

**HISTORIC STRUCTURE REPORT  
FOR  
MISSION POINT LIGHT STATION  
PENINSULA TOWNSHIP, MICHIGAN**



**Prepared for:  
Peninsula Township  
13235 Center Road  
Traverse City, MI 49686**

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**Prepared by:  
U.P. Engineers & Architects, Inc.  
102 W. Washington Street, Suite 217  
Marquette, MI 49855**

**Final Report  
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## PART I – INTRODUCTION

### A) EXECUTIVE SUMMARY

The Historic Structure Report (HSR) is an initial component and planning tool used to document the history, current conditions and use, and guide the preservation and restoration work of an historic site or building. The purpose of this Historic Structure Report is to define the historic character of the Old Mission Point Light Station, document current existing conditions at this present date of time, and to guide the future use, preservation and restoration of the site and buildings.

The Mission Point Light Station was established in 1870 at the northernmost tip of an 18 mile long peninsula in Lake Michigan known as the Mission Peninsula. This long and slender expanse of land extends north from Traverse City and divides Grand Traverse Bay into east and west sections also known as “arms”. The historic light station, currently owned by Peninsula Township in Grand Traverse County, Michigan, is part of a 115 acre township park known as “Lighthouse Park,” and includes several structures and site features. These structures and features include the Light Tower/Keeper’s Dwelling (c 1870), Oilhouse (c1899), Well House (c 1870), Storage Building (c 1890), Garage (c1930), wood fences, and sidewalks. Other buildings on the site that no longer exist include a Privy, Tool House, Summer House, Barn, and Boathouse. A log cabin building known as the Hessler House, was moved to a location just outside of the fenced Light Station grounds, but is not part of the historic Light Station and is not included in this report.

The Grand Traverse Bay region was originally home to various groups of Native Americans due to the rich fishing grounds and fertile lands. As word of this area spread, settlers arrived in large numbers and by the middle of the nineteenth century ship traffic in Grand Traverse Bay was heavy. Great care had to be taken by mariners as they navigated around the tip of the Old Mission Peninsula due to the shoals that extended far north from the last visible point of land. With an appropriation from Congress in 1859, the U.S. Lighthouse Board began a search for a suitable site for a lighthouse. A site at the tip of the Old Mission Peninsula was selected, north of an original settlement known as the Village of Old Mission. As the Civil War came to an end and the country’s economy began to improve, work on the new lighthouse began in early 1870 and became operational in the fall of that year.

As with many light stations in this region, the time period of 1870 through the 1930s was one of great activity. Additional structures were constructed during this time period along with fencing and walkways. Old Mission Peninsula and Mission Point were also popular tourist destinations around the turn of the century, unlike many of the more remote lighthouse sites. The Light Station operated until 1933

when a new offshore light was constructed and put into operation in the late 1930s and the Mission Point Light Station was decommissioned and abandoned. In the mid-1940s the Lighthouse, related structures and surrounding five acres were purchased by the State of Michigan from the Federal Government for a park. The property was eventually deeded to Peninsula Township in 1948 along with responsibility for its care and preservation. The Keeper's Dwelling was used as a residence for the caretaker of the park until 2008. During this time period the historic site was open to the public but none of the buildings could be entered. In 2008, a "light keepers" program was instituted, and the buildings were opened to the public. The "lighthouse keepers" reside in the Keeper's Dwelling, perform light maintenance duties and act as tour guides. Mission Point Light Station, currently under the jurisdiction of the Peninsula Township Park Commission, continues to be a popular destination for area.

U.P. Engineers & Architects, Inc., Marquette, Michigan was retained by the Peninsula Township Park Commission in June 2011 to prepare this Historic Structure Report. On-site research and documentation was conducted in August 2011 and interviews and discussions with Peninsula Township Park Staff were subsequently held. The historic research, chronology of events, historic drawings and photographs included in this report were compiled and developed by Ms. Stefanie L. Staley, Mission Point Lighthouse Museum consultant and Ms. Sonja Richards, with the Peninsula Township Park Commission.

This Historic Structure Report has been partially funded with the assistance of a grant from the State of Michigan through the Michigan Lighthouse Assistance Program. This grant has been awarded by, and is administered through, the State Historic Preservation Office, Michigan State Housing Development Authority.

The public can help fund the restoration and preservation of Michigan's Lighthouses by purchasing a lighthouse vehicle license plate. Further information about this program is available by contacting a local Secretary of State office or the State of Michigan website [www.michigan.gov](http://www.michigan.gov).

## **B) ADMINISTRATIVE DATA**

The Mission Point Light Station, commonly referred to as the Mission Point Lighthouse Museum or the Old Mission Point Lighthouse, is located at the northernmost tip of the Old Mission Peninsula, approximately twenty miles north of Traverse City on Highway M-37, also called Center Road. Its location is 44° 59' 28.7" N, 85° 28' 46.1" W in Grand Traverse County, Michigan. The historic Light Station is part of Lighthouse Park which is owned by Peninsula Township and is administered by the Peninsula Township Park Commission. The Light Station is

directly accessible by auto and a short walk on hard surface trails. There are no active aids to navigation present at the Light Station.

The Mission Point Light Station is listed on the National Register of Historic Places (#1980004798, listed in 1980) and the Michigan State Register of Historic Sites (Site ID# P-25467, listed in 1992) under the name Mission Point Lighthouse.

The Period of Significance identified in the National Register of Historic Places listing is 1870 to 1933, which represents the period of initial construction through its closure. The Period of Interpretation for this lighthouse site representing a period of high activity is 1900 to 1920.

The popular setting and easy access of the Mission Point Light Station on the Mission Peninsula presents unique challenges and opportunities for the treatment of historic resources and use of the buildings and site. General recommendations for the use of the Light Station are detailed here with specific treatment recommendations included later in the report.

With closure and discontinued use of this site by the Federal Government, transfer to the State of Michigan and eventual sale to a local township, all responsibilities for preservation, restoration and maintenance work at Mission Point Light Station lies with the local government unit of Peninsula Township. Based on their recent work, the intent is to continue developing the site for a public museum/interpretive center that focuses on Great Lakes maritime history specific to this region of Lake Michigan. Provision for regular visitor use and the related amenities needed to serve visitors and staff will influence the use of specific buildings and the historic site. As with many similar facilities on the northern Great Lakes, it is likely that operations will be seasonal, running from approximately May to October due to weather concerns. It is feasible, however, to expect that the Light Station may be occasionally open to visitors during the winter season months for special events.

Peninsula Township Park Commission has done a commendable job caring for the buildings and site and all structures are in sound condition. Prioritization of future work includes preservation, rehabilitation and restoration of resources.

The Lighthouse, referred to in this report as the Light Tower/Keeper's Dwelling, is the oldest structure on site and is the main attraction for visitors. As the primary interpretive space the interior shall continue to be used for exhibits and shall be adapted for period restoration. Living quarters for the "Lighthouse Keepers" may continue to be provided in this building, however, more of the dwelling shall be available for visitor access.

The recommended use for the Storage Building is for period exhibits, with treatment of the interior and exterior as restoration and rehabilitation. The Storage

Building is recommended to be relocated to its original location east of the Light Tower/Keeper's Dwelling.

The recommended use for the Garage is for a visitor center and gift shop, with treatment of the exterior as restoration.

The two small structures, the Pumphouse and the Oilhouse, serve as support structures important to the overall interpretation of the site. These buildings may also be used for storage with the interiors adapted for this use. Recommended exterior treatment is restoration.

Recommended treatment for existing site elements such as fences and sidewalks are preservation and restoration. Other non-extant structures such as the Privy and Summer House are recommended for reconstruction, while the non-extant Boathouse, Barn and Tool House shall be interpreted through signage and photographs.

U.P. Engineers & Architects, Inc. gratefully acknowledges the assistance of the following individuals:

- ◆ Ms. Sonja Richards, Peninsula Township Park Commission
- ◆ Ms. Stefanie Staley, Mission Point Lighthouse Museum Consultant and Manager, Grand Traverse Lighthouse, Northport, Michigan
- ◆ Mr. Dan Leonard, Peninsula Township Planner

Copies of the final Historic Structure Report will be kept at the offices of the Peninsula Township, Traverse City, Michigan; the State Historic Preservation Office (SHPO), Michigan State Housing Development Authority (MSHDA), Lansing, Michigan; and the Grand Traverse Lighthouse Museum, Northport, Michigan. Additional copies will be retained at the offices of U.P. Engineers & Architects, Inc., Marquette, Michigan and Sanders & Czapski Associates, PLLC, Marquette, Michigan.

**MISSION POINT  
LIGHT STATION  
PROJECT LOCATION**



**TRAVERSE CITY**

**NORTH**

**LOCATION MAP**





## PART II – DEVELOPMENTAL HISTORY

### Mission Point Lighthouse Timeline

Written By Sonja Richards

Source: Johnson, Laura and Stefanie Staley. *Mission Point Lighthouse*. Traverse City, Michigan 2011. Print.

- April 1859                      Grand Traverse Herald reported \$5000 appropriated by Congress to build lighthouse
- February 18, 1869            Local petition for Congress to re-appropriate funds to build a lighthouse was approved
- September 10, 1870        Mission Point Lighthouse lit
- September 1870            First lighthouse keeper: Jerome Mortimer Pratt (born Granville, Ohio October 13, 1818; died on Old Mission Peninsula of natural causes September 11, 1891).

*Pratt married Araminta Dormer Rosecrants (born in New York) in Ypsilanti, Michigan on June 18, 1845. Before his work as a lighthouse keeper, Pratt was a special agent to the Indian Bureau for settlers in Northern Michigan. The couple lived in Washtenaw County until 1849.*

*In August of that year, he and Araminta moved to Traverse City and into the village of Old Mission. He was a Government Farmer (until 1852). His mother also lived with the family.*

*Pratt was very active in the Presbyterian Church and local politics. For Peninsula Township, he “served as Deputy Clerk, Township Clerk, and Director for the Poor” (7).*

*Once his duties as Government Farmer ended, he farmed for himself and his family. He and Araminta had several children: In 1860, they were Mortimer (age thirteen), Mary (age eleven), Roxana (age eight), Richard (age six), Emma (age four), and William (age two).*

*From July 11, 1861 to September 30, 1868, Pratt served as lighthouse keeper of Skillagalee Light Station in Northern Lake Michigan. His mother died while they were stationed there.*

*Pratt not only signed a petition, along with Perry Hannah (one of Traverse City's founders), to ask for money to build Mission Point, but when the materials arrived, he helped to construct the lighthouse. The lens arrived in August 1870, and his signature indicates that he accepted the delivery. He took his position as first Light Keeper in September of that year.*

*In 1872, the Pratt's adopted a baby named Eddie. On October 8, Pratt's log book states that their newest family member died at just four months old.*

*Jerome Pratt was removed from duty as the Lighthouse Keeper, supposedly for political reasons. After his stint as keeper, Pratt and his family went back to farming. He and his family remained well-loved by the Indian community of the area, and he continued his political involvement. Living on Old Mission for as long as he did and being as involved as he was with the community, he became a highly respected local historian, so much so, that his death in 1891 was noted much more prominently than typical for the time (5-13).*

January 30, 1877

Jerome Mortimer Pratt removed from duty

April 1, 1877

*Second Lighthouse Keeper: John McHarry (born 1805 in Ireland; died in Traverse City, Michigan on August 4, 1881) John McHarry and his wife, Mary Hamilton, were married in Ireland before immigrating to America in 1823. Their records are incomplete, but it is known that they had "at least three children – on being Mary Ann born in 1830 ... at least one son, David McCormick, born in 1849" (15).*

*McHarry was nominated to be the light keeper at Waugoshance Lighthouse from August 12, 1865 to January 30, 1877. It appears that while keeper here, he also had a home in Holmes, a township of Mackinac County, in which his grandson and his wife lived. His grandson's name was David Cormick (McCormick), and even after McHarry died, he owned property in Emmet and Mackinaw Counties.*

*On April 1, 1877, McHarry was transferred to Mission Point, where he painted the inside and dug a cellar despite his age of 75 years.*

*McHarry died by drowning on August 4, 1881. Although the Grand Traverse Herald reported the story, details are unknown. The Herald reported that he jumped over the side of the City of Traverse for possible reason being insanity. He was 75, and questions remain concerning his family and his life at both of the light stations he served.*

1880 Interior and exterior of Lighthouse painted, outdoor cellar dug

August 1, 1881 McHarry fell overboard off the *City of Traverse* and drowned; age was "about 75 years"

August 16, 1881 Third Lighthouse Keeper, John Lane (born in Monroe, Michigan August 9, 1827; died at Rushmore/Doherty house in Old Mission December 12, 1906 of natural causes)

*John Lane, a brother to two sisters, became a sailor at only fourteen; his mother died when he was six, and his father followed her in death eight years later. His sailing days were spent on a whaling vessel and then as captain on a Great Lakes steamer.*

*On Christmas Eve, 1857, Lane married Sarah Noyes in Williamston, Massachusetts. Sarah had a similar childhood as John, as her mother died when Sarah was only four years old. She had six younger siblings; other than that, little is known about her life before John.*

*John Lane owned the ship called Metropolis, and when their first child, Minnie, was born in 1861, it is said they named her after it.*

*John's first duty as a light keeper was as an assistant at St. Clair Flats South Channel Range Lights on November 5, 1878. He was stationed there until he was transferred to Mission Point Lighthouse (with Sarah as his assistant) on August 16, 1881.*

*The Lane's made several improvements to the lighthouse and grounds during their duty. "In 1889, shore protection, 270' long and 4' high, was built and filled with stone found on site. A brick cistern and a hand pump was [sic] installed on the kitchen" (27). Later, in 1894, the Lane's added a wood shed, and four years later, the brick oil house. In 1901, the dome*

received a new metal lining and the board fence and walkways were installed.

The Lane's daughter Minnie was married in 1890 to William Rushmore. Rushmore did well as a fruit farmer. He owned the house in Old Mission that is now the historic Doherty House. Minnie was the Lane's only child.

The same day John Lane resigned due to illness was the day he died, December 12, 1906; Sarah was made acting keeper. She continued her duties until James Davenport took over on March 12, 1907. During her three months alone at Mission Point, there was talk of closing the lighthouse. However, due to opposition from businesses and other locals, it remained open.

After moving back to Monroe, Michigan and then to Rathway, New Jersey to live with her grandson, Maurice and his family, Sarah eventually died on April 2, 1920. She was 79 years old (21-34).

December 2, 1886	Grand Traverse Herald reported the sinking of the Metropolis off Old Mission Point (no lives lost)
1890	Minnie Lane (daughter of John and Sarah Lane) married William Rushmore (William would become the proprietor of the Doherty House)
1894	Woodshed built
1897	Metal work for oil house ordered
1898	Brick oil house built
1901	New metal lining installed in the lantern dome; 198' fence installed; 344' wire fence installed; 350' walkways built
November 18, 1905	Article titled "Beacon to Sailors Cared for By Women" about the Lane's appeared in the Evening Press newspaper
March 12, 1907	Fourth Lighthouse Keeper (Acting Assistant Keeper), Sarah Lane, wife of John (born in Williamston, Massachusetts on October 16, 1840; died in Rahway, New Jersey on April 2, 1920)

March 1907

Fifth Lighthouse Keeper: James Davenport (born April 1, 1847 on Mackinac Island, died March, 1932 in Mackinaw City)

*Before marrying Madeline Lasley on April 18, 1870, James Davenport was a sailor on the schooners of the Great Lakes. He began his work as a lighthouse keeper at Waugoshance Shoal Light, where he was an assistant for two years beginning in April 1871. He also worked at Little Sable Light as First Keeper and later was transferred to McGulpin's Point Light. During the winters, Davenport and his family would close the lighthouse, as ships could not run due to ice, and move into town. He did carpentry work during these months, and his children attended school.*

*The Davenports had nine children. During the birth of their tenth on March 18, 1891, Madeline died; the baby also died, but three days later. Several years later, on January 1, 1898, one of Davenport's sons, Frankie, fell through the ice and died, as well.*

*It was only when McGulpin's Light was decommissioned in 1907 that Davenport was transferred to Mission Point. He spent his first several months helping Sarah Lane get permission from the Lighthouse Service to remove buildings she and John had built. He remained at Mission Point until his retirement in 1918. The rest of his life was in Mackinaw City, which is where he also died on March 18, 1932, forty-one years (to the day) after his wife passed away (35-38).*

October 20, 1907

Davenport and Sarah Lane petitioned the Lighthouse Board to remove buildings the Lane's had provided during their time at Mission Point.

1918

Davenport retired and returned to Mackinaw City.

November 1, 1918

Sixth Lighthouse Keeper: William Franklin Green, born April 9, 1875 in Northport, Michigan.

*Before joining the U.S. Lighthouse Service on March 26, 1900, William Green also worked at a lumber mill in Northport and as a fruit and vegetable scow. His first job as a lighthouse keeper was Acting Third Assistant at South Fox Island Lighthouse. Nine months later, on December 22, 1900, Green married Kathryn Elizabeth Thomas, also of Northport.*

*Green remained at South Fox Island for three years, during which time, he was promoted several times, eventually to First Assistant. It was at this promotion that he was transferred to Grand Traverse Lighthouse in Northport. In 1907, he was transferred back to South Fox, where he would remain until 1919.*

*On February 1, 1919, Green took over at Mission Point Lighthouse. He worked at Mission Point until again being transferred back to South Fox Island on June 27, 1924. He finished his career as Light Keeper at South Fox on April 30, 1940, the official date of his retirement (39-42).*

June 27, 1924

Green transferred to South Fox Island Lighthouse

June 27, 1924

Seventh Lighthouse Keeper: Emil Conrad Johnson, born November 12, 1884 in Sweden; died August 1935 in Chicago, Illinois.

*Prior to becoming an employee of the U.S. Lighthouse Service on October 24, 1907 at the Chicago Breakwater Light, Emil Johnson immigrated with his family from Sweden to Muskegon County in 1888. He was one of eight children in the family.*

*Johnson was transferred to Grand Traverse Lighthouse, where he served his second post as a Keeper for only two years. He was then transferred to Holland Harbor Lighthouse and worked as First Assistant. During this time, he made Olive Amelia Thompson his wife. The couple was stationed at Holland Harbor long enough to have four children (Eugene E., Earl E., Robert E., and Ruth O.) before being transferred once again, this time to Calumet Lighthouse and then one more time to Grand Traverse. Johnson and his family were at Grand Traverse from 1916-1924. On June 27, 1924, he began his post at Mission Point Lighthouse, where he would remain until the closing of the lighthouse on June 30, 1933.*

*While at Mission Point, Johnson became a widower several times. His first wife died on February 9, 1924. A short while later he married Evelyn Brow, who had a son (Harold). Emil and Evelyn had one child together, Lyle Edmund, on January 29, 1927. About a year and a half later, on June 21, 1930, Evelyn passed away due to a burst appendix. Johnson married his third wife, Josie Louise Wollam on May 16, 1932.*

*Also during his time at Mission Point, the Lighthouse Service expressed concern to the U.S. Forest Service that much of the virgin Hemlock forest surrounding Mission Point was “dead or dying” (44). While the U.S. Government put out for bids to remove the timber, none came in; eventually, the 142 acres was turned over to the State of Michigan to be a park; the Lighthouse Service retained 9 acres for the Lighthouse and grounds.*

*When Mission Point closed, the Johnson’s were transferred to Grassy Island Lighthouse in Wisconsin. He retired on May 23, 1935 and then died of cancer only a few months later (43-46).l*

- |                  |  |
|------------------|--|
| February 9, 1925 | Johnson’s wife, Olive, died; Johnson became single father of four children. He soon married Evelyn Brow.   |
| 1927             | Michigan State Parks acquired 142 acres surrounding Mission Point Lighthouse; 9 were to be used for the Lighthouse.  |
| June 21, 1930    | Evelyn Haynes Johnson (Johnson’s second wife) died of a burst appendix; two years later, he married Josie Louise Wollam.   |
| June 30, 1933    | U.S. Lighthouse Service officially closed Mission Point Lighthouse.  |
| 1938             | An offshore light was installed to replace the lighthouse.   |
| January 30, 1948 | Peninsula Township residents collected \$1935.00 to purchase Mission Point Lighthouse, along with 5.38 acres to be used as a public park, from the Federal Government (it actually cost \$1001.00).  |
| 1948-2008        | Residents replaced windows and completed other necessary repairs to the house.<br><br>Caretakers hired by Peninsula Township resided in the house and did restoration work through the years.<br><br>At some point, the shed was moved to behind the lighthouse, where it was used as a concession stand during the 1950’s. It still sits in that place today. |

1992	Mission Point Lighthouse added to the Michigan Register for Historic Sites.
July 2008	Keeper Program started, gift shop opened, and Lighthouse is open to visitors.
May 2011	Fresnel Lens taken on loan from Coast Guard to display in museum.
Present	Mission Point Lighthouse continues to grow and prosper. The Peninsula Township Parks Commission hopes to continue efforts to restore the buildings and grounds, to offer more educational displays, and to expand the museum and gift shop.

# Keepers of the Mission Point Light

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**Year Station Established**

1870

**Year Station Discontinued**

1933

Also known as: \_\_\_\_\_

Rebuilt: \_\_\_\_\_

Auto: \_\_\_\_\_

Position	Last Name	First Name	I	Born	Died	Start			End			Comment
						D	M	Year	D	M	Year	
Kpr.	Pratt	Jerome Sr.	M.			3	9	1870	30	1	1877	Rmv d.
Kpr.	Mc Haney	John	M.		1881	30	1	1877	15	8	1881	Died
Act. Kpr.	Lane	John	W.			16	8	1881	19	6	1883	Perm. Appt.
Kpr.	Lane	John	W.			19	6	1883	12	12	1906	Rsgd.
Act. Kpr.	Lane	Mrs. Sarah	E.			13	12	1906	12	3	1907	Rsgd.
Kpr.	Davenport	James		1847		13	3	1907			1919	Retired
Kpr.	Green	William	F.	1875				1919	27	6	1924	Trsfed.
Kpr.	Johnson	Emil	C.			27	6	1924	30	6	1933	Last Kpr.

Information compiled by Phyllis L. Tag of Great Lakes Lighthouse Research

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This page last updated 02/04/2003

### **PART III – EXISTING CONDITIONS/PHYSICAL DESCRIPTION**

Documentation of existing conditions at the Mission Point Light Station was performed by Mr. Ken Czapski, AIA, a registered architect in Michigan, during a site visit on August 26 and 27, 2011. A second site visit was made by Mr. Czapski on May 22, 2012. Discussions with Peninsula Township Park Commission members Ms. Sonja Richards and Ms. Anne Griffiths also occurred during the site visits.

The building and site drawings included in Appendix C should be referenced, along with the text of this section. The drawings indicate a “plan north”, which is used to reference north, south, east and west orientation throughout this report.

A) SITE

The buildings and structures of the Mission Point Light Station are situated on a 20 acre site known as Lighthouse Park near the tip of the Old Mission Peninsula. In addition to the historic buildings and grounds of the Light Station, there are other features and amenities in the park including log cabin known as the Hesler Log House, a modern outhouse for the park visitors' use, paved and non-paved trails and wood boardwalks. These features, seen in Photos III-A-1, III-A-2, III-A-3, III-A-4, and III-A-5, are not included in the scope of this report. With access to the Lake Michigan shoreline, the park is a popular destination for local residents as well as tourists.



Photo III-A-1



Photo III-A-2

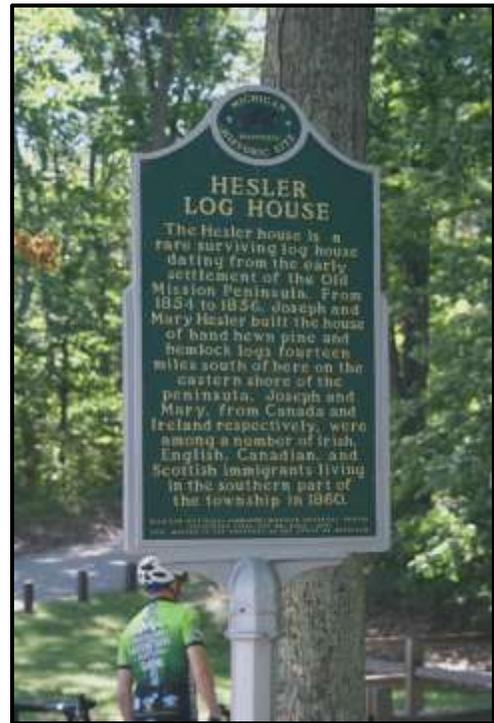


Photo III-A-3



Photo III-A-4



Photo III-A-5



Photo III-A-6

The historic light station site is defined by a simple wood fence as seen in Photo III-A-7 that surrounds the grounds. The Light Tower/Keeper's Dwelling, Well House, Oilhouse and Storage Building lie within this fenced enclosure. The Garage and some older concrete sidewalks/equipment pads lie outside of this enclosure. There are no other elements or structures beyond the fence.



Photo III-A-7



Photo III-A-8

The wood fence varies in height at different locations from 3'-0" to 3'-11" and is constructed of vertical boards with actual dimensions of 1¼" x 5", as seen in Photo III-A-8. Some sections of fence have 4" diameter wood posts, likely to be cedar, while other sections have treated 4 x 6 wood posts. The outer face of the fence is painted or whitewashed while the inside, or yard face is natural. The fence is in average condition although there are areas where boards and posts are damaged. There are a number of gates, as seen in Photos III-A-9, III-A-10 and III-A11, that control pedestrian traffic into the yard.



Photo III-A-9



Photo III-A-10



Photo III-A-11

The wood fence terminates at the southeast corner of the site at a small enclosure that surrounds an above-ground gasoline storage tank. Refer to photos III-A-12, and III-A-13. The gasoline storage tank holds approximately 250 gallons and is used for park maintenance vehicles. The steel tanks rest on wood planks. There is no provision for spill containment. Many of the vertical boards around this enclosure, which is 5'-7" high, are in poor condition, particularly at the base.



**Photo III-A-12**



**Photo III-A-13**



**Photo III-A-14**

At the time of the second site visit on May 22, 2012 it was observed that the gasoline storage tank and fenced enclosure have been removed, as shown in Photo III-A-14.

A number of concrete sidewalks are present on the site, both new and old. An early sidewalk that runs west to the fence, Photo III-A-15, terminates at an 8'x10' concrete pad outside the fenced yard as seen in Photo III-A-16. This early sidewalk also runs north-south past the Well House, Photo III-A-17, and west of the Light Tower/Keepers Dwelling, Photo III-A-18. A new concrete sidewalk is found at the front entry to the Light Tower/Keeper's Dwelling. This new section of sidewalk, which is seen in Photo III-A-19, terminates at a gate in the wood fence. All concrete sidewalks are in reasonably good condition.



Photo III-A-15



Photo III-A-16



Photo III-A-18



Photo III-A-17



**Photo III-A-19**

Other walkways at the site include crushed gravel walks that extend from the Garage and Storage Building to the rear entry of the Light Tower/Keeper's Dwelling. A series of steps formed with wood timbers provides the approach to the rear deck. Refer to Photos III-A-20 and III-A-21. Rocks and plants define the boundaries of this walkway. East of the Light Tower/Keeper's Dwelling is a picnic area with picnic tables and a campfire ring, as seen in Photos III-A-22 and III-A-23. Some landscaped areas are defined with rocks and there is a short section of walkway constructed of circular wood slabs as seen in Photo III-A-24.



**Photo III-A-20**



**Photo III-A-21**



Photo III-A-22



Photo III-A-23



Photo III-A-24

Adjacent to the east wall of the Light Tower/Keeper's Dwelling is a short section of decorative wood fence constructed of small vertical 2" diameter wood logs. This fence provides a border for a small landscape area and is seen in Photos III-A-25 and III-A-26.

A trellis is located west of the Light Tower/Keeper's Dwelling at one of the gates, seen in previous Photos III-A-10 and III-A-15.



Photo III-A-25



Photo III-A-26

Other site elements located in the east yard area include an above-ground 500-gallon propane tank, Photo III-A-27 and a septic tank clean-out cover, Photo III-A-28. The exact location of the septic drainfield is not known but it is presumed to be in this general vicinity, north of the Garage.



Photo III-A-27



Photo III-A-28

A variety of signs are placed at the site in various locations at the entrance to Lighthouse Park along the road and adjacent to the fenced enclosure around the Light Station. Previous Photo III-A-1 shows a sign at the park entry approximately one-half mile south of the Light Station. Photos III-A-29 and III-A-30 show another sign and a fieldstone memorial located closer to the parking area for visitors. The stone memorial is dedicated to Peninsula Township residents that served in World Wars I and II. Photos III-A-31, III-A-32 and III-A-33 show signage immediately south of the fenced enclosure. All signage is in reasonably good condition but lacking in uniformity.



Photo III-A-29



Photo III-A-30



Photo III-A-31



Photo III-A-32



Photo III-A-33

In addition to the asphalt paved walkways there is a wood boardwalk at the northwest corner of the Light Station site that is the primary approach for visitors to the Light Tower/Keeper's Dwelling. Refer to Photo III-A-34. This boardwalk is also seen in previous Photos III-A-5 and III-A-19. A wood stairway, as seen in Photo III-A-35 allows visitors to easily access the popular beach area as seen in Photo III-A-36. There are no walkways on the lower dunes and foot traffic has eroded some of the dune vegetation. The boardwalk, fence, and stair are all in reasonably good condition.



**Photo III-A-34**



**Photo III-A-35**



**Photo III-A-36**

The site is well-maintained by Peninsula Township and all site elements described are in good condition. There are no known environmental hazards at the site.

**B) LIGHT TOWER/KEEPER'S DWELLING**

The main building on the site is the one most commonly referred to as the "Lighthouse", which is actually the Light Tower with attached dwelling. In this report this building shall be referred to as the Light Tower/Keeper's Dwelling.

