NPS Form 10-900 OMB No. 1024-0018 (Expires 5/31/2012)

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NAT. REGISTER OF HISTORIC PLACES
NATIONAL PARK SERVICE

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United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

1. Name of Property

historic name Milwaukee Breakwater Light

other names/site number

2. Location

street & number Offshore at S end of N breakwater, 0.7 mile E of Milwaukee River mouth ☐ not for publication

city or town Milwaukee ☒ vicinity

state Wisconsin code WI county Milwaukee code 079 zip code 53202

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this X nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property X meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national ___ statewide X local

Signature of certifying official/Title, CHIEF CG-47, Date 3 June 11

United States Coast Guard
State or Federal agency/bureau or Tribal Government

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

Signature of commenting official June 28, 2011
Date

State Historic Preservation Officer Wisconsin
Title State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

✓ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:)

Signature of the Keeper 9/16/2011
Date of Action

Milwaukee Breakwater Light
Name of Property

Milwaukee County, WI
County and State

5. Classification

Ownership of Property
(Check as many boxes as apply.)

- [ ] private
- [ ] public - Local
- [ ] public - State
- [X] public - Federal

Category of Property
(Check only **one** box.)

- [ ] building(s)
- [ ] District
- [ ] Site
- [X] Structure
- [ ] Object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
		buildings
		district
		Site
1		structure
		Object
1	0	**Total**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

Light Stations of the United States

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions.)

Transportation
Water-related

Current Functions
(Enter categories from instructions.)

Transportation
Water-related

7. Description

Architectural Classification
(Enter categories from instructions.)

Modern Movement

Materials
(Enter categories from instructions.)

foundation: Reinforced concrete
walls: Steel
roof: Metal
other: Lantern: Cast iron, glass

Narrative Description

Summary Paragraph

The Milwaukee Breakwater Light was established as a Federal aid to navigation in 1926 to mark the entry to Milwaukee Harbor. It is situated offshore in Lake Michigan, approximately 0.7 mile east of the mouth of the Milwaukee River in Milwaukee County, Wisconsin. This property consists of one contributing resource, the lighthouse. It is an active Federal aid to navigation owned by the U.S. Coast Guard (USCG) and identified as number 20635 on the USCG Great Lakes regional light list. This structure is designed with Art Deco styling that expresses modernity and verticality. It is approximately 95 feet tall from the base of its rectangular wood and concrete foundation to the top of its steel superstructure. The foundation includes a wooden crib and a concrete pier enclosing the lighthouse's basement. The superstructure is five stories tall and includes a rectangular keepers dwelling with an integral light tower supporting a circular lantern surrounded by an open-air gallery. The lantern is equipped with a modern automated optic that signals a red flash every 10 seconds and is visible for 14 miles in clear weather. The lighthouse optic's focal plane is 61 feet above water level. The keepers dwelling and tower are painted white; the lantern and lantern gallery railing are painted black. The lighthouse is floodlighted from dusk to dawn. It is accessible by boat but is not open to public visitation. The property's offshore setting includes the Lake Michigan waters surrounding it. These waters are controlled by the State of Wisconsin, which owns the submerged land in the lighthouse vicinity. Milwaukee Breakwater Light is a prominent visual landmark for the city of Milwaukee.

Narrative Description

(see continuation sheets)

ADDITIONAL DOCUMENTATION

Section number 7, continued Page 1

Narrative Description

Setting

The Milwaukee Breakwater Light is located offshore of the City of Milwaukee waterfront. It is in Lake Michigan, 0.7 mile east of the mouth of the Milwaukee River. Its setting includes the waters that surround the lighthouse and the southern end of the adjoining breakwater. The lighthouse is situated on the northern side of the principal channel for vessels navigating between Lake Michigan and Milwaukee Harbor. The submerged land surrounding the lighthouse is owned by the State of Wisconsin, which also controls the offshore setting's Lake Michigan waters. This lighthouse property sits at the southern end of the Milwaukee Harbor north breakwater, which is approximately 20 feet wide and extends 1.2 miles towards the north. It is part of the breakwater complex approximately four miles long that shelters the waters of Milwaukee Harbor. This complex includes five breakwaters separated by openings for the passage of vessels and is a Federal navigation structure owned and maintained by the U.S. Army Corps of Engineers (USACE). The property's setting has remained essentially unchanged since the lighthouse was originally constructed in 1926.

Contributing Resource: Lighthouse

The Milwaukee Breakwater Light sits upon submerged land in 30 feet of water at the southern end of the Milwaukee Harbor north breakwater. It includes a foundation crib, concrete pier, and a five-story steel superstructure designed with Art Deco styling. The structure's overall height from the foundation's base to the top of its superstructure is approximately 95 feet. From water level to the top is approximately 65 feet. The lighthouse's concrete pier is not painted and its wood and concrete crib foundation is underwater. The superstructure is painted white, except for the lighthouse's lantern and lantern gallery railing which are painted black. Its façades include recessed and projecting vertical sections leading upward to colonnettes standing atop each corner of the roof and light tower. The structure's Art Deco styling expresses its modernity and height. This lighthouse was established as a Federal aid to navigation in 1926 and continues in operation with a beacon light and fog signal. Milwaukee Breakwater Light is floodlighted from sunset to sunrise and is a prominent offshore landmark visible from much of the City of Milwaukee's waterfront. It is accessible by boat. This property is owned by the U.S. Coast Guard and is not open for public visitation.

The lighthouse's crib foundation and concrete pier are rectangular and measure 60 feet by 54 feet. This part of the structure is oriented with the four corners pointing toward north, east, south and west. The crib is approximately 30 feet tall and constructed of heavy timbers attached with steel fastenings. Its interior is filled with rock ballast and concrete. This foundation supports a rectangular concrete pier that stands approximately 14 feet tall above water level. The pier supports the lighthouse superstructure and contains its basement. The pier's four façades include built-in ladders with steel rungs on all four sides. These extend from water level to the pier's topside deck. There are two ladders on the pier's northwest (NW) and southwest (SW) sides, one each on the northeast (NE) and southeast (SE) sides. The pier's concrete exterior is largely intact though deterioration is evident in several places.

The pier's SW and NW sides are each pierced with a rectangular doorway fitted with a steel door. These sea doors provided access between the lighthouse's basement and a vessel moored alongside the pier. The SW side is also pierced with four rectangular window openings. The NW side is pierced with one rectangular window opening and three round port-light window openings. The SE and NE sides are both pierced with four round port-light window openings. All these port-light and rectangular window openings are presently covered with metal plates. The basement interior is 43 feet long by 26 feet wide with concrete floor, columns and ceiling. Horizontal steel I-beams provide additional support for the ceiling. The basement's northern corner includes a fuel and paint storage room partitioned from the main room. A steel stairway leads up from the basement floor to the lighthouse's first story interior.

ADDITIONAL DOCUMENTATION

Section number 7, continued Page 2

The pier supports the lighthouse's five-story superstructure which is approximately 51 feet tall. The superstructure is approximately 43 feet long by 26 feet wide with its long axis oriented NW to SE. The first to fourth stories are clad with steel plates fastened with rivets. The walls are pierced with windows that are 28 inches wide by 48 inches tall and fitted with double hung sash holding two-over-two lights. The windows are covered on the inner side with an acrylic sheet. The lighthouse's fifth story is its lantern, which is made of cast iron and glazing. There are open deck areas approximately 17 feet wide by 54 feet long atop the pier adjoining the superstructure's SW (front) and NE (rear) sides. Additional narrow sections of open deck approximately 5 feet wide adjoin the superstructure's NW and SE ends, between it and the edge of the pier. A non-original railing made with steel pipe and chain surrounds the pier deck's perimeter.

The lighthouse's frontal façade faces SW. Its first and second story elevation includes three bays. The left and right bays are each two stories (22 feet) tall. The center bay forms an integral, rectangular symmetrical tower that rises to four stories (42 feet) tall. This tower supports the lighthouse's lantern, which sits centered atop the tower surrounded by a rectangular open air gallery. The SW façade's left and right bays have the appearance of two-story wings abutting the center bay's tower.

A rectangular metal sign reading "U.S. Coast Guard Cable Crossing Do Not Anchor" is attached to the SW (front) façade's middle bay between the first and second stories. This sign is approximately 10 feet wide by 8 feet tall. It warns of the underwater cable that brings electrical power to the lighthouse from shore.

The first story's NW bay is on the left when viewed from the superstructure's front. It is distinguished by a 10-foot wide by 10-foot tall doorway fitted with an overhead-retracting door. The interior consists of a single room that is 26 feet long by 13 feet wide. This was used for storing and maintaining the lighthouse keepers' boat. The room's floor, walls, and ceiling are concrete; steel girders support the ceiling. A metal track used for moving a boat extends NE from the doorway into the room. It is made with two parallel steel rails spaced 42-3/8 inches apart. The boat room's NW wall has three windows; the NE wall has one. A modern electrical circuit box used for powering the lighthouse's aid to navigation equipment sits in the middle of the floor.

The SW façade of the first story's center bay includes a window and the lighthouse's front entrance. This entry is fitted with a 2-foot, 8-inch wide steel door. The doorway leads to an interior foyer approximately 12.5 feet wide by 12 feet long. This includes a closet and stairways leading up to the second story and down to the basement. The original wood flooring has been removed, leaving wooden floor joists embedded in the concrete subfloor. A rectangular window pierces the foyer's SW wall, next to the doorway. Three wood framed doorways 2 feet, 8 inches wide provide access from the foyer to other first story rooms. A doorway on the NW side provides access to the boat room. A doorway on the SE side leads to a room in the SW half of the first story's SE bay. A door on the foyer's NE side leads to the lighthouse's kitchen, which occupies the middle bay's NE half. This kitchen is approximately 12.5 feet wide by 12 feet long with a plaster ceiling. Its original wood floor has been removed leaving the wooden floor joists and concrete subfloor exposed. The kitchen's NE wall is pierced by two windows. A wood framed doorway 2 feet, 8 inches wide in the kitchen's SE wall leads to a room in the NE half of the first story's SE bay.

