does the main light. There is also an air diaphone fog signal at the station. (1) (2)

MINNESOTA

SPLIT ROCK LIGHTHOUSE

In township of Split Rock, north shore of Lake Superior.

Picturesquely located at the top of an imposing rock jutting out into Lake Superior is Split Rock Lighthouse. The station derives its name from the appearance of the rock as it is approached from the open lake. The octagonal brick tower 54 feet in weight was built in 1910. Because of the height of the rock, the light is 168 feet above the level of the lake and can be seen for 22 miles. An incandescent oil-vapor lamp is used inside the third-order lens, producing a light of 450,000 candlepower. The station is also equipped with a compressed-air-powered diaphone fog signal, sounding a blast every 20 seconds in time of fog. Split Rock Lighthouse is one of the most frequently visited lighthouses in the United States. (1) (2)

RUSSELL B. LONG, LA., CHAIRMAN
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TOM VAIL, CHIEF COUNSEL

United States Senate
COMMITTEE ON FINANCE
WASHINGTON, D.C. 20510

January 14, 1969

Mr. George B. Hartzog, Jr.
Director, National Park Service
Department of the Interior
Washington, D. C. 20240

Dear Mr. Hartzog:

I have received a number letters supporting the proposal to establish a national historical monument at the Split Rock Lighthouse site on Lake Superior.

I would appreciate every appropriate consideration and a report on the status of the proposal.

With best wishes.

Sincerely yours,

Eugene J. McCarthy

EJM:jsm

State - Minn.

JRS 3/4
J. Bright
Ingham

February 27, 1969

Hon. U. W. Hella
Director, Division of State Parks
State of Minnesota
353 Centennial Building
St. Paul, Minnesota 55101

Dear Judge Hella:

I regret very much that I was not in the office when you stopped by on February 26. I appreciate your calling the several matters to my attention, which Frank Harrison has noted.

Frank and I have already alerted our staff to the interest of the State in the Split Rock Lighthouse. I have also asked Frank to follow up on the St. Croix Study Group report and I shall follow through on this, as you suggest, with Congressman MacGregor.

Indeed, it will be a pleasure to loan you an interpreter to assist in setting up your new interpretive program. Bill Everhart, our Assistant Director for Interpretation, is now out of the office on official travel but as soon as he returns next week I will discuss this matter with him and we shall make several suggestions for your consideration.

Additionally, I want to express my deep appreciation for your thoughtfulness in speaking to Congressman Langen in my behalf. He called me this afternoon on the telephone and we had a pleasant visit. You are a most thoughtful and gracious friend.

With warmest personal regards and every good wish, I am

Sincerely yours,

(SGD) GEORGE B. HARTZOG, JR.

George B. Hartzog, Jr.
Director

cc:
Regional Director, Midwest

Mr. Hartzog-D
Mr. Swem - C
Mr. Everhart -I
Mr. Moore - O
Mr. Harrison-DEA
Dr. Connally - H

GBHartzog:hj

February 26, 1969

Note to Director:

Judge Hella of Minnesota dropped by to see you. Several items of particular interest to him were discussed:

(1) He says that GSA is declaring the Split Rock Lighthouse surplus. The Lighthouse was identified in the Great Lakes survey. He asks that we do what we can to help the State in eventually getting it.

(2) He referred to the fact that he is on the St. Croix Study Group and that the group is about ready to report. He suggests that this is a report that you would want to get a first-hand fill in on and that you would want to get to know Congressman Clark MacGregor in connection with the St. Croix.

(3) He says that he is trying to set up a Chief of Interpretive Services. The person he will have for the job is very capable, but he would like some help from us in getting the fellow started. The Judge referred to a retiree especially strong in interpretation. As one possibility, he wondered whether someone from the Omaha Office could spend several days a week as a part of our State Cooperative program.

FEH

Frank E. Harrison

cc:
C-Mr. Swem
OLW-Mr. Stewart
HH-Mr. Utley

H30-MH

Minn

Hon. John A. Blatnik
House of Representatives
Washington, D. C.

Dear Mr. Blatnik:

Thank you for your recent letter concerning Split Rock Lighthouse in Lake County, Minnesota.

Should the United States Coast Guard find the lighthouse surplus to its needs, existing legislation requires that the Administrator of the General Services Administration seek the opinion of the Secretary of the Interior as to whether the building is of national significance within the meaning of the Historic Sites Act of August 21, 1935 (49 Stat. 666), before proceeding with demolition of the building. If the building possesses less than national significance, but is of value as a community historical or architectural landmark, the Secretary in practice has usually recommended that the building be preserved through its placement in the surplus property category by the Administrator. Such action would allow for its possible disposition without cost as a historic and architectural monument under the Act of June 30, 1949 (63 Stat. 377), as amended, in the event any State or local governmental body wishes to submit an application to the Administrator for use of the building as a historic structure. We understand that such an application is now planned.

The study procedure described above would reveal whether the lighthouse warrants national recognition as a National Historic Landmark. If the Advisory Board on National Parks, Historic Sites, Buildings, and Monuments finds it of national historical significance and so recommends to the Secretary of the Interior, it would become eligible for designation as a National Historic Landmark.

We appreciate your interest in the preservation of the Split Rock Lighthouse, and we hope the information we have furnished you will be helpful in this endeavor.

A similar letter has been sent to the Honorable Eugene J. McCarthy, United States Senate, who also inquired concerning the Split Rock Lighthouse.

Sincerely yours,

(Sgd) Everett R. Mattson

Director

ERM:ms

cc:
Director
Minnesota Historical Society
Cedar and Central Streets
St. Paul, Minnesota 55101

Dena Sanford
05/27/2008 03:47 PM
CDT

To: James Jacobs/WASO/NPS@NPS
cc: Patty Henry/WASO/NPS@NPS
Subject: Split Rock Light Station draft NHL nomination

Hello, Jamie-

Attached is a draft of the Split Rock Light Station, MN, NHL nomination, a site plan, and representative images. The images are not the ones that will necessarily be printed for the final nomination package, they are for reference, only.

This project began in 2006, following some checking around by myself to confirm that the project would be worthwhile. The light has been on a potential NHL list maintained by the folks in WASO, going back to at least 2000. Before that, the Site Manager at Split Rock submitted a request to the Washington NR staff in 1998 asking whether it might not be NHL eligible. Candace Clifford and Patty have been involved in identifying it as a potential NHL. I have spoken with Jennifer Perunko, who was involved in the NPS Maritime Heritage project; Jennifer also thought the property was worthy as a very intact example of a light station complex. I also spoke with Kevin Foster about the property, and his response was that Split Rock consistently came up in discussions regarding NHL status consideration, again as a very intact example of a light station complex. That is the reason the document format is the way you see it.

If you have time, I would like to ask your assistance in reviewing and commenting on this draft, and routing it to Toni, Paul, and whomever else you think should review the document. Please send comments, electronic if possible, to me by July 1.