The Light Tower/Keeper's Dwelling is a one and one-half story wood frame structure with an attached single story structure located at the south, or rear. The main portion measures 30'-1" x 28'-2" in plan with the single story section measuring 12'-0" x 25'-4" in plan. There is a partial basement below the main dwelling with a crawl space below other areas. In the recent past this building was used as a residence for the caretaker of the park employed by the Township. Currently it continues to be used as a seasonal residence for temporary "lighthouse keepers" who serve as tour guides and also perform minor maintenance duties. A portion of the first floor, the second floor, tower and lantern are used as museum space which is open to the public. Exterior views of the building are seen in Photos III-B-1, III-B-2, and III-B-3.



**Photo III-B-1**



**Photo III-B-2**



**Photo III-B-3**

## Structural System Analysis

The Light Tower/Keeper's Dwelling is a wood frame structure on a masonry foundation constructed of a variety of materials including brick, stone, and concrete masonry units (concrete blocks). The single story lean-to structure is constructed on a stone masonry foundation, as seen in Photos III-B-4 and III-B-5. Visible areas of the stone masonry at the southeast corner show signs of deterioration including cracks, loose stones and deteriorated masonry. Most of the exterior face stone foundation is concealed from view by the wood deck. The southeast corner of the wall has settled and cracked as seen in Photo III-B-6. The crawl space below this portion of the building is very shallow, with a dirt floor located approximately 12" below the bottom of the floor joists. The crawl space is accessed from a very small wall opening, seen in Photo III-B-7 from the basement.



Photo III-B-4



Photo III-B-5



**Photo III-B-6**



**Photo III-B-7**

The main structure of the Light Tower/Keeper's Dwelling is constructed on brick masonry piers which are filled in between with 8" concrete masonry units, indicating that the building was originally constructed with only a crawl space. Exterior views are seen in Photos III-B-8 and III-B-9, and interior views are seen in Photo III-B-10 at the crawl space and Photo III-B-11, showing a corner pier in the basement.

There is considerable deterioration of the brick masonry piers at the bottom sections as seen in Photos III-B-12 and III-B-13. The concrete masonry unit walls are in reasonably good condition with some minor areas of mortar joint deterioration.



Photo III-B-8



Photo III-B-9



Photo III-B-10



Photo III-B-11



**Photo III-B-12**



**Photo III-B-13**

At the center of the building there is a single brick masonry pier that has a partial concrete masonry wall framing into it. Refer to Photo III-B-14. The large opening in this wall leads from the full basement on the east half to the crawl space on the west half.



**Photo III-B-14**

The brick masonry chimney, seen in Photo III-B-15 is in sound condition with relatively minor deterioration. Adjacent to the chimney in the crawl space, a concrete masonry unit wall was constructed to support the fireplace hearth on the first floor. This wall, Photo III-B-16, is in poor condition with loose masonry units.



Photo III-B-15



Photo III-B-16



Photo III-B-17

The full basement on the east half of the dwelling has a poured concrete floor. Although the floor slab is reasonably sound, it appears to have been poorly constructed and patched. The crawl space portion has a dirt floor.

The first floor framing in the lean-to structure consists of 3" x 8" wood floor joists spaced 1'-9" on center. Due to the inability to access the crawl space area, the overall condition of the floor joists is not known, but some minor deterioration can be expected, particularly at the perimeter stone masonry wall. The first floor joists located in the main dwelling are 2½" x 10" wood floor joists spaced 1'-9" on center. Framing and the one inch thick floor sheathing are seen in Photo III-B-17. Where the floor structure is visible, there are numerous areas of water stains, presumably from plumbing leaks or other infiltration.

Access to the attic space was gained by removing a 1'-10" wide x 3'-10" high wood panel access door located in a kneewall of the original bedroom as seen in Photo III-B-17A. Second floor joists are 2-1/8" x 7-1/8" deep wood members spaced 16" o.c. Kneewalls, which are 5'-4" high, are framed with 2" x 3 3/4" wood studs spaced 16" o.c.

Roof rafters are 1-7/8" x 6" deep wood members spaced 20" o.c. Roof sheathing consists of one inch thick planks of varying widths. Second floor ceiling joists are 1-7/8" x 4 1/4" deep wood members spaced 20" o.c. All framing members, where observed, were in good condition.

Attic insulation consists of a base layer of a poured vermiculite type material approximately two inches thick, covered by approximately 10" of blown cellulose insulation. Kneewalls and tower walls are covered with 2 layers of 3 1/2" unfaced fiberglass insulation. There were a few Styrofoam air baffles in place at the eave line however, the blown insulation appears to be blocking most of the air circulation space at the eaves. Gypsum board baffles were installed at the top of the kneewalls also preventing air circulation to the upper attic.

Attic conditions are shown in Photos III-B-17B, III-B-17C, and III-B-17D.



Photo III-B-17A



Photo III-B-17B



Photo III-B-17C



Photo III-B-17D

### Exterior Conditions and Analyses

The exterior walls of the Light Tower/Keeper's Dwelling and the Light Tower are covered with horizontal wood siding with a 4" exposure on the main building and 4<sup>3</sup>/<sub>4</sub>" exposure on the lean-to structure. Paint finish on the siding and trim is in poor condition, with many areas of peeling and flaking paint as seen in Photo III-B-18. The earth berm along the west and partial north side of the building is in close contact with the wood water table trim, resulting in some rot and deterioration. Refer to Photos III-B-19 and III-B-20.



Photo III-B-18



Photo III-B-19

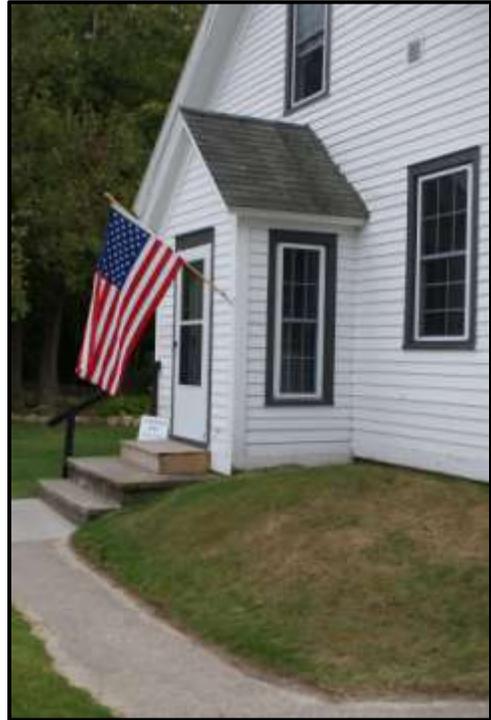


Photo III-B-20

Photos III-B-21 and III-B-22 show a lack of metal flashing at roof/wall intersections and the resulting deterioration of the wood siding. Painted wood trim around many windows is in poor condition with rotted wood and peeling paint. Deterioration of vinyl window trim flashing and caulking, as seen in Photos III-B-23, III-B-24, and III-B-25 allow water penetration into the wood sills.



Photo III-B-21



Photo III-B-22



Photo III-B-23



Photo III-B-24



Photo III-B-25

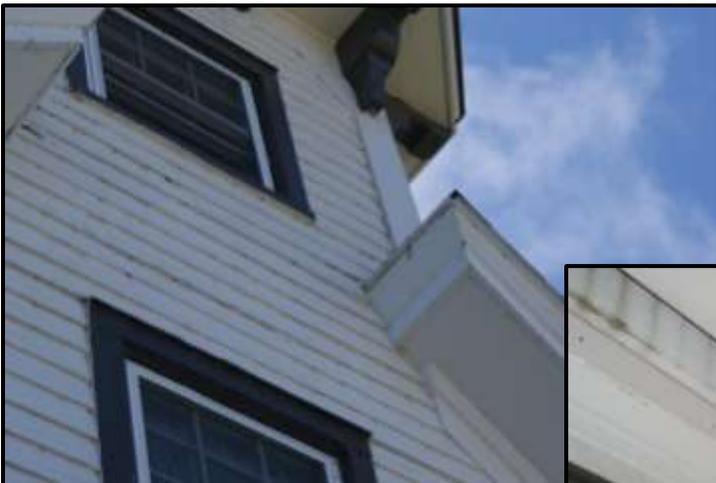
All fascia and soffits are painted wood trim as seen in Photos III-B-26, III-B-27, and III-B-28. All wood is in reasonably good condition with some minor deterioration. A single aluminum gutter is located along the edge of the lean-to roof. This gutter, which is seen in Photos III-B-26 and III-B-29, discharges at the southwest corner to a downspout and below grade drain pipe.



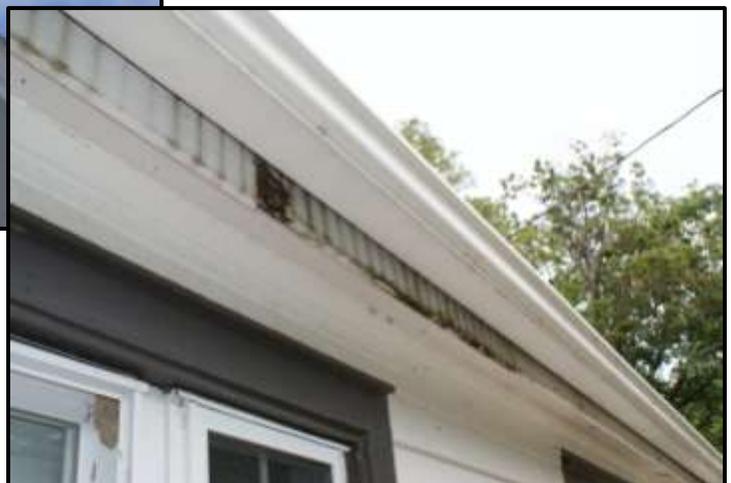
**Photo III-B-26**



**Photo III-B-27**



**Photo III-B-28**



**Photo III-B-29**

Wood siding and trim at the lantern tower appear in good condition. Refer to Photos III-B-30 and III-B-31. Wood trim does appear to be in contact with the asphalt shingle roof with no noticeable metal flashing.



**Photo III-B-30**



**Photo III-B-31**

All windows on the first and second floor, and the tower are vinyl double hung units with simulated divided lights. Refer to Photos III-B-32, III-B-33, and III-B-34. All windows have metal screens. Most units are in good condition and are operational however the surrounding vinyl trim is in poor condition in many places. The vinyl windows are not an appropriate material for the building.



**Photo III-B-32**



**Photo III-B-33**



**Photo III-B-34**

Basement windows are inward swinging, top-hinged metal casement as seen in Photos III-B-35 and III-B-36. These window units, which are set into the concrete masonry unit walls, are in good condition, although the paint finish is in poor condition.



**Photo III-B-35**



**Photo III-B-36**

There are two exterior doors on the building and both have outward swinging metal storm/screen doors, as seen in Photo III-B-37. The inside, inner swinging exterior doors are both insulated metal doors with glass. These doors are all in good condition but not an appropriate style or material for the building.



**Photo III-B-37**

The building roof is a standard 3-tab asphalt shingle roof on both the main dwelling, the lean-to and porch, as seen in previous photos and Photo III-B-38.



**Photo III-B-38**

Attic ventilation is provided by small wall vents in the south gable end and two roof vents on the east face. The age of the roof is not known but it appears to be in reasonably good condition. Some patching or replacement of shingles around the tower is seen in Photo III-B-39, completed with the tower restoration project as described in Appendix D.

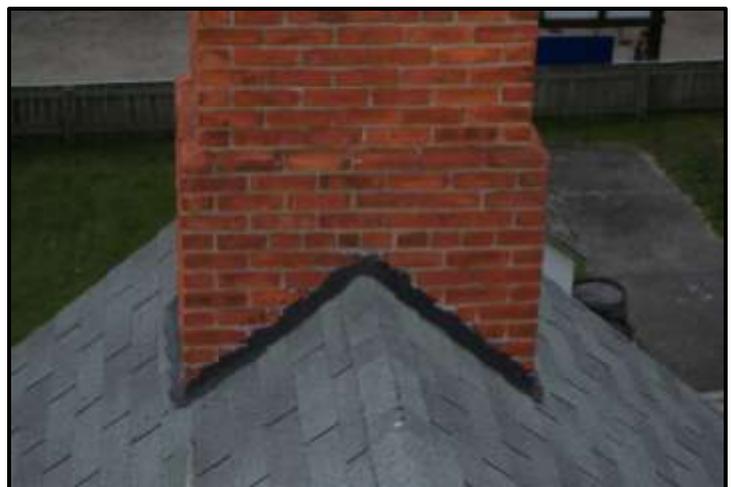


**Photo III-B-39**

The brick masonry chimney is in good condition with some minor mortar joint deterioration. An interesting detail is the bevel cut brick above the chimney base where it narrows. Refer to Photos III-B-40 and III-B-41.



**Photo III-B-40**



**Photo III-B-41**

The metal flashing at the base of the chimney has been removed and a tarred joint provides the weather seal which is subject to deterioration. The cement mortar chimney cap, metal flue and clay flue appear in good condition.

Other exterior features include a wood deck, two concrete porches and a basement stairway and hatch. The wood deck is located on the south end of the dwelling at the rear entry. This deck is seen in Photos III-B-42 and III-B-43. The deck, along with the wood railing, is in reasonably good condition however it conceals the foundation wall and wood siding and is not appropriate to the period of the building. There is a concrete porch located at the main public entry to the building on the north wall as seen in Photo III-B-44. Because of the large step up to the door threshold, a portable wood step is placed in front of the door. The concrete porch is in good condition. A wood handrail, constructed of 2 x 4 lumber, is attached to the side of the concrete. This rail is in poor condition and does not function well with the small wood step.



Photo III-B-42



Photo III-B-43



Photo III-B-44

The second concrete porch is located on the west side of the lean-to structure, as seen in Photos III-B-45 and III-B-46, and was located at an entry door, no longer extant. This porch is constructed of stone masonry with a concrete step and landing surface. There is considerable deterioration of the concrete surfaces and the stone masonry walls.

On the east side of the dwelling there is an exterior basement access stair with a metal hatch door. Refer to Photos III-B-47 and III-B-48. The concrete masonry walls show considerable staining from moisture.



Photo III-B-45



Photo III-B-46



Photo III-B-47



Photo III-B-48

Access from the stair hatch into the basement is through a 3'-2" wide x 4'-10" high door constructed of plywood, as seen in Photo III-B-49. This door, which is in poor condition, has a small vent area. The metal stair hatch cover is in good condition.



Photo III-B-49

### Interior Conditions and Analyses

The interior of the Light Tower/Keeper's Dwelling consists of utility space in the basement, living quarters and some exhibit space on the first floor and more exhibit space on the second floor plus the tower. The building previously provided living quarters for a caretaker employed by Peninsula Township and now serves as living quarters for people serving as lighthouse "caretakers." In general, the building interior is in reasonably good condition for this current use, although a variety of materials and finishes from various time periods are found.

The basement is used for storage as well as housing mechanical, electrical and plumbing systems as seen in Photos III-B-50 and III-B-51. Basement walls are exposed unpainted concrete masonry units and brick. Rigid polystyrene insulation board has been applied to many wall and ceiling surfaces although it has been removed or has broken away in many locations. Fiberglass batts are also found in the first floor joists although this material is also removed or displaced in some areas, particularly where mechanical and electrical systems are found. Refer to Photos III-B-52 and III-B-53. It should be noted that rigid polystyrene insulation is not intended to be left exposed due to its smoke and flame spread rating characteristics.



Photo III-B-50



Photo III-B-51



Photo III-B-52



Photo III-B-53

In the crawl space area on the west side of the building there is no wall insulation and the fiberglass insulation in the floor joists has fallen out of place as seen in Photo III-B-54. The overall condition of all insulation in the basement and crawl space is poor.



**Photo III-B-54**



**Photo III-B-55**

The basement is accessed from an interior stair from the first floor kitchen, Photo III-B-55 or from the exterior hatch as seen in previous Photos III-B-47 and III-B-48. The interior wood stair is in good condition although it lacks a handrail. This stair terminates at a concrete step which is somewhat deteriorated. Wall openings provide access to the crawl space on the west side of the building and the crawl space below the lean-to structure. There are no doors or covers over these crawl space access openings.

First floor spaces include a kitchen, dining room, living room, bathroom and bedroom as part of the living quarters. Adjacent to the front entry is a small gift shop, exhibit room and hallway.

The Kitchen and Dining Room are located at the rear of the building in the single-story lean-to structure. An interesting feature is the hinged counter top and door as seen in Photos III-B-56 and III-B-57 that open to provide access to the basement stair. Kitchen cabinets with a plastic laminate counter are seen in Photo III-B-58. Interior finishes include carpet, painted gypsum board or plaster and painted wood trim. Appliances include a refrigerator, Photo III-B-59, and an electric range, Photo III-B-60. A box-out finished with painted wood shingles conceals ductwork for the exhaust hood above the range, also seen in Photo III-B-60.



**Photo III-B-56**



**Photo III-B-57**



Photo III-B-58



Photo III-B-59



Photo III-B-60

Adjacent to the Kitchen is the Dining Room, as seen in Photo III-B-61 and III-B-62. A built-in hutch is located in one corner adjacent to the entryway to the Living Room, which is 1'-9½" higher than the Dining Room floor level. Interior finishes include carpet, painted gypsum board or plaster and painted wood trim.



Photo III-B-61



Photo III-B-62

The Living Room includes a field stone fireplace constructed around the original brick masonry chimney, Photo III-B-63, and a built-in cabinet constructed in an original door opening to the Hallway, Photo III-B-64. Flooring in this room is 5¼" wide wood flooring. Details of the flooring and the painted wood trim are seen in Photos III-B-65, III-B-66, and III-B-67. A door from the Living Room provides access to the public exhibit room, as seen in Photo III-B-68.



Photo III-B-63



Photo III-B-64

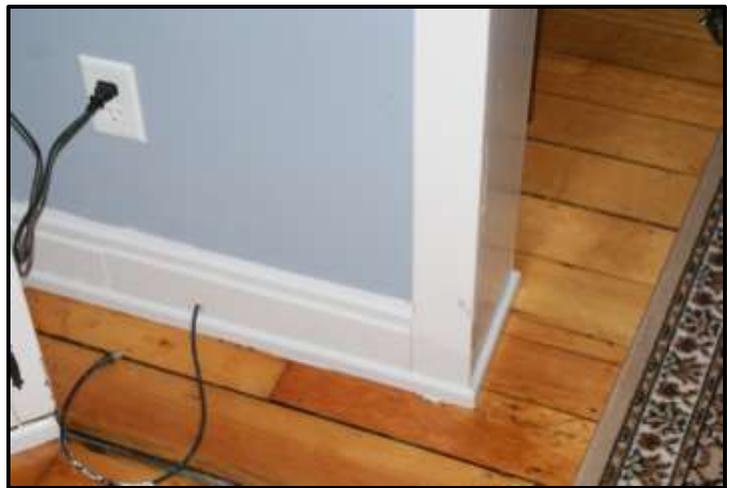


Photo III-B-65



Photo III-B-66



Photo III-B-67



Photo III-B-68

The Bedroom is accessed from both the Living Room and the Gift Shop and has the same interior finishes as the Living Room. Refer to Photo III-B-69. The Bathroom, Photo III-B-70 which includes a laundry area, Photo III-B-71, is only accessed through the Bedroom. Flooring is carpet in the bathroom area and sheet vinyl in the laundry/shower area. This flooring material was not removed to observe the type of condition of any underlying material. The bathroom is only for use of the residents and is not available to the visiting public.



Photo III-B-69



**Photo III-B-70**



**Photo III-B-71**

The public, or museum side of the first floor, consists of a room designated as the Gift Shop where merchandise and tickets are sold, an entry Hallway and Exhibit Room. The Gift Shop is seen in Photos III-B-72, III-B-73 and III-B-74. Interior finishes include hardwood flooring, painted wood paneling, and gypsum board or plaster walls, painted wood trim and 12" x 12" acoustic ceiling tiles. The customer service counter where tickets and merchandise are sold is also seen in Photo III-B-73.



**Photo III-B-72**



**Photo III-B-73**

A narrow hallway transitions from the Gift Shop and provides access for visitors to the stairway and to a small Exhibits Room. The Hallway, as seen in Photos III-B-75 and III-B-76, is finished with stained and varnished horizontal wood paneled walls and ceiling. Wood trim is painted. A small video monitor and built-in cabinets are located in a former door opening. The Exhibits Room contains some period furnishings and displays for visitors. Photos III-B-77 and III-B-78 show the interior finishes which include hardwood flooring 5'-10" high painted wood wainscoat, painted wood trim and 12" x 12" acoustic tile ceilings. The small Entry used by visitors has both a storm/screen door and an inward swinging insulated metal door. The door from the Entry into the building is flanked by sidelights as seen in Photo III-B-79. This door has been removed and is presumed to be one of the doors stored in the basement.



Photo III-B-74



Photo III-B-75



Photo III-B-76



Photo III-B-77



Photo III-B-78

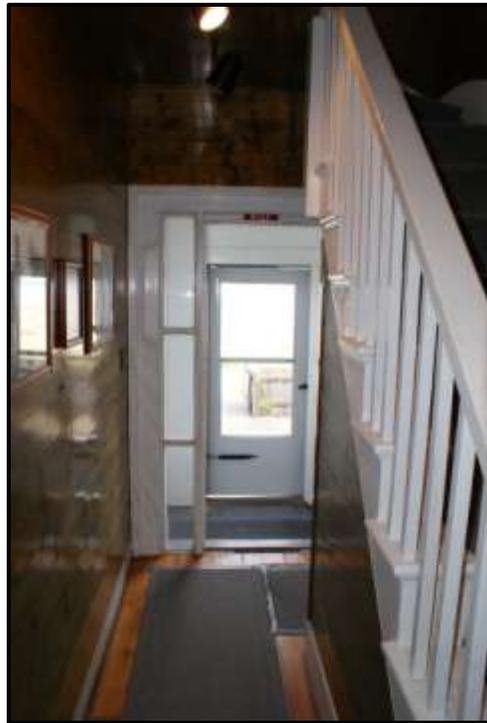


Photo III-B-79

The stairway leading to the second floor is wood with a painted finish on all components. The stair treads and risers are covered with carpet. The horizontal wood paneling continues up the stairway as seen in Photos III-B-80 and III-B-81.



**Photo III-B-80**



**Photo III-B-81**

The second floor of the building, which is open to visitors, includes a small Hallway, a Storage Closet, and Exhibit Room. The horizontal wood paneling wall material continues through to this second floor Hallway, which also has hardwood flooring. Refer to Photo III-B-82. An enclosed display area with a Fresnel lens exhibit is seen in Photo III-B-83. This display area occupies a former closet space. The Exhibit Room contains a number of displays and a center kiosk with a video monitor. Refer to Photos III-B-84 and III-B-85.



**Photo III-B-82**



Photo III-B-83



Photo III-B-84



Photo III-B-85

The masonry chimney is covered over with gypsum board as seen in Photo III-B-86. Finishes in this room include hardwood flooring and a "swirl" texture finish on the gypsum board walls and ceilings. Painted wood trim transitions to a modern Ranch style casing as seen in Photo III-B-87.



Photo III-B-86



Photo III-B-87

A steep narrow stair, Photo III-B-88, provides access from the second floor to the first landing in the Light Tower. All walls, ceiling and flooring at this landing level are 5¼" wide painted wood material. Other wood trim, such as the simple stair newel posts and handrail, Photo III-B-89, and window casing, Photo III-B-90, are also painted. A small landing, Photo III-B-91, and a very steep ladder-type stair, Photo III-B-92, provide access to the Lantern through a small hatch.



Photo III-B-88



Photo III-B-89



**Photo III-B-90**



**Photo III-B-91**



**Photo III-B-92**

Interior doors throughout the Light Tower/Keeper's Dwelling are wood, single panel doors with a paint finish. Door hardware is typically a simple knob passage set although other locks have been added on some doors. Various interior doors, including those stored in the basement, are seen in Photos III-B-93, III-B-94, III-B-95, and III-B-96.



Photo III-B-93



Photo III-B-94



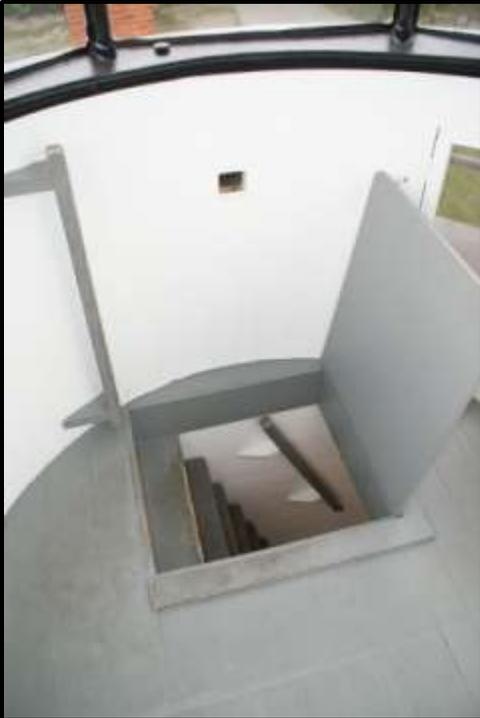
Photo III-B-95



Photo III-B-96

An extensive restoration and repair project was done on the Tower and Lantern in 2009. Photos of this project are included in Appendix C.

The Lantern, which no longer has any navigational aids, is a cylindrical structure with an inside diameter of 6'-3" and nine glass panels. The solid base wall measures 3'-4" high and glass panels measure 2'-2½" wide x 3'0" high. A wood hatch door, as seen in Photos III-B-97 and III-B-98, provides access into the Lantern.



**Photo III-B-97**



**Photo III-B-98**

The flooring is 4<sup>5</sup>/<sub>8</sub>" wide wood with a paint finish. Walls are vertical 3¼" wide wood boards with a paint finish. A small metal door, with interior wood face, Photos III-B-99 and III-B-100, provides access to the outer Watch Deck. An inward swinging screen door is also located at this opening, as seen in Photo III-B-101. This door is in reasonably good condition; however, there is some deterioration at the sill, as seen in Photo III-B-102. The metal framework for the glazing and the glass is in reasonably good condition with some minor deterioration of the paint finish on the interior. Glass and glazing components are seen in Photos III-B-103, III-B-104, and III-B-105. The Lantern ceiling consists of painted metal panels as seen in Photo III-B-106. The ceiling panels and the paint finish are in good condition. Four screened vents provide ventilation to the Lantern. Refer to Photos III-B-107 and III-B-108.



Photo III-B-99



Photo III-B-100



Photo III-B-101



Photo III-B-102



Photo III-B-103



Photo III-B-104



Photo III-B-105



Photo III-B-106



Photo III-B-107



Photo III-B-108

The exterior base walls of the Lantern are vertical wood boards with a paint finish. There are some large vertical cracks in this material as seen in Photo III-B-109. Interior or exterior wood paneling was not removed to examine the metal structure of the lantern base. The exposed metal surface at the base of the windows has been covered with some type of rubber membrane and sealant. This material appears to be trapping moisture and contributing to rusting and deterioration of the metal structure as seen in Photo III-B-110. Other exterior components of the metal glazing frame appear in sound condition with some minor deterioration of the paint finish. Refer to Photo III-B-111.



Photo III-B-109



Photo III-B-110



Photo III-B-111

The metal roof and ventilator ball are in good condition with some deterioration of the paint finish, as seen in Photos III-B-112 and III-B-113. There is no gutter system on this lantern roof. The exterior surface of the Lantern deck has been covered with copper sheeting with soldered joints as seen in Photo III-B-114. The copper sheet transitions to a copper flashing that terminates at the Lantern wall. There are some gaps and open joints at this flashing material. Deck railings are constructed of 1<sup>5</sup>/<sub>8</sub>" outside diameter metal pipe and are secured to the deck with plate brackets as seen in Photo III-B-115. Railings are in good condition with some minor paint deterioration.



Photo III-B-112



Photo III-B-113



Photo III-B-114



Photo III-B-115

### Mechanical and Electrical Systems and Analyses

The Light Tower/Keeper's Dwelling is an occupied residence and has functional electrical, plumbing and heating systems throughout. The building is served by a 200 amp electrical service panel located in the basement as seen in Photo III-B-116. There are a number of unused circuit breaker locations on the panel, indicating that this service has adequate capacity. Sheathed Romex cable can be seen at different locations in the basement indicating that new wiring has been installed in the recent past. Refer to Photo III-B-117.



Photo III-B-116



Photo III-B-117

A variety of modern lights are found throughout the building including fluorescent, incandescent and track. Examples of these fixtures are seen in Photos III-B-118, III-B-119, III-B-120, and III-B-121. A single exterior porch light is located adjacent to the rear entry door.



Photo III-B-118



Photo III-B-119



Photo III-B-120



Photo III-B-121

A ceiling fan, located in the Living Room is seen in Photo III-B-123. Duplex receptacles and switches are located throughout all rooms.



**Photo III-B-122**

The building electrical system appears to be in good condition and operating order.

The building also has telephone service. A single wall mounted phone is located in the Kitchen, Photo III-B-57.

Plumbing consists of kitchen, bathroom, and laundry fixtures located on the first floor. All fixtures appear in good condition. Copper water supply lines are visible in the basement, Photo III-B-123 along with PVC sanitary water line piping, Photo III-B-124. Water lines are not insulated.



**Photo III-B-123**



**Photo III-B-124**

A 40 gallon electric hot water heater is located in the basement. The unit tag indicates a manufacturer date of 4/2007. This heater is seen in Photo III-B-125. Adjacent to the heater is the well pressure tank, Photo III-B-126. The location of the water well is not known, however the supply line enters the building from the west. The basement floor was wet around the pressure tank indicating some possible water leaks, although none were evident.