The first story's SE bay includes two rooms that are each approximately 12 feet long by 13 feet wide. The wooden partition separating these rooms is not original. The bay's NE room adjoins the kitchen. Its original wooden floor has been removed, exposing the wooden floor joists and concrete subfloor. The room's concrete walls and ceiling are covered with plaster. There is a 6-inch diameter floor drain in the eastern corner. This room has a window in the NE wall and another in the SE wall. A doorway in the room's SW wall leads to this bay's SW room, where the floor is covered with linoleum tiles over wooden boards. The SW room's concrete walls and ceiling are plastered. Non-original wall materials have been installed on the room's NW, NE, and SE walls. This room has one window in the SW wall and two in the SE wall. A doorway in the room's NW wall connects with the middle bay's foyer.

The second story's plan includes three bays, directly above those on the first story. The original wooden flooring has been removed, leaving the concrete subfloor and wooden floor joists exposed. The NW bay, above the boat room, is divided into two bedrooms (SW and NE). The SW room measures 11 feet by 13 feet, 9 inches. It has two windows on the NW side and one window on the SW side. The bay's NE room measures 10 feet by 13 feet, 9 inches. It has one window on the NW side and another on the NE side. The center bay includes a hallway and a stairway with flights leading down to the first story and up to the light tower's third story. The hallway extends NW to SE across the middle bay and provides access to bedrooms in the second story's NW and SE bays. Partition walls on the hallway's NE side enclose a linen closet that is lighted with a window and a broom closet. The center bay's SE corner, next to the broom closet, is occupied by a bathroom lighted with a window. Opposite the bathroom, across the hallway, other partitions enclose a small room that measures 12 feet by 5 feet, 4 inches and is lighted by a window. The second story's SE bay is divided into two bedrooms (SW and NE). The SW room measures 13 feet, 9 inches by 13 feet, 9 inches. It has a closet and three windows, two on the SE side and one on the SW side. This is the second story's largest bedroom. It adjoins the small room in the center bay. The SE bay's NE room measures 10 feet by 13 feet, 9 inches. It has two windows, one on the SE side and one on the NE side.

The lighthouse's third story is part of the light tower and sits atop the SW half of the second story's center bay. The third story is rectangular and measures 14 feet long on each side. Its interior is a single room approximately 12 feet square. A stairway providing access down to the second story and up to the tower's fourth story occupies approximately one-third of the room. This room's original wooden flooring has been removed, leaving the concrete subfloor and wooden floor joists exposed. The four walls are each pierced with two windows. A doorway 2 feet, 8 inches wide pierces the NE wall between two windows. It is fitted with an original metal door and provides access to the roof above the superstructure's second story.

The second story's roof is metal. Its perimeter includes a decorative, three-foot tall rectangular column at each of the roof's four corners and spaced along the perimeter at approximately 12-foot intervals, including one on either side of the light tower. The spaces between these are filled with steel balustrades made with an upper and a lower horizontal steel bar and simple bar balusters. Each balustrade segment is ornamented with a metal circle below the top bar at the segment's midpoint.

The lighthouse's fourth story sits atop the third story and consists of the light tower's watch room. It includes the upper end of the light tower's stairway, which is bounded by a 3-foot tall partition except for an opening at the top of the stairs. As with other rooms below, the original wooden flooring has been removed, leaving the concrete subfloor and wooden floor joists exposed. The fourth story's NE, SE, and SW walls are each pierced with three windows. The NW wall has two windows. This is because the lighthouse originally included a metal smokestack that extended upward from the second story along the tower's midline on that side. The fourth story room is furnished with modern electrical panels used for powering the lighthouse's existing aid to navigation equipment. A television camera is installed to look out one window. In the center of the room, a curving metal ladder with a simple pipe handrail ascends to a trapdoor opening in the ceiling. This provides access to the lantern room, above.

The lighthouse's fifth story is its lantern, which sits centered atop the fourth story. The lantern is circular and approximately nine feet in diameter by nine feet tall. It includes a circular cast iron parapet wall approximately three feet tall that is pierced with five vents spaced at equal intervals. The parapet supports a series of "X" shaped mullions extending around the lantern in a helical pattern. These hold the lantern's glazing. The lantern's conical roof springs from a soffit above the glazing and rises to a cylindrical vent atop the roof's apex. A pedestal standing in the center of the lantern room's metal floor supports the lighthouse's optic, a modern automated VRB-25 marine rotating beacon with a focal plane 61 feet above water level. It signals a red flash every 10 seconds and is visible for 14 miles in clear weather.

A six-foot tall door on the lantern's southern side includes a solid metal lower panel and a glazed upper panel. This door provides access to the open-air lantern gallery. The gallery is rectangular and measures approximately 12 feet long on each side. Its perimeter includes a decorative, three-foot tall rectangular column at each of the four corners. The spaces between these are filled with steel balustrades made with an upper and a lower horizontal steel bar and simple bar balusters. Each balustrade segment is ornamented with a metal circle below the top bar at the segment's midpoint. The lantern, columns, and railings are painted black. A modern automated fog signal and a fog detector are mounted atop the gallery deck's NE side. The fog signal sounds two 2-second blasts every 20 seconds and operates from April to November.

Changes in Physical Appearance and Overall Integrity

The Milwaukee Breakwater Light's structural characteristics remain largely unchanged from when it was originally established in 1926, though there have been changes to its exterior appearance and interior. One aspect that has changed is the lighthouse's day mark colors. Its superstructure was originally painted red. This was changed during the 1930s to a black lantern atop a buff-colored superstructure. The day mark colors were changed again during the 1960s to a white colored superstructure supporting a black lantern. This remains the lighthouse's day mark today. A change has also been made to the cable crossing warning sign mounted on the lighthouse. From 1926 to circa 1940, it was attached to the lighthouse's SE side. From then to the present it has been displayed on the superstructure's SW side.

Physical changes that have been made to the property include windows in its concrete pier and elements of the superstructure. When built, there was a round port-light next to the sea door on the concrete pier's SW side. This has been removed and its circular opening sealed with concrete. The pier's other windows have been covered with metal plates. Changes to the lighthouse superstructure include the removal of two metal smokestacks that originally were positioned alongside and atop the light tower. One rose upward midway between the windows on the tower's NW side. The other smokestack was attached to the lantern gallery's northern corner. Both were removed following the lighthouse's automation in 1966.

Another superstructure change relates to the lighthouse's radiobeacon, which operated from 1926 to the 1990s. When Milwaukee Breakwater Light was originally established, it was equipped with a radiobeacon distance finding system that operated in tandem with the fog signal. The radiobeacon transmitted two dashes in Morse code simultaneously with a blast of the fog signal. The crew of a vessel could estimate their distance from the lighthouse by counting the time from when the instantaneous radiobeacon signal was received until the fog signal was heard. Sound travels a little more than one mile in five seconds, so each second of time between receiving the radio signal and hearing the fog signal was approximately equivalent to 0.2 mile. The radiobeacon also provided a means for determining the direction to the lighthouse from a vessel through use of a radio direction finder. The property's radiobeacon was upgraded through time as radio technology improved and remained in use until 1995. The widespread adoption of radar, Loran-C, and global positioning system (GPS) instruments aboard commercial and recreational vessels by the late twentieth century eventually made the lighthouse's radiobeacon superfluous and it was discontinued. The radiobeacon included an antenna array that extended from the light tower to a steel monopole atop the north breakwater, approximately 200 feet from the lighthouse. After the radiobeacon was discontinued, its antenna and monopole were removed.

There have been several changes to the lighthouse's equipment and furnishings. From 1926 to 1966 the property was operated as a manned lighthouse and outfitted with facilities and furnishings for resident lighthouse keepers. After the keepers departed when the property was automated, equipment and furnishings no longer required were removed. Mechanical equipment removed included diesel engines, fuel tanks, compressors, and generators. It also included four cylindrical steel tanks that had been mounted atop the pier deck on the lighthouse's northeast side. These had held compressed air used for operating the fog signal.

Other changes include the pier deck's guardrail and a crane that had been originally installed. When built, the deck's guardrail included steel stanchions spaced at intervals of approximately six feet with two tiers of steel chain strung between them. This was removed circa the 1960s when the existing steel pipe and chain railing was installed. In addition, from 1926 to 1966 a steel crane was mounted atop the pier deck at the western corner. It was used for lifting and lowering the lighthouse keepers' boat. This crane was removed after the lighthouse was automated in 1966.

Changes made to lighthouse's internal structure include installation of a wooden partition wall with doorway in the first story's SE bay. This partition divided what was originally a single room (16 feet long by 13 feet wide) into the existing two equal-sized rooms. Another change has been removal of the lighthouse's original wood flooring, which became deteriorated. What remains today is the concrete subfloor and wooden joists that supported the original flooring. The floor removal and first story SE bay partition wall modifications are reversible.

There have been a series of changes to the lighthouse's aid to navigation equipment. When established in 1926, the lighthouse was equipped with a fourth order Fresnel lens as its optic. This signaled a red light that cycled on for 4.5 seconds and off for 1.5 seconds. The fourth order Fresnel optic remained in use until it was removed in 1994 and replaced with the existing VRB-25 rotating marine beacon. The lighthouse's original Fresnel lens is presently on display at the Wisconsin Maritime Museum in Manitowoc, Wisconsin.

The lighthouse's fog signal equipment has also changed through time. It was originally equipped with a single horn Diaphone fog signal operated using compressed air. This sounded a 2-second blast followed by 18 seconds of silence. The existing device is a modern automated diaphragm fog signal that sounds two blasts every 20 seconds. It operates during the shipping season from April to November and is connected to an automated fog detector.

