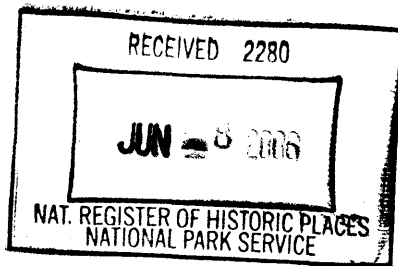


630

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 *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. 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 entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Ship John Shoal Light Station

other names/site number Ship John Shoal Light

2. Location

street & number In Delaware Bay, 3.3 miles west-southwest of Sea Breeze

not for publication

city or town Sea Breeze, Fairfield Township

vicinity

state New Jersey code NJ county Cumberland code 011 zip code 08320

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

Jay M. Manita, PE, CAPT, USCG 9 MAY 2006
Signature of certifying official/Title Date

United States Coast Guard
State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Amy Cradic 5/15/06
Signature of commenting or other official Date

Amy Cradic, Assistant Commissioner Natural & Historic Resources/DSHPO
State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
 See continuation sheet.
- determined eligible for the National Register
 See continuation sheet.
- determined not eligible for the National Register
- removed from the National Register
- other (explain): _____

Edson H. Beall 7-19-06
Signature of the Keeper Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property
(Check only one box)

- building(s)
- district
- site
- structure
- object

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

Contributing	Noncontributing	
_____	_____	buildings
_____	_____	sites
1	2	structures
_____	_____	objects
1	2	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

Lighthouse

Current Functions
(Enter categories from instructions)

Transportation

Water-related

Lighthouse

7. Description

Architectural Classification
(Enter categories from instructions)

Second Empire

Materials
(Enter categories from instructions)

foundation Cast iron caisson filled with concrete

roof Cast iron

walls Cast iron

other Lantern: Cast iron, glass

Pier: concrete Riprap: rock

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

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)

- 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.
- 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 a grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

- Maritime History
- Transportation
- Architecture
- Engineering
- _____
- _____
- _____

Period of Significance

1874 to 1955

Significant Dates

1874, 1876, 1877

Significant Person

(Complete if Criterion B is marked above)

Cultural Affiliation

N/A

Architect/Builder

U.S. Lighthouse Board

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

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 # _____

Primary Location of Additional Data

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository:

US National Archives; Maritime Heritage Program, NPS; USCG Headquarters, Historian's Office, Washington, DC

10. Geographical DataAcreage of Property 4.9 acres

UTM References	Zone	Easting	Northing
1	18	467524	4350720

Verbal Boundary Description

"All that tract or parcel of land under water in Delaware Bay, being part of what is known as Ship John Shoal, the said tract being in the form of a circle, with a radius of two hundred and sixty-three (263) feet, the center of which corresponds to a stake set for the center of the lighthouse, and is about 2.5 miles on a course south thirteen degrees and thirty minutes (13° 30') west from the center of Cohansey Lighthouse; containing four and nine-tenths (4.9) acres, be the same more or less."

Boundary Justification

The boundary includes the light station structures and submerged land that have historically been part of the Ship John Shoal Light Station.

11. Form Prepared By

name/title Karmen Bisher, Maritime Historian, NCSHPO Consultant, and Jennifer Perunko, NPS Maritime Historian,
 edited by Daniel Koski-Karell, Ph.D., U.S. Coast Guard Headquarters, Environmental Management Division

organization Maritime Heritage Program, National Park Service date 29 July 2005

street & number 1849 C Street, NW telephone 202-354-2244

city or town Washington state DC zip code 20240-0001

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Map: **USGS map** (7.5 or 15 minute series) indicating the property's location.

Photographs: Representative **black and white photographs** of the property.

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name U.S. Coast Guard Headquarters

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. 470 *et seq.*).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the 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 Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 7

Page 1 of 4

Narrative Description

Ship John Shoal Light Station was established as an aid to navigation in 1877. Its cast iron caisson foundation was erected in 1874 and the lighthouse superstructure completed in 1877. This property is located offshore in Delaware Bay about three miles south of the mouth of the Cohansey River in Cumberland County, New Jersey. It is Delaware Bay's northernmost lighthouse and marks the hazardous underwater terrain feature known as Ship John Shoal. The property includes one contributing and two non-contributing resources. The contributing resource is the lighthouse structure. It includes a cylindrical caisson foundation, three-story keepers' dwelling designed in the Second Empire style, and a lantern. The entire structure is painted brown, with "SHIP JOHN SHOAL" appearing in white on the upper portion of the caisson. The property's two non-contributing resources are a concrete pier with boat dock and riprap north of the lighthouse, and a separate riprap deposit south of the lighthouse. This property is owned by the United States Coast Guard and serves as an active aid to navigation. Access to the property is by boat. It is closed to the public.

Contributing Resource (Lighthouse Structure):

Exterior

The lighthouse structure consists of a keepers' dwelling resting atop a cylindrical caisson in about 15 feet of water. The caisson is 24 feet in diameter, 30 feet tall, and filled with concrete. It is composed of cast iron panels, each measuring 6 feet tall by 6 feet wide. These are assembled in five rows of twenty panels each.