**Photo III-B-125**



**Photo III-B-126**

The building is heated with a propane-fired forced-air furnace located in the basement. This unit, a "Conquest 90", has an installation sticker with a date of January 1996. Refer to Photo III-B-127. Uninsulated metal ductwork is located throughout the building terminating at supply diffusers and return grilles located in most rooms of the building. A standard thermostat is located in the first floor bedroom. There is no air conditioning in the building.



Photo III-B-127

### Hazardous Materials Systems and Analyses

Presumed hazardous materials include lead base paint. No other potentially hazardous materials were observed.

### Life Safety Systems and Analyses

Smoke detectors are located throughout the building. One detector in the basement is improperly surrounded by plywood, as seen in Photo III-B-129.

An alarm system is also installed in the building with the main panel located in the southeast corner of the basement. Refer to Photo III-B-130. A control station is located in the Kitchen near the rear entry door. It is presumed that this system is remotely monitored but the service company is not known.



Photo III-B-128



Photo III-B-129



Photo III-B-130

## C) OILHOUSE

The Oilhouse is a small brick masonry structure with a metal roof originally constructed in 1895. See Photos III-C-1 and III-C-2. The building, which measures 9'-0" x 7'-0½", is located east of the Light Tower/Keeper's Dwelling and was used to house flammable liquids in a secure location separate from other structures. With solid masonry walls, and metal ceiling panels, metal roof and metal door, the Oilhouse is a non-combustible structure. The Oilhouse is not currently being used.



Photo III-C-1



Photo III-C-2

### Structural System Analysis

The structural components of this building consist of load bearing brick masonry walls, concrete footing and floor slab, and wood rafters that form a hip roof. The door lintel is stone with a chiseled face, as seen in Photo III-C-3. The roof covering is a flat seam metal roof.

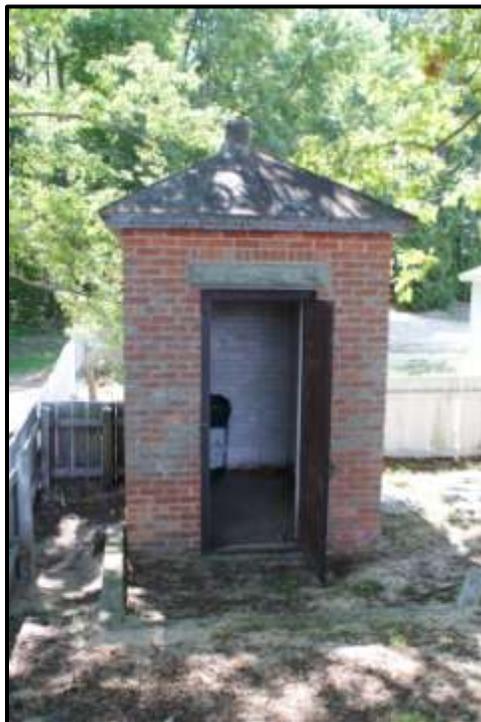
The brick masonry walls are in very good condition with only minor areas where mortar joints are deteriorated. At the bottom of the structure the brick masonry projects 1" beyond the face of the walls. Where exposed, the mortar wash on this surface is missing, contributing to some minor deterioration of the masonry at the lower surfaces of the wall. There is some moss and lichen growth on the north wall.

The interior concrete floor slab is in reasonably good condition. Some cracks are present in the floor slab but are of minor nature.

The roof of the Oilhouse is in very good condition and the wood rafters are presumed to be in sound condition, however, they were not observed due to the presence of metal ceiling panels.

### Exterior Conditions and Analyses

Drifting sand has encroached on the Oilhouse and the surrounding grade is higher than the floor elevation. A short retaining wall constructed of 4" x 6" treated wood timbers is located in front of the door to hold back the sand as seen in Photo III-C-3.



**Photo III-C-3**

The metal roof and metal cornice are in good overall condition as seen in Photo III-C-4. There are a few small holes and some damage in the metal cornice as seen in Photos III-C-5, III-C-6 and III-C-7. The ventilator cap is missing from the roof ventilator pipe. The paint on all metal surfaces is in poor condition.



Photo III-C-4



Photo III-C-5



Photo III-C-6



Photo III-C-7

The Oilhouse has a heavy metal door and frame that is in good structural condition however, interior and exterior surfaces are pitted and rusted with peeling paint as seen in Photos III-C-8 and III-C-9. There is a metal threshold on top of the stone sill. Door hinges are in good working order, however, the original lock mechanism is missing, with a surface mounted lock mechanism applied to the door face as seen in Photo III-C-10.



Photo III-C-8



Photo III-C-9



Photo III-C-10

## Interior Conditions and Analyses

The interior walls of the Oilhouse are painted brick masonry and the floor is a painted concrete slab. There is some minor cracking in the masonry and the paint finish is chipped and peeling in some areas as seen in Photos III-C-11 and III-C-12. The ceiling is covered with metal panels that are painted. The panels are in sound condition however the finish is deteriorated with flaking/scaling paint as seen in Photo III-C-13. At two locations on the interior brick masonry wall face, approximately 8" above the floor, there are wall openings, presumably to vent the wall cavity. One such opening on the east wall is seen in Photo III-C-14.



Photo III-C-11



Photo III-C-12



Photo III-C-13



Photo III-C-14

### **Mechanical and Electrical Systems Conditions and Analyses**

There are no mechanical or electrical systems in the Oilhouse. The roof mounted ventilator, along with the wall openings provides natural ventilation. As previously stated, the cap is missing from the ventilator, allowing penetration of rain and snow.

### Hazardous Materials Conditions and Analyses

Presumed hazardous materials include lead base paint.

### Life Safety Systems Conditions and Analyses

As an unoccupied storage building, no life safety systems, such as alarms or detectors are present.

**D) GARAGE**

The Garage is a single story wood frame structure that is situated at the southeast corner of the site outside of the fenced yard enclosure as seen in Photos III-D-1, III-D-2, and III-D-3. The Garage measures 36'-7" x 20'-7" in plan and is estimated to have been constructed in 1930. It is currently used for general storage and maintenance-related activities.



**Photo III-D-1**



**Photo III-D-2**



**Photo III-D-3**

## Structural System Analysis

The Garage is a simple wood frame, slab-on-grade building with a wood frame gable roof. Exterior walls, which measure 6½" thick, are presumed to be 2 x 6 construction. All walls, which are straight and true, are sheathed with ½" oriented strand board (OSB) on the interior. The roof is constructed of simple site-framed trusses constructed of both 2 x 4 and 2 x 6 lumber. Based on the appearance of the trusses, original trusses constructed of 2 x 6 lumber occur 4'-0" o.c. The 2 x 4 purlins are layed flat on top of the trusses at random spacing and support the ½" oriented strand board sheathing. All roof framing appeared in good condition.

The Garage floor is a concrete slab of unknown thickness. The floor slab is in poor condition with many areas spalled and uneven. Based on this current condition, it appears as though the workmanship of the original installation was poor. Photos III-D-4 and III-D-5 show the poor surfaces of the floor slab.



Photo III-D-4



Photo III-D-5

Exterior concrete slabs located outside of the overhead door, Photo III-D-6, at the southeast corner of the building, Photo III-D-7, and at the pedestrian door on the west wall are all in poor condition and of poor quality workmanship. The thickness of all exterior slabs is undetermined. There is evidence of rodent holes burrowed beneath the building in some areas.



**Photo III-D-6**



**Photo III-D-7**

## Exterior Conditions and Analyses

The exterior walls of the Garage are covered with a painted horizontal metal siding with a five inch exposure. In an area that could be observed there was no other siding below this material. Fascia and soffits are trimmed with metal as seen in Photos III-D-8. Soffit panels are perforated for ventilation. The metal siding is in average condition with some damaged areas such as the southwest corner, as seen in Photo III-D-9. On the east and north walls, the surrounding grade is higher than the finish floor elevation, allowing the metal siding and inner wall construction to be partially buried below grade. This condition is seen in Photo III-D-10, and exposes the siding to damage from lawn cutting equipment as well as ground water run-off.



Photo III-D-8

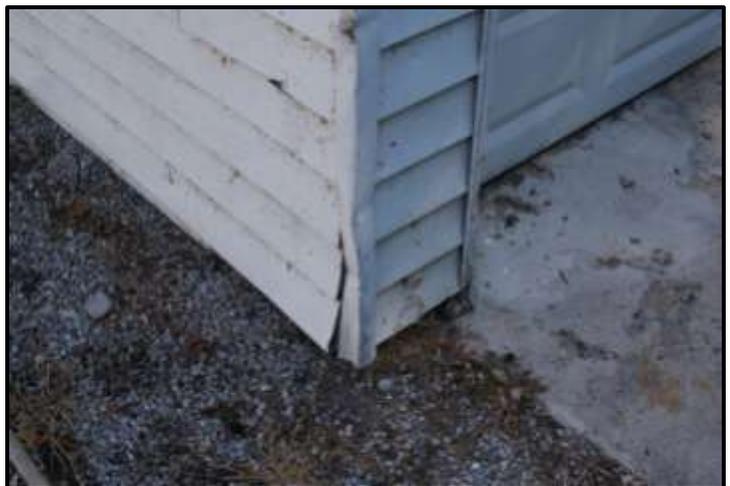


Photo III-D-9



**Photo III-D-10**



**Photo III-D-11**

The Garage roof is covered with asphalt shingles as seen in Photo III-D-11. The shingles are in relatively good condition and include a ridge vent. There is also a metal chimney that penetrates the roof, but is no longer connected to any type of heating unit.

There are four windows in the Garage; two double hung vinyl windows on the north wall, seen in Photo III-D-12, and two wood double hung windows on the south and east walls. All windows are in poor condition.



Photo III-D-12



Photo III-D-13

On the south wall there is an insulated metal overhead door that measures 7'-11" wide x 6'-6" high. This door, seen in Photo III-D-13, is manually operated and is in reasonably good condition. A single pedestrian door measuring 3'-8" wide x 7'-0" high is located on the west wall. Refer to Photos III-D-14 and III-D-15. It appears as though an original 1<sup>3</sup>/<sub>4</sub>" thick door is intact but now covered with <sup>5</sup>/<sub>8</sub>" plywood on both inside and outside faces. This door is in poor condition with only a padlock hasp and handle for hardware. It should also be noted that there is a 2" step down into the Garage at this door. There is also a small wood access door through the wall at the northeast corner of the building. This access door is in poor condition.



Photo III-D-14



Photo III-D-15

### Interior Conditions and Analyses

The interior of the Garage is one large space with exposed concrete floor, walls covered with oriented strand board (OSB) and a  $\frac{5}{8}$ " gypsum board ceiling. Interior views are seen in Photos III-D-16 and III-D-17. The red wall covering seen in Photo III-D-17 is actually Christmas wrapping paper stapled to the OSB walls. The ceiling is painted. Walls and ceiling are in fair condition for this type of building. As discussed in a previous section the concrete floor slab is in poor condition. Simple 1" x 4" wood trim is found around the door and window openings.



Photo III-D-16



**Photo III-D-17**

A small ceiling access hatch, seen in Photo III-D-18, provides access into the truss/attic space. There is approximately 8" of blown cellulose insulation above the gypsum board ceiling. Photo III-D-19 shows the abandoned metal chimney and metal collar where it penetrates the ceiling.



**Photo III-D-18**



**Photo III-D-19**

### **Mechanical and Electrical Systems Conditions and Analyses**

There is no heating system in the Garage, although the presence of the metal chimney indicates that some type of furnace or stove was present at some point. There is no plumbing in the building or any floor drains.

There is electrical service in the building that includes some exterior wall mounted flood lights, interior suspended fluorescent lights, switches and some receptacles. Interior lighting is seen in previous Photos III-D-16 and III-D-17. There is no circuit breaker panel or shut off switch in the Garage, however there is a dedicated 30 amp circuit in the electrical service panel located in the Storage Building. Service to the Garage is underground.

### **Hazardous Materials Conditions and Analyses**

There are no known hazardous materials in the Garage. Ceiling insulation was tested for asbestos containing material with results indicated in Appendix D.

### **Life Safety Systems Conditions and Analyses**

There are no detection or alarm systems present in the Garage.

**E) STORAGE BUILDING**

The Storage Building, also referred to as the Utility Building in some descriptions of the Light Station, is a small single story wood frame structure that is located within the fenced yard south of the Light Tower/Keeper's Dwelling. Refer to Photos III-E-1, III-E-2 and III-E-3. It is presumed that this building was originally directly adjacent to the Keeper's Dwelling as seen in historic photos. The building measures 20'-4" x 12'-4" in plan and is estimated to have been constructed in the late 1890s. It is currently used for general storage and other activities such as seasonal merchandise sales. This building appears to be the structure located right next to the Light Tower/Keeper's Dwelling as seen in the 1916 photo and on the 1903 Site Plan found in Appendix A.



**Photo III-E-1**



**Photo III-E-2**



**Photo III-E-3**

## Structural System Analysis

The Storage Building is a simple wood frame building with a wood frame gable roof and a wood frame floor. It appears as though the structure is built directly on the ground with the adjacent grade approximately 9" below the finish floor.

There are no access panels or hatches in the building that allow access to the crawl space or attic. Access to these spaces will require removal of flooring and ceiling material in order to further inspect these spaces.

Exterior walls measure 6½" thick and are sheathed with vertical boards of approximate 1" thickness on both interior and exterior surfaces. Based on this, the wall framing is presumed to be 2 x 4 lumber with an actual dimension of 4" or more. Because the wood siding on this building is partially buried there is considerable damage and deterioration at the lower wall surfaces. An unpainted treated 2" x 12" band has been installed on the north and east walls as seen in Photos III-E-4, III-E-5, III-E-6 and III-E-7, presumably to cover rotted material. Corner trim boards and vertical battens have been cut off at the base to allow this new board to fit securely against the vertical wood siding boards. Based upon observations of this condition, it is presumed that some decay and damage of the structural wall and floor framing has occurred. Further removal of sound floor material and investigation of both wall and floor framing is recommended.



Photo III-E-4



Photo III-E-5



**Photo III-E-6**



**Photo III-E-7**

The roof is a simple gable presumably constructed with wood rafters and ceiling joists, however, this framing was not observed due to lack of an access panel into the attic. Removal of sound material is required to gain access to the attic. A slight bow in the roof structure can be seen at the southwest corner, an indication that there could be an issue with the roof framing. Further removal of sound ceiling materials and investigation of the roof framing is recommended.

### **Exterior Conditions and Analyses**

The exterior walls of the Storage Building are sheathed with vertical wood board and batten siding with battens spaced 12" o.c. As previously indicated, the board and batten siding is in poor condition with considerable damage along the lower wall surfaces. All surfaces are painted and the paint is in poor condition. Fascia and soffits are painted wood. There is some minor deterioration of some wood material. Paint is in poor condition. Fascia and soffits are seen in Photos III-E-8 and III-E-9 along with a metal louver located in the gables for attic ventilation.



**Photo III-E-8**



**Photo III-E-9**

The roof of the Storage Building is a three-tab asphalt shingle roof, as seen in Photo III-E-10. The shingles are in average condition but are supporting moss growth on the north side.



**Photo III-E-10**

There is a single 2'-10" x 6'-8" door into the building as seen in Photos III-E-11 and III-E-12. The painted wood door is a single panel door with a six light vision panel. The glass is covered with a plywood security panel on the interior face. The inset panel and the bottom rail of the door are badly deteriorated. The paint finish is also in poor condition. Hardware consists of a lockset, cylindrical lock, a padlock hasp and hinges. Photo III-E-13 shows a small step constructed of wood framing and plywood outside of the entry door.



Photo III-E-11



Photo III-E-12



Photo III-E-13

There are a number of wood windows in the Storage Building, consisting of both horizontal sliding type units and in-swinging units as seen in Photos III-E-14 and III-E-15. All window units are single glazed with six divided lights per sash. An interior view of the top-hinged in-swinging window on the west wall is shown in Photo III-E-16 and the horizontal sliding window on the east wall is shown in Photo III-E-17. With deteriorated paint finish and glazing putty, all windows are in poor condition. Exterior window sills are also in poor condition. A rotted sill is shown in Photo III-E-18.



**Photo III-E-14**



**Photo III-E-15**



Photo III-E-16



Photo III-E-17



Photo III-E-18

On the south wall a possible window has been covered with wood paneling on the interior and a fixed display board panel on the exterior as seen in Photo III-E-19. It is not known if a window exists in this location.



Photo III-E-19

### Interior Conditions and Analyses

The interior of the Storage Building is one large room as seen in Photos III-E-20 and III-E-21, with a low ceiling height of 6'-9½". Interior walls are also covered with vertical board and batten siding and wood trim. Approximately half of the interior wall surface appears to have original material that is painted and in reasonably good condition. The south wall and a portion of the east are covered with an unfinished rough-sawn cedar board and batten material, as seen in Photo III-E-22.



Photo III-E-20



Photo III-E-21



Photo III-E-22

The ceiling is covered with painted gypsum board that has wood batten strips placed 4'-0" on center over the joints. It is not known if there is any insulation above the ceiling. The building floor is covered with newer knotty pine plank flooring in 5" and 7" widths. This flooring, which is seen in Photo III-E-23, is in good condition. The new wood floor transitions to an original wood threshold at the doorway. This painted wood threshold has some deteriorated areas.



Photo III-E-23

### Mechanical and Electrical Systems Conditions and Analyses

A 100-amp electrical service panel is located on the west wall of the building along with a small wall mounted electric unit heater. See Photo III-E-24. The service panel is fed from an overhead line from a utility pole west of the building. The electrical service entrance and meter is located on the west wall as seen in previous Photo III-E-15. Electric service from this 100-amp panel is fed to the Garage via underground conduit, seen in previous Photo III-E-6.



**Photo III-E-24**

There are a number of electrical receptacles inside the building and two exterior receptacles on the south wall of the building. Two surface mounted fluorescent lights, in working order, provide interior lighting.

An emergency phone for public use is mounted on the exterior of the building near the southwest corner. This phone is seen in previous Photo III-E-19.

There are no plumbing or other mechanical systems in the building.

### Hazardous Materials Conditions and Analyses

Presumed hazardous materials include lead base paint.

### Life Safety Systems Conditions and Analyses

There are no detection or alarm systems present in the Storage Building.

**F) WELL HOUSE**

The Well House located south of the Light Tower/Keeper's Dwelling, is a small painted brick masonry structure with a wood frame roof, measuring 4'-11" x 5'-10" in plan. The original construction date is estimated to be 1870. This building, as seen in Photos III-F-1, III-F-2, and III-F-3, is not currently used for any purpose, and a wood entry door is screwed to the wood frame for security. A concrete sidewalk surrounds the Well House on two sides.



**Photo III-F-1**



**Photo III-F-2**



**Photo III-F-3**

## Structural System Analysis

The structural components of the Well House consist of load bearing brick masonry walls, presumed concrete footings, and wood rafters that form a simple gable roof. Wood shingles cover the roof. The wood shingles are in poor condition.

The brick masonry walls, which are 8" thick, are in very good condition. The brick masonry projects  $1\frac{3}{4}$ " at the bottom of the walls and this ledge steps down 12" from the front to the rear of the building.

There is no floor in the Well House and a narrow concrete strip has been poured around the perimeter of the interior as seen in Photos III-F-4 and III-F-5. This work appears to have been done in the recent past based on the appearance of the concrete and formwork still in place. The purpose of this recent work is not known or obvious.



Photo III-F-4

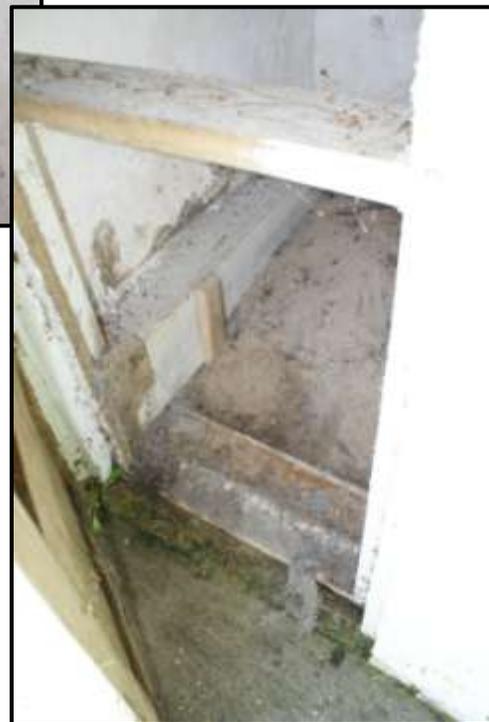


Photo III-F-5

The roof of the Well House is framed with simple wood rafters and wood sheathing, which is seen in Photos III-F-6 and III-F-7. There is considerable water staining and rot and all elements are in poor condition.



**Photo III-F-6**



**Photo III-F-7**

## Exterior Conditions and Analyses

Exterior brick masonry walls are painted. The brick masonry is in good condition and the paint is in good condition. There is some moss/mildew on the lower section of the exterior wall surfaces. The Well House door, Photo III-F-8, is a 3-panel wood door which is painted, however this door appears to be an interior door based on the interior style door knob and escutcheon. The door is screwed to the wood frame, and is non-functional, requiring removal of the screws to partially open the door. The door is split on one side and in poor condition. The wood frame is intact and in reasonably good condition. The wood shingle roof and wood trim as seen in Photo III-F-9 and III-F-10 are in poor condition with signs of rot and other deterioration.



Photo III-F-8



Photo III-F-9



Photo III-F-10

## Interior Conditions and Analyses

The interior surfaces of the brick masonry walls are coated with plaster which is applied directly to the brick surface. This surface is in poor condition with many sections of damaged, loose or missing plaster as seen in Photos III-F-11 and III-F-12. The exposed wood rafters and roof sheathing have remnants of a paint finish, however it is in very poor condition. Refer to previous Photos III-F-6 and III-F-7. There are no interior features or elements other than a small wood bracket as seen in Photo III-F-12. There is an exposed sand floor.



Photo III-F-11



Photo III-F-12

### **Mechanical and Electrical Systems Conditions and Analyses**

There are no mechanical or electrical systems in the Well House.

### **Hazardous Materials Conditions and Analyses**

Presumed hazardous materials include lead base paint.

### **Life Safety Systems Conditions and Analyses**

As an unoccupied building, no life safety systems such as alarms or detectors are present.

## PART IV – TREATMENT AND USE RECOMMENDATIONS

### OVERVIEW

Due to the care and maintenance provided by Peninsula Township including the Peninsula Park Commission, the buildings and site of the Mission Point Light Station are in reasonably good condition. As part of the Lighthouse Park, the historic site and structure continue to play an important role in the local tourism of Leelanau County and are expected to continue this role in the future. The “Lighthouse Keeper” program instituted by the Peninsula Township Park Commission is important for the funds generated as well as the housekeeping, maintenance, and security that the temporary residents provide. There has been discussion about providing living quarters at an off-site location which would allow the entire Keeper’s Dwelling to be used for interpretive museum space. Although this would be beneficial to the general public allowing more of the interior of the building to be seen, it would diminish the experience of “lighthouse living,” something that is not often available, and have an impact on the program.

The listing in the National Register of Historic Places identifies 1870 to 1933 as the Period of Significance, representing the relatively short time period from initial construction through closure. In order to better guide the rehabilitation efforts at the site, the Period of Interpretation has been selected as 1900 to 1920, representing a period of high activity at the site. The 1903 Site Plan, as shown in Appendix A, indicates that all four remaining structures within the fenced site were present as well as the concrete sidewalks. Specific recommendations for the buildings are:

#### Light Tower/Keeper’s Dwelling

The recommended Period of Interpretation is 1910.

#### Oilhouse

The recommended Period of Interpretation is 1910.

#### Well House

The recommended Period of Interpretation is 1910.

#### Storage Building

The recommended Period of Interpretation is 1910.

The treatment of historic properties are guided by a series of principles formulated by the Secretary of the Interior to help protect cultural resources through consistent preservation practices, known as the Secretary of the Interior’s Standards for the Treatment of Historic Properties. These Standards are divided into four distinct, interrelated approaches: Preservation, Rehabilitation, Restoration, and Reconstruction (refer to Appendix E). Many factors determine the choice of treatment including a property’s current physical condition, proposed use, as well as historic significance. With the variety of buildings

and structures at Mission Point Light Station, the treatment standards are applied as follows:

Preservation, as defined by the Secretary of the Interior's Standard is "the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property." Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Buildings/structures for which preservation is the recommended treatment:

- 1899 Oilhouse – Interior and Exterior

Restoration, as defined by the Secretary of the Interior's Standards is "the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period." The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Buildings/structures for which restoration is the recommended treatment:

- 1870 Light Tower – Interior/Exterior
- 1930 Garage – Exterior
- 1890 Storage Building – Exterior
- 1870 Well House – Interior/Exterior
- 1870 Keeper's Dwelling – Exterior

Rehabilitation, as defined by the Secretary of the Interior's Standards is "the act or process of making possible a compatible use for a property through repair, alterations, and addition while preserving those portions or features which convey its historical, cultural, or architectural values."

Buildings/structures for which rehabilitation is the recommended treatment:

- Site elements including sidewalks and fences
- 1930 Garage – Interior
- 1890 Storage Building – Interior
- 1870 Keeper's Dwelling – Interior

Reconstruction, as defined by the Secretary of the Interior's Standards is "the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location."

Non-extant buildings or structures to be considered for reconstruction include:

- Privy
- Summer House

## GENERAL TREATMENT AND USE RECOMMENDATIONS

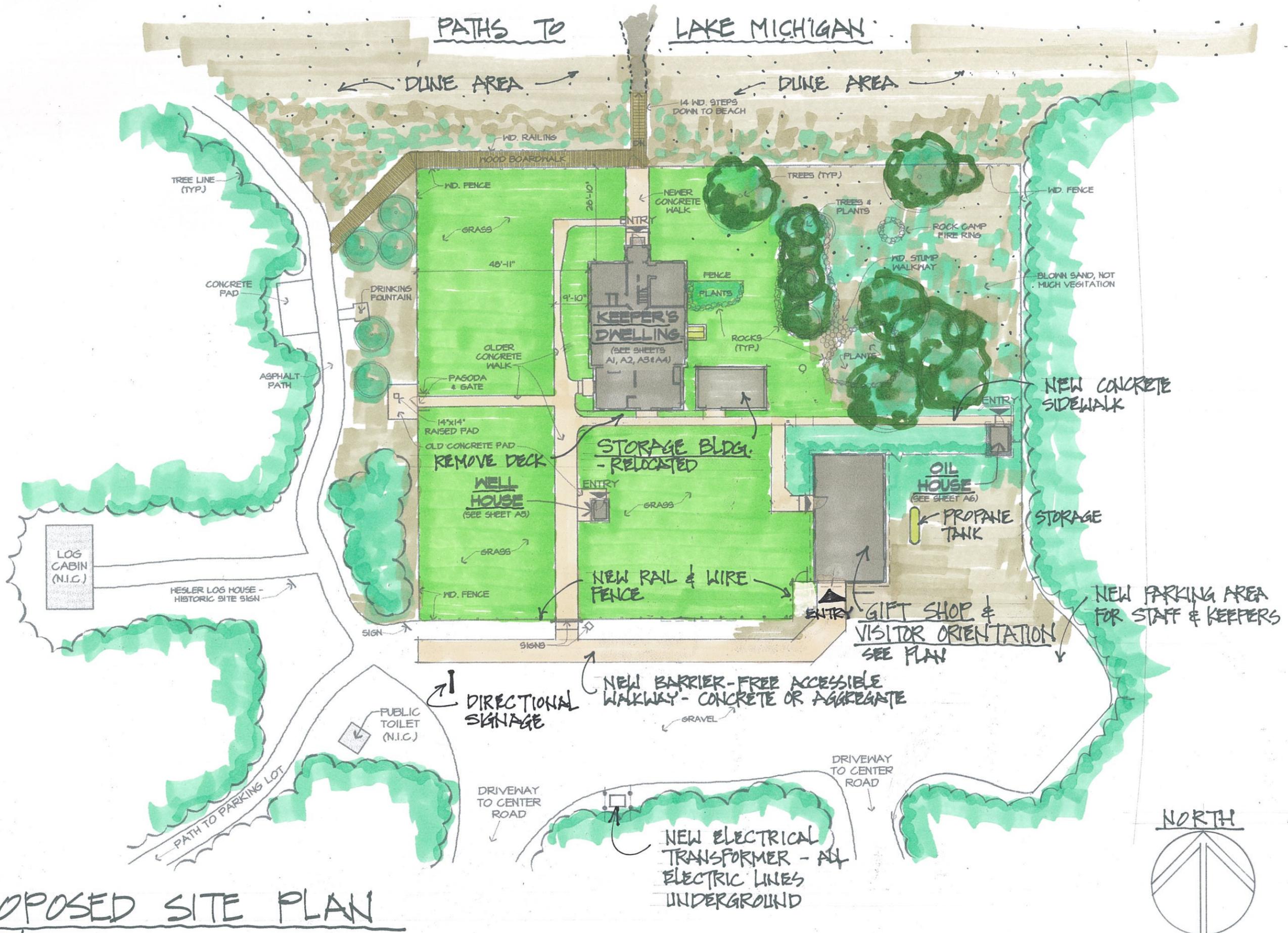
Recommendations for the use of the Light Station site and buildings are discussed in this section. With no further involvement at the site by the United States Coast Guard, all responsibility for maintenance, restoration and operations lies with Peninsula Township and the Peninsula Township Park Commission. As a publicly owned site in a very popular tourist region, the Mission Point Light Station will continue in use as a public museum/interpretation center for regional maritime history.