Thanks,

-Dena

Split Rock NHL 2.pdf Split Rock Sketch Map.tif Split Rock Light Station images.doc

---

Dena Sanford
National Park Service
601 Riverfront Drive
Omaha, NE 68102
402-661-1944
402-661-1982 (fax)



Split Rock Light Station, Lightkeeper's Houses #1, #2 and#3, and Storage Barns # 2 and #3, view northwest, Minnesota Historical Society image, 2004.



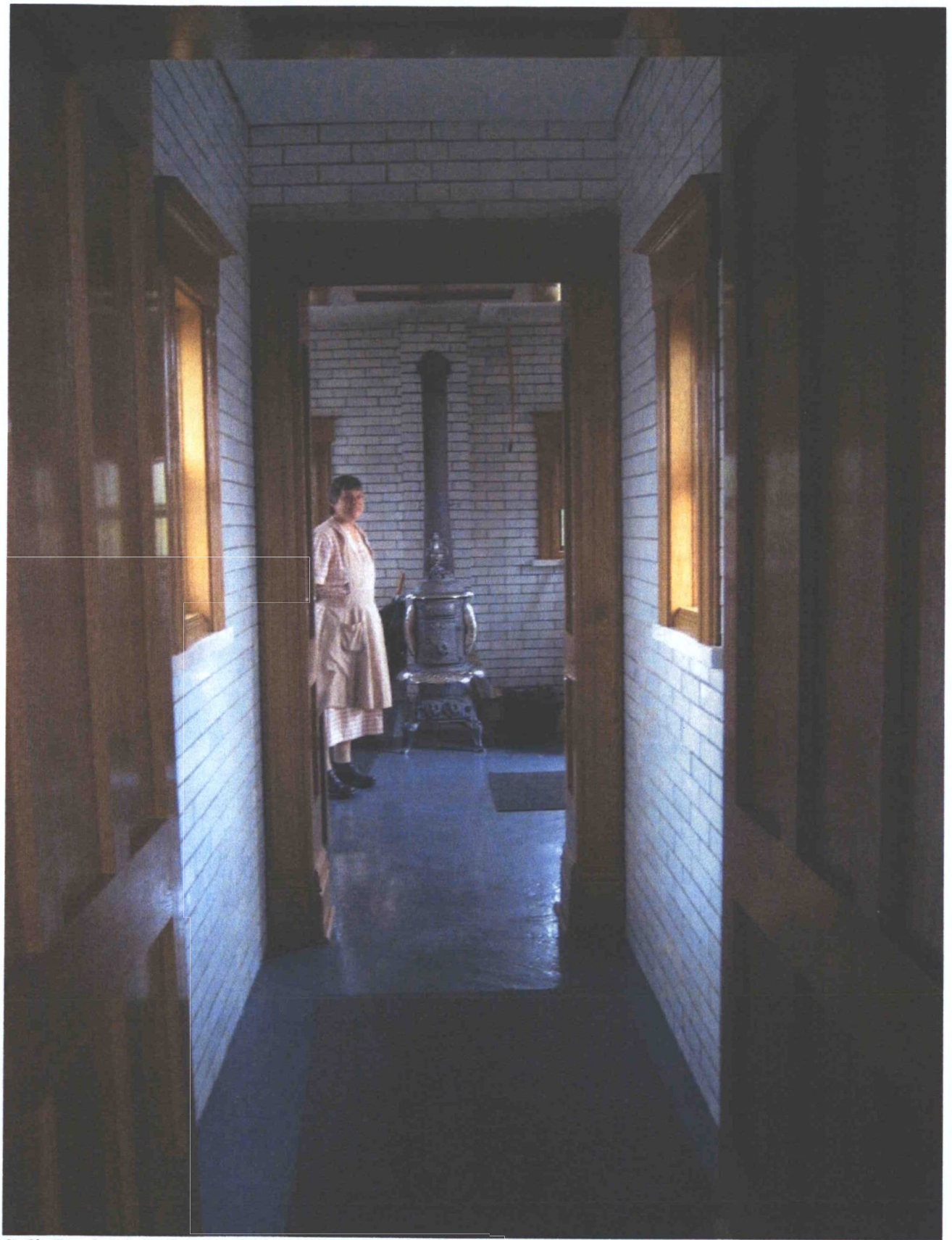
Split Rock Light Station, Lightkeeper's House #1, interior, 2007.



Split Rock Light Station, Lighthouse, view east, 2007.



Split Rock Light Station, Fog Horn Building, view northeast, 2007.



Split Rock Light Station, Lighthouse interior, 2007.



Split Rock Light Station, view northwest. Minnesota Historical Society image, 2004.



Split Rock Light Station, Lighthouse and Fog Horn Building, view east, 2007.



Split Rock Light Station, Oil Storage House, view northeast, 2007.



Split Rock Light Station, Storage Barns #2 and #3, view northwest, 2007.

Dena Sanford
07/01/2008 08:56 AM CDT

To: Patty Henry/WASO/NPS@NPS
cc:
Subject: Re: Split Rock Light Station

Hi, Patty-

I'll be in the office until the 9th, then not back until the 17th. So if you can get me the comments by the 17th, that would be good. I'll let the contractors know that there will be a slight delay w/some of the comments, but it shouldn't put us off our schedule too much. From the review in our office, our thoughts in a nut shell are that the contractors need to be more obvious in Section 8 regarding the significance of the design as one cohesive complex (rather than as a station that evolved over time as needs changed)--possibly one or two more sentences in the opening paragraph.

The comparative analysis needs more massaging. I don't like how much the properties are lumped, and I'd prefer it if only the most intact Great Lakes examples are called out, rather than absolutely everything that exists.

Section 7 needs to confirm descriptions with compass directions. We are also leaning towards including the Tramway Engine House and the piers for the tramway as one resource as a "system". Regarding the smaller items included within one "site"--we were following the example of a previously nominated NHL, rather than counting them as small individual objects.

One last item: In working with Jamie on Christ Church Lutheran, he has directed that the review board wants to see a summary significance blurb in Section 7 of nominations. While that is included for CCL, it does bug my sense of keeping the sections "clean", and addressing what they're supposed to address. Wouldn't the summary sheet that goes with the nominations serve that purpose, or is this the way of the world from now on?

Thanks for reviewing this!

-Dena

- -
Dena Sanford
National Park Service
601 Riverfront Drive
Omaha, NE 68102
402-661-1944
402-661-1982 (fax)
- -

Patty Henry

Patty Henry
06/30/2008 05:49 PM EDT

To: Dena Sanford/Omaha/NPS@NPS
cc:
Subject: Split Rock Light Station

Hi Dena:

Jamie forwarded your message to me. I'm sorry but I have only had a chance to skim through the Split Rock nomination. It seems to be in pretty good shape. Good descriptions demonstrating good integrity of the resources. And the context appears to be laid out in a thoughtful manner in terms of building up to why the Light Station is significant at this location and was needed.

I hadn't realized that you had a deadline for comments to the contractor. I am working on a deadline project with Erika for this week, but I can take a more complete look at Split Rock in the next week if that is ok. But I don't think I will have any major comments; probably just some minor stuff.