The keepers' dwelling is square in shape with chamfered corners. It is topped by a steeply pitched mansard roof. On the first story, a narrow, cast iron gallery with recessed corners extends out over the pier on all four sides of the structure. Beneath the gallery, brackets attached to the pier provide support. The gallery is enclosed by a metal railing consisting of twenty stanchions and two horizontal rails. A series of balusters runs between the top and bottom horizontal rail. Round finials top the stanchions. Two finials are missing. A boat hoist is attached to the gallery floor on the east side. Two modern fog signal devices are mounted on the gallery's west side.

Cast iron pilasters accentuate each chamfered corner of the lighthouse. A fascia wraps around the structure above these pilasters. A bracketed cornice sits above the fascia. The steeply pitched mansard roof rises above the cornice and has four projecting dormers. Access to the dwelling's interior is through a modern metal door located in the center of the north wall on the first story. This doorway opening has a bracketed surround with a projecting hood. There are six window openings on the structure's first story, with one window each on the south and east walls and a window at each corner. A projecting, pedimented, cast iron casing surrounds each window. The windows on the south and east sides are slightly wider than those at the corners and are covered with vented metal plates. The corner windows are fitted with Plexiglas.

Four gabled dormer windows on the second story are centered on the mansard roof's north, east, south, and west sides. The window openings in each dormer are arched and have double-hung, wooden sash with four-over-four lights. The window openings are surrounded by ornamental cast iron casings and are fitted with vented Plexiglas. There are four round window openings on the third story, with decorative casings above each dormer. These openings are covered with metal plates. A projecting cornice wraps around the mansard roof above the round windows.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 7

Page 2 of 4

The dwelling's roof is flat and supports the lighthouse's lantern. The octagonal lantern sits in the center of this flat roof, surrounded by an open gallery. The lantern's lower, parapet portion is composed of eight cast iron plates. The glazed upper portion above the parapet holds eight storm panes separated by metal mullions. The lantern's sides are finished with a cornice from which springs a high, domed roof surmounted by a ventilator ball and lightning rod spindle. The gallery surrounding the lantern is bounded by a railing consisting of twelve stanchions and three horizontal rails. The stanchions are topped by round finials.

Interior

A narrow hallway inside the entrance doorway extends east to west along the north side of the keepers' dwelling first story. The opening for the stairway leading to the second story is on the hallway's south side. These stairs rise parallel to the hallway. Access to the lighthouse's basement is by way of an opening under the stairway where a ladder leading down is attached.

There is a similar hallway and stair arrangement on the second story. There, the hallway is also on the dwelling's north side. The stairs leading to the third story watch room adjoin the hallway and rise parallel to it. A ladder in the third story watch room provides access to the lantern.

Basement

The lighthouse's basement is in the caisson beneath the dwelling. A wrought iron ship's ladder located directly under the stairway to the second story descends from the first level hallway to the basement. The basement's walls are lined with brick. A single small, eyebrow window set into the caisson's south wall lights the basement. A similar window on the opposite side has been bricked up. Two modern metal support posts run from the floor to the ceiling in the center of the room. Two raised brick and concrete circular platforms are on the floor in the northeast part of the room. On the top of one is a carved inscription reading, "Light First Exhibited Nov. 29, 1874." Mechanical equipment rests on top of the other platform. These platforms likely held the 630-gallon tanks originally used in the light station's water collection system. Various tubing, wires and pipes run along the ceiling, across the floor, and through the basement walls.

First Story

The first story is divided into two separate spaces in addition to the hallway previously discussed. The space on the dwelling's west side is the kitchen. Built-in cabinetry is suspended from the ceiling on the west wall. A smaller, double-door cabinet with a counter on top sits directly underneath the hanging cabinets. The kitchen is lighted with two double-hung windows with wooden sash and four-over-four lights.

The other first story room is accessed through a door at the foot of the stairway to the second story. It contains modern equipment related to the operation of the existing light and fog signals, including wet-cell batteries. This room has three window openings. The two on the east and south walls no longer hold sashes but are sealed with vented plywood. The third window, set in the corner wall, is identical to those in the kitchen. A fourth identical window is in the hallway across from the equipment room door and the stairway.

The floors of this level are covered with green asbestos tile. The walls are covered with asbestos panels, each of which is stamped "ASBESTOS PANELS." The walls and ceiling are painted white.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 7

Page 3 of 4

Second Story

A flight of fourteen stairs leads from the first story to a doorway that opens onto the second story hallway. A door formerly mounted at the top of the stairs is missing. The hallway provides access to a bedroom and bathroom, as well as the stairway to the third story. Directly opposite the top of the stairs is a hall closet with shelving. Its door is missing. The hallway floor is covered with green asbestos tile while the walls and ceiling are paneled with bead board painted white. A single window with four-over-four, double-hung wooden sash lights the hallway. The second story is under the mansard roof. The upper portion of the walls slopes inward.