As part of Peninsula Township Lighthouse Park the historic light station complex is very accessible to the public, who typically reach the park by automobile or bicycle. A paved parking lot that serves the park is located a sufficient distance away from the historic site to segregate motor vehicle traffic from pedestrians. A variety of walkways/trails serve as the approach to the Light Station site, as well as serving as general access to the beach and other areas of the park. The challenge at this site is to improve barrier-free accessibility, provide an orderly flow for visitors entering and leaving the historic site, and continuing to preserve the historic resources. Although the 1903 Site Plan shows the perimeter fence at an angle at the northeast corner, this area is currently used by Lighthouse Keepers for outdoor recreation such as campfires and picnics, and is recommended to keep its present configuration. Recommendations, which are graphically depicted on the proposed Site Plan, are as follows:

### A) SITE

- 1) Improve the pedestrian approach to the historic Light Station along the south by adding a suitable barrier-free sidewalk/path surface and signage directing visitors to the visitor orientation center/gift shop, presently the Garage.
- 2) Reconfigure the existing fence west of the current Garage to eliminate the parking area between the Garage and the Storage Building and designate this as the primary public entry to the site.
- 3) Develop a park maintenance building or shed as needed, away from the historic Light Station site.
- 4) Create a small parking area near the gravel service drive for museum staff, lighthouse keepers and maintenance staff parking.
- 5) Remove the modern porch/deck located at the rear, or south side, of the Keeper's Dwelling and replace it with a porch appropriate to the Period of Interpretation.

- 6) Remove the landscape timber and gravel walkway/steps located south of the Keeper's Dwelling and replace with concrete sidewalks. The width of the new sidewalks shall be 3'-0" to match existing historic sidewalks.
- 7) Relocate the propane gas storage tank from within the fenced yard enclosure to an area east of the Garage.
- 8) Install interpretive signage at the appropriate locations for structures no longer remaining at the site.
- 9) Maintain current site landscape features including lawn areas west and south of the Keeper's Dwelling.
- 10) Remove the campfire circle within the fenced yard.
- 11) Remove other landscape features such as rock borders and the wood stump walkway.
- 12) Remove the electric utility pole just east of the Well House. Install electrical transformer outside of the fence with all service lines to the buildings buried underground.



**PROPOSED SITE PLAN**  
NO SCALE



B) LIGHT TOWER

Restore the Light Tower to reflect the 1910 Period of Interpretation.

C) KEEPER'S DWELLING

Continue use of the Keeper's Dwelling as living quarters for the seasonal "Lighthouse Keepers" and for period displays and interpretation. All restoration work throughout the building shall reflect the 1910 Period of Interpretation. As the building is restored more rooms, including those used by the Keepers, shall be made available to the visiting public.

D) OILHOUSE

The Oilhouse remains an important element of the Light Station. It is recommended use is for general storage and interpretation.

E) WELL HOUSE

The Well House remains an important element of the Light Station and is to be used for interpretation.

F) STORAGE BUILDING

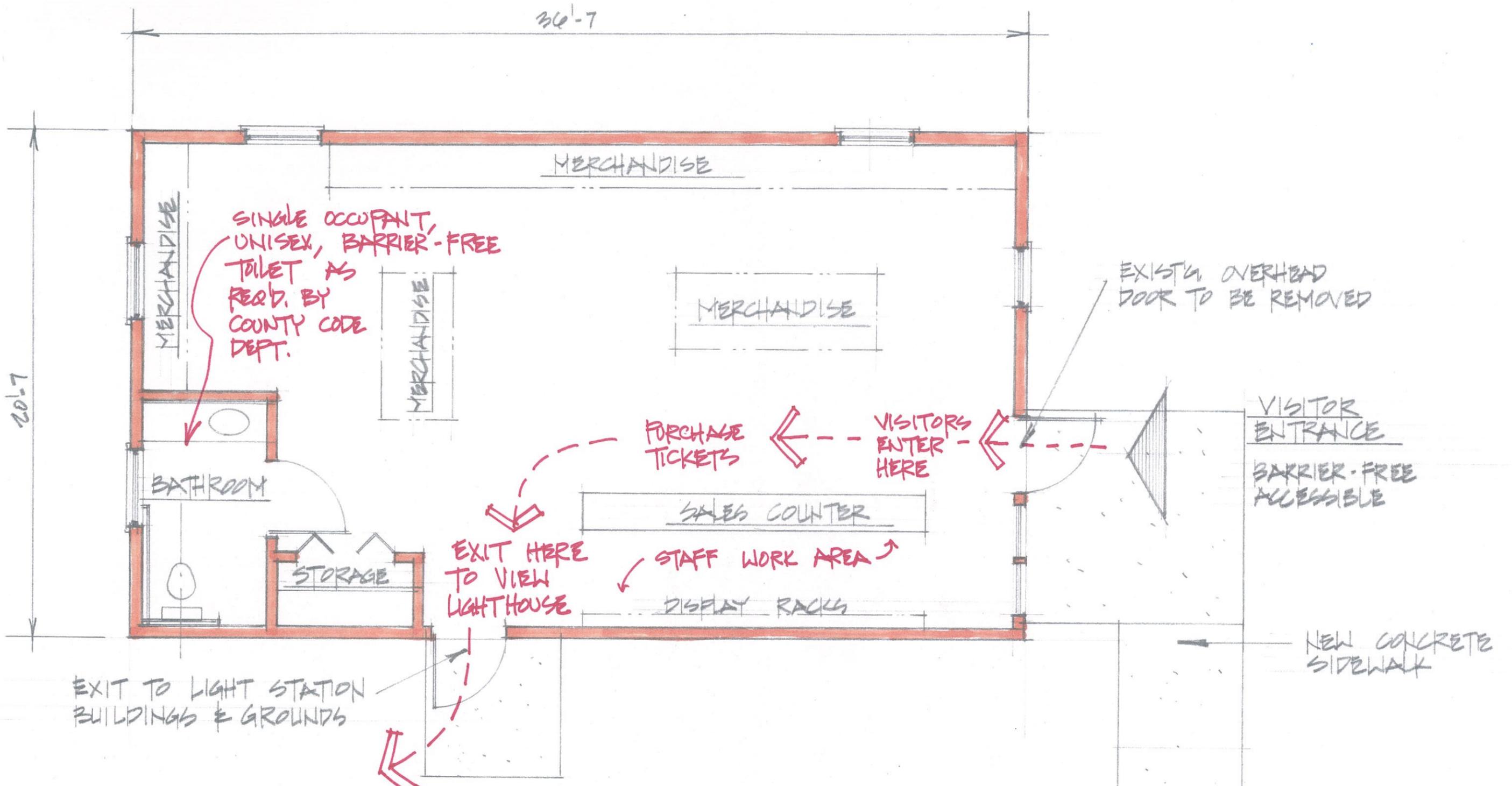
The Storage Building is recommended for use as a multi-purpose building. Uses may include seasonal or changing exhibits, gift or snack shop, or other similar uses. The Storage Building to be relocated to an area east of the Keeper's Dwelling and the exterior is to be restored to reflect the 1910 Period of Interpretation.

G) GARAGE

The Garage is recommended for use as a visitor orientation center and gift shop, and to serve as the initial entry to the historic site. Refer to the schematic layout of this proposed use.

H) OTHER STRUCTURES

Reconstruct missing structures such as the Privy, Summer House and other non-extant based on historic drawings and photographs.



PROPOSED FLOOR PLAN OF GARAGE

SCALE: 1/4" = 1'-0"

22 FEB 2012

## DETAILED TREATMENT AND USE RECOMMENDATIONS

### A) SITE

#### A.1) Replace new concrete sidewalks

Remove the new section of concrete sidewalks, located at the north side of the Light/Keeper's Dwelling, and replace with a concrete sidewalk replicating original walks in terms of control joint spacing and surface texture.

#### A.2) Remove landscape timbers

Remove landscape timbers, including those in the walkway at the south side of the Light/Keeper's Dwelling.

#### A.3) Restore/replace wood fence

Retain the existing wood fence on the north and west sides of the yard. Remove the existing wood fence on the south and east sides and replace with a rail and wire fence as shown in the historic photos.

#### A.4) Remove fire pit

Remove the temporary campfire pit east of the Light/Keeper's Dwelling.

#### A.5) Relocate propane fuel storage tank

Relocate the propane fuel tank located north of the Garage to a location outside of the fenced enclosure. Locating this tank east of the Garage is recommended. Extend underground gas lines to suit the new location.

#### A.6) Relocate gasoline storage tank

Remove the gasoline storage tank located east of the Garage or relocate further away from the historic site. If relocated, construct an appropriate spill containment base. It was observed that this tank and fence enclosure has been removed as of the May 22, 2012 site visit.

#### A.7) Install interpretive signs

Install interpretive signs at various locations including those locations where buildings are no longer extant.

A.8) Conceal electrical service lines

Conceal electrical service to the historic site by relocating all overhead lines to underground. Remove the utility poles within the fenced enclosure, and locate a new electrical transformer appropriately outside of the fenced enclosure.

A.9) Re-grade yard around Light Tower/Keeper's Dwelling

Re-grade and lower the grade/berm at the west and partial north side of the Light Tower/Keeper's Dwelling to allow for the grade to be a minimum of 12" below the bottom edge of the wood siding.

A.10) Remove wood deck

Remove the wood deck at the rear, or south end of the Light Tower/Keeper's Dwelling. Investigate any porch that may be extant, and reuse or reconstruct as required.

A.11) Install concrete sidewalks

Install new concrete sidewalks, matching the size and appearance of existing historic sidewalks, at rear of the Light Tower/Keeper's Dwelling. Extend sidewalks to the Garage and Oilhouse.

## **B) LIGHT TOWER/KEEPER'S DWELLING (1870)**

### **B.1) Install wood shingle roof**

Remove the existing asphalt shingle roof and install a new cedar shingle roof. As part of the roof work install metal flashing at all roof/wall intersections and at the base of the masonry chimney.

### **B.2) Restore exterior wood siding and trim**

Remove damaged and deteriorated wood siding and trim and replace with similar material matching existing profiles.

### **B.3) Replace wood siding on lean-to addition**

Remove the horizontal wood siding on the lean-to addition and replace it with a vertical board and batten siding.

### **B.4) Paint exterior wood siding and trim**

Clean, properly prepare and paint exterior wood siding and trim.

### **B.5) Repair damaged stone foundation walls**

Repair the damaged stone foundation wall at the single story structure. Remove damaged and deteriorated mortar joints and reset loose stones. Match mortar used for repair and repointing work with the existing mortar in terms of strength, color, and texture. Test existing mortar through an appropriate testing laboratory to determine these properties. Clean all stone masonry surfaces with a mild masonry cleaning detergent using bristle brushes and low water pressure. Power washing/blasting shall not be permitted.

### **B.6) Repair damaged brick and concrete masonry unit (CMU) foundation walls**

Repair the original brick masonry piers and concrete masonry unit (CMU) walls where damaged and deteriorated. Replace missing and badly deteriorated bricks with new or salvaged bricks matching the size, color, texture, and strength of the existing bricks. Reset loose bricks and CMU and remove damaged and deteriorated mortar joints. Match new mortar used for repair and repointing work with existing in terms of strength, color, and texture. Test existing mortar, for both brick and CMU walls, at an appropriate testing laboratory to determine these properties. Clean all exterior masonry surfaces with a mild masonry cleaning detergent using

bristle brushes and low water pressure. Power washing/blasting shall not be permitted.

B.7) Replace windows

Remove all vinyl double-hung windows throughout the Keeper's Dwelling and replace with appropriate wood double-hung windows. Remove exterior vinyl trim and restore all exterior wood window trim as indicated in Item B.2.

B.8) Restore basement windows

Restore the metal casement windows located in the CMU foundation walls by cleaning, preparing and painting all metal components, and repairing or replacing all damaged or missing glazing putty. Restore windows to operating condition.

B.9) Replace exterior doors

Remove exterior metal doors, including the metal storm/screen doors and replace with appropriate wood doors and hardware.

B.10) Install new door in lean-to addition

Remove the window on the west wall of the lean-to addition, create a new door opening and install a new wood door where the existing concrete porch remains.

B.11) Repair concrete porches

Restore the existing concrete porches. Repair cracked or damaged elements using appropriate materials that will match the color and texture as closely as possible.

B.12) Reconstruct south porch

The existence or condition of the south wall porch is not known due to being covered over by the wood deck. Upon removal of the wood deck and observation, repair the porch in accordance with Item B.11 or reconstruct based upon historical photographs.

B.13) Replace wood step and railing at tower entry door

Remove the existing undersized wood step and wood railing and construct a wider step that will provide a uniform riser height and tread width with

the concrete stair. Construct a new code conforming wood railing for user safety.

B.14) Replace vinyl gutter

Remove the existing vinyl gutter and downspouts located on the south end of the shed roof and replace with a metal gutter and downspouts. Historic photographs do not indicate gutters and downspouts at other locations.

B.15) Install wood shutters

Install wood shutters at all windows based upon historic photos.

B.16) Restore brick masonry chimney

Remove damaged and deteriorated mortar joints and repoint. Match mortar used for repair and repointing work to the existing in terms of strength, color, and texture. Test existing mortar through an appropriate testing laboratory to determine these properties. Clean all brick surfaces with a mild masonry cleaning detergent using bristle brushes and low water pressure. Power washing/blasting shall not be permitted. Install metal step flashing at the base of the chimney. Remove the concrete chimney cap and metal vent; replace the arched brick cap, as seen in historic photographs.

B.17) Restore interior surface of masonry walls

Restore the interior surfaces of all brick, stone and concrete masonry unit (CMU) walls in accordance with Item B.5. Repair the interior CMU walls.

B.18) Restore damaged insulation in basement

Remove damaged and deteriorated ceiling and wall insulation. Where missing, install fiberglass batt insulation in the first floor joist space.

B.19) Restore plaster wall and ceiling surfaces

Repair damaged and deteriorated plaster wall and ceiling surfaces. Match all restored areas to existing surface texture. Remove modern "swirl" texture finish on second floor walls and ceilings and replace with gypsum board with a smooth finish.

B.20) Remove horizontal wood paneling

Remove the horizontal wood paneling located in the first and second floor hallway walls and ceilings. Return to a restored plaster or gypsum board finish all wall and ceiling surfaces in accordance with Item B.19.

B.21) Restore interior wood trim

Retain, repair and restore all interior wood trim including window and door casings, base molding and other elements. Replace damaged or missing components with components that match the wood species, dimensions and profiles of existing wood trim. Remove the modern ranch casing found on the second floor and replace with appropriate trim.

B.22) Paint interior surfaces

Clean, properly prepare and paint all painted plaster and wood surfaces. Existing paint has been tested for lead with results in Appendix D.

B.23) Replace kitchen cabinets

Replace countertops and cabinetry with an appropriate design for the Period of Interpretation. Remove existing cabinets carefully in order to discover and preserve any evidence of an earlier cabinet layout. Rearrange the cabinets to allow for better access to the basement stair.

B.24) Restore interior wood doors

Replace all missing interior wood doors with those doors stored in the basement. Replace missing door hardware with period-appropriate hardware. Restore all doors to operating condition.

B.25) Remove stone fireplace

Remove the large fieldstone fireplace located in the Living Room. Carefully remove material to discover and preserve any evidence of an earlier fireplace or connections to the chimney from a stove pipe. Repair or replace adjacent floor, wall, ceiling, and trim material which is either damaged or missing. If evidence of a fireplace exists, restore this element.

B.26) Restore lantern door

The small lantern door that allows access to the exterior deck is in need of minor repair at the sill in terms of securing loose flashing and caulking to insure water tightness. Clean rust off the hinges and touch up paint.

B.27) Paint interior surfaces of metal glazing frame

The interior surfaces of the metal glazing frame system require minor paint touch-up.

B.28) Restore exterior of lantern

Remove the rubber membrane and sealant applied to the metal sill at the bottom of the glazing. Clean metal surfaces and all rust, and remove scale, patch holes, and then paint. Inspect and repair all damaged glazing putty to insure weather-tightness. Repair large vertical cracks in the vertical wood siding at the lantern base by removing and replacing all damaged boards and installing sealant at smaller cracks. The walking surface of the lantern deck has been covered with copper sheeting with soldered joints. Inspect all horizontal joints and vertical joints at the lantern base and any loose joints soldered.

B.29) Paint lantern deck railing

Some lower sections of the steel pipe railing posts and post bases are rusting. Clean, properly prepared, and paint all rusted areas.

B.30) Replace light fixtures

Remove inappropriate light fixtures and ceiling fans and replace with fixtures appropriate to the Period of Interpretation. Install modern tack lighting as needed for exhibits and displays.

B.31) Inspect and test mechanical and electrical systems

Inspect the existing mechanical, plumbing, and electrical systems and maintain systems to insure proper operation.

## C) OILHOUSE (1899)

### C.1) Restore interior and exterior brick masonry

Restore both interior and exterior brick masonry wall surfaces by repointing damaged and deteriorated mortar joints. Some bricks may need to be reset but no replacement is needed. Repair the damaged and deteriorated mortar-wash at the base of the exterior wall where the masonry projects in order to properly direct water away from the wall. Match mortar used for repointing to existing mortar in terms of strength, color and texture. Test existing mortar through an appropriate testing laboratory to determine these properties. Clean all masonry surfaces with a mild masonry cleaning detergent, using bristle brushes and low water pressure. Remove all moss and lichen by this cleaning process. Power washing/blasting is not permitted.

### C.2) Repair metal door

Replace the metal plate door hardware including the door handle and lock with components that match the originals as close as possible. Remove the existing surface-mounted latch.

### C.3) Repair metal cornice

Repair the small holes in the metal cornice by providing a metal patch and filling with a plug weld. The repair is to be ground flush with surrounding metal.

### C.4) Paint interior masonry wall surfaces

Clean, properly prepare and paint interior brick masonry wall surfaces with breathable masonry paint.

### C.5) Paint interior and exterior metal surfaces

Thoroughly clean and properly prepare exterior metal surfaces including the door and frame, cornice, metal roof and ventilator, and interior metal surfaces including the ceiling panels. Paint all components with paint suitable for metal surfaces.

### C.6) Paint concrete floor

Thoroughly clean and properly prepare the interior concrete floor slab and paint with a suitable paint for concrete surfaces. Existing paint has been tested for lead with results in Appendix D.

C.7) Replace roof vent cover

Replace the missing metal cap of the roof vent; the shape to be replicated from historic photos.

C.8) Install temporary roof vent cover

Install a temporary sheet metal cap over the roof vent to prevent rain and snow penetration.

C.9) Re-grade around building perimeter

Re-grade the beach sand soil around the perimeter to allow the grade to be lower than the ledge in the brick masonry.

## D) GARAGE (1930)

### D.1) Replace metal siding with wood siding and trim

Remove the metal siding, including the metal fascia and soffit trim, and replace with wood siding. Conduct further research to determine the dimensions and style of the original siding and trim. Repair or replace any damaged wood trim. Paint all wood siding and trim.

### D.2) Replace windows

Remove all vinyl and wood windows throughout the Garage and replace with appropriate wood double-hung windows. Conduct further research to determine the dimensions and style of the original windows.

### D.3) Replace exterior door

Replace the single pedestrian door on the west wall with an appropriate wood door with hardware. Conduct further research to determine the dimensions and style of the original door. Install an appropriate screen/storm door if needed.

### D.4) Remove overhead garage door and construct new wall

Remove the sectional overhead door and the opening filled in with a new door and windows, serving as the public entry to the building.

### D.5) Replace exterior concrete slab

Replace the damaged concrete slabs located outside of the overhead door and the pedestrian door with a new concrete slab.

### D.6) Repair concrete floor slab

Repair the interior concrete floor slab. Cut out, remove and replace areas with severe deterioration.

### D.7) Install new interior finish material

Finish walls with an appropriate material such as wood or gypsum board. Trim doors and windows with wood.

D.8) Paint interior surfaces

Clean, properly prepare and paint the concrete floor slab. Paint wall and ceiling surfaces.

D.9) Install bathroom

Required by the Michigan Building Code, a single occupant unisex barrier-free bathroom shall be installed in the building to serve the public and staff. Plumbing fixtures shall be connected to the septic system north of the Garage. Water service shall be extended to the Garage from the Keeper's Dwelling.

D.10) Install new electrical service

Install new electrical service in the Garage including the proper safety shut-offs, circuit breaker panel, receptacles and lighting.

D.11) Install heat system

Install electric heat or a small propane gas-fired furnace in the Garage to provide comfort during spring and fall occupancy times.

D.12) Install alarm system

Extend the security system currently in the Keeper's Dwelling to the Garage.

## E) STORAGE BUILDING (1890)

### E.1) Relocate and install new foundation

Relocate this building to its original 1903 location, east of the Light Tower/Keeper's Dwelling. Construct a new solid masonry foundation wall to eliminate the wood floor and exterior wood siding from being in direct ground contact.

### E.2) Restore exterior wood siding and trim

Remove damaged and deteriorated wood siding and trim and replace with similar material matching existing profiles.

### E.3) Paint exterior wood siding and trim

Clean, properly prepare and paint exterior wood siding and trim.

### E.4) Restore wood windows

Restore all wood windows to working condition. Remove damaged frame components and replace with similar material matching existing profiles. Restore window sash by removing deteriorated glazing putty, securing loose glass, and cleaning and painting. Replace missing hardware.

### E.5) Replace wood door

Replace the wood door with a new wood door matching the style and dimensions of the door shown in the historic photograph. Paint the door and install new period hardware.

### E.6) Install wood shingle roof

Remove the existing asphalt shingles and install a new cedar shingle roof.

### E.7) Paint interior wall and ceiling surfaces

Clean, properly prepare and paint interior wall and ceiling surfaces and wood trim.

### E.8) Construct electric panel enclosure

Construct a small cabinet enclosure around the electrical panel in order to conceal it from view.

E.9) Install track lighting

Remove existing fluorescent lights and install track lighting to accentuate displays.

E.10) Install underground electrical service

Install new underground electrical service to this building.

E.11) Remove public telephone

Remove the exterior wall-mounted public telephone.

## F) WELL HOUSE (1870)

### F.1) Restore interior and exterior brick masonry

Restore both interior and exterior brick masonry wall surfaces by repointing damaged and deteriorated mortar joints. Some bricks may need to be reset but no replacement is needed. Repair the damaged and deteriorated mortar-wash at the base of the exterior wall where the masonry projects in order to properly direct water away from the wall. Match mortar used for repointing to existing mortar in terms of strength, color and texture. Test existing mortar through an appropriate testing laboratory to determine these properties. Clean all masonry surfaces with a mild masonry cleaning detergent, using bristle brushes and low water pressure. Power washing/blasting is not permitted.

### F.2) Replace door

Remove the interior door which is presently screwed in place and used as a security panel and install a new replica wood door and hardware. Paint the wood door. Further research on the style of the door is required based on historic photos or drawings.

### F.3) Replace wood shingle roof

Remove the existing wood roof shingles and replace with new cedar shingles.

### F.4) Inspect and repair wood rafters and sheathing

Further inspection of the existing wood roof sheathing and wood rafters are required when the roof shingles are removed. Remove and replace damaged material with new material matching the dimension and configuration of the original.

### F.5) Restore fascia and soffits

Remove damaged wood fascia and soffit material and replace with new wood matching the dimensions and profile of the original.

### F.6) Paint exterior wood trim

Clean, properly prepare and paint exterior wood trim, including fascia, soffit, and door frame.

F.7) Restore interior plaster wall surfaces

Remove damaged and deteriorated plaster wall surfaces and replace with similar material applied to the brick masonry substrate matching the same thickness and surface texture.

F.8) Paint interior surfaces

Clean, properly prepare and paint plaster walls, rafters and wood roof sheathing.

F.9) Install floor

Install a wood plank floor to cover the exposed dirt floor.

## PRIORITY RANKING FOR TREATMENT AND USE RECOMMENDATIONS

In order to prioritize the Treatment and Use Recommendations, all items are ranked with a “high”, “medium”, or “low” priority, so that Peninsula Township Park Commission may give priority to critical items needing immediate attention. Priority rankings can be defined as follows:

HIGH Work requiring immediate attention in order to prevent further deterioration and/or loss of historic components and work that significantly impacts the Period of Significance.

MEDIUM Work to be completed in a period of 3 to 5 years. If not addressed in this time period, items may likely be moved to a “high” priority classification.

LOW Work that is primarily of cosmetic nature or desirable to complete in order to enhance the interpretation of the Period of Significance.

A) SITE

ITEM NO.	DESCRIPTION	PRIORITY RANKING		
		HIGH	MEDIUM	LOW
A.1	Replace new concrete sidewalks			◆
A.2	Remove landscape timbers			◆
A.3	Restore wood fence			◆
A.4	Remove fire pit		◆	
A.5	Relocate propane fuel storage tank		◆	
A.6	Relocate gasoline storage tank*			◆
A.7	Install interpretive signage		◆	
A.8	Conceal electric service lines		◆	
A.9	Re-grade yard around Light Tower/ Keeper's Dwelling	◆		
A.10	Remove wood deck		◆	
A.11	Install concrete sidewalks		◆	

\* This item has been completed.

B) LIGHT TOWER/KEEPER'S DWELLING (1870)

ITEM NO.	DESCRIPTION	PRIORITY RANKING		
		HIGH	MEDIUM	LOW
B.1	Install wood shingle roof		◆	
B.2	Restore exterior wood siding and trim		◆	
B.3	Replace wood siding on lean-to addition		◆	
B.4	Paint exterior wood siding and trim		◆	
B.5	Repair damaged stone foundation walls	◆		
B.6	Repair damaged brick and concrete masonry unit (CMU) foundation walls	◆		
B.7	Replace windows		◆	
B.8	Restore basement windows		◆	
B.9	Replace exterior doors		◆	
B.10	Install new door in lean-to addition			◆
B.11	Repair concrete porches		◆	
B.12	Reconstruct south porch			◆
B.13	Replace wood step and railing at tower entry door	◆		
B.14	Replace vinyl gutter		◆	
B.15	Install wood shutters			◆
B.16	Restore brick masonry chimney		◆	
B.17	Restore interior surface of masonry walls		◆	
B.18	Restore damaged insulation in basement	◆		
B.19	Restore plaster wall and ceiling surfaces		◆	
B.20	Remove horizontal wood paneling		◆	
B.21	Restore interior wood trim		◆	
B.22	Paint interior surfaces			◆
B.23	Replace kitchen cabinets			◆
B.24	Restore interior wood doors		◆	
B.25	Remove stone fireplace		◆	
B.26	Restore lantern door		◆	
B.27	Paint interior surfaces of metal glazing frame			◆
B.28	Restore exterior of lantern		◆	
B.29	Paint lantern deck railing			◆
B.30	Replace light fixtures		◆	
B.31	Inspect and test mechanical and electrical systems		◆	

C) OILHOUSE (1899)

ITEM NO.	DESCRIPTION	PRIORITY RANKING		
		HIGH	MEDIUM	LOW
C.1	Restore interior and exterior brick masonry		◆	
C.2	Repair metal door		◆	
C.3	Repair metal cornice		◆	
C.4	Paint interior masonry wall surfaces			◆
C.5	Paint interior & exterior metal surfaces		◆	
C.6	Paint concrete floor			◆
C.7	Replace roof vent cover		◆	
C.8	Install temporary roof vent cover	◆		
C.9	Re-grade around building perimeter		◆	

D) GARAGE (1930)

ITEM NO.	DESCRIPTION	PRIORITY RANKING		
		HIGH	MEDIUM	LOW
D.1	Replace metal siding		◆	
D.2	Replace windows		◆	
D.3	Replace exterior door		◆	
D.4	Remove overhead garage door		◆	
D.5	Replace exterior concrete slab		◆	
D.6	Repair concrete floor slab		◆	
D.7	Install new interior finish material		◆	
D.8	Paint interior surfaces		◆	
D.9	Install bathroom		◆	
D.10	Install new electrical service		◆	
D.11	Install heat system		◆	
D.12	Install alarm system		◆	

E) STORAGE BUILDING (1890)

ITEM NO.	DESCRIPTION	PRIORITY RANKING		
		HIGH	MEDIUM	LOW
E.1	Install new foundation	◆		
E.2	Restore exterior wood siding and trim		◆	
E.3	Paint exterior wood siding and trim		◆	
E.4	Restore wood windows		◆	
E.5	Replace wood door		◆	
E.6	Install wood shingle roof			◆
E.7	Paint interior wall and ceiling surfaces			◆
E.8	Construct electric panel enclosure			◆
E.9	Install track lighting			◆
E.10	Install underground electrical service		◆	
E.11	Remove public telephone		◆	

F) WELL HOUSE (1870)

ITEM NO.	DESCRIPTION	PRIORITY RANKING		
		HIGH	MEDIUM	LOW
F.1	Restore interior & exterior brick masonry		◆	
F.2	Replace door	◆		
F.3	Replace wood shingle roof	◆		
F.4	Inspect/repair wood rafters & sheathing	◆		
F.5	Restore fascia and soffits		◆	
F.6	Paint exterior wood trim		◆	
F.7	Restore interior plaster wall surfaces			◆
F.8	Paint interior surfaces			◆
F.9	Install floor			◆

## **PART V – CONSTRUCTION COST ESTIMATES**

Construction cost estimates for all of the work identified in Part IV – Treatment and Use Recommendations, are included in this section. All cost estimates are projected for work to be completed in 2013-2014; escalation factors for future labor and material cost increases must be applied to all figures when projecting beyond that date. All estimates and unit prices will vary considerably depending on the scope of the specific work and the efficiency of scale.