I hope this doesn't throw you off. I promise to look at it as quickly as possible. Really, truly!

Thanks,

Patty

Patty Henry
National Park Service
National Historic Landmarks Program-WASO
202-354-2216

Dena Sanford
07/03/2008 05:19 PM
CDT

To: Patty Henry/WASO/NPS@NPS
cc:
Subject: Fw: NPS comments due on July 5

Hi, Patty-

FYI, the consolidated comments from our region on the Split Rock Light Station NHL draft. As I mentioned before, we addressed the various elements of the landscape within a "site", much the same as similar resources were addressed for Navasink. However, the landscape architecture folks in this office took some umbrage with that--they are of the opinion that the various building foundations, sidewalks, fences, etc., should be counted individually. I will defer to you for the final determination. This might help you in your review, (and thanks for doing so!)



consolidated comments draft 2.doc

Happy Independence Day weekend to you,

-Dena

Dena Sanford
National Park Service
601 Riverfront Drive
Omaha, NE 68102
402-661-1944
402-661-1982 (fax)

James Jacobs
07/22/2008 04:04 PM EDT

To: Dena Sanford/Omaha/NPS@NPS
cc: Patty Henry/WASO/NPS@NPS
Subject: Split Rock Light Station

Hi Dena,

Overall, I don't see any major changes that need to be made to the Split Rock Light Station NHL nomination with regard to Criterion 4. My only comment is to reiterate one of your concerns--about the form and components of a typical light station. Split Rock appears to be both complete to a single period of construction and retains a high degree of integrity, but I had to assemble an idea of the overall character of a light station by reading a number of the comparatives.

The preparer should begin the architecture section on p39 with a statement that this is a single, cohesive design for a light station, which is unique or at least rare, followed up on p41 with a few sentences or even a short paragraph about light station components and weighing this general definition against Split Rock. The approach will provide a clearer idea of Split Rock's significance and make the comparative analysis more effective. The significance of a complete or nearly complete light station should then also be more strongly presented in the introduction to Section 8.

In the discussion of the light itself, beginning on p39, I would just pare down the presentation of the Neoclassical Revival beyond general description. It is interesting that such a stylistic approach was used, especially given the house design, but isn't particularly important to the discussion. It is enough to note that the style was popular throughout the country at the time of construction and used for most government buildings.

I hope this is useful for you. Let me know if you have any additional questions.

Cheers!
Jamie

James A. Jacobs, Ph.D.
Historian
Historic American Buildings Survey
National Historic Landmarks Program
202 354 2184
202 371 6473 (fax)
james_jacobs@nps.gov
Dena Sanford/Omaha/NPS

Dena Sanford/Omaha/NPS
07/21/2008 05:29 PM CDT

To James Jacobs/WASO/NPS@NPS
cc
Subject Fw: a few questions

Hi, Jamie-

A couple items on two NHLs:

1) Will you be able to send comments to me tomorrow regarding the Split Rock Light Station NHL draft? I'm pushing the contract deadline, and hope to wrap things up very soon.

2) I've just nudged Rolf Anderson, author of the Christ Church NHL nomination, to determine a few final

James Jacobs
08/06/2008 04:39 PM EDT

To: Patty Henry/WASO/NPS@NPS
cc:
Subject: Fw: Split Rock Light Station NHL nomination

Split Rock returns!

Let me know what you need me to do to assist.

Jamie

----- Forwarded by James Jacobs/WASO/NPS on 08/06/2008 04:37 PM -----

Dena Sanford/Omaha/NPS
08/06/2008 03:31 PM CDT

To James Jacobs/WASO/NPS@NPS
cc
Subject Split Rock Light Station NHL nomination

Hello, Jamie-

I received in the mail today the final documentation package for the Split Rock Light Station NHL nomination. It reflects incorporation of the comments provided by the MWRO staff, yourself and Patty Henry. I consider the documentation complete, and would like to have the nomination included in the spring 2009 queue for consideration by the NPS NHL Committee. There are two items that I suggest be added to the NHL nomination, and rather than make changes to the paper copy or disks, I'll suggest them to you, and leave you to decide:

1) "Criteria Considerations" on Section 8, page 1, should note "8", rather than the options of A, B, C, D, E, F, or G;
2) List theme "III Expressing Cultural Values, 4. Architecture" in Section 8, page 1;
2) Please include my name and contact information on Section 8, page 50, along with yourself or Patty Henry, as an editor of the nomination.

I'm including the Executive Summary for Split Rock, and the mailing list for notification. I included the mailing address for the director of the DNR, as Split Rock Light Station is located within a larger park operated by the DNR:


Split Rock Executive Summary Form.doc


notification list.doc

I've placed the following in a Fed Ex box to addressed to you at the 1201 Eye Street, NW address:

1) Paper copy of the NHL nomination;
2) an archival CD-R (GOLD) disk with the nomination and digital photographs;
3) a regular CD with the NHL nomination;
4) 21 B&W prints, labeled on the reverse side;
5) three negative sheets;
6) USGS Map, labeled;
7) extra paper copies of the site plan and index to photos map.

Wow. Two nominations finished in one year.... four more to go...

Thanks,

-Dena

- -
Dena Sanford
National Park Service
601 Riverfront Drive
Omaha, NE 68102
402-661-1944
402-661-1982 (fax)
- -

Dena Sanford
08/06/2008 03:31 PM CDT

To: James Jacobs/WASO/NPS@NPS
cc:
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Wow. Two nominations finished in one year.... four more to go...

Thanks,

-Dena

Dena Sanford
National Park Service
601 Riverfront Drive
Omaha, NE 68102
402-661-1944
402-661-1982 (fax)

Hi, Jamie—
this should be everything needed.
– Dena

Dena Sanford/Omaha/NPS
06/25/2009 11:12 AM

To Patty Henry/WASO/NPS@NPS
cc
bcc
Subject revisions to Split Rock text

Hi, Patty-

The attached file contains the requested changes to the Split Rock NHL text. I've already floated it by the site manager, the SHPO and the contractor who wrote the text.

I think the placement of the first text is self-explanatory: It is a slight revision of the first paragraph for the comparative analysis section. I leave it up to you where you want to place the Ponce light text, but I'd suggest the very end, after all the Great Lakes lights discussion. Finally, there's a revision for justification of the p.o.s. to 1961 (rather than 1960, if that is okay). I think that with the termination of use of the fog signal, that effectively ended Split Rock's function as an aid to navigation. The p.o.s. justification would go at the beginning of Section 8. I think that mention of the p.o.s. appears again at the end of Section 8--can you take the essential of the paragraph included here, and drop it into that second reference? Does that still mean we need an exclusion or is that close enough to 50 years to not be an issue?

Thanks!