A doorway leads from the hallway to the second story bedroom, located on the dwelling's south side. Plywood boards cover the floor. The walls and ceiling are paneled with bead board painted white. There are two double-hung, sash windows with four-over-four lights in the south and west walls. This bedroom also contains a closet. The closet's modern, hollow wooden door has been removed from its hinges and rests nearby.

Another doorway in the hall leads to the bathroom. It is at the foot of the stairs leading to the third story. The bathroom's modern door is leaning on a wall within the room. Part of this room's asbestos tile floor has been removed, exposing the wood boards beneath. The bathroom walls and ceiling are covered with a variety of materials including faux-tile, bead board, and asbestos panels. A medicine cabinet is set into the interior wall directly across from the room's double-hung window which has wooden sash and four-over-four lights.

Third Story (Watch room)

A flight of twelve stairs ascends from the second story hallway to the third story watch room. The walls and ceiling of this room are lined with bead board. Plywood covers portions of the green asbestos tile floor. Vertical wood supports between the floor and ceiling and horizontal wood beams across the ceiling have been added, apparently to provide extra support for the lantern above. The four round port-light windows on this story are covered with cast iron plates. Below each of the windows and just above the floor are small square doors that open into the room and allow access to the underside of the roof. A seven-rung, wooden ladder of recent vintage provides access to the lantern.

Lantern

Access to the light station's lantern is through a trapdoor in the watch room ceiling. The lantern has a cast iron floor embossed with a diamond pattern. Its eight parapet walls are composed of eight cast iron plates with wood paneling on the interior. One panel on the eastern side contains a hatch door that opens onto the lantern gallery. Above the parapet, glazing for the eight windows is held in place by cast iron mullions. Red-colored Plexiglas panels are attached to the glazing on the eastern side. They provide a red color to the light signal seen in the arc of 138 degrees to 321.5 degrees from the lantern. There is a narrow band of cast iron panels above the glazing. From this band, there rise eight S-curve, triangular, cast iron panels that connect at a now-sealed air vent.

Attached to the floor in the middle of the lantern room is the original cast iron pedestal for supporting the optic. It is presently mounted with a modern VRB-25 Marine Rotating Beacon.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 7

Page 4 of 4

Non-contributing Resources:

The property's two non-contributing resources are located north and south of the lighthouse structure. They are separate from the structure's caisson foundation.

The non-contributing resource north of the lighthouse is a flat-topped, pyramidal concrete pier surrounded by riprap and its adjoining boat dock. It deflects the force of currents flowing seaward and serves to protect the caisson from erosive scouring around the base and damage by ice. A metal and wood platform surrounded by chain-link fencing sits atop the pier. This platform supports a solar array and National Oceanic and Atmospheric Administration (NOAA) weather station equipment. The concrete pier's platform is connected with the lighthouse by a narrow metal-grate catwalk bordered with chain-link fencing. This catwalk is supported by steel I-beams and wood pilings. The boat dock is made of wood and metal. It sits on the pier's south side between the pier and the lighthouse's caisson foundation. This dock extends outward towards the east. An 18-step metal stair way with handrails on each side rises from the dock to the platform atop the concrete pier.

The second non-contributing resource is a large pile of riprap south of the lighthouse. It serves to deflect the force of tidal currents coming from that direction. This protects the lighthouse's caisson foundation from erosive scouring around the base, as well as damage from drifting ice.

Changes over Time

Some of the most noticeable changes in the light station's appearance are recent additions and modern equipment. These include modern fog signal devices, NOAA weather equipment, the existing boat landing and catwalk, and the platform atop the concrete pier north of the light station. The lighthouse's original fog signal was a bell located above the west dormer window of the keepers' dwelling. During the early twentieth century, a set of resonator horns for a diaphone fog signal was attached to the west wall. Today, two modern fog signals and weather equipment are positioned on the west side of the lighthouse's first story gallery. The second fog signal serves as a backup for the one that normally operates. A modern metal pole rises from the lantern gallery on the north side to several feet above the lantern roof. It supports an emergency signal light for use if the main light fails. This pole also supports additional weather equipment.

The existing boat landing dock was built in phases between 1958 and 1968. Prior to its construction, there were hinged ladders extending from the first story gallery to the waterline and two sets of boat davits attached to the gallery on the east and west sides. Neither the ladders nor the original davits are present today. However, there is a modern hoist attached to the gallery floor on the east side.

The boat landing system used today consists of a wood and metal dock connected by a stairway to the platform atop the pyramidal concrete pier. The pier and platform were constructed in the early 1950s and formerly supported large steel tanks for storing water and fuel oil. The platform and catwalk connecting it with the lighthouse are enclosed by a chain-link fence that has replaced the original metal pipe railings.