Today, the significant character-defining features of Milwaukee Breakwater Light remain largely unaltered. It retains a high level of integrity regarding its location, setting, design, workmanship, materials, feeling, and association. This includes its pier, superstructure, and lantern. Features that are missing, changed or degraded have had limited impacts on the property's integrity. These changes have not significantly altered the lighthouse's appearance and are largely reversible.

Milwaukee Breakwater Light
Name of Property

Milwaukee County, WI
County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [X] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

- [ ] A Owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance
(Enter categories from instructions.)

Maritime History
Transportation
Engineering

Period of Significance
1926 to 1966

Significant Dates
1926

Significant Person
(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation
N/A

Architect/Builder
Office of the Superintendent of Lighthouses
12th Lighthouse District, Milwaukee, WI

Period of Significance (justification)

The property's period of significance begins with the establishment of Milwaukee Breakwater Light as a Federal aid to navigation in 1926 and continues to 1966, the year when this lighthouse was automated.

Criteria Considerations (explanation, if necessary)

N/A

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Milwaukee Breakwater Light	
Name of Property	
Milwaukee County, Wisconsin	
County and State	
Light Stations of the United States MPDF	
Name of multiple listing (if applicable)	

ADDITIONAL DOCUMENTATION

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance and applicable criteria.)

Summary Paragraph

The Milwaukee Breakwater Light is a prominent landmark in Milwaukee County and is historically significant on the local level. It embodies the maritime heritage of the port of Milwaukee and serves as an important guide for waterborne traffic. The property's period of historic significance begins in 1926 when it was established as a Federal lighthouse and ends in 1966, the year when its aid to navigation equipment was automated. It is eligible for listing in the National Register under Criteria A and C. This lighthouse is significant in terms of Criterion A for its association with the efforts of the Federal government to provide for safe maritime transport on the Great Lakes. It exemplifies how the long-term Federal program for establishing an integrated system of navigational aids throughout the United States was manifested in the Milwaukee County locality. Milwaukee Breakwater Light is significant under Criterion C because it represents and embodies second quarter of the twentieth century lighthouse architecture and engineering. It exemplifies methods used in building crib foundation, steel tower lighthouses during that time period. The structure's existing integrity attests to the lasting value of its design, as well as the high quality of materials and construction. This property's character and appearance are largely unchanged from when it was first established as an aid to navigation. Changes that have been made include repainting its day mark color from red, to buff and black, to white and black, as well as replacing its original beacon with a modern optic and removing equipment and furnishings associated with the lighthouse's operation by resident keepers. Despite these changes, the lighthouse's appearance remains essentially the same as during its period of historical significance. This property possesses its original location, setting and design, and embodies qualities of integrity in materials, workmanship, feeling and association. Milwaukee Breakwater Light has been an operating Federal aid to navigation for more than eight decades and continues to guide vessels navigating Wisconsin's Lake Michigan waters. It prominently exemplifies Milwaukee County's maritime history, and evokes feelings that recall the dedication to duty that characterized United States lighthouse keepers throughout the country's history.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

(see continuation sheets)

Developmental history/additional historic context information (if appropriate)

(see continuation sheets)

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Milwaukee Breakwater Light
Name of Property
Milwaukee County, Wisconsin
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Name of multiple listing (if applicable)

ADDITIONAL DOCUMENTATION

Section number 8, continued Page 1

Narrative Statement of Significance

Significance under Criterion A

The Milwaukee Breakwater Light is eligible for listing in the National Register of Historic Places (NRHP) under Criterion A for its association with local events in Milwaukee County related to Federal efforts to provide for an integrated system of navigational aids throughout the United States. It exemplifies how this long-term government program has been manifested in Wisconsin state waters. This lighthouse has been an important aid to navigation since it was established by the U.S. Bureau of Lighthouses in 1926. It is historically significant because of its contribution to the broad historical patterns of local maritime transportation and commerce. This lighthouse's signal light, fog signal and day mark have guided mariners and been an important enhancement to navigational safety in and around Milwaukee for more than eight decades. The Milwaukee Breakwater Light has enabled safe passage for thousands of ships and remains an operating lighthouse. It is widely recognized in Milwaukee County as a landmark.

Significance under Criterion C

This property also qualifies for the NRHP under Criterion C. It embodies and exemplifies distinctive architectural design and engineering aspects characteristic of steel lighthouses built on crib and pier foundations in the Great Lakes region during the second quarter of the twentieth century. This property retains integrity in terms of location, setting, design, materials, workmanship, feeling, and association. Its state of preservation represents the durable and weather-resistant character of its materials and construction, as well as the lasting success of its design and appropriateness to this natural setting. The appearance and character of Milwaukee Breakwater Light remain essentially the same as during its period of historical significance. Changes made to the property have been limited and are largely reversible.

Additional Context Information and Developmental History

This NRHP registration form is submitted as an individual listing under the overarching *Light Stations of the United States* multiple property documentation form (MPDF). The specific historic contexts that apply are *Bureau of Lighthouses and the U.S. Lighthouse Service (1910-1939),* and *Lighthouses under the U.S. Coast Guard (1939-present).* The property type sections of the MPDF relating to this registration are *U.S. Lighthouse Construction Type – Non-Cast Iron Tower (Steel),* and *Foundation Type – Crib Foundation.* Information and historic contexts available in the *Light Stations of the United States* MPDF are not repeated here. This submission emphasizes facts and details supporting the historical significance of Milwaukee Breakwater Light as an individual property.

The property's Great Lakes regional setting includes Lakes Ontario, Erie, Huron, Michigan and Superior, along with their connecting waters and the St. Lawrence River. This is one of the largest concentrations of fresh water on earth. It encompasses a waterway system having a total shore length of approximately 11,000 statute miles and a total water surface area of about 95,000 square miles. The property's local setting is characterized by a combination of natural features conducive to the development of commercial activity and maritime trade. These features include the confluence of the Milwaukee River with Lake Michigan, which connects with the other Great Lakes. The river mouth provides access from Lake Michigan's open waters to a sheltered area where vessels can load and unload cargo and passengers. This includes the lower Milwaukee River as well as two other connecting navigable waterways near its mouth, the Menomonee River and Kinnickinnic River. The area's combination of ample habitable shorelines and waterborne transportation routes made it unusually favorable for the development of settlement and trading.

During late prehistoric times, the Milwaukee vicinity was inhabited by various American Indian groups including members of the Menominee, Potawatomi, and Ho-Chunk (Winnebago) tribes. Access to Lake Michigan and the area's three rivers provided opportunities for native groups to converge by canoe and meet for trade. The aboriginal name for this area, which is preserved in the place name "Milwaukee," means "pleasant land" or "gathering place." The indigenous use of this vicinity and its routes of access to interior lands were attractive to French Canadian fur traders during the seventeenth and eighteenth centuries when colonial exploration and commerce extended into the western Great Lakes.

Expansionist rivalry between the empires of France and Great Britain led to warfare during the 1760s that ended French colonial rule in Canada. Under British sovereignty, fur trading activity in the western Great Lakes region continued to grow over time. This included the 1785 establishment of the first trading post at Milwaukee by Alexis Laframboise. Shortly after this, the 1789 Treaty of Paris concluded the American Revolution. This treaty included transferring the Northwest Territory, which encompassed the Lake Michigan area, from British sovereignty to the United States of America. Even so, American settlement of the Milwaukee area did not begin to develop significantly until after the War of 1812 was concluded by the 1814 Treaty of Ghent, and lands in Wisconsin became available through treaties between the United States government and resident Native American groups.

The Great Lakes region's historic context was generally characterized by limited settlement and commercial development until the second quarter of the nineteenth century. These aspects began to expand tremendously following completion of the Erie Canal in 1825. This important commercial waterway linked Lake Erie at Buffalo, New York, with the port of New York City via the Hudson River. Its opening marked the beginning of a period of enormous growth in the Great Lakes Region's population, maritime traffic, and trade.

Another important man-made waterway, Canada's Welland Canal, opened in 1829. It provided the means for vessels to navigate between Lake Ontario and Lake Erie. The St. Mary's Falls Ship Canal (the Soo Locks) at Sault Sainte Marie, Michigan, opened in 1855. This provided for navigation between Lake Huron and Lake Superior, thus completing one of the last major links in the Great Lakes navigation system. With the opening of the St. Lawrence Seaway in 1959, Great Lakes navigation routes to the industrial and agricultural heartland of North America became accessible to deep-draft oceangoing vessels. In addition, barge and small craft traffic reaches the Great Lakes from the Gulf of Mexico via the Mississippi River and the Illinois Waterway, and also from the Hudson River by way of the New York State Barge Canal System.

Commerce grew rapidly in the Great Lakes region throughout the second half of the nineteenth century and into the twentieth century. The lumber industry accounted for a major part of the early development and expansion of marine traffic. Through time, development of iron ore production in Michigan's Upper Peninsula, northern Wisconsin and Minnesota, as well as grain from farms and flour from mills in the Midwest and northern Great Plains, furnished cargoes carried aboard vessels bound for the lower Great Lakes. These shipments corresponded with the heavy up-bound movement of coal and manufactured goods from ports in the lower lakes.

By 1910, the amount of goods shipped annually on the Great Lakes increased to 80 million tons. Most of this was bulk cargo such as iron ore and coal. Shipped freight tonnage reached a record of 217 million tons in 1948. The combined movement of lumber, grain, flour, iron ore and coal, together with limestone cargoes from the Lake Michigan area to centers of steel production, resulted in the greatest bulk freight marine commerce the world had ever seen.