-Dena



Ponce de Leon Inlet Light Station.docx

Dena Sanford, Architectural Historian, National Register Programs, Midwest Regional Office, National Park Service, 601 Riverfront Drive, Omaha, NE 68102, 402-661-1944, 402-661-1982 (fax)

Light Station Complex Comparative Analysis

As of 26 October 2005, ten light stations have been designated as National Historic Landmarks. Of these, all but the Grosse Point Light Station (designated 1999) in Evanston, Illinois, are located on the eastern seaboard, reflective of the importance of Atlantic Ocean maritime commerce to the development of the American economy. Yet the opening of the Great Lakes waterways allowed an explosion of commercial growth that rivaled eastern predecessors. Therefore this comparative analysis is limited to stations associated with the Great Lakes. Over three hundred lighthouses once operated on the American side of the Great Lakes. General information…

Ponce de Leon Inlet Light Station (1885)– Ponce Inlet, Florida:

While the focus of this comparative analysis is on Great Lakes lighthouses, mention should be made here of the most intact light station on the eastern seaboard. The Ponce de Leon Light Station was designated an NHL in 1998, and consists of a 176-foot tall brick light tower, a principal and two assistant keepers' dwellings, oil house, pump house, and three woodshed/privy structures. The principal buildings are arranged forming a courtyard effect, connected by brick pathways and surrounded by a white wood picket fence. The station is located on the north side of the Ponce de Leon Inlet, bounded by the Atlantic to the east, and the Halifax River to the west. The property is operated by the Ponce de Leon Inlet Lighthouse Preservation Association, and is open to the public as a museum while continuing its role as an aid to navigation.

Like the Split Rock Station, interpretive and administrative buildings have been constructed at the site, but unlike the Minnesota property, the Florida development could not been screened by distance or vegetation. The Ponce de Leon Inlet Light station is situated in an urban location, so mitigating the impact of new construction within the historic site was undertaken by creating designs that referenced the property's historic appearance. This included attention to massing, materials, fenestration, and overall roof height. One building was based on the design of a light keeper's dwelling. Three modern buildings are on the site: A lens exhibition building, an entrance/offices/gift shop building, and a refreshment building. Other resources associated with the light's operation, but since demolished, included the first keeper's dwelling, boat houses, a buoy house, a wharf, a garage, a water mill and tank, and several temporary structures associated with the construction of the permanent buildings. The original first-order Fresnel lens was removed by the U.S. Lighthouse Service, but was returned in 1997 and is on display in the lens exhibition building.

P.O.S.:

"The period of significance is 1909 to 1961, reflecting the period when Split Rock served as an integral aid to navigation on the Great Lakes. While the station operated essential unchanged as a light station by the USLHS and the USCG until it was decommissioned in 1969, by 1960, radar and other modern navigation technology rendered most coastal lighthouses obsolete. In 1961 the fog signal was discontinued, ending the full capacity of Split Rock to function as an aid to navigation. The light continued to operate, but by the mid-1960s served more as a tourist attraction."

United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, N.W.
Washington, D.C. 20240

IN REPLY REFER TO:

NOV 1 0 2009

Notice of a Study to Determine Potential for Designation as a National Historic Landmark

The National Park Service is pleased to announce that a study is being conducted on the following property to determine its potential for designation as a National Historic Landmark:

Split Rock Light Station
Lake County, Minnesota

National Historic Landmarks are nationally significant places that illustrate important themes, persons, or events in American history. The National Historic Landmarks Program recognizes properties of exceptional national significance in the nation's history, architecture, archeology, engineering and culture. Once reviewed by the National Park System Advisory Board and designated by the Secretary of the Interior, each landmark may request an official bronze plaque from the National Park Service that recognizes this high distinction.

When the study is completed and scheduled for review by the National Park System Advisory Board, you will receive a copy of the nomination and have 60 days to comment in writing, if you so desire. After the 60-day period, the nomination and any comments received will be submitted to the National Park System Advisory Board.

For your information, we have enclosed a brochure that describes the National Historic Landmarks Program and a fact sheet that describes the effects of designation.

For further information on the National Historic Landmarks program, including the designation process and questions on this specific study please contact: Ms. Patricia Henry, Historian, National Park Service, National Historic Landmarks Program, 1849 C Street, NW (2280) Washington, DC 20240, or call 202/354-2216.

Additional information on the National Historic Landmarks Program is available at: www.nps.gov/history/nhl.

cc: Lee Radzak, Historic Site Manager, Split Rock Lighthouse
Tim Pawlenty, Governor, Minnesota
Bonnie McDonald, Executive Director, Preservation Alliance of Minnesota

Donald J. Terras, Director, Lighthouse Park District, Grosse Point Lighthouse
Bob Trapani, Executive Director, American Lighthouse Foundation
Jeffrey S. Gales, United States Lighthouse Society, National Office
Candace Clifford
Ralph Eshelman
Terry Pepper, Executive Director, Great Lakes Lighthouse Keepers Association, Mackinaw City, Minnesota

H34(2280)

SEP 3 2010

Mr. Michael Fox
Deputy Director
Minnesota Historical Society
345 W. Kellogg Blvd.
St. Paul, Minnesota 55102-1906

Dear Mr. Fox:

The National Park Service has completed the study of the Split Rock Light Station in Lake County, Minnesota for the purpose of nominating it for designation as a National Historic Landmark. We enclose a copy of the nomination.

The Landmarks Committee of the National Park System Advisory Board will consider the nomination during its next meeting, at the time and place indicated on one of the enclosures. This enclosure also specifies how you may comment on the proposed nomination if you so choose. The Landmarks Committee will report on this nomination to the Advisory Board, which in turn will make a recommendation concerning this nomination to the Secretary of the Interior, based upon the criteria of the National Historic Landmarks Program.

If you wish to comment on the nomination, please do so within 60 days of the date of this letter. After the 60-day period, we will submit the nomination and all comments we have received to the Landmarks Committee.

To assist you in considering this matter, we have enclosed a copy of the regulations governing the National Historic Landmarks Program. They describe the criteria for designation (§65.4) and include other information on the Program. We are also enclosing a fact sheet that outlines the effects of designation.

Sincerely,

J. Paul Loether

J. Paul Loether, Chief
National Register of Historic Places
and National Historic Landmarks Program

Enclosures

PROPERTY STUDIED FOR
NATIONAL HISTORIC LANDMARK DESIGNATION

Split Rock Light Station
Lake County, Minnesota

The Landmarks Committee of the National Park System Advisory Board will evaluate this property at a meeting to be held on November 2-4, 2010, beginning at 12:30 pm on November 2, and continuing at 9:00 a.m. on November 3 and 4, in the 2nd Floor Board Room, National Trust for Historic Preservation, 1785 Massachusetts Avenue NW, Washington, DC. The Landmarks Committee evaluates the studies of historic properties being nominated for National Historic Landmark designation in order to advise the full National Park System Advisory Board. At a subsequent meeting the National Park System Advisory Board will consider those properties that the Committee finds meet the criteria of the National Historic Landmarks Program.

Owners of private properties nominated for NHL designation have an opportunity to concur with or object to designation, in accordance with the National Historic Preservation Act and 36 CFR 65. Any owner or partial owner of private property who chooses to object to designation must submit a notarized statement certifying that the party is the sole or partial owner of the private property and objects to the designation. Each owner or partial owner of private property has one vote, regardless of the portion of the property that the party owns. If a majority of private property owners object, a property will not be designated. Letters objecting to or supporting nominations may be sent to Mr. J. Paul Loether, Chief, National Register of Historic Places and National Historic Landmarks Program, at the National Park Service, 1849 C Street N.W. (2280), Washington, DC, 20240.

