SEE ALSO B-4222

Survey No. AA-931

Magi No. HAER-MD-54

DOE ___yes x no

Maryland Historical Trust
State Historic Sites Inventory Form

1. Name (indicate preferred name)

historic Seven-Foot Knoll Lighthouse

and/or common Same

2. Location

street & number Chesapeake Bay, Appx. 20 miles south of Curtis Bay,Md. ___ not for publication

city, town Riviera Beach x vicinity of congressional district 4th

state Maryland county Anne Arundel

3. Classification

Category	Ownership	Status	Present Use	
___ district	x public	___ occupied	___ agriculture	___ museum
___ building(s)	___ private	x unoccupied	___ commercial	___ park
x structure	___ both	___ work in progress	___ educational	___ private residence
___ site	**Public Acquisition**	**Accessible**	___ entertainment	___ religious
___ object	___ in process	x yes: restricted	x government	___ scientific
	___ being considered	___ yes: unrestricted	___ industrial	x transportation
	___ not applicable	___ no	___ military	___ other:

4. Owner of Property (give names and mailing addresses of all owners)

name U. S. Coast Guard, 5th Coast Guard District

street & number 431 Crawford Street telephone no.:(804) 398-6270

city, town Portsmouth state and zip code Virginia 23705-5004

5. Location of Legal Description

courthouse, registry of deeds, etc. N/A liber

street & number folio

city, town state

6. Representation in Existing Historical Surveys

title None

date ___ federal ___ state ___ county ___ local

depository for survey records

city, town state

7. Description

HAER-MD-54

Survey No. AA-931

Condition		Check one	Check one
___ excellent	___ deteriorated	___ unaltered	_x_ original site
_x_ good	___ ruins	___ altered	___ moved date of move _____
___ fair	___ unexposed		

Prepare both a summary paragraph and a general description of the resource and its various elements as it exists today.

PHYSICAL DESCRIPTION

The Seven-Foot Knoll Lighthouse is a wrought-iron house on a base of cast-iron columns, braced by wrought-iron-tension members. The original house was described as being square of cast-iron panels, but the present one is round, of rolled-iron plates, drilled and riveted together. The present house has two stories, plus a lantern which houses the light. The first floor is 51 feet in diameter, including a five-foot exterior platform. The second story is 15 feet in diameter, and the light chamber itself is 6 feet across.

The house is supported on nine cast-iron screwpiles, one in the center and eight arranged radially 20 feet from it. The radial piles are connected around the circumference by 4-inch-square bar girders. The girders are connected at the piles by cast caps with pin connections for both the girders and the wrought-iron-tension members that provide cross bracing. The caps also have bolt-through flanges to support the vertical columns which support the house. The columns have similar caps with connections for the girders that support the house. The girders around the circumference are an unusual fish-belly design, characteristic of early cast girders, rather than rolled sections. Another set of girders run radially to the center hub to support the iron plates of the floor system. A small wooden platform is suspended from them on wrought-iron hangers.

The present house is made of rolled-iron plate much in the manner of riveted iron-hull construction. Three horizontal bands of 3' x 6' plates form the exterior wall with a narrow soffit band forming the connection with the plates which form the shallow cone of the roof. As in ship construction, the pattern of plates, including the cuts for doors and windows was carefully layed out in advance and the cuts made in a shop with large fabricating machinery. Since the strength demands did not approach those of a ship at sea, there was no need to overlap the plates. Instead, plates are butted and riveted to a six-inch strip on the exterior surface. The roof plates terminate in a gutter which forms the catchment system for the lighthouse water supply held in large interior water tanks.

The second story of the house is much smaller than that on the original, being only 15 feet in diameter. It housed the oil tanks and a self-feeding mechanism for the light above. It is pieced by two openings with 2 over 2 double-hung sash.

The interior of the first floor is divided into spaces which functioned as living quarters for the keeper, a kitchen, a living room and two bedrooms. The interior partitions are of pine matchboarding and some are covered with later hardboard. Flooring is tongue and groove laid on the iron plate. Windows are double-hung sash in a variety of sizes showing the changes as large lights replaced the earlier multipaned sash. Interior doors are of a four-paneled late 19th Century type.