PROJECT: MISSION POINT LIGHT STATION  
PENINSULA TOWNSHIP, MICHIGAN



BUILDING OR COMPONENT NAME: LIGHT TOWER/KEEPER'S DWELLING (1870)

DATE: OCTOBER 2012

ITEM NO.	DESCRIPTION	QUANTITY	UNIT OF MEASURE	LABOR AND MATERIAL		EQUIPMENT COST	TOTAL COST	REMARKS
				UNIT PRICE	COST			
B.1	Install wood shingle roof	1,704	Sq. Ft.	\$20	\$34,080		\$34,080	
B.2	Restore exterior wood siding and trim	1	Lump Sum				4,000	
B.3	Replace wood siding on lean-to addition	500	Sq. Ft.	\$12	\$6,000		6,000	
B.4	Paint exterior wood siding and trim	1,700	Sq. Ft.	\$4	\$6,800		6,800	
B.5	Repair damaged stone foundation walls	1	Lump Sum				4,500	
B.6	Repair damaged brick and concrete masonry unit (CMU) foundation walls	1	Lump Sum				3,500	
B.7	Replace windows	14	Each	\$1,000	\$14,000		14,000	
B.8	Restore basement windows	3	Each	\$200	\$600		600	
B.9	Replace exterior doors	2	Each	\$1,500	\$3,000		3,000	
B.10	Install new door in lean-to addition	1	Each	\$2,500			2,500	
B.11	Repair concrete porches	1	Lump Sum				1,000	
B.12	Reconstruct south porch	1	Lump Sum				3,000	
B.13	Replace wood step and railing at tower entry door	1	Lump Sum				1,500	
B.14	Replace vinyl gutter with metal	1	Lump Sum				1,500	
B.15	Install wood shutters	14	Each	\$400	\$5,600		5,600	

PROJECT: MISSION POINT LIGHT STATION  
PENINSULA TOWNSHIP, MICHIGAN



BUILDING OR COMPONENT NAME: LIGHT TOWER/KEEPER'S DWELLING (1870)

DATE: OCTOBER 2012

ITEM NO.	DESCRIPTION	QUANTITY	UNIT OF MEASURE	LABOR AND MATERIAL		EQUIPMENT COST	TOTAL COST	REMARKS
				UNIT PRICE	COST			
B.16	Restore brick masonry chimney	1	Lump Sum				5,000	
B.17	Restore interior surface of masonry walls	1	Lump Sum				3,000	
B.18	Restore damaged insulation in basement	1	Lump Sum				1,500	
B.19	Restore plaster wall and ceiling surfaces	1	Lump Sum				5,000	
B.20	Remove horizontal wood paneling	1	Lump Sum				6,500	
B.21	Restore interior wood trim	1	Lump Sum				4,000	
B.22	Paint interior surfaces	1	Lump Sum				10,000	
B.23	Replace kitchen cabinets	1	Lump Sum				15,000	
B.24	Restore interior wood doors	1	Lump Sum				1,500	
B.25	Remove stone fireplace	1	Lump Sum				4,000	
B.26	Restore lantern door	1	Lump Sum				500	
B.27	Paint interior surfaces of metal glazing frame	1	Lump Sum				500	
B.28	Restore exterior of lantern	1	Lump Sum				2,000	
B.29	Paint lantern deck railing	1	Lump Sum				500	





PROJECT: MISSION POINT LIGHT STATION  
PENINSULA TOWNSHIP, MICHIGAN



BUILDING OR COMPONENT NAME: GARAGE (1930)

DATE: OCTOBER 2012

ITEM NO.	DESCRIPTION	QUANTITY	UNIT OF MEASURE	LABOR AND MATERIAL		EQUIPMENT COST	TOTAL COST	REMARKS
				UNIT PRICE	COST			
D.1	Replace metal siding	1,015	Sq. Ft.	\$12	\$12,180		\$12,180	
D.2	Replace windows	5	Each	\$1,000	\$5,000		5,000	
D.3	Replace exterior door	1	Each	\$1,500	\$1,500		1,500	
D.4	Remove overhead garage door and construct wall	1	Lump Sum				5,000	
D.5	Replace exterior concrete slab	75	Sq. Ft.	\$10	\$750		750	
D.6	Repair concrete floor slab	1	Lump Sum				1,000	
D.7	Install new interior finish material on walls	900	Sq. Ft.	\$5	\$4,500		4,500	
D.8	Paint interior surfaces, walls, ceiling and floor	2,400	Sq. Ft.	\$2	\$4,800		4,800	
D.9	Install bathroom	1	Lump Sum				12,500	
D.10	Install new electrical service including lighting	1	Lump Sum				4,500	
D.11	Install heat system	1	Lump Sum				2,500	
D.12	Install alarm system	1	Lump Sum				1,000	
	SUBTOTAL						\$55,230	
	CONTINGENCY @ 10%						5,520	
	TOTAL						\$60,750	

PROJECT: MISSION POINT LIGHT STATION  
PENINSULA TOWNSHIP, MICHIGAN



BUILDING OR COMPONENT NAME: STORAGE BUILDING (1890)

DATE: OCTOBER 2012

ITEM NO.	DESCRIPTION	QUANTITY	UNIT OF MEASURE	LABOR AND MATERIAL		EQUIPMENT COST	TOTAL COST	REMARKS
				UNIT PRICE	COST			
E.1	Install new foundation and move building	1	Lump Sum				\$12,000	
E.2	Restore exterior wood siding and trim	1	Lump Sum				3,500	
E.3	Paint exterior wood siding and trim	530	Sq. Ft.	\$4	\$2,120		2,120	
E.4	Restore wood windows	4	Each	\$500	\$2,000		2,000	
E.5	Replace wood door	1	Each	\$1,500	\$1,500		1,500	
E.6	Install wood shingle roof	400	Sq. Ft.	\$20	\$8,000		8,000	
E.7	Paint interior wall and ceiling surfaces	656	Sq. Ft.	\$4	\$2,620		2,620	
E.8	Construct electric panel enclosure	1	Lump Sum				500	
E.9	Install track lighting	1	Lump Sum				1,000	
E.10	Install underground electrical service	1	Lump Sum				4,500	
E.11	Remove public telephone	1	Lump Sum				250	
	SUBTOTAL						\$37,990	
	CONTINGENCY @ 10%						3,810	
	TOTAL						\$41,800	

PROJECT: MISSION POINT LIGHT STATION  
PENINSULA TOWNSHIP, MICHIGAN



BUILDING OR COMPONENT NAME: WELL HOUSE (1870)

DATE: OCTOBER 2012

ITEM NO.	DESCRIPTION	QUANTITY	UNIT OF MEASURE	LABOR AND MATERIAL		EQUIPMENT COST	TOTAL COST	REMARKS
				UNIT PRICE	COST			
F.1	Restore interior and exterior brick masonry	90	Sq. Ft.	\$25	\$2,250		\$2,250	
F.2	Replace door and hardware	1	Each	\$1,200	\$1,200		1,200	
F.3	Replace wood shingle roof	56	Sq. Ft.	\$40	\$2,240		2,240	
F.4	Inspect/repair wood rafters and sheathing	1	Lump Sum				1,000	
F.5	Restore fascia and soffits	1	Lump Sum				1,000	
F.6	Paint exterior wood trim	1	Lump Sum				600	
F.7	Restore interior plaster wall surfaces	1	Lump Sum				1,500	
F.8	Paint interior surfaces	90	Sq. Ft.	\$4	\$360		360	
F.9	Install floor	1	Lump Sum				500	
	SUBTOTAL						\$10,650	
	CONTINGENCY @ 10%						1,065	
	TOTAL						\$11,715	

APPENDIX A  
ARCHIVAL DRAWINGS AND PHOTOS



VIEW OF LIGHT TOWER/KEEPER'S DWELLING AND OTHER STRUCTURES (c1890s)

National Archives, Record Group 26 (NA, RG 26), "Records of the U.S. Coast Guard 1785-1988", Washington D.C.



VIEW OF OILHOUSE AND BARN (NON-EXTANT) (c1914)

Ninth Naval District  
Chicago, Illinois



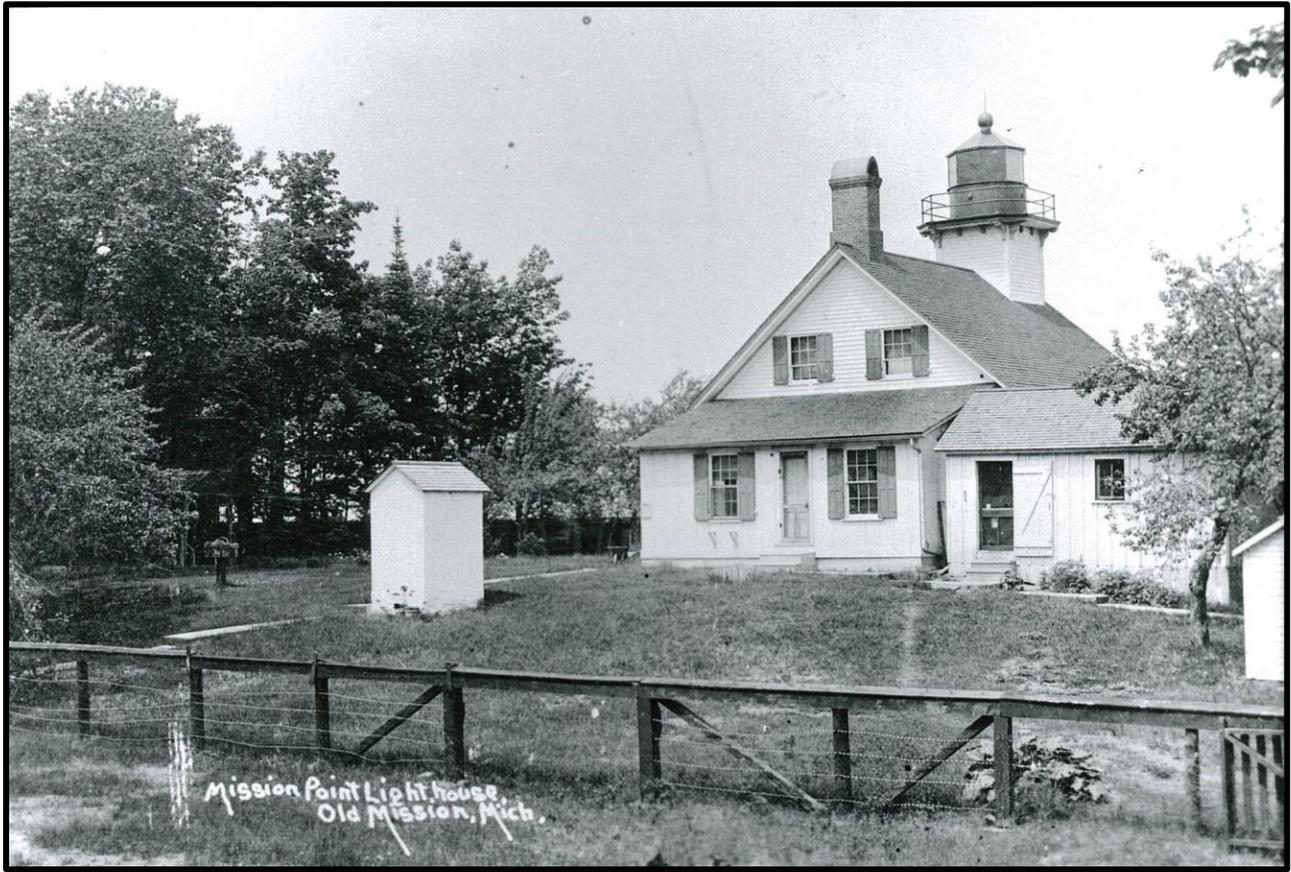
VIEW OF OILHOUSE AND FENCE (c1914)

Ninth Naval District  
Chicago, Illinois



VIEW OF LIGHT TOWER/KEEPER'S DWELLING (c1916)

Superior View Historic Photography  
(Image #M-LOMP-03)  
Marquette, Michigan



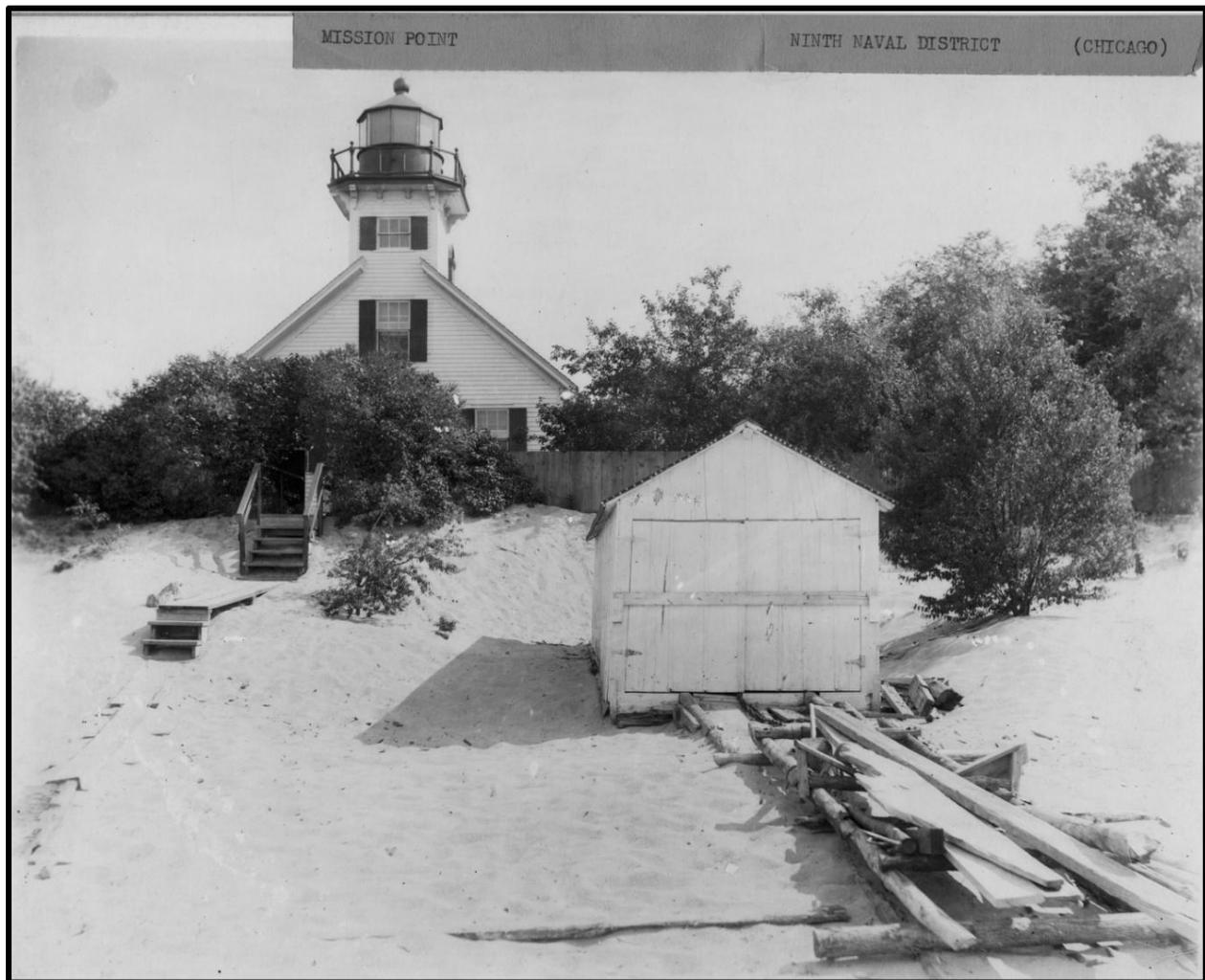
VIEW OF LIGHT TOWER/KEEPER'S DWELLING & WELL HOUSE (c1916)

Superior View Historic Photography  
(Image #M-LOMP-01)  
Marquette, Michigan



VIEW OF LIGHT TOWER/KEEPER'S DWELLING & BOARDWALK (c1916)

Superior View Historic Photography  
(Image #M-LOMP-02)  
Marquette, Michigan



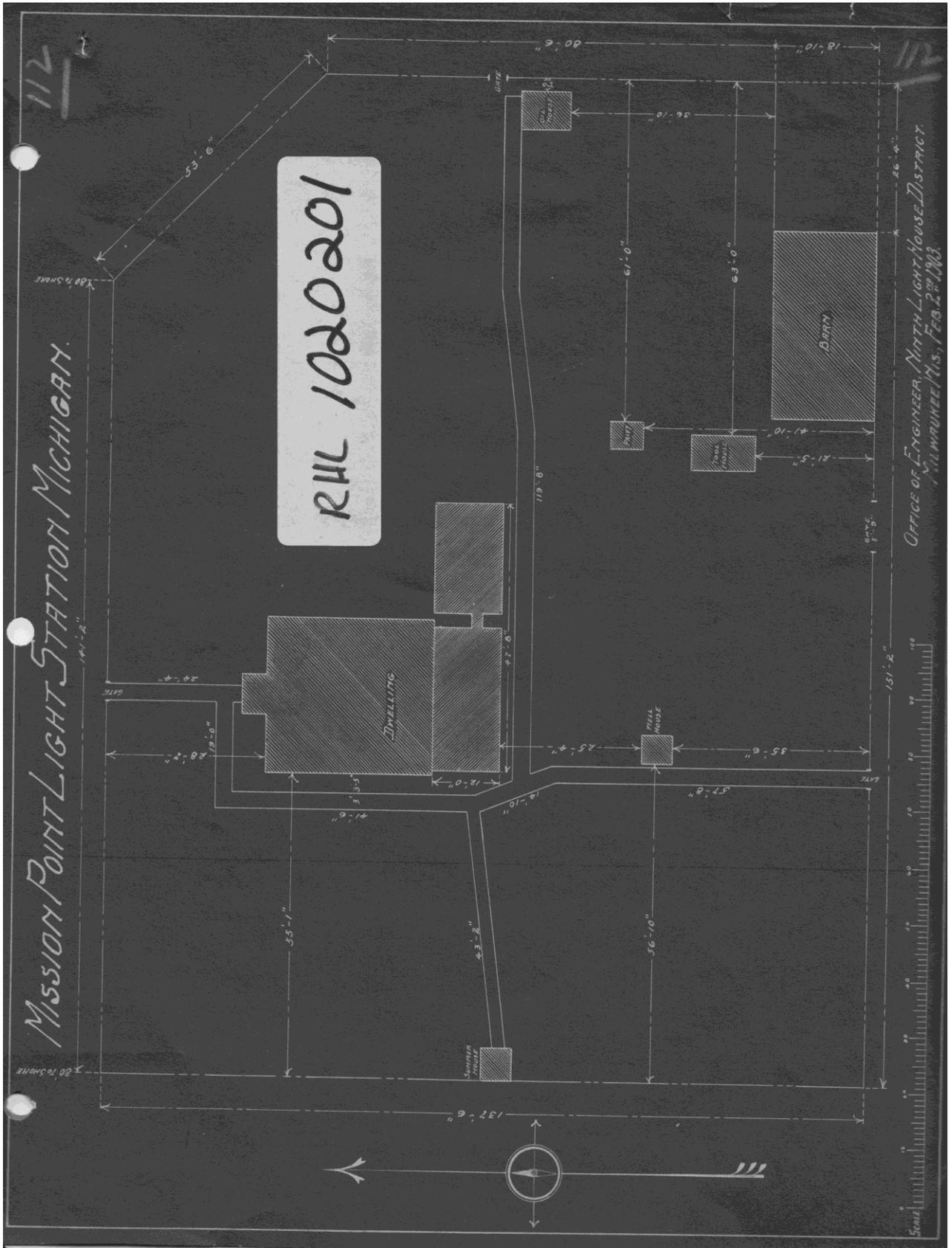
MISSION POINT

NINTH NAVAL DISTRICT

(CHICAGO)

VIEW OF LIGHT TOWER/KEEPER'S DWELLING & BOATHOUSE (c1920s)

United States Coast Guard  
Historians Office  
Washington, D.C.



SITE PLAN 1903

Item No. 1147 of the "1933 Light List, Great Lakes, United States and Canada"  
indicates Mission Point Light

LIGHT LIST  
—  
GREAT LAKES, UNITED STATES  
AND CANADA  
—  
1933

## LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
<b>EAST SIDE</b>					
1138	BEAVER ISLAND HARBOR----- Fl. R., 5 sec. U.	On north side of entrance to harbor.		Feet 38	10
1139	<i>Stony Point Shoal Lighted Bell Buoy 1.</i> Fl. W., 5 sec.	In 20 feet, on east end of shoal, south side of entrance to Beaver Harbor.		10	8
1140	Beaver Island----- F. Fl. W., 20 sec.	On bluff, south end of island-- 45 34                      85 34		103	18 19
1141	LITTLE TRAVERSE----- F. W.	On Harbor Point, north side Little Traverse Bay. 45 25                      84 59		41	14
1142	PETOSKEY----- Fl. R., 4 sec. U.	Near end of breakwater, south side of Little Traverse Bay.		44	7
1143	CHARLEVOIX NORTH PIER- HEAD. Occ. W., 6 sec.	Near outer end of pier----- 45 19                      85 16		61	12
1144	CHARLEVOIX SOUTH PIER- HEAD. F. R.	On outer end of pier-----		37	10
1145	Grand Traverse----- F. W.	On Lighthouse Point, west side of entrance to Grand Traverse Bay. 45 13                      85 33		47	14
1146	<i>Northport Point Lighted Bell Buoy 2.</i> Fl. W., 5 sec.	In 30 feet, on south end of shoal, Grand Traverse Bay.		10	8
1147	MISSION POINT----- F. W.	On Old Mission Point, Grand Traverse Bay. 44 59                      85 29		43	13
1148	<i>Lee Point Lighted Bell Buoy 4.</i> Fl. W., 5 sec.	In 22 feet, on end of shoal Grand Traverse Bay.		10	8
1149	BOARDMAN RIVER WEST PIERHEAD LIGHT. F. W.	On pier, at mouth of river Grand Traverse Bay. 44 46                      85 37		20	10
1150	South Fox Island----- Fl. W., 30 sec.	On south end of island----- 45 23                      85 50		67	16

Item No. 1146.5 of the "1934 Light List Great Lakes, United States and Canada" indicates a new entry noted as the "Mission Point Lighted Bell Buoy"

**LIGHT LIST**

**GREAT LAKES, UNITED STATES  
AND CANADA**

**1934**

## LAKE MICHIGAN

No.	Name Character and period of light	Location		Light above high water	Miles seen
		Latitude, N.	Longitude, W.		
<b>EAST SIDE</b>					
1145	<b>Grand Traverse</b> ----- F. W.	On Lighthouse Point, west side of entrance to Grand Traverse Bay. 45 13	° ' ° ' 85 33	Feet 47	14
1146	<i>Northport Point Lighted Bell Buoy 2.</i> Fl. W., 5 sec.	In 30 feet, on south end of shoal, Grand Traverse Bay.		10	8
1146.5	<i>Mission Point Lighted Bell Buoy MP.</i> Quick Fl. W.	In 18 feet-----		11	6
1147	<b>MISSION POINT</b> ----- Fl. W., 10 sec.	On Old Mission Point, Grand Traverse Bay. 44 59	85 29	43	13
1148	<i>Lee Point Lighted Bell Buoy 4--</i> Fl. W., 5 sec.	In 22 feet, on end of shoal Grand Traverse Bay.		10	8
1149	<b>B O A R D M A N R I V E R W E S T PIERHEAD LIGHT.</b> F. W.	On pier, at mouth of river Grand Traverse Bay. 44 46	85 37	20	10
1150	<b>South Fox Island</b> ----- Fl. W., 30 sec.	On south end of island----- 45 23	85 50	67	16
1151	<i>South Fox Island Shoals Lighted Buoy 1.</i> Fl. W., 5 sec.	In 26 feet, south side of pas- sage south of island.		10	8
1152	<b>LELAND PIERHEAD</b> ----- F. R. U.	On end of north pier at en- trance to Carp Lake.		16	8
1153	<b>North Manitou</b> ----- Fl. W., 3 sec.	On southeast point of North Manitou Island. 45 04	85 58	70	16
1154	<b>NORTH MANITOU SHOAL LIGHTSHIP.</b> F. W. Radiobeacon.	In 21 feet, on south end of shoals. 45 01	85 57	44	12
1154.5	<b>NORTH MANITOU SHOAL</b> ----- Fl. R., 5 sec. U.	Temporary light, station un- der construction.		34	---
1155	<b>South Manitou</b> ----- F. W.	On southeast point of South Manitou Island. 45 00	86 06	104	19

**APPENDIX B**  
**CURRENT DRAWINGS OF EXISTING (2011) CONDITION**



**ENGINEERING  
ARCHITECTURE  
PLANNING  
SURVEYING  
ENVIRONMENTAL**

100 PORTAGE STREET  
HOUGHTON, MI 49931  
(906) 482-4810

102 W. WASHINGTON, SUITE 217  
MARQUETTE, MI 49855  
(906) 228-6061

424 SOUTH PINE STREET  
ISHPEMING, MI 49849  
(906) 485-1011

2906 N. STEPHENSON AVE. SUITE 2  
IRON MOUNTAIN, MI 49801  
(906) 563-5407

707 ASHUM STREET  
SAULT STE. MARIE, MI 49783  
(906) 635-0511

1701 DUNLAP AVE. SUITE B  
MARINETTE, WI 54143  
(715) 732-4188

**PROJECT TITLE:  
HISTORIC  
STRUCTURES REPORT,  
OLD MISSION POINT  
LIGHT STATION**

**OWNER:  
PENINSULA TWP.,  
13235 CENTER RD.  
TRAVERSE CITY  
MI 49686**

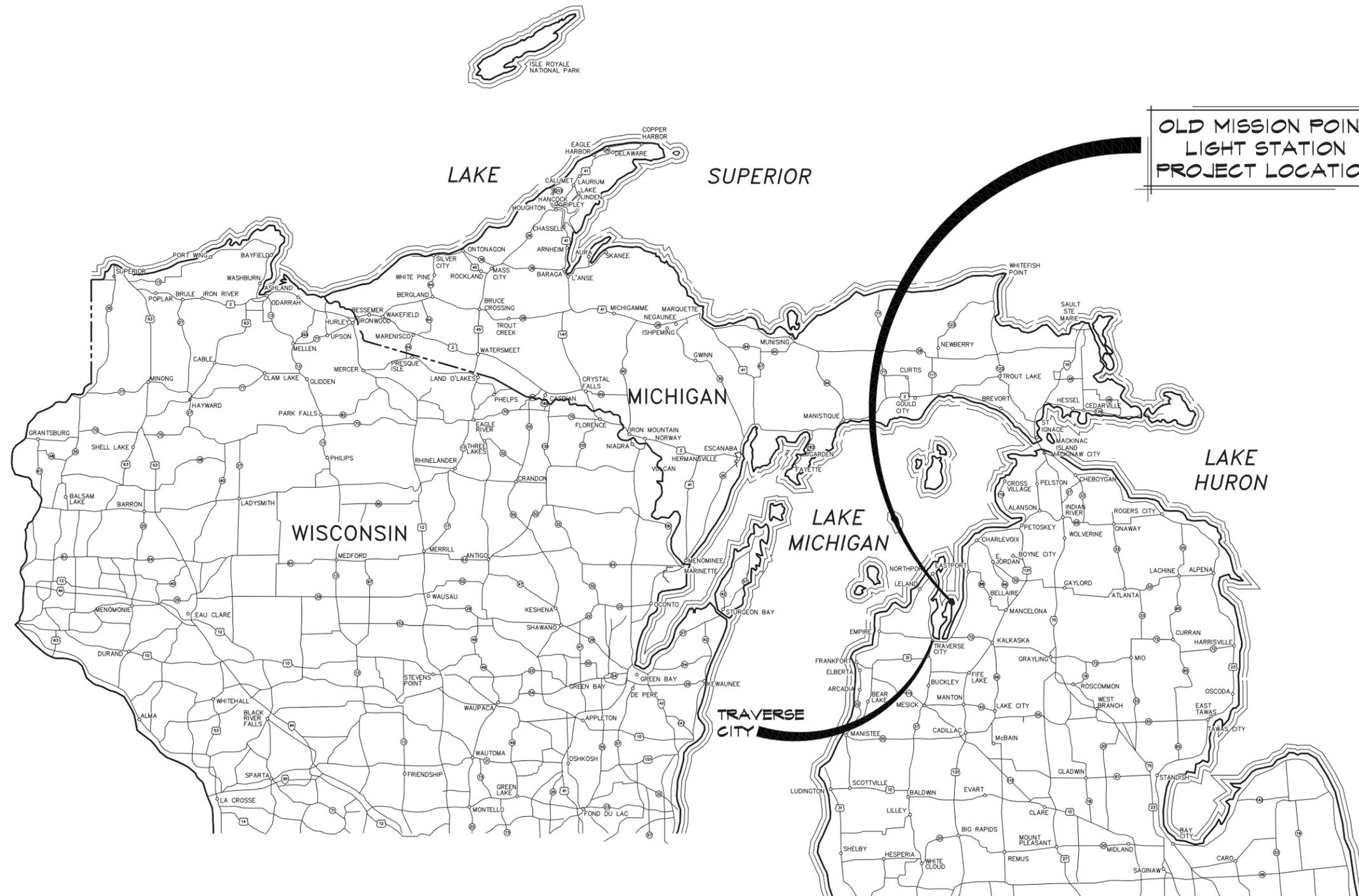
**PROJECT LOCATION:  
OLD MISSION POINT,  
PENINSULA TWP.  
MICHIGAN**

FINAL REPORT	10-31-12
95% REVIEW	05-15-12
75% REVIEW	12-30-11
ISSUED FOR:	DATE:

PROFESSIONAL SEAL  
PROJECT NO: P111-11422  
DESIGNED BY: -  
DRAWN BY: CLT  
CHECKED BY: K. CZAPSKI  
APPROVED: K. CZAPSKI