The lighthouse's flagpole was formerly located on the structure's lantern gallery. It was moved to the concrete pier around 1958. Other changes made in the late 1950s include removal of a smokestack on the southeast side of the dwelling's roof, as well as a wooden outhouse formerly attached to the south side of the first story gallery. Prior to the installation of indoor plumbing at the light station, the existing second story bathroom may have served as a second bedroom.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 8

Page 1 of 6

Narrative Statement of Significance

Ship John Shoal Light Station is locally significant in Cumberland County as a property important to the history of maritime transportation in southern New Jersey. It is also significant as a well-preserved structure that is representative of the architecture and engineering characteristics of late nineteenth century offshore lighthouses. It qualifies for the National Register under Criterion A its association with the efforts of the federal government to provide an integrated system of navigational aids to promote safe maritime transport in the Delaware River and Bay. It also qualifies for National Register listing under Criterion C for its embodiment of the distinctive character of late nineteenth century caisson foundation lighthouse design, a major advancement in the development of offshore light stations in the United States that became manifest during that time period and represents a technological improvement of great public benefit. Ship John Shoal Light, built in 1874 to 1877, embodies the distinctive characteristics and methods of construction employed in United States lighthouses during the late nineteenth and early twentieth centuries. Its superstructure was exhibited as a state-of-the-art lighthouse at the 1876 United States Centennial Exposition in Philadelphia, Pennsylvania. After the exposition closed, it was relocated to its present position.

The history of the Ship John Shoal Light Station's construction provides an instructive example of the efforts of the Federal government to advance maritime safety during the late nineteenth century through improvements in aids to navigation. The structure's concrete-filled, cylindrical cast iron foundation was erected in 1874. At that time, a temporary wooden dwelling was also built and a lantern installed atop it. This lantern's light signal was first exhibited on 29 November 1874.

Lighthouses of this type are generally referred to as "caisson" lighthouses. The first example in the U.S. of the caisson lighthouse type was built in 1873 in the Craighill Channel of the Chesapeake Bay in Maryland. Caisson-type lighthouses are of great importance in the development of American lighthouse engineering. Ideal for northern areas prone to ice floes, cast iron caissons can withstand severe winter conditions much better than the screw-pile lighthouse type erected earlier at several United States eastern seaboard locations.

The superstructure of the Ship John Shoal Light Station was once displayed as a full-size model example of state-of-the-art lighthouse technology. In 1876 the United States Centennial Exposition took place in Philadelphia, Pennsylvania. Organized by the Smithsonian Institution, it celebrated the one hundredth anniversary of the Country's independence, successes of American science and industry, and cultural exchanges. The Centennial Exposition gave visitors an unprecedented view of the country's intellectual and material progress. Visitors came from all over the United States for the entertainment, recreation, and the educational experience the exposition provided.¹

¹ Encyclopedia Smithsonian, "Bright Lights, Bold Adventures: 1846-1878: Centennial 1876," <<http://www.150.si.edu/chap4/four.htm>>; Jim Gowdy, *Guiding Lights of the Delaware River and Bay* (Mizpah: Jim Gowdy, 1990), 25; and "Ship John Shoal Lighthouse." *Notice to Keepers* (Winter 1995): 30. Several documents, including the *1877 Annual Report of the Light-House Board*, assert that the superstructure exhibited at the Philadelphia Centennial was moved to Ship John Shoal at the Exposition's close. The National Register Nomination for Southwest Ledge Lighthouse in Connecticut adds that the superstructure on display was originally intended for Southwest Ledge, but sent to Ship John Shoal instead. It goes on to say that the superstructure originally intended for the Ship John Shoal site was actually sent to Southwest Ledge.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 8

Page 2 of 6

A major exhibit at the exposition was a full-size cast iron lighthouse designed in the Second Empire style. This was the permanent lighthouse meant for Ship John Shoal. Second Empire was a popular architectural style used widely in the United States between 1860 and 1880 for both domestic and public buildings.² The massive lighthouse structure was an impressive exhibit. It spoke of industry, commerce, transportation, engineering, and architecture. When the Centennial Exposition closed, the lighthouse was dismantled. In 1877 it was taken to Ship John Shoal where it was erected atop the caisson following removal of the temporary wooden lighthouse.

The Ship John Shoal Light Station building is one of approximately twenty lighthouses designed by the U.S. Lighthouse Board in the Second Empire architectural style. Most light stations built in this style were constructed of brick or stone. Only two were completely built of cast iron, the Ship John Shoal Light Station and the Southwest Ledge Light in Connecticut. These light stations were also the last lighthouses designed in the Second Empire style.

While the structure's caisson foundation represents progress and advancements in the field of engineering, the superstructure represents a different kind of transition. Offshore light stations built in the U.S. during the middle nineteenth century were round or octagonal, cottage-like structures on pile foundations. As caisson foundation structures became the preferred design type for offshore lights, the design of lighthouse superstructures changed, also. While the first caisson lighthouse, Craighill Channel Lower Range Front Light, featured a superstructure similar to those of screw-pile lights, changes in style and shape appeared soon after.