The need for aids to navigation on the Great Lakes increased along with the expansion of shipping and settlement. Seven lighthouses were built in the region between 1818 and 1822, and 32 were completed during the 1830s. From 1841 to 1852, the U.S. Lighthouse Establishment added 33 new lights. Between 1852 and 1860, the total number of aids to navigation increased from 76 to 102. Another construction spurt occurred in the 1890s. By the beginning of the twentieth century, the Great Lakes had 334 major lighted aids, 67 fog signals, and 563 buoys.

ADDITIONAL DOCUMENTATION

Section number 8, continued Page 3

Several distinct designs or types of lighthouses emerged during the nineteenth century. Until 1870 or so, the most common design consisted of a wood, stone, or brick keeper's dwelling that exhibited the lighthouse's optic in a lantern on the roof or atop an attached square tower. By the 1870s, taller towers that were connected to a keeper's dwelling by an enclosed passageway became popular. From 1870 to around 1910, lighthouse engineers practiced and perfected the construction of light stations built on isolated islands and on crib structures placed atop submerged reefs and shoals.

Another widespread Great Lakes lighthouse type is the pierhead light, used for guiding vessels into harbors along the lake shores. In the region, pierhead lighthouses are most common on Lake Michigan. Such lights differ from East Coast lights that serve the same purpose in that they are constructed on piers that project from shore into the lakes, rather than being built on land. Nineteenth century and early twentieth century Great Lakes piers consisted of timber cribs which were floated into place and then filled with rocks and other material to sink them. A timber superstructure was then built above the water, including a wooden deck where pierhead lights were placed. These piers did not hold up well to harsh weather, ice, and fire hazards such as cinders from steamers and lightning. The older wooden piers were largely replaced by the U.S. Army Corps of Engineers between 1916 and 1930 using concrete caisson piers surrounded with steel sheet piling.

Early Great Lakes pierhead lighthouses were built of wood, which was a readily available local material. This was generally suitable because they had to be strong to withstand constant buffeting from wind, waves and vibrations, but light enough so as to not overstress the wooden piers that supported them. However, wooden lighthouses were problematic to maintain in the harsh Great Lakes marine environment. Beginning in the middle 1850s, wooden towers began to be replaced with towers built of cast iron. Metal construction was more suitable because it resisted deterioration and was inexpensive and water-tight. It was also lighter than brick or stone. Elevated walkways were frequently built along the piers to provide for safe access to the lights. These were configured as catwalks that stood above the waves washing over the pier, as well as above the several feet of ice that accumulated during winter. As piers were extended through time, many pierhead lighthouses were picked up and moved with the extensions. Great Lakes breakwater lights are closely related to pierhead lights, and are usually positioned at the head of a breakwater. Both of these lighthouse varieties are usually tower-like structures constructed of metal plates.

The timber crib design concept was also used for the construction of offshore lights in the Great Lakes region from the middle nineteenth century onwards. This involved assembling a rectangular crib on shore that included several open-top compartments and was tall enough to reach the water's surface at the lighthouse's designated offshore site. It was towed to a pre-determined offshore location and sunk using ballast at a position that had been previously leveled. Additional ballast and concrete were added to stabilize and strengthen the structure, and a concrete pier was then built on top. This pier often included one or more interior rooms and served as the lighthouse's basement. It was often used as an engine room for motors powering electrical generators and air compressors, as well as the lighthouse's heating plant. The pier included a top deck and supported the lighthouse's superstructure.

The superstructures of offshore lighthouses in the Great Lakes region also went through evolution in design and technology. The earlier ones were built of masonry using cut stone or brick. During the late nineteenth century, cast iron came into widespread use for U.S. lighthouses. These cast iron structures were commonly built from parts prefabricated to specification at a foundry and sent to the designated site as a kit for onsite assembly. The expansion of mass production steel mills in the United States from the early twentieth century onwards led to a decline in the cost of steel buildings. By the 1920s, the cost versus benefit ratio for fabricating a structure using steel instead of cast iron led to the adoption of steel as the preferred building material for lighthouses. This led to the construction of several offshore lighthouses with steel superstructures, including the Milwaukee Breakwater Light.

ADDITIONAL DOCUMENTATION

Section number 8, continued Page 4

Milwaukee Breakwater Light Historic Context

In 1818, pioneer developer Solomon Juneau established a frontier settlement named Juneau's Side or Juneau Town on the east side of the Milwaukee River near its mouth. This attracted a number of settlers to the area, including one named Byron Kilbourn who established a second settlement named Kilbourntown on the river's western shore. A third settlement was established a short distance south along the Milwaukee River's west side in 1834 by George H. Walker. Its location came to be called Walker's Point. The three neighboring communities grew over time, reaching a population of 1,700 in 1840. They eventually merged and were incorporated as the City of Milwaukee in 1846.

Milwaukee grew tremendously during the remainder of the nineteenth century, becoming Wisconsin's principal commercial center. It became especially important in the processing and shipment of agricultural products, manufacturing, brewing, insurance, and financial services. The city's population reached 285,000 in 1900. From then to 1930, the number of residents doubled to more than 578,000. Much of this increase included large numbers of German and Polish immigrants, along with other European nationalities.

Maritime commerce was important to the early growth of Milwaukee and became an essential aspect of its economic expansion through time. The first commercial cargo vessel entered the port in 1835, and the number of vessels calling there increased steadily in the years that followed. While the Milwaukee River's confluence with Lake Michigan provided access for vessels, its natural channel was curved instead of straight and there was a sand bar offshore of the river's mouth. These factors restricted the size of vessels that could enter and depart.

In 1843, local commercial interests first petitioned the Federal government for aid to improve navigation in the area. In 1852, the U.S. Congress finally approved an appropriation to fund such work. This led to a harbor improvement project directed by the U.S. Army Corps of Engineers (USACE) that began in 1857. It included excavating a channel connecting the Milwaukee River with Lake Michigan. This new, straight channel was located one-half mile north of the Milwaukee River's natural mouth and included wooden piers on either side to stabilize it. In conjunction with this, the U.S. Lighthouse Establishment built a light tower to mark the north pier for mariners. It included a one-story skeletal framework supporting a second story enclosed service room, and was topped with a lantern. This Federal aid to navigation was designated Milwaukee Pierhead Light.

In 1881, Congress authorized the creation of a Harbor of Refuge at Milwaukee to provide a protected offshore anchorage where vessels could find shelter during inclement weather or while waiting to enter the port. This project included construction of a breakwater in Lake Michigan that would extend southward from approximately 1.5 miles north-northeast of the Milwaukee Pierhead Light. The northern section of this breakwater was completed by 1896. Another section extending approximately one mile farther south was completed by 1904. Its southern terminus was originally marked by an unmanned two-light (red above white) navigational aid. This signal was changed to a flashing red light by 1912.

Other harbor improvement projects at Milwaukee during the late nineteenth century and early twentieth century included rebuilding and lengthening the north and south piers at the river mouth, and establishing a fog signal station near the head of the north pier. The original Milwaukee Pierhead Light was replaced in 1906 by a pair of range lights. Mariners approaching the port would orient their vessels so that the range lights aligned and provided a guide for identifying the entrance channel's axis. The front light of this range was a conical cast iron tower with a circular lantern equipped with a fourth order Fresnel lens. The inner range light was a taller light tower atop the north pier nearer to shore. The inner range light was discontinued and dismantled in 1926. The 1906 outer range lighthouse remains in operation today as Milwaukee Pierhead Light.

ADDITIONAL DOCUMENTATION

Section number 8, continued Page 5

During the 1910s, additional improvements to Milwaukee Harbor were proposed to Congress. This included a USACE plan for a complex of breakwaters at Milwaukee that would extend the Harbor of Refuge breakwater southward. The proposed project was to be approximately four miles long overall when completed and include multiple entries to the port. Its principal entry was to be located directly east of the Milwaukee River mouth. Work to complete this project was approved by Congress in 1922. The first section built was a dogleg breakwater extending southeast from the Harbor of Refuge, terminating at the north side of the proposed principal entry to the port. Work on the breakwater south of the entry began later. The Milwaukee breakwaters project was finally completed in 1930 at a total cost of $6,250,000.

The U.S. Bureau of Lighthouses was responsible for establishing and operating aids to navigation along the Milwaukee breakwaters. This included constructing a lighthouse at the north breakwater's new southern end to mark the entry to Milwaukee Harbor. The Bureau decided to build this structure using a crib and pier foundation surmounted by a steel superstructure. The new lighthouse was constructed in 1926. This included removing the lantern and fourth order Fresnel lens from the 1906 Milwaukee Pierhead Light and installing it atop the new breakwater light. A decagonal lantern and a fifth order Fresnel lens were installed atop the Milwaukee Pierhead Light in their place. An underwater electrical cable extending from the Milwaukee harbor north pier to the offshore breakwater lighthouse was also installed.

When Milwaukee Breakwater Light was officially established in 1926, its fourth order Fresnel lens optic had a 61-foot focal plane and signaled a red flash that was visible for 14 miles in clear weather. It was originally operated by a resident crew of four keepers employed by the U.S. Lighthouse Service. After the Bureau of Lighthouses merged with the U.S. Coast Guard in 1939, Coast Guard personnel were assigned as keepers. The lighthouse was manned until 1966 when it was automated.

The Milwaukee Breakwater Light's fourth order Fresnel lens was replaced with a modern beacon in 1994. This Fresnel lens is presently on display at the Wisconsin Maritime Museum in Manitowoc, Wisconsin. The lighthouse's existing optic is a modern, automated VRB-25 marine beacon that signals a red flash every ten seconds. It is visible for 14 miles in clear weather. The lighthouse's fog signal was also upgraded through time and is now a modern automated device mounted on the lantern gallery. It sounds two blasts every 20 seconds and operates from April to November. Electrical power is still supplied to the lighthouse using a submarine cable, and a large rectangular sign reading "U.S. Coast Guard Cable Crossing Do Not Anchor" is affixed to the lighthouse's southwestern side.