**SITE LOCATION MAP**

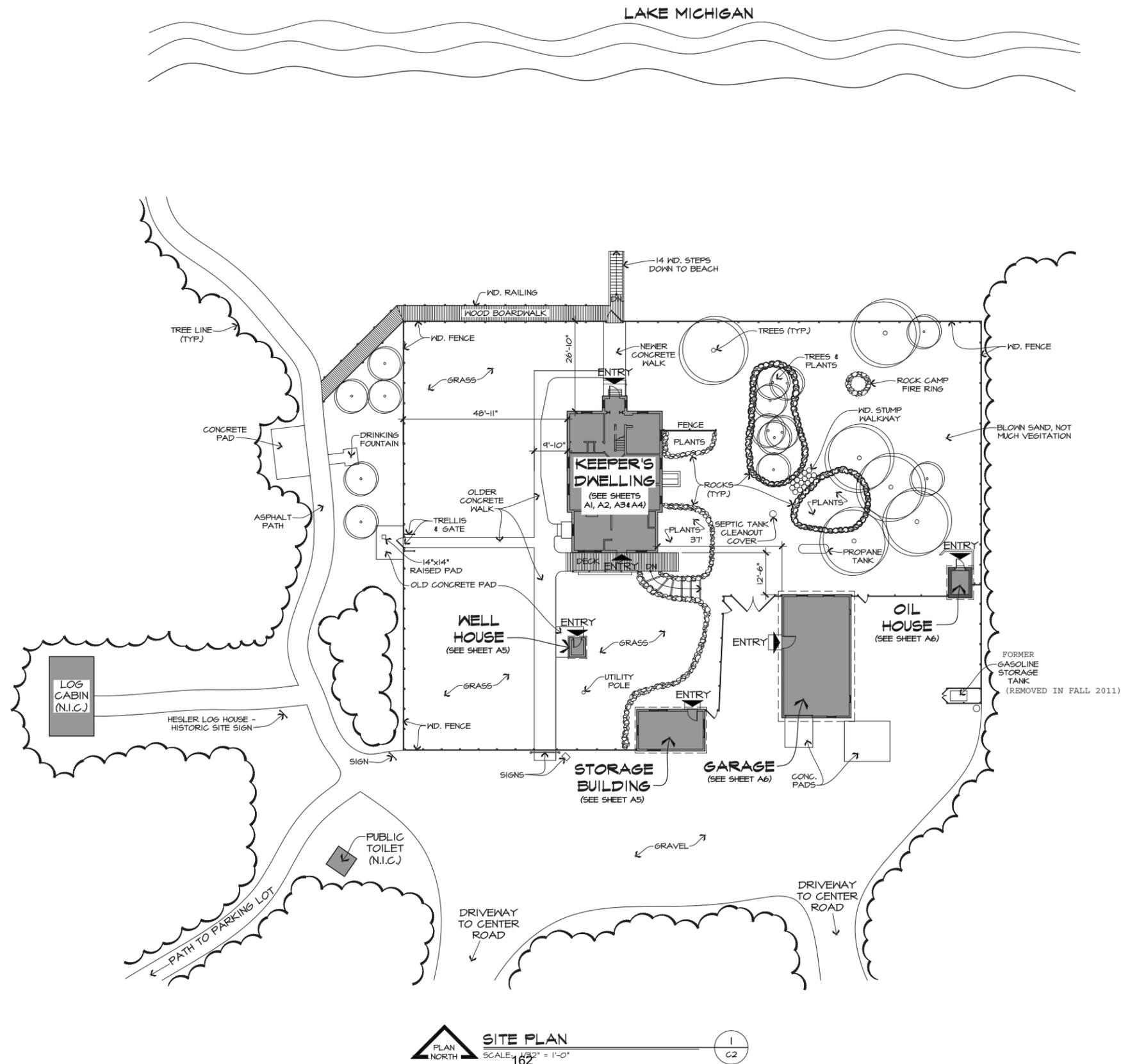
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**OLD MISSION POINT  
LIGHT STATION  
PROJECT LOCATION**



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**ENGINEERING  
ARCHITECTURE  
PLANNING  
SURVEYING  
ENVIRONMENTAL**

100 PORTAGE STREET  
HOUGHTON, MI 49931  
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102 W. WASHINGTON, SUITE 217  
MARQUETTE, MI 49855  
(906) 228-6061

424 SOUTH PINE STREET  
ISHPEMING, MI 49849  
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707 ASHMUN STREET  
SAULT STE. MARIE, MI 49783  
(906) 635-0511

1701 DUNLAP AVE. SUITE B  
MARINETTE, WI 54143  
(715) 732-4188

**PROJECT TITLE:  
HISTORIC  
STRUCTURES REPORT,  
OLD MISSION POINT  
LIGHT STATION**

**OWNER:  
PENINSULA TWP.,  
13235 CENTER RD.  
TRAVERSE CITY  
MI 49686**

**PROJECT LOCATION:  
OLD MISSION POINT,  
PENINSULA TWP.  
MICHIGAN**

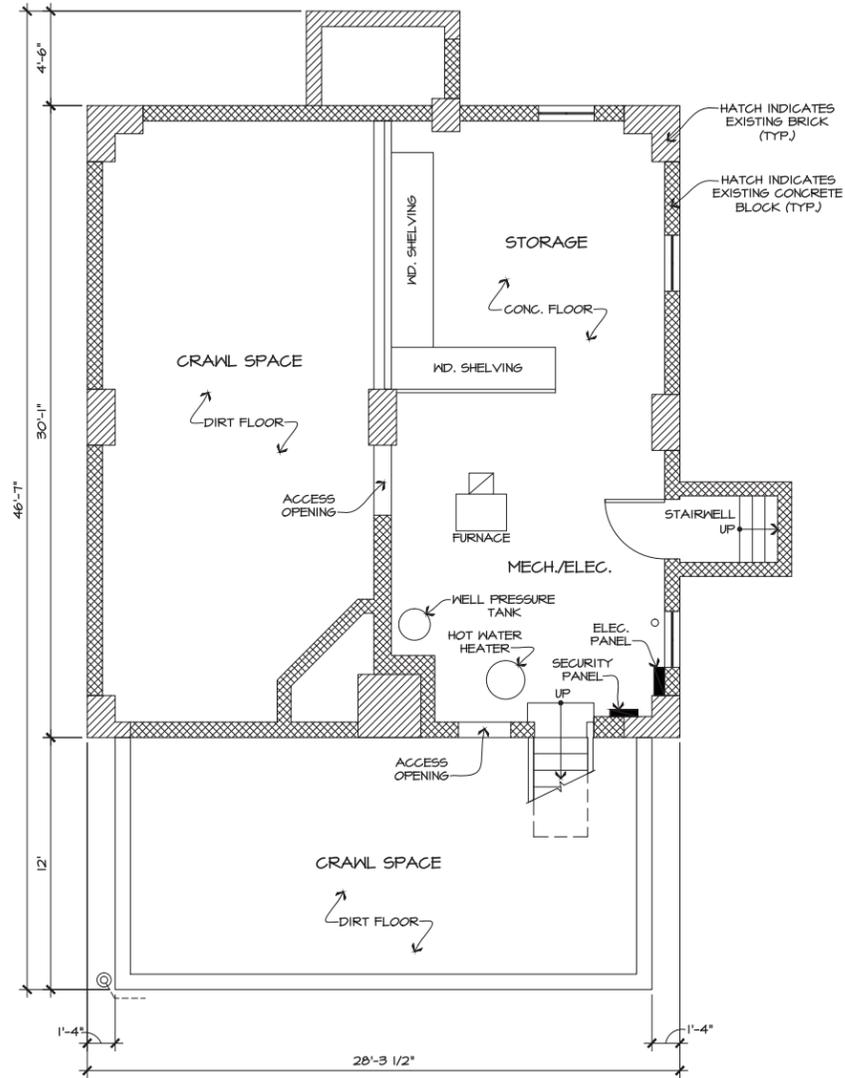
FINAL REPORT	10-31-12
95% REVIEW	05-15-12
75% REVIEW	12-30-11
ISSUED FOR:	DATE:

PROFESSIONAL SEAL	
PROJECT NO:	P111-11422
DESIGNED BY:	-
DRAWN BY:	CLT
CHECKED BY:	K. CZAPSKI
APPROVED:	K. CZAPSKI

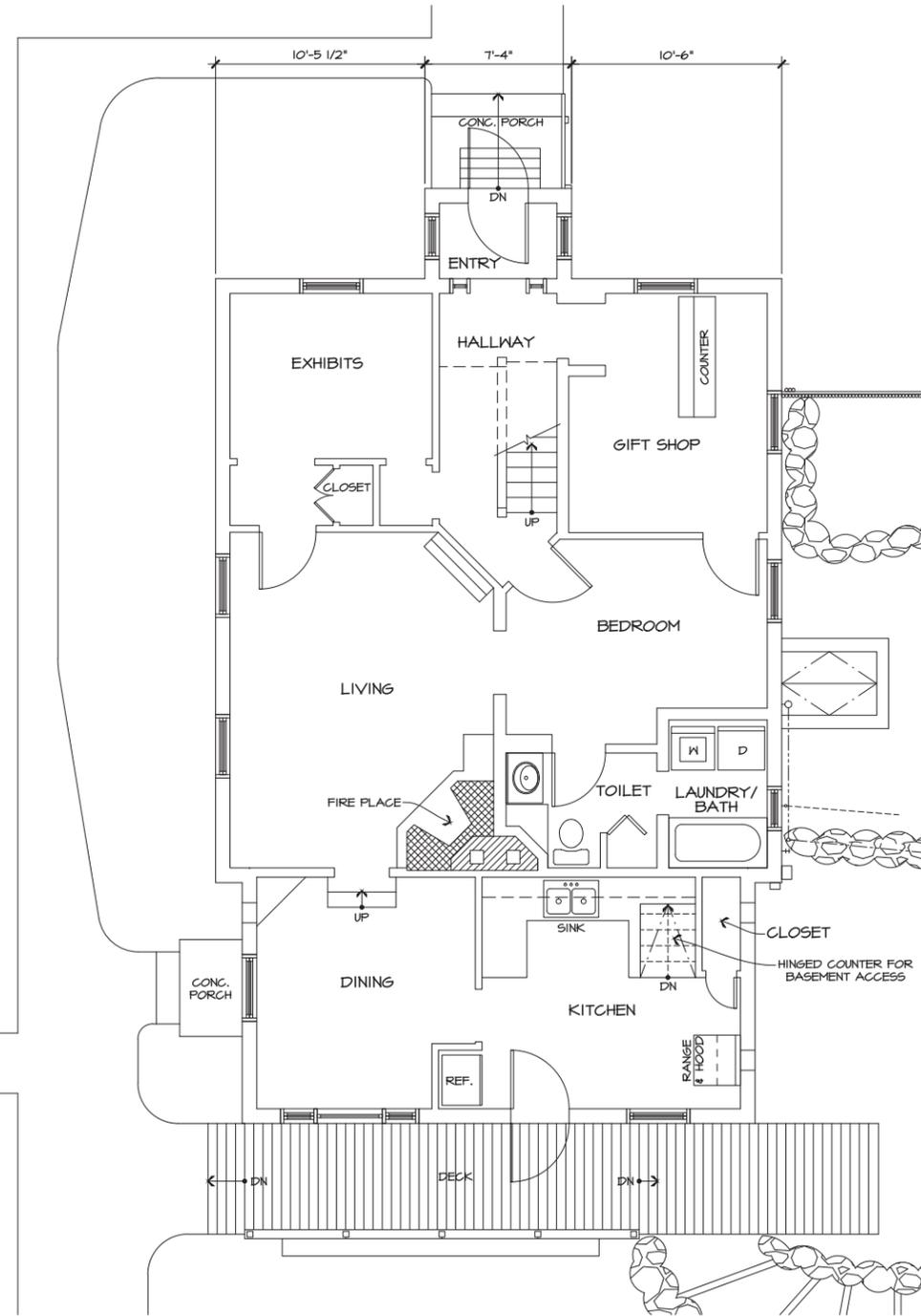
**SITE PLAN**

**C2**

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**BASEMENT FLOOR PLAN**  
 PLAN NORTH SCALE: 1/8" = 1'-0"  
 1 AI



**FIRST FLOOR PLAN**  
 PLAN NORTH SCALE: 1/8" = 1'-0"  
 2 AI



**ENGINEERING  
 ARCHITECTURE  
 PLANNING  
 SURVEYING  
 ENVIRONMENTAL**

100 PORTAGE STREET  
 HOUGHTON, MI 49931  
 (906) 462-4810  
 102 W. WASHINGTON, SUITE 217  
 MARQUETTE, MI 49855  
 (906) 228-6061  
 424 SOUTH PINE STREET  
 ISHPREMING, MI 49849  
 (906) 485-1011  
 2906 N. STEPHENSON AVE. SUITE 2  
 IRON MOUNTAIN, MI 49801  
 (906) 563-5407  
 707 ASHMUN STREET  
 SAULT STE. MARIE, MI 49783  
 (906) 635-0511  
 1701 DUNLAP AVE. SUITE B  
 MARINETTE, WI 54143  
 (715) 732-4188

**PROJECT TITLE:**  
**HISTORIC  
 STRUCTURES REPORT,  
 OLD MISSION POINT  
 LIGHT STATION**

**OWNER:**  
**PENINSULA TWP.,  
 13235 CENTER RD.  
 TRAVERSE CITY  
 MI 49686**

**PROJECT LOCATION:**  
**OLD MISSION POINT,  
 PENINSULA TWP.  
 MICHIGAN**

FINAL REPORT	10-31-12
95% REVIEW	05-15-12
75% REVIEW	12-30-11
ISSUED FOR:	DATE:

PROFESSIONAL SEAL  
 PROJECT NO: P111-11422  
 DESIGNED BY: -  
 DRAWN BY: CLT  
 CHECKED: K. CZAPSKI  
 APPROVED: K. CZAPSKI

**KEEPERS DWELLING  
 BASEMENT &  
 FIRST FLOOR PLANS**

**A1**

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**ENGINEERING  
ARCHITECTURE  
PLANNING  
SURVEYING  
ENVIRONMENTAL**

100 PORTAGE STREET  
HOUGHTON, MI 49931  
(906) 482-4810  
102 W. WASHINGTON, SUITE 217  
MARQUETTE, MI 49855  
(906) 228-6061  
424 SOUTH PINE STREET  
ISHPEMING, MI 49849  
(906) 485-1011  
2906 N. STEPHENSON AVE. SUITE 2  
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(906) 563-5407  
707 ASHMUN STREET  
SAULT STE. MARIE, MI 49783  
(906) 635-0511  
1701 DUNLAP AVE. SUITE B  
MARINETTE, WI 54143  
(715) 732-4188

**PROJECT TITLE:  
HISTORIC  
STRUCTURES REPORT,  
OLD MISSION POINT  
LIGHT STATION**

**OWNER:  
PENINSULA TWP.,  
13235 CENTER RD.  
TRAVERSE CITY  
MI 49686**

**PROJECT LOCATION:  
OLD MISSION POINT,  
PENINSULA TWP.  
MICHIGAN**

FINAL REPORT	10-31-12
95% REVIEW	05-15-12
75% REVIEW	12-30-11
ISSUED FOR:	DATE:

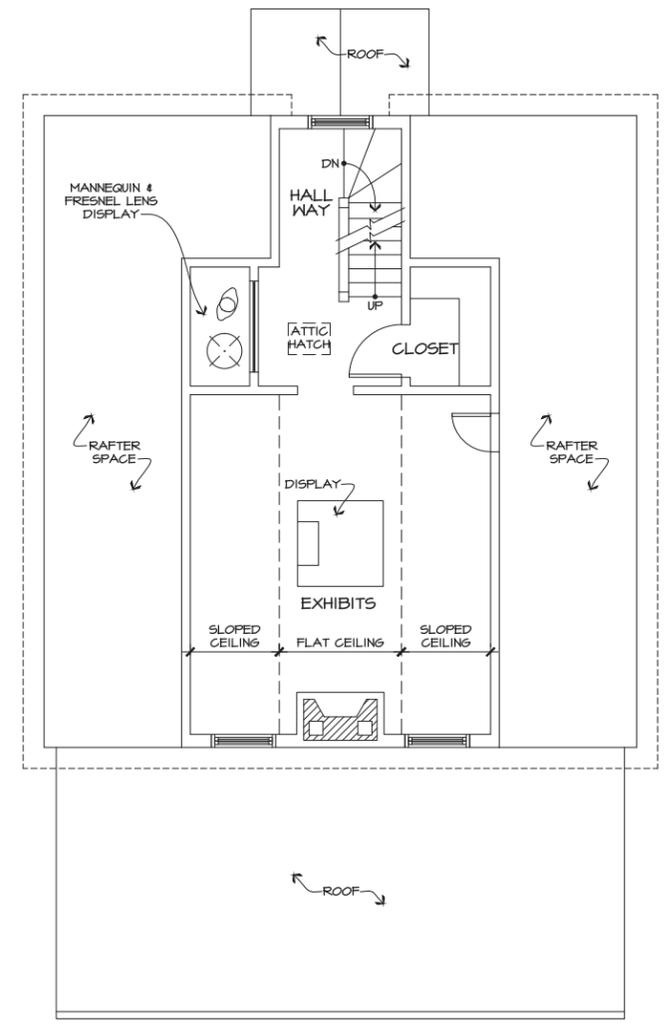
PROFESSIONAL SEAL

PROJECT NO: P111-11422  
DESIGNED BY: -  
DRAWN BY: CLT  
CHECKED: K. CZAPSKI  
APPROVED: K. CZAPSKI

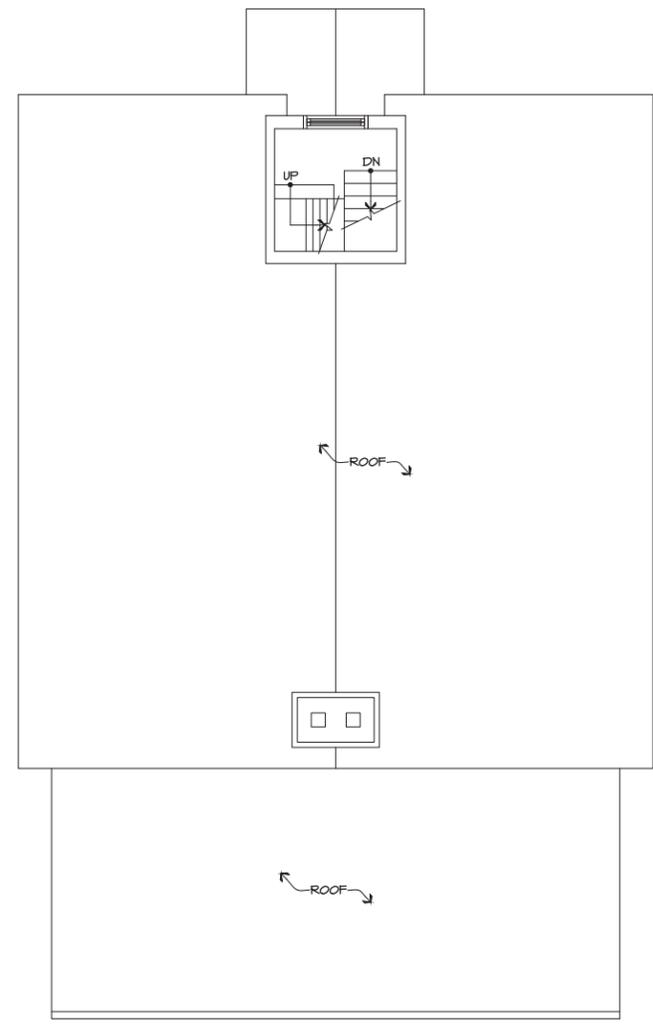
**KEEPERS DWELLING  
SECOND FLOOR, TOWER  
& LANTERN FLOOR PLANS**

**A2**

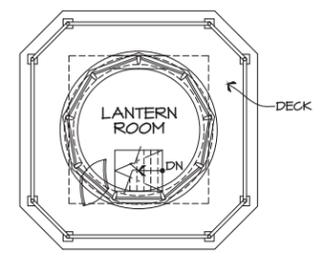
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**SECOND FLOOR PLAN**  
SCALE: 1/8" = 1'-0"  
1  
A2



**TOWER PLAN**  
SCALE: 1/8" = 1'-0"  
2  
A2



**LANTERN DECK PLAN**  
SCALE: 1/8" = 1'-0"  
3  
A2



**ENGINEERING  
ARCHITECTURE  
PLANNING  
SURVEYING  
ENVIRONMENTAL**

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SAULT STE. MARIE, MI 49783  
(906) 635-0511

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(715) 732-4188

**PROJECT TITLE:  
HISTORIC  
STRUCTURES REPORT,  
OLD MISSION POINT  
LIGHT STATION**

**OWNER:  
PENINSULA TWP.,  
13235 CENTER RD.,  
TRAVERSE CITY  
MI 49686**

**PROJECT LOCATION:  
OLD MISSION POINT,  
PENINSULA TWP.,  
MICHIGAN**

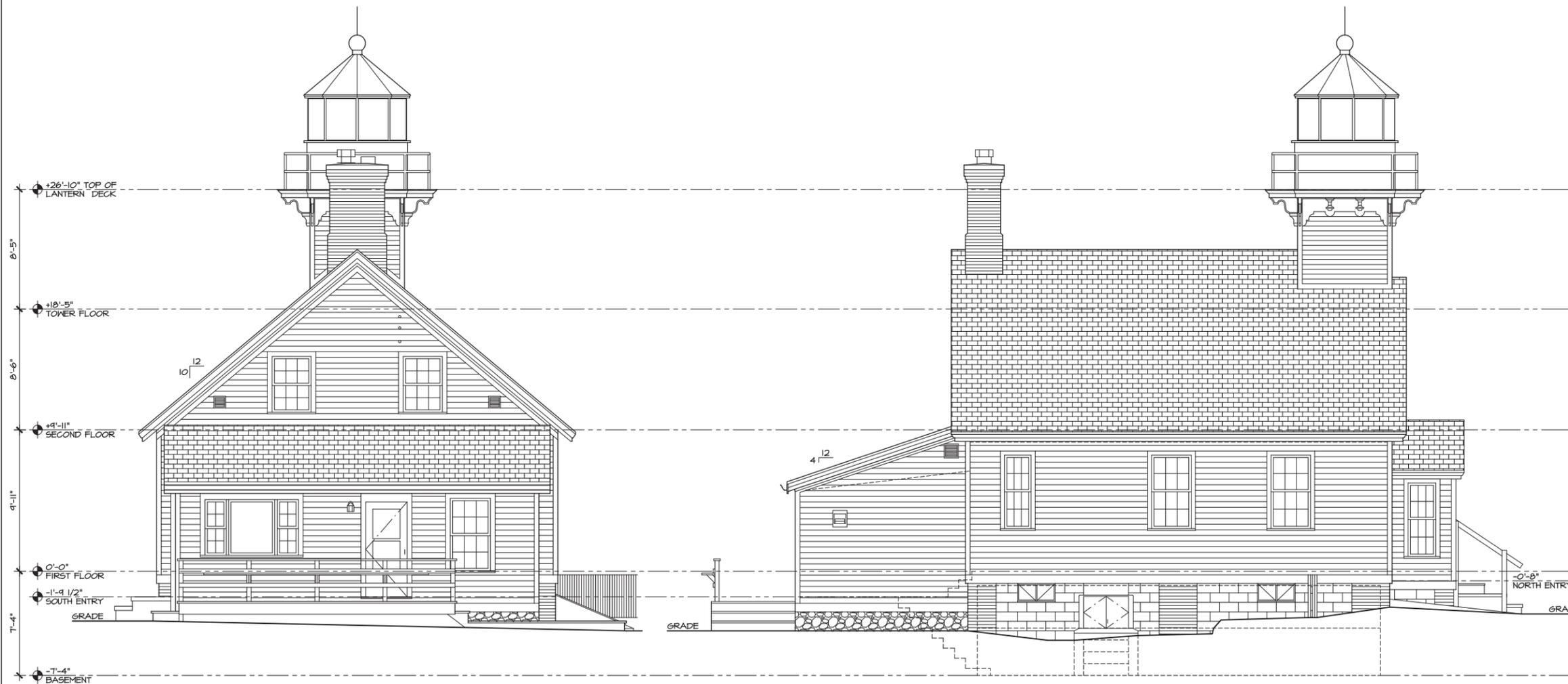
FINAL REPORT	10-31-12
95% REVIEW	05-15-12
75% REVIEW	12-30-11
ISSUED FOR:	DATE:

PROFESSIONAL SEAL

PROJECT NO: P111-11422  
DESIGNED BY: -  
DRAWN BY: CLT  
CHECKED: K. CZAPSKI  
APPROVED: K. CZAPSKI

**KEEPERS DWELLING  
SOUTH & EAST  
EXTERIOR ELEVATIONS**

**A3**



**SOUTH ELEVATION**  
SCALE: 1/8" = 1'-0"

1  
A3

**EAST ELEVATION**  
SCALE: 1/8" = 1'-0"

2  
A3



**ENGINEERING  
ARCHITECTURE  
PLANNING  
SURVEYING  
ENVIRONMENTAL**

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424 SOUTH PINE STREET  
ISHPEMING, MI 49849  
(906) 485-1011  
  
2906 N. STEPHENSON AVE. SUITE 2  
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707 ASHMUN STREET  
SAULT STE. MARIE, MI 49783  
(906) 635-0511  
  
1701 DUNLAP AVE. SUITE B  
MARINETTE, WI 54143  
(715) 732-4188

**PROJECT TITLE:  
HISTORIC  
STRUCTURES REPORT,  
OLD MISSION POINT  
LIGHT STATION**

**OWNER:  
PENINSULA TWP.,  
13235 CENTER RD.  
TRAVERSE CITY  
MI 49686**

**PROJECT LOCATION:  
OLD MISSION POINT,  
PENINSULA TWP.  
MICHIGAN**

FINAL REPORT	10-31-12
95% REVIEW	05-15-12
75% REVIEW	12-30-11
ISSUED FOR:	DATE:

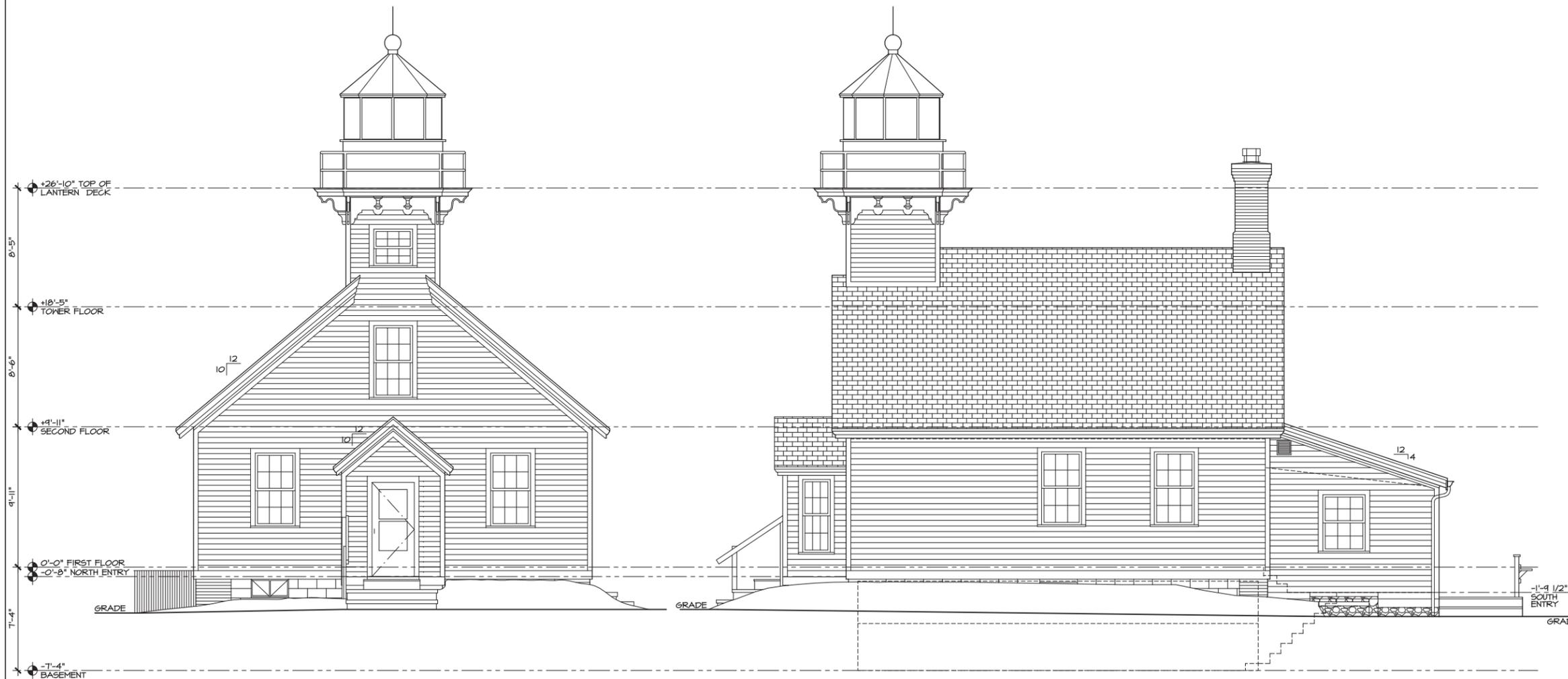
PROFESSIONAL SEAL

PROJECT NO: P111-11422  
DESIGNED BY: -  
DRAWN BY: CLT  
CHECKED BY: K. CZAPSKI  
APPROVED: K. CZAPSKI

**KEEPERS DWELLING  
NORTH & WEST  
EXTERIOR ELEVATIONS**

**A4**

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**NORTH ELEVATION**  
SCALE: 1/8" = 1'-0"

1  
A4

**WEST ELEVATION**  
SCALE: 1/8" = 1'-0"

2  
A4



**ENGINEERING  
ARCHITECTURE  
PLANNING  
SURVEYING  
ENVIRONMENTAL**

100 PORTAGE STREET  
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102 W. WASHINGTON, SUITE 217  
MARQUETTE, MI 49855  
(906) 228-8081