Because caisson foundations used for water lights are relatively small in area, the single structure built on top needed to serve many different functions. It had to provide living space for the keepers in addition to being a platform for light and fog signals. The structure also needed to include storage space for water, oil, and coal, along with boats and other equipment.

The use of cast iron as a building material ushered a new period of lighthouse development. It allowed structures to be prefabricated and bolted together either before installation at an offshore site or on-site. During the early 1880's, caisson foundation light stations began to be designed in the form of conical towers that both supported the lighthouse lantern and provided living quarters for light keepers.

Ship John Shoal Light Station meets the registration requirements outlined in the multiple property documentation form "Light Stations of the United States." It remains in its original location in the Delaware Bay. Despite the loss of some features such as its outhouse, boarding ladders, flag pole, and original fog and light signal equipment, this property's character and appearance are essentially unchanged. The light station's caisson was constructed in 1874. This is the structure's earliest significant date. The second significant date is 1876 when it was displayed at the Centennial Exposition in Philadelphia. The third important date is 1877 when the light station was completed in its present form.

² Virginia and Lee McAlister, *A Field Guide to American Houses* (New York: Alfred A. Knopf, 1995), 242.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 8

Page 3 of 6

Historical Context of the Ship John Shoal Light Station:

By the early nineteenth century, Delaware Bay had become one of America's most important maritime transportation corridors. It was traversed by a substantial amount of commercial shipping navigating between the Atlantic and ports along the Delaware River in Pennsylvania, New Jersey, and the state of Delaware. The port of Philadelphia was especially important. In the 1870s, Philadelphia's population amounted to nearly one million people, making it the country's third largest city. By then, more than 7,000 vessels arrived and departed there annually, making it the second busiest port in the U.S. In 1878 over 1,600 foreign trade vessels docked at Philadelphia. During the same year there were over 5,800 arrivals in the coastwise trade, of which 4,000 were schooners. Then, as today, the shipping industry had a significant impact on the city and regional economy. It was a source of livelihood for many residents of Philadelphia, as well as other communities along the Delaware River and Bay.

The lighthouses of Delaware Bay served an important function in the maritime travel and commercial boom of the second half of the nineteenth century through promoting navigational safety. Ship John Shoal Light Station relates directly to this.

In the 1850s, progressive thinkers at the Lighthouse Board understood that the strategic placement of aids to navigation would greatly benefit America's maritime trade. This was exemplified in the Board's 1853 *Annual Report* which discussed the need for a permanent lighthouse on Ship John Shoal. The report noted that existing lights along Delaware Bay's north and south shorelines below Ship John Shoal afforded little or no assistance to vessels passing along the main channel. It stated that those aids to navigation "were erected, indeed, with no reference to the wants of general commerce, but solely with a view to the local trade in each case."³

The shoal where this property is located was named after the commercial sailing ship *John*, that ran aground there in 1797 while bound for Philadelphia. By the 1850s several factors had converged that made placing a lighthouse there a priority for the Lighthouse Board. There was a lack of lights marking the main shipping channel to and from ports along the Delaware River, the Ship John Shoal was an especially treacherous area of shallow waters, and maritime commercial interests were pressuring Congress to appropriate funds to erect a lighthouse there. In 1854, Congress authorized \$30,000 for the construction of a permanent lighthouse on Ship John Shoal. The original plan called for the proposed light station to be similar to the screw-pile light structure already designed for Delaware Bay's Cross Ledge.

³ U.S. Department of the Treasury, Lighthouse Board, *Annual Report of the Light-House Board for the fiscal year ended June 30, 1853* (Washington, D.C.: GPO, 1853).

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 8

Page 4 of 6

Additional funding for the proposed construction was provided in 1856. However, the original design plan was soon cancelled. The precipitating event for this was news that the new screw-pile foundation for the Cross Ledge lighthouse was destroyed by ice in the winter of 1856. The Lighthouse Board's 1857 *Annual Report* stated the following:

It is very doubtful as to the practicability of erecting screw-pile light-house structures at that locality and on Ship John Shoal which would resist the ice, and, unless Congress should direct otherwise, (the funds being insufficient for completing the works,) they will not be commenced.⁴

The United States' first screw-pile lighthouse had been erected in 1850 at Brandywine Shoal at the mouth of the Delaware Bay. Relatively inexpensive and easy to construct, screw-pile lighthouses gained popularity among Lighthouse Board engineers. However, this foundation type was quickly found to be unsuitable for areas prone to ice floes, as shown by the situation at Cross Ledge.

Congress did not receive another petition for a light at Ship John Shoal until 1872. The petitioners estimated its construction cost as \$125,000. Congress responded with a \$50,000 appropriation in 1873.⁵

Engineering advancements made between the 1850s and 1870s provided alternatives to the screw-pile foundation. In 1845, an English physician and inventor named Lawrence Potts developed the caisson construction method, an idea later adapted for building bridges and lighthouses.⁶ In the caisson construction method, a cylinder made of cast iron plates was first assembled onshore to ensure proper fitting. The cylinder was then fitted with a temporary watertight bottom or a permanent wooden crib, depending on bottom conditions and water depth, and towed to the construction site.