The light chamber is accessed with a ladder from the second story. It is six feet in diameter and seven in height. Glass plate windows enclosed the upper portion of the lantern. There are in the form of alternating truncated triangles held by iron mullions. A small finial sits atop the lantern roof and two metal stovepipes flank

# # #

8. Significance

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Period	Areas of Significance—Check and justify below			
___ prehistoric	___ archeology-prehistoric	___ community planning	___ landscape architecture	___ religion
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture
___ 1600–1699	___ architecture	___ education	___ military	___ social/ humanitarian
___ 1700–1799	___ art	x engineering	___ music	___ theater
x 1800–1899	x commerce	___ exploration/settlement	___ philosophy	x transportation
x 1900–	___ communications	x industry	___ politics/government	___ other (specify)
		___ invention		

Specific dates **Builder/Architect**

check: Applicable Criteria: ___A ___B x C ___D
and/or
Applicable Exception: ___A ___B ___C ___D ___E ___F ___G

Level of Significance: x national ___state x local

Prepare both a summary paragraph of significance and a general statement of history and support.

SUMMARY STATEMENT OF SIGNIFICANCE

Maryland Comprehensive Historic Preservation Plan Data:

1) Historic period theme(s): Transportation
2) Geographic orientation: Western Shore
3) Chronological period: Agricultural-Industrial Transition, 1815-1870; Industrial/Urban Dominance, 1870-1930
4) Resource type: Lighthouse

Built in 1856, the Seven-Foot Knoll Lighthouse was the second screwpile structure built by the U. S. Lighthouse Service. The present structure contains some elements of the original cast-iron structure and the house dates from the late 19th Century. The light is historically linked to the development of the Port of Baltimore and sits beside one of the busiest shipping lanes on the East Coast. Technologically, the screwpile form illustrates Americans' ability to produce large cast-iron foundry castings, the same development that produced cast-iron architecture. In the period 1835-1860, Baltimore was a leading national center of this new metal-working technology and of new marine engineering techniques. Seven-Foot Knoll is, arguably, the most significant of the remaining screwpile structures.

HISTORIC SIGNIFICANCE

The light at Seven-Foot Knoll, which marks the outer entrance to Baltimore's harbor, was built as part of a Federal effort to rationalize the nation's system of navigational aids. In 1851, the government commissioned a study of such sites and began a program to build lighthouses and to devise charts and tables to make them more useful to mariners. Prior to this survey, it was difficult for navigators to distinguish from among the many lights on the coasts, and navigation in bad weather remained a difficult and dangerous task. In the Chesapeake Bay, maritime traffic by the 1840s had become more frequent as ships increased in both number and size after the War of 1812. As early as 1819, Congress had authorized lighthouses at Bodkin Point and Sparrows Point at the entrance to Baltimore Harbor. After 1830, both the National Road and the Baltimore and Ohio Railroad enhanced Baltimore's importance as an entrepot for goods and immigrants headed to the frontier. Fulton's steamboat and the international growth of both shipbuilding technology and maritime commerce made it obvious that the old

9. Major Bibliographical References

Survey No. AA-931

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(See Attached)

10. Geographical Data

Acreage of nominated property _____

Quadrangle name _____ **Quadrangle scale** _____

UTM **References** do NOT complete UTM references

	Zone	Easting	Northing		Zone	Easting	Northing
A				B			
C				D			
E				F			
G				H			

Verbal boundary description and justification

List all states and counties for properties overlapping state or county boundaries

state	code	county	code
state	code	county	code

11. Form Prepared By

name/title	Dennis Zembala, Executive Director		
organization	Baltimore Museum of Industry	**date**	8/5/87
street & number	1415 Key Highway	**telephone**	(301) 727-4808
city or town	Baltimore	**state**	Maryland 21230

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

return to: Maryland Historical Trust
Shaw House
21 State Circle
Annapolis, Maryland 21401
(301) 269-2438

PS-2746

system of locally placed and maintained navigational aids was becoming obsolete. The study undertaken by the Lighthouse Service in 1851 expressed a felt need in the maritime community. To add to its authority, it drew upon a French system already in place using the new Fresnel articulated lenses and government charts locating the new designated stations. Planning for a new series of lighthouses had already been going on for some time, and it was already determined that several would be in the Chesapeake Bay.