424 SOUTH PINE STREET  
ISHPEMING, MI 49849  
(906) 485-1011

2906 N. STEPHENSON AVE. SUITE 2  
IRON MOUNTAIN, MI 49801  
(906) 563-5407

707 ASHMIN STREET  
SAULT STE. MARIE, MI 49783  
(906) 635-0511

1701 DUNLAP AVE. SUITE B  
MARINETTE, WI 54143  
(715) 732-4188

**PROJECT TITLE:  
HISTORIC  
STRUCTURES REPORT,  
OLD MISSION POINT  
LIGHT STATION**

**OWNER:  
PENINSULA TWP.,  
13235 CENTER RD.  
TRAVERSE CITY  
MI 49686**

**PROJECT LOCATION:  
OLD MISSION POINT,  
PENINSULA TWP.  
MICHIGAN**

FINAL REPORT	10-31-12
95% REVIEW	05-15-12
75% REVIEW	12-30-11
ISSUED FOR:	DATE:

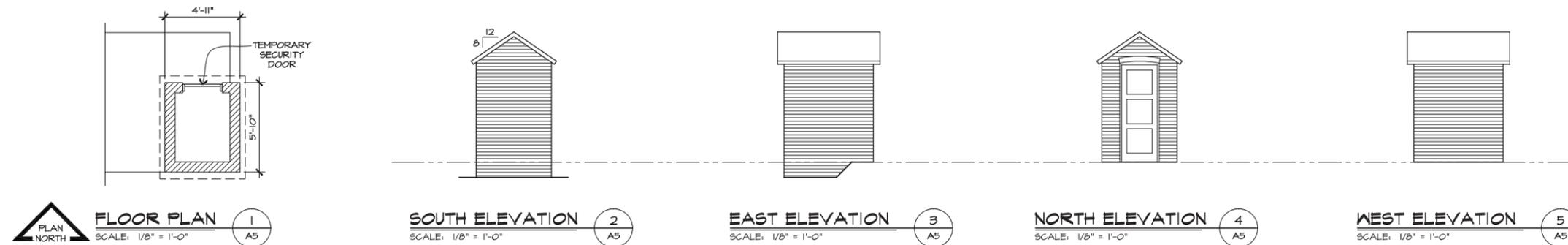
PROFESSIONAL SEAL

PROJECT NO:	P111-11422
DESIGNED BY:	-
DRAWN BY:	CLT
CHECKED BY:	K. CZAPSKI
APPROVED:	K. CZAPSKI

**WELL HOUSE & STORAGE BLD'G.  
FLOOR PLANS &  
EXTERIOR ELEVATIONS**

**A5**

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**WELL HOUSE PLAN & ELEVATIONS**



**STORAGE BUILDING PLAN & ELEVATIONS**



**ENGINEERING  
ARCHITECTURE  
PLANNING  
SURVEYING  
ENVIRONMENTAL**

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102 W. WASHINGTON, SUITE 217  
MARQUETTE, MI 49855  
(906) 228-6081  
424 SOUTH PINE STREET  
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(906) 485-1011  
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707 ASHMIN STREET  
SAULT STE. MARIE, MI 49783  
(906) 635-0511  
1701 DUNLAP AVE. SUITE B  
MARINETTE, WI 54143  
(715) 732-4188

**PROJECT TITLE:  
HISTORIC  
STRUCTURES REPORT,  
OLD MISSION POINT  
LIGHT STATION**

**OWNER:  
PENINSULA TWP.,  
13235 CENTER RD.  
TRAVERSE CITY  
MI 49686**

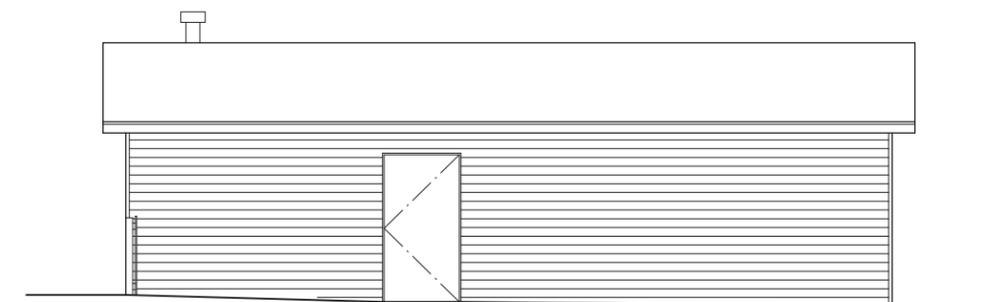
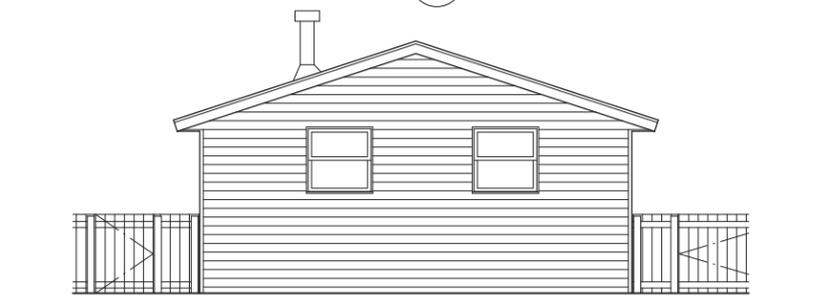
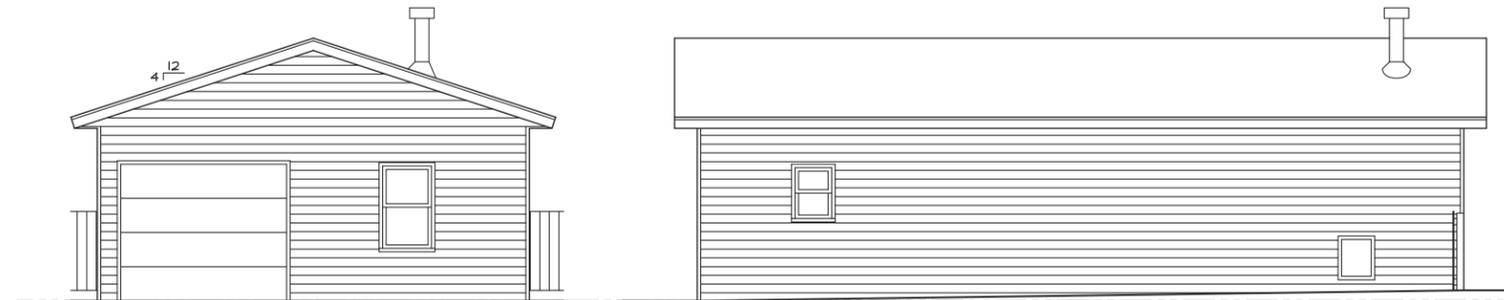
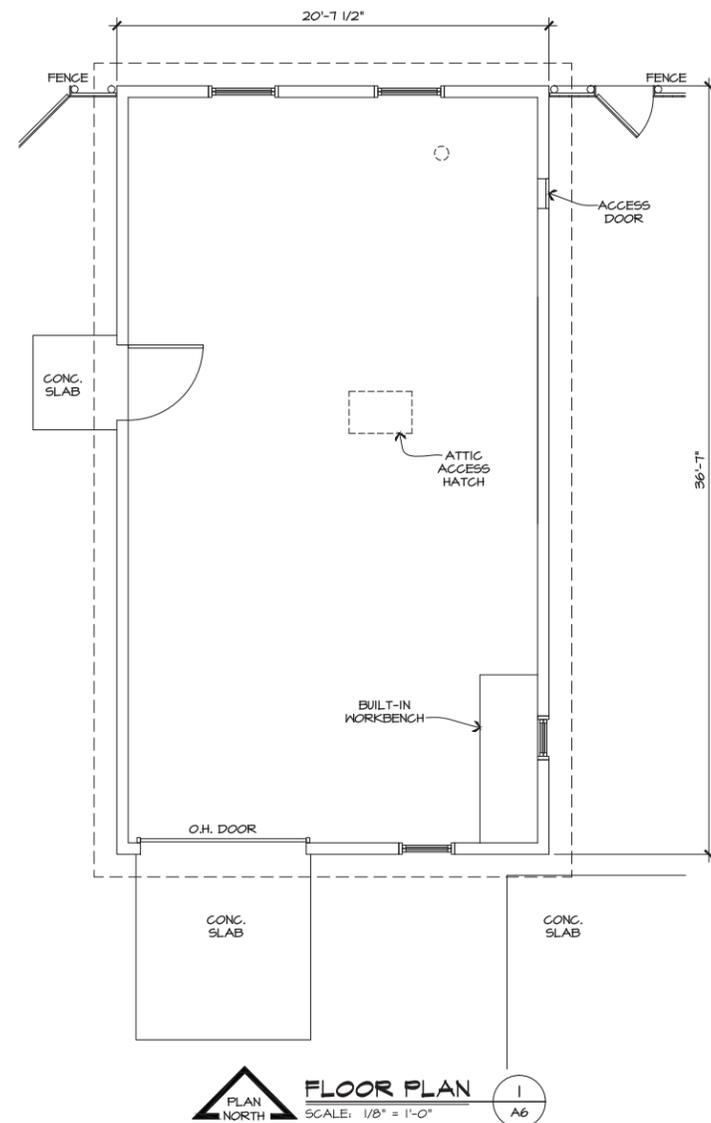
**PROJECT LOCATION:  
OLD MISSION POINT,  
PENINSULA TWP.  
MICHIGAN**

FINAL REPORT	10-31-12
95% REVIEW	05-15-12
75% REVIEW	12-30-11
ISSUED FOR:	DATE:

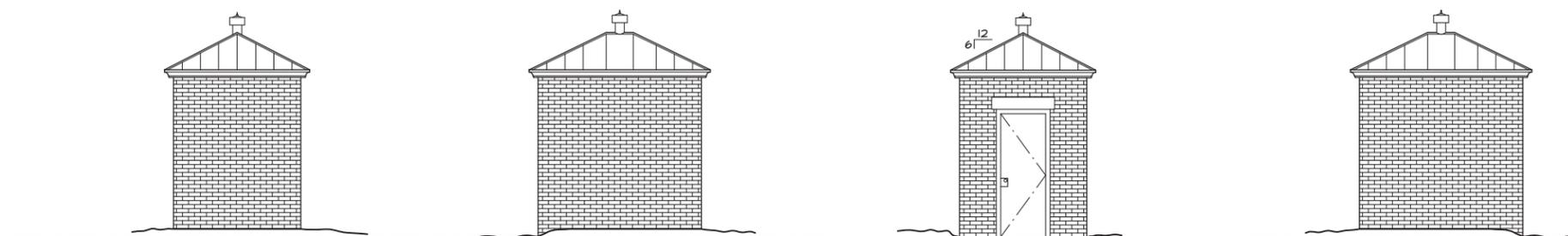
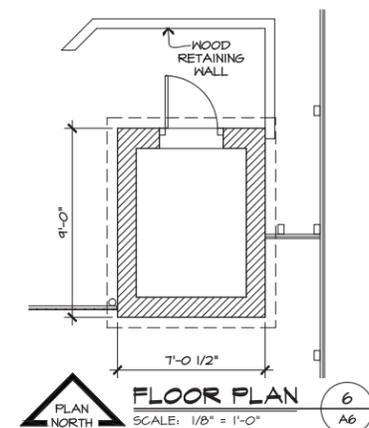
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PROJECT NO: P111-11422  
DESIGNED BY: -  
DRAWN BY: CLT  
CHECKED BY: K. CZAPSKI  
APPROVED BY: K. CZAPSKI

**GARAGE & OIL HOUSE  
FLOOR PLANS &  
EXTERIOR ELEVATIONS**

**A6**



**GARAGE PLAN & ELEVATIONS**

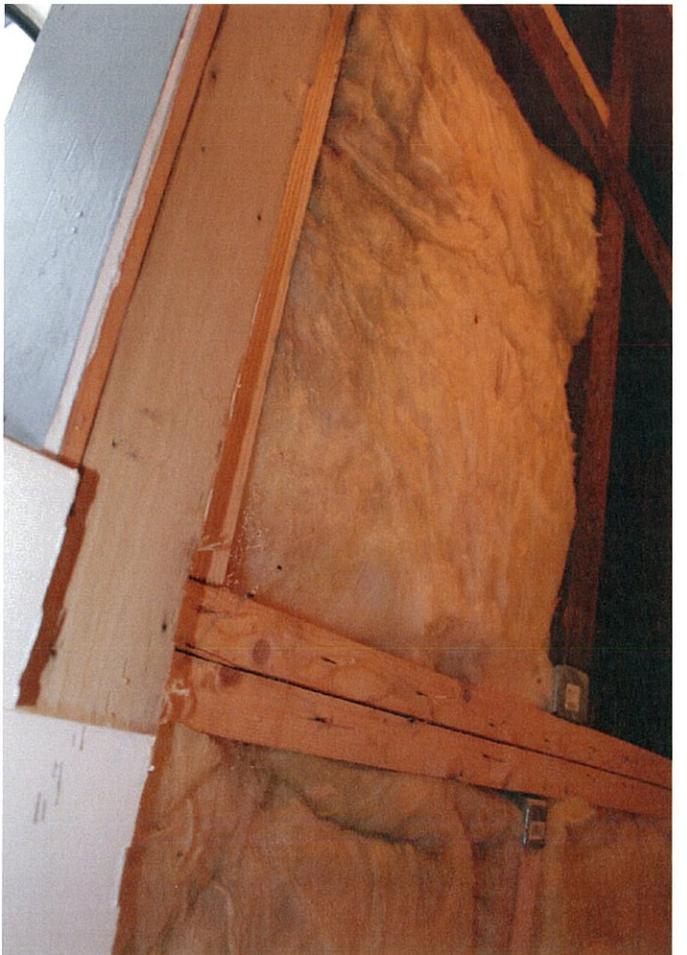


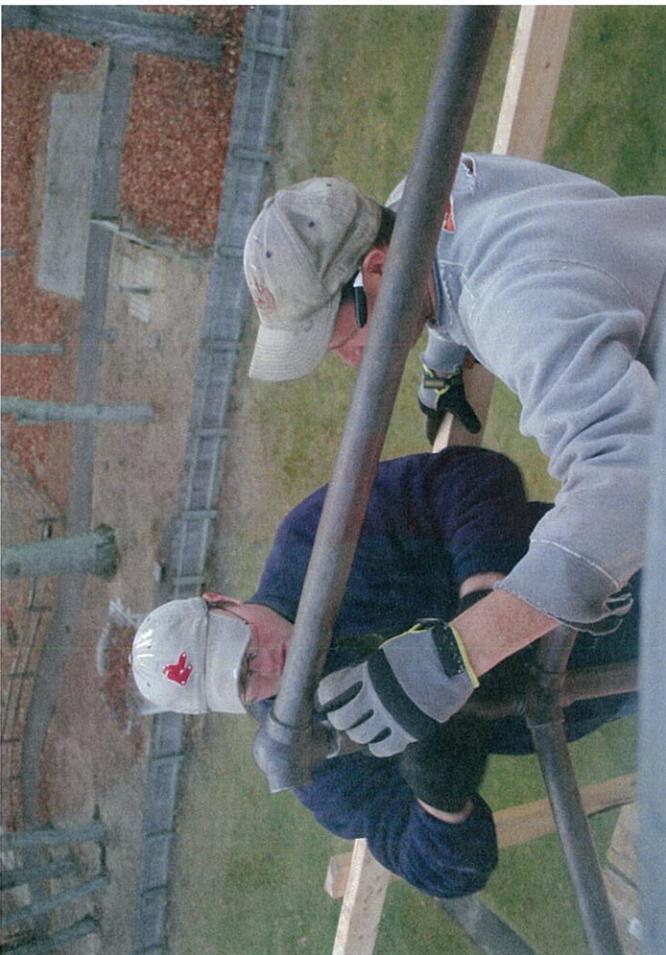
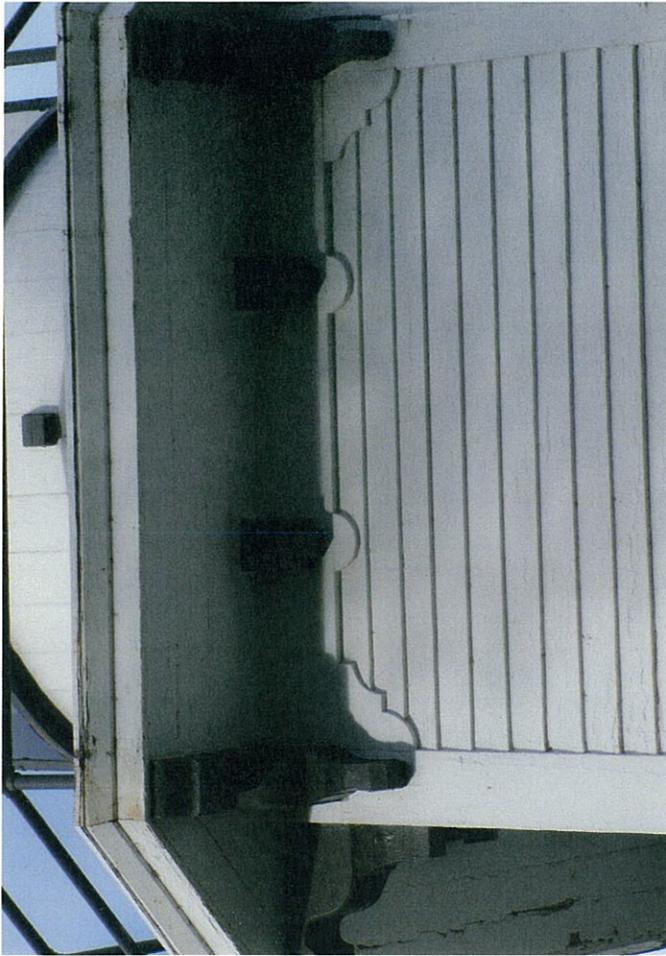
**OIL HOUSE PLAN & ELEVATIONS**

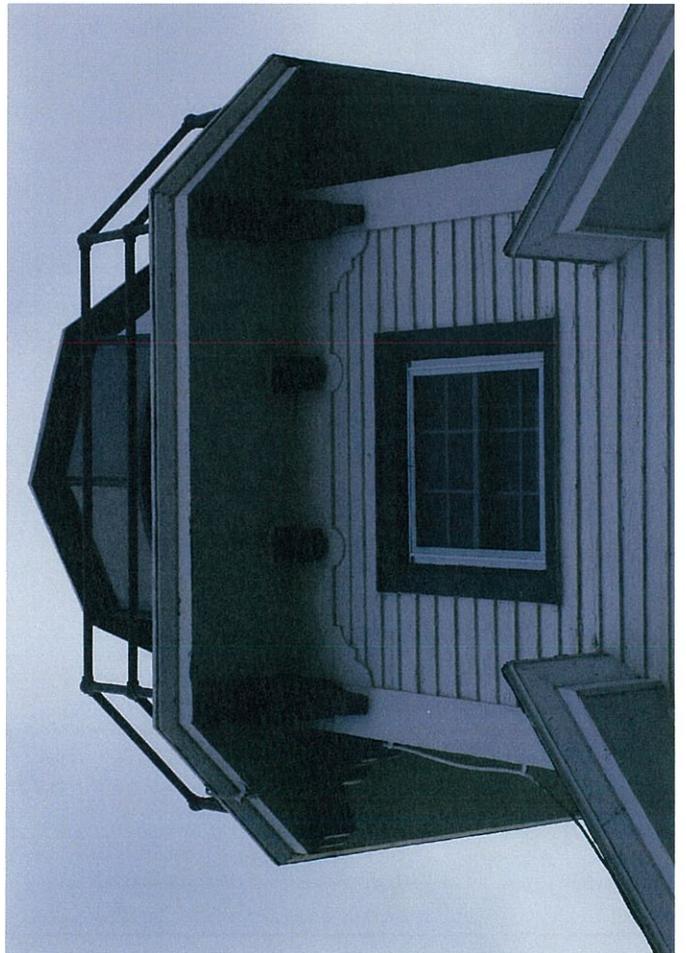
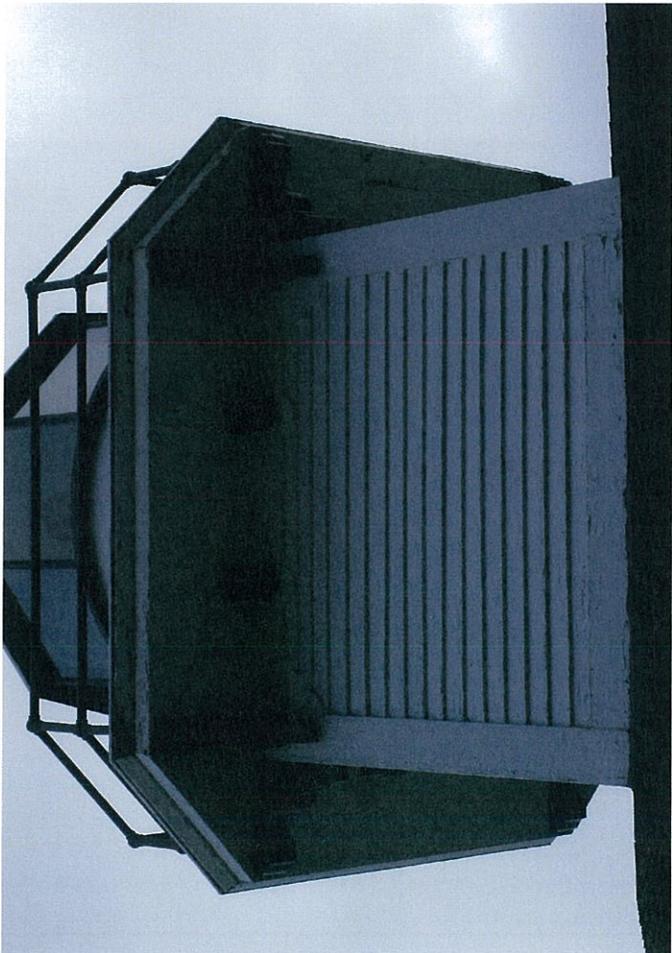
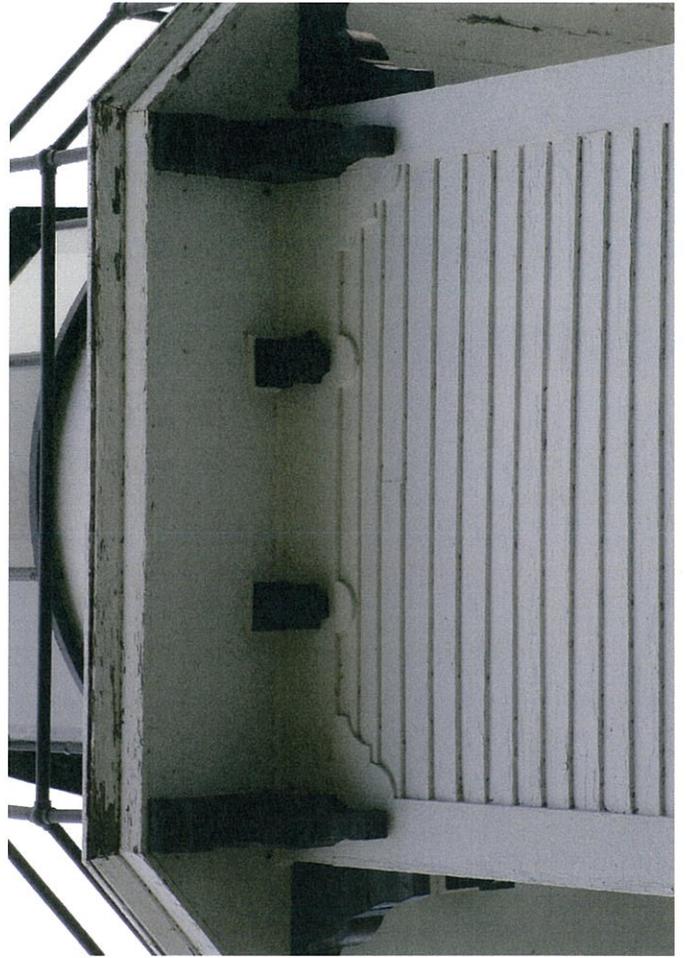
APPENDIX C  
LIGHT TOWER AND LANTERN RESTORATION PROJECT

## LIGHT TOWER AND LANTERN RESTORATION PROJECT

In 2009 the Light Tower and Lantern underwent an extensive restoration and repair. As a wood frame structure, extensive rot and deterioration of structural and decorative elements was discovered prior to restoration work. Photographs of this project are included in this section.