Today, Milwaukee Breakwater Light remains standing in its original location at the south end of the harbor's north breakwater. It is floodlighted every night from sunset to sunrise. The lighthouse's basic structure, appearance, and setting remain essentially unchanged from the property's 1926 to 1966 period of historical significance. It continues to fulfill its original role of aiding mariners by marking the entry to the port of Milwaukee and providing a guide for vessels entering the harbor from Lake Michigan. This lighthouse is widely recognized as a prominent landmark in the Milwaukee County vicinity. It serves as a lasting reminder of the City of Milwaukee's historical role as one of Lake Michigan's most important commercial ports.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Milwaukee Breakwater Light	
Name of Property	
Milwaukee County, Wisconsin	
County and State	
Light Stations of the United States MPDF	
Name of multiple listing (if applicable)	

ADDITIONAL DOCUMENTATION

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

(see continuation sheet)

Previous documentation on file (NPS):

___ preliminary determination of individual listing (36 CFR 67 has been requested)
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey #_____
___ recorded by Historic American Engineering Record #_____
___ recorded by Historic American Landscape Survey #_____

Primary location of additional data:

_X_ State Historic Preservation Office
___ Other State agency
_X_ Federal agency
___ Local government
___ University
___ Other

Name of repository: U.S. National Archives; USCG Civil Engineering Unit (CEU) Cleveland, OH; USCG Historian's Office, Washington, DC; Wisconsin Maritime Museum; Wisconsin Historical Society.

Historic Resources Survey Number (if assigned): _____

10. Geographical Data

Acreage of Property Less than one acre
(Do not include previously listed resource acreage.)

UTM References
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing		Zone	Easting	Northing
1	16	428140	4764180	3			
2				4			

Verbal Boundary Description (Describe the boundaries of the property.)

The property's boundary is the exterior limit of the perimeter of the rectangular base of the lighthouse's foundation.

Boundary Justification (Explain why the boundaries were selected.)

This boundary encompasses the USCG-owned lighthouse structure nominated for National Register listing.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Milwaukee Breakwater Light
Name of Property
Milwaukee County, Wisconsin
County and State
Light Stations of the United States MPDF
Name of multiple listing (if applicable)

ADDITIONAL DOCUMENTATION

11. Form Prepared By

name/title Daniel Koski-Karell, Ph. D., USCG HQ Office of Environmental Management, and Jayne Aaron and Daniel Hart, e²M, Inc.

organization United States Coast Guard (COMDT CG-47) date 1 June 2011

street & number 2100 Second Street SW – STOP 7901 telephone 202.475.5683

city or town Washington state DC zip code 20593-7901

e-mail Daniel.A.Koski-Karell@uscg.dhs.gov

Additional Documentation

Submit the following items with the completed form:

- **Map:** A USGS topographic map (7.5 minute series) indicating the property's location.
- **Continuation Sheets**
- **Additional items:** Black and white photograph prints.

Property Owner:

Name United States Coast Guard

street & number 2100 Second Street SW telephone 202.267.1587

city or town Washington state DC zip code 20593

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

ADDITIONAL DOCUMENTATION

Bibliography

Browning, Robert. 2009. Lighthouse evolution and typology. U.S. Coast Guard Historian's Office website. Available online at http://www.uscg.mil/history/weblighthouses/LHevolution.asp .

Clifford, Candace. 1994. *Inventory of historic light stations*. Washington, DC: National Park Service.

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_____. 2010. Historic light station information and photography – Wisconsin. U.S. Coast Guard Historian's Office website. Available online at http://www.uscg.mil/history/weblighthouses/LHWI.asp .

United States Department of the Interior
National Park Service

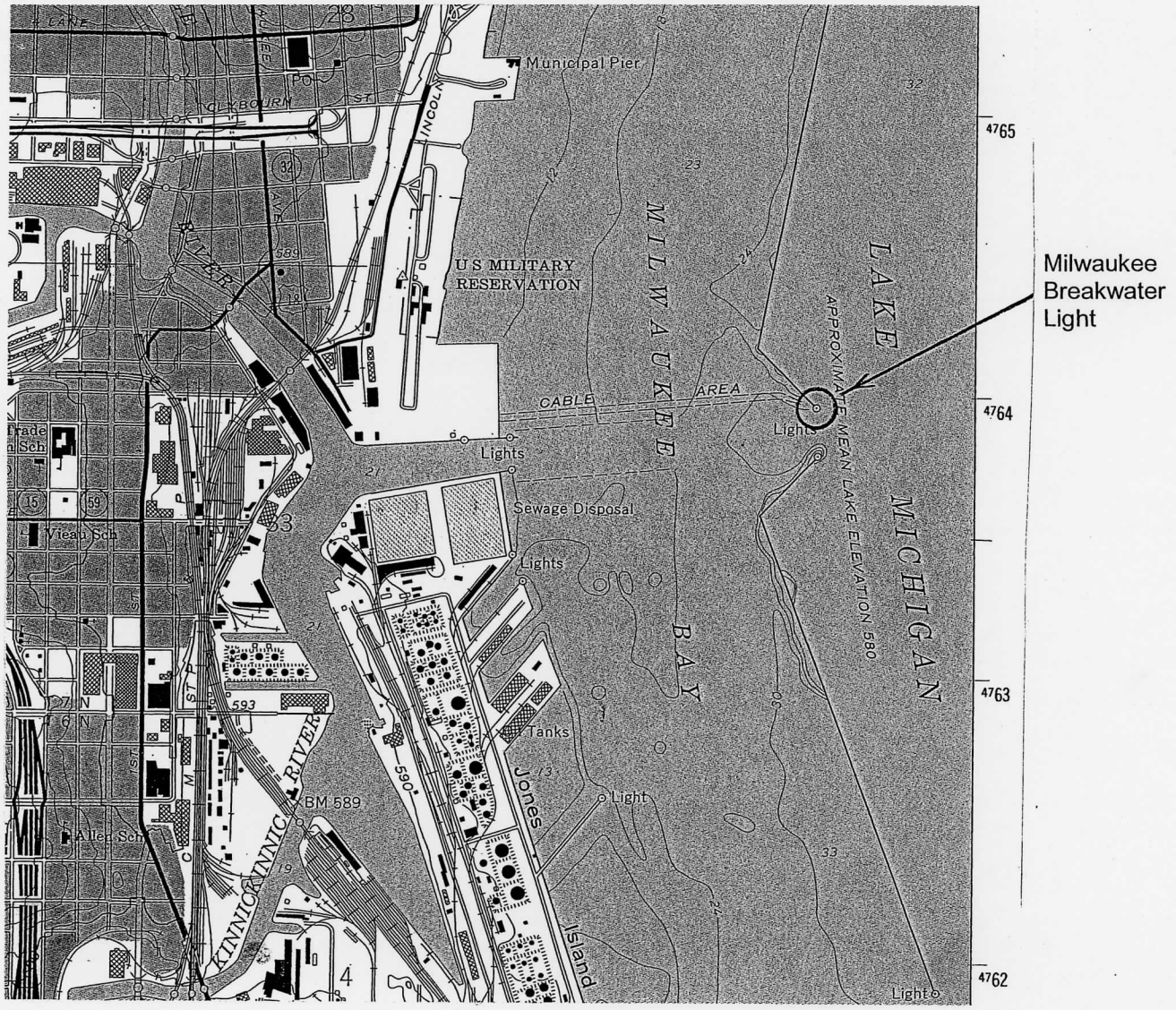
Milwaukee Breakwater Light
Name of Property Milwaukee County, Wisconsin
County and State Light Stations of the United States MPDF
Name of multiple listing (if applicable)

National Register of Historic Places Continuation Sheet

ADDITIONAL DOCUMENTATION

Location Map

This is part of the *Milwaukee, Wis.* 7.5 minute series quadrangle topographic map (U.S. Geological Survey 1958, photorevised 1971).



United States Department of the Interior
National Park Service

Milwaukee Breakwater Light
Name of Property
Milwaukee County, Wisconsin
County and State
Light Stations of the United States MPDF
Name of multiple listing (if applicable)

National Register of Historic Places Continuation Sheet

ADDITIONAL DOCUMENTATION

Photographs

The following information is common to these photographs:

Name of Property: Milwaukee Breakwater Light
Location: Milwaukee County, Wisconsin
Photographer: Timothy McGrath
Date: September 2005
Location of original negative: U.S. Coast Guard Historian's Office, U.S. Coast Guard Headquarters, Washington, DC.

Photograph Number	Description
1.	Lighthouse northwest and southwest elevations, looking east from shore.
2.	Southwest façade with light tower in center, looking upward towards northeast.
3.	Concrete pier interior, lighthouse basement equipment room, looking south.
4.	Keepers dwelling second story interior, northwest bay, southwest room, looking west.
5.	Tower fourth story watch room, descending stairway on left, ladder to lantern room in center, looking north.
6.	Lantern room interior, door to gallery on left, modern beacon in center, looking northwest.
7.	Lantern gallery with lantern on left, fog signal on gallery deck, breakwater and Milwaukee skyline in rear, looking northwest.

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY NAME: Milwaukee Breakwater Light

MULTIPLE NAME: Light Stations of the United States MPS

STATE & COUNTY: WISCONSIN, Milwaukee

DATE RECEIVED: 8/05/11 DATE OF PENDING LIST: 8/31/11
DATE OF 16TH DAY: 9/15/11 DATE OF 45TH DAY: 9/20/11
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 11000678

REASONS FOR REVIEW:

APPEAL:	N	DATA PROBLEM:	N	LANDSCAPE:	N	LESS THAN 50 YEARS:	N
OTHER:	N	PDIL:	N	PERIOD:	N	PROGRAM UNAPPROVED:	N
REQUEST:	Y	SAMPLE:	N	SLR DRAFT:	N	NATIONAL:	N

COMMENT WAIVER: N

✓ ACCEPT ___ RETURN ___ REJECT 9/16/2011 DATE

ABSTRACT/SUMMARY COMMENTS:

Meets the registration Requirements of MPS

RECOM./CRITERIA Accept A&C

REVIEWER J. Gibbard DISCIPLINE _____

TELEPHONE _____ DATE _____

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.