Should you wish to obtain information about these meetings, or about the National Historic Landmarks Program, please contact Historian Patty Henry at the National Park Service, at the address given above; by telephone at (202) 354-2216; or by e-mail at <patty_henry@nps.gov>.

IDENTICAL LETTER SENT TO:

Owners: Mr. Michael Fox, Deputy Director
Minnesota Historical Society
345 W. Kellogg Blvd.
St. Paul, Minnesota 55102-1906

Honorable Tim Pawlenty
Governor of the State of Minnesota
130 State Capitol
75 Constitution Avenue
St. Paul, MN 55155

HEO: Derrick L. Goutermont, Chair
Lake County Board of Commissioners
Lake County Courthouse
601 Third Avenue
Two Harbors, MN 55616-1517

SHPO: Dr. Nina Archabal, Director
Minnesota Historical Society
345 Kellogg Blvd., West
St. Paul, MN 55102-1906

cc: Lee Radzak, Historic Site Manager
Split Rock Lighthouse
Minnesota Historical Society
3713 Split Rock Lighthouse Rd.
Two Harbors, MN 55616

Courtland Nelson, Director
Parks and Recreation
Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, MN 55155

William Keyes
Historic Sites Division
Minnesota Historical Society
345 Kellogg Blvd. W.
Site Administrator:
St. Paul, MN 55102

Bonnie McDonald, Executive Director
Preservation Alliance of Minnesota
516 Landmark Center
5 West 5th Street
St. Paul, MN 55102

Donald J. Terras, Director
Lighthouse Park District, Grosse Point Lighthouse
2601 Sheridan Road, Evanston, IL 60201-2431

Bob Trapani, Executive Director
American Lighthouse Foundation
P.O. Box 565
Rockland, ME 04841

Jeffrey S. Gales
United States Lighthouse Society
9005 Point No Point Road, NE
Hansville, WA 98340

Candace Clifford
35 E. Rosemont Ave.
Alexandria, VA 22301

Ralph Eshelman
12178 Preston Dr.
Lusby, MD 20657

Terry Pepper, Executive Director,
Great Lakes Lighthouse Keepers Association,
P.O. Box 219
Mackinaw City, MI 49701-0219

bcc: Midwest Regional Office, Dena Sanford

H34(2280)

SEP 3 2010

The Honorable James Oberstar
U.S. House of Representatives
2365 Rayburn House Office Building
Washington, DC 20515-2308

Dear Mr. Oberstar:

The National Park Service has completed the study of the Split Rock Light Station in Lake County, Minnesota for the purpose of nominating it for designation as a National Historic Landmark. We enclose a copy of the nomination.

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Sincerely,

Signed

Stephanie Toothman, Ph.D.
Associate Director, Cultural Resources

Enclosures

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NATIONAL HISTORIC LANDMARK DESIGNATION

Split Rock Light Station
Lake County, Minnesota

The Landmarks Committee of the National Park System Advisory Board will evaluate this property at a meeting to be held on November 2-4, 2010, beginning at 12:30 pm on November 2, and continuing at 9:00 a.m. on November 3 and 4, in the 2nd Floor Board Room, National Trust for Historic Preservation, 1785 Massachusetts Avenue NW, Washington, DC. The Landmarks Committee evaluates the studies of historic properties being nominated for National Historic Landmark designation in order to advise the full National Park System Advisory Board. At a subsequent meeting the National Park System Advisory Board will consider those properties that the Committee finds meet the criteria of the National Historic Landmarks Program.

Owners of private properties nominated for NHL designation have an opportunity to concur with or object to designation, in accordance with the National Historic Preservation Act and 36 CFR 65. Any owner or partial owner of private property who chooses to object to designation must submit a notarized statement certifying that the party is the sole or partial owner of the private property and objects to the designation. Each owner or partial owner of private property has one vote, regardless of the portion of the property that the party owns. If a majority of private property owners object, a property will not be designated. Letters objecting to or supporting nominations may be sent to Mr. J. Paul Loether, Chief, National Register of Historic Places and National Historic Landmarks Program, at the National Park Service, 1849 C Street N.W. (2280), Washington, DC, 20240.

Should you wish to obtain information about these meetings, or about the National Historic Landmarks Program, please contact Historian Patty Henry at the National Park Service, at the address given above; by telephone at (202) 354-2216; or by e-mail at <patty_henry@nps.gov>.

IDENTICAL LETTER SENT TO:

Representative: Honorable James Oberstar
U.S. House of Representatives
2365 Rayburn House Office Building,
Washington, DC 20515-2308

Senators: Honorable Amy Klobuchar
United States Senate
302 Hart Senate Office Building SH-320
Washington, D.C. 20510-2303

Honorable Al Franken
United States Senate
320 Hart Senate Office Bldg.
Washington, D.C. 20510-2303

bcc: Midwest Regional Office, Dena Sanford

STATE OF MINNESOTA

Office of Governor Tim Pawlenty

130 State Capitol ♦ 75 Rev. Dr. Martin Luther King Jr. Boulevard ♦ Saint Paul, MN 55155

RECEIVED 2280
OCT 28 2010
NAT. REGISTER OF HISTORIC PLACES
NATIONAL PARK SERVICE

October 13, 2010

Mr. J. Paul Loether, Chief
National Register of Historic Places
and the National Historic Landmarks Program
National Park Service
1849 C Street Northwest (2280)
Washington, DC 20240

Dear Mr. Loether:

On behalf of the people of the state of Minnesota, I strongly urge the designation of the Split Rock Light Station as a National Historic Landmark.

The Split Rock Light Station is a Minnesota icon and one of the most visited landmarks in our state. In addition, Light Station is of national historic value, serving as a literal guiding light for America's progress.

Beginning in the 1890's, much of the steel used to build America began as iron ore from Minnesota's Iron Range which was shipped to eastern mills through Lake Superior. This was not easy -- the shipping path was elaborate, rocky, and treacherous. This effort was vastly improved by the navigational guidance provided by the Split Rock Light Station, newly built in 1910. Vast amounts of Midwestern grain followed the same shipping path, destined to help feed the growing Great Lakes populations.

After the Light Station was decommissioned in 1969, it became part of Split Rock Lighthouse State Park in 1971. The Minnesota Department of Natural Resources and the Minnesota Historical Society have worked to preserve the historic character of the Light Station and the incredible rugged beauty of the surrounding Lake Superior landscape.

For its role in America's progress and iconic status of today, I respectfully request the designation of the Split Rock Light Station as a National Historic Landmark.