Once positioned over the desired location, the caisson was sunk into position using a system of weights or a valve located in the chamber to control the flooding of its interior. The caisson was then leveled and stabilized. Riprap was placed around the exterior to protect it. Next, sand and mud within the cylinder were pumped out, allowing it to further settle into position. To reach the desired height of the cylinder above water level, additional cast iron plates could be added at the top.⁷

Caisson lighthouses were more complicated and much more expensive to build than screw-pile lighthouses. However, they were much better able to withstand the pressure of moving ice than earlier designs. Therefore, many screw-pile lighthouses located in areas prone to ice floes, such as the Delaware Bay, were eventually replaced with caisson-type lighthouses. The screw-pile lighthouse structure built at Brandywine Shoal in 1850 is one example. It was replaced with a massive caisson in 1914.⁸

⁴ *Annual Report of the Light-House Board ... 1857.*

⁵ *Annual Report of the Light-House Board... 1873, 40; and Annual Report of the Light-House Board... 1874, 40.*

⁶ In 1870 at Waugoshance Lighthouse in Michigan, caisson technology was first applied to lighthouse-related work in the United States. A temporary caisson enabled workers to repair the structure's crib foundation with a masonry protection wall. In 1873, Craighill Channel lower Front Range Lighthouse in Maryland was built using a permanent caisson.

⁷ J. Candace Clifford and Mary Louise Clifford, *Nineteenth-Century Lights: Historic Images of American Lighthouses* (Alexandria: Cyprus Communications, 2000), 186-187

⁸ Tim Harrison and Ray Jones, *A Nostalgic Look at U.S. Lights from 1850-1939* (Guilford: The Globe Pequot Press, 2002), 11

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 8

Page 5 of 6

The issue of procuring title to the proposed lighthouse site caused a delay in commencing construction at Ship John Shoal. Finally, the state of New Jersey ceded to the United States an area of submerged land amounting to about 4.9 acres. After this, the erection of the lighthouse began. The caisson was sunk at the site on 28 October 1874. Workers filled its cast iron cylinder with concrete and built a temporary, wooden structure on top. A light was displayed from the temporary structure for the first time on 29 November 1874. Soon after this, the caisson's stability was challenged by severe winter conditions. The entire structure vibrated when it was struck by ice on 18 January 1875. Fearing for their personal safety, the lighthouse keepers abandoned their posts. They were finally able to return to work on 13 March 1876. The keepers found the lighthouse unharmed and re-exhibited the light. Nevertheless, the Lighthouse Board deemed it necessary to deposit additional riprap before the following winter. They also proposed replacing the temporary superstructure with a permanent, cast iron keeper's dwelling and lantern. They decided to use the one already selected for display at the 1876 International Centennial Exposition in Philadelphia.

The temporary wooden superstructure atop the caisson was removed on 15 May 1876. At that time, Light Vessel 24 had been anchored nearby to provide a signal light until the cast iron lighthouse and lantern had been assembled atop the pier and its light established. On 31 July 1876, Congress approved an appropriation of \$25,000 for the Ship John Shoal Light. This made possible the Board's proposal to further secure Ship John Shoal's foundation and mount its superstructure. The construction work was finally completed on 19 August 1877. The new structure exhibited its light for the first time on that date.⁹

Ship John Shoal has consistently served as a sturdy and reliable aid to navigation since 1877. In 1932, on behalf of Lighthouse Service Commissioner George Putnam, Deputy Commissioner R.D. King responded to a letter requesting information about the lighthouse on Ship John Shoal. In addition to outlining the historical sequence leading to the lighthouse's inception, King commented on how the structure remained in good condition throughout the years. He wrote, "Other than necessary repairs from time to time, and the rather frequent placement of additional stone rip-rap in the vicinity of the caisson to protect it from the action of moving ice, no changes of importance have been made since the original structure was built."¹⁰ Annual reports and proposals of the Lighthouse Board and its successor, the Lighthouse Service, support this statement with documentation that riprap was indeed added or needed in 1884, 1888, 1894-1895, 1907, and 1916.

The recurring need for additional protection attests to the severe conditions that lighthouses, keepers, and mariners experienced in the Delaware Bay. On the other hand, the lack of major repairs to the structure attests to its superior engineering and construction. Available historical records do not mention any major ship-related accidents occurring on Ship John Shoal once the light station was established. This shows its effectiveness as an aid to navigation.

⁹ *Annual Report of the Lighthouse Board... 1875*, 38; *Annual Report of the Light-House Board... 1876*, 28-29; *Annual Report of the Light-House Board... 1877*, 26; and *Annual Report of the Light-House Board... 1878*, 28-29.