U.S. COAST GUARD
CABLE CROSSING
DO NOT ANCHOR

MILWAUKEE BREAKWATER LIGHT
MILWAUKEE COUNTY, WI
PHOTOGRAPHER: TIMOTHY McGRATH
DATE: SEPTEMBER 2005
NEGATIVE AT: U.S. COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEADQUARTERS
WASHINGTON, DC.

LIGHTHOUSE NORTHWEST AND SOUTHWEST ELEVATIONS,
LOOKING EAST FROM SHORE.

PHOTO #1


U.S. COAST GUARD
CABLE CROSSING
DO NOT ANCHOR

MILWAUKEE BREAKWATER LIGHT

MILWAUKEE COUNTY, WI

PHOTOGRAPHER: TIMOTHY McGRATH
DATE: SEPTEMBER 2005
NEGATIVE AT: U.S. COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEADQUARTERS
WASHINGTON, DC

SOUTHWEST FAÇADE WITH LIGHT TOWER IN CENTER,
LOOKING UPWARD TOWARDS NORTHEAST,

PHOTO # 2



MILWAUKEE BREAKWATER LIGHT
MILWAUKEE COUNTY, WI
PHOTOGRAPHER: TIMOTHY MCGRATH
DATE: SEPTEMBER 2005
NEGATIVE AT: U.S. COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEADQUARTERS
WASHINGTON, DC

CONCRETE PIER INTERIOR, LIGHTHOUSE BASEMENT
EQUIPMENT ROOM, LOOKING SOUTH.

PHOTO # 3


EXIT

MILWAUKEE BREAKWATER LIGHT
MILWAUKEE COUNTY, WI
PHOTOGRAPHER: TIMOTHY MCGRATH
DATE: SEPTEMBER 2005
NEGATIVE AT: U.S. COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEADQUARTERS
WASHINGTON, DC

KEEPERS DWELLING SECOND STORY INTERIOR,
NORTHWEST BAY, SOUTHWEST ROOM, LOOKING WEST

PHOTO # 4



MILWAUKEE BREAKWATER LIGHT
MILWAUKEE COUNTY, WI

PHOTOGRAPHER: TIMOTHY McGRATH

DATE: SEPTEMBER 2005

NEGATIVE AT: U.S. COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEADQUARTERS
WASHINGTON, DC

TOWER FOURTH STORY WATCHROOM,
DESCENDING STAIRWAY ON LEFT,
LADDER TO LANTERN ROOM IN CENTER
LOOKING NORTH.

PHOTO #5



MILWAUKEE BREAKWATER LIGHT
MILWAUKEE COUNTY, WI
PHOTOGRAPHER: TIMOTHY McGRATH
DATE: SEPTEMBER 2005
NEGATIVE AT: U.S. COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEADQUARTERS
WASHINGTON, DC

LANTERN ROOM INTERIOR, DOOR TO GALLERY ON LEFT,
MODERN BEACON IN CENTER, LOOKING NORTHWEST.

PHOTO #6


FIDELITY

MILWAUKEE BREAKWATER LIGHT
MILWAUKEE COUNTY, WI
PHOTOGRAPHER: TIMOTHY McGRATH
DATE: SEPTEMBER 2005
NEGATIVE AT: U.S. COAST GUARD HISTORIAN'S OFFICE
U.S. COAST GUARD HEADQUARTERS
WASHINGTON, DC

LANTERN GALLERY WITH LANTERN ON LEFT,
FOG SIGNAL ON GALLERY DECK, BREAKWATER
AND MILWAUKEE SKYLINE IN REAR, LOOKING NORTHWEST.

PHOTO #7

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MILWAUKEE QUADRANGLE
WISCONSIN—MILWAUKEE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
SW/4 MILWAUKEE 15′ QUADRANGLE

3370 II NE (MENOMONEE FALLS)
3370 III (MILWAUKEE 1:62 500)
3469 I NE (HALES CORNERS)
3469 IV NW (GREENDALE)
3469 V NE (SOUTH MILWAUKEE)
3370 II SE (WAUWATOSA)

88°00′ — 43°07′30″ — 87°52′30″ — 43°00′

419 000m E. — 420 — 421 — 2 540 000 FEET — 422 — 423 — 425 — 426 — 428 000m E.

R. 21 E. — R. 22 E.

T. 8 N. — T. 7 N. — T. 6 N.

4774 000m N. — 4773 — 4772 — 4771 — 4770 — 4769 — 4768 — 4767 — 4766 — 4765 — 4764 — 380 000 FEET — 4763 — 4762 — 4761 000m N.

410 000 FEET

2′30″ — 5′

1.6 MI. TO HY. PP
SAUKVILLE 19 MI. THIENSVILLE 8.1 MI.
SHEBOYGAN 45 MI. 3.6 MI. TO WIS. 100
4.7 MI. TO U.S. 141 FOX POINT 2.4 MI.
4.9 MI. TO U.S. 41
FOND DU LAC 59 MI. 4.5 MI. TO U.S. 45
PEWAUKEE 14 MI. 2.4 MI. TO U.S. 45
2.4 MI. TO U.S. 45
MADISON 70 MI. ELM GROVE 4 MI.
MUKWONAGO 19 MI. PROSPECT AVE.
KILBOURNVILLE 14 MI. CHICAGO 90 MI.
3.2 MI. TO INTERSTATE 894 CHICAGO 91 MI.
CUDAHY 3.9 MI. RACINE 20 MI.

Mapped, edited, and published by the Geological Survey

Control by USGS, USC&GS, and City of Milwaukee

Topography from aerial photographs by photogrammetric methods
Aerial photographs taken 1954–1955. Field check 1958

Hydrography compiled from U. S. Lake Survey charts 74 and 743 (1957)

Polyconic projection. 1927 North American datum
10,000-foot grid based on Wisconsin coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue

Red tint indicates areas in which only landmark buildings are shown

Revisions shown in purple compiled from aerial photographs taken 1971. This information not field checked

UTM GRID AND 1971 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
GN 0°38′ 11 MILS — MN 1° 18 MILS

SCALE 1:24 000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS 578 FEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
AND WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY, MADISON, WISCONSIN 53706
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

WISCONSIN
QUADRANGLE LOCATION

To place on the predicted North American Datum 1983, move the projection lines 3 meters north and 6 meters east as shown by dashed corner ticks

ROAD CLASSIFICATION
Heavy-duty — Light-duty
Medium-duty — Unimproved dirt
U. S. Route — State Route
Interstate Route

MILWAUKEE, WIS.
SW/4 MILWAUKEE 15′ QUADRANGLE
43087-A8-TF-024

1958
PHOTOREVISED 1971
DMA 3470 III SW—SERIES V861

MILWAUKEE BREAKWATER LIGHT
MILWAUKEE COUNTY, WI
UTM 428140 mE
ZONE 16 4764180 mN

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1988

Milwaukee
Breakwater
&
Pierhead
Lights

U.S. Department of Homeland Security

United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street SW - STOP 7901
Washington, DC 20593-7901
Staff Symbol: COMDT (CG-47)
Phone: (202) 475-5687
Fax: (202) 475-5949

16475

JUN 0 6 2011

Honorable Tom Barrett, Mayor
Office of the Mayor
Milwaukee City Hall
200 E. Wells Street, Room 201
Milwaukee, WI 53203

SUBJECT: NATIONAL REGISTER NOMINATION FOR MILWAUKEE BREAKWATER LIGHT

Dear Mr. Barrett:

The U. S. Coast Guard (USCG) has determined that Milwaukee Breakwater Light in Milwaukee County, Wisconsin, is a historic property eligible for listing in the National Register of Historic Places (NRHP). We are proposing to nominate this lighthouse for official inclusion in the NRHP. A summary of the NRHP nomination is enclosed for your information (enclosure (1)). This action is being performed pursuant to the authorities contained in Section 110 of the National Historic Preservation Act, the National Historic Lighthouse Preservation Act, and the National Park Service regulations at 36 Code of Federal Regulations Part 60.9.

As part of the nomination process, the USCG is seeking your comments. Please provide any comments within 45 days from the date your office receives this letter. If we receive no response from your office within 45 days, we will assume you have no comments. We have also submitted the NRHP nomination form for Milwaukee Breakwater Light to the Wisconsin State Historic Preservation Officer for review and comment.

Thank you in advance for your assistance in this matter. If you have any questions or desire additional information, please feel free to contact Dr. Daniel Koski-Karell at (202) 475-5683.

Sincerely,

E. F. WANDELT
Chief
Office of Environmental Management
U. S. Coast Guard

Enclosure: (1) Summary of NRHP nomination for Milwaukee Breakwater Light

Copy (w/o enclosure): J. Paul Loether, National Park Service
COMDT (CG-0942)
CG SILC
CG CEU Cleveland
CG D9 (DPW)

U.S. Department of Homeland Security

United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street SW - STOP 7901
Washington, DC 20593-7901
Staff Symbol: COMDT (CG-47)
Phone: (202) 475-5687
Fax: (202) 475-5949

16475

JUN 06 2011

Honorable Lee Holloway, Chairman
County Board of Supervisors
Milwaukee County Courthouse
901 N. 9th Street, Room 201
Milwaukee, WI 53233

SUBJECT: NATIONAL REGISTER NOMINATION FOR MILWAUKEE BREAKWATER LIGHT

Dear Mr. Holloway:

The U. S. Coast Guard (USCG) has determined that Milwaukee Breakwater Light in Milwaukee County, Wisconsin, is a historic property eligible for listing in the National Register of Historic Places (NRHP). We are proposing to nominate this lighthouse for official inclusion in the NRHP. A summary of the NRHP nomination is enclosed for your information (enclosure (1)). This action is being performed pursuant to the authorities contained in Section 110 of the National Historic Preservation Act, the National Historic Lighthouse Preservation Act, and the National Park Service regulations at 36 Code of Federal Regulations Part 60.9.