Sincerely,

Tim Pawlenty
Governor

Voice: (651) 296-3391 or (800) 657-3717 Fax: (651) 296-2089 TDD: (651) 296-0075 or (800) 657-3598
Web site: http://www.governor.state.mn.us An Equal Opportunity Employer
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Minnesota
Historical Society

NOV - 1 2010

October 28, 2010

Mr. J. Paul Loether, Chief
National Register of Historic Places
National Historic Landmarks Program
National Park Service
1849 C Street, NW
Washington, D.C. 20240

Dear Mr. Loether:

RE: The Landmarks Committee of the National Park System Advisory Board
Consideration of Split Rock Light Station, Beaver Bay Township, Lake County, MN

Thank you for the opportunity to comment on the nomination of Split Rock Light Station for National Historic Landmark designation. Restored and managed by the Minnesota Historical Society, the light station is one of America's best-preserved light house complexes. It gives visitors the opportunity to learn about the operation of this vital navigational aid to Great Lakes shipping and experience Lake Superior vistas that they will always remember.

The Split Rock Light Station is one of the most popular and highly visited sites in the Society's Historic Sites network, and as the steward of this treasured resource, I write in support of its nomination. I urge the Landmarks Committee to recommend the designation of Split Rock Light Station as a Minnesota National Historic Landmark.

Sincerely,

Michael J. Fox
Deputy Director and Chief Operating Officer

Minnesota Historical Society, 345 Kellogg Boulevard West, Saint Paul, Minnesota 55102
651-259-3000 • 888-727-8386 • www.mnhs.org

Dena Sanford/Omaha/NPS
12/03/2010 05:14 PM

To Caridad de la Vega/Contractor/NPS@NPS
cc
bcc
Subject Re: Fw: Split Rock Light Station NHL nomination

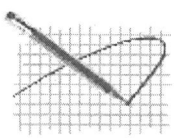
Great. Thanks, Cary-

I failed to note that the mess of damaged ships in the November storm was in the area around Duluth and the shipping corridor to Duluth, based on the locations noted on that chart.

-Dena

Dena Sanford, Architectural Historian
National Park Service National Register Programs, MWRO
c/o Agate Fossil Beds National Monument
301 River Road
Harrison, NE 69346-2743
308-436-9797
308-668-2318 (fax)
dena_sanford@nps.gov

Caridad de la Vega/Contractor/NPS



Caridad de la Vega/Contractor/NPS
12/03/2010 02:57 PM

To Dena Sanford/Omaha/NPS@NPS
cc
Subject Re: Fw: Split Rock Light Station NHL nomination

Hi Dena,

That sounds good to me. If we don't hear from John in the next few weeks, I'll go with what you have found. It seems to me to further clarify the issue with the numbers - which should suffice.

Thanks again,

Cary

Caridad de la Vega, Historian
National Historic Landmarks Program
National Park Service
caridad_de_la_vega@contractor.nps.gov
www.nps.gov/history/nhl
(202) 354-2253 (v)
(202) 371-2229 (f)

-----Dena Sanford/Omaha/NPS wrote: -----

To: Caridad de la Vega/Contractor/NPS@NPS
From: Dena Sanford/Omaha/NPS
Date: 12/03/2010 04:20PM

cc: Patty Henry/WASO/NPS@NPS
Subject: Re: Fw: Split Rock Light Station NHL nomination

Cary-

I haven't heard back from John Vogel, but I had tried to do a bit of searching on the question about sunk/damaged vessels related to Split Rock. Nothing clear came of it. Below is the message I sent to John; if I don't hear back from him, perhaps something can be cobbled together from what I did glean... Basically that During the year of 1905, 21 ships sank; the November 27-28 gale that hit the Great Lakes was particularly destructive, with 4 ships sunk or destroyed, 13 stranded and 12 damaged?

-Dena

(Message below):

Hi, John-

There was one final clarification question from the NHL Committee Chair on a reference to statistics of sinking ships at Split Rock that I'm hoping you could clarify for me. The question arises from a couple of sentences on page 29 of the nomination. In the first paragraph, line four, the nomination states that 21 ships sank in 1905. The last sentence then indicates that 30 ships were damaged or sank on November 27-28 of that year. The suggestion is to make the statistics of what sank and what was damaged in 1905 clearer. However, a quickish review of information on the internet doesn't seem to give a clear count. A MNHS site gives a vague number of "nearly 30"; a link on the Madeira from the MNHS website gives a number of 20 vessels wrecked or damaged (citing a National Register nomination--maybe 20 in the Duluth area?http://www.mnhs.org/places/nationalregister/shipwrecks/madeira/maddwe.html) with "only a handful ... were total losses"; while Wikipedia has a chart that lists 29 vessels--17 stranded and 12 damaged, with only one listed as actually "sunk":

Ship[20]	Shipping Line	Refuge/Wreck Site	Damage
Isaac Ellwood (stmr)	Pittsburgh Steamship	Duluth	aground
Mataafa (stmr)	Pittsburgh Steamship	Duluth	aground
R.W. England (stmr)	Tomlinson	Duluth	
Crescent City (stmr)	Pittsburgh Steamship	Lakewood (7 m NE of Duluth)	aground against cliffs
Lafayette (stmr)	Pittsburgh Steamship	Encampment Island (7 m NE of Two Harbors, Minnesota)	'broken up'
Manila (barge) of Lafayette	Pittsburgh Steamship	Encampment Island (7 m NE of Two Harbors)	aground
William Edenborn	Pittsburgh Steamship	nr Split Rock River	hard ashore & broken in two
Madeira (barge) of Edenborn	Pittsburgh Steamship	Gold Rock (3 mi NE)	sunk and broken in two

George Herbert (scow)		Two Island, nr Schroeder, Minnesota	smashed to pieces
George Spencer (stmr-wooden)		Thomasville (nr Tofte, Minnesota)	hard aground
Amboy (barge) of Spencer			hard aground
Monkshaven (stmr)		Pie Island, Port Arthur, Ontario	on the rocks
W.E. Corey (stmr)	Pittsburgh Steamship	Gull Island (Apostles)	stranded
Western Star (stmr)		Fourteen-Mile Point nr Ontonagon, Michigan	stranded tight
Coralia (stmr)	Pittsburgh Steamship	Point Isabelle (east side Keweenaw Peninsula)	'hung-up'
Maia (barge) of Coralia	Pittsburgh Steamship	Point Isabelle (east side Keweenaw Peninsula)	'hung-up'
Ira Owen (stmr)		NE of Outer Island (Apostles)	foundered

The request was to change the last sentence to read that *during the November storm X# of ships sank and X# of additional ships were damaged* .

Perhaps the sentence could be amended to state that during the November storm, 4 ships were sunk or destroyed, 13 stranded and 12 damaged? Or is there a better source for accurate information? Presumably this count is different from the earlier count of 21 vessels sunk during the entire year of 1905?

Dena Sanford, Architectural Historian
National Park Service National Register Programs, MWRO
c/o Agate Fossil Beds National Monument
301 River Road
Harrison, NE 69346-2743
308-436-9797
308-668-2318 (fax)
dena_sanford@nps.gov

Caridad de la Vega/Contractor/NPS

Caridad de la Vega/Contractor/NPS

11/16/2010 04:07 PM

ToDena Sanford/Omaha/NPS@NPS, Patty Henry/WASO/NPS@NPS

ccPatty Henry/WASO/NPS@NPS

SubjectFw: Split Rock Light Station NHL nomination

Hi Dena,

Is Ron's first point easily addressable? If this information is not easily attainable then don't worry about it.