The creation of the first lighthouse at Seven-Foot Knoll began in 1850 when Congress appropriated $10,000 for a structure in the channel to replace the light on the mainland at Bodkin Point. By October of the next year, plans, designs and specifications were complete for what was to be a very unique screwpile lighthouse. The screwpile-type structure was itself the latest in lighthouse technology, eliminating the need for underwater caissons and heavy masonry foundations. The first had been erected on Brandywine shoal in Delaware, and, after an initial proposal to build a 60-foot brick tower, the Lighthouse Board decided to build another screwpile instead. The screwpile design took advantage of the emerging technology of cast-iron structures - very appropriate for Baltimore which was becoming a major center of cast-iron building. Hollow cast-iron piles with external threads were screwed into the river bottom to bedrock or some solid strata. These were then filled with concrete and capped to form a foundation on which to erect the house. Because all piles did not enter the bottom to the same depth, it was necessary to cast intermediate extensions of different lengths to create a uniform level for the superstructure 9 feet above mean high water. The Seven-Foot Knoll house was further unique in that the house itself was also of cast-iron, probably the only one ever built! The original walls on the first floor consisted of 1" thick cast-iron panels 12 feet high by 3 feet 6 inches wide. The second floor panels were 9 feet high and those for the lanterns 8 feet 9 inches. All were cast with brackets to be bolted together just like the front of a cast-iron building. Cast-iron construction was, of course, the world's first prefabricated industrial building technology and had obvious advantages for difficult site locations like a lighthouse. The firm of Murray and Hazelhurst in Baltimore was engaged to build Seven-Foot Knoll. The company was not a construction firm; rather, they listed themselves as "ironfounders" in the City Directory and were one of a growing number of firms in the city that specialized in iron castings and machine building. Located on the waterfront at the corner of William and Hughes Streets, Murray and Hazelhurst were suppliers to the shipyards as well, making them ideally suited to the task at hand.

The present structure at Seven-foot Knoll is a successor to the original cast-iron lighthouse, although much of the substructure is probably original. The current house is composed of panels or plates of wrought iron riveted together into a self-supporting shell. Just when it replaced the cast-iron house has not been determined, but the technology is characteristic of the post Civil War period of 1875-1910, as seen in bridges and also in shipbuilding. The interior wood paneling is also typical of this period and would have been added only for insulation and partition walls.

The Seven-Foot Knoll light was manned from 1856, when it went into operation, until 1948 when the Coast Guard automated it. Records of the Lighthouse Service and the Coast Guard on deposit at the National Archives include personnel registers from 1850-1912, correspondence from 1901-1939, and other items. There must have been many thrilling incidents of vessels bearing down on the lighthouse in a dense fog. In 1884, the cold weather created ice floes in the Bay that destroyed one of the screwpiles and the lighthouse board had 15 wooden "dolphins" of 10 piles each driven around the site on a radius of 50 feet from the center pile. Ten years later, the

ice had carried all of them away, and 700 cubic yards of stone was dumped around the base. These and other incidents indicate that Seven-Foot Knoll Lighthouse was intricately connected to Maryland's maritime life and commerce. This was not a lonely post, situated as it was beside one of the busiest shipping lanes on the East Coast. Further investigation should provide fruitful sources and resources for interpretation of the structure once it is moved and opened to the public.