As part of the nomination process, the USCG is seeking your comments. Please provide any comments within 45 days from the date your office receives this letter. If we receive no response from your office within 45 days, we will assume you have no comments. We have also submitted the NRHP nomination form for Milwaukee Breakwater Light to the Wisconsin State Historic Preservation Officer for review and comment.

Thank you in advance for your assistance in this matter. If you have any questions or desire additional information, please feel free to contact Dr. Daniel Koski-Karell at (202) 475-5683.

Sincerely,

E. F. WANDELT
Chief
Office of Environmental Management
U. S. Coast Guard

Enclosure: (1) Summary of NRHP nomination for Milwaukee Breakwater Light

Copy (w/o enclosure): J. Paul Loether, National Park Service
COMDT (CG-0942)
CG SILC
CG CEU Cleveland
CG D9 (DPW)

U.S. Department of Homeland Security

United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street SW - STOP 7901
Washington, DC 20593-7901
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Phone: (202) 475-5687
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16475

JUN 0 6 2011

Honorable Wilfrid Cleveland, President
Ho-Chunk Nation Tribal Office Building
W9814 Airport Road
Black River Falls, WI 54615

SUBJECT: NATIONAL REGISTER NOMINATION FOR MILWAUKEE BREAKWATER LIGHT

Dear Mr. Cleveland:

The U. S. Coast Guard (USCG) has determined that Milwaukee Breakwater Light in Milwaukee County, Wisconsin, is a historic property eligible for listing in the National Register of Historic Places (NRHP). We are proposing to nominate this lighthouse for official inclusion in the NRHP. A summary of the NRHP nomination is enclosed for your information (enclosure (1)). This action is being performed pursuant to the authorities contained in Section 110 of the National Historic Preservation Act, the National Historic Lighthouse Preservation Act, and the National Park Service regulations at 36 Code of Federal Regulations Part 60.9.

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Sincerely,

E. F. WANDELT
Chief
Office of Environmental Management
U. S. Coast Guard

Enclosure: (1) Summary of NRHP nomination for Milwaukee Breakwater Light

Copy (w/o enclosure): J. Paul Loether, National Park Service
COMDT (CG-0942)
CG SILC
CG CEU Cleveland
CG D9 (DPW)

NATIONAL REGISTER OF HISTORIC PLACES NOMINATION
MILWAUKEE BREAKWATER LIGHT
MILWAUKEE COUNTY, WISCONSIN

Milwaukee Breakwater Light is an offshore lighthouse located approximately 0.7 mile east of the mouth of the Milwaukee River in the City of Milwaukee, Milwaukee County, Wisconsin. It is an operating aid to navigation owned by the U.S. Coast Guard (USCG), identified as number 20635 on the regional Light List. This property is surrounded by water and accessible by boat.

This property was officially established as a Federal lighthouse in 1926. Based on its historic character, the USCG intends to nominate this property for listing in the National Register of Historic Places (NRHP).

The National Historic Preservation Act of 1966, as amended (NHPA) (16 United States Code 470 *et seq.*) authorizes the Secretary of the Interior to expand and maintain a national register of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. Federal agencies are charged with identifying, evaluating, and nominating such properties under their control to the NRHP. The National Historic Lighthouse Preservation Act of 2000 (Public Law 106-355) amended the NHPA for the purpose of establishing a National Historic Lighthouse Preservation Program.

The USCG has prepared a NRHP registration form for Milwaukee Breakwater Light. It has been sent to the Wisconsin State Historic Preservation Officer for review and comment concerning the USCG position that the property is eligible for listing in the NRHP. Pursuant to implementing regulation 36 Code of Federal Regulations 60.9, we are notifying local elected officials who may have an interest in the property and inviting them to comment on the nomination during the 45-day comment period. The property is described below.

Site Name and Location:

- Milwaukee Breakwater Light
- Located approximately 0.7 mile east of the mouth of the Milwaukee River. It is in Lake Michigan offshore of the City of Milwaukee in Milwaukee County, WI
- Light List Number 20635

Owner:

- U.S. Coast Guard COMDT (CG-47)
  ATTN: Dr. Daniel Koski-Karell
  2100 Second Street SW – STOP 7901
  Washington, DC 20593-7901

Summary Description:

Milwaukee Breakwater Light is a steel superstructure lighthouse atop a concrete pier. It is approximately 95 feet tall from the base of its foundation to the top of its lantern. This property includes a rectangular wooden crib foundation that supports a concrete pier that rises to approximately 14 feet above water level. The pier supports a rectangular steel structure that includes a two story keepers dwelling with integral four story light tower supporting a lantern. The structure is painted white except for the lantern and lantern gallery that are painted black. The lantern is equipped with a modern automated beacon and fog

signal. The beacon has a focal plane 61 feet above sea level. It signals a flashing red light that is visible for 14 miles in clear weather.

Milwaukee Breakwater Light includes a basement contained within its concrete pier. Sea doors are built into the pier for access to the basement, but they cannot open at the present time. Steel ladders are built into the sides of the pier and provide access to the pier's topside deck. The lighthouse's interior is accessible by way of the first story entry on the lighthouse's southwest side.

Summary Statement of Historical Significance:

This lighthouse was constructed in 1926 in 30 feet of water at the south end of Milwaukee Harbor's north breakwater. It was built to mark the opening between breakwaters that is the principal route for commercial vessels entering and departing from the port of Milwaukee. Milwaukee Breakwater Light was operated by resident keepers associated with the U.S. Lighthouse Service until 1939 when the U.S. Bureau of Lighthouses merged with the U.S. Coast Guard (USCG). After that, it was staffed by USCG personnel. The lighthouse was automated in 1966.

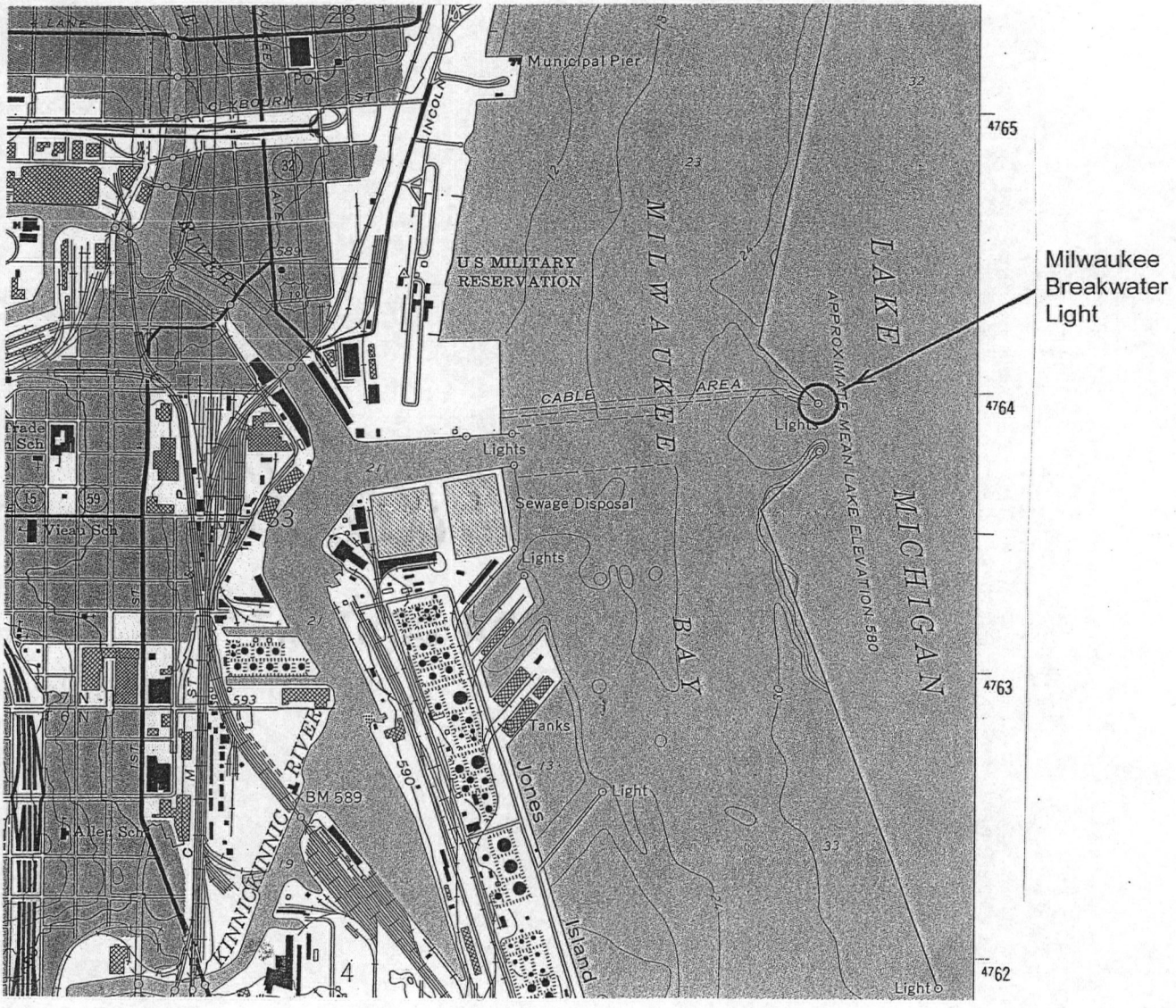
This lighthouse property is significant in the history of Milwaukee County. It is eligible for National Register of Historic Places listing under Criterion A for its association with the historic Federal government program to establish a nationwide system of aids to navigation in order to promote maritime safety and commerce. Milwaukee Breakwater Light exemplifies how this program was manifested in the Milwaukee County area. This property is also eligible of NRHP listing under Criterion C for its architectural and engineering significance. It exemplifies how second quarter twentieth century lighthouse architecture and engineering were applied to the need to mark the offshore entry to the port of Milwaukee. The qualities of this structure's design, materials, and construction methods were applied to overcome difficulties relating to building an offshore lighthouse in an area subject to adverse environmental conditions. Milwaukee Breakwater Light retains substantial integrity in terms of location, setting, design, materials, and workmanship. It is a well-known offshore landmark in the Milwaukee area.