Cary

Caridad de la Vega, Historian
National Historic Landmarks Program
National Park Service
caridad_de_la_vega@contractor.nps.gov
www.nps.gov/history/nhl
(202) 354-2253 (v)
(202) 371-2229 (f)

----- Forwarded by Caridad de la Vega/Contractor/NPS on 11/16/2010 06:05 PM -----

Ronald James <RJames@nevadaculture.org>

10/19/2010 10:18 AM

To"Caridad_de_la_Vega@contractor.nps.gov" <Caridad_de_la_Vega@contractor.nps.gov>

cc

SubjecSplit Rock Light Station NHL nomination t

Hi Cary,
Just two comments on the Split Rock Light Station NHL nomination (besides that it is a great nomination and resource):

On page 29, I was initially confused, but I believe I understand what is being said. In the first paragraph, line four, the nomination states that 21 ships sank in 1905. The last sentence then indicates that 30 ships were damaged or sank on November 27-28 of that year. Initially I stumbled over this because I was reading it to state that 30 ships sank – admittedly because I wasn't reading it as carefully as I might. It might be clearer if it stated that during the November storm X# of ships sank and X# of additional ships were damaged. But this isn't that big of a deal if that's too difficult. It just might help future readers not to stumble as I did.

On page 24, first paragraph, first line "A number of reasons were responsible for..." is awkward. It would cleaner to state: "There are a number of reasons for..."

Neither is a big deal.

Thanks,

Ron

Ronald M. James
State Historic Preservation Officer
100 N Stewart St
Carson City Nv 89701
775-684-3440

rjames@nevadaculture.org

Dena Sanford/Omaha/NPS
05/16/2011 01:23 PM

To Patty Henry/WASO/NPS@NPS
cc
bcc
Subject Re: any news on SOI signatures?

Thanks, Patty-

The query was from the Split Rock folks. The site manager is looking forward to the NHL designation announcement, and wants to develop a press release for use by the MN Historical Society marketing staff. He specifically wanted to know if the NPS has standardized text for the announcement (boiler plat stuff), that he can use. I don't want to jump the gun with the Secretary, so I suppose I can't ask if I could send him the text you wrote for Split Rock. But I can tell him that there will be a press release that will come out that addresses specifically Split Rock. Could you add him to any electronic announcements that go out, so that he gets whatever I would be getting? His address is lee.radzak@mnhs.org.

-Dena

Patty Henry/WASO/NPS

Patty Henry/WASO/NPS
05/16/2011 10:39 AM

To Dena Sanford/Omaha/NPS@NPS
cc
Subject Re: any news on SOI signatures?

Hey Dena:

Ok, so here's the story. They (not sure who they is?) wanted not one designation package but an individual package for each action. So we are preparing those and sending them up a couple at a time just so nothing gets overlooked in the huge shuffle. I'm guessing that you are interested in the NHDVS properties and Split Rock. All of those have gone forward I believe - the NHDVS were among the very first we sent up. I prepared Split Rock in the last week so am hoping it has left us. Of course it is not a smooth running machine yet for these. Those first ones are sort of breaking everyone in so they may take a little longer than the final ones we ultimately send up. But as soon as we hear anything we'll let you know.

By the way. The VA SHPO has requested that some joint announcement be made for the NHDVS so the NPS Public Information office has been given the info on those 4 properties and should be contacting the VA Public information Office. Let's hope that goes smoothly.

Thanks

Patty

Patty Henry
National Park Service
National Historic Landmarks Program-WASO
202-354-2216

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National Park System Advisory Board Landmarks Committee Meeting
Agenda

Wednesday, May 25: Landmarks Committee Meeting, National Trust for Historic Preservation, 1785 Massachusetts Avenue, N.W.

9:00 a.m.	Announcements and old business	Ronald M. James, NPS Advisory Board; Chairman, Landmarks Committee
	Architecture	
9:15 a.m.	Florida Southern College Historic District, Lakeland, FL	Eric Gradoia, Architectural Historian Mesick, Cohen, Wilson, Baker, Architects, Albany, NY
9:45 a.m.	Meadow Brook Hall, Rochester, MI	Geoff Upward, Executive Director Meadow Brook Hall, Rochester, MI
10:15 a.m.	Gardner Earl Memorial Chapel and Crematorium, Troy, NY	James A. Jacobs, Architectural Historian NHL Program and Historic American Buildings Survey, WASO, NPS
10:45 a.m.	Break	
11:00 p.m.	St. Peter's Parish Church, New Kent County, VA	Jasmine Beatty and Jeffrey Cimbalo The Cimbalo Firm, P.C., Richmond, VA
11:30 a.m.	Eyre Hall, Northampton County, VA	Marilyn Harper, Consultant Bethesda, MD
12:00 noon	Recess for Lunch	Ronald M. James

United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, N.W.
Washington, D.C. 20240

H34(2280)

Memorandum MAY 27 2011

To: Secretary

Through: Acting Assistant Secretary for Fish and Wildlife and Parks

From: Director

Subject: Designation of Property as a National Historic Landmark: Director's Recommendations and Request for Secretarial Action

At its meeting on April 13, 2011, the National Park System Advisory Board recommended designation of the following property as a National Historic Landmark:

1. SPLIT ROCK LIGHT STATION, Lake County, MN (Criteria 1 and 4)

In accordance with National Historic Landmarks Program regulations, the Board reviewed the study nominating this property for Landmark status and found that this property meets National Historic Landmarks Program criteria. The Board, therefore, voted to recommend that this property be designated as a National Historic Landmark.

Per the National Historic Landmark Program regulations, I hereby certify that the procedural requirements set forth in 36 CFR Part 65.5 have been met.

I recommend that you approve the Board's April 13, 2011, recommendation, and designate as a National Historic Landmark the property listed above.