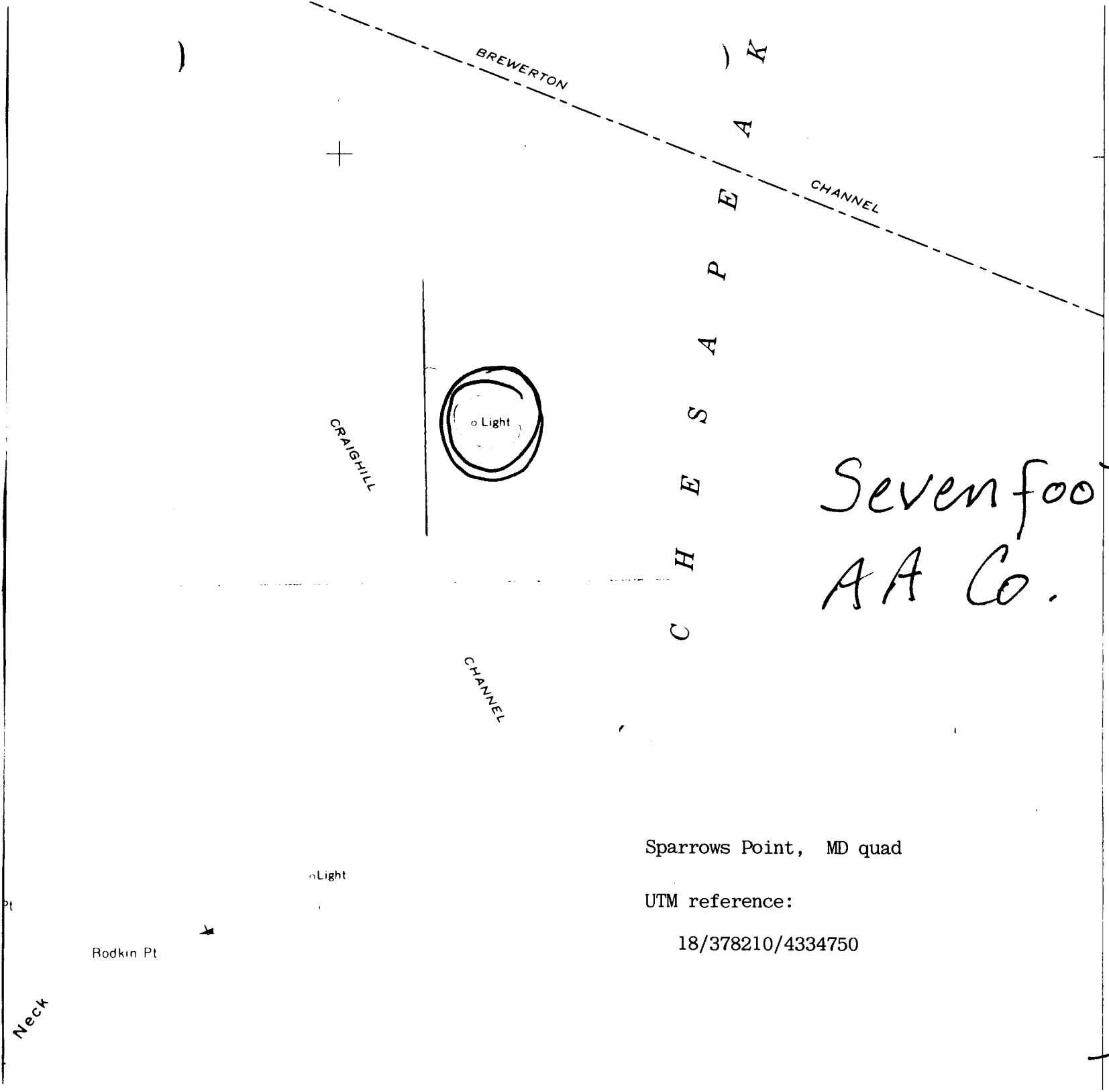
# # #

BIBLIOGRAPHY

Caise, Robt., Keepers of the Lights: A History of American Lighthouses. New York: Charles Scribner's Sons, 1968.

Wash., D. C., National Archives and Record Service. Record Group 026 U. S. Coast Guard.

City Directory, 1853-1854. Baltimore, 1853.



Sevenfoot Knoll
AA Co.

AA-931

Sparrows Point, MD quad

UTM reference:

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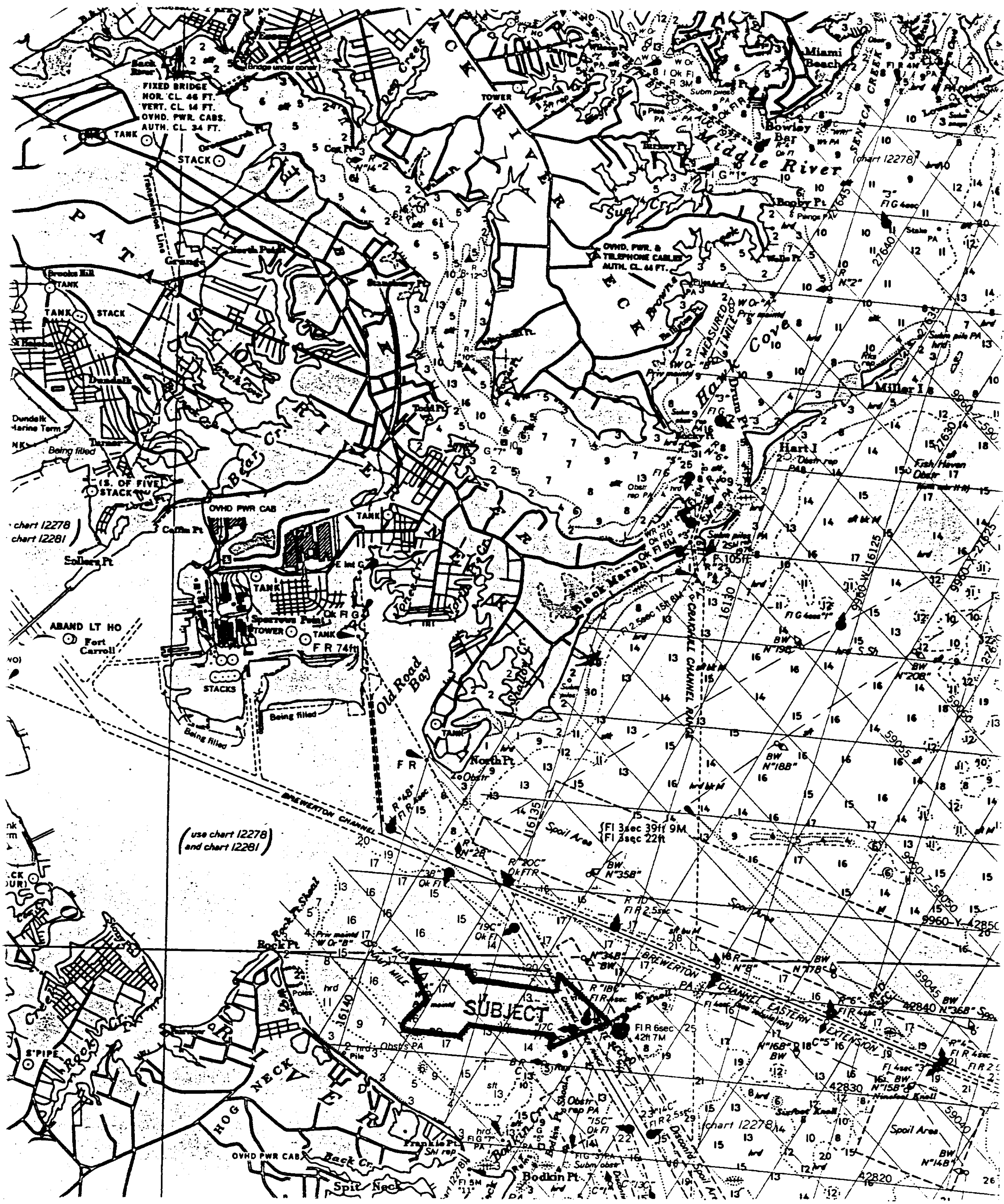
AA-931

3 Aug 87



Copy of Portion of Coast and Geodetic Survey Chart No. 273

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MARYLAND HISTORICAL TRUST

William Donald Schaefer
Governor

Jacqueline H. Rogers
Secretary, DHCD

MEMORANDUM

Date: January 14, 1988

To: File

From: Mark R. Edwards MRE
Deputy Director-Deputy SHPO

RE: Seven Foot Knoll Lighthouse (AA-931)

David Maulsby, of the Charles Center - Inner Harbor Management, called this afternoon to relay a bit of history related to this historic structure.

Mr. Maulsby has learned that John Pfiel was the lighthouse keeper for this facility from 1875-1887. A descendent (a great grandson) has been located. He is:

John Doyle
6220 LaSallette Drive
Houston, Texas 77021

Mr. Maulsby has asked Mr. Doyle to send whatever historic information he can find to him. If received, Mr. Maulsby will send duplicates to us.

MRE/mmc
cc: Ms. Donna Ware

Maryland
Department of Housing and Community Development
Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301) 974-4450, 757-9000
Temporary Address: Arnold Village Professional Center, 1517 Ritchie Highway, Arnold, Maryland 21012

AA-931
Seven-Foot Knoll Lighthouse

SEE VERTICAL FILES FOR HABS PHOTOGRAPHS