Map and Photograph:

- Milwaukee Breakwater Light location map
- Milwaukee Breakwater Light, view looking east from shore

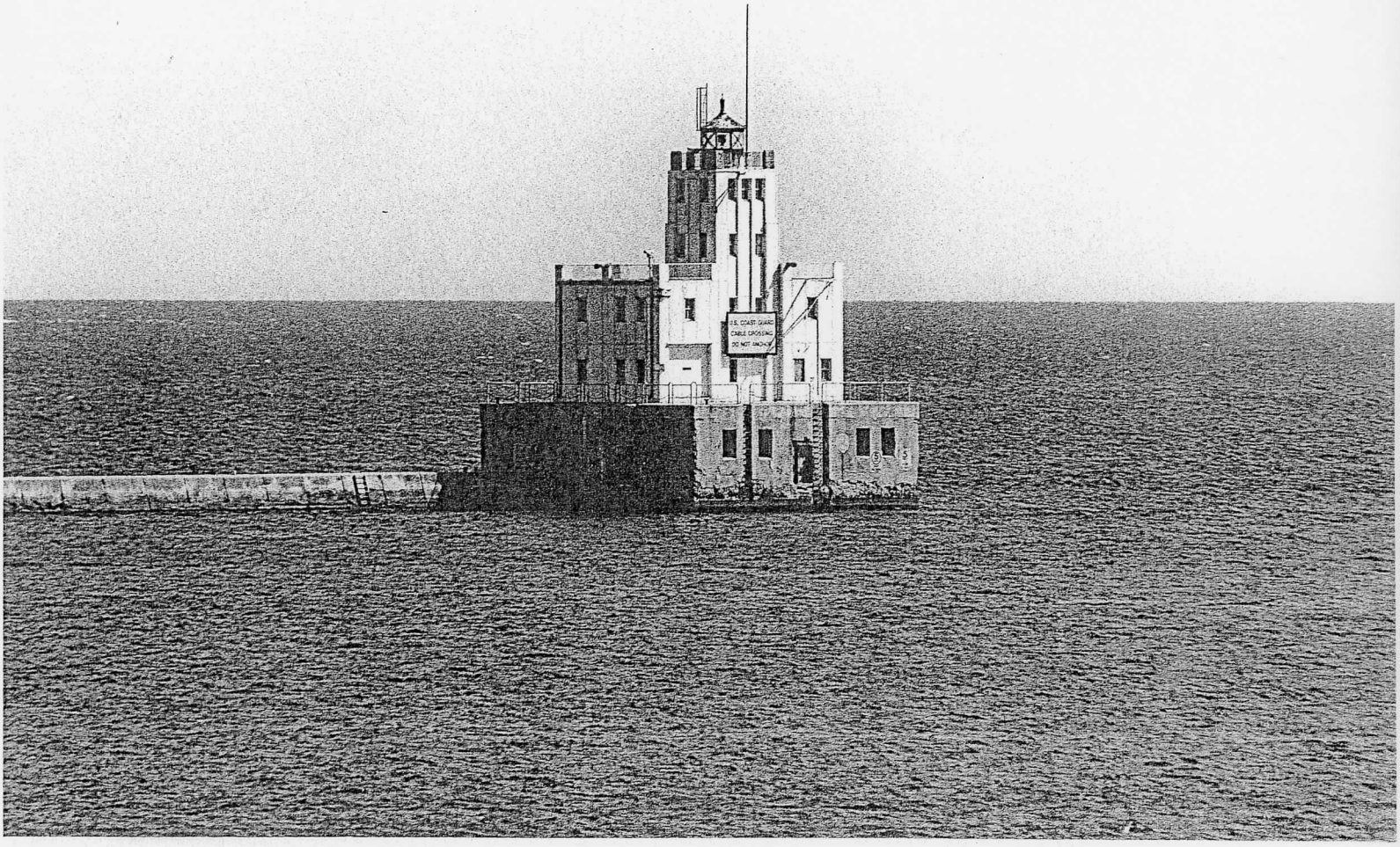
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25% COTTON CONTENT

Milwaukee Breakwater Light location map



Part of the "Milwaukee, Wis." 7.5-minute series topographic map, Scale 1:24,000 (U.S. Geological Survey, 1958, photorevised 1971).

Milwaukee Breakwater Light, view looking east from shore



City of Milwaukee

www.milwaukee.gov

Office of the City Clerk

Ronald D. Leonhardt
City Clerk

Jim Owczarski
Deputy City Clerk

July 26, 2011

Daniel Koski-Karell, Ph.D
USCG HQ Office of Environmental management
United States Coast Guard (COMDT CG-47)
2100 Second Street SW – STOP 7901
Washington, DC 20593-7901

Dear Mr. Koski-Karell:

RE: CLG Review of the National Register Nomination Milwaukee Breakwater Light

In accordance with the provisions of the Certified Local Government Agreement between the City of Milwaukee and Wisconsin State Historic Preservation Office, the Milwaukee Historic Preservation Commission has reviewed the National Register nomination of the Milwaukee Breakwater Light. The Commission determined that the building met the Statement of Significance as outlined in the application and voted to support the nomination on July 25, 2011.

In supporting this nomination the commission feels that it is of vital importance that government properties be preserved for the future. Not only are they a symbol of what the collective power of government can achieve architecturally and from an engineering standpoint but they also serve as symbols of dedication to public safety, health and welfare. Light stations as this one made sure maritime activities both commercial and recreational could take place in relative security. The National Register listing for this property, long a visual landmark on Milwaukee's lakefront and the subject of hundreds of photographs, will enable its preservation for future generations If you need additional information or have any questions please feel free to contact the Historic Preservation Commission staff at (414) 286-5722.

Sincerely,

Allyson Nemec for
Randy Bryant, Chair
Milwaukee Historic Preservation Commission

C: Ronald D. Leonhardt
Jim Owczarski

Tom Barrett
Mayor, City of Milwaukee

August 1, 2011

Daniel Koski-Karell, Ph.D
USCG HQ Office of Environmental management
United States Coast Guard (COMDT CG-47)
2100 Second Street SW – STOP 7901
Washington, DC 20593-7901

Dear Mr. Koski-Karell:

RE: CLG Review of the National Register Nomination Milwaukee Breakwater Light

In accordance with the provisions of the Certified Local Government Agreement between the City of Milwaukee and Wisconsin State Historic Preservation Office, the Milwaukee Historic Preservation Commission and I have reviewed the National Register nomination of the Milwaukee Breakwater Light. The Commission determined that the building met the Statement of Significance as outlined in the application and voted to support the nomination on July 25, 2011.

I concur with the Commission's decision. The building is a unique structure and ennabled the safe transport of goods and materials through Milwaukee's harbor for eighty-five years. The National Register listing for this property, long a visual landmark on Milwaukee's lakefront, will enable its preservation for future generations.

If you need additional information or have any questions please feel free to contact the Historic Preservation Commission staff at (414) 286-5722.

Sincerely,

Tom Barrett

Tom Barrett
Mayor

C: Ronald D. Leonhardt
Jim Owczarski

Office of the Mayor • City Hall • 200 East Wells Street • Milwaukee, Wisconsin 53202
(414) 286-2200 • fax (414) 286-3191 • mayor@milwaukee.gov

U.S. Department of Homeland Security

United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street SW, STOP 7901
Washington, DC 20593-7901
Staff Symbol: COMDT (CG-47)
Phone: (202) 475-5687
Fax: (202) 475-5949

RECEIVED 2280
AUG 05 2011
NAT. REGISTER OF HISTORIC PLACES
NATIONAL PARK SERVICE

16475

AUG 02 2011

MEMORANDUM

From: E. F. Wandelt, Chief
COMDT (CG-47)

Reply to Attn of: Dr. Daniel Koski-Karell
(202) 475-5683

To: Mr. J. Paul Loether, Chief
National Register of Historic Places and Historic Landmarks Division
National Park Service
1849 C Street NW, Mail Stop 2280
Washington, DC 20240

Subj: MILWAUKEE BREAKWATER LIGHT, MILWAUKEE COUNTY, WISCONSIN

Ref: (a) National Historic Preservation Act Section 110, 16 U.S.C. 470h-2
(b) Programmatic Agreement Regarding Outgranting of Historic Lighthouse Properties

1. The Coast Guard nominates Milwaukee Breakwater Light, Milwaukee County, WI, for listing on the National Register of Historic Places (NRHP). The nomination package is enclosed (Enclosure (1)).

2. The Wisconsin State Historic Preservation Officer's comments on this NRHP nomination were requested and received. They have been incorporated into this property's NRHP registration form where deemed appropriate.

3. Comments from appropriate local officials were solicited and one supporting the nomination was received. Copies of this correspondence are included in the enclosure.

#

Enclosure: (1) NRHP nomination package for Milwaukee Breakwater Light

Copy: CG SILC (with encl)
CG CEU Cleveland (with encl)
CG D9(DPW) (with encl)