¹⁰ R.D. King to George W. Boyer, 25 September 1932, Record Group 26, Entry 50, "Correspondence of the Bureau of Lighthouses, January 1911-December 1939," National Archives.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 8

Page 6 of 6

A recommendation submitted in 1890 implies that the Office of the Superintendent of Lighthouses of the Fourth District believed this particular lighthouse was a great asset to safety, travel, and commerce in the Delaware Bay. Though it was never actually done, this Office suggested increasing the "efficiency of this light by building the tower some 15 or 20 feet higher, and by increasing the power of the light from a fourth to a third order."¹¹

The Ship John Shoal Light Station's light and fog signal have been improved repeatedly since the station was established. In 1885, red glass panels were placed in the half of the lantern facing towards shallow waters to help identify the shoal as a dangerous area and distinguish it from the safe waters of the shipping channel. Modifications in 1892 and again in 1898 changed the signal from a steady light to a flash pattern. In a 1910 inspection report, the lighthouse inspector described the light as fixed for 10 seconds and eclipsed for 5 seconds. A 500-watt, 115-volt, C-7A filament clear lamp was installed in 1938. The Lighthouse Service was abolished as a separate federal agency in 1938, and the U.S. Coast Guard subsumed its duties. The Coast Guard continued to station keepers at Ship John Shoal Light until 1973 when the station was automated.

The light station's original fog signal was a bell. In 1931 the district's Office of the Superintendent of Lighthouses proposed that this be replaced by a new Tyfon fog signal. The existing fog signal uses compressed air to give a two-second blast every fifteen seconds. The original fog bell is at the Cumberland County Historical Society in Greenwich, New Jersey.

During the 1990's the lighthouse's original fourth order Fresnel lens was removed and replaced with a modern optic. This Fresnel lens is presently housed at the U.S. Coast Guard Air Station in Atlantic City, New Jersey. In 1997, a VRB-25 beacon was installed and the light was converted to battery power recharged by a solar array. Its signal was changed to a flash every five seconds at that time. From its inception to the present, the lighthouse on Ship John Shoal has promoted safe travel, local trade, and commerce in the Delaware River and Bay. It continues serving today as an active Federal aid to navigation today.

¹¹ *Annual Report of the Lighthouse-Board ... 1890*, 86.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

Section 9 BIBLIOGRAPHY

Primary Sources

U.S. Department of the Treasury. Lighthouse Board. *Annual Report of the Light-House Board to the Secretary of the Interior for the fiscal year ended June 30, 1853*. Washington, D.C.: GPO, 1853.

_____. *Annual Report of the Light-House Board to the Secretary of the Interior for the fiscal year ended June 30, 1857*. Washington, D.C.: GPO, 1857.

_____. *Annual Report of the Light-House Board to the Secretary of the Interior for the fiscal year ended June 30, 1873*. Washington, D.C.: GPO, 1873.

_____. *Annual Report of the Light-House Board to the Secretary of the Interior for the fiscal year ended June 30, 1874*. Washington, D.C.: GPO, 1874.

_____. *Annual Report of the Light-House Board to the Secretary of the Interior for the fiscal year ended June 30, 1875*. Washington, D.C.: GPO, 1875.

_____. *Annual Report of the Light-House Board to the Secretary of the Interior for the fiscal year ended June 30, 1876*. Washington, D.C.: GPO, 1876.

_____. *Annual Report of the Light-House Board to the Secretary of the Interior for the fiscal year ended June 30, 1877*. Washington, D.C.: GPO, 1877.

_____. *Annual Report of the Light-House Board to the Secretary of the Interior for the fiscal year ended June 30, 1878*. Washington, D.C.: GPO, 1878.

_____. *Annual Report of the Light-House Board to the Secretary of the Interior for the fiscal year ended June 30, 1890*. Washington, D.C.: GPO, 1890.

King, R.D. to George W. Boyer, 25 September 1932. Typed. RG 26, Entry 50, Correspondence of the Bureau of Lighthouses, January 1911-December 1939, U.S. National Archives.

Secondary Sources

Clifford, J. Candace and Mary Louise Clifford. *Nineteenth-Century Lights: Historic Images of American Lighthouses*. Alexandria: Cypress Communications, 2000.

Gowdy, Jim. *Guiding Lights of the Delaware River and Bay*. Mizpah: Jim Gowdy, 1990.

Harrison, Tim and Ray Jones. *A Nostalgic Look at U.S. Lights from 1850-1939*. Guilford: The Globe Pequot Press, 2002.

McAlister, Lee and Virginia McAlister. *A Field Guide to American Houses*. New York: Alfred A. Knopf, 1995.

"Ship John Shoal Lighthouse." *Notice to Keepers* (Winter 1995): 30.

Encyclopedia Smithsonian, "Bright Lights, Bold Adventures: 1846-1878: Centennial 1876,"
<<http://www.150.si.edu/chap4/four.htm>>.