APPROVE: _____ DISAPPROVE: _____

DATE: 6/23/2011

Attachments

Split Rock Light Station NHL nomination
Lake County, Minnesota
Final Notification List

Property Owners:

Courtland Nelson, Director
Parks and Recreation
Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, MN 55155

William Keyes
Historic Sites Division
Minnesota Historical Society
345 Kellogg Blvd. W.
Site Administrator:
St. Paul, MN 55102

HEO:

Paul Bergman, Chair
Lake County Board of Commissioners
Lake County Courthouse
601 Third Avenue
Two Harbors, MN 55616-1517

SHPO:

Dr. Nina Archabal, Director
Minnesota Historical Society
345 Kellogg Blvd., West
St. Paul, MN 55102-1906

Senators & Representative

Senator Amy Klobuchar
320 Hart Senate Office Building SH-320
Washington, D.C. 20510-2303

Senator Norm Coleman
320 Hart Senate Office Bldg.
Washington, D.C. 20510-2303

Congresman James Oberstar
2365 Rayburn House Office Building,
Washington, DC 20515-2308

cc:
Lee Radzak, Historic Site Manager
Split Rock Lighthouse
Minnesota Historical Society
3713 Split Rock Lighthouse Rd.
Two Harbors, MN 55616

Governor Tim Pawlenty
130 State Capitol
75 Constitution Avenue
St. Paul, MN 55155

Bonnie McDonald, Executive Director
Preservation Alliance of Minnesota
516 Landmark Center
75 West 5th Street
St. Paul, MN 55102

Donald J. Terras, Director
Lighthouse Park District, Grosse Point Lighthouse
2601 Sheridan Road, Evanston, IL 60201-2431

Bob Trapani, Executive Director
American Lighthouse Foundation
P.O. Box 565
Rockland, ME 04841

Jeffrey S. Gales
United States Lighthouse Society (National Office)
244 Kearny St., 5th Floor
San Francisco, CA 94108

Candace Clifford
35 E. Rosemont Ave.
Alexandria, VA 22301

Ralph Eshelman
12178 Preston Dr.
Lusby, MD 20657

Terry Pepper, Executive Director,
Great Lakes Lighthouse Keepers Association,
P.O. Box 219
Mackinaw City, MI 49701-0219

Split Rock Light Station NHL nomination
Final Notification List
August 7, 2008
National Park Service, MWRO

Property Owners:

Site Administrator:
Dr. Nina Archabal, Director
Minnesota Historical Society
345 Kellogg Blvd., West
St. Paul, MN 55102-1906

Lee Radzak
Historic Site Manager
Split Rock Lighthouse
Minnesota Historical Society
3713 Split Rock Lighthouse Rd.
Two Harbors, MN 55616
P: 218-226-6372
F: 218-226-6373
www.mnhs.org/splitrock

William Keyes
Historic Sites Division
Minnesota Historical Society
345 Kellogg Blvd. W.
St. Paul, MN 55102

Courtland Nelson, Director
Parks and Recreation
Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, MN 55155

Political Representatives:

Lake County Commissioners
601 Third Avenue
County Courthouse
Two Harbors, MN 55616-1517

Sen. Thomas Bakk
Minnesota Senate – District 6
226 State Capitol,
St. Paul, MN 55155-1606
-and-
2361 Retreat Road
Cook, Minnesota 55723

Rep. David Dill
Minnesota House of Rep. –District 6A
571 State Office Building
St. Paul, MN 55155-1298
-and-
423 Bear Island
Crane Lake, MN 55725

Governor Tim Pawlenty
130 State Capitol
75 Constitution Avenue
St. Paul, MN 55155

Senator Amy Klobuchar
320 Hart Senate Office Building SH-320
Washington, D.C. 20510-2303
-and-
1200 Washington Avenue South, Suite 250
Minneapolis, MN 55415

Senator Norm Coleman
320 Hart Senate Office Bldg.
Washington, D.C. 20510-2303

Congressman James Oberstar, District 8
2365 Rayburn House Office Building,
District of Columbia 20515-2308
-and-
231 Federal Building
Duluth, Minnesota 55802

Interested Organizations/Individuals

Preservation Alliance of Minnesota
c/o Bonnie McDonald, Executive Director
516 Landmark Center
75 West 5th Street
St. Paul, MN 55102

cc

Donald J. Terras, Director
Lighthouse Park District, Grosse Point Lighthouse
National Landmark
lpdnhl@grossepointlighthouse.net; personal email:
DJTerras@earthlink.net
Mailing address: 2601 Sheridan Road, Evanston, IL
60201-2431; 847-328-6961
www.grossepointlighthouse.net

Bob Trapani, Executive Director
American Lighthouse Foundation
btrapani@lighthousefoundation.org
P.O. Box 565 Rockland, ME 04841
Phone: (207) 594-4174 Fax: (207) 593-1091
www.lighthousefoundation.org
Executive Director, Maine Lighthouse Museum
P.O. Box F Rockland, ME 04841
(207) 594-3301
www.mainelighthousemuseum.com

Jeffrey S. Gales
United States Lighthouse Society (National Office)
244 Kearny St., 5th Floor, San Francisco, CA
94108
(415) 362-7255; (415) 362-7464 fax
www.USLHS.org

Candace Clifford
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703-548-0532
jcclifford@earthlink.net
www.lighthousehistory.info

Kevin Foster
???

Ralph Eshelman
12178 Preston Dr., Lusby, MD 20657
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ree47@comcast.net

Terry Pepper
Executive Director, Great Lakes Lighthouse
Keepers Association,
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terry@gllka.com
www.gllka.com;
www.terrypepper.com/lights/index.htm





















































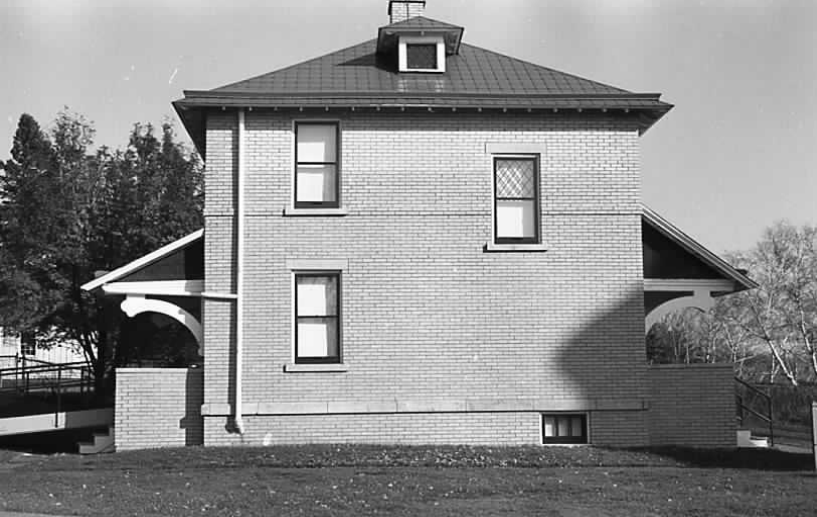


























































































STEAM HOIST ENGINE

This concrete platform is all that remains of the building that housed the steam hoist engine that was used in constructing Split Rock Lighthouse.

Everything needed for building the light station in 1909-10 came by boat. The hoist engine powered a winch that was attached to a derrick hanging over the side of the cliff. Supplies (and sometimes people, too) were loaded into a crate, and then slowly winched up to the top.

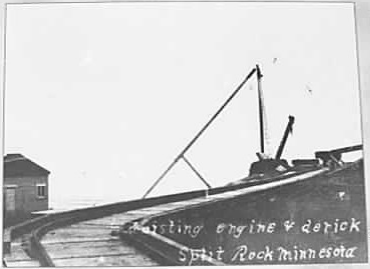


Photo MHS



What happened to the hoist?

The keepers continued to use the hoist until 1915, when a storm blew over the engine. The next year a tramway was built on the other side of the lighthouse. The hoist engine and derrick were dismantled and sold.

You can see a "twin" of the hoist engine in the visitors' center.