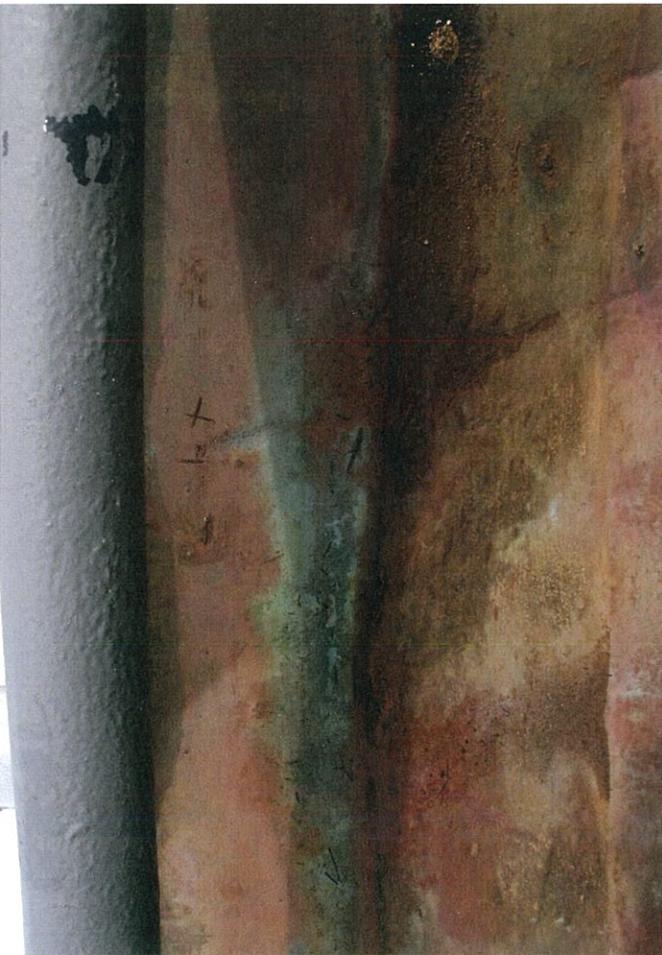


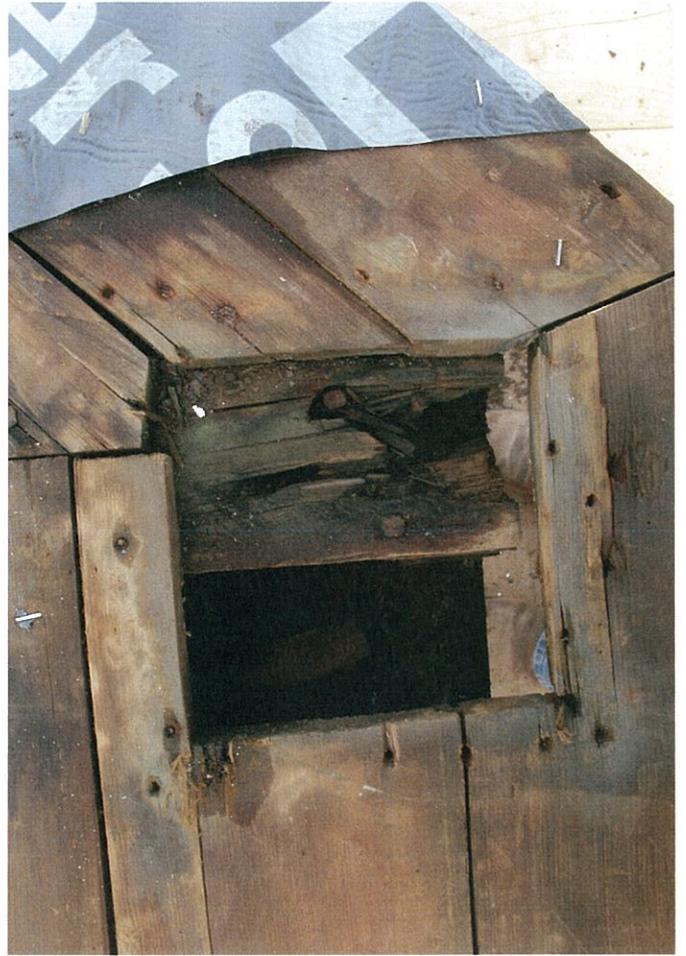


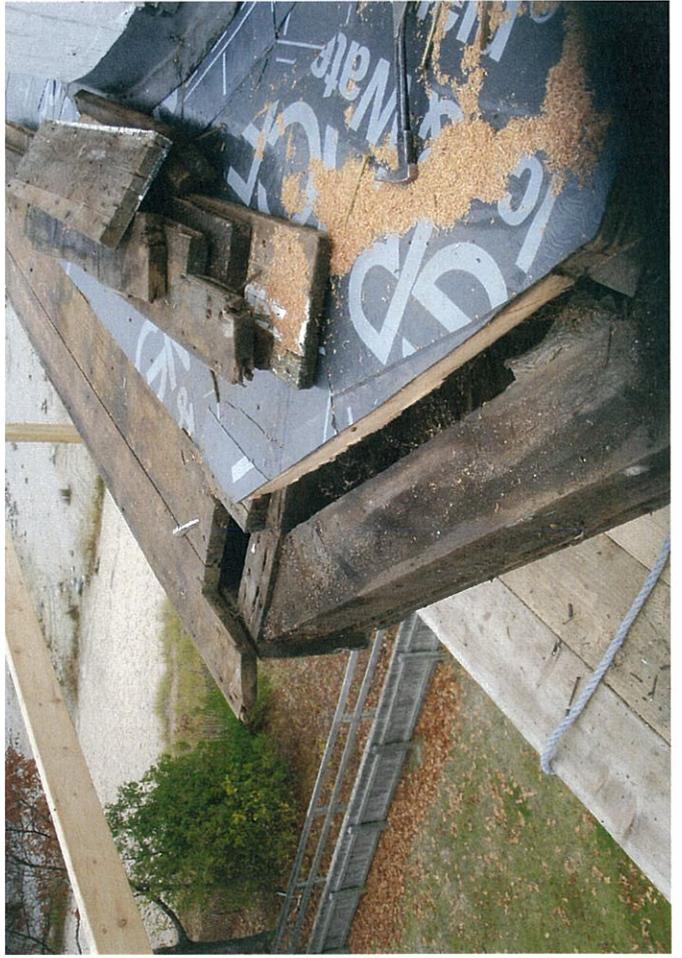


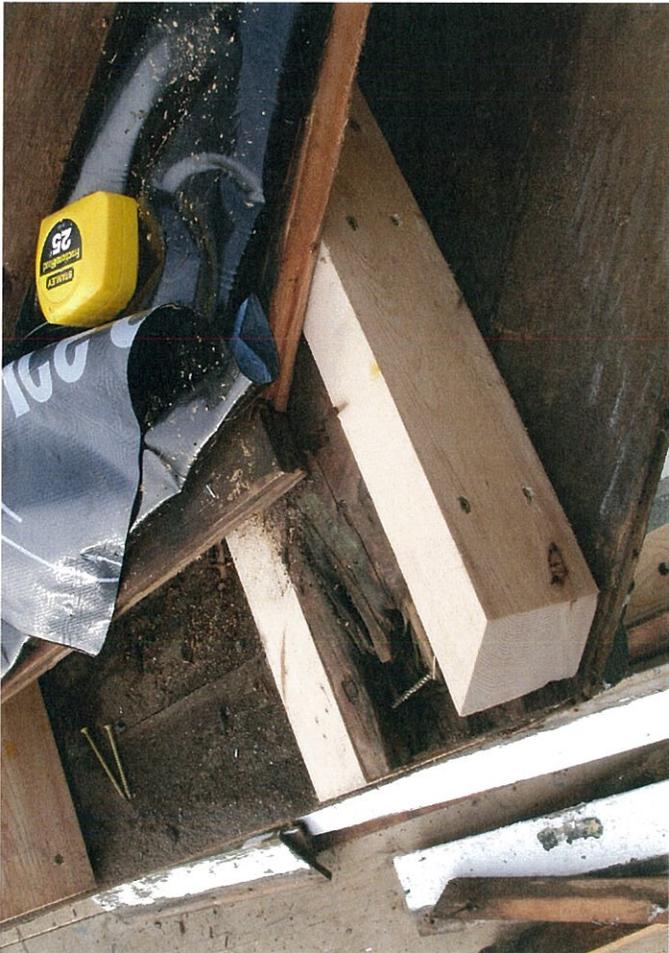
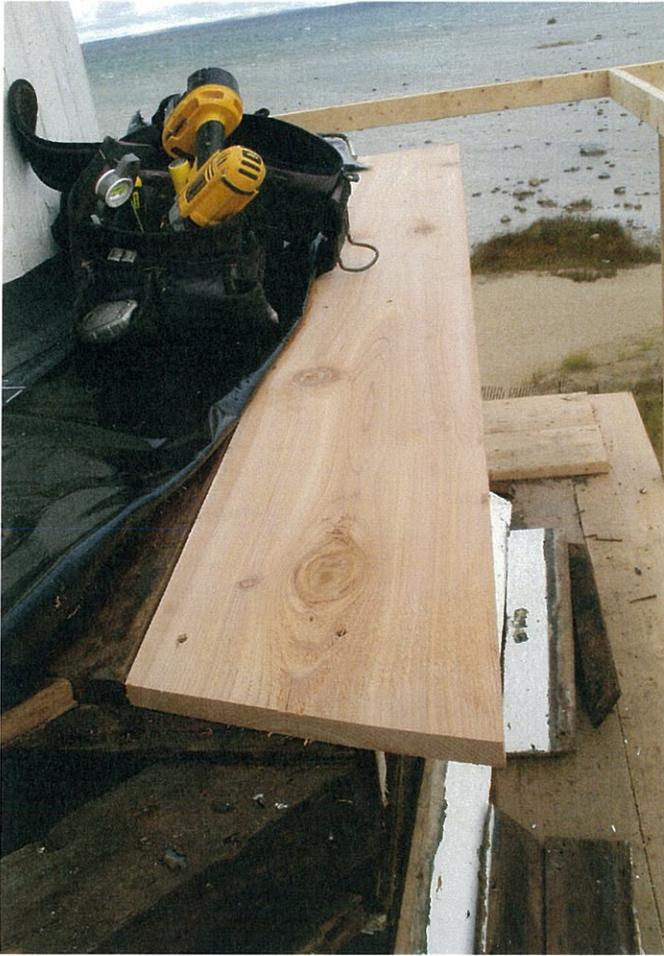




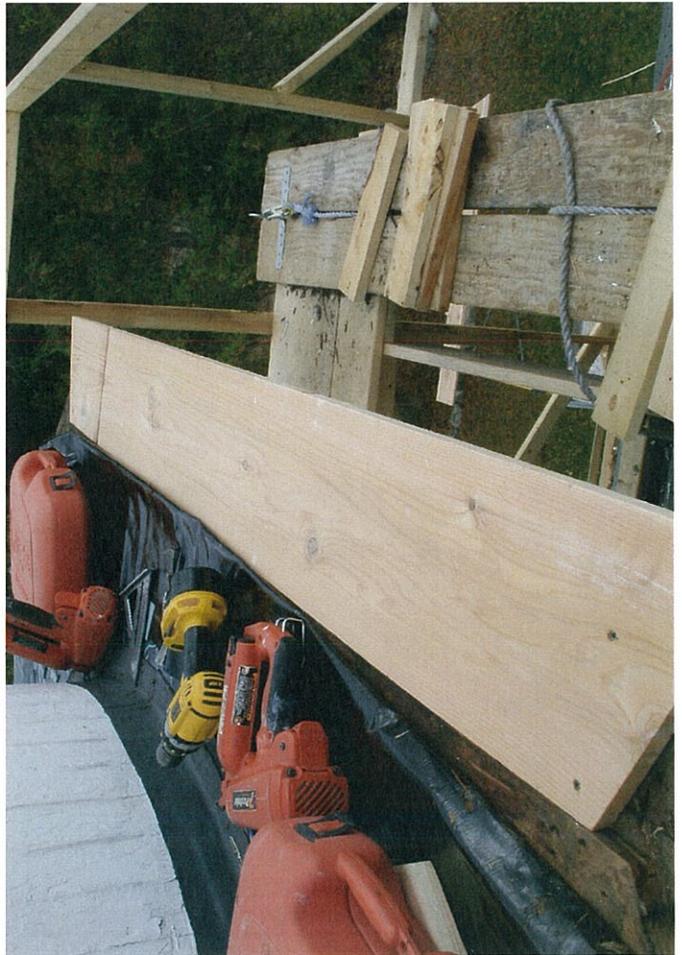


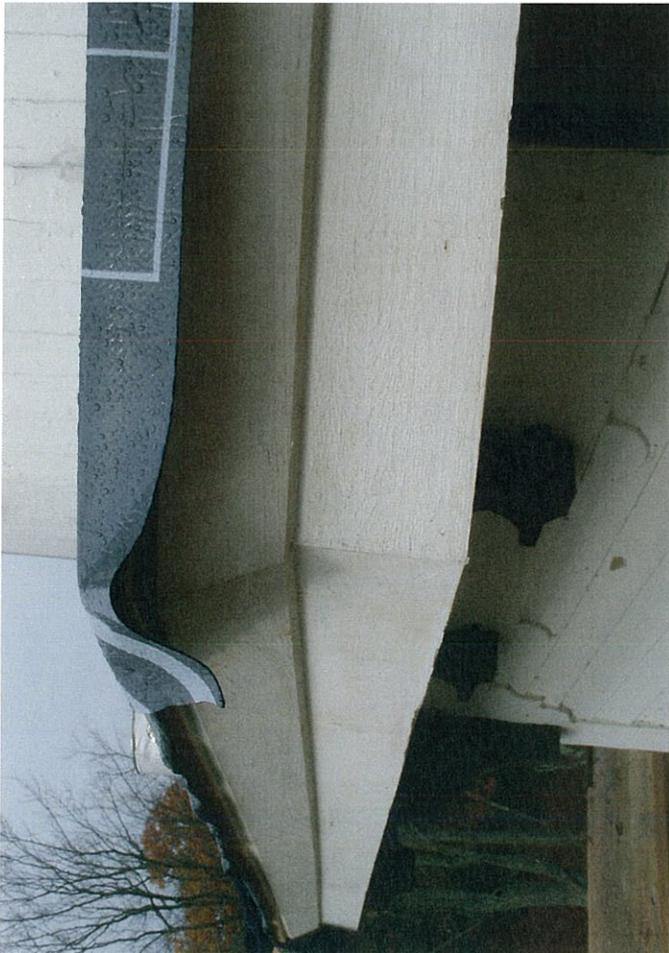






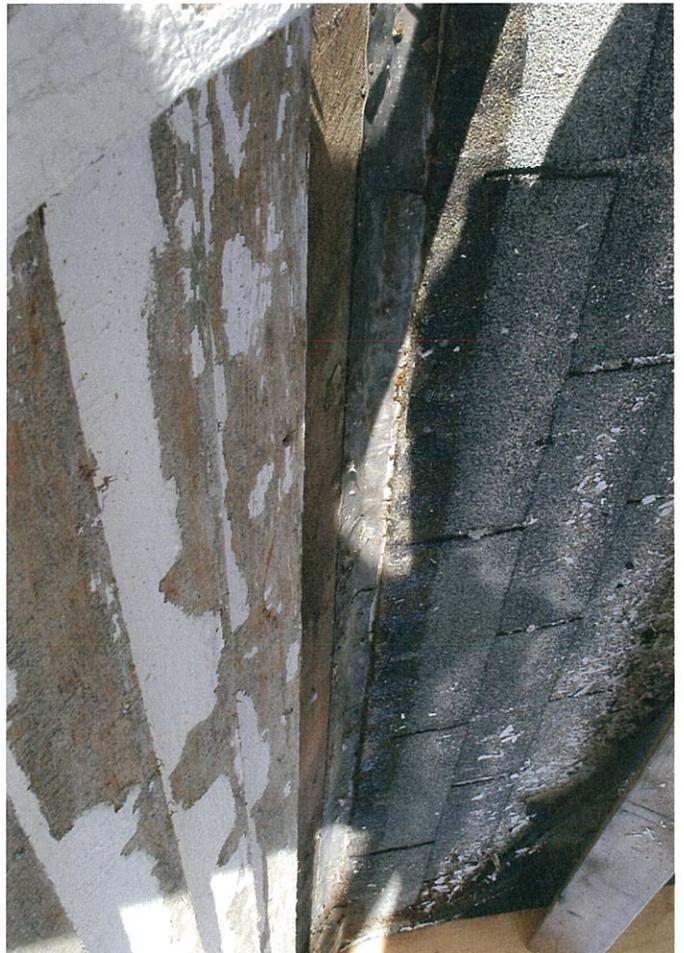




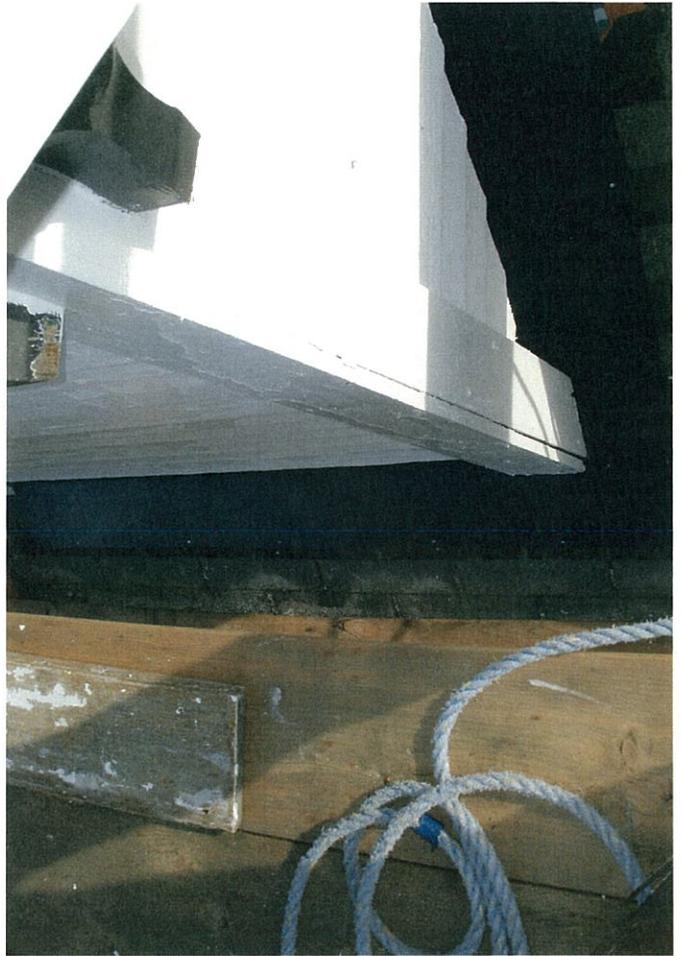


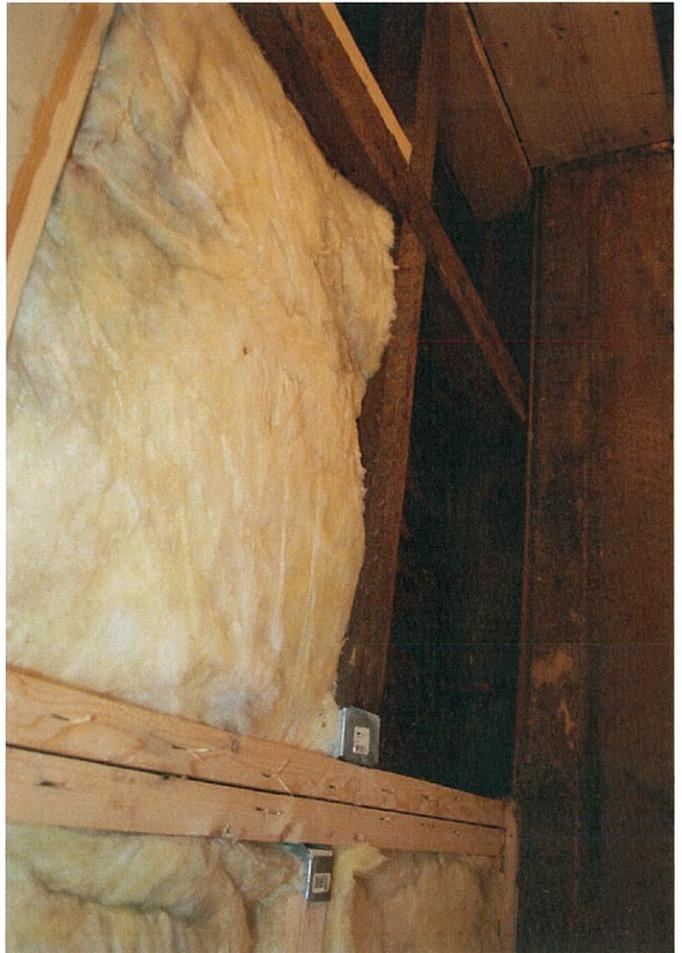


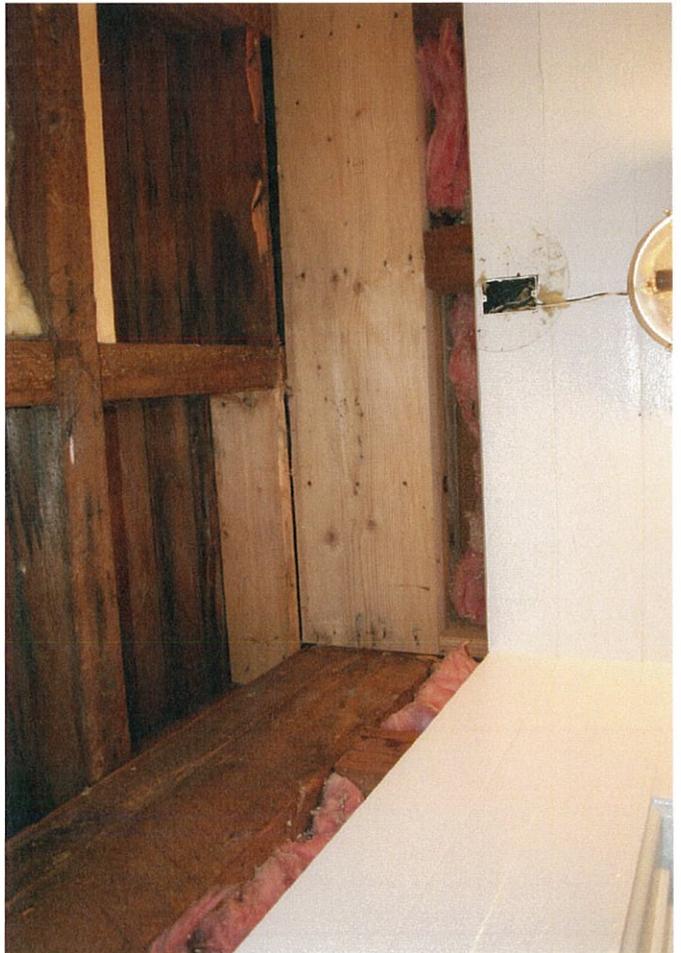
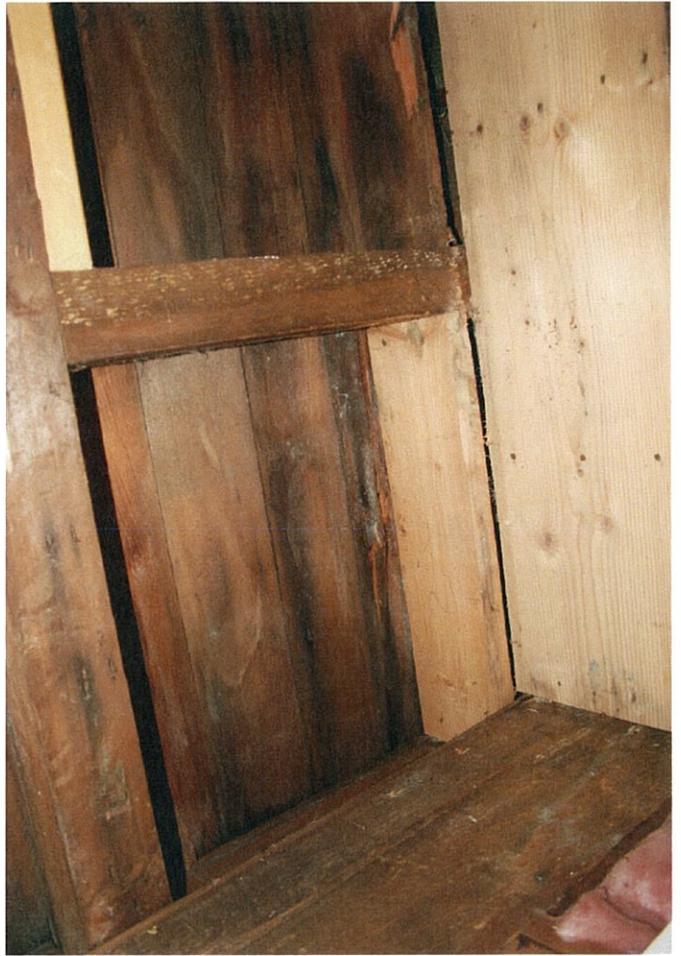


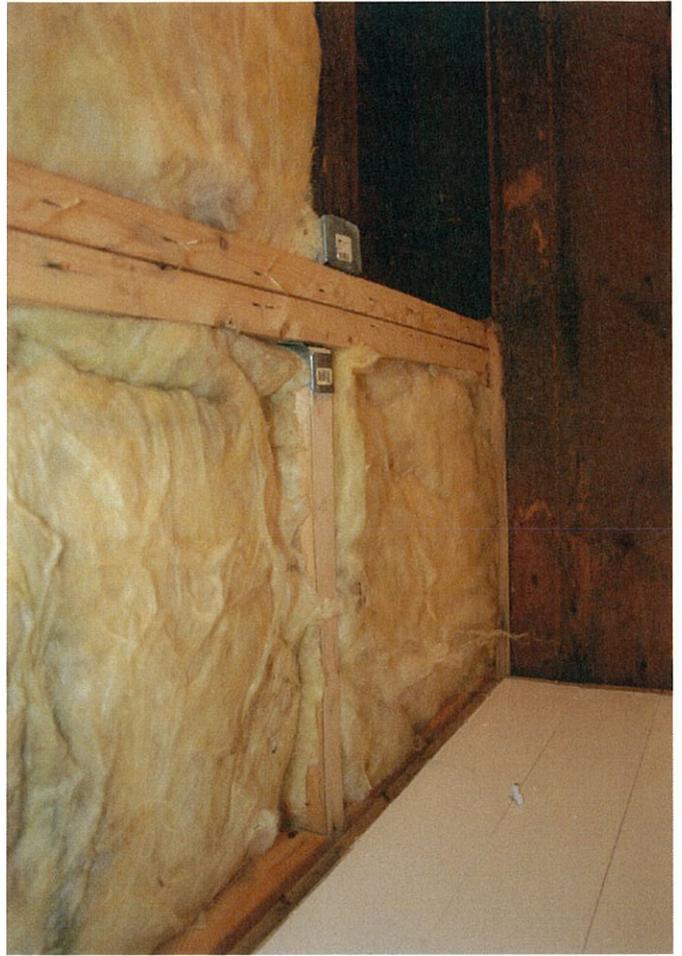












APPENDIX D  
PHYSICAL SAMPLES AND MATERIAL TEST REPORTS

## ASBESTOS CONTAINING MATERIALS

Physical samples of the following materials were taken for analysis for possible asbestos containing material:

SAMPLE 1:           Insulation material located in the attic of the Light Tower/Keeper's Dwelling. Material appears to be a blown cellulose type of insulation.

SAMPLE 2:           Insulation material located in the attic of the garage. Material appears to be a blown cellulose type of insulation.

SAMPLE 3:           Wall plaster located in Well House.

No other known hazardous materials were observed.

As indicated in the laboratory report all material samples tested negative for asbestos.

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## LABORATORY ANALYSIS REPORT

Asbestos Identification by EPA Method<sup>1</sup> 600/R-93/116

Using SLI A6

**ACCOUNT #:** 2716-12-467  
**CLIENT:** UP Engineers & Architects, Inc.(Pb)  
**ADDRESS:** 102 W Washington St, Suite 217  
Marquette, MI 49855

**DATE COLLECTED:** 8/26/2011  
**DATE RECEIVED:** 1/9/2012  
**DATE ANALYZED:** 1/10/2012  
**DATE REPORTED:** 1/10/2012

**PROJECT NAME:** Mission Point Light

**JOB LOCATION:**

**PROJECT NO.:** P-111-11422

**PO NO.:**

**SampleType:** BULK

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	PLM Analysis Results	
			Asbestos Fibers	Other Materials
1	31312298	Attic Of Light Tower		
Layer 1:	Insulation Gray, Fibrous		None Detected	98% CELLULOSE FIBER 2% NON FIBROUS MATERIAL
2	31312299	Attic Of Garage		
Layer 1:	Insulation Gray, Fibrous		None Detected	98% CELLULOSE FIBER 2% NON FIBROUS MATERIAL
3	31312300	Well House		
Layer 1:	Wall Plaster White, Granular		None Detected	2% CELLULOSE FIBER 98% NON FIBROUS MATERIAL



Analyst: **FATIMA ELTAYAR**



Reviewed By: **Hind Eldanaf, Microscopy Supervisor**

**Total Number of Pages in Report: 1**

Results relate only to samples as received by the laboratory.

Visit [www.slabinc.com](http://www.slabinc.com) for current certifications.

*Samples analyzed by the EPA Test Method are subject to the limitations of light microscopy including matrix interference. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. This method has a reporting limit of 1% or greater. Visual estimation contains an inherent range of uncertainty. This report must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other gov't agency endorsement.*



## LEAD BASED PAINT

Physical samples of the following materials were taken for analysis for lead based paint:

SAMPLE 1: Well House - paint on interior plaster surface.

SAMPLE 2: Storage Building – paint on exterior window and door trim.

SAMPLE 3: Storage Building – paint on exterior wood siding.

SAMPLE 4: Oilhouse – paint on interior brick surface.

SAMPLE 5: Light Tower/Keeper's Dwelling – paint on exterior window trim.

SAMPLE 6: Light Tower/Keeper's Dwelling – paint on exterior siding of main building.

SAMPLE 7: Light Tower/Keeper's Dwelling – paint on exterior siding of single story lean-to structure.

SAMPLE 8: Light Tower/Keeper's Dwelling – paint on exterior wood water table trim.

Test results are provided on the following chart. All samples tested positive for lead, however some samples were below minimum levels.

LEAD BASED PAINT TESTING  
MISSION POINT LIGHT STATION  
HIGHWAY M-37/CENTER HIGHWAY  
PENINSULA TOWNSHIP, MICHIGAN

XRF Sample #	Field Sample #	Structure	Substrate and Feature	Condition	Color	Result	Lead Concentration mg/cm2	Lead Conc. Error mg/cm2
165	1	Well House	Plaster - Interior	Peeling	White	NEG	0.07	0.29
166	2	Storage Bld	Ext window trim	Peeling	Brown	NEG	0.24	0.2
168	3	Storage Bld	Ext. wood siding	Peeling	White	POS	14.25	4.92
169	4	Oil House	Int. Brick surface	Peeling	White	NEG	0.09	0.19
170	5	Light Tower/ Keepers Dwelling	Ext window trim	Peeling	Brown	NEG	0.29	0.24
172	6	Light Tower/ Keepers Dwelling	Ext. siding	Peeling	White	POS	7.57	2.43
173	7	Light Tower/ Keepers Dwelling	Ext. siding of single story lean-to structure	Peeling	White	POS	2.96	1.29
174	8	Light Tower/ Keepers Dwelling	Ext. wood water table trim	Peeling	White/green	POS	43.72	8.99

Notes:

- 1) All testing was conducted using direct-reading analyses for lead content of painted surfaces samples collected from the Mission Point Light Station. The lead testing was performed using a X-ray fluorescence analyzer (XRF, serial number XL309-U3568NR7083 by Robb Cookman, U.P. Engineers & Architects, Inc on February 6, 2012.
- 2) The result with a POS indicates the paint is lead based paint according to HUD and MDCH. POS indicates the lead concentration is over 1.0
- 3) The results with NEG indicates the paint has a lead concentration of less than 1.0 mg/cm2. This does not mean the paint is free of lead. **Lead was detected in all paint samples.**
- 4) All samples were collected by Ken Czapski.



**APPENDIX E**  
**SECRETARY OF THE INTERIOR**  
**STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES**

- Standards for Preservation
- Standards for Rehabilitation
- Standards for Restoration
- Standards for Reconstruction



## TPS

Technical Preservation Services



### STANDARDS FOR PRESERVATION

PRESERVATION IS DEFINED as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses



upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction

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techniques or examples of craftsmanship that characterize a property will be preserved.

6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

### **Preservation as a Treatment**

When the property's distinctive materials, features, and spaces are essentially intact and thus convey the historic significance without extensive repair or replacement; when depiction at a particular period of time is not appropriate; and when a continuing or new use does not require additions or extensive alterations, Preservation may be considered as a treatment.

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## TPS

Technical Preservation Services



### STANDARDS FOR REHABILITATION

REHABILITATION IS DEFINED AS the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.



1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

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7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

### **Rehabilitation as a Treatment**

When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular period of time is not appropriate, Rehabilitation may be considered as a treatment.

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## TPS

Technical Preservation Services



### STANDARDS FOR RESTORATION

RESTORATION IS DEFINED AS the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of



missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

1. A property will be used as it was historically or be given a new use which reflects the property's restoration period.
2. Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Materials, features, spaces, and finishes that characterize other historical periods will be documented prior to their alteration or removal.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.
6. Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of

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deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.

7. Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.
8. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
9. Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
10. Designs that were never executed historically will not be constructed.

### **Restoration as a Treatment**

When the property's design, architectural, or historical significance during a particular period of time outweighs the potential loss of extant materials, features, spaces, and finishes that characterize other historical periods; when there is substantial physical and documentary evidence for the work; and when contemporary alterations and additions are not planned, Restoration may be considered as a treatment. Prior to undertaking work, a particular period of time, i.e., the restoration period, should be selected and justified, and a documentation plan for Restoration developed.

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## TPS

Technical Preservation Services



### STANDARDS FOR RECONSTRUCTION

RECONSTRUCTION IS DEFINED AS the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.



1. Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture, and such reconstruction is essential to the public understanding of the property.
2. Reconstruction of a landscape, building, structure, or object in its historic location will be preceded by a thorough archeological investigation to identify and evaluate those features and artifacts which are essential to an accurate reconstruction. If such resources must be disturbed, mitigation measures will be undertaken.
3. Reconstruction will include measures to preserve any remaining historic materials, features, and spatial relationships.
4. Reconstruction will be based on the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs or the availability of different features from other historic properties. A reconstructed property will re-create the appearance of the non-surviving historic property in materials, design, color, and texture.
5. A reconstruction will be clearly identified as a contemporary re-creation.

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6. Designs that were never executed historically will not be constructed.

### **Reconstruction as a Treatment**

When a contemporary depiction is required to understand and interpret a property's historic value (including the re-creation of missing components in a historic district or site ); when no other property with the same associative value has survived; and when sufficient historical documentation exists to ensure an accurate reproduction, Reconstruction may be considered as a treatment.

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**APPENDIX F**  
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