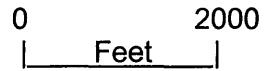
United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

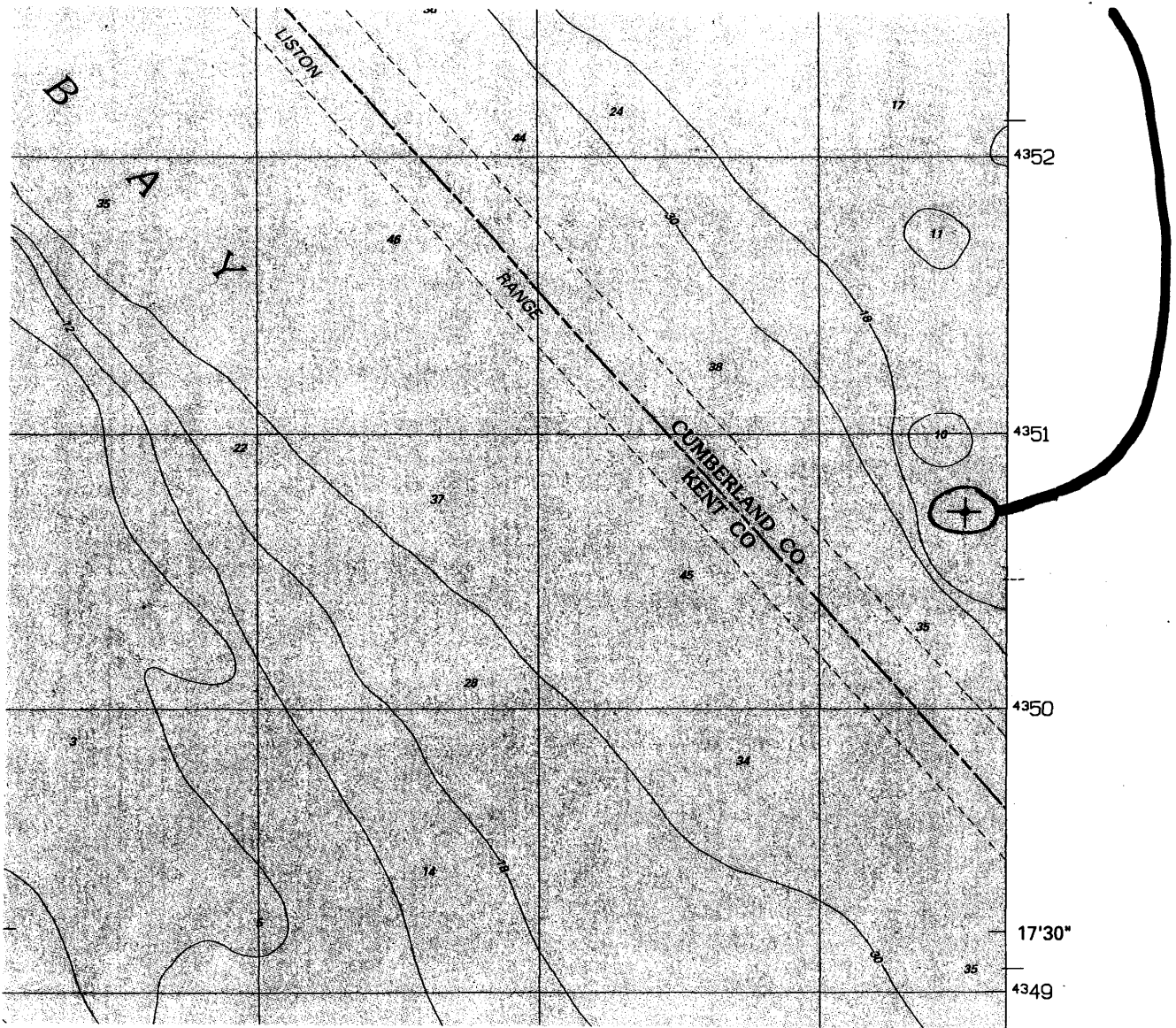
Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

LOCATION MAP

This is a portion of the "Bombay Hook Island, DEL-NJ" 7.5 minute quadrangle topographic map, scale 1:24,000 (United States Geological Survey 1993).



Ship John Shoal Light Station
Cumberland County, NJ
UTM 18 / 467524 / 4350720



**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

Ship John Shoal Light Station
Cumberland County, NJ
(Light Stations of the United States
Multiple Property Listing)

LIST OF PHOTOGRAPHS

The following are photographs of Ship John Shoal Light Station in Cumberland County, New Jersey.

Contemporary Photographs (# 1 to # 4):

Photographer: Jennifer Perunko.

Date: 11 May 2004.

Location of original negatives: Maritime Heritage Program, National Park Service, Washington, DC.

1. View of overall exterior, east and north sides, looking southwest.
2. Lighthouse superstructure, east side, looking west.
3. Interior view showing sloping walls on second story, looking north.
4. Original boat hoist on east side of first story gallery, looking north.

Historical Photograph (# 5):

Photographer: Unknown.

Date: Circa 1950's.

Location of original negative: U.S. Coast Guard Historian's Office, U.S. Coast Guard Headquarters, Washington, DC.

5. View showing concrete pier on north side during construction, looking